

## **Oracle® Content Database**

Installation Guide

10g Release 1 (10.2.0.0.0) for Solaris Operating System  
(SPARC 64-Bit)

**B31415-01**

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## **Glossary**

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# Preface

This document contains information necessary for the installation and configuration of Oracle Content Database (Oracle Content DB).

This Preface includes the following topics

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

## Audience

This document is intended for users who want to install Oracle Content DB. Experience installing Oracle products and experience as a system administrator is necessary.

## Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at

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## Related Documents

For more information, refer to the following Oracle resources:

- The Oracle Application Server documentation set, specifically:
  - *Oracle Application Server Installation Guide*
  - *Oracle Application Server Quick Installation Guide*
  - *Oracle Application Server Administrator's Guide*
  - *Oracle Application Server Enterprise Deployment Guide*
  - *Oracle Application Server High Availability Guide*
  - *Oracle Internet Directory Administrator's Guide*
  - *Oracle Identity Management Concepts and Deployment Planning Guide*
- The Oracle Database 10g documentation set, specifically:
  - *Oracle Database Installation Guide*
  - *Oracle Database Administrator's Guide*
  - *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide for Solaris Operating System*
- The Oracle Content Database documentation set, specifically:
  - *Oracle Content Database Administrator's Guide*
  - *Oracle Content Database Application Administrator's Guide*
  - *Oracle Records Management Administrator's Guide*
  - *Oracle Content Database Release Notes* for your platform
  - Oracle Content Database developer documentation

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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# Introduction to Installing Oracle Content Database

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**Note:** This document is accurate at the time of publication. Oracle will update the documentation periodically after the software release. You can access the latest information and additions to this document on the Oracle Technology Network (OTN) at:

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

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Oracle Content Database (**Oracle Content DB**) uses Oracle Database for its content repository, and runs in Oracle Application Server. Oracle Content DB also uses Oracle Identity Management, part of Oracle Application Server Infrastructure (OracleAS Infrastructure), for user management and authentication. Because of these dependencies, installing Oracle Content DB typically involves the following:

- Installing a new Oracle Database, or adjusting the parameters of an existing Oracle Database
- Installing OracleAS Infrastructure (if you do not have one deployed already)
- Registering the Oracle Database you are using with Oracle Internet Directory
- Installing one or more Oracle Content DB **middle tiers**

This guide provides information about how to install Oracle Content DB middle tiers. It includes some of the information, but not all, you need to install Oracle Database and OracleAS Infrastructure. Links to specific guides in the Oracle Database and Oracle Application Server documentation sets are provided in key places in this guide to help you through the installation process for all of these components.

## Deployment Configurations

In a production environment, Oracle Content DB is typically deployed on multiple computers. This configuration enables you to separate the components, and configure failover, load balancers, and high availability options. With multiple-computer deployment, you can also use computers with lower hardware requirements than required for single-computer deployment.

Oracle Content DB can be installed on a single computer if the computer meets the recommended hardware and software requirements. If your computer does not meet the recommended requirements, the performance of this configuration might be less than satisfactory. A single-computer deployment does not allow you to use load

balancing or failover options. See ["Installing Oracle Content DB on a Single Computer"](#) on page 2-17 for more information.

See *Oracle Content Database Administrator's Guide* for more information about planning for deployment, including information about sizing formulas for production systems.

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## Quick Installation of Oracle Content DB and Supporting Components

This chapter provides streamlined instructions for installing Oracle Content DB and supporting components, such as OracleAS Infrastructure (which contains Oracle Identity Management) and Oracle Database. It also provides information about installing Oracle Content DB and supporting components on a single computer.

To use this chapter effectively, first refer to the checklists to collect the information you will need during the installation. Then, refer to the procedures in ["Quick Installation of Oracle Content DB and Supporting Components"](#) on page 2-5 for step-by-step instructions.

This chapter includes the following topics:

- [Installation Checklists for OracleAS Infrastructure, Oracle Database, and Oracle Content DB Middle Tier](#)
- [Quick Installation of Oracle Content DB and Supporting Components](#)
- [Installing Oracle Content DB on a Single Computer](#)

### Installation Checklists for OracleAS Infrastructure, Oracle Database, and Oracle Content DB Middle Tier

This section provides checklists for installing OracleAS Infrastructure, Oracle Database, and the Oracle Content DB middle tier. Each checklist identifies the information you are prompted to enter for each installation.

[Table 2-1](#) lists required information for installing OracleAS Infrastructure. [Table 2-2](#) lists required information for installing Oracle Database. [Table 2-3](#) lists required information for installing the Oracle Content DB middle tier. All the checklists provide blank table cells for writing in your information.

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**Note:** Oracle recommends that you ensure the safety and confidentiality of the following checklists, as they contain sensitive information.

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**Table 2–1 Checklist for Installing OracleAS Infrastructure**

Information	Description	Example Values	Your Information
Inventory directory path	The full path to the inventory directory. This directory must be different from the Oracle home directory for the product files.  This information is only required if this is the first installation of any Oracle product on this computer.	/opt/oracle/oraInventory	
Operating system group name	The operating system group that will have write permission for the inventory directory.  This information is only required if this is the first installation of any Oracle product on this computer.	oinstall	
Oracle home name	The name of the Oracle home for OracleAS Infrastructure.	OH_INFRA	
Oracle home path (destination path)	The directory path for the Oracle home.	/opt/oracle/infra	
Global Database Name	The name for the Metadata Repository database in the form database_name.domain_name.	infra.mycompany.com	
SID	The Oracle system identifier for the Metadata Repository database.	infra	
Database character set	The character set to use for the Metadata Repository database. If you want to use the Metadata Repository as your Oracle Content DB database, you must choose AL32UTF8 (this is <b>not</b> the default).	AL32UTF8	
Database file location	The full path to the parent directory for the Metadata Repository database data files. This parent directory must already exist, and you must have write permissions in this directory.	/u02/oradata	
Database schema passwords	Create passwords to use for the SYS, SYSTEM, SYSMAN, and DBSNMP schema users. You can use the same password for all four schemas, or create separate passwords.	your_passwords	

**Table 2–1 (Cont.) Checklist for Installing OracleAS Infrastructure**

Information	Description	Example Values	Your Information
Application Server instance name	The name of the infrastructure instance. Do not use the hostname of the computer when naming Oracle Application Server instances.	infra	
ias_admin password	The administrative user for Oracle Application Server instances. Used to log in to the Application Server Control.  The minimum length of the password is five alphanumeric characters, and at least one of the characters must be a number.	your_password	
Root password	The root user password for the operating system where you are installing the OracleAS Infrastructure.	your_password	

**Table 2–2 Checklist for Installing Oracle Database**

Information	Description	Example Values	Your Information
Oracle home name	The name of the Oracle home for this database.	OraDb10g_home1	
Oracle home path	The directory path for the Oracle home.	/u01/oracle/product/database	
Global database name	The name for the database.	orcl.mycompany.com	
Oracle system identifier (SID)	The Oracle system identifier for the database.	orcl	
Database passwords	Create passwords to use for the SYS, SYSTEM, SYSMAN, and DBSNMP schema users. You can use the same password for all four schemas, or create separate passwords.	your_passwords	
Database character set	The character set to use for the database. Make sure to set the character set to AL32UTF8 (this is <b>not</b> the default).	AL32UTF8	
Root password	The root user password for the operating system where you are installing the database.	your_password	

**Table 2–3 Checklist for Installing the Oracle Content DB Middle Tier**

Information	Description	Example Values	Your Information
Oracle home name	The name of the Oracle home for this middle tier.	cdb_10_2	
Oracle home location	The directory path for the Oracle home.	/home/oracle/cdb	
Oracle Internet Directory host name	The fully-qualified host name for the Oracle Internet Directory instance you want to use with Oracle Content DB.	mtier_ host.mycompany.com	
Oracle Internet Directory port	The port number for the Oracle Internet Directory instance you want to use with Oracle Content DB.	389 (non-SSL) 636 (SSL)	
Oracle Internet Directory administrator user name	The user name for an Oracle Internet Directory account that has administrator privileges, such as cn=orcladmin. You can also use any Oracle Internet Directory user with the following privileges: <ul style="list-style-type: none"> <li>■ IAS &amp; User Management Application Admins</li> <li>■ iAS Admins</li> </ul>	cn=orcladmin	
Oracle Internet Directory administrator password	The password for the Oracle Internet Directory account that has administrator privileges.	your_password	
Oracle Internet Directory realm name	The realm to which the Oracle Internet Directory administrator belongs. Only required if the Oracle Internet Directory instance contains multiple realms.	us	
Database Connection String	The connect string to the Oracle Database that you want to use for this Oracle Content DB middle tier.	orcl.mycompany.com	
SYS password	The password for the database user SYS.	your_password	
Content schema password	The password for the CONTENT schema user.	your_password	
SMTP host (optional)	The full host name of the SMTP server you want to use with Oracle Content DB. You can also enter the IP address of the SMTP host.	email.company.com	
SMTP port (optional)	The port on which the SMTP server listens.	25	



**Table 2–3 (Cont.) Checklist for Installing the Oracle Content DB Middle Tier**

Information	Description	Example Values	Your Information
Instance name	The name of the Oracle Application Server instance for the Oracle Content DB middle tier.  Do not use the hostname of the computer when naming Oracle Application Server instances.	cdb_instance	
ias_admin password	The password of the administrator for the Oracle Application Server instance for the Oracle Content DB middle tier.	your_password	
Root password	The root user password for the operating system where you are installing the Oracle Content DB middle tier.	your_password	

## Quick Installation of Oracle Content DB and Supporting Components

The following sections provide streamlined instructions for installing Oracle Database, OracleAS Infrastructure, and the Oracle Content DB middle tier:

- [Quick Installation of OracleAS Infrastructure](#)
- [Quick Installation of Oracle Database](#)
- [Quick Installation of the Oracle Content DB Middle Tier](#)

### Quick Installation of OracleAS Infrastructure

This section provides streamlined instructions for installing OracleAS Infrastructure (which contains Oracle Identity Management, a required component for Oracle Content DB). For complete information, see "[Installing OracleAS Infrastructure](#)" on page 3-2, as well as *Oracle Application Server Installation Guide*.

The following procedure may be slightly different from your actual installation, depending on which options you select and which version you are installing. This procedure installs the Metadata Repository and Oracle Identity Management components in a single Oracle home; refer to *Oracle Application Server Installation Guide* for information about other combinations.

**Tip:** When you refer to books in the Oracle Application Server documentation library, make sure that the version and platform of the book you are looking at matches the version and platform of the OracleAS Infrastructure you are installing.

To install OracleAS Infrastructure:

1. Ensure that all hardware, software, and other requirements are met before installing. See the chapter titled "Requirements" in *Oracle Application Server Installation Guide* for more information.

**Tip:** Use the checklist in [Table 2–1](#) to record the information you provide during OracleAS Infrastructure installation.

2. Start Oracle Universal Installer. The Welcome screen appears.

**See Also:**

- ["Understanding Oracle Universal Installer" on page B-4](#)
- ["Starting Oracle Universal Installer" on page B-5](#)

3. Click **Next** on the Welcome screen to display the Specify File Locations screen.

If this is the first installation of any Oracle product on this computer, additional steps are required before specifying file locations, such as specifying the inventory directory and running `orainstRoot.sh`. Refer to *Oracle Application Server Installation Guide* for more information.

4. On the Specify File Locations screen, enter a name for the Oracle home in the **Name** field. Then, in the **Path** field, provide the path where you want OracleAS Infrastructure to be installed.

If the directory does not exist, the installer creates it. If you want to create the directory beforehand, create it as the `oracle` user; do not create it as the `root` user.

When you have entered the Oracle home name and path, click **Next**.

5. On the Select a Product to Install screen, select **Oracle Application Server Infrastructure**, then click **Next**.

If you need to install additional languages, click **Product Languages**. Refer to *Oracle Application Server Installation Guide* for details.

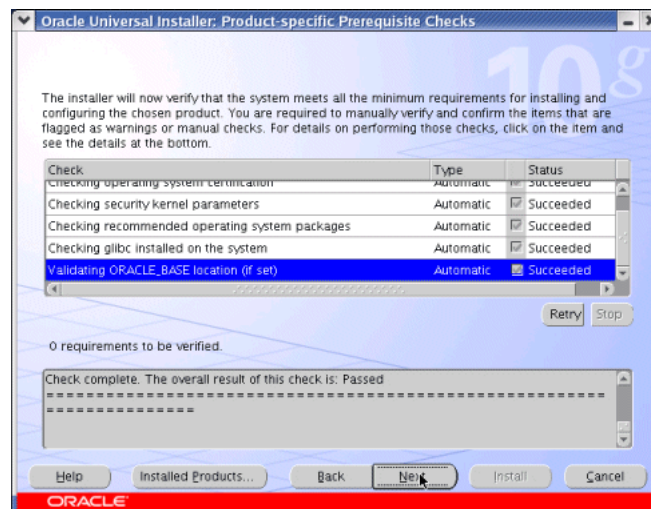
6. On the Select Installation Type screen, select **Identity Management and Metadata Repository** and click **Next**.

Refer to *Oracle Application Server Installation Guide* for details about the other options.

7. On the Product-Specific Prerequisite Checks screen, review any prerequisites that have been flagged with warnings, or that need to be checked manually. Be sure to fix any outstanding issues before proceeding. When you have finished reviewing the prerequisites, click **Next**.

[Figure 2-1](#) shows the Product-Specific Prerequisite Checks screen.

**Figure 2-1 OracleAS Infrastructure Installation: Product-Specific Prerequisite Checks Screen**



8. On the Confirm Pre-Installation Requirements screen, ensure that you have met the listed requirements. When you have verified the requirements, select each one and click **Next**.
9. On the Select Configuration Options screen, select the following:
  - **Oracle Internet Directory**
  - **OracleAS Single Sign-On**
  - **OracleAS Delegated Administration Services**
  - **OracleAS Directory Integration and Provisioning**

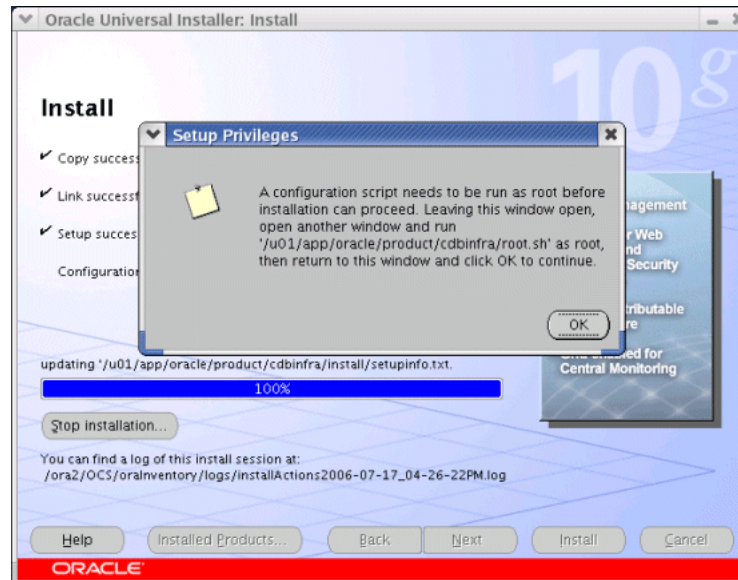
When you have selected these options, click **Next**.
10. On the Select Port Configuration Options screen, select **Automatic** and click **Next**.  
Refer to *Oracle Application Server Installation Guide* for details about specifying ports manually.
11. On the Specify Namespace in Internet Directory screen, accept the suggested namespace and click **Next**.
12. On the Specify Database Configuration Options screen, provide the following information:
  - **Global Database Name:** Enter a name for the Metadata Repository database in the form `database_name.domain_name`.
  - **SID:** Enter the system identifier for the Metadata Repository database. Typically this is the same as the global database name, but without the domain name. The SID must not be longer than eight characters.
  - **Database Character Set:** Select the character set you want to use. If you want to use the OracleAS Infrastructure database as your Oracle Content DB database, you must choose AL32UTF8.
  - **Database File Location:** Enter the full path to the parent directory for the data files directory. This parent directory must already exist, and you must have write permissions in this directory.

After you have provided this information, click **Next**.
13. On the Specify Database Schema Passwords screen, provide passwords for the SYS, SYSTEM, DBSNMP, and SYSMAN schema users. You can use the same password for all schemas, or use different passwords. When you have supplied the passwords, click **Next**.
14. On the Specify Instance Name and ias\_admin Password screen, enter the following:
  - For **Instance Name**, enter a name for this infrastructure instance. You cannot change this name after installation.
  - For **ias\_admin Password** and **Confirm Password**, set the password for the ias\_admin user. This is the administrative user for the instance.

When you have entered this information, click **Next**.
15. On the Summary screen, verify your selections and click **Install**.  
The Install Progress screen displays the progress of the installation.
16. When the Setup Privileges screen displays, run `root.sh` in a new window as the root user.

Figure 2–2 shows the Setup Privileges screen.

**Figure 2–2 OracleAS Infrastructure Installation: Setup Privileges Screen**



When the `root.sh` script finishes, click **OK**.

Next, a list of configuration assistants will run. If any configuration assistant fails, the error will appear in the Oracle Universal Installer console window. For additional details on the error, refer to the corresponding log file for the assistant in error.

17. On the End of Installation screen, click **Exit** to quit the installer.

**See Also:** *Oracle Application Server Installation Guide* for recommended post-installation tasks

If you want to use the OracleAS Infrastructure database as your Oracle Content DB database, you may need to upgrade your OracleAS Infrastructure database to a later version. For example, if your database is version 10.1.0.4, you will need to upgrade to 10.1.0.5. See ["Upgrading an Existing Oracle Database"](#) on page 3-6 for additional information.

Also, if you want to use the OracleAS Infrastructure database as your Oracle Content DB database, you need to set required database initialization parameters; see ["Setting Required Database Initialization Parameters"](#) on page 3-4 for more information.

## Quick Installation of Oracle Database

This section provides streamlined instructions for installing an Oracle Database for Oracle Content DB. For complete information, see ["Installing Oracle Database"](#) on page 3-3, as well as *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* and *Oracle Database Quick Installation Guide for Solaris Operating System (SPARC 64-Bit)*. The following procedure may be slightly different from your actual installation, depending on which option you select and which database version you are installing.

**Tip:** When you refer to books in the Oracle Database documentation library, make sure that the version and platform of the book you are looking at matches the version and platform of the Oracle Database you are installing.

To install Oracle Database:

1. Ensure that all hardware, software, and other requirements are met before installing. See Chapter 2, "Preinstallation Tasks" in *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* for more information.

**Tip:** Use the checklist in [Table 2-2](#) to record the information you provide during Oracle Database installation.

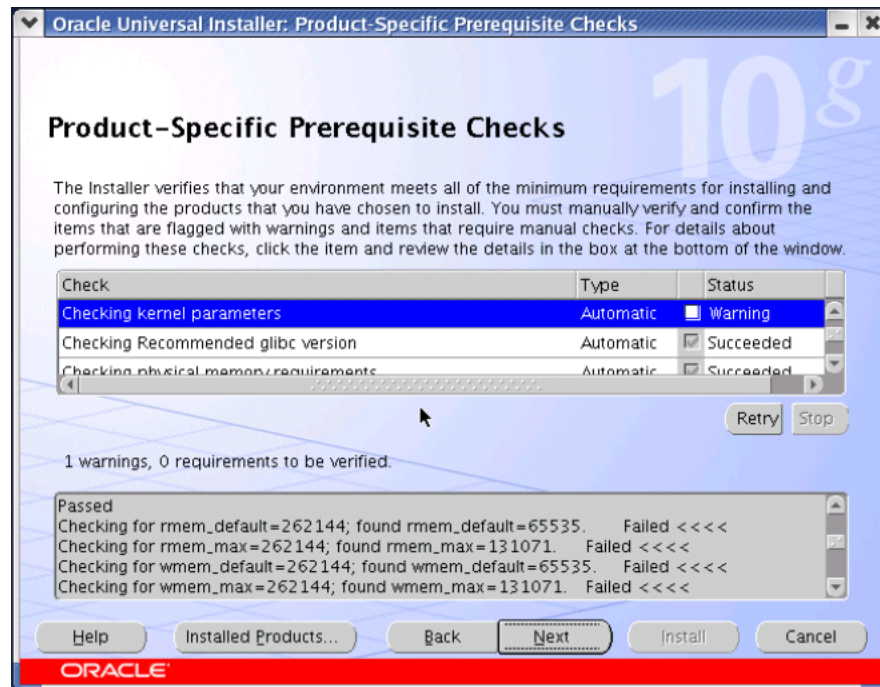
2. Start Oracle Universal Installer. The Welcome screen appears.

**See Also:**

- ["Understanding Oracle Universal Installer"](#) on page B-4
- ["Starting Oracle Universal Installer"](#) on page B-5

3. Click **Next** on the Welcome screen to display the Select Information Type screen.
4. On the Select Installation Type screen, select one of the options (typically **Enterprise Edition**) and click **Next**.
5. On the Specify Home Details screen, provide a name for the Oracle home and provide the path where you want the database to be installed, then click **Next**.
6. On the Product-Specific Prerequisite Checks screen, review any prerequisites that have been marked with warnings (as shown in [Figure 2-3](#)), or that need to be checked manually. Be sure to fix any outstanding issues before proceeding. When you have finished reviewing the prerequisites, click **Next**.

[Figure 2-3](#) shows the Product-Specific Prerequisite Checks screen, with some prerequisite checks that have been marked with warnings.

**Figure 2–3 Oracle Database Installation: Product-Specific Prerequisite Checks Screen**

7. On the Upgrade an Existing Database screen, choose whether you want to upgrade an existing database, then click **Next**.  
 For full information about upgrading an existing database, refer to the database upgrade documentation. The remainder of this procedure assumes that you selected **No** on this screen.
8. On the Select Configuration Option screen, choose a database configuration type and click **Next**.  
 For information about configuring Automatic Storage Management or installing database software only, refer to *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)*. The remainder of this procedure assumes that you selected **Create a database** on this screen.
9. On the Select Database Configuration screen, select **Advanced** and click **Next**.  
 Selecting the Advanced option will let you specify database initialization parameters and choose the database character set later in the installation. Both of these tasks are required in order to use this database with Oracle Content DB.
10. On the Summary screen, review your settings, then click **Install**.  
 The Install Progress screen displays the progress of the installation.
11. During the Configuration Assistants phase of the installation, the Database Configuration Assistant (DBCA) appears. On the Database Templates screen of the DBCA, select **General Purpose** and click **Next**.  
 See *Oracle Database 2 Day DBA* for information about the other options on this screen, as well as general information about using DBCA.
12. On the Database Identification screen, provide the **Global Database Name** in the form `database_name.domain_name`. Then, in the **SID** box, enter the Oracle system identifier. The SID defaults to the database name and uniquely identifies the instance that runs the database.

When you have entered this information, click **Next**.

13. On the Management Options screen, select **Configure the Database with Enterprise Manager**. Choose whether to use Grid Control or Database Control for database management. You can only use Grid Control to manage your database if Grid Control has been installed and configured, and if the Management Agent has been installed on the database computer.

For information about the optional settings on this screen, see *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)*.

After you have made your selection, click **Next**.

14. On the Database Credentials screen, provide passwords for the SYS, SYSTEM, DBSNMP, and SYSMAN schema users. You can use the same password for all schemas, or use different passwords. When you have supplied the passwords, click **Next**.
15. On the Storage Options screen, choose either **File System** or **Automatic Storage Management**, then click **Next**.

For more information about Automatic Storage Management, refer to *Oracle Database Installation Guide*.

16. Choose the following options for the next three screens:

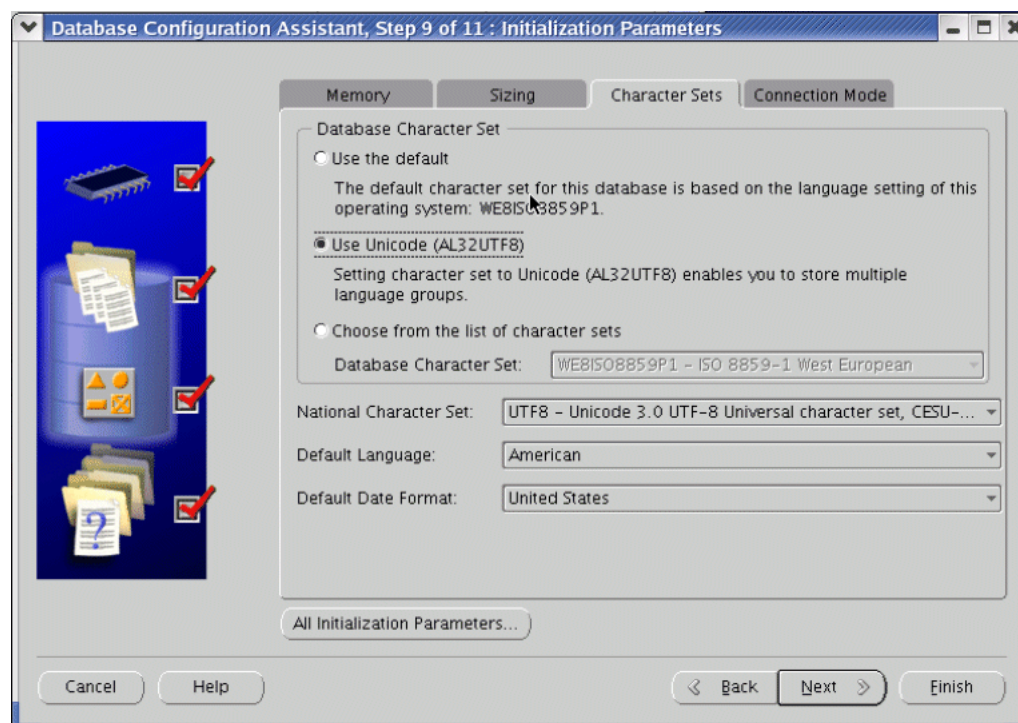
- a. On the Database File Locations screen, select **Use Database File Locations from Template** and click **Next**.
- b. On the Recovery Configuration screen, select **Specify Flash Recovery Area** and click **Next**.
- c. On the Database Content screen, click **Next**.

See *Oracle Database 2 Day DBA* for information about the other options on these screens.

17. On the Initialization Parameters screen, click the **Character Sets** tab, then select **Use Unicode (AL32UTF8)**. Choosing AL32UTF8 is required in order to use this database with Oracle Content DB.

[Figure 2–4](#) shows the Character Sets tab.



**Figure 2–4 DBCA: Character Sets Tab of Initialization Parameters Screen**

18. Click **All Initialization Parameters**. The All Initialization Parameters screen appears.

Figure 2–5 shows the All Initialization Parameters screen.



**Figure 2–5 DBCA: All Initialization Parameters Screen**

Name	Value	Override D...	Basic	Category
audit_file_dest	{ORACLE_BAS...	✓		Security and Auditin
audit_sys_operations	FALSE			Miscellaneous
audit_trail	NONE			Security and Auditin
background_core...	partial			Diagnostics and Stat
background_dump...	{ORACLE_BAS...	✓		Diagnostics and Stat
backup_tape_io_sla...	FALSE			Backup and Restore
bitmap_merge_are...	1048576			Sort, Hash Joins, Bit
blank_trimming	FALSE			ANSI Compliance
buffer_pool_keep				Cache and I/O
buffer_pool_recycle				Cache and I/O
circuits				Shared Server
cluster_database	FALSE		✓	Cluster Database
cluster_database_i...	1			Cluster Database
cluster_interconnects				Cluster Database
commit_point_stren...	1			Distributed, Replica
compatible	10.2.0.1.0	✓	✓	Miscellaneous
control_file_record...	7			Redo Log and Reco
control_files	{ORACLE_BA...	✓	✓	File Configuration
core_dump_dest	{ORACLE_BAS...	✓		Diagnostics and Stat
cpu_count	1			Processes and Sessi
create_bitmap_are...	8388608			Sort, Hash Joins, Bit
create_stored_outli...				Miscellaneous
cursor_sharing	EXACT			Cursors and Library
cursor_space_for_ti...	FALSE			Cursors and Library
db_16k_cache_size	0			Cache and I/O

Buttons at the bottom: Hide Advanced Parameters, Close, Show Description, Help

19. Set all the initialization parameters listed in [Table 3–2](#), according to the minimum value listed in the table. If you do not see some parameters, click Show Advanced Parameters. When you are finished specifying parameters, click Close.
20. Click **Next** on the Initialization Parameters screen.
21. On the Database Storage screen, review the storage structure of your database and click **Next**.
22. On the Creation Options screen, select **Create Database**, then click **Finish**.
23. Run any required configuration scripts (for example, `root . sh`), as prompted. You must run `root . sh` as the root user.
24. On the End of Installation screen, click **Exit**, then click **Yes** to quit the installer.

**See Also:** *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* for recommended post-installation tasks

After you install your database, you may need to upgrade to a later version in order to use it with Oracle Content DB. For example, if your database is version 10.1.0.4, you will need to upgrade to 10.1.0.5. See ["Upgrading an Existing Oracle Database"](#) on page 3-6 for additional information.

You also need to register this database with Oracle Internet Directory before you can use it with Oracle Content DB. See ["Registering Oracle Database with Oracle Internet Directory"](#) on page 3-7 for more information.

## Quick Installation of the Oracle Content DB Middle Tier

This section provides streamlined instructions for installing an Oracle Content DB middle tier. See [Chapter 5, "Installing the Oracle Content DB Middle Tier"](#) for complete information.

To install an Oracle Content DB middle tier:

1. You must have Oracle Database and OracleAS Infrastructure already installed before installing the Oracle Content DB middle tier. In addition, your database must be registered with Oracle Internet Directory. See ["Registering Oracle Database with Oracle Internet Directory"](#) on page 3-7 for more information.
2. Ensure that all other prerequisites listed in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#) are met prior to running Oracle Universal Installer.

**Tip:** Use the checklist in [Table 2-3](#) to record the information you provide during Oracle Content DB middle-tier installation.

3. Start Oracle Universal Installer. The Welcome screen appears.

**See Also:**

- ["Understanding Oracle Universal Installer"](#) on page B-4
- ["Starting Oracle Universal Installer"](#) on page B-5

4. Click **Next** on the Welcome screen to display the Specify File Locations screen.
5. Enter a name for the Oracle home in the **Name** field. Then, in the **Path** field, provide the path where you want the Oracle Content DB middle tier to be installed.

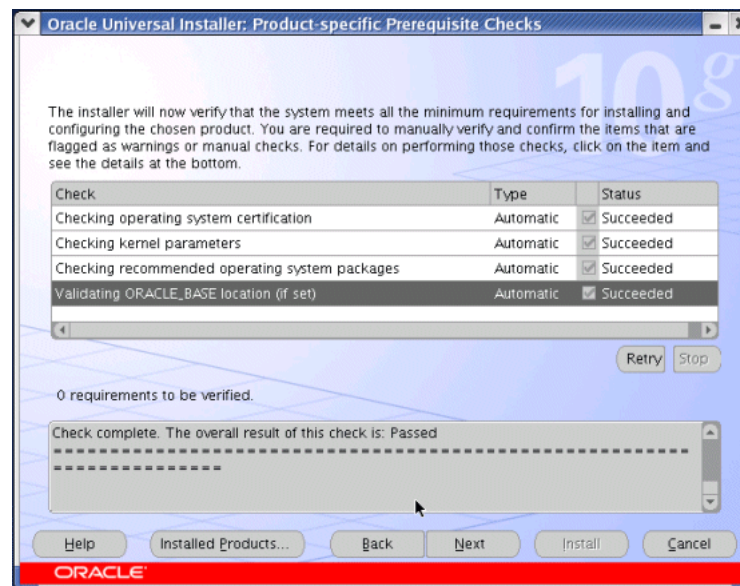
If the directory does not exist, the installer creates it. If you want to create the directory beforehand, create it as the `oracle` user; do not create it as the `root` user.

When you have entered the Oracle home name and path, click **Next**.

6. On the Product-Specific Prerequisite Checks screen, review any prerequisites that have been flagged with warnings, or that need to be checked manually. Be sure to fix any outstanding issues before proceeding. When you have finished reviewing the prerequisites, click **Next**.

[Figure 2-6](#) shows the Product-Specific Prerequisite Checks screen.

**Figure 2–6 Oracle Content DB Middle-Tier Installation: Product-Specific Prerequisite Checks Screen**



7. On the Language Selection screen, ensure that all languages appear on the right side (in the Selected Languages list), then click **Next**.
8. On the Register with Oracle Internet Directory screen, provide the following information:
  - **Host:** Enter the name of the computer where Oracle Internet Directory is running.
  - **Port:** Enter the port number on which Oracle Internet Directory is listening. If you want to use Secure Sockets Layer (SSL) to connect to Oracle Internet Directory, specify the Oracle Internet Directory SSL port.
  - **Use SSL to connect to Oracle Internet Directory:** Select this option if you want Oracle Content DB components to use only SSL to connect to Oracle Internet Directory.

To ensure secure communications, Oracle recommends that you enable this option and use SSL to connect to Oracle Internet Directory.

When you have provided this information, click **Next**.

9. On the Specify OID Login screen, provide the following information:
  - **Username:** Enter the user name used to log in to Oracle Internet Directory. If you are an Oracle Internet Directory superuser, the username is `cn=orcladmin`. Alternatively, you can use another Oracle Internet Directory user, provided that the user has sufficient privileges such as the following:
    - IAS & User Management Application Admins
    - iAS Admins
  - **Password:** Enter the existing password for this user.
  - In the **Identity Management Realm** field, specify the appropriate realm to which this user belongs. This field only appears if the Oracle Internet Directory you specified contains multiple realms.

When you have provided this information, click **Next**.

10. On the Select Database Information screen, provide the following information:
- **Database Connection String:** Select the connect string to the Oracle Database that you want to use for this Oracle Content DB middle tier. If this is the first middle tier you are installing, the Oracle Content DB schema will be created in this database. If this is a subsequent middle tier, this middle tier will be associated with the existing schema.

- **Password:** Enter the existing password for the database user SYS.

When you have provided this information, click **Next**.

11. On the Content Schema Password screen, choose or enter a schema password for Oracle Content DB:

- If this is the first Oracle Content DB middle tier you are installing, enter the password you want to use for the Oracle Content DB schema, then confirm it. The Oracle Content DB schema name is **Content**. This schema will be created during this installation.
- If this is a subsequent Oracle Content DB middle tier, enter the schema password for the existing Oracle Content DB schema.

When you have entered the schema password, click **Next**.

12. On the Specify SMTP Host and Port Values screen, you can optionally provide e-mail server information. This can be any valid Simple Mail Transport Protocol (SMTP) server.

If you choose to leave these values blank, you can specify this information after installation using the Application Server Control. The SMTP server is used to send quota e-mail notifications to Quota Administrators.

In the **Host** field, enter the full host name of the SMTP server, in the form `hostname.domain`. Alternatively, you can enter the IP address of the SMTP server.

In the **Port** field, enter the port number on which the SMTP server listens.

When you have provided this information, click **Next**.

---

**Note:** In subsequent Oracle Content DB middle-tier installations, you will not be prompted for SMTP information.

---

13. On the Specify Instance Name and ias\_admin Password screen, enter the following:

- For **Instance Name**, enter a name for this Oracle Content DB middle-tier instance. You cannot change this name after installation.
- For **ias\_admin Password** and **Confirm Password**, set the password for the `ias_admin` user. This is the administrative user for the instance.

When you have entered this information, click **Next**.

14. On the Summary screen, verify your selections and click **Install**.

The Install Progress screen displays the progress of the installation.

15. When the Setup Privileges screen displays, run `root.sh` in a new window as the `root` user. When the `root.sh` script finishes, return to the Setup Privileges screen and click **OK**.

16. Next, a list of configuration assistants will run, including the Oracle Content DB Configuration Assistant. If any configuration assistant fails, the error will appear in the Oracle Universal Installer console window. For additional details on the error, refer to the corresponding log file for the assistant in error. The Oracle Content DB Configuration Assistant log file (`ContentConfig.log`), as well as the `cdbinstallactions.log` file, can be found in the following location:

```
$ORACLE_HOME/content/log/
```

17. When the End of Installation screen displays, click **Exit** to quit Oracle Universal Installer. Oracle Content DB starts and the Web client opens.

---

**Note:**

- By default, Oracle Records DB is disabled. Refer to Chapter 5, "Choosing Oracle Content DB Options" in *Oracle Content Database Administrator's Guide* for information about how to enable Oracle Records DB.
  - By default, FTP and FTPS are disabled. Refer to Chapter 4 "Oracle Content Database Protocol Support" in *Oracle Content Database Administrator's Guide* for information about how to enable FTP and FTPS Records DB.
  - The information displayed at the end of the installation is also available in the `$ORACLE_HOME/install/setupinfo.txt` file. This file contains summarized information about Oracle Content DB and links to the URLs.
- 

**Tip:** Proceed to [Chapter 7, "Oracle Content DB Middle-Tier Postinstallation Tasks"](#) to complete installation of Oracle Content DB

## Installing Oracle Content DB on a Single Computer

A single-computer installation is one that has Oracle Database, OracleAS Infrastructure (with Oracle Identity Management), and the Oracle Content DB middle tier on the same computer. This section provides information and recommendations for a single-computer configuration for Oracle Content DB.

### System Requirements for Single-Computer Installation

If you plan a single-computer installation of Oracle Content DB running a single database instance, ensure that the computer on which you plan to install the software meets the requirements listed in [Table 2-4](#). These requirements are necessary to contain not only Oracle Content DB, but also Oracle Identity Management components and the Oracle Database.

If you are planning to run both an Oracle Content DB database and the OracleAS Infrastructure database on the same computer, look at the system requirements for both Oracle Database and OracleAS Infrastructure in *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* and *Oracle Application Server Installation Guide* to determine what requirements to meet.

**Table 2–4 System Requirements for Single-Computer Installation**

Item	Minimum Requirement
Memory	2 GB RAM
Disk Space	15 GB
Swap Space	4 GB

## Single-Computer Installation Options

In general, there are three different ways to install OracleAS Infrastructure, Oracle Database, and the Oracle Content DB middle tier on the same computer. The following sections provide information about each configuration option:

- [Installing OracleAS Infrastructure, Oracle Database, and Oracle Content DB in Three Oracle Homes](#)
- [Using the OracleAS Infrastructure Database as the Oracle Content DB Database](#)
- [Using an Existing Database as Your Metadata Repository](#)

### Installing OracleAS Infrastructure, Oracle Database, and Oracle Content DB in Three Oracle Homes

You can choose to install OracleAS Infrastructure, Oracle Database, and the Oracle Content DB middle tier in three separate Oracle homes. In this configuration, there are two databases running on the same computer: the database for Oracle Content DB, and the Metadata Repository database (part of OracleAS Infrastructure). Because of this, you may have port conflicts when you install the second database. See ["Database Port Conflicts"](#) on page 2-19 for additional information. Also, you should increase your hardware configuration proportionally to account for both database instances. See ["System Requirements for Single-Computer Installation"](#) on page 2-17.

For this configuration, you should install the components in the following order:

- OracleAS Infrastructure
- Oracle Database
- Oracle Content DB middle tier

#### See Also:

- [Chapter 3, "Installing OracleAS Infrastructure and Oracle Database"](#)
- [Chapter 5, "Installing the Oracle Content DB Middle Tier"](#)

### Using the OracleAS Infrastructure Database as the Oracle Content DB Database

You can install OracleAS Infrastructure first, then use the OracleAS Infrastructure database as your Oracle Content DB database. In this configuration, there is only one database running on the computer.

To use the OracleAS Infrastructure database as your Oracle Content DB database, you must ensure the following requirements are met:

- You may need to upgrade the version of the OracleAS Infrastructure database. Oracle Content DB requires an Oracle Database version 10.2.0.2 or 10.1.0.5. For the most up-to-date certification information, refer to *OracleMetaLink* at:

<http://metalink.oracle.com>

See ["Upgrading an Existing Oracle Database"](#) on page 3-6 for more information.

- When you install the OracleAS Infrastructure database, be sure to choose AL32UTF8 as the database character set. AL32UTF8 is not the default character set. See ["Setting the Required Database Character Set"](#) on page 3-5 for more information.
- Make sure to set the required database initialization parameters before installing the Oracle Content DB middle tier. See ["Setting Required Database Initialization Parameters"](#) on page 3-4 for more information.

After you install OracleAS Infrastructure and then configure the Metadata Repository database to be your Oracle Content DB database, install the Oracle Content DB middle tier. See [Chapter 5, "Installing the Oracle Content DB Middle Tier"](#) for more information.

### Using an Existing Database as Your Metadata Repository

You can choose to install Oracle Database first, then use that database for your Metadata Repository. In this configuration, there is only one database running on the computer. See *Oracle Application Server Metadata Repository Creation Assistant User's Guide* for information about using an existing database as your Metadata Repository.

This database must meet all the requirements listed in ["Installing Oracle Database"](#) on page 3-3 in order to be used with Oracle Content DB.

After you have configured your database to be the Metadata Repository database, and after you have installed Oracle Identity Management components, install the Oracle Content DB middle tier. Be sure that you have installed the following Oracle Identity Management components:

- Oracle Internet Directory
- OracleAS Single Sign-On
- OracleAS Delegated Administration Services
- OracleAS Directory Integration and Provisioning

#### See Also:

- Section 6.23, "Installing Oracle Identity Management Components Only (Including Oracle Internet Directory)" in *Oracle Application Server Installation Guide*
- [Chapter 5, "Installing the Oracle Content DB Middle Tier"](#)

## Database Port Conflicts

If you are installing both Oracle Database and the Metadata Repository on the same computer, you may have a port conflict when you install the second database (typically the Metadata Repository) because port 1521 will already be in use by the first database you installed.

### If Port 1521 Is Being Used by an Existing Oracle Database

If you are installing both Oracle Database and the Metadata Repository on the same computer, you may have a port conflict when you install the second database (typically the Metadata Repository) because port 1521 will already be in use by the first database you installed.

As long as the first Oracle Database is version 10.1.0.2 or later, the existing listener will support both the existing database and the new Oracle Database. Oracle Universal Installer will perform this configuration automatically. You must stop the existing listener during installation.

### **If Port 1521 Is Being Used by Another Application**

If another application is listening on port 1521, you must reconfigure it to listen on a different port. If that is not possible, shut it down while you install the Oracle Database. After installation, you can reconfigure the Oracle Database to use a port other than 1521.

**See Also:** *Oracle Database Administrator's Guide* for information about reconfiguring the database to use another port



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## Installing OracleAS Infrastructure and Oracle Database

Before you install the Oracle Content DB middle tier, you must first install OracleAS Infrastructure (which contains Oracle Identity Management) and Oracle Database. Alternatively, you can use an existing Oracle Database as your Oracle Content DB database, and/or use an existing Oracle Identity Management.

You can also use the OracleAS Infrastructure database as your Oracle Content DB database, or you can use an existing Oracle Database as your Metadata Repository. You can also install OracleAS Infrastructure, Oracle Database, and the Oracle Content DB middle tier on one computer, provided that computer meets the recommended hardware requirements.

### See Also:

- ["Installing Oracle Content DB on a Single Computer"](#) on page 2-17 for information about installing OracleAS Infrastructure, Oracle Database, and the Oracle Content DB middle tier on the same computer, as well as information about using the OracleAS Infrastructure database as your Oracle Content DB database
- *Oracle Application Server Metadata Repository Creation Assistant User's Guide* for information about using an existing Oracle Database as your Metadata Repository

This chapter provides important information and tips about how to install OracleAS Infrastructure and Oracle Database for Oracle Content DB. It also provides links to key places in the Oracle Application Server and Oracle Database documentation sets to help you proceed smoothly through the installation process.

**Tip:** When you refer to books in the Oracle Database and Oracle Application Server documentation libraries, make sure that the version and platform of the book you are looking at matches the version and platform of the Oracle Database or OracleAS Infrastructure you are installing.

This chapter contains the following topics:

- [Installing OracleAS Infrastructure](#)
- [Installing Oracle Database](#)
- [Registering Oracle Database with Oracle Internet Directory](#)

## Installing OracleAS Infrastructure

Refer to *Oracle Application Server Installation Guide* for complete information about how to install OracleAS Infrastructure (which includes Oracle Identity Management). In particular, refer to Chapter 6, "Installing OracleAS Infrastructure" in *Oracle Application Server Installation Guide* for step-by-step instructions, as well as information about different OracleAS Infrastructure install types.

Review the information about installation types closely to determine which configuration best suits your needs. For example, you can install all OracleAS Infrastructure components, then use the OracleAS Infrastructure database as your Oracle Content DB repository. Or, you may decide to use an existing database as your Metadata Repository database, and install Oracle Identity Management components only.

Although Oracle recommends that you review the entire *Oracle Application Server Installation Guide* before installing, [Table 3–1](#) highlights particularly important sections and chapters that you should read.

---

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**Note:** The chapter and section numbers referred to in [Table 3–1](#) may change, depending on the version of the Oracle Application Server documentation library you are using. If you cannot find the information you are looking for at the listed chapter or section number, search for the chapter or section by name rather than by number.

---

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**Table 3–1 Sections and Chapters to Read in Oracle Application Server Installation Guide**

Section or Chapter Name
Section 4.2, "System Requirements"
Section 4.3, "Software Requirements"
Section 5.18, "Setting the Mount Point for the CD-ROM or DVD"
Section 5.19, "Starting Oracle Universal Installer"
Chapter 6, "Installing OracleAS Infrastructure"
Section 6.23, "Installing Oracle Identity Management Components Only (Including Oracle Internet Directory)"
Section 6.26, "Installing OCA and OracleAS Metadata Repository Only"

**See Also:** If you are installing OracleAS Infrastructure on a Solaris 10 system, please refer to Metalink note [330016.1](#). For more information on Metalink notes, refer to *OracleMetaLink* at:

<https://metalink.oracle.com>

## OracleAS Infrastructure Hardware and Software Requirements

Oracle Content DB requires an OracleAS Infrastructure version 10.1.2.0.2 or OracleAS Infrastructure version 10.1.4. For the most up-to-date certification information, refer to *OracleMetaLink* at:

<https://metalink.oracle.com>

Refer to Section 4.2, "System Requirements" and Section 4.3, "Software Requirements" in *Oracle Application Server Installation Guide* for information about hardware and software requirements for OracleAS Infrastructure.

## Oracle Identity Management Component Requirements

Oracle Content DB requires the following Oracle Identity Management components:

- Oracle Internet Directory
- OracleAS Single Sign-On
- OracleAS Delegated Administration Services
- OracleAS Directory Integration and Provisioning

## Installing Oracle Database

Refer to *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* or *Oracle Database Quick Installation Guide for Solaris Operating System (SPARC 64-Bit)* for your platform for complete information about how to install Oracle Database. Choose the **Advanced** installation type so that you can specify required initialization parameters and the required database character set during installation.

In addition, read the following sections for information about how to install Oracle Database (or adjust an existing Oracle Database) so that it can be used with Oracle Content DB.

This section contains the following topics:

- [Oracle Database Hardware and Software Requirements](#)
- [Setting Required Initialization Parameters and the Database Character Set](#)
- [Data Types and Storage Requirements](#)
- [Upgrading an Existing Oracle Database](#)
- [Using the Raw Storage Type with Oracle Content DB](#)

## Oracle Database Hardware and Software Requirements

Oracle Content DB requires an Oracle Database version 10.2.0.2 or 10.1.0.5. Oracle Database version 9.2 is **not** supported. For the most up-to-date certification information, refer to *OracleMetaLink* at:

<http://metalink.oracle.com>

Refer to Chapter 2, "Preinstallation Tasks" in *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* for complete information about hardware, software, and other requirements. In particular, refer to the following sections:

- Section 2.2, "Checking the Hardware Requirements"
- Section 2.3, "Checking the Software Requirements"
- Section 2.6, "Configuring Kernel Parameters"

If you do not set Kernel parameters appropriately, you may see an error during installation.

For additional information about database computer sizing requirements for Oracle Content DB, see Chapter 2, "Planning for Oracle Content DB Deployment" in *Oracle Content Database Administrator's Guide*.

## Setting Required Initialization Parameters and the Database Character Set

This section describes how to set required database initialization parameters, and how to set the required database character set (AL32UTF8).

This section contains the following topics:

- [Setting Required Database Initialization Parameters](#)
- [Setting the Required Database Character Set](#)

### Setting Required Database Initialization Parameters

You must set initialization parameters for the Oracle Database you want to use with Oracle Content DB.

To set initialization parameters during installation, choose the **Advanced** installation type. Then, select **Advanced** on the Select Database Configuration screen. You can set the initialization parameters after the Database Configuration Assistant (DBCA) launches.

To set initialization parameters for an existing database, you can use Oracle Enterprise Manager Database Control to update the server parameter file. See Section 5.2, "Logging In to Oracle Enterprise Manager Database Control" in *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)* for information about how to access the Database Control.

Alternatively, you can use the following SQL command to set individual parameters:

```
SQL> alter system set parameter_name=parameter_value scope=both;
```

For example:

```
SQL> alter system set shared_pool_size=184549376 scope=both;
```

[Table 3–2](#) lists the required database initialization parameters for Oracle Content DB.

**Table 3–2 Database Initialization Parameters for Oracle Content DB**

Parameter Name	Minimum Value
aq_tm_processes	1
db_block_size	8192
db_cache_size	150994944
db_file_multiblock_read_count	32
db_recovery_file_dest_size	2147483648
dispatchers	(PROTOCOL=TCP)=(SERVICE={SID})XDB
dml_locks	200
java_pool_size	125829120
job_queue_processes	10
large_pool_size	4194304
max_commit_propagation_delay	1  This parameter was deprecated in Oracle Database 10.2. If you are using a 10.2 database, you do not need to set this parameter.
open_cursors	400
pga_aggregate_target	203423744

**Table 3–2 (Cont.) Database Initialization Parameters for Oracle Content DB**

Parameter Name	Minimum Value
processes	250
remote_login_passwordfile	EXCLUSIVE
session_max_open_files	50
sessions	400
sga_max_size	629145600
sga_target	629145600
shared_pool_size	184549376
star_transformation_enabled	TRUE
undo_management	AUTO
db_create_file_dest <b>Note:</b> Do not set this parameter if the storage is in raw volumes and the required table spaces are already created. See <a href="#">Data Types and Storage Requirements</a> for information about tablespaces required by Oracle Content DB.	<p>Set this parameter to identify the default location for the database server to create the following files:</p> <ul style="list-style-type: none"> <li>▪ Datafiles</li> <li>▪ Tempfiles</li> <li>▪ Redo log files</li> <li>▪ Control files</li> <li>▪ Block change tracking files</li> </ul> <p>The following example sets /u01/oradata as the default directory to use when creating Oracle-managed files:</p> <p>DB_CREATE_FILE_DEST = '/u01/oradata'</p>

### Setting the Required Database Character Set

You must set the database character set to AL32UTF8 in order to use the database with Oracle Content DB.

To set the database character set during installation, choose the **Advanced** installation type (recommended). To set the database character set for an existing database, you can use the Database Configuration Assistant (DBCA) to re-create the database with the correct character set.

## Data Types and Storage Requirements

[Table 3–3](#) shows the different types of data stored in Oracle Content DB and describes the purpose of each tablespace. These tablespaces are created for you automatically during Oracle Content DB configuration.

For additional information, see "Oracle Content DB Tablespaces" in *Oracle Content Database Administrator's Guide*.

**Table 3–3 Tablespace Definitions**

Tablespace Type	Tablespace Name	Description
File Storage	CONTENT_IFS_LOB_I	Stores the Large Object (LOB) data for files that can be indexed by Oracle Text, such as text and word processing files.
File Storage	CONTENT_IFS_LOB_N	Stores the LOB data for files that are not indexed by Oracle Text, such as zip files.

**Table 3–3 (Cont.) Tablespace Definitions**

Tablespace Type	Tablespace Name	Description
File Storage	CONTENT_IFS_LOB_M	Stores the LOB data for files that can be indexed by Oracle <i>interMedia</i> , such as image, audio, and video files.
Oracle Text	CONTENT_IFS_CTX_I	Stores words (tokens) extracted by Oracle Text from Oracle Content DB files (the Oracle table DR\$IFS_TEXT\$I).
Oracle Text	CONTENT_IFS_CTX_X	Stores the Oracle B*tree index on the Oracle Text tokens (the Oracle index DR\$IFS_TEXT\$X).
Oracle Text	CONTENT_IFS_CTX_K	Stores miscellaneous Oracle Text tables (the Oracle tables DR\$IFS_TEXT\$K, DR\$IFS_TEXT\$N, DR\$IFS_TEXT\$R).
Metadata	CONTENT_IFS_MAIN	Stores metadata for files, information about users and groups, and other Oracle Content DB object data.
Oracle Workflow	WORKFLOW_IFS_MAIN	Stores data for Oracle Workflow.
General Oracle Storage	Various	SYSTEM, ROLLBACK, TEMP, and other tablespaces that store the Oracle data dictionary, temporary data during transactions, and so on.

## Upgrading an Existing Oracle Database

You may need to upgrade your Oracle Database to one of the versions certified with Oracle Content DB. If you upgrade, make sure to read the upgrade documentation carefully, follow all instructions, and perform all required post-upgrade tasks. Otherwise, you may encounter problems. Post-upgrade tasks may include running the following scripts:

- catupgrd.sql (10.2.0.2)
- utlrlp.sql (10.2.0.2)
- changePerm.sh (10.2.0.2)
- catpatch.sql (10.1.0.5)
- utlrlp.sql (10.1.0.5)

Refer to the database upgrade documentation for additional details.

### Downloading and Applying Database Patches

You can download database patches from Oracle*MetaLink* at:

<http://metalink.oracle.com>

If you have a support contract with Oracle, the steps to download a patch from the Oracle*MetaLink* site are:

1. Log in to Oracle*MetaLink*.
2. Click **Patches & Updates**.
3. Ensure that **Patch Number** is selected in the **Simple Search** list, then enter the required patch number in the adjacent field.

If you do not know the patch number that you need to download, select **Product or Family** in the **Simple Search** list.

4. Select the appropriate operating system from the **Platform or Language** list.
5. Click **Go**.
6. Under Results, click **View Readme** to go through the information in the readme before downloading the patch. Then, return to the Results page and click **Download** to download the patch.

Make sure to stop all database processes before applying database patches. After the upgrade completes, you need to run `root . sh`. Refer to the patch upgrade documentation for additional details; follow all instructions, and perform all required post-upgrade tasks.

## Using the Raw Storage Type with Oracle Content DB

If you choose to use raw devices for database file storage, you must create tablespaces manually. [Table 3–4](#) shows the minimum size of each tablespace.

**Table 3–4 Minimum Tablespace Sizes**

Tablespace Name	Minimum Size
CONTENT_IFS_MAIN	60MB
CONTENT_IFS_LOB_N	270MB
CONTENT_IFS_LOB_I	270MB
CONTENT_IFS_LOB_M	10MB
CONTENT_IFS_CTX_I	10MB
CONTENT_IFS_CTX_K	15MB
CONTENT_IFS_CTX_X	130MB
WORKFLOW_IFS_MAIN	10MB

To create tablespaces manually, you can issue the `create tablespace` SQL command. [Example 3–1](#) shows a command to create the `CONTENT_IFS_MAIN` tablespace, with a size of 270 MB.

### **Example 3–1 Create Tablespace Command**

```
SQL > create tablespace CONTENT_IFS_MAIN logging datafile size 270M autoextend on
next 27M maxsize unlimited extent management local segment space management auto;
```

## Registering Oracle Database with Oracle Internet Directory

After you install OracleAS Infrastructure and Oracle Database, you must register the database with Oracle Internet Directory before you can install the Oracle Content DB middle tier. Typically, registering the database with Oracle Internet Directory involves the following two steps:

- [Running the Net Configuration Assistant \(NetCA\)](#)
- [Running the Database Configuration Assistant \(DBCA\)](#)

If you are using the OracleAS Infrastructure database as your Oracle Content DB database, you do not need to perform these tasks.

## Running the Net Configuration Assistant (NetCA)

Run the Net Configuration Assistant (NetCA) from the database Oracle home to create a Directory Usage Configuration for the database. Performing this step creates an `ldap.ora` file that points to the Oracle Internet Directory you want to use with Oracle Content DB. If you already have an `ldap.ora` file with the correct Oracle Internet Directory information, you do not need to perform this step.

**Tip:** For additional information on the parameters described in the following procedure, click **Help** on any NetCA page.

To create a Directory Usage Configuration for the database:

1. On the database computer, run `netca` from `$ORACLE_HOME/bin`.
2. On the Welcome page, choose **Directory Usage Configuration** and click **Next**.
3. For Directory Type, choose **Oracle Internet Directory** and click **Next**.
4. Provide the fully-qualified **Hostname**, **Port**, and **SSL Port** for your Oracle Internet Directory instance and click **Next**. You can verify the port numbers using the Application Server Control for the OracleAS Infrastructure Oracle home.
5. Select the appropriate Oracle Context and click **Next**.
6. Click **Next** on the summary page.
7. Click **Finish** on the Welcome page to exit.

## Running the Database Configuration Assistant (DBCA)

Run the Database Configuration Assistant (DBCA) from the database Oracle home to register the database with Oracle Internet Directory.

**Tip:** For additional information on the parameters described in the following procedure, click **Help** on any DBCA page.

To register the database with Oracle Internet Directory:

1. On the database computer, run `dbca` from `$ORACLE_HOME/bin`.
2. Select **Configure Database Options** and click **Next**.
3. Select the name of your database and click **Next**.
4. On the Directory Service tab, select **Yes, register the database**. You must also provide the following values:
  - **User DN and Password:** Enter the credentials of the Oracle Internet Directory super user (for example, `cn=orcladmin`).
  - **Wallet Password and Confirm Password:** Enter and confirm a password for the database wallet. The database requires the wallet even if SSL is not used to secure the connection between the database and Oracle Internet Directory. The wallet will be created if required.
5. Click **Next**, then click **Next** again on the Database Components page.
6. Click **Finish**.



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## Preinstallation Requirements for Oracle Content DB Middle Tier

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**Note:** Prior to installing Oracle Content DB middle tier, you must first install OracleAS Infrastructure (which contains Oracle Identity Management) and Oracle Database. Refer to [Chapter 3, "Installing OracleAS Infrastructure and Oracle Database"](#) for more details.

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This chapter discusses necessary requirements that must be met prior to installing Oracle Content DB.

**See Also:**

- [Appendix B, "Basic Installation Information"](#) for other preinstallation requirements
- Chapter 2, "Planning for Oracle Content DB Deployment" in the *Oracle Content Database Administrator's Guide* for information about deployment configurations, sizing guidelines, and tablespaces for Oracle Content DB.

This chapter includes the following topics:

- [Oracle Content DB Hardware Requirements](#)
- [Oracle Content DB Software Requirements](#)
- [Kernel Parameter Settings](#)
- [Ports Used by Oracle Content DB](#)
- [Environment Variables](#)
- [Network Topics](#)
- [Prerequisite Checks Performed by Oracle Universal Installer](#)
- [Running Prerequisite Checks from the Command Line](#)

### Oracle Content DB Hardware Requirements

This section lists the hardware configurations required to install Oracle Content DB.

Oracle Universal Installer checks these requirements at the start of the installation process and warns you if any of these requirements are not met. Therefore, to save time, you can manually check only the remaining requirements.

You can also run the system checks performed by Oracle Universal Installer without doing an installation by running the following command, where the `runInstaller` executable is on the Oracle Content DB DVD.

```
$ mount_point/runInstaller -executeSysPrereqs
```

The results are displayed on the screen as well as written to a log file.

**See Also:** ["Prerequisite Checks Performed by Oracle Universal Installer"](#) for more information about the subset of checks performed

**Table 4–1 Hardware Requirements for Solaris**

Item	Requirement	Checked by Oracle Universal Installer
Operating system	Solaris 8, Solaris 9, or Solaris 10	Yes
Processor type	SPARC Processor. The processor must have a v9 architecture.	No
Processor speed	450 MHz or greater recommended. Oracle recommends a multiple CPU computer.  To determine the processor speed, enter the <code>psrinfo</code> command with the <code>-v</code> option:  # <code>/usr/sbin/psrinfo -v</code>	No
Network	You can install Oracle Content DB on a computer that is connected to a network, or on a "standalone" computer (not connected to the network).  If you are installing Oracle Content DB on a standalone computer, you can connect the computer to a network after installation. You have to perform some configuration tasks when you connect it to the network; see the <i>Oracle Content Database Administrator's Guide</i> for details.	No
IP	The computer's IP address must be static. Oracle Content DB does not support computers using Solaris DHCP.  Oracle Content DB supports DHCP computers on Linux and Microsoft Windows.	No
Hostname	Ensure that your hostnames are not longer than 255 characters.	No
Support for 32-bit and 64-bit applications	The operating system must be configured to support 32-bit and 64-bit applications. To check this, run the <code>isainfo</code> command with the <code>-v</code> option:  prompt> <code>/usr/bin/isainfo -v</code> 64-bit sparcv9 applications 32-bit sparc applications  If the output does not show both lines, you need to reconfigure your computer. Check with your system administrator.	No
Processor Type	The processor must have a SPARC v9 architecture. This is because Oracle Content DB uses the Sun Java 1.4.2 HotSpot Server VM, which no longer supports SPARC v8 and older processors.  To determine the processor type, run the <code>psrinfo</code> command with the <code>-v</code> option. The output must show "sparcv9":  prompt> <code>/usr/sbin/psrinfo -v</code> Status of processor 0 as of: 02/10/03 13:21:20 Processor has been on-line since 02/04/03 15:45:07. The sparcv9 processor operates at 450 MHz, and has a sparcv9 floating point processor.	No

**Table 4–1 (Cont.) Hardware Requirements for Solaris**

Item	Requirement	Checked by Oracle Universal Installer
Processor Speed	<p>450 MHz or greater recommended. Oracle recommends a multiple CPU computer.</p> <p>To determine the processor speed, run the <code>psrinfo</code> command with the <code>-v</code> option:</p> <pre>prompt&gt; /usr/sbin/psrinfo -v Status of processor 0 as of: 02/10/03 13:21:20 Processor has been on-line since 02/04/03 15:45:07. The sparcv9 processor operates at 450 MHz, and has a sparcv9 floating point processor.</pre>	No
Memory	<p>The memory requirement for Oracle Content DB is 3 GB</p> <p><b>Notes:</b></p> <p>The installer checks the amount of memory on your computer and will warn you if your computer does not meet the minimum memory requirements.</p> <p>To determine the amount of memory, use the <code>prtconf</code> command:</p> <pre>prompt&gt; /usr/sbin/prtconf   grep Memory</pre>	Yes
Disk space	<p>The disk space requirement for Oracle Content DB is 10 GB:</p> <p>To determine the amount of free disk space, use the <code>df</code> command:</p> <pre>prompt&gt; df -k dir</pre> <p>Replace <i>dir</i> with the directory where you plan to install Oracle Content DB or with the parent directory if the directory does not exist yet. For example, if you plan to install Oracle Content DB in <code>/opt/oracle/infra</code>, replace <i>dir</i> with <code>/opt/oracle</code> or <code>/opt/oracle/infra</code>.</p>	No

**Table 4–1 (Cont.) Hardware Requirements for Solaris**

Item	Requirement	Checked by Oracle Universal Installer
Space in /tmp directory	<p>256 MB</p> <p>To determine the amount of free space in the /tmp directory, use the df command:</p> <pre>prompt&gt; df -k /tmp</pre> <p>If the /tmp directory does not have enough free space, you can specify a different directory by setting the TMP environment variable. See <a href="#">TMP</a> for details.</p>	Yes
Swap space	<p>1.5 GB or greater of available swap space</p> <p>To determine the amount of available swap space, use the swap command:</p> <pre>prompt&gt; /usr/sbin/swap -l</pre> <p>The value in the "free" column indicates the number of free blocks, where a block is 512 bytes. To convert blocks to KB, divide the number by 2. For example, 2,000,000 free blocks is equivalent to 1,000,000 KB.</p> <p>If you do not have enough swap space, perform the following tasks:</p> <ol style="list-style-type: none"> <li>Log in as the root user, and create an empty swap file: <pre>prompt&gt; su Password: root_user_password # mkfile sizeM swap_file_name</pre> <p>Append an "m" to the size to specify the size in megabytes (example: 900m). The minimum size of this file must be greater than the difference between the currently available swap space and required swap space. For example, if you have 100 MB of free swap space, then this swap file must be at least 1400 MB.</p> </li> <li>Add the file to the swap space using the following command: <pre># /usr/sbin/swap -a swap_file_name</pre> </li> <li>Add a line to /etc/vfstab file. If you do not add the line, the new swap space will not persist when you restart the computer. <pre>/path/to/swap/file    -    swap    -    no    -</pre> <p>Replace /path/to/swap/file with the location of the swap file.</p> </li> <li>Verify the new swap space size: <pre>prompt&gt; /usr/sbin/swap -l</pre> </li> </ol>	Yes
Monitor	<p>256 color display</p> <p>To determine your monitor's display capabilities:</p> <ol style="list-style-type: none"> <li>Check that the DISPLAY environment variable is set properly. See <a href="#">DISPLAY</a> for details. To test, see if you are able to run /usr/openwin/bin/xclock.</li> <li>Run the xwininfo command. <pre>prompt&gt; /usr/openwin/bin/xwininfo</pre> <p>Look for the "Depth" line. You need a depth of at least 8 (bits per pixel).</p> </li> </ol>	Yes

## Running Multiple Instances of Oracle Content DB on One Computer

If you are running multiple instances of Oracle Content DB on one computer, each corresponding instance of Application Server Control can consume significant memory. To free up memory, configure a single instance of Application Server Control to manage multiple instances of Oracle Content DB.

## Oracle Content DB Software Requirements

Oracle Content DB depends upon Oracle Identity Management (part of OracleAS Infrastructure) and Oracle Database 10g. The Oracle Database must be registered with Oracle Internet Directory.

**See Also:** [Chapter 3, "Installing OracleAS Infrastructure and Oracle Database"](#)

Oracle Universal Installer checks that your computer includes any required operating system patches. If Oracle Universal Installer determines that some required patches are missing, it displays an error.

The Oracle Content DB middle tier runs in Oracle Application Server 10g Release 2 (10.1.2.0.2). For information about operating system patches and packages for Solaris, refer to [Section F, "Operating System Patches and Packages"](#).

## Kernel Parameter Settings

The computers on which you plan to install Oracle Content DB require their kernel parameters to be set to the minimum values shown in [Table 4–2](#).

Kernel parameter values are stored in the `/etc/system` file. If your `/etc/system` file does not specify the parameters, you have to add lines to the file to specify them.

---

---

### Notes:

- If any kernel parameter values do not meet the requirements, the installer displays an error message. You will not be able to continue the installation until you update the kernel parameters to the required values.
  - If you update kernel parameter values, you need to restart your computer for the new values to take effect.
- 
- 

**Table 4–2** *Kernel Parameters for Solaris Systems*

Parameter	Line in <code>/etc/system</code> Showing the Minimum Value	Description
<code>rlim_fd_max</code>	<code>set rlim_fd_max=65536</code>	Defines the hard limit on file descriptors that a single process can have open.
<code>semnmi</code>	<code>set semsys:seminfo_semnmi=100</code>	Defines the maximum number of semaphore sets in the entire system.
<code>semmns</code>	<code>set semsys:seminfo_semmns=1024</code>	Defines the maximum semaphores on the system. The 256 is only a minimum value for computers that will be running a single database.
<code>semmsl</code>	<code>set semsys:seminfo_semmsl=256</code>	Defines the minimum recommended value, for initial installation only.

**Table 4–2 (Cont.) Kernel Parameters for Solaris Systems**

Parameter	Line in /etc/system Showing the Minimum Value	Description
shmmax	set shmsys:shminfo_shmmax=4294967295	Defines the maximum allowable size of one shared memory segment (4 GB = 4294967295).
shmmmin	set shmsys:shminfo_shmmmin=1	Defines the minimum allowable size of a single shared memory segment. <b>Note:</b> This parameter is not used in Solaris 9.
shmmni	set shmsys:shminfo_shmmni=100	Defines the maximum number of shared memory segments in the entire system.
shmseg	set shmsys:shminfo_shmseg=10	Defines the maximum number of shared memory segments one process can attach. <b>Note:</b> This parameter is not used in Solaris 9.

**To add or update kernel parameter values:**

1. Login at the root user on the computer where you need to change the values.
2. Make a backup copy of the /etc/system file. For example, the following command makes a backup copy called system.back.

```
# cp /etc/system /etc/system.back
```

3. Using a text editor such as vi or emacs, update the values or add new lines in the /etc/system file as necessary. For example, the following lines show sample values for the parameters:

```
set semsys:seminfo_semmni=300
set semsys:seminfo_semmns=1024
set semsys:seminfo_semmns1=256
set shmsys:shminfo_shmmax=4294967295
set shmsys:shminfo_shmmmin=1
set shmsys:shminfo_shmmni=512
set shmsys:shminfo_shmseg=150
```

**Tip:** The comment character for the /etc/system file is the asterisk (\*), not #.

4. Restart the computer for the new values to take effect.

On Solaris 10, verify that the kernel parameters shown in [Table 4–3](#) are set to values greater than or equal to the recommended value shown. The table also contains the resource controls that replace the /etc/system file for a specific kernel parameter.

**Note:** On Solaris 10, you are not required to make changes to the /etc/system file to implement the System V TPC. Solaris 10 uses the resource control facility for its implementation.

**Table 4–3 Kernel Parameter and Resource Control Settings for Solaris 10 Systems**

Parameter	Replaced by Resource Control	Recommended Value
noexec_user_stack	NA	1
semsys:seminfo_semmni	project.max-sem-ids	100

**Table 4–3 (Cont.) Kernel Parameter and Resource Control Settings for Solaris 10**

Parameter	Replaced by Resource Control	Recommended Value
semsys:seminfo_semmsl	project.max-sem-nsems	256
shmsys:shminfo_shmmax	project.max-shm-memory	4294967295
shmsys:shminfo_shmmni	project.max-shm-ids	100

### Determining the Minimum Value for the semmns Parameter

If you are installing the Oracle Content DB on a computer that is not already running an Oracle Database (that is, the Infrastructure will be the only component running on the computer), then set the `semmns` parameter to a minimum of 256.

If you are installing Oracle Content DB on a computer that is already running an Oracle Database, then set the `semmns` parameter to the sum of the `processes` initialization parameter for each Oracle Database (including the Infrastructure), then adding the largest value twice, and then adding an additional 10 for each database.

The default value of the `processes` parameter for the Oracle Database is 250.

**Example:** The computer is already running an Oracle Database, and its `processes` parameter is set at 250. In this case, you must set the `semmns` parameter to at least 920, which is explained as follows:

- Sum of the `processes` parameter for all Oracle Databases: 250 for the existing Database + 150 for the Infrastructure that you are installing = 400
- Add the largest one twice:  $250 + 250 = 500$
- Add 10 for each Database:  $10 + 10 = 20$
- Total:  $400 + 500 + 20 = 920$

To determine the value of the `processes` parameter for an Oracle Database, enter the following command in SQL\*Plus:

```
# sqlplus "sys/password as sysdba"
SQL> show parameters processes
```

In the preceding syntax, *password* specifies the password for the SYS user.

### To add or update kernel parameter values for Solaris 10 operating systems:

On Solaris 10, use the following procedure to view the current value specified for resource controls, and to change them if necessary:

1. To view the current values of the resource control, enter the following commands:

```
# id -p // to verify the project id
uid=0(root) gid=0(root) projid=1 (user.root)
# prctl -n project.max-shm-memory -i project user.root
# prctl -n project.max-sem-ids -i project user.root
```

2. If you must change any of the current values, then perform the following:

- a. To modify the value of `max-shm-memory` to 6 GB:

```
# prctl -n project.max-shm-memory -v 6gb -r -i project user.root
```

- b. To modify the value of `max-sem-ids` to 256:

```
# prctl -n project.max-sem-ids -v 256 -r -i project user.root
```

---

**Note:** On Solaris 10, the changes made by the `prctl` command are not effective permanently. If you reboot the computer, then the changes you made made by using this command disappear.

If you want to make the changes permanent, then you must use the `projmod` command, as follows, and then you *must* reboot the computer for the changes to take effect:

```
# projmod -s -K "project.max-shm-memory=(privileged,6GB,deny) \
'user.root'
# projmod -s -K "project.max-sem-ids=(privileged,256,deny)" \
'user.root'
```

---

## Ports Used by Oracle Content DB

Oracle Content DB and components of Oracle Application Server (such as Oracle HTTP Server, Oracle Application Server Web Cache, and Oracle Enterprise Manager 10g) use ports. Oracle Universal Installer assigns default port numbers or you can specify port numbers, including the port numbers under 1024.

**See Also:** [Appendix D, "Default Port Numbers for Oracle Content DB"](#) for a complete list of default port numbers

This section includes the following topics:

- [Checking If a Port Is in Use](#)
- [Using Default Port Numbers](#)

### Why the Default Port for Oracle HTTP Server Is Port 7777 and Not Port 80

By default, Oracle Universal Installer configures Oracle HTTP Server to use port 7777, not port 80. Port 7777 is the default port because on Solaris, components that use port numbers lower than 1024 require additional steps to be done as the `root` user before the components can run. Because Oracle Universal Installer does not have root access, it must use a port greater than 1024.

## Checking If a Port Is in Use

To check if a port is being used, enter the `netstat` command to show the used port as follows:

```
$ netstat -an | grep port_number
```

Replace `port_number` with the port number you want to check.

---

**Note:** You can also use the `/usr/local/bin/lsof -i :port_number` command.

---

## Using Default Port Numbers

To use the default port numbers for Oracle Application Server components, such as Oracle HTTP Server, Oracle Application Server Web Cache, and Oracle Enterprise Manager 10g, you do not have to do anything.



**Notes:**

- Oracle Universal Installer assigns the default ports only if the ports are not in use by other applications. If a default port is in use, Oracle Universal Installer tries other ports in the port number range for the component. For example, the default, non-SSL port for Oracle HTTP Server is port 7777. If this port is in use by another application, Oracle Universal Installer assigns a port in the 7777 - 7877 range.
- If you plan to install multiple instances of Oracle products on the same computer, only the first instance that you install on the computer will use the default ports. When you install additional instances, Oracle Universal Installer will detect that the default ports are already in use by the first instance, and it will assign other ports to the additional instances.

**See Also:** you can also refer to the *Oracle Application Server Installation Guide* for more information about ports and port numbers.

## Operating System Groups

Create operating system groups in the following situations:

- If you plan to install Oracle Content DB on a computer that does not have Oracle products, create a group to own the inventory directory.
- If you plan to install Oracle Application Server in a new database (that is, one created by Oracle Universal Installer), create groups for database administrators.

**See Also:** Your operating system documentation or contact your system administrator for more information about creating operating system groups..

**See Also:** you can also refer to the *Oracle Application Server Installation Guide* for more information about creating operating system groups.

## Operating System Users

Create an operating system user to install and upgrade Oracle products. This guide refers to this user as the `oracle` user. The `oracle` user running Oracle Universal Installer must have write permission for the following directories:

- The Oracle home directory, which contains files for the product you are installing
- The inventory directory, which is used by the installer for all Oracle products

If the computer contains other Oracle products, you might already have a user for this purpose. Look in the `/var/opt/oracle/oraInst.loc` file. This file lists the location of the inventory directory and the group who owns it. If the file does not exist, the computer does not have any Oracle products installed.

If you do not already have a user for installing Oracle products, create a user with the properties listed in [Table 4-4](#).

**Table 4–4 Properties of the Operating System User Who Runs Oracle Universal Installer**

Property	Description
Login name	You can use any name for the user. This guide refers to the user as the <code>oracle</code> user.
Group identifier	The primary group of the <code>oracle</code> user must have write permission for the directory. You can use any name for the group. This guide uses the name <code>oinstall</code> .
Home directory	The home directory for the <code>oracle</code> user can be consistent with the home directories of other users.
Login shell	The default login shell can be the C, Bourne, or Korn shell.

---

**Note:** Use the `oracle` user only for installing and running Oracle products. Do not use `root` as the `oracle` user.

---

**See Also:** Your operating system documentation or contact your system administrator for more information about creating operating system users.

**See Also:** you can also refer to the *Oracle Application Server Installation Guide* for more information about creating operating system users.

## Environment Variables

The operating system user who installs Oracle Content DB must set or unset certain environment variables.

When working with environment variables, here are some things to remember:

- If you set environment variables in the `.profile` file, they might not be read. To ensure that environment variables are set to the correct values, check their values in the shell where you will be running the installer.
- To check the value of environment variables, use the `env` command to display all the currently defined environment variables and their values, as follows:

```
prompt> env
```

- If you use the `su` command to switch users (for example, switching from the `root` user to the `oracle` user), check the environment variables when you are the new user because the environment variables might not be passed to the new user. This can happen even if you enter `su` with the `-` parameter (such as `su - user`).

```
$ /* root user */
$ su - oracle
$ env
```

This section discusses the following environment variables and whether they must be set or unset:

- [ORACLE\\_HOME, and ORACLE\\_SID](#)
- [PATH, CLASSPATH, and Shared Library Path Environment Variables](#)

- [DISPLAY](#)
- [TNS\\_ADMIN](#)
- [TMP](#)
- [The /etc/hosts File](#)

## ORACLE\_HOME, and ORACLE\_SID

ORACLE\_HOME, and ORACLE\_SID must not be set.

## PATH, CLASSPATH, and Shared Library Path Environment Variables

Edit your PATH, CLASSPATH, and shared library path environment variables so that they do not reference any Oracle home directories.

## DISPLAY

Set the DISPLAY environment variable to point to the X server that will display Oracle Universal Installer. The format of the DISPLAY environment variable is:

*host\_name:display\_number.screen\_number*

Example (C shell):

```
$ setenv DISPLAY test.domain.com:0.0
```

Example (Bourne or Korn shell):

```
$ DISPLAY=test.domain.com:0.0; export DISPLAY
```

You can test the display by running the `xclock` program. Make sure you have run the `xhost +` command first. Then, to test the display, run the `xclock &` command. For example:

```
$ /usr/openwin/bin/xclock &
```

---

---

**Note:** The location of the `xclock` and `xhost` commands may vary, depending on your operating system. Consult your operating system documentation for more information.

---

---

Oracle Content DB requires a running X server during installation, only. The frame buffer X server installed with your operating system requires that you remain logged in and have the frame buffer running during installation. If you do not want to do this, then you must use a virtual frame buffer, such as X Virtual Frame Buffer (XVFB) or Virtual Network Computing (VNC).

**See Also:** Oracle Technology Network for more information about obtaining and installing XVFB or other virtual frame buffer solutions, at

<http://www.oracle.com/technology/index.html>

## TNS\_ADMIN

This section describes the following two requirements:

- The TNS\_ADMIN environment variable must not be set

- The `/etc` and the `/var/opt/oracle` directories must not contain a `tnsnames.ora` file

These requirements are necessary to prevent conflicts between the [Oracle Net Services](#) configuration files for different Oracle products.

To set `TNS_ADMIN` or if you have the `tnsnames.ora` file in `/etc` or `/var/opt/oracle`, perform the following steps before installing Oracle Content DB.

1. If the `tnsnames.ora` file is in the `/etc` or `/var/opt/oracle` directory, move the file to a different directory or you can rename the file.
2. Ensure the `TNS_ADMIN` environment variable is not set.

Example (C shell):

```
prompt> unsetenv TNS_ADMIN
```

```
% /usr/openwin/bin/xclock &
```

Example (Bourne or Korn shell):

```
prompt> unset TNS_ADMIN
```

After installation, you can merge the contents of the newly created `tnsnames.ora` file with your existing `tnsnames.ora` file.

## TMP

Oracle Universal Installer uses a temporary directory for swap space and checks for the `TMP` environment variable to locate the temporary directory. By default, Oracle Universal Installer uses the `/tmp` directory.

If you want Oracle Universal Installer to use a directory other than `/tmp`, set `TMP` to the full path of an alternate directory. The directory must meet the requirements listed in [Table 4-1](#).

Example (C shell):

```
$ setenv TMP /tmp2
```

Example (Bourne or Korn shell):

```
# TMP=/tmp2; export TMP
```

If you do not set this environment variable, and the default directory does not have enough space, Oracle Universal Installer displays an error message that says the environment variable is not set. You can either set the environment variable to point to a different directory or free up enough space in the default directory. In either case, you must restart the installation.

## The `/etc/hosts` File

The contents of the `/etc/hosts` file affect both the location of the default identity management realm and the host name for Oracle Application Server Single Sign-On.

Oracle Universal Installer provides alternative methods for you to enter the values that you want without editing the `hosts` file, as explained in the following sections:

- [Location of the Default Identity Management Realm](#)
- [Host Name for Oracle Application Server Single Sign-On](#)

## Location of the Default Identity Management Realm

Oracle Universal Installer reads the `hosts` file to construct the location of the default identity management realm. It displays this location in the Specify Namespace in Internet Directory screen.

The `hosts` file uses the following format:

```
ip_address    fully_qualified_host_name    short_host_name
```

For example:

```
123.45.67.89    primaryHost.domain.com    primaryHost
```

In the preceding example, the location of the default identity management realm would display as "`dc=domain,dc=com`".

If the file uses a different format, Oracle Universal Installer displays an incorrect value in the screen.

```
123.45.67.89    primaryHost    primaryHost.domain.com    <--- incorrect format
```

In this case, Oracle Universal Installer displays "`dc=primaryHost,dc=com`" as the default identity management realm. Most likely, this is not the value that you want for the default identity management realm.

---

---

**Note:** If you require that the `hosts` file use a different format, you can edit the file to use the required format, perform the installation, then revert the file back to its original format after installation.

If you are unable, or unwilling, to edit the `hosts` file, you can enter the desired value for the default identity management realm in the **Custom Namespace** field on the Specify Namespace in Internet Directory screen.

---

---

## Host Name for Oracle Application Server Single Sign-On

If you are installing Oracle Application Server Single Sign-On (OracleAS Single Sign-On) and your `hosts` file contains only the host name of your computer (without the domain name), you will only be able to sign on to the OracleAS Single Sign-On server using the host name by itself (without the domain name).

To require a domain name when connecting to the OracleAS Single Sign-On server, you can edit the `hosts` file to include the domain name. If you do not want to edit the file, you can use the `OUI_HOSTNAME` command-line parameter to Oracle Universal Installer to override the value in the `hosts` file, as in the following example:

```
prompt> mount_point/runInstaller OUI_HOSTNAME=myserver.domain.com
```

## Network Topics

Typically, the computer on which you want to install Oracle Content DB is connected to a network, has local storage to contain the Oracle Content DB installation, has a display monitor, and has an appropriate disk drive.

This section describes how to install Oracle Content DB on computers that do not meet the typical requirements and includes the following topics:

- [Installing Oracle Content DB on Computers with Multiple Network Cards](#)
- [Copying the DVD to a Hard Drive and Installing from the Hard Drive](#)

- [Installing Oracle Content DB from a Remote DVD-ROM Drive](#)
- [Installing Oracle Content DB on a Remote Computer](#)
- [Installing Oracle Content DB on NFS-Mounted Storage](#)
- [Support for NIS and NIS+](#)

## Installing Oracle Content DB on Computers with Multiple Network Cards

If you are installing Oracle Content DB on a computer with multiple network cards, Oracle Universal Installer uses the first names in the `/etc/hosts` file to determine the host name to use for IP address lookup.

If this is not the name you want to use, you can:

- Start up Oracle Universal Installer with the `OUI_HOSTNAME` parameter, if you do not want to edit the `/etc/hosts` file. Specify the host name that you want to use in this parameter, as in the following example:

```
$ mount_point/runInstaller OUI_HOSTNAME=myserver.domain.com
```

## Copying the DVD to a Hard Drive and Installing from the Hard Drive

Instead of installing from the Oracle Content DB DVD, you can copy the contents of the DVD to a hard drive and install the product from there. This provides for an easier solution if you plan to install many instances of Oracle Content DB on your network, or if the computers where you want to install Oracle Content DB do not have DVD-ROM drives.

You can also install Oracle Content DB from remote DVD-ROM drives.

**See Also:** ["Installing Oracle Content DB from a Remote DVD-ROM Drive"](#) for more information

### Checking the Space Requirement

Ensure that the hard drive contains enough space to hold the contents of the Oracle Content DB DVD.

## Installing Oracle Content DB from a Remote DVD-ROM Drive

If the computer where you want to install Oracle Content DB does not have a DVD-ROM drive, you can perform the installation from a remote drive. You must share the remote DVD-ROM drive through Network File System.

On the remote computer, which has the DVD-ROM drive:

1. Insert the Oracle Content DB DVD in to the DVD-ROM drive.
2. Share the DVD-ROM drive, as follows:

DVD-ROM:

```
# su
Password: root_password
# share -F nfs -o ro /dvdrom
```

The path `/dvdrom` specifies the path to the DVD-ROM drive. You can use any path you prefer.

On the local computer, access the DVD-ROM and run Oracle Universal Installer, as follows:

```
# /net/remote_computer_host_name/dvdrom/runInstaller
```

Replace *remote\_computer\_hostname* with the name of the remote computer.

## Installing Oracle Content DB on a Remote Computer

You can run Oracle Universal Installer on a remote computer (*remote\_computer*), but display the Oracle Universal Installer screens on your local computer (*local\_computer*). Oracle Universal Installer will install Oracle Content DB on the remote computer.

1. Allow *remote\_computer* to appear on *local\_computer*. Use the following command on the console of the local computer:

```
local_computer> xhost +remote_computer
```

If you do not run *xhost*, you might get an Xlib error similar to "Failed to connect to server", "Connection refused by server," or "Can't open display" when starting Oracle Universal Installer.

2. On *local\_computer*, perform a remote login as the *oracle* user (using *ssh*, *telnet*, or *rlogin*) to *remote\_computer*, as follows:

### See Also:

- ["Operating System Users"](#) for information about logging in as the *oracle* user
- ["Environment Variables"](#) to ensure that the user has set the environment variables correctly

```
local_computer> ssh -X -l oracle remote_computer.domain.com
```

---

**Note:** Use of *ssh* is recommended over *rlogin* or *telnet* because it is more secure than either. However, if you do not have *ssh* available, use *rlogin* or *telnet*.

The *ssh* server must be configured to allow forwarding X11 connections.

---

Alternatively, use one of the following commands:

```
local_computer> rlogin -l oracle remote_computer.domain.com
local_computer> telnet remote_computer.domain.com
```

3. This step is not required if you are using the *ssh* connection.

Set the *DISPLAY* environment variable on *remote\_computer* to point to *local\_computer*.

Example (C shell):

```
remote_computer> setenv DISPLAY local_computer.domain.com:0.0
```

Example (Bourne or Korn shell):

```
remote_computer> DISPLAY=local_computer.domain.com:0.0; export DISPLAY
```

4. Run Oracle Universal Installer, as described in [Chapter 5, "Installing the Oracle Content DB Middle Tier"](#).

---

**Note:** You can use a PC X emulator to run Oracle Universal Installer if it supports a PseudoColor color model or PseudoColor visual. Set the PC X emulator to use a PseudoColor visual, and then start Oracle Universal Installer. Refer to the X emulator documentation for instructions on how to change the color model or visual settings.

---

## Installing Oracle Content DB on NFS-Mounted Storage

Currently, Oracle Content DB is certified to run only on the Network Appliance filers Network File Storage (NFS)-mounted storage system.

The NFS-mounted system should be exported to at least the remote install user and remote root user. You can do this using `exportfs` command, as follows:

```
prompt> exportfs -i /vol/vol1
```

To check the latest certification list for any updates, visit Oracle Technology Network.

## Support for NIS and NIS+

You can install and run Oracle Content DB in Network Information System (NIS) and NIS+ environments.

## Prerequisite Checks Performed by Oracle Universal Installer

[Table 4–5](#) lists prerequisite checks performed by Oracle Universal Installer.

**Table 4–5** *Prerequisite Checks Performed by Oracle Universal Installer*

Item	Description
Operating system version	See <a href="#">"Oracle Content DB Software Requirements"</a> for supported versions
Operating system patches	Oracle Universal Installer checks that your computer includes any required operating system patches. If Oracle Universal Installer determines that some required patches are missing, it displays an error. See <a href="#">Appendix F, "Operating System Patches and Packages"</a> for additional information
Operating system packages	See <a href="#">Appendix F, "Operating System Patches and Packages"</a> for additional information.
Operating system kernel parameters	See <a href="#">"Kernel Parameters for Solaris Systems"</a> for a list of required kernel parameter and their settings
Monitor	See <a href="#">Oracle Content DB Hardware Requirements</a> for monitor requirements
Display permission	Oracle Universal Installer checks that the user has permissions to display on the monitor specified by the <code>DISPLAY</code> environment variable.
Memory	See <a href="#">Oracle Content DB Hardware Requirements</a> for memory requirements
Swap space	See <a href="#">Oracle Content DB Hardware Requirements</a> for swap space requirements
TMP space	See <a href="#">Oracle Content DB Hardware Requirements</a> for <code>/tmp</code> directory space requirements
Oracle home directory name	Oracle Universal Installer checks that the Oracle home directory name does not contain any spaces.



**Table 4–5 (Cont.) Prerequisite Checks Performed by Oracle Universal Installer**

Item	Description
Path to the Oracle home directory	Oracle Universal Installer checks that the path to the Oracle home directory is not longer than 127 characters.
Oracle home directory contents	Oracle Universal Installer checks that the Oracle home directory does not contain any files that might interfere with the installation.
Oracle home directory	Always install Oracle Content DB in a new directory. Do not install Oracle Content DB in an existing Oracle home directory. For example, do not install Oracle Content DB into an existing Oracle Application Server.
DISPLAY environment variable	The installer checks that the DISPLAY environment variable is set.
Display permission	The installer checks that the user has permissions to display on the monitor specified by the DISPLAY environment variable.
Cluster file system	Oracle Universal Installer checks that you are not installing Oracle Content DB in a cluster file system (CFS).
DBCA_RAW_CONFIG environment variable	If you are installing the Oracle Content DB in a Oracle Real Application Clusters environment, you need to set this environment variable to point to a file that describes the locations of your raw partitions.
Port 1521	<p>The installer displays a warning if port 1521 is in use by any application, including database listeners of any version. You need to stop the application that is using port 1521, then click <b>OK</b> in the warning dialog.</p> <p>If it is a database listener that is using port 1521, you might be able to use it for the metadata repository database.</p> <p>If it is another application that is using port 1521, you need to stop it or configure it to use a different port. Alternatively, you can change the database listener to use a port other than 1521, but you can do this only after installation..</p>
Static port conflicts	The installer checks the ports listed in the <code>staticports.ini</code> file, if specified. See <a href="#">Ports Used by Oracle Content DB</a> .
Oracle Enterprise Manager 10g directories are writable	<p>The installer runs this check only if you are expanding a middle tier or if you are reinstalling Oracle Content DB in the same Oracle home. The installer checks that these directories are writable by the operating system user running the installer:</p> <ul style="list-style-type: none"> <li>■ ORACLE_HOME/sysman/emd</li> <li>■ ORACLE_HOME/sysman/config</li> <li>■ ORACLE_HOME/sysman/webapps/emd/WEB-INF/config</li> </ul>
Oracle Enterprise Manager 10g files exist	<p>The installer runs this check only if you are expanding a middle tier or if you are reinstalling Oracle Content DB in the same Oracle home. The installer checks that these files exist:</p> <ul style="list-style-type: none"> <li>■ ORACLE_HOME/sysman/config/iasadmin.properties</li> <li>■ ORACLE_HOME/sysman/webapps/emd/WEB-INF/config/consoleConfig.xml</li> </ul>

## Running Prerequisite Checks from the Command Line

You can run the prerequisite checks without having to install Oracle Content DB by using the following single command:

```
./runInstaller -prereqChecker PREREQ_CONFIG_LOCATION=DVD_MountPoint/stage/prereq  
-entryPoint oracle.contentdb.top_Core
```

---

## Installing the Oracle Content DB Middle Tier

This chapter discusses the procedure for installing Oracle Content DB middle tiers.

Prior to installing Oracle Content DB, however, ensure that your system meets all of the preinstallation requirements outlined in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#).

This chapter includes the following topics:

- [Installing Oracle Content DB Middle Tier from the Media Pack](#)
- [Installing Oracle Content DB Middle Tier from a Hard Drive](#)
- [Oracle Content DB Middle-Tier Installation Procedure](#)

### Installing Oracle Content DB Middle Tier from the Media Pack

You can either choose to install Oracle Content DB directly from the DVD contained in the media pack, or copy the content of the DVD and then install Oracle Content DB from your system hard drive. You must complete the procedures required for the installation method you choose before starting Oracle Universal Installer.

For operating systems that do not support automatic mounting of DVDs, the Oracle Content DB DVD must be mounted manually. You must have root privileges to mount or unmount a DVD. Be sure to unmount a DVD before removing it from the drive.

To install Oracle Content DB middle tier from the media pack:

1. Verify whether or not your operating system supports automatic mounting of DVDs. Refer to ["Mounting DVDs"](#) for instructions on how to determine which mounting method is supported by your operating system.
2. Mount the Oracle Content DB DVDs using the method supported by your operating system:
  - **Automatically:** Refer to ["Mounting DVD-ROM with Volume Management Software"](#) for more information.
  - **Manually:** Refer to ["Mounting DVDs Manually"](#) for more information.
3. Start Oracle Universal Installer. The Welcome screen appears. Continue with ["Oracle Content DB Middle-Tier Installation Procedure"](#) on page 5-2.

**See Also:**

- ["Understanding Oracle Universal Installer"](#) on page B-4
- ["Starting Oracle Universal Installer"](#) on page B-5

## Installing Oracle Content DB Middle Tier from a Hard Drive

You can avoid the need to mount and unmount DVD-ROMs during installation by copying the contents of each DVD to your system hard drive. You must have a file system that is not in use by other applications and enough disk space available.

To install Oracle Content DB middle tier from a hard drive:

1. Copy the content of each DVD to your system hard drive under a directory named `Disk1` for the first DVD, and so on (depending upon the number of the DVDs in the sequence of disks that comprises the set).
2. Start Oracle Universal Installer. The Welcome screen appears. Continue with ["Oracle Content DB Middle-Tier Installation Procedure"](#) on page 5-2.

**See Also:**

- ["Understanding Oracle Universal Installer"](#) on page B-4
- ["Starting Oracle Universal Installer"](#) on page B-5

## Oracle Content DB Middle-Tier Installation Procedure

This section includes the Oracle Content DB middle tier installation procedure, including a step by step description of the Oracle Universal Installer screens and necessary input for each.

The following procedure is for the initial Oracle Content DB middle tier installation. Subsequent Oracle Content DB middle tier installations follow this same procedure with few exceptions, as noted in this procedure.

**Tip:** Use the checklist for the Oracle Content DB middle tier in [Chapter 2, "Quick Installation of Oracle Content DB and Supporting Components"](#) to record pertinent information used during Oracle Content DB installation

To install Oracle Content DB middle tier:

1. You must have Oracle Database and OracleAS Infrastructure already installed before installing the Oracle Content DB middle tier. In addition, your database must be registered with Oracle Internet Directory. See ["Registering Oracle Database with Oracle Internet Directory"](#) on page 3-7 for more information.
2. Ensure that all other prerequisites listed in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#) are met prior to running Oracle Universal Installer.

**Tip:** Use the checklist in [Table 2-3](#) on page 2-4 to record the information you provide during Oracle Content DB middle-tier installation.

3. Start Oracle Universal Installer. The Welcome screen appears.

**See Also:**

- ["Understanding Oracle Universal Installer"](#) on page B-4
- ["Starting Oracle Universal Installer"](#) on page B-5

4. Click **Next** on the Welcome screen to display the Specify File Locations screen.

5. In the **Path** field in the **Source** section of the Specify File Locations screen, enter the full path of the source directory.

For example:

```
/home/myhost/ContentDBInstall/Disk1/stage/products.xml
```

If you copied the contents of the DVD to your hard drive, click **Browse** and navigate to the location in which you copied the data. If you are installing Oracle Content DB from the DVD, navigate to the DVD-ROM drive.

6. In the **Name** field in the **Destination** section, enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters.

For example:

```
cdb_10_2
```

In the **Path** field in the **Destination** section, enter the full path to the directory in which you want to install Oracle Content DB. This is the Oracle home.

For example:

```
/home/oracle/cdb
```

If the directory does not exist, Oracle Universal Installer creates it using the name you entered in the **Name** field. To create the directory beforehand, create it as the `oracle` user. Do not create it as the `root` user.

When you have entered the Oracle home name and path, click **Next**.

7. On the Product-Specific Prerequisite Checks screen, review any prerequisites that have been flagged with warnings, or that need to be checked manually. Be sure to fix any outstanding issues before proceeding.

When you have finished reviewing the prerequisites, click **Next**.

8. On the Language Selection screen, select all the languages in the Available Languages list box (left side), move them to the Selected Languages list box (right side) using the buttons provided, and then click **Next**.
9. On the Register with Oracle Internet Directory screen, provide the following information:

- **Host:** Enter the name of the computer where Oracle Internet Directory is running.

For example:

```
hostname.yourcompany.com
```

- **Port:** Enter the port number on which Oracle Internet Directory is listening.

For example:

```
389
```

If you want to use SSL to connect to Oracle Internet Directory, specify the Oracle Internet Directory SSL port.

For example:

```
636
```

**See Also:** ["Checking If a Port Is in Use"](#) on page 4-8 to determine what port number is in use by Oracle Internet Directory, if you do not already know.

- **Use SSL to connect to Oracle Internet Directory:** Select this option if you want Oracle Content DB components to use only SSL to connect to Oracle Internet Directory. To ensure secure communications, Oracle recommends that you enable this option and use SSL to connect to Oracle Internet Directory.

When you have provided this information, click **Next**.

10. On the Specify OID Login screen, provide the following information:

- **Username:** Enter the user name used to log in to Oracle Internet Directory. If you are an Oracle Internet Directory superuser, the username is `cn=orcladmin`. Alternatively, you can use another Oracle Internet Directory user, provided that the user has sufficient privileges such as the following:
  - IAS & User Management Application Admins
  - iAS Admins
- **Password** field, enter the current password for the administrator user.
- If the **Identity Management Realm** field appears, specify the appropriate realm to which this user belongs. This field only appears if the Oracle Internet Directory you specified contains multiple realms.

For example:

`us`

When you have provided this information, click **Next**.

11. On the Select Database Information screen, provide the following information:

- **Database Connection String:** Select the connect string to the Oracle Database that you want to use for this Oracle Content DB middle tier.

For example:

`orcl.mycompany.com`

If this is the first middle tier you are installing, the Oracle Content DB schema will be created in this database. If this is a subsequent middle tier, this middle tier will be associated with the existing schema.

---

**Note:** This list only shows databases that have been registered with Oracle Internet Directory. If the database you want to use does not appear in this list, exit this installation session, and register the database with Oracle Internet Directory first. See ["Registering Oracle Database with Oracle Internet Directory"](#) on page 3-7 for more information.

---

- **Password:** Enter the current password for the database user SYS.

When you have provided this information, click **Next**.

12. On the Content Schema Password screen, choose or enter a schema password for Oracle Content DB:

- If this is the first Oracle Content DB middle tier you are installing, enter the password you want to use for the Oracle Content DB schema, then confirm it.

The Oracle Content DB schema name is **Content**. This schema will be created during this installation.

- If this is a subsequent Oracle Content DB middle tier, enter the schema password for the existing Oracle Content DB schema.

When you have entered the schema password, click **Next**.

13. On the Specify SMTP Host and Port Values screen, you can optionally provide e-mail server information. The SMTP server that you specify is used to send quota e-mail notifications to Oracle Content DB Quota Administrators. This can be any valid SMTP server. If you choose to leave these values blank, you can specify this information after installation using the Application Server Control.

In the **Host** field, enter the full host name of the SMTP server, in the form `hostname.domain`. Alternatively, you can enter the IP address of the SMTP server.

For example:

`email.company.com`

In the **Port** field, enter the port number on which the SMTP server listens.

For example:

`25`

When you have provided this information, click **Next**.

---

**Note:** In subsequent Oracle Content DB middle-tier installations, you will not be prompted for SMTP information.

---

14. On the Specify Instance Name and ias\_admin Password screen, enter the following:

- For **Instance Name**, enter a name for this Oracle Content DB middle-tier instance. You cannot change this name after installation.

For example:

`cdb_instance`

- For **ias\_admin Password** and **Confirm Password**, set the password for the `ias_admin` user. This is the administrative user for the instance. The password must be between 5 and 30 alphanumeric characters and must contain at least one number.

When you have entered this information, click **Next**.

15. On the Summary screen, verify your selections and click **Install**.

The Install Progress screen displays the progress of the installation.

---

**Note:** If the installation fails after this point, you will need to deinstall the Oracle Content DB middle tier, then reinstall it. See [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#) for complete instructions on how to deinstall the Oracle Content DB middle tier.

---

16. When the Setup Privileges screen displays, run `root . sh` in a new window as the root user. When the `root . sh` script finishes, return to the Setup Privileges screen and click **OK**.
17. Next, a list of configuration assistants will run, including the Oracle Content DB Configuration Assistant. If any configuration assistant fails, the error will appear in the Oracle Universal Installer console window. For additional details on the error, refer to the corresponding log file for the assistant in error. The Oracle Content DB Configuration Assistant log file (`ContentConfig.log`), as well as the `cdbinstallactions.log` file, can be found in the following location:  
  
`$ORACLE_HOME/content/log/`
18. When the End of Installation screen displays, click **Exit** to quit Oracle Universal Installer. Oracle Content DB starts and the Web client opens

---

**Note:**

- By default, Oracle Records DB is disabled. Refer to Chapter 5, "Choosing Oracle Content DB Options" in *Oracle Content Database Administrator's Guide* for information about how to enable Oracle Records DB.
  - By default, FTP and FTPS are disabled. Refer to Chapter 4 "Oracle Content Database Protocol Support" in *Oracle Content Database Administrator's Guide* for information about how to enable FTP and FTPS.
  - The information displayed at the end of the installation is also available in the `$ORACLE_HOME/install/setupinfo.txt` file. This file contains summarized information about Oracle Content DB and links to the URLs.
- 

**Tip:** Proceed to [Chapter 7, "Oracle Content DB Middle-Tier Postinstallation Tasks"](#) to complete installation of Oracle Content DB



---

## Silent Installation of the Oracle Content DB Middle Tier

This chapter discusses silent and noninteractive installation of Oracle Content DB.

This chapter includes the following topics:

- [Introduction to Oracle Content DB Noninteractive Installations](#)
- [Silent or Noninteractive Installation Requirements](#)
- [Creating Files for Silent and Noninteractive Installation](#)
- [Response Files](#)
- [Running the root.sh Script](#)
- [Postinstallation Tasks](#)
- [Security Tips for Silent and Noninteractive Installations](#)
- [Error Handling](#)
- [Silent Deinstallation of Oracle Content DB](#)

### Introduction to Oracle Content DB Noninteractive Installations

Oracle Content DB features the following two noninteractive methods of installation:

- [Silent Installation of Oracle Content DB Middle Tier](#)
- [Noninteractive Installation of Oracle Content DB Middle Tier](#)

### Silent Installation of Oracle Content DB Middle Tier

Silent installation eliminates the need to monitor the Oracle Content DB installation because there is no graphical output and no input by the user. It is accomplished by supplying Oracle Universal Installer with a response file and specifying the `-silent` flag on the command line.

You can use silent installation of Oracle Content DB when you want similar installations on more than one computer. Additionally, you can use silent installation when performing the Oracle Content DB installation from a remote location using the command line.

The response file used in a silent installation is a text file. Oracle Universal Installer uses variables and values specified in the response file to provide answers to all of its user prompts. Therefore, you must include responses for all of the prompts in the response file.

If this is a first-time installation of Oracle Content DB, you must manually create the following two files before starting installation:

- `oraInst.loc`
- `oratab`

These files are used by Oracle Universal Installer during the installation.

**See Also:**

- ["Creating Files for Silent and Noninteractive Installation"](#) on page 6-2 for more information about the `oraInst.loc` and `oratab` files
- ["Installing Oracle Content DB on a Remote Computer"](#) on page 4-15 for more information about remote installation

After any silent Oracle Content DB installation, you must run the `root.sh` script, which detects settings of environment variables and enables you to enter the full path of the local `bin` directory.

## Noninteractive Installation of Oracle Content DB Middle Tier

Noninteractive installations of Oracle Content DB display a graphical output. If you have not provided responses to all of the user prompts, you may need to enter information during the installation.

Noninteractive installation of Oracle Content DB is also accomplished by supplying the Oracle Universal Installer with a response file, but without specifying the `-silent` flag on the command line. Oracle Universal Installer uses the variables and values contained in the response file to provide answers to some or all of its user prompts.

If this is a first-time installation of Oracle Content DB, you must manually create `oraInst.loc` and `oratab` files before starting the installation. These text files are used by Oracle Universal Installer during the installation.

After any noninteractive Oracle Content DB installation, you must run the `root.sh` script, which detects settings of environment variables and enables you to enter the full path of the local `bin` directory.

Use noninteractive installation of Oracle Content DB when there are specific screens you want to observe during installation.

**See Also:** ["Specifying a Response File and Starting the Installation"](#) on page 6-4 for more information

## Silent or Noninteractive Installation Requirements

The installation requirements for these types of installations are the same as those described in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#).

## Creating Files for Silent and Noninteractive Installation

If the `oraInst.loc` and `oratab` files do not exist on your computer, you must create them before starting silent installation of Oracle Content DB. They are used by Oracle Universal Installer during silent installation.

These two files must be created in the `/var/opt/oracle` directory.

## Creating the oraInst.loc File

As the root user, create the `oraInst.loc` file in the `/var/opt/oracle` directory. Ensure that the file has read and write permissions set for the `oracle` user, because this user performs the installation. The `oraInst.loc` file must have the following text input:

```
inst_group=oracle_user_group
inventory_loc=ORACLE_BASE/oraInventory
```

In this text input, `inventory_loc` is the location for inventory files and `ORACLE_BASE` is the absolute directory path. For example, if your `ORACLE_BASE` is `/private2/oracle`, the content of the file is:

```
inst_group=oracle_user_group
inventory_loc=/private2/oracle/oraInventory
```

---

**Note:** If `inventory_loc` is not located in your Oracle home, you must ensure that the directory where it is located has read and write permissions set for `oracle_user_group`.

---

## Creating the oratab File

As the root user, create the `oratab` file in the `/var/opt/oracle` directory. Ensure that the file is empty and has read and write permissions for the `oracle` user, because this user performs the installation.

## Response Files

Before performing a silent or noninteractive installation, you must provide information specific to your installation in a [response file](#). Oracle Universal Installer fails if you attempt an installation using a response file that is not configured correctly. Response files are text files that you can create or edit with a text editor.

The Oracle Content DB Media Pack provides a template for the Oracle Universal Installer response file.

Response files are located in the `/response` directory on Disk 1 of the Oracle Content DB Media Pack. You must edit the response file according to your requirements for silent or noninteractive installation.

To use a response file, first copy it from the DVD to your system, as follows:

1. Go to the `/response` directory on the first DVD of the Oracle Content DB Media Pack.
2. Copy the `contentdb.rsp` file to your system hard drive.

This section includes the following topics:

- [Editing a Response File](#)
- [Creating a Response File Using the Record Mode in the Installer](#)
- [Specifying a Response File and Starting the Installation](#)

## Editing a Response File

Use any text editor to edit the response file to include information specific to your system. The response file text identifies information that you must provide.

You must specify values for variables in your response file. Each variable listed in the response file is associated with a comment, which identifies the variable type. For example:

```
string = "Sample Value"
Boolean = True or False
Number = 1000
StringList = {"StringValue 1", "String Value 2"}
```

The values that are given as `<Value Required>` must be specified for silent installation.

Delete the given sample values in the response file and enter your specific values before starting the Oracle Content DB installation.

## Creating a Response File Using the Record Mode in the Installer

You can run Oracle Universal Installer in record mode to save your inputs to a file that you can use later as a response file. This feature is useful if you need to perform the same installation on different computers.

To run Oracle Universal Installer in record mode:

1. Start Oracle Universal Installer with the `-record` and `-destinationFile` parameters, as follows:

```
prompt> /path/to/runInstaller -record -destinationFile new_response_file
```

Replace `new_response_file` with the full path to the response file that you want Oracle Universal Installer to create, such as `/tmp/contendb.rsp`.

2. Enter the values for the Oracle Universal Installer screens. Oracle Universal Installer writes these values to the file specified in the `-destinationFile` parameter.

When you get to the Summary screen, Oracle Universal Installer automatically writes all the values that you supplied to the specified file. At this point, you can complete the installation on this computer, or you can exit without performing the installation.

## Specifying a Response File and Starting the Installation

Before you specify a response file, ensure that all the values in the response file are correct.

To set up Oracle Universal Installer to use the response file at the time of installation, specify the location of the response file as a parameter when starting Oracle Universal Installer, as follows:

```
prompt> ./runInstaller -responseFile absolute_path_to_file_name
```

In a noninteractive installation, set the `DISPLAY` environment variable, as described in ["DISPLAY"](#) on page 4-11, and specify the location of the response file that you want to use as a parameter when starting the installer.

To perform a noninteractive installation:

```
prompt> ./runInstaller -responseFile absolute_path_and_file_name
```

To perform a silent installation, use the `-silent` parameter:

```
prompt> ./runInstaller -silent -responseFile absolute_path_and_file_name
```

The success or failure of the noninteractive installation is logged in the `installActions.log` file. The success or failure of the silent installation is logged in the `silentInstall.log` file. Both log files are created in subdirectory `logs` in the `logs` directory, under the `oraInventory` directory, during installation and typically contain timestamps in their file names.

For example:

```
installActions2006-07-28_11-35-45AM.log
```

---

---

**Caution:** During installation, response files may be copied to subdirectories under `$ORACLE_HOME` to install some Oracle Content DB components. When the installation completes successfully, these copies are removed. If the installation fails, however, these copies may not be removed. In both cases, if you have provided passwords or other sensitive information in your response files, Oracle recommends that you ensure their security and, if needed, delete any copies of the response files that remain in your file system.

---

---

## Running the root.sh Script

You must run the `root.sh` script after performing a silent or noninteractive installation. For a noninteractive Oracle Content DB installation, if you have not set the `SHOW_ROOTSH_CONFIRMATION` parameter in the response file to `FALSE`, you will be prompted to run the `root.sh` script.

---

---

**Note:** After the silent or noninteractive installation is complete, view the log files (located in the `logs` directory, under the `oraInventory` directory) to see if any errors occurred during the installation.

---

---

This section includes the following topics:

- [root.sh and Silent Installation](#)
- [root.sh and Noninteractive Installation](#)

### root.sh and Silent Installation

During any silent Oracle Content DB installation, you are *not* prompted to run the `root.sh` script. You must run the `root.sh` script *after* the silent installation.

To run the `root.sh` script:

1. Log in as the root user.
2. Run the `root.sh` script located in the Oracle home directory.

```
# $ORACLE_HOME/root.sh
```

In this command, `$ORACLE_HOME` is the absolute directory path.

3. Exit the root user.

This section includes the following topics:

- [Starting Oracle HTTP Server After Silent Installation](#)
- [Using Oracle HTTP Server on a Different Port](#)

### Starting Oracle HTTP Server After Silent Installation

During silent installation, Oracle Universal Installer attempts to start Oracle HTTP Server. However, Oracle HTTP Server does not start until the `root.sh` script is run. Ignore any error messages generated because of the inability to start Oracle HTTP Server.

After running the `root.sh` script, restart Oracle HTTP Server, as follows:

```
$ORACLE_HOME/opmn/bin/opmnctl stopproc ias-component=HTTP_Server
$ORACLE_HOME/opmn/bin/opmnctl startproc ias-component=HTTP_Server
```

### Using Oracle HTTP Server on a Different Port

To use Oracle HTTP Server on a port number that lower than 1024, do not run the `root.sh` script. Instead, run the following script as the `root` user:

```
$ORACLE_HOME/Apache/Apache/bin/root_sh_append.sh
```

In the preceding command, `$ORACLE_HOME` is the absolute directory path.

The `root_sh_append.sh` script sets the necessary permissions for the Oracle HTTP Server to be run on a port lower than 1024.

## root.sh and Noninteractive Installation

During noninteractive installation of Oracle Content DB, Oracle Universal Installer prompts you to run the `root.sh` script.

To run the `root.sh` script:

1. Log in as the `root` user.
2. Run the `root.sh` script located in the Oracle home directory.

```
# $ORACLE_HOME/root.sh
```

In this command, `$ORACLE_HOME` is the absolute directory path.

3. Exit the `root` user.

For noninteractive installation, after the Finished running generic part of the `root.sh` script and Now product-specific root actions will be performed messages display, exit the `root` user and return to the current installation screen.

The `root.sh` script detects the following:

- Settings of the `ORACLE_OWNER`, `ORACLE_HOME`, and `ORACLE_SID` environment variables.
- Full path of the local `bin` directory. You can accept the default or change to a different local `bin` directory.

## Postinstallation Tasks

The success or failure of the noninteractive and silent installations is logged in the `installActions.log` file. Additionally, the silent installation creates the

`silentInstall.log` file. The log files are created in the `$ORACLE_BASE/oraInventory/oui_inventory/logs` directory.

The `silentInstall.log` file contains the following line if the installation was successful:

```
The installation of Oracle Content DB was successful.
```

The `installActions.log` file contains specific information for each Oracle Content DB installation.

## Security Tips for Silent and Noninteractive Installations

One of the pieces of information in the response file is the installation password. The password information is *not* encrypted.

To minimize security issues regarding the password in the response file, follow these guidelines:

- Set the permissions on the response files so that they are readable only by the operating system user who will be performing the silent or noninteractive installation.
- If possible, remove the response files from the system after the silent or noninteractive installation is complete, or clear the password entries.

## Error Handling

If the silent or noninteractive installation fails, you must deinstall the Oracle Content DB middle tier, then reinstall it. See [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#) for complete instructions on how to deinstall the Oracle Content DB middle tier.

### Response File Error Handling

Oracle Universal Installer or most of the configuration assistants validate the response file at run time. If the validation fails, the noninteractive installation or configuration process ends. Oracle Universal Installer treats values for parameters that are of the wrong context, format, or type as if no value was specified in the file. Variables that are outside any section are also ignored.

## Silent Deinstallation of Oracle Content DB

If your silent or noninteractive installation fails, you must completely deinstall any files remaining from your Oracle Content DB installation attempt.

**See Also:** [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#) for deinstallation instructions

You can perform a silent deinstallation of Oracle Content DB by supplying a silent deinstallation parameter to the response file you used for installation. Add the following parameter to your installation response file:

```
REMOVE_HOMES={"ORACLE_HOME_to_be_removed"}
```

To perform a silent deinstallation, use the `-silent` parameter when you enter the following command:

```
prompt> ./runInstaller -silent -responseFile absolute_path_and_file_name
```





---

## Oracle Content DB Middle-Tier Postinstallation Tasks

This chapter discusses necessary tasks to perform after installation of Oracle Content DB is complete.

In addition to the tasks described in this chapter, Oracle recommends that upon successful installation of Oracle Content DB, you read *Oracle Content Database Administrator's Guide*.

This chapter includes the following topics:

- [Verifying Oracle Content DB Configuration](#)
- [Getting Started with Oracle Content DB](#)
- [NFS Installations](#)
- [Enabling SSL](#)
- [Backup and Recovery](#)

### Verifying Oracle Content DB Configuration

To ensure that the Oracle Content DB node and HTTP node are running, run the following `opmnctl` command:

```
$ $ORACLE_HOME/opmn/bin/opmnctl status
```

In `opmnctl` commands, the Oracle Content DB node typically has the `ias-component=Content` and `process-type=Node` parameters. The Oracle Content DB HTTP node typically has the `ias-component=Content` and `process-type=OC4J_Content` parameters.

[Table 7-1](#) lists access URLs used with Oracle Content DB basic functionality.

**Table 7-1 Expected Oracle Content DB Basic Functionality**

Access Method	Access URL
Oracle Content DB Web Client	<code>http://middle_tier_host:port/content</code>
Oracle Records DB Web Client	<code>http://middle_tier_host:port/rm</code>
WebDAV	<code>http://middle_tier_host:port/content/dav</code>

---

---

**Note:** The FTP and FTPS protocols, as well as the Oracle Records DB application, are not enabled by default after you install and configure Oracle Records DB.

See Chapter 5, "Choosing Oracle Content DB Options" in *Oracle Content Database Administrator's Guide* for information about how to enable Oracle Records DB, FTP, and FTPS.

---

---

## Getting Started with Oracle Content DB

This section discusses how to get started using Oracle Content DB after completing the installation.

This section includes the following topics:

- [Choosing Deployment Options for Oracle Content DB](#)
- [Signing In to Oracle Content DB for the First Time](#)
- [Creating Additional Sites](#)
- [Designating an Administrator E-mail Address for Site Quota Notifications](#)

## Choosing Deployment Options for Oracle Content DB

After you install and configure Oracle Content DB, you can choose various deployment options, depending on your requirements. For example, you can enable Oracle Records DB, integrate Oracle Content DB with an antivirus solution, or enable the FTP or FTPS protocols.

**See Also:** "Choosing Oracle Content DB Options" in Chapter 5 of *Oracle Content Database Administrator's Guide* for information about choosing deployment options

## Signing In to Oracle Content DB for the First Time

When you first sign on to Oracle Content DB, use the `orcladmin` user for the default realm. This user has all of the Oracle Content DB access roles. Once you have signed on, you can delegate access roles to additional users, as well as set defaults for the Site.

**See Also:** *Oracle Content Database Application Administrator's Guide* for more information about delegating access roles and setting Site defaults

## Creating Additional Sites

In Oracle Content DB, a Site is a discrete organizational entity whose users can collaborate on files and folders. Users in one Site do not have access to the content of users in another Site. Sites are based on identity management realms.

A default Site, based on the default realm in Oracle Internet Directory, is created during installation. You can create additional Sites using Application Server Control.

**See Also:** Chapter 11, "Managing Oracle Content DB Sites" in *Oracle Content Database Administrator's Guide* for more information about creating Sites

## Designating an Administrator E-mail Address for Site Quota Notifications

Each Site has an allocated quota that specifies the amount of content (in MB, GB, or TB) that can be stored in the Site. When the quota consumed by any given Site reaches 95% of the allocated quota, an e-mail notification is sent to any users of that Site with the Quota Administrator role, as well as to the administrator e-mail address specified in the `IFS.DOMAIN.EMAIL.AdministratorAddress` property.

This property is empty by default. To designate an administrator e-mail address at which to receive the quota notifications, use the Application Server Control.

To designate an administrator e-mail address for Site quota notifications:

1. Access Application Server Control and navigate to the Application Server Home page.
2. Click the name of the Oracle Content DB domain (typically **Content**) to access the Content DB Home page. See *Oracle Content Database Administrator's Guide* for more information about the Oracle Content DB domain.
3. In the **Administration** section, click **Domain Properties**.
4. On the Domain Properties page, click **IFS.DOMAIN.EMAIL.AdministratorAddress**. You may need to move to the next page to find this property, or you can use the **Search** field.
5. Provide the e-mail address you want to use for receiving error reports in the **Value** field and click **OK**.
6. Return to the Content DB Home page and click **Restart Domain**.

## NFS Installations

If you installed Oracle Content DB on an NFS disk, you must edit the `LockFile` directive in the `$ORACLE_HOME/Apache/Apache/conf/httpd.conf` file so that it points to a local disk. This file is used by Oracle HTTP Server.

**See Also:** *Oracle HTTP Server Administrator's Guide* for more information

## Enabling SSL

Depending on your security requirements, you can enable Secure Sockets Layer (SSL) for the Oracle Content DB middle tier. You can also enable SSL for the connection between Oracle Content DB and Oracle Internet Directory.

**See Also:** \*Chapter 3, "Oracle Content DB Security" in *Oracle Content Database Administrator's Guide* for information about configuring SSL for Oracle Content DB, as well as configuring SSL for Oracle Content DB communication with Oracle Internet Directory

## Backup and Recovery

Oracle recommends performing a complete Oracle Content DB environment backup after installing Oracle Content DB. This enables you to restore a working environment in case an error occurs from which you cannot recover.

**See Also:** *Oracle Content Database Administrator's Guide* for information on how to perform a complete Oracle Content DB environment backup

You should also perform a complete Oracle Content DB environment backup after each successful patch set upgrade and after each successful configuration change.

---

# Troubleshooting Oracle Content DB Installation

This appendix discusses solutions to common installation problems.

This appendix includes the following topics:

- [Verifying Oracle Content DB Requirements](#)
- [Troubleshooting Oracle Content DB Installation Errors](#)
- [Oracle Content DB Installation Problems and Solutions](#)
- [Troubleshooting Configuration Assistants](#)
- [Troubleshooting Oracle Real Application Clusters](#)

## Verifying Oracle Content DB Requirements

Review the following information before performing any of the troubleshooting steps in this appendix:

- Ensure that the computer meets the hardware and software requirements specified in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#).
- Ensure that you have completed all of the preinstallation tasks specified in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#).
- When installing Oracle Content DB, check that the Oracle Application Server Infrastructure with which you want to associate Oracle Content DB is running during installation.

## Troubleshooting Oracle Content DB Installation Errors

If you encounter an error while running Oracle Universal Installer during the installation of the Oracle Content DB middle tier:

- If you entered incorrect information in one of the Oracle Universal Installer screens, return to that screen by clicking **Back** until the screen displays.
- If you encounter an error while Oracle Universal Installer is copying or linking files, perform the following tasks:
  1. Note the error and review the following installation logs for causes:
    - `oraInventory_location/logs/installActiontimestamp.log`
    - `oraInventory_location/logs/oraInstalltimestamp.err`
    - `oraInventory_location/logs/oraInstalltimestamp.out`

2. Remove the failed installation by following the steps in [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#).
3. Correct the issue that caused the error and restart the installation.

**See Also:** ["Oracle Content DB Installation Problems and Solutions"](#) on page A-2

## Oracle Content DB Installation Problems and Solutions

This section includes the following topics:

- [Location of Installation Log Files](#)
- [Linking Fails and ORA Errors Occur](#)
- [Prerequisite Checks Fail at the Start of Installation](#)
- [Message About Installing in a Non-Empty Directory](#)
- [Oracle Universal Installer Disappears After Running the Preinstallation Checks](#)
- [Unable to Clean Up a Failed Installation](#)
- [Forgot the Password for the cn=orcladmin Account](#)
- [OPMN Configuration Assistant—Start HTTP Server Failures](#)
- [WARNING: DCM Service May Not be Available at This Time](#)

### Location of Installation Log Files

Oracle Universal Installer writes the following log:

- `oraInventory_location/logs/installActiontimestamp.log`
- `oraInventory_location/logs/oraInstalltimestamp.err`
- `$ORACLE_HOME/install/make.log`

In addition, the Oracle Content DB configuration assistant log (`ContentConfig.log`) can be found in the following location:

`$ORACLE_HOME/content/log/`

### Linking Fails and ORA Errors Occur

#### Problem

Linking fails, and ORA errors are displayed during installation.

#### Solution

Exit Oracle Universal Installer and check the log files for any error message. In particular, check the `$ORACLE_HOME/install/make.log` file.

Remove the failed installation. Before attempting to reinstall Oracle Content DB, make sure that your computer meets all the requirements listed in [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#).

Check especially the following requirements:

- Ensure that the kernel parameters are set to the proper values. If you change the value of a kernel parameter, you must exit Oracle Universal Installer and restart your computer for the new value to be applied.

- Ensure that you are installing Oracle Content DB in a valid directory. For example, you cannot install Oracle Content DB in a database Oracle home.

**See Also:** ["Prerequisite Checks Performed by Oracle Universal Installer"](#) on page 4-16 for a list of valid directories

## Prerequisite Checks Fail at the Start of Installation

### Problem

The prerequisite checks that are run at the start of installation, fail.

### Solution

If the prerequisite checks display warnings about missing operating system patches or patch bundles, the patch may actually be missing, or it may have been superseded. If your computer contains the patch that supersedes it, you can ignore the warning.

## Message About Installing in a Non-Empty Directory

### Problem

Oracle Universal Installer displays a message that you are installing into a non-empty directory.

### Solution

If you start and later abort an installation of Oracle Content DB that proceeds beyond the Specify File Locations screen, Oracle Universal Installer creates the Oracle home directory that you specified. If you later try to install Oracle Content DB again in the same directory, the directory contains files created by Oracle Universal Installer and it gives a warning that the directory is not empty.

You must perform the following tasks:

1. In the warning dialog, click **No** to return to the Specify File Locations screen.
2. In the Specify File Locations screen, click **Installed Products** to display the Inventory screen.

If your Oracle home is listed in the Inventory screen, you have to deinstall the Oracle home.

**See Also:** [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#) for information about deinstalling the Oracle home

If your Oracle home is not listed in the Inventory screen, you can delete the files from the Oracle home and continue with the installation.

## Oracle Universal Installer Disappears After Running the Preinstallation Checks

### Problem

Oracle Universal Installer disappears after running preinstallation checks.

### Solution

The directory that is the mount point of the CD-ROM or DVD-ROM was mounted with incorrect permissions, and this caused the `pwd` command to not work correctly. When you run `pwd`, it returns `cannot determine current directory`.

To fix this problem:

1. Unmount the DVD-ROM.
2. Change permissions of the mount directory to 755.
3. Remount the DVD-ROM.
4. Oracle Universal Installer should now run correctly.

## Unable to Clean Up a Failed Installation

If your installation was not successful, you must first deinstall it before you can reinstall Oracle Content DB.

**See Also:** [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#) for more information

## Forgot the Password for the cn=orcladmin Account

### Problem

You forgot or do not know the password for the cn=orcladmin account.

### Solution

You can reset the password in the database. The DSE root attribute name is orclsupassword.

---

---

**Note:** After a certain number of failed attempts to connect, the cn=orcladmin account becomes locked. In this case, you must unlock the account. The account can also become locked if the password has expired.

---

---

**See Also:** *Oracle Content Database Administrator's Guide* for information about unlocking and setting the default password expiration time for the cn=orcladmin account

## OPMN Configuration Assistant—Start HTTP Server Failures

### Problem

The OPMN Configuration Assistant - Start HTTP Server fails when you rerun it.

### Solution

The problem is that Oracle HTTP Server is already running. Before rerunning the configuration assistant, stop Oracle HTTP Server, as follows:

```
$ $ORACLE_HOME/opmn/bin/opmnctl stopproc ias-component=HTTP_Server
```

Rerun the OPMN Configuration Assistant - Start HTTP Server.



## WARNING: DCM Service May Not be Available at This Time

### Problem

When installing the first node of a cluster, the Java Security Configuration Assistant may return the following message:

```
WARNING: DCM service may not be available at this time to synchronize $ORACLE_
HOME/j2ee/home/config/jazn-data.xml file.
```

This is due to a failure in updating the DCM repository and could happen if your load balancer virtual server is not configured to return immediately to the calling client when the backend services to which it forwards traffic are unavailable.

### Solution

To correct the problem:

1. Run the following command after installation completes:

```
$ $ORACLE_HOME/dcm/bin/dcmctl updateConfig -ct jazn
```

2. Verify that the `dcmctl updateConfig` command did not return any errors.

## Troubleshooting Configuration Assistants

This section includes the following topics:

- [Configuration Assistant Result Codes](#)
- [Irrecoverable Errors](#)

### Configuration Assistant Result Codes

Configuration assistant failures are noted at the bottom of the installation screen. The configuration assistant interface displays additional information, if applicable. The execution status of the configuration assistant is identified by the result codes listed in [Table A-1](#).

**Table A-1 Configuration Assistant Result Codes**

Status	Result Code
Configuration Assistant Succeeded	0
Configuration Assistant Failed	1
Configuration Assistant Cancelled	-1

Result codes are written to the `oraInventory_location/logs/installActionstimestamp.log` file.

### Irrecoverable Errors

Some configuration assistant failures are irrecoverable (fatal). You cannot recover from an irrecoverable error by correcting the problem and continuing. You must remove the current installation and reinstall Oracle Content DB. The following tasks describe the recovery procedure:

1. Deinstall the failed installation as described in [Appendix G, "Deinstalling the Oracle Content DB Middle Tier"](#).

2. Correct the cause of the irrecoverable error.
3. Reinstall Oracle Content DB.
4. If the error reoccurs, then you must remove all Oracle installations from your computer.

## Troubleshooting Oracle Real Application Clusters

To ensure that the installation succeeds on the remote nodes you choose, select a path for Oracle home that is the same on all chosen nodes and is writable. Otherwise, installation on the remote nodes fails. No error message indicates this failure.

## Need More Help?

For more help troubleshooting Oracle Content DB installation, go to *OracleMetaLink* at:

<http://metalink.oracle.com>

If you have a support contract with Oracle, the steps to download any Oracle Content DB patches from *OracleMetaLink* are:

1. Log into *OracleMetaLink*.
2. Click **Patches & Updates**.
3. Ensure that **Patch Number** is selected in the **Simple Search** list.  
Enter the required patch number in the adjacent box.  
If you do not know the patch number, select **Product or Family** in the **Simple Search** list.
4. Select the appropriate operating system from the **Platform or Language** list.
5. Click **Go**.
6. Under **Results**, click **Download** to download the patch or click **View Readme** to go through the information in the readme before downloading the patch.

If you do not find a solution for your problem, open a service request.

---

## Basic Installation Information

This appendix discusses necessary installation information associated with installing Oracle Content DB, and includes the following topics:

- [Installation Basics](#)
- [Installation of the Oracle Content DB Middle Tier](#)
- [Mounting DVDs](#)
- [Understanding Oracle Universal Installer](#)
- [Installing Support for Additional Languages](#)
- [Oracle Content DB Instances and Instance Names](#)
- [The ias\\_admin User and Restrictions On Its Password](#)
- [Where Does Oracle Universal Installer Write Files?](#)
- [Logging In as root During Installation of Oracle Content DB](#)
- [Connecting to Oracle Internet Directory Through SSL](#)
- [Modifying Other Oracle Content DB Instances During Installation](#)
- [Understanding the Order of Installation](#)

### Installation Basics

This section discusses some of the basic principles regarding installing Oracle Content DB, including:

- [Contents of the Oracle Content DB Media Pack](#)
- [Oracle Home Directory](#)
- [Using Symbolic Links](#)
- [Installing Any Oracle Product for the First Time](#)

### Contents of the Oracle Content DB Media Pack

The Oracle Content DB Media pack includes the following disks:

- Oracle Content DB software and Oracle Content DB documentation
- Oracle Drive client for Windows
- OracleAS Infrastructure components, including Oracle Internet Directory and OracleAS Single Sign-On

## Oracle Home Directory

The directory in which you install Oracle Content DB is referred to as the Oracle home in this document. During the installation, you must specify the full path and a name for the Oracle home.

For example, you can install Oracle Content DB in the `/home/oracle/OraHome_ContentDB` directory, and you can name it `ContentDBHome`.

---

---

**Note:** Spaces are not allowed in the Oracle home directory path. For example, you cannot install in the `/etc/oracle/Content DB` directory because of the space character in `Content DB`.

Oracle Universal Installer does not check for this until several screens after you have entered the path.

---

---

## Using Symbolic Links

You can create symbolic links before installing Oracle Content DB and use them during installation. For example, you can use the following commands before starting the installation:

```
mkdir /home/basedir
ln -s /home/basedir /home/linkdir
```

When you run Oracle Universal Installer, you can specify `/home/linkdir` as the Oracle home.

After installation, you cannot create symbolic links to the Oracle home. You also cannot move the Oracle home to a different location and create a symbolic link to the original Oracle home.

## Installing Any Oracle Product for the First Time

Oracle recommends that you create an operating system user (referred to in this document as the `oracle` user) to perform all tasks related to installation of Oracle products.

If Oracle Content DB is the first Oracle product to be installed on a computer, Oracle Universal Installer displays a screen where you specify the location of an inventory directory (the `oraInventory` directory). This inventory directory is used by the installer to keep track of all Oracle products installed on the computer. The inventory directory is different from the Oracle home for Oracle Content DB.

Users in the `oinstall` group install Oracle products. To ensure that other users in the `oinstall` group have access to the inventory directory, do not use the home directory of the `oracle` user because home directories might not have the proper permissions set up for the `oinstall` group. Instead, create the inventory directory in the `/var/opt/oracle` directory.

If an Oracle product was installed previously on the computer, then the installer uses the existing inventory directory. To ensure that you have write permissions on that directory, run Oracle Universal Installer as the same `oracle` user who installed the existing Oracle product.

## Installation of the Oracle Content DB Middle Tier

Installation of the Oracle Content DB middle tier is done through Oracle Universal Installer. Before the Oracle Content DB middle tier can be installed, however, both OracleAS Infrastructure and Oracle Database must both be installed, and the database must be registered with Oracle Internet Directory.

## Mounting DVDs

This section discusses mounting DVDs. It includes the following topics:

- [Mounting DVD-ROM with Volume Management Software](#)
- [Mounting DVDs Manually](#)

### Mounting DVD-ROM with Volume Management Software

If you are using Volume Management software (available by default on Solaris), then the DVD is mounted automatically to the directory specified in your automount configuration when you insert it in to the DVD-ROM drive. Proceed to "[Oracle Content DB Middle-Tier Installation Procedure](#)".

To check if you have Volume Management software, use the following command:

```
$ ps -e | grep vold
```

If you have Volume Management software, then the output must be similar to the following:

```
404 ? 16:03 vold
```

- If the Volume Management software is running, then the DVD is mounted automatically. Use the following commands to unmount subsequent DVD:

```
$ cd /
$ eject
```

After entering these commands, proceed to "[Oracle Content DB Middle-Tier Installation Procedure](#)".

- If no lines are returned, then Volume Management software is not running, and you must mount the DVD-ROM manually. Proceed to "[Oracle Content DB Middle-Tier Installation Procedure](#)".

### Mounting DVDs Manually

To mount the DVD-ROM manually:

1. Place the first DVD in the DVD-ROM drive.
2. Log in as the root user and, if necessary, create a DVD mount point directory, as follows:

```
$ su root
prompt> mkdir dvdrom_mount_point_directory
```

3. Mount the DVD-ROM drive on the mount point directory, as follows:

```
# mount options device_name dvdrom_mount_point_directory
```

4. Log out of the root account, as follows:

```
# exit
```

If you are unsure of the correct *device\_name*, consult your system administrator. Typically, the *device\_name* is `/dev/cdrom` or `/dev/dvdrom`, depending on your distribution. For example:

```
$ su root
# mkdir /dvdrom
mount -r -F hsfs /dev/dsk/c0t6d0s0 /dvdrom
# exit
```

If you run Oracle Universal Installer while the current working directory is in the DVD, follow these steps to mount the next DVD:

1. Change directories to the root directory of your system and log in as the `root` user, as follows:

```
$ cd
$ su root
```

2. Unmount the DVD, as follows:

```
# umount dvdrom_mount_point_directory
```

3. Remove the DVD from the DVD-ROM drive.

## Understanding Oracle Universal Installer

Oracle Content DB uses Oracle Universal Installer to guide you through each step of the installation process. Oracle Universal Installer provides the following features:

- Detects preset environment variables and configuration settings
- Sets environment variables and configuration during installation
- Deinstalls Oracle products

This section describes the following Oracle Universal Installer features:

- [oraInventory Directory and Installation Session Log Files](#)
- [Subsequent Installations with Oracle Universal Installer](#)
- [Starting Oracle Universal Installer](#)

### oraInventory Directory and Installation Session Log Files

Oracle Content DB creates the `oraInventory` directory the first time it is run on a computer. The `oraInventory` directory keeps an inventory of products that Oracle Content DB installs on your computer, as well as other installation information. If you have previously installed Oracle products, you might already have an `oraInventory` directory.

The operating system group that owns Oracle Content DB must have permission to write to the `oraInventory` directory. Attempts to run Oracle Content DB without this permission fail.

The location of `oraInventory` is defined in the `oraInst.loc` file, located in the `/var/opt/oracle` directory on your operating system.

The log file of the most recent installation is located in the `logs` directory, under the `oraInventory` directory, in the following format:

```
installActionstoday/s_date_time.log
```

In the preceding format, *today's\_date\_time* is the date and time of installation.

Do not delete or manually alter the `oraInventory` directory or its contents. Doing so can prevent Oracle Universal Installer from locating products that you have installed on your system.

---

**Note:** The `make.log` file in the `$ORACLE_HOME/install` directory contains a log of every make file action executed during the installation process. The `make.log` file also records any link errors during installation. Do not delete or alter the `make.log` file.

---

## Subsequent Installations with Oracle Universal Installer

If you plan to install a subsequent Oracle Content DB or Oracle Application Server instance on the same host, Oracle recommends the following steps:

1. Review [Chapter 4, "Preinstallation Requirements for Oracle Content DB Middle Tier"](#).
2. Stop Oracle Enterprise Manager 10g.
3. Ensure that all other previously installed Oracle Content DB instances are running when you begin installation.
4. Specify a different Oracle home than the first Oracle Content DB installation.
5. Use the same `oraInventory` directory for subsequent Oracle Content DB installations.

## Starting Oracle Universal Installer

To start Oracle Universal Installer:

1. If your computer does not mount DVDs automatically, you must mount the DVD manually.
2. Log in as the `oracle` user.
3. Insert the Oracle Content DB DVD-ROM in to the DVD-ROM drive.

---

### Notes:

- Ensure that you are not logged in as the `root` user when you start Oracle Universal Installer. If you perform the installation as the `root` user, only the `root` user will have permissions to manage Oracle Content DB.
  - Do not use `dvd_mount_point` as your working directory when you start Oracle Universal Installer. If you do, you cannot eject the first DVD during the installation step to insert the second DVD, if required.
  - Oracle recommends using the same operating system user account when installing additional instances of Oracle Content DB on the same host.
- 

4. Insert the first DVD in to the DVD-ROM drive.
5. Run Oracle Universal Installer, as follows:

```
$ cd  
$ /dvdrom/runInstaller
```

## Starting Oracle Universal Installer from the Command Line

This section includes information for running Oracle Universal Installer from the command line.

To start Oracle Universal Installer from the command line:

```
runInstaller [options] [CommandLineVariable=Value]
```

In the preceding syntax, [options] can have the following values:

- `-help`: Displays help topics for using the subsequent command
- `-silent`: Used for silent mode operations. The input parameters can include a response file name or list of command-line variable value pairs
- `-responseFile path`: Used for specifying the response file name and directory path to the response file
- `-formCluster`: Used for installing the Oracle Clusterware to form the cluster
- `-remoteshell path`: Used only for installing clusters, this parameter specifies the path to the remote shell program on the local cluster node
- `-remotecp path`: Used only for installing clusters, this parameter specifies the path to the remote copy program on the local cluster node
- `-record -destinationFile path`: Used for the record mode operation, this parameter specifies the destination file path, where information is recorded
- `-deinstall`: Used for deinstallation operations
- `-debug`: Used for retrieving debug information from Oracle Universal Installer
- `-ignoreSysPrereqs`: Used for ignoring the results of system prerequisite checks
- `-executeSysPrereqs`: Used for executing system prerequisite checks and exiting (a subset of the checks described in ["Prerequisite Checks Performed by Oracle Universal Installer"](#) on page 4-16 is performed by this option)
- `-paramFile`: Used for specifying the location of `oraparam.ini` file used by Oracle Universal Installer
- `-clone`: Used for creating an `$ORACLE_HOME` copy that matches its current environment
- `-force`: Used for allowing silent mode installation in to a nonempty directory
- `-noconsole`: Used for suppressing the display of messages to console
- `-removeAllPatches`: Used for removing all interim patches from the `$ORACLE_HOME` directory
- `-ignorePatchConflicts`: Used for ignoring all conflicts with existing interim patches during an upgrade (the conflicting interim patches are removed from the `$ORACLE_HOME` directory)
- `-addNode`: Used for adding nodes to the installation
- `-removeHome`: Used for removing `$ORACLE_HOME` directories from the Oracle Universal Installer inventory



## Installing Support for Additional Languages

By default, Oracle Universal Installer installs Oracle Content DB with text in English and in the operating system language. However, you should install support for all languages during installation by selecting all of the languages provided in the **Available Languages** list and adding them to the **Selected Languages** list on the Language Selection screen.

---

---

**Note:** You cannot install support for additional languages after Oracle Content DB is installed. You must install support for additional languages during the installation.

---

---

If you install and run Oracle Content DB in an environment that uses a language that you did not install, the user interface may display text in that language or in English. It may also display square boxes, caused by missing fonts, instead of text.

To install Oracle Content DB in a language other than English, you must set the `LANG` variable to the appropriate language.

To set the `LANG` variable:

- In Bourne and compatible shells:

```
LANG=LANGUAGE; export LANG
```

- In C Shell:

```
setenv LANG LANGUAGE
```

## Oracle Content DB Instances and Instance Names

This section includes the following topics:

- [Restrictions on Oracle Content DB Instance Names](#)
- [How Oracle Content DB Uses Instance Names](#)

When you install Oracle Content DB, an **instance** of Oracle Content DB is created and Oracle Universal Installer prompts you to provide a name for that instance. For example, you can name the instance `cdbinstance`. This name can be different from the Oracle home name. You cannot change the instance name after installation.

Oracle Content DB appends the host name and domain name to the given instance name to form a complete instance name. For example, if you are installing an instance on a computer named `c1`, and you name the instance `cdb1`, the full name of the instance is `cdb1.c1.foo.com`, assuming the domain name is `foo.com`.

Valid characters in instance names consist only of the following:

- Alphanumeric characters (A to Z; a to z; 0 to 9)
- The underscore character (`_`)
- The dollar sign (`$`)

There is no restriction for the length of instance names.

## Restrictions on Oracle Content DB Instance Names

Do not use the host name of the computer when naming Oracle Content DB instances.

If you are planning to install Oracle Content DB in a high availability cluster, the instance name cannot contain any of the following:

- Host name or IP address of any computer in the cluster
- Oracle home of any Oracle Content DB installation in the cluster

## How Oracle Content DB Uses Instance Names

Instance names are important because Oracle Content DB uses them to uniquely identify instances. So, if you install multiple Oracle Content DB instances on the same computer, you must give each instance a different name.

When you administer Oracle Content DB using Oracle Enterprise Manager 10g, the instance name displays on the screens. Click an instance name to see details about the instance, such as whether the instance is running or stopped, and the log files for the instance.

There is also a command-line tool called `opmnctl` used to administer Oracle Content DB instances, some commands of which require an instance name as a parameter.

**See Also:** *Oracle Application Server Administrator's Guide* for more details about `opmnctl`

## The ias\_admin User and Restrictions On Its Password

During installation of Oracle Content DB, Oracle Universal Installer prompts you to specify the password for the `ias_admin` user. The `ias_admin` user is the administrative user for Oracle Content DB instances. To manage Oracle Content DB instances using Oracle Enterprise Manager 10g, you log in as `ias_admin`.

You can install multiple Oracle Content DB instances on a given computer with a unique name for each instance, but the name of the administrative user is `ias_admin` for all instances. The password for the `ias_admin` user can be different for each instance.

The password for the `ias_admin` user must conform to the password policy of Oracle Internet Directory:

- The minimum length must be five alphanumeric characters
- At least one of the characters must be a number

---

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**Note:** If you are using an existing Oracle Internet Directory, your Oracle Internet Directory administrator might have defined a different password policy. The password you enter for the `ias_admin` user must conform to the password policy of the existing Oracle Internet Directory.

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- In addition to the password policy defined in Oracle Internet Directory, the password for the `ias_admin` user:
  - Must be shorter than 30 characters
  - Can contain only alphanumeric characters from the Database character set, the underscore (`_`), the dollar sign (`$`), and the number sign (`#`)
  - Must begin with an alphabetic character
  - Cannot be any of the Oracle reserved words

---

**Note:** *Oracle Database SQL Reference* lists the reserved words.

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- Avoid using words that sound like they might be Oracle reserved words

Remember this password because you must enter it in the following cases:

- When you log on to Oracle Enterprise Manager 10g to manage Oracle Content DB, you log on as the `ias_admin` user
- If you install more instances of Oracle Content DB, you must enter the existing password during the installation

If you forget the `ias_admin` password, it can be reset.

**See Also:** *Oracle Application Server Administrator's Guide* for more information about resetting the `ias_admin` password

## Where Does Oracle Universal Installer Write Files?

Oracle Universal Installer writes files to the directories listed in [Table B-1](#).

**Table B-1** Directories to Which Oracle Universal Installer Writes Files

Directory	Description
Oracle home	This directory contains Oracle Content DB files. You specify this directory during installation.
Inventory	When you install the first Oracle product on a computer, you specify this directory. Oracle Universal Installer uses this directory to keep track of Oracle products that are installed on the computer. In subsequent installations, Oracle Universal Installer uses the same inventory directory.
<code>/var/opt/oracle</code>	This directory contains information about locations of Oracle homes on the computer.  This directory also contains files that provide information for Oracle Enterprise Manager 10g.
<code>/tmp</code>	Oracle Universal Installer writes files needed during installation to a temporary directory. By default, the temporary directory is <code>/tmp</code> . To specify a different directory, set the <code>TMP</code> environment variable.  <b>See Also:</b> <a href="#">TMP</a> for more information about setting a different temporary directory.

## Logging In as root During Installation of Oracle Content DB

At least once during the installation of Oracle Content DB, the installer prompts you to log in as the `root` user and run a script. You must be the `root` user because the script must write to files and directories not owned by the `oracle` user or any other user installing the product.

When prompted by Oracle Universal Installer, you will run the `root.sh` script in a separate window. This script creates files in the local `bin` directory, which is `/usr/local/bin`, by default.

For noninteractive installation, after the `Finished` running generic part of the `root.sh` script and `Now product-specific root actions will be performed` messages display, exit the `root` user and return to the current installation screen.

The `root.sh` script also detects settings of the `ORACLE_OWNER`, `ORACLE_HOME`, and `ORACLE_SID` environment variables.

If the script finds files of the same name, it prompts you to overwrite the existing files. You should first back up these files, which you can do from another window, and then overwrite them.

## Connecting to Oracle Internet Directory Through SSL

Oracle Content DB can communicate with Oracle Internet Directory using **Secure Sockets Layer (SSL)**. The default setting during the installation does not use SSL. On screens where you specify the host name and port for Oracle Internet Directory, you can select **Use Only SSL Connections with This Oracle Internet Directory** and provide the Oracle Internet Directory SSL port.

## Modifying Other Oracle Content DB Instances During Installation

During the installation of an Oracle Content DB instance, you should not change the configuration or passwords of other Oracle Content DB installations in your environment.

## Understanding the Order of Installation

This section provides an overview of the order in which Oracle Content DB must be installed.

Certain Oracle products must be installed prior to installing Oracle Content DB. The order of installation of the various products, including Oracle Content DB, is as follows:

1. Install Oracle Application Server infrastructure.

**See Also:** *Oracle Application Server Installation Guide* for installation details

2. Install Oracle Database 10g.

**See Also:** *Oracle Database Quick Installation Guide for Solaris Operating System (SPARC 64-Bit)* for installation details

3. Register the database with Oracle Internet Directory.
4. Install Oracle Content DB.

---

# Oracle Content DB In a High Availability Environment

This appendix explains where to find information about how to deploy Oracle Content DB in a high availability environment.

This appendix includes the following topics:

- [Installation Order for High Availability Configurations](#)
- [High Availability for Oracle Database](#)
- [High Availability for Oracle Identity Management Components](#)
- [High Availability for the Oracle Content DB Middle Tier](#)

## Installation Order for High Availability Configurations

For all high availability configurations, install the components in the following order:

1. Oracle Database 10g
2. Oracle Identity Management components

If you are distributing the Oracle Identity Management components, install them in the following order:

- a. Oracle Internet Directory and Oracle Directory Integration and Provisioning
- b. OracleAS Single Sign-On and Oracle Delegated Administration Services
3. Oracle Content DB

## High Availability for Oracle Database

If you are using an Oracle RAC configuration for your Oracle Database, you must register each Oracle RAC node with Oracle Internet Directory. See "[Registering Oracle Database with Oracle Internet Directory](#)" on page 3-7 for more information.

For complete information about high availability for the Oracle Database, see the following books in the Oracle Database documentation set:

- *Oracle Real Application Clusters Installation and Configuration Guide*
- *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Administration and Deployment Guide*
- *Oracle Database High Availability Overview*

## High Availability for Oracle Identity Management Components

For complete information about high availability for Oracle Application Server components, including Oracle Identity Management, see the following books in the Oracle Application Server documentation set:

- *Oracle Application Server High Availability Guide*
- *Oracle Application Server Enterprise Deployment Guide*

## High Availability for the Oracle Content DB Middle Tier

Chapter 2, "Planning for Oracle Content DB Deployment" in *Oracle Content Database Administrator's Guide* provides information about high availability considerations for the Oracle Content DB middle tier.

In addition, refer to *Oracle Application Server High Availability Guide* and *Oracle Application Server Enterprise Deployment Guide* for information about high availability for middle-tier applications, including setting up load balancers.

In order to use a load balancer, you must update two Oracle Content DB properties with the appropriate host and port of the load balancer:

- `IFS.DOMAIN.APPLICATION.ApplicationHost`
- `IFS.DOMAIN.APPLICATION.ApplicationPort`

See "Managing Domain Properties" in *Oracle Content Database Administrator's Guide* for information about how to update these properties.

---

**Note:** OracleAS Web Cache clustering is not certified with Oracle Content DB. Additional information about using Oracle Content DB in a multiple middle tier environment is available in the white paper *Best Practices for Configuring Oracle Content Database Middle Tiers for Scalability and High Availability*. You can find this white paper on the Oracle Technology Network (OTN) at:

<http://www.oracle.com/technology/products/contentdb/>

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## Default Port Numbers for Oracle Content DB

By default, Oracle Universal Installer assigns port numbers to components from a set of default port numbers. This appendix contains a list of these port numbers.

Oracle Universal Installer assigns default port numbers to Oracle Content DB, as follows:

1. Oracle Universal Installer checks if the default port number is in use. If it is not in use, Oracle Universal Installer assigns it to the component.
2. If the default port number is already in use by an Oracle product or by any running application, Oracle Universal Installer tries the lowest number in the port number range. It keeps trying the port numbers in the range until it finds one that is available.

---

**Note:** Refer to *Oracle Content Database Administrator's Guide* if you want to change any of the port settings assigned by Oracle Universal Installer.

---

Table D-1 lists the default port numbers for components.

**Table D-1 Default Port Numbers and Ranges Grouped by Component**

Component	Default Port	Port Number Range
<b>Oracle Content DB</b>	Not applicable	Not applicable
Oracle Content DB Node Manager	Dynamically assigned	53140 to 53899
Oracle Content DB HTTP Node Manager	Dynamically assigned	53140 to 53899
<b>Oracle Process Manager and Notification Server (OPMN)</b>	Not applicable	Not applicable
Oracle Notification Server Request Port	6003	6003 to 6099
Oracle Notification Server Local Port	6100	6100 to 6199
Oracle Notification Server Remote Port	6200	6200 to 6299
<b>Oracle Containers for J2EE (OC4J)</b>	Not applicable	Not applicable
OC4J AJP	3301	3301 to 3400
OC4J RMI	3201	3201 to 3300
JMS	3701	3701 to 3800
IIOP	3401	3401 to 3500
IIOPS1	3501	3501 to 3600

**Table D–1 (Cont.) Default Port Numbers and Ranges Grouped by Component**

<b>Component</b>	<b>Default Port</b>	<b>Port Number Range</b>
IIOPS2	3601	3601 to 3700
<b>Oracle HTTP Server</b>	Not applicable	Not applicable
Listener (OracleAS Web Cache not configured)	7777	7777 to 7787
Oracle HTTP Server Listener (SSL)	4443	4443 to 4543
Oracle HTTP Server Listener (non-SSL, OracleAS Web Cache configured)	7777	7777 to 7787
Oracle HTTP Server Listener (SSL, OracleAS Web Cache configured)	4443	4443 to 4543
Java Object Cache	7000	7000 to 7099
DCM Java Object Cache	7100	7100 to 7199
SOAP server	9998	9998 to 9999
Port Tunneling	7501	7501 to 7599
Oracle HTTP Server Diagnostic port	7200	7200 to 7299
<b>OracleAS Single Sign-On</b>	Not applicable	Not applicable
OracleAS Single Sign-On	Uses the same port as Oracle HTTP Server	None
<b>OracleAS Web Cache</b>	Not applicable	Not applicable
OracleAS Web Cache - HTTP Listener	7777	7777 to 7787
OracleAS Web Cache - HTTP Listener (SSL)	4443	4443 to 4543
OracleAS Web Cache Administration	4000	4000 to 4300
OracleAS Web Cache Invalidation	4001	4000 to 4300
OracleAS Web Cache Statistics	4002	4000 to 4300
<b>Oracle Enterprise Manager 10g Application Server Control</b>	Not applicable	Not applicable
Application Server Control	1156	1810 to 1829
Oracle Management Agent	1157	1830 to 1849
Application Server Control (RMI)	1850	1850 to 1869
Application Server Control (SSL)	1810	1810 to 1829
Application Server Control HTTP port (orcl)	5500	None
Oracle Enterprise Manager Agent port (orcl)	1831	None
Log Loader	44000	44000 to 44099
<b>Oracle Internet Directory</b>	Not applicable	Not applicable
Oracle Internet Directory	389	3060 to 3129
Oracle Internet Directory (SSL)	636	3130 to 3199



## Important Oracle Content DB URLs

Use the URLs and login IDs shown in [Table E-1](#) to access Oracle Content DB components after installation.

**Note:** The ports in [Table E-1](#) are examples only. The components in your environment might use different ports. To determine the port numbers for the various components, refer to the \$ORACLE\_HOME/install/portlist.ini file.

**Table E-1** URLs for Oracle Content DB Components

Component	URL or Path	Entry in portlist.ini	Login and Password
Oracle Content DB Launch Page	<code>http://middle_tier_host_name:7777/content</code>	Oracle HTTP Server port or Web Cache Listen port	orcladmin For the superuser of the default realm, the password is set during OracleAS Infrastructure installation. For the superuser of any additional realms, the password is set when a realm is created.
Oracle Content DB HTTP/WebDAV URL	<code>http://middle_tier_host_name:7777/content/dav</code>	Oracle HTTP Server port or Web Cache Listen port	orcladmin For the superuser of the default realm, the password is set during OracleAS Infrastructure installation. For the superuser of any additional realms, the password is set when a realm is created.
Oracle Content DB Web Services URL	<code>http://middle_tier_host_name:7777/content/ws</code>	Oracle HTTP Server port or Web Cache Listen port	orcladmin For the superuser of the default realm, the password is set during OracleAS Infrastructure installation. For the superuser of any additional realms, the password is set when a realm is created.

**Table E–1 (Cont.) URLs for Oracle Content DB Components**

Component	URL or Path	Entry in portlist.ini	Login and Password
Oracle Records DB Launch Page	<code>http://middle_tier_host_name:7777/content/rm</code>	Oracle HTTP Server port or Web Cache Listen port	<p>orcladmin</p> <p>For the superuser of the default realm, the password is set during OracleAS Infrastructure installation. For the superuser of any additional realms, the password is set when a realm is created.</p> <p><b>Note:</b> Oracle Records DB is disabled, by default, after Oracle Content DB installation. Refer to <i>Oracle Content Database Administrator's Guide</i> for information on how to enable Oracle Records DB.</p>
Oracle HTTP Server	<code>http://middle_tier_host_name:7777</code> (without Web Cache)	Oracle HTTP Server Listen port	Not applicable.
OracleAS Single Sign-On Administration Pages	<code>http://infra_host_name:7777/pls/orasso</code>	Oracle HTTP Server Listen port	<p>orcladmin</p> <p>For the superuser of the default realm, the password is set during OracleAS Infrastructure installation. For the superuser of any additional realms, the password is set when a realm is created.</p>
Oracle Enterprise Manager 10g Application Server Control	<code>http://host_name:1156</code>	Application Server Control port	<p>ias_admin</p> <p>Use the password for ias_admin that you supplied during installation.</p>
Oracle Delegated Administration Services	<code>http://infra_host_name:7777/oiddas</code>	Oracle HTTP Server Listen port	<p>orcladmin</p> <p>For the superuser of the default realm, the password is set during OracleAS Infrastructure installation. For the superuser of any additional realms, the password is set when a realm is created.</p>
Oracle Directory Manager	<code>\$ORACLE_HOME/bin/oidadmin</code>	NA	<p>cn=orcladmin</p> <p>The password was set during OracleAS Infrastructure installation.</p>

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## Operating System Patches and Packages

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This appendix provides information about the operating system patches and packages for Solaris operating system (SPARC). It contains the following topics:

- [Operating System Patches](#)
- [Operating System Packages](#)

### Operating System Patches

[Table F-1](#) lists the Solaris operating system patches that you must install before installing. These are patches that make up the "J2SE patch cluster". You can download the patches from:

<http://sunsolve.sun.com>

Refer to the README file included with the patch for instructions on installing it.

---

**Note:** Although the patches listed in [Table F-1](#) are current at the time of publication, Sun Microsystems, Inc. often updates the list of required patches for J2SE. Click the "Readme" link on the following URL for the most current list of patches:  
<http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/J2SE>

---

**Table F–1 Required Patches for Solaris Operating Systems**

Operating System	Patches Required
Solaris 8	<ul style="list-style-type: none"> <li>■ 108652-82 or higher: X11 6.4.1: Xsun patch</li> <li>■ 108921-21 or higher: CDE 1.4: dtwm patch</li> <li>■ 108773-18 or higher: IIIM and X input and output method patch</li> <li>■ 111310-01 or higher: /usr/lib/libdhcagent.so.1 patch</li> <li>■ 109147-28 or higher: Linker patch</li> <li>■ 111308-04 or higher: /usr/lib/libmtmalloc.so.1 patch</li> <li>■ 112438-03 or higher: /kernel/drv/random patch</li> <li>■ 108434-17 or higher: 32-bit shared library patch for C++</li> <li>■ 108435-17 or higher: 64-bit shared library patch for C++</li> <li>■ 111111-04 or higher: /usr/bin/nawk patch</li> <li>■ 112396-02 or higher: /usr/bin/fgrep patch</li> <li>■ 110386-03 or higher: RBAC feature patch</li> <li>■ 111023-03 or higher: /kernel/fs/mntfs and /kernel/fs/sparcv9/mntfs patch</li> <li>■ 111317-05 or higher: /sbin/init and /usr/sbin/init patch</li> <li>■ 113648-03 or higher: /usr/sbin/mount patch</li> <li>■ 115827-01 or higher: /sbin/sulogin and /sbin/netstrategy patch</li> <li>■ 116602-01 or higher: /sbin/uadmin and /sbin/hostconfig patch</li> <li>■ 108987-13 or higher: Patch for patchadd and patchrm</li> <li>■ 108528-29 or higher: Kernel update patch</li> <li>■ 108989-02 or higher: /usr/kernel/sys/acctctl and /usr/kernel/sys/exaccts patch</li> <li>■ 108993-36 or higher: LDAP2 client, libc, libthread and libnsl libraries patch</li> <li>■ 109326-14 or higher: libresolv.so.2 and in.named patch</li> <li>■ 110615-11 or higher: sendmail patch</li> </ul>
Solaris 9	<ul style="list-style-type: none"> <li>■ 113096-03 or higher: X11 6.6.1: OWconfig patch</li> <li>■ 112785-35 or higher: X11 6.6.1: Xsun patch</li> </ul>

### How to Get a List of Operating System Patches Installed on Your Computer

To determine which patches are installed on your computer:

1. Run the `showrev` command with the `-p` option. The following command saves the sorted output to a file called `patchList`.

```
prompt> showrev -p | sort > patchList
```

2. Open the file in a text editor, such as `vi` or `emacs`, and search for patch numbers.

### How the Installer Checks for Operating System Patches

The installer searches for the required patch versions on your computer. If it does not find an exact match, it displays a warning message in the shell where you started the installer.

```
DVD-ROM: prompt> mount_point/runInstaller
...
... installer performs prerequisite checks here ...
...
Some optional pre-requisite checks have failed. Continue? (y/n) [n] n
```

The installer gives you a choice to exit or continue.

Type **n** to exit the installer if you do not have all the patches. You should download and install the patches.

Type **y** to continue only if you are sure all the required patches are installed.

## Operating System Packages

Check that your computer contains the following operating system packages. If the packages are not present, the installer cannot continue.

- SUNWarc
- SUNWbtool
- SUNWhea
- SUNWlibm
- SUNWlibms
- SUNWsprot
- SUNWsprox

---

---

**Note:** The SUNWsprox package is not required if Operating System version is Solaris 10 (SPARC 64-bit).

---

---

- SUNWtoo
- SUNWilof (the character after the "i" is the number 1, not the letter "ell")
- SUNWxfnt
- SUNWilcs (the character after the "i" is the number 1, not the letter "ell")
- SUNWi15cs (the character after the "i" is the number 1, not the letter "ell")

The last two packages (SUNWilcs and SUNWi15cs) are required for the ISO8859-1 and ISO8859-15 codesets.

To check if an operating system package is installed on your computer, run the `pkginfo` command with the name of the package. The syntax for running `pkginfo` is:

```
pkginfo package_name1 package_name2 ...
```

For example, to check if all of the listed packages are installed on your computer, run the following command:

```
prompt> pkginfo SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms SUNWsprot SUNWsprox  
SUNWtoo SUNWilof SUNWxfnt SUNWilcs SUNWi15cs
```

If your computer is missing a package, contact your system administrator.



---

## Deinstalling the Oracle Content DB Middle Tier

This appendix discusses deinstallation of Oracle Content DB middle tiers, and includes the following topics:

- [Deinstalling the Oracle Content DB Middle Tier](#)
- [Additional Cleanup Tasks](#)
- [Deinstalling Oracle Content DB from a Single Computer](#)
- [Cleaning Up Oracle Content DB Middle-Tier Processes](#)

---

**Note:** To reinstall an Oracle Content DB middle tier, you must first deinstall any previous middle-tier instances that exist on the computer where you want to reinstall.

---

### Deinstalling the Oracle Content DB Middle Tier

To deinstall an Oracle Content DB middle tier:

1. Log in as the operating system user who installed the middle tier you want to deinstall.
2. Stop all processes associated with the middle tier you want to deinstall.

**See Also:** *Oracle Content Database Administrator's Guide* for more information about stopping Oracle Content DB processes

3. Run the following script on the middle tier. You only need to perform this step if this is the first middle tier that was configured.

**Tip:** Before you run the script, ensure that the `$ORACLE_HOME` variable is set, and that `$ORACLE_HOME/jdk/bin` appears in the `$PATH` variable.

```
$ORACLE_HOME/jdk/bin/java -classpath $ORACLE_HOME/content/lib/content.jar:$ORACLE_HOME/jlib/ldapjclnt10.jar
oracle.ifs.ecm.tools.credential.CleanProvStatusFootprints OidUrl=ldap://infra_
host_name:oracle_internet_directory_port OidSuperUserName=cn=orcladmin
OidSuperUserPassword=password_for_cn=orcladmin_user DomainDisplayName=oracle_
content_db_domain_display_name
```

For example:

```
$ORACLE_HOME/jdk/bin/java -classpath $ORACLE_
HOME/content/lib/content.jar:$ORACLE_HOME/jlib/ldapjclnt10.jar
oracle.ifs.ecm.tools.credential.CleanProvStatusFootprints
OidUrl=ldap://myhost.mycompany.com:389 OidSuperUserName=cn=orcladmin
OidSuperUserPassword=mypassword DomainDisplayName=CONTENT
```

**Tip:** The Oracle Content DB domain display name is typically CONTENT. If you are unsure of the display name for your Oracle Content DB domain, see *Oracle Content Database Administrator's Guide* for information about how to find this information in Oracle Directory Manager.

4. Run the Deconfig tool, as follows:

```
cd $ORACLE_HOME/perl/bin
perl $ORACLE_HOME/bin/deconfig.pl
```

5. Start Oracle Universal Installer.
6. When the Welcome screen displays, click **Deinstall Products** to display the Inventory screen.
7. Select the instance you want to deinstall, and click **Remove**.
8. When the Confirmation screen displays, verify the components selected for deinstallation. Click **Yes** to continue and display the Deinstallation Progress screen.

Monitor the progress of the deinstallation. If you see a prompt asking you to run **deconfig.pl**, click **OK** to continue, because you have already run this tool as part of **Step 4**.

9. Exit Oracle Universal Installer when the deinstallation is complete.
10. Delete any remaining files in the Oracle home directory of the deleted instance, as follows:

```
rm -rf $ORACLE_HOME
```

11. Remove the line for the deinstalled Oracle Content DB instance from the `/var/opt/oracle/oratab` file.

Near the end of the file, locate the lines that specify the Oracle home directory. Remove the line for the Oracle home that you deinstalled. The line looks similar to the following:

```
*:/$ORACLE_HOME/:N
```

In the preceding example, `$ORACLE_HOME` is the Oracle home of the Oracle Content DB middle tier.

## Additional Cleanup Tasks

If you are deinstalling the first Oracle Content DB middle tier that was configured, this section describes additional cleanup tasks. You should only perform the following tasks if you want to remove your entire Oracle Content DB installation.



## Removing Oracle Content DB Information From Oracle Internet Directory

If you are deinstalling the first Oracle Content DB middle tier that was configured, you should clean up Oracle Content DB entries from Oracle Internet Directory. You can do this by running the `oidprovtool` and `ldapdelete` commands on the OracleAS Infrastructure computer.

---

### Note:

- Before you remove Oracle Content DB entries from Oracle Internet Directory, ensure that the `$ORACLE_HOME` variable is set on your OracleAS Infrastructure tier.
  - The Oracle Content DB domain display name is typically `CONTENT`. If you are unsure of the display name for your Oracle Content DB domain, see *Oracle Content Database Administrator's Guide* for information about how to find this information in Oracle Directory Manager.
- 

To remove Oracle Content DB entries from Oracle Internet Directory:

1. Run the following `oidprovtool` command:

```
$ORACLE_HOME/bin/oidprovtool operation=delete ldaphost=fully_qualified_infra_
host_name ldap_port=Oracle_Internet_Directory_port ldap_user_dn=cn=orcladmin
ldap_user_password=password_for_cn=orcladmin_user application_
dn=orclApplicationCommonName=oracle_content_db_domain_display_
name,cn=IFS,cn=Products,cn=oraclecontext organization_dn=realm_name interface_
version=3.0
```

For example:

```
$ORACLE_HOME/bin/oidprovtool operation=delete ldaphost=myhost.mycompany.com
ldap_port=389 ldap_user_dn=cn=orcladmin ldap_user_password=mypassword
application_dn=orclApplicationCommonName=CONTENT,cn=IFS,cn=Products,
cn=oraclecontext organization_dn=dc=us,dc=oracle,dc=com interface_version=3.0
```

If you have multiple Oracle Content DB Sites, you must run this command for each realm on which an Oracle Content DB Site is based.

2. Next, run the following `ldapdelete` command:

```
$ORACLE_HOME/bin/ldapdelete -h fully_qualified_infra_host_name -p Oracle_
Internet_Directory_Port -D cn=orcladmin -w =password_for_cn=orcladmin_user -v
"cn=oracle_content_db_domain_display_
name,cn=IFS,cn=Products,cn=OracleContext,realm_name"
```

For example:

```
$ORACLE_HOME/bin/ldapdelete -h myhost.mycompany.com -p 389 -D cn=orcladmin -w
mypassword -v
"cn=CONTENT,cn=IFS,cn=Products,cn=OracleContext,dc=us,dc=oracle,dc=com"
```

If you have multiple Oracle Content DB Sites, you must run this command for each realm on which an Oracle Content DB Site is based.

3. Next, run the following `ldapdelete` command:

```
$ORACLE_HOME/bin/ldapdelete -h fully_qualified_infra_host_name -p oracle_
internet_directory_port -D cn=orcladmin -w =password_for_cn=orcladmin_user -v
"cn=Associated Mid-tiers,orclApplicationCommonName=oracle_content_db_domain_
```

```
display_name,cn=IFS,cn=Products,cn=OracleContext"
```

For example:

```
$ORACLE_HOME/bin/ldapdelete -h myhost.mycompany.com -p 389 -D cn=orcladmin -w  
mypassword -v "cn=Associated  
Mid-tiers,orclApplicationCommonName=CONTENT,cn=IFS,cn=Products,  
cn=OracleContext"
```

4. Next, run the following `ldapdelete` command:

```
$ORACLE_HOME/bin/ldapdelete -h fully_qualified_infra_host_name -p oracle_  
internet_directory_port -D cn=orcladmin -w =password_for_cn=orcladmin_user -v  
"cn=Component Owners,orclApplicationCommonName=oracle_content_db_domain_  
display_name,cn=IFS,cn=Products,cn=OracleContext"
```

For example:

```
$ORACLE_HOME/bin/ldapdelete -h myhost.mycompany.com -p 389 -D cn=orcladmin -w  
mypassword -v "cn=Component  
Owners,orclApplicationCommonName=CONTENT,cn=IFS,cn=Products,  
cn=OracleContext"
```

5. Next, run the final `ldapdelete` command:

```
$ORACLE_HOME/bin/ldapdelete -h fully_qualified_infra_host_name -p oracle_  
internet_directory_port -D cn=orcladmin -w =password_for_cn=orcladmin_user -v  
"orclApplicationCommonName=oracle_content_db_domain_display_  
name,cn=IFS,cn=Products,cn=OracleContext"
```

For example:

```
$ORACLE_HOME/bin/ldapdelete -h myhost.mycompany.com -p 389 -D cn=orcladmin -w  
mypassword -v  
"orclApplicationCommonName=CONTENT,cn=IFS,cn=Products,cn=OracleContext"
```

6. Restart OC4J\_Security using the Application Server Control. Alternatively, you can use the following `opmnctl` command:

```
opmnctl restartproc process-type=OC4J_SECURITY
```

You can find the `opmnctl` utility in `$ORACLE_HOME/opmn/bin`.

## Removing Schemas and Tablespaces from the Oracle Internet Directory

If you are deinstalling the first Oracle Content DB middle tier that was configured, you should clean up Oracle Content DB entries from Oracle Internet Directory. You can do this by running the `oidprovtool` and `ldapdelete` commands on the OracleAS Infrastructure computer.

1. On the database computer, go to the Oracle home of the database.
2. Connect to SQL\*Plus as the database user SYS, with the SYSDBA option.
3. Drop the Oracle Content DB schemas (CONTENT, CONTENT\$ID, and CONTENT\$CM), the Oracle Workflow schema (OWF\_MGR), and the Oracle Content DB tablespaces by executing the following commands. The first command may take a few minutes to run.

```
drop user CONTENT cascade;  
drop user content$ID cascade;  
drop user CONTENT$CM cascade;  
drop user OWF_MGR cascade;
```

```

drop tablespace CONTENT_IFS_MAIN including contents;
drop tablespace CONTENT_IFS_LOB_N including contents;
drop tablespace CONTENT_IFS_LOB_I including contents;
drop tablespace CONTENT_IFS_LOB_M including contents;
drop tablespace CONTENT_IFS_CTX_K including contents;
drop tablespace CONTENT_IFS_CTX_I including contents;
drop tablespace CONTENT_IFS_CTX_X including contents;
drop tablespace WORKFLOW_IFS_MAIN including contents;

```

## Deinstalling Oracle Content DB from a Single Computer

To deinstall Oracle Content DB, OracleAS Infrastructure, and Oracle Database from a single computer:

1. Log in as the operating system user who installed the Oracle Content DB middle tier you want to deinstall.
2. Start Oracle Universal Installer.
3. On the Select Installation Method screen, select **Advanced Installation** and click **Next**.
4. On the Specify File Locations screen, click **Installed Products**.
5. The Inventory dialog box appears. Under **Oracle Homes**, locate and remove the following items, in order:
  - a. Oracle Content DB
  - b. OracleAS Infrastructure, if you want to deinstall it
  - c. Oracle Database, if you want to deinstall it
6. Exit Oracle Universal Installer.

## Cleaning Up Oracle Content DB Middle-Tier Processes

If you forgot to shut down Oracle Content DB middle tier processes before commencing deinstallation, they are now orphan processes, and you must stop them manually.

To check for processes that are still running (for example, HTTP node or OPMN processes):

```
$ ps -auxwww |grep $ORACLE_HOME
```

To stop a process:

```
$ kill -9 process_id
```

If an Oracle Content DB regular node process is orphaned, you must be the root user in order to stop it.



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---

# Glossary

## **domain**

A logical grouping of Oracle Content DB nodes (middle-tier processes), and an Oracle Database instance that contains the Oracle Content DB data.

## **instance**

A single, named installation of Oracle Content DB.

## **LDAP**

An Internet protocol that applications use to look up contact information from a server, such as a central directory. LDAP servers index all the data in their entries, and filters can be used to select just the person or group you want, and return just the information you want. Full name: Lightweight Directory Access Protocol.

## **middle tiers**

In a three-tier architecture, the middle tier is the application logic layer. The other tiers are the client tier and database tier. The middle tiers provide the computing power and resources for the clients.

In Oracle Application Server, middle-tier components include Oracle HTTP Server, OC4J, and OPMN. The Oracle Content DB application runs in the middle tier.

## **Oracle Clusterware**

Oracle Clusterware contains the cluster management software required to support Oracle Real Application Clusters databases. Oracle Clusterware also provides high availability components that provide many system management features. The components of Oracle Clusterware interact with vendor clusterware, if present, to coordinate cluster membership information. In Oracle Database 10g Release 1 (10.1), this was known as Cluster Ready Services.

## **Oracle Content DB**

A consolidated, database-centric content management application that provides a comprehensive, integrated solution for file and document lifecycle management. Oracle Content DB runs on Oracle Application Server and Oracle Database, and provides a scalable content management repository. Oracle Content DB also offers a comprehensive set of Web services that developers can use to build and enhance content management applications.

## **Oracle Drive**

Oracle Drive is a native Windows application that lets users use Windows Explorer, Microsoft Office, and other Windows applications to access content in Oracle Content DB. Oracle Drive displays files and folders in Oracle Content DB as a mapped drive in

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Windows Explorer. Oracle Drive also provides an effective offline solution that lets users edit files on their computers when offline, and then synchronize with the server when they reconnect.

### **Oracle Identity Management**

An integrated set of components that provide distributed security to Oracle products and make it possible to centrally and securely manage enterprise identities and their access to applications in the enterprise. It includes the following components: Oracle Internet Directory, Oracle Directory Integration and Provisioning, Oracle Delegated Administration Services, OracleAS Single Sign-On, and Oracle Application Server Certificate Authority.

### **Oracle Internet Directory**

An LDAP service that combines Oracle Database technology with the LDAP v3 directory standard. Oracle Internet Directory is a component of Oracle Identity Management. It is also closely integrated with Oracle Database. All Oracle Content DB users are created and managed in Oracle Internet Directory.

### **Oracle Net Services**

A suite of networking components that provide enterprise-wide connectivity solutions in distributed, heterogeneous computing environments. Oracle Net Services is comprised of Oracle Net, listener, Oracle Connection Manager, Oracle Net Configuration Assistant, and Oracle Net Manager. Oracle Net Services configuration files are usually stored in the \$ORACLE\_HOME/network/admin directory.

### **Oracle Records DB**

A component of Oracle Content DB that provides support for compliance solutions such as enforced record creation and retention policies. Records Administrators can use Oracle Records DB to specify file plans and create record categories.

### **OracleAS Infrastructure**

An application server installation type that provides centralized product metadata and security services, configuration information, and data repositories for Oracle Application Server middle tiers. Oracle Content DB middle tiers use the OracleAS Infrastructure for three main services: Product Metadata Service, Oracle Identity Management Services, and the Management Service. Full name: Oracle Application Server Infrastructure.

### **OUI**

The installation wizard through which you can install Oracle products, including Oracle Database and Oracle Application Server. Full name: Oracle Universal Installer.

### **response file**

A text file that is read by Oracle Universal Installer during silent or noninteractive installation. The file contains responses to prompts from Oracle Universal Installer and minimizes or negates interaction between the user and the Oracle Universal Installer interface.

### **schema**

A collection of database objects, including logical structures such as tables, views, sequences, stored procedures, synonyms, indexes, clusters, and database links. A schema has the name of the database user who controls it. The Oracle Content DB schema is created in an Oracle database during the configuration process. The schema

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owns all database objects, including metadata about Oracle Content DB and configuration information.

**Secure Sockets Layer (SSL)**

An industry standard protocol designed by Netscape Communications Corporation for securing network connections. SSL provides authentication, encryption, and data integrity using public key infrastructure (PKI).

**Single Sign-On**

A component of Oracle Application Server that enables users to log in to multiple applications using a single user name and password. Oracle Content DB users log in to Oracle Content DB using their SSO password. Full name: Oracle Application Server Single Sign-On.

**SSL**

See [Secure Sockets Layer \(SSL\)](#)

**SSO Password**

The password assigned to each Oracle Content DB user in Oracle Internet Directory. Users provide this password to authenticate against the OracleAS Single Sign-On server. Oracle Content DB users use the SSO password to sign in to Oracle Content DB. Full name: Single Sign-On password.

**tablespace**

A database storage unit that groups related logical structures together.

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