Oracle8*i*

Installation Guide

Release 3 (8.1.7) for Linux Intel

August 2000

Part No. A86017-01

ORACLE

Oracle8*i* Installation Guide, Release 3 (8.1.7) Linux Intel

Part No. A86017-01

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Oracle8*i* Installation Guide, Release 3 (8.1.7) for Linux Intel

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Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
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- Email - osdwrite@us.oracle.com
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  Redwood Shores, CA 94065
  USA

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If you have problems with the software, please contact your local Oracle Support Services Center.

Preface

Purpose

This guide and the *Oracle8i Administrator's Reference* provide instructions for installing and configuring Oracle8*i* Release 3 (8.1.7) on Linux Intel systems. Product-specific documentation is in the Oracle8*i* Generic Documentation Set.

Audience

This document is intended for anyone responsible for installing Oracle8*i* Release 3 (8.1.7) on Linux Intel systems.

Oracle8*i* and Oracle8*i* Enterprise Edition

Unless noted otherwise, features and functionality described in this document are common to both Oracle8*i* and Oracle8*i* Enterprise Edition.

Typographic Conventions

`monospace`	Monospace type indicates UNIX commands, directory names, usernames, pathnames, and filenames.
brackets [ ]	Words enclosed in brackets indicate key names (for example, Press [Return]). Note that brackets have a different meaning when used in command syntax.
italics	Italic type indicates a variable, including variable portions of filenames. It is also used for emphasis.
UPPERCASE	Uppercase letters indicate Structured Query Language (SQL) reserved words, initialization parameters, and environment variables.

Command Syntax

Linux command syntax appears in `monospace` font and assumes the use of the Bourne shell. The "$" character at the beginning of UNIX command examples should not be entered at the prompt. Because UNIX is case-sensitive, conventions in this document may differ from those used in other Oracle documentation.

backslash \	A backslash indicates a command that is too long to fit on a single line. Enter the line as printed (with a backslash) or enter it as a single line without a backslash:
	`dd if=/dev/rdsk/c0t1d0s6 of=/dev/rst0 bs=10b \`
	`count=10000`

braces { }	Braces indicate required items: `.DEFINE {macro1}`
brackets [ ]	Brackets indicate optional items: `cvtcrt` *`termname`* [*`outfile`*] Note that brackets have a different meaning when used in regular text.
ellipses ...	Ellipses indicate an arbitrary number of similar items: `CHKVAL fieldname` *`value1 value2 ... valueN`*
italics	Italic type indicates a variable. Substitute a value for the variable: *`library_name`*
vertical line |	A vertical line indicates a choice within braces or brackets: *`SIZE filesize [K|M]`*

Accessing Installed Documentation

Oracle8*i* for Linux Intel documentation includes this guide and the *Oracle8i Administrator's Reference for Linux Intel*. You can install documentation in HTML and PDF (Adobe Portable Document Format, which requires Acrobat Reader) formats. Linux-specific documentation files are installed from the Oracle8*i* CD-ROM. Generic documentation files are installed from the Online Generic Documentation CD-ROM. The location of the documentation files is determined according to the following rules:

- If ORACLE_DOC is defined in the environment, the files are installed in that directory.
- If ORACLE_DOC is not defined but ORACLE_BASE is defined, the files are installed under the `$ORACLE_BASE/doc` directory.
- If neither ORACLE_DOC nor ORACLE_BASE are defined in the environment, the files are installed under the `$ORACLE_HOME/doc` directory.

To access the documentation, point your browser to either `index.htm` or `products.htm` (the latter does not a require a frames-enabled browser). If you prefer paper documentation, you can print the PDF files.

Oracle Product Documentation

Oracle8*i* product documentation is on the Oracle8*i* Generic Documentation CD-ROM. Instructions for accessing and installing the documents on the CD-ROM are found in the README file on the top level directory of the CD-ROM.

Oracle Information Navigator

Oracle Information Navigator is a Java-based search and navigation utility provided with Oracle online documentation. If you are using a Java-enabled browser, Information Navigator is launched automatically when you open the `index.htm` file at the top level of the CD-ROM. Information Navigator can be used with Oracle documentation, whether you are reading from the CD-ROM or from installed files.

Related Documentation

If you are unfamiliar with the concepts or terminology associated with relational database management systems, read Chapter 1 in *Oracle8i Concepts* before beginning your installation.

Information about system administration and tuning for a production database system is provided in these documents:

- *Oracle8i Administrator's Reference for Linux Intel*
- *Oracle8i System Administrator's Guide*
- *Net8 Administrator's Guide*
- *Oracle8i Designing and Tuning for Performance*

Information about migrating or upgrading from a previous release of the Oracle Server is provided in *Oracle8i Migration*.

Information on installing Oracle Workflow is provided in *Oracle Workflow Installation Supplement (Release 2.5.2)*.

Information on installing Oracle Internet Directory is provided in *Oracle Internet Directory Installation Guide*.

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`http://www.oracle.com`

The sections below provide URLs for selected services.

Oracle Support Services

Technical Support contact information worldwide is listed at:

`http://www.oracle.com/support`

Templates are provided to help you prepare information about your problem before you call. You will also need your CSI number (if applicable) or complete contact details, including any special project information.

Products and Documentation

For U.S.A. customers, Oracle Store is at:

`http://store.oracle.com`

Links to Stores in other countries are provided from this site.

Product documentation can be found at:

`http://docs.oracle.com`

Customer Service

Global Customer Service contacts are listed at:

`http://www.oracle.com/support/`

Education and Training

Training information and worldwide schedules are available from:

`http://education.oracle.com`

Oracle Technology Network

Register with the Oracle Technology Network (OTN) at:

`http://technet.oracle.com`

OTN delivers technical papers, code samples, product documentation, self-service developer support, and Oracle's key developer products to enable rapid development and deployment of applications built on Oracle technology.

Support for the Hearing-Impaired

Oracle Corporation provides TTY access to Oracle Support Services within the United States of America at the following number:

1-800-446-2398

1

System Requirements

Completing a quick, successful installation depends on the local system satisfying the software dependencies and space requirements for Oracle software. This chapter describes the requirements for installing Oracle8*i* on Linux Intel and any restrictions with this release. Before starting the installation, verify that your system meets the requirements described in this chapter

- Installation Overview
- System Installation Requirements
- Linux and Installation-Specific Issues and Restrictions

Installation Overview

Installing Oracle8*i* involves the following steps:

1. *Satisfy Prerequisites:* Make sure the local system satisfies the hardware, software, memory, and disk space requirements for the products you want to install. These requirements and restrictions are described in this chapter.
2. *Pre-Installation:* Make sure the UNIX environment is properly set up and complete the pre-installation tasks for the products you want to install. See Chapter 2, "Pre-Installation".
3. *Install:* Use the Oracle Universal Installer provided on your software CD-ROM to install Oracle products. See Chapter 3, "Installation".
4. *Post-Installation:* Create database objects, establish the user environment, and configure the installed Oracle products for the local system. See Chapter 4, "Post-Installation".
5. *Client Installations:* If you want to install client tools, applications, and client interfaces not included with the Oracle8*i* Release 3 (8.1.7) CD-ROM, check the requirements and instructions in the documentation for those products.

Product Installation Categories and Installation Types

There are three categories of products included with Oracle8*i* Release 3 (8.1.7) Linux Intel.

- Oracle8*i* Enterprise Edition
- Oracle8*i* Management and Integration
- Oracle8*i* Client

Each category of products consists of multiple installation types. An overview of these product categories and types follows in Table 1–1, "Oracle8i Product Installation Categories and Types" on page 1-3. For descriptions and version numbers of individual software products included on the Oracle8*i* Release 3 (8.1.7) Linux Intel CD-ROM, refer to Appendix A, "Oracle8i Products".

Table 1–1 Oracle8i Product Installation Categories and Types

This Installation Category...	Consists of These Installation Types:
Oracle8*i* Enterprise Edition	**Typical** Installs a preconfigured starter database, licensable Oracle options, networking services, Oracle utilities, Oracle Enterprise Manager Console (including enterprise management tools), and online documentation. This type of installation is recommended for users who want the set of products most commonly of use for standard database environments. **Minimal** Gives you the option of installing a preconfigured starter database, networking services, Oracle Enterprise Manager Console (including enterprise management tools), and Oracle utilities. This type of installation is recommended for users who want a minimal database package. **Custom** Lets you selectively install products from the above installation types and customize your database and networking configurations.
Oracle8*i* Management and Integration	**Oracle Management Server** Installs the Oracle Enterprise Manager Console (including enterprise management tools), networking services, utilities, basic client software, and online documentation. **Oracle Internet Directory** Installs the Oracle Internet Directory Server, client tools, and the database schema required by Oracle Internet Directory. **Oracle Integration Server** Installs XML-enabled components that integrate applications within and between enterprises. Components include Oracle Enterprise Manager, Oracle8*i* JVM, a workflow engine, directory services, advanced queuing, and Internet interconnection adapters. **Custom** Lets you selectively install and customize products from the above installation types.

Table 1–1 Oracle8i Product Installation Categories and Types

This Installation Category...	Consists of These Installation Types:
Oracle8*i* Client	**Administrator** Installs the Oracle Enterprise Manager Console (including enterprise management tools), networking services, utilities, basic client software, and online documentation. **Programmer** Installs development tools and interfaces for creating applications that access an Oracle8*i* database. This installation package includes precompilers, networking services, and documentation. **Application User** Provides networking services and support files that enable database application users to connect to and interact with an Oracle8*i* database. **Custom** Lets you selectively install products from the above installation types.

System Installation Requirements

Verify that your system meets the requirements described in the following sections before you install Oracle8*i* Release 3 (8.1.7) products.

Note: You will not be able to complete an installation if your system does not meet the minimum requirements for the Oracle products you select.

- Hardware Requirements
- Disk Space Requirements
- Operating System Software Requirements
- Additional Product-Specific Installation Requirements

Hardware Requirements

To install Oracle8*i* products included with this release, your Linux Intel system must meet the minimum hardware requirements listed in Table 1–2.

Table 1–2 Hardware Requirements

Hardware	Requirements
Memory	A minimum of 128 MB RAM is required to install Oracle8*i* products. Oracle8*i* Client products require 64 MB of RAM
Swap Space	Twice the amount of RAM or at least 400 MB, whichever is greater, is recommended for most systems.
CD-ROM Device	A CD-ROM drive supported by Linux is required. Oracle uses ISO 9660 format CD-ROM disks with RockRidge extensions.

To determine the amount of RAM memory installed on your system, enter the following command:

```
$ /usr/sbin/prtconf | grep size
```

To determine the bytes of swap space currently configured on your system, enter the following command and multiply the BLOCKS column by 512:

```
$ swap -l
```

Disk Space Requirements

The Oracle Universal Installer allows you to choose your installation category and type as described in Table 1–1, "Oracle8i Product Installation Categories and Types" on page 1-3. Your choices will determine how much disk space you will need as shown in Table 1–3, Table 1–4, and Table 1–5. Disk space requirements do not account for the size of your database. A production Oracle database server supporting many users requires significantly greater disk space and memory.

Note: These are approximate values that might vary slightly at install time.

Table 1–3 Disk Space Requirements for Oracle8i Enterprise Edition

Installation Type	Required Disk Space
Typical	1160 MB
Minimal	985 MB
Custom	Up to a maximum of 1355 MB

Table 1–4 Disk Space Requirements for Oracle8i Client

Installation Type	Required Disk Space
Administrator	435 MB
Programmer	320 MB
Application User	230 MB
Custom	Up to a maximum of 440 MB

Table 1–5 Disk Space Requirements for Oracle8i Management and Integration

Installation Type	Required Disk Space
Oracle Management Server	395 MB
Oracle Internet Directory	810 MB
Oracle Integration Server	930 MB
Custom	Up to a maximum of 1245 MB

Temporary Disk Space Required by the Oracle Universal Installer

The Oracle Universal Installer requires up to 75 MB of space in the `/tmp` directory. If you do not have enough space in `/tmp`, set the environment variable TMP_DIR to point to a directory with sufficient space.

Operating System Software Requirements

To install Oracle8*i* products included with this release, your Linux Intel system must meet the operating system requirements listed in Table 1–6.

Table 1–6 Operating System Software Requirements

OS Software	Requirements
Operating System	Linux kernel version 2.2.16-3 or higher
Operating System Libraries	GLIBC package version 2.1.3-21
Window Manager	Any window manager that supports motif version 1.2, such as fvwm. Character mode installations are not supported for Release 3 (8.1.7). Refer to Character Mode.

Table 1–6 Operating System Software Requirements

OS Software	Requirements
Required Executables	The following executables must be present in the `/usr/local/bin` directory: `make`, `ar`, `ld`, `nm`.

Operating System

To determine your current operating system information, enter the following command:

```
$ uname -a
```

Operating System Patch

To determine which operating system patches are installed, enter the following command:

```
$ showrev -p
```

Operating System Packages

To determine which operating system packages are installed, enter the following command:

```
$ rpm -q [package.name]
```

If you enter `rpm -qa`, all installed packages are listed.

Window Manager

To determine if your X-windows system is working properly on your local system, enter the following command:

```
$ xclock
```

If a clock is not displayed on your screen, X-windows is not configured correctly. See "DISPLAY" on page 2-10 for instructions on configuring X-windows.

Required Executables

To determine if you are using the correct system executables, enter the following commands:

```
$ /usr/bin/which make
```

```
$ /usr/bin/which ar
$ /usr/bin/which ld
$ /usr/bin/which nm
```

Each command should point to the `/usr/local/bin` directory. If not, add `/usr/local/bin` to the beginning of the PATH environment variable in the current shell. See "PATH" on page 2-11 for instructions on setting the PATH variable.

Online Documentation Requirements

To view online documentation included with the Oracle8*i* CD-ROM, use a web browser such as Netscape Navigator 4.0 or higher running on a UNIX system. To view PDF documents, you need Adobe Acrobat Reader version 3.0 or higher.

Note: Online documentation included with Oracle8*i* Release 3 (8.1.7) Linux Intel can only be viewed on UNIX systems.

Additional Product-Specific Installation Requirements

This section provides product-specific information in addition to hardware and software requirements provided earlier in this chapter. For descriptions of these products, see Appendix A, "Oracle8i Products".

Oracle8*i* and Options

Table 1–7 Restrictions, Requirements, and Installation Tasks for Oracle8i and Options

Product Name	Restrictions and Requirements
Apache Server Please comment on this item	JDK 1.2.2. See Table 1–13, "Solaris 2.6 (5.6) Patches for JDK 1.2.2" and Table 1–14, "Solaris 7 (5.7) Patches for JDK 1.2.2" on page 1-15 for patches required on Linux for the JRE

Table 1–7 Restrictions, Requirements, and Installation Tasks for Oracle8i and Options

Product Name	Restrictions and Requirements
Oracle *inter*Media, 8.1.7	You must have at least 10 MB of additional disk space available for the *inter*Media Text data dictionary.
Oracle Visual Information Retrieval, 8.1.7	Requires Oracle *inter*Media, 8.1.7

Oracle Internet Directory, 2.1.1	Requires an installation of Oracle8*i* Enterprise Edition, Release 3 (8.1.7) with character set UTF8 and an instance dedicated to the Oracle Internet Directory. If this installation does not already exist, the Oracle Universal Installer will install it automatically as part of the OiD installation. The database character set can be determined by the following SQL Command:
	`select value from nls_database_parameters`
	`where parameter = 'NLS_CHARACTERSET' ;`

Tools and Precompilers

Table 1–8 Restrictions, Requirements, and Installation Tasks for Tools and Precompilers

Product Name	Restrictions and Requirements
Java Runtime Environment (JRE), 1.1.8	JRE 1.1.8-3 from IBM.
Oracle Data Migration Assistant, 8.1.7	An Oracle7 database must be at least release 7.1.4 to be migrated. An Oracle8 database must be at least release 8.0.3.0 to be upgraded. An Oracle8*i* database must be at least version 8.1.5 to be upgraded.
Oracle8*i* JVM, 8.1.7 (includes Java Virtual Machine (JVM) and Java utilities)	See the Java README on the Oracle8*i* CD-ROM for restrictions and requirements
Pro*C / C++, 8.1.7	Requires GNUC Compiler egcs-1.1.2-12 or higher.

Networking and System Management Products

All network products require the underlying software and operating system libraries for the supported network. The network software must be installed and running *prior* to installation of Net8 products. Refer to operating system and third party vendor networking product documentation for more information. Net8 Release 8.1.7 products require Oracle8*i* Release 3 (8.1.7).

Table 1–9 Restrictions and Requirements for Networking and System Management Products

Product Name	Restrictions and Requirements
Oracle Advanced Security: Export Edition, 8.1.7	See Table 1–10 for information about Oracle Advanced Security authentication support requirements.
Oracle TCP/IP with SSL Protocol Support, 8.1.7	SSL 3.0 or later

Oracle Advanced Security

Oracle Advanced Security is an add-on product to the standard Net8 Server or Net8 Client. It must be purchased and installed on both the server and the client.

Oracle Advanced Security release 8.1.7 requires Net8 release 8.1.7 and supports Oracle8i Enterprise Edition. Install Oracle Advanced Security on each server and client where Oracle Advanced Security is required.

Table 1–10 describes requirements for authentication protocols supported by Oracle Advanced Security. See the *Oracle Advanced Security Administrator's Guide* for additional information.

Table 1–10 Supported Authentication Methods and Requirements

Authentication Method	Requirements
RADIUS	A RADIUS server that is compliant with the standards in the Internet Engineering Task Force (IETF) RFC #2138, *Remote Authentication Dial In User Service* (RADIUS) and RFC #2139, *RADIUS Accounting* To enable challenge-response authentication, you must run RADIUS on a platform that supports the Java Native Interface as specified in release 1.1 of the Java Development Kit from JavaSoft
Secure Socket Layer (SSL)	A wallet that is compatible with the Oracle Wallet Manager version 2.1. Wallets created in earlier releases of the Oracle Wallet Manager are not forward compatible.

Note: No additional authentication protocol software is required to relink Oracle products. Secure Socket Layer (SSL) is the only authorization protocol supported by Oracle8i Release 2 (8.1.6) for Intel Linux. SSL is provided and installed with Oracle Advanced Security. .

Linux and Installation-Specific Issues and Restrictions

The following issues and restrictions can affect the installation or use of Oracle8*i* on Linux Intel. Check the Release Notes that accompany this release and the `README` files in the `$ORACLE_HOME/relnotes` directory before using Oracle8*i*. For Release 3 (8.1.7), the `README` files are uncompressed and linked to the top-level HTML file in the `doc` directory. `README` files for other products on the Oracle8*i* CD-ROM are in the `doc` or `admin/doc` directories for the respective products.

Using Hummingbird Exceed

If you are using Hummingbird's Exceed X-windows emulator while installing and using Oracle8*i*, set the window manager to run in "Native" mode so that Microsoft windows functions as the window manager. See your Exceed documentation for instructions on configuring the window manager.

Re-Installing Oracle8*i* Release 3 (8.1.7)

If you re-install Oracle8*i* Server into an `ORACLE_HOME` where Oracle8*i* Server Release 3 (8.1.7) is already installed, you must also re-install any product options, such as Oracle Partitioning, that were enabled before you began the re-installation.

New ORACLE_HOME

Oracle Corporation recommends that you install Oracle8*i* Release 3 (8.1.7) products into a new `ORACLE_HOME`. Do not install Oracle8*i* Release 3 (8.1.7) into an `ORACLE_HOME` directory that already contains Oracle products.

If you must install Oracle8*i* Release 3 (8.1.7) into an `ORACLE_HOME` that contains 8.1.5 products, remove the 8.1.5 products with Oracle Universal Installer before beginning the new installation.

Backing Up the `root.sh` Script

After the successful installation of Oracle8*i*, back up the `root.sh` script. If you install another product category (such as Oracle8*i* Management Infrastructure) into the same `ORACLE_HOME`, Oracle Universal Installer will delete the content of the `root.sh` script during the course of the installation. If you require the original `root.sh` script, you can recover it from the `root.sh.save` file.

Java Runtime Environment (JRE)

The JRE certified for use with Oracle8*i* is used by Oracle Java applications such as the Oracle Universal Installer and is the only one supported to run with these applications. Customers should not modify this JRE, unless it is done through a patch provided by Oracle Support Services.

The inventory can contain multiple versions of the JRE, each of which can be used by one or more products or releases. The Installer creates the `oraInventory` directory the first time it is run to keep an inventory of products that it installs on your system as well as other installation information. The location of `oraInventory` is defined in `/etc/oraInst.loc`.

Products in an `ORACLE_HOME` access the JRE through a symbolic link in `$ORACLE_HOME/JRE` to the actual location of a JRE within the inventory. Customers should not modify the symbolic link unless it is done through a patch provided by Oracle Support Services.

Character Mode

Installation can no longer be performed using character mode. However, you can configure the Oracle Universal Installer to perform a non-interactive installation of Oracle products. The Installer can be run in non-interactive mode directly from your system's X-windows console or via an X-terminal or PC X-terminal on a remote system. For more information on the non-interactive installation of Oracle products, see "Non-Interactive ("Silent") Installation and Configuration" on page 3-36.

Upgrading and Migrating

If you are upgrading an existing system, there are issues that exceed the scope of this manual. See *Oracle8i Migration* for details on upgrade and migration procedures. If you are upgrading an Oracle Enterprise Manager repository, see the *Oracle Enterprise Manager Configuration Guide*.

Note: The Migration Utility is available as a stand-alone product.

File Systems

Oracle8*i* Server must be able to verify that file writes have been made to disk. File systems that do not support this verification are not supported for use with Oracle databases, although Oracle software can be installed on them.

Optimal Flexible Architecture

Optimal Flexible Architecture (OFA), Oracle's standard set of configuration guidelines for Oracle databases, is supported, but not enforced, by the Oracle Universal Installer. The starter database included with the Typical installation type of Oracle8*i* Enterprise Edition is created under a single mount point.

2

Pre-Installation

After you have verified that your system meets the requirements described in Chapter 1, "System Requirements", use this chapter to help you prepare your system for installing Oracle8*i*.

- Linux System Configuration
- Understanding Setup Tasks
- Setup Tasks to Perform as the root User
- Setup Tasks to Perform as the oracle User
- Setup Tasks for Oracle Products
- Understanding Product Configuration Installation Window Dialogues
- Understanding Net8 Configuration
- Identifying Your Database Environment

Linux System Configuration

Table 2–1 summarizes the requirements for installing Oracle8*i* on your Linux system. If your system fails to satisfy any listed requirement, perform the tasks listed on page 2-4 as necessary to configure your system to meet these requirements.

Table 2–1 Linux System Configuration Summary

System Factor	Requirement for Oracle8*i*	
Linux Kernel Parameters:		
Shared Memory	SHMMAX	0.5*(physical memory present in machine). Check your system for additional restrictions. This setting does not affect how much shared memory is needed or used by Oracle8*i* or the operating system. It is used only to indicate the maximum allowable size. This setting also does not impact operating system kernel resources.
	SHMMIN	1
	SHMMNI	100
	SHMSEG	10
Semaphores	SEMMNI	100
	SEMMSL	Set to 10 plus the largest PROCESSES parameter of any Oracle database on the system. The PROCESSES parameter can be found in each `init`*`sid`*`.ora` file, located in the `$ORACLE_HOME/dbs` directory. The default value of PROCESSES for the preconfigured database created by Oracle Database Configuration Assistant is 50.
	SEMMNS	Set to the sum of the PROCESSES parameter for each Oracle database, adding the largest one twice, then add an additional 10 for each database. See "Configure the Linux Kernel for Oracle8i" on page 2-4 for an example of this formula.
	SEMOPM	100
	SEMVMX	32767

Table 2–1 Linux System Configuration Summary

System Factor	Requirement for Oracle8*i*
Note: If any of the kernel parameters above are less than your current values, continue to use the current value. These are the requirements for Oracle8*i* only. If you have other programs which use shared memory and semaphores, you will need to adjust the values accordingly. Take into account that a system reboot is necessary for kernel changes to take effect when planning for current and future database requirements.	
Mount Points (Storage Devices)	Oracle Universal Installer requires only two mount points: one for the software, and one for the database files. An Optimal Flexible Architecture (OFA)-compliant database requires at least four mount points, all at the same level of the directory structure. One is for the software, three are for database files. See the ***Oracle8i Administrator's Reference*** for information on implementing OFA on Linux.
Linux Groups for Oracle Roles	A Linux group is required for the OSDBA role. This book assumes that the group is named *dba*. The OSOPER role may belong to the same group as the OSDBA or to a different group.
Special Linux Group to own the Oracle Universal Installer `oraInventory`	All users installing Oracle products in any ORACLE_HOME should have *`oinstall`* set as their primary Linux group. The Installer's inventory is shared by all ORACLE_HOMEs on a system and is group writable. Install Oracle products with *`oinstall`* set as the current group.
Linux Accounts	A Linux account that is dedicated solely to installing and upgrading Oracle products. The account should have the *`oinstall`* group as its primary group and the OSDBA group as a secondary group. This book assumes that the installer owner account is called *`oinstall`* and the OSDBA account is called *`oracle`*.
Permissions for File Creation	Set `umask` to `022` for the *`oracle`* account.
ORACLE_BASE	Recommended as part of an OFA-compliant installation. See "ORACLE_BASE" on page 2-11 for further information.

Understanding Setup Tasks

The following pre-installation setup tasks configure your system, and set up accounts, groups, variables and permissions needed to run Oracle8*i*. If they are not performed prior to installation, you will be given the option during installation to become `root` and run `orainstRoot.sh`, a script program that will perform many of these setup task for you. However, running `orainstRoot.sh` may not provide

a satisfactory environment for your system and needs. Oracle Corporation recommends that these steps be performed manually.

Setup Tasks to Perform as the root User

Log in as the `root` user and perform the following tasks to set up your environment for Oracle8*i*:

- ❑ Configure the Linux Kernel for Oracle8i
- ❑ Create Mount Points
- ❑ Create Linux Groups for Database Administrators
- ❑ Create a Linux Group for the Oracle Universal Installer Inventory
- ❑ Create a Linux Account to Own Oracle Software
- ❑ Create a Linux Account to Own the Apache Server

oradba

Note: In addition to these setup tasks, you will need `root` privileges near the start of the installation if the file `/etc/oraInst.loc` does not exist. You will also need `root` privileges near the end of the installation to run the `root.sh` script.

Configure the Linux Kernel for Oracle8*i*

Configure the Linux kernel Interprocess Communication (IPC) parameters to accommodate the Shared Global Area (SGA) structure of Oracle8*i*. You will not be able to start up the database if the system does not have adequate shared memory to accommodate the SGA.

1. Use the `ipcs` command to obtain a list of the system's current shared memory and semaphore segments, and their identification number and owner.
2. Set the kernel parameters for shared memory in `/usr/src/linux/include/asm/shmparam.h` and semaphores in `/usr/src/linux/include/linux/sem.h`.
   - maximum size of a shared memory segment (SHMMAX)
   - minimum size of shared memory segment (SHMMIN)
   - maximum number of shared memory identifiers in the system (SHMMNI)

- maximum number of shared memory segments a user process can attach (SHMSEG)
- maximum number of semaphore identifiers in the system (SEMMNI)
- maximum number of semaphores in a set (SEMMSL)
- maximum number of semaphores in the system (SEMMNS)
- maximum number of operations per `semop` call (SEMOPM)
- semaphore maximum value (SEMVMX)

The total allowable shared memory is determined by the formula:

```
SHMMAX * SHMSEG
```

Table 2–1 on page 2-2 shows the required settings, which should be acceptable for most installations.

Set to the sum of the PROCESSES parameter for each Oracle database, adding the largest one twice, then add an additional 10 for each database. For example, consider a system that has three Oracle instances with the PROCESSES parameter in their `init`*`sid`*`.ora` files set to the following values:

```
ORACLE_SID=A, PROCESSES=100
ORACLE_SID=B, PROCESSES=100
ORACLE_SID=C, PROCESSES=200
```

The value of SEMMNS is calculated as follows:

SEMMNS = [(A=100) + (B=100)] + [(C=200) * 2] + [(# of instances=3) * 10] = 630

Setting parameters too high for the operating system can prevent the machine from booting up. Refer to your operating system documentation for parameter limits.

3. Rebuild the kernel if you have modified the kernel, shared memory, or semaphore parameters, and reboot the system.

Create Mount Points

Oracle8*i* requires at least two mount points:

- one for the software
- at least one for the database files

It requires at least four mount points when creating an Optimal Flexible Architecture (OFA)-compliant installation:

- one for the software
- at least three for database files.

All software and database mount point names used for Oracle8*i* should match the pattern */pm*, where *p* is a string constant and *m* is a fixed-length key to distinguish between mount points. Table 2–2, "Sample Mount Point Naming Scheme", on page 2-6 shows a sample naming scheme.

Table 2–2 Sample Mount Point Naming Scheme

Software Mount Point	Database Mount Points
/u01	/u02
	/u03
	/u04

See Also: Optimal Flexible Architecture is described in detail in Appendix A, "Optimal Flexible Architecture" of the *Oracle8i Administrator's Reference Linux Intel*.

Create Linux Groups for Database Administrators

During installation, two Oracle roles are created:

- SYSDBA
- SYSOPER

Database administrators are granted these roles by virtue of their membership in corresponding Linux groups. Oracle8*i* documentation refers to these Linux groups as the `osdba` and `osoper` groups. Create the group(s) for these roles before you log in as the *oracle* user and start the Oracle Universal Installer. You may assign the roles to two separate Linux groups, or to a single group.

Use the `admintool` or `groupadd` utility to create a group named *dba* or another name of your choosing. If you plan to assign the SYSOPER role to a separate group, create that group also.

The Oracle Universal Installer gives both Oracle SYSDBA and SYSOPER privileges to members of the Linux group `dba` by default. If you perform a Custom installation of Oracle8*i*, or if the *oracle* user is not a member of a group called `dba`, Oracle Universal Installer will prompt you to enter the group(s) you have created for these roles.

Create a Linux Group for the Oracle Universal Installer Inventory

Use the `admintool` or `groupadd` utility to create a group named *`oinstall`*. The *`oinstall`* group will own the Oracle Universal Installer's `oraInventory` directory. The *`oracle`* user account that runs the installation should have the *`oinstall`* group as its primary group.

Create a Linux Account to Own Oracle Software

The *`oracle`* account is the Linux user account that owns the Oracle8*i* software after installation. Run Oracle Universal Installer with this user account.

Use the `admintool` or `useradd` utility to create an *`oracle`* account with the following properties:

Table 2–3 Properties of the oracle Account

Property	Description
Login Name	Any name, but this document refers to it as the *`oracle`* account.
Primary GID	The *`oinstall`* group.
Secondary GID	The *dba* group.
Home Directory	Choose a home directory consistent with other user home directories. The home directory of the *`oracle`* account does not have to be the same as the ORACLE_HOME directory.
Login Shell	The default shell can be `/usr/bin/sh`, `/usr/bin/csh`, or `/usr/bin/ksh`, but the examples in this document assume the Bourne shell (`/usr/bin/sh`).

Caution: Use the*`oracle`* account only for installing and maintaining Oracle software. Never use it for purposes unrelated to the Oracle8*i* Server. Do not use `root` as the *`oracle`* account.

Sites with multiple `ORACLE_HOME`s on one system may install Oracle Software with the same *`oracle`* account, or separate ones. Each *`oracle`* account must have `oinstall` as its primary group.

Create a Linux Account to Own the Apache Server

The *Apache* account is a Linux user account that owns the Apache server after installation. If you use a default Apache configuration (one that listens to ports lower than 1024, which are reserved to `root`), Oracle Corporation recommends for security reasons that a separate account owner be set up for Apache, and that the Apache server be configured to assign ownership of listener and module actions to that account. This is done by using the Apache configuration parameter `user`, which resets account ownership once the server is started.

The Apache account owner should have minimal user privileges, and should not be a member of any groups whose files are not intended to be visible to the outside world. The `nobody` account that many Linux versions have may serve as a model for the Apache account.

Warning: Configuring the Apache user with `dba` group or *`oracle`* account privileges compromises database security. If additional rights are needed to run certain programs, use the Apache `suEXEC` feature to obtain additional rights for the Apache account. If a user other than `root` starts the Apache server, any scripts, servlets or programs that Apache spawns will have the same privileges as that user.

Use the `admintool` or `useradd` utility to create an Apache account with the following properties:

Table 2–4 Properties of the Apache Account

Property	Description
Login Name	**Any name, but this document refers to it as the** `Apache` **account.**
Primary GID	The primary group must be the same group that owns `oraInventory`. The location of oraInventory is defined in `/var/opt/oracle/oraInst.loc`. The default group name that has ownership of `oraInventory` is the *`oinstall`* group. For security reasons, this group ownership needs to be changed after installation. See Change Group Membership of the Apache Account on page 4-6.
Secondary GID	The secondary group should be one in which only the `Apache` account is a member.
Home Directory	Choose a home directory consistent with other user home directories.

Oracle Corporation recommends caution in adding servlet classes, modifying or upgrading to Apache modules not certified with this version of Oracle8*i*, or upgrading the Apache server to later versions than the one certified with this version of Oracle8*i*. Oracle-provided patches for and configurations of Apache will be supported, but it is possible for users to change Apache in ways that are difficult or impossible for Oracle to support.

> **See also:** ***A****pache version 1.3 User's Guide* for information and examples on configuring Apache

Setup Tasks to Perform as the *oracle* User

Log in to the `oracle` account and perform the following tasks as necessary:

- ❏ Set Permissions for File Creation
- ❏ Set Environment Variables
- ❏ Update the Environment for Current Session

Set Permissions for File Creation

Set `umask` to `022` for the `oracle` account to ensure `group` and `other` have read and execute permissions, but not write permission, on files installed.

1. Enter the `umask` command to check the current setting.
2. If the `umask` command does not return `022`, set it in the `.profile` or `.login` file of the `oracle` account and execute the following command:

```
$ umask 022
```

Set Environment Variables

Before starting the Oracle Universal Installer, set the DISPLAY and PATH environment variables and any of the other variables as appropriate. Table 2–5, "Environment Variable Summary", provides a brief summary of the variables listed in this section. Refer to each variable's entry in this section for instructions on setting the variable correctly.

Note: If an Oracle Server already exists on your system, its settings may have a bearing on the settings that you choose for the new environment.

Table 2–5 Environment Variable Summary

Variable	Description	Required?
DISPLAY	The name, server number, and screen number of the system where the Oracle Universal Installer will display.	Yes
PATH	Shell's search path for executables.	Yes
ORACLE_BASE	Directory at the top of the Oracle software and administrative file structure.	No
ORACLE_HOME	Directory containing Oracle software for a given release.	No
NLS_LANG	Language, territory and character set to use when installing.	No
ORA_NLS33	Location of National Language Support character set data.	No
ORACLE_SID	The Oracle server instance identifier to use during installation.	No
ORACLE_DOC	Directory where documentation will be installed.	No

DISPLAY

On the system where you will run Oracle Universal Installer, set DISPLAY to the system name or IP address, X-server, and screen used by your workstation. Do not use the hostname or IP address of the system where the software is being installed unless you are performing the installation from that system's X-windows console. Use the machine name or IP of your own workstation if you are installing from a remote system. If you are not sure what the X-server and screen should be set to, use 0 (zero) for both.

If you get an Xlib error similar to "Failed to connect to server", "Connection refused by server" or "Can't open display" when starting the Installer, run the following Bourne/Korn shell or C shell commands on your X workstation:

For the Bourne or Korn shells:

On the server where the Oracle database will be installed, enter the following:

```
$ DISPLAY=workstation_name:0.0
$ export DISPLAY
```

In the session on your workstation:

```
$ xhost +server_name
```

For the C shell:

On the server where the Oracle database will be installed, enter the following:

```
% setenv DISPLAY workstation_name:0.0
```

In the session on your workstation:

```
% xhost +server_name
```

If you are using a PC X server, refer to your PC X server documentation for instructions on how to configure the PC X server to allow remote X clients to connect.

Check that the DISPLAY variable is correctly set as detailed above.

PATH

Set the shell's search path to include the following:

- `$ORACLE_HOME/bin`, `/usr/bin`, `/etc/bin`
- the local `bin` directory, `/usr/local/bin`, if it exists

ORACLE_BASE

ORACLE_BASE specifies the directory at the top of the Oracle software and administrative file structure. The value recommended for an OFAconfiguration is *software_mount_point*`/app/oracle`. For example: `/u01/app/oracle`. If you are not using an OFA-compliant system, you do not have to set ORACLE_BASE, but it is highly recommended that you do set it.

ORACLE_HOME

ORACLE_HOME specifies the directory containing the Oracle software for a given release. The Optimal Flexible Architecture recommended value is:
`$ORACLE_BASE/product/`*release*.
For example:
`/u01/app/oracle/product/8.1.7.`

Ensure that the value of ORACLE_HOME points to a directory that does not already contain any Oracle software prior to Oracle8*i* Release 1 (8.1.5) or Release 2 (8.1.6).

NLS_LANG

Set NLS_LANG if you will create a database that uses a character set other than US7ASCII (the default). If you will install Oracle Internet Directory, set NLS_LANG to UTF8.

Oracle supports client/server environments where clients and servers use different character sets. The character set used by a client is defined by the value of the NLS_LANG parameter for the client session. The character set used by a server is its database character set. Data conversion is done automatically between these character sets if they are different.

> **See Also:** For more information about National Language Support features, refer to *Oracle8i Reference*. A complete list of valid character sets is available in the *Oracle8i National Language Support Guide*.

ORA_NLS33

This environment variable specifies the directory under which Oracle's *.nlb files are placed. The `*.nlb` files define languages, territories, character sets, and linguistic sorting orders. Setting this environment variable is necessary only if one ORACLE_HOME has multiple versions of directories under which `*.nlb` files will be placed.

When `ORA_NLS33` is not set, the default value `$ORACLE_HOME/ocommon/nls/admin/data` will be used.

> **See Also:** For more information, see the *Oracle8i National Language Support Guide*.

ORACLE_SID

If you plan on creating a database during installation, you have the option of setting ORACLE_SID to the value of the Oracle server instance identifier (referred to in this installation guide as the *sid*). If you choose to create a database during installation, the Installer will prompt you to confirm this value.

ORACLE_DOC

ORACLE_DOC specifies the directory where online documentation will be installed. See "Accessing Installed Documentation" on page -xi to determine where documentation is installed if you do not set ORACLE_DOC.

Update the Environment for Current Session

With a text editor, add the settings for the environment variables listed in "Set Environment Variables" to the `.profile` or `.login` file of the *oracle* account. Once you have finished editing these initialization files, you can quickly update the environment in the current shell session before beginning installation by using the appropriate shell command.

For the Bourne or Korn shell:

```
$ ../.profile
```

For the C shell:

```
% source .login
```

Setup Tasks for Oracle Products

Before beginning your installation, complete the following tasks for products that you will install:

- Tools and Precompilers
- Networking and System Management Products

Tools and Precompilers

Complete the tasks for the following tools and precompilers before installing them.

Pre-Installation Steps for the Pro*C/C++ Precompiler

Verify that the C compiler executable is included in the PATH setting. The SPARCworks C compiler executable is usually located in `/usr/local/bin`. Verify that the C compiler is in the PATH setting with the following command:

```
which gcc
```

Networking and System Management Products

Configuring LDAP Services

Lightweight Directory Access Protocol (LDAP) Version 3 is the Internet open standard for directory access protocol. Some products included with Oracle8*i* Release 3 (8.1.7) can be configured to use the LDAP V3 directory service provided by Oracle Internet Directory. This directory service is included for use by the

Oracle8i database to centralize the storage of database user, Net8 network connector, and database listener parameters.

If you plan to configure Oracle products to use LDAP directory services, Oracle Internet Directory should be available prior to installing and configuring those products. Install Oracle Internet Directory (OID) if it is not already installed on your system. For optimal directory performance, Oracle Corporation recommends installing Oracle Internet Directory on a system separate from other Oracle software.

> **See Also:** For information on LDAP and Oracle Internet Directory, refer to the *Oracle Internet Directory Administrator's Guide*.

Oracle Internet Directory

These steps should be completed in addition to those steps listed in the *Oracle Internet Directory Administrator's Guide*.

- If Oracle8*i* Release 3 (8.1.7) is already installed on your system, make sure that:
  - Oracle8*i* Server is running
  - you can connect to the database as user `internal` without a password; for example:

    ```
    $ sqlplus internal
    ```

    If you cannot connect as `internal` without a password, refer to the *Oracle8i Administrator's Guide* for instructions on configuring the `internal` account to not require a password.
  - the Net8 listener serving connections to the database is running; use the following command:

    ```
    $ lsnrctl status [listener_name]
    ```

    The *`listener_name`* field is required if the listener has a name other than the default, `listener`.

If Oracle8*i* Release 3 (8.1.7) is not already installed on your system, then Oracle Universal Installer will install it with Oracle Internet Directory.

Net8 Server

If Net8 Server is already installed on your system, shut down all listeners before installing Net8. To determine if any listeners are running, enter:

```
$ lsnrctl status [listener_name]
```

The *listener_name* field is required if the listener has a name other than the default, `listener`.

Shut down a running listener with the following command:

```
$ lsnrctl stop listener_name
```

See "Understanding Net8 Configuration" on page 2-17 to determine how to install and configure Net8 on your system.

Oracle Supported Protocols

Before installing any protocol, verify that the underlying network is functioning and configured properly.

TCP/IP

The TCP/IP protocol is installed automatically with all Oracle8*i* Server installations.

Verify that the network is functioning properly by transferring a test file using the `ftp` utility.

```
$ ftp remote_server_name
ftp> put test_filename
ftp> get test_filename
```

Pre-Installation Steps for Oracle Enterprise Manager

If you plan to upgrade or migrate an existing Oracle Enterprise Manager repository to the current version, backup or export the repository so that it can be recovered in the event of a unexpected error.

If you are upgrading an existing system, review and determine the following information prior to installing Oracle Enterprise Manager.

Oracle Enterprise Manager Repository is a set of tables in an Oracle database that store information regarding services managed and monitored by Oracle Enterprise Manager, as well as information about management packs. It is used as a back-end store by Oracle Management Servers, providing distributed control between clients and managed nodes.

Oracle Management Server is the middle tier of Oracle Enterprise Manager. It is responsible for:

- authenticating Enterprise Manager administrators
- processing management functions
- providing a centralized data store of administrative information, including jobs, events, groups, and preferred credentials.

Before you install Oracle Management Server, you need to determine if you will use an existing Enterprise Manager repository or create a new Enterprise Manager repository.

Using an Existing Repository:

If you choose to use an existing Oracle Enterprise Manager Release 2.2 Repository, then no further pre-installation steps are required.

If you choose to use an existing Oracle Enterprise Manager Repository previous to 2.2, review the following information:

Release 2.1, or 2.0: Upgrade the older Repository to the current release by running Enterprise Manager Configuration Assistant Release 2.2. Refer to the *Oracle Enterprise Manager Configuration Guide Release 2.2* for more information about how to perform a Repository upgrade.

IMPORTANT: ALL ENTERPRISE MANAGER PRODUCTS MUST BE OF THE SAME RELEASE. DO NOT UPGRADE THE MANAGEMENT SERVER AND REPOSITORY UNTIL ALL ENTERPRISE MANAGER USERS HAVE UPGRADED THEIR SOFTWARE TO RELEASE 2.2. If you upgrade your Management Server and Repository to Release 2.2 and do not upgrade other Enterprise Manager user's software, they will not be able to use the older versions of Enterprise Manager software with the new release.

Release 1.x: A new 2.2 Enterprise Manager Repository will be installed on systems running Enterprise Manager Release 1.x. No pre-installation steps are required. Post-installation configuration steps are required in order to migrate contents of the Release 1.x Repository to the Release 2.2 Repository. These steps exceed the scope of this guide. For more information on post-installation

configuration steps required to migrate your repository, see the *Oracle Enterprise Manager Configuration Guide*.

Creating a New Repository:

If you decide to create a new Release 2.2 Repository, you must first install and start the database, where your new Repository will be created. The Enterprise Manager Configuration Assistant is automatically launched during the configuration phase of Enterprise Edition Custom Install, Management Infrastructure Management Server Install, and Management Infrastructure Custom Install. For Enterprise Edition Typical Install, you must manually launch the Enterprise Manager Configuration Assistant.

For information on installing and configuring a new Repository, see the *Oracle Enterprise Manager Configuration Guide*.

> **See Also:** For details on upgrading, migrating, or creating a repository, refer to the *Oracle Enterprise Manager Configuration Guide*.

Understanding Product Configuration Installation Window Dialogues

You will be asked to make various choices about product configuration during the installation process. The following sections outline the choices you will be asked to make, and how they affect the configuration of Oracle8*i*. Review these product configuration outlines prior to installation to ensure that you make choices that best match your system and your requirements.

Understanding Net8 Configuration

Net8 Configuration Assistant is a graphical user interface (GUI) tool that enables you to configure your Oracle client/server network environment. Net8 Configuration Assistant is automatically started from within Oracle Universal Installer for all installation types. It can be manually started as a stand-alone tool.

Note: This chapter describes running Net8 Configuration Assistant from within Oracle Universal Installer. See the *Net8 Administrator's Guide* or "Net8 Configuration Assistant" on page 4-15 for information on running Net8 Configuration Assistant in stand-alone mode.

Depending on the installation type selected, Net8 Configuration Assistant configures your network in one of two ways:

- automatically configures your network for standard database connection methods (user input is minimal)
- creates a customized network by prompting for extensive input

Configuration consists of creating and modifying network files located in the `$ORACLE_HOME/network/admin` directory.

Server Network Configuration

The type of network configuration created with the server installation types and the amount of user input required are described below. Review the options below and identify the network configuration that best matches your requirements and network configuration expertise.

If You Select These Installation Types...	Then...
Oracle8*i* Enterprise Edition or Oracle8*i* for: ■ *Typical* ■ *Minimal*	Net8 Configuration Assistant creates a net service name to use when connecting to a database. Net8 Configuration Assistant then automatically creates your Net8 server environment by configuring the following files: ■ `listener.ora` Configures and starts a listener named `listener` with protocol addresses for both the Oracle8*i* database using your operating system's preferred protocol (typically TCP/IP on port 1521) and for external procedures using the IPC protocol. Configures services information for external procedures. ■ `sqlnet.ora` Configures the Net8 Naming Domain (most conveniently set to be the same as the network domain in which your computer is located). This domain is automatically appended to any unqualified net service name given in the connect string. An unqualified net service name does not contain a Net8 Naming domain. If you have not defined a domain for the system in the Global Database Name field during installation, then the system domain setting will default to the null domain. In that case, Net8 will not define a new domain setting for the `NAMES.DIRECTORY_PATH` parameter in `sqlnet.ora`. ■ `tnsnames.ora` Creates a net service name (`EXTPROC_CONNECTION_DATA`) in the `tnsnames.ora` file to use for external procedures. Oracle Database Configuration Assistant configures additional Net8 Server information in the following files after successful creation of the Oracle8*i* database. ■ `listener.ora` Configures static service information for the Oracle8*i* database. ■ At the end of client configuration, Net8 Configuration assistant prompts you for an Oracle database net service name that will be normally the same as your global database name. The tnsnames.ora file is used by clients and distributed database servers to identify potential server destinations. It stores the service names of database addresses. **Note**: You cannot configure access to a lightweight directory access protocol (LDAP) directory service through the *Typical* or *Minimal* installation types. LDAP directory configuration is available through the *Custom* installation type.

If You Select These Installation Types...	Then...
Oracle8*i* Enterprise Edition or Oracle8*i* ■ *Custom* (and then select Net8 Server and Net8 Client)	Net8 Configuration Assistant first prompts you to: ■ Complete directory service access configuration. This includes entering a directory server type and location, and verifying the administrative context from which the server can look up, create, and modify net service names. You are prompted for this information if you have never configured this ORACLE_HOME for directory service access. ■ Create listeners and select network protocols to use for database connections
■	■ Select the naming methods to use when connecting to the database. By default, the Local naming method and localized management network model is configured. Under a localized management network configuration model, network addresses are mapped in the `tnsnames.ora` file on each node. Other naming methods within this model are Host naming, and External naming (using third-party naming services). Under a centralized management network configuration model, the Oracle Names naming method is available. In this configuration, an Oracle Names Server stores client configuration profiles in one location. See the *Net8 Administrator's Guide* for further information on naming methods, and on other issues connected with installation and configuration of naming services. Depending on the naming method you use, Net8 Configuration Assistant then automatically creates your Net8 server environment by configuring the following files:

If You Select These Installation Types...	Then...
	■ `listener.ora` Configures a listener with the name and protocol address that you choose. A protocol address and static service information for external procedures is also configured. ■ `sqlnet.ora` Configures the server's domain as the default domain (the domain in which your computer is located). This domain is automatically appended to any unqualified name. Configures the naming methods the server uses to resolve a name to a connect descriptor. ■ `tnsnames.ora` Creates a net service name entry to use for external procedure connections. ■ `ldap.ora` Configures directory service access by identifying the directory server type. It may also identify the location and the administrative context. Oracle Database Configuration Assistant automatically configures additional Net8 server information in the following file during creation of the Oracle8*i* database: ■ `listener.ora` Configures static service information.

Client Network Configuration

The type of network configurations created with the client installation types and the amount of user input required are described below. Review the selections below prior to starting Oracle Universal Installer. Identify the network configuration that best matches your network requirements and configuration expertise.

***If* You Select These Installation Types...**	***Then...***
Oracle8i Client ■ Administrator ■ Programmer ■ Application User ■ Custom (and then select Net8 Client***)***	Net8 Configuration Assistant first prompts you to select one of the following methods by which to configure access to your Oracle8*i* database: ■ Local Naming Specify a net service name to resolve network addresses. This name is configured and stored in configuration files on each individual client. ■ Directory Naming Specify an Oracle Names Server or third-party naming service to resolve service names and network addresses. This enables client connections to Oracle8*i* databases using information registered with the naming service when the databases were created. Depending on what you select, you are prompted to provide additional information. Net8 Configuration Assistant then automatically creates your Net8 client environment by configuring the following files: ■ `tnsnames.ora` ***Specifies a net service name (if Local naming was selected)*** ■ `ldap.ora` Configures naming service access by identifying the directory server type (if Directory naming was selected). It may also identify the location and the administrative context. ■ `sqlnet.ora` Configures the naming methods a client uses to resolve a name to a connect descriptor. Configures the client's domain as the default domain (the domain in which your computer is located). This domain is automatically appended to any unqualified net service name given in the connect string. An unqualified net service name does not contain a network domain. If you have not defined a domain for the client in the Global Database Name field during installation, then the system domain setting will default to the null domain. In that case, Net8 will not define a new domain setting for the `NAMES.DIRECTORY_PATH` parameter in `sqlnet.ora`. For more information on installation, configuring service names, and client configuration, see the Net8 Administrator's Guide.

Identifying Your Database Environment

Oracle Universal Installer enables you to configure your Oracle8*i* database to maximize its performance under the workload it will be given. To identify which type of database environment is appropriate for your needs, see Table 2–6, "Oracle8i Database Environment Descriptions":

Table 2–6 Oracle8i Database Environment Descriptions

Environment	Description
Online Transaction Processing (OLTP)	Many users perform large numbers of concurrent transactions, where each transaction is a relatively simple operation processing a small amount of data. Billing databases, such as those commonly found on Internet commerce sites, are the most common example of this database type. Transactions consist of reading (SELECT statements), writing (INSERT and UPDATE statements), and deleting (DELETE statements) data in database tables.
Warehousing, or Decision Support System (DSS)	Users perform very complex queries that access and process large volumes of data. These queries (typically read-only) range from a simple query of a few records to numerous complex queries that sort thousands of records from many different tables. Historical databases are the most common example of this database type. Warehousing environments are also known as Decision Support System (DSS) environments.
Multipurpose	Both types of database use are given support with this database environment configuration. Select if average database use will be varied.

Your database environment selection affects the values for the following database settings:

- DB_BLOCK_BUFFERS initialization file parameter
- DB_BLOCK_SIZE initialization file parameter
- PROCESSES initialization file parameter
- SHARED_POOL_SIZE initialization file parameter
- Rollback tablespace information

See Also: Many Oracle documents provide more information about database environments, their effect on performance, and how they may be tuned to maximize performance. Use Oracle Information Navigator to search for information on areas in which you are interested. *Oracle8i Concepts*, *Oracle8i Tuning, and Oracle Parallel Server Setup and Configuration Guide* discuss in detail database environment issues.

Selecting a Database Creation Method

Oracle Database Configuration Assistant is a graphical user interface (GUI) tool that enables you to create an Oracle8*i* database for an OLTP, Warehousing, or Multipurpose environment. Oracle Database Configuration Assistant will be automatically started from within Oracle Universal Installer when you choose to create an Oracle8*i* database during installation. It can also be manually run as a stand-alone tool.

Note: This chapter describes running Oracle Database Configuration Assistant from within Oracle Universal Installer. See "Oracle Database Configuration Assistant" on page 4-16 for information on running Oracle Database Configuration Assistant in stand-alone mode.

Each installation type of Oracle8*i* Enterprise Edition enables you to create an Oracle8*i* database. The types of databases (OLTP, Warehousing, and Multipurpose) created with the Typical, Minimal, and Custom installation types and the amount of user input required are described below. Review these selections and identify the database that best matches your database requirements and your database creation expertise.

If You Perform These Steps...	Then...
1. Select the *Typical* installation type.	Oracle Database Configuration Assistant automatically starts at the end of Oracle8*i* installation and creates a pre-configured, ready-to-use multipurpose starter database with: ■ Default initialization parameters. ■ Automatic installation and configuration of Oracle options and *inter*Media[1]. ■ Advanced replication capabilities. ■ Database configuration of dedicated server mode[2]. ■ Archiving mode of NOARCHIVELOG. No user input is required other than the global database name and SID you are prompted to enter. Database character sets may be reset here. For more information on database character sets, see *Oracle8i National Language Support Guide*

[1] Oracle Database Configuration Assistant configures options that were installed through Oracle Universal Installer.

[2] See Chapter 5 of *Oracle8i Administrator's Guide* for descriptions of dedicated server mode and multi-threaded server mode (also known as shared server mode).

If You Perform These Steps...	Then...
1. Select the *Minimal* installation type. **2.** Select "Yes" when prompted to create a starter database. **Note:** If you select "No", all server products are installed, including the database software, but no database is created during installation. Oracle recommends that you allow the Installer to create a starter database to verify installation, and also to use as a model for understanding Oracle naming conventions, roles, and default users and their privileges. If you choose not to install the starter database, you can create your database later by manually running Oracle Database Configuration Assistant or with a SQL script. See the *Oracle8i System Administrator's Guide* for instructions. **Note:** A database is also installed through the Oracle Internet Directory installation type of Oracle8*i* Management Infrastructure. This database is only used for storing Oracle Internet Directory information.	Oracle Database Configuration Assistant automatically starts at the end of Oracle8*i* installation and creates the same Oracle8*i* database that you receive with *Typical*, with the following exceptions: ■ No installation and configuration of Oracle options and *inter*Media products is available.

If You Perform These Steps...	Then...
1. Select the *Custom* installation type. 2. Select Oracle Server and additional products in the *Available Products* window. 3. Select "Yes" when prompted to create a starter database.	**If You Select the Custom database creation method...** Oracle Database Configuration Assistant guides you in the creation of a database fully customized to match your selected environment (OLTP, Warehousing, or Multipurpose) and database configuration mode (dedicated server or multi-threaded server). Options and *inter*Media components (if installed) and advanced replication (if selected) may be automatically or manually configured. Select this option only if you are experienced with advanced database creation procedures, such as customizing: ■ Data, control, and redo log file settings. ■ Tablespace and extent sizes. ■ Database memory parameters. ■ Archiving modes, formats, and destinations. ■ Trace file destinations. ■ Character set values.

3

Installation

This chapter describes how to start the Oracle Universal Installer and install Oracle8*i* products on your system. Review and complete the tasks listed in Chapter 1, "System Requirements" and Chapter 2, "Pre-Installation" before beginning the installation.

- Oracle Universal Installer
- Non-Interactive (“Silent”) Installation and Configuration

Oracle Universal Installer

Complete these tasks to start Oracle Universal Installer:

- Mount the Oracle8i CD-ROM
- Start Oracle Universal Installer (OUI)

Note: Using the old Oracle Installer (installer shipped with releases 7.*x* and 8.0.x) to install components into a release 8.1 Oracle home directory is *not* supported. Likewise, you cannot install release 8.1.7 components into a release 7.x, 8.0.x, 8.1.3, or 8.1.4 Oracle home.

Mount the Oracle8*i* CD-ROM

The Oracle8*i* CD-ROMs are in ISO 9660 format with Rockridge extensions There are two CD-ROM disks included with Oracle8*i* Release 3 (8.1.7). Use disk one to begin the installation. Mount disk two when prompted to do so.

Note: See the release notes for your platform for details on mounting disks for Oracle8*i* Release 3 (8.1.7).

If you are using Volume Management software (available by default on Linux) the CD-ROM is mounted automatically to `/cdrom/oracle8i` when you put it into the disk drive. Proceed to "Start Oracle Universal Installer (OUI)" on page 3-3.

If you are not using the Volume Management software, you must mount the CD-ROM manually. You must have `root` privileges to mount or unmount the CD-ROM. Be sure to unmount the CD-ROM before removing it from the drive by using the `umount` command

1. Place the Oracle8*i* CD-ROM in the CD-ROM drive.
2. Log in as the `root` user and create a CD-ROM mount point directory:

   ```
   $ su root
   # mkdir cdrom_mount_point_directory
   ```

3. Mount the CD-ROM drive on the mount point directory and exit the `root` account:

   ```
   # mount options device_name cdrom_mount_point_directory
   # exit
   ```

Example 3–1 Mounting the CD-ROM Without Using Volume Management Software

```
$ su root
# mkdir /cdrom
# mount -t iso9660 /dev/cdrom /cdrom
# exit
```

Start Oracle Universal Installer (OUI)

Caution: Do not run the Installer as the `root` user.

To start the Oracle Universal Installer:

1. Log in as the *`oracle`* user.
2. Go to the CD-ROM mount-point directory:

   cd *cdrom_mount_point_directory*

3. Start the Installer by entering `./runInstaller`.

   Note: The Oracle Universal Installer is capable of running a non-interactive installation of Oracle products and can optionally be configured for "silent" mode which does not display anything on the screen. For instructions on using this feature of the Installer, see "Non-Interactive ("Silent") Installation and Configuration" on page 3-36.

   Warning: Oracle Universal Installer automatically installs Oracle's version of the Java Runtime Environment (JRE). This version is required to run Oracle Universal Installer and several Oracle assistants. Do *not* modify the JRE, unless doing so with a patch provided by Oracle Support Services.

   Once the Installer is started, the *Welcome* window appears.

4. Click [Next].

The *File Locations* window appears. Do not change the text in the *Source* field. This is the location of files for installation.

5. Enter the ORACLE_HOME directory path in which to install Oracle8*i* products in the *Destination* field. The default location is the ORACLE_HOME environment variable if you set it prior to starting the Installer.

   If the destination directory you choose contains Oracle8*i* Release 1 (8.1.5) or release 2 (8.1.6) software, the older versions of the software will be upgraded to Release 3 (8.1.7). Oracle Corporation recommends that you install Release 3 (8.1.7) products into a new ORACLE_HOME.

   Caution: If you have an existing ORACLE_HOME created with a pre-8.1.*x* release, you *must* change the default installation location to a different location.

   If you install Oracle8*i* into an ORACLE_HOME directory that already contains Oracle client software, the listener is not created. To create the listener, install Oracle8*i* in a different ORACLE_HOME

6. Click [Next].

   If this is the first time any Oracle8*i* products are installed on the current system, the *UNIX Group Name* window appears. Otherwise, go to Step 8.

   In the *UNIX Group Name* field, specify the group that will have permission to update Oracle software on the system. This group typically should be the `oinstall` group created in "Create a Linux Group for the Oracle Universal Installer Inventory" on page 2-7.

7. Click [Next].

   If `/var/opt/oracle/` does not exist or is not writable by the *`oracle`* user, an Installer window will open and prompt you to run `/tmp/OraInstall/orainstRoot.sh` in another terminal window as the `root` user. After you have done so, click Retry to continue the installation.

Attention: The `orainstRoot.sh` Installer window will open only if pre-installation steps have not been completed. If you choose to run the `orainstRoot.sh` script, the `oraInventory` file and other files Oracle uses will be written in `ORACLE_HOME` in order to ensure that Oracle has write access. This configuration may not be optimal for your system and your needs. Oracle Corporation recommends that you complete the steps described in Chapter 2, "Pre-Installation."

8. The *Available Products* window appears. Select the Oracle8*i* installation category you want to install, click [Next] and proceed to one of the following installation guide sections based on your selection.

If You Selected...	See this Section...
Oracle8*i* Enterprise Edition	"Installing Oracle8i Enterprise Edition" on page 3-5.
Oracle8*i* Client	"Installing Oracle8i Client" on page 3-14.
Oracle8*i* Management and Integration	"Installing Oracle8i Management and Integration" on page 3-18.

See Also: For a list of products installed with each installation type, see the appropriate product section in Appendix A, "Oracle8i Products".

See "Product Installation Categories and Installation Types" on page 1-2 for a description of each category.

Installing Oracle8*i* Enterprise Edition

After selecting Oracle8*i* Enterprise Edition from the *Available Products* window, the *Installation Types* window appears.

1. Select one of the types of installations and click [Next].
2. Proceed to one of the following sections based on the selection you made in step 1.

If You Selected...	See this Section...
Typical	"Oracle8i Enterprise Edition Typical Installation" on page 3-6.
Minimal	"Oracle8i Enterprise Edition Minimal Installation" on page 3-9.
Custom	"Oracle8i Enterprise Edition Custom Installation" on page 3-12.

Oracle8*i* Enterprise Edition Typical Installation

1. If the `oracle` user is not a member of the `dba` group created in "Create Linux Groups for Database Administrators" on page 2-6, or if there is a UNIX group with a name other than `dba` that serves as the OSDBA group, the *Privileged Operating System Groups* window appears. Enter the UNIX group name that will serve as the OSDBA group. If a separate UNIX group will server as the OSOPER group, specify it in this window as well.
2. Click [Next].
3. If Oracle Universal Installer detects an earlier version of an Oracle database on your system, you are prompted to upgrade your database with the Oracle Data Migration Assistant. Select the *Upgrade or Migrate an Existing Database* check box to have Oracle Data Migration Assistant start immediately *after* installation to migrate your database to an Oracle8*i* Release 3 (8.1.7) database.

   If you choose to migrate your database, go to step 8.

   Note: Do not upgrade an Oracle8*i* database configured for use with Oracle Internet Directory through this installation type. Oracle8*i* database and Oracle Internet Directory upgrades must be performed by following the procedures in "Oracle Internet Directory Installation" on page 3 - 21.

4. Click [Next].
5. Enter the Global Database Name and System Identifier (SID) in the fields provided:

In this field...	Enter the...
Global Database Name	Full database name that uniquely distinguishes it from any other database in your network domain. For example: `sales.acme.com` where `sales` is the name you want to call your database and `acme.com` is the network domain in which the database is located.
SID	System Identifier, the database instance name that uniquely distinguishes it from any other database on your system. The SID field defaults to the database name portion of the Global Database Name (`sales` in the example above) until it reaches eight characters in length or you enter a period. You can accept or change the default value.

6. Click [Next].

   The *Database File Location* window appears.

7. In the Directory for Database Files field, enter the path of the database file mount point. You can also use the *Browse...* button to navigate to the path of the mount point.

   Note: Oracle Corporation recommends that database files and Oracle software files be installed on separate disks.

8. Click [Next].

   The *Summary* window appears.

9. Review the information to ensure that you have enough disk space and click [Install].

10. The *Install* window appears. Run the `root.sh` script when prompted.

    The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

If you install Oracle Parallel Server, you must run the `root.sh` script on every node in the cluster.

The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

11. The *Configuration Tools* window appears at the end of installation depending on your selections above.

The configuration assistants help to create and configure your database and network environments.

Table 3–1 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	In all cases	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.
Apache Web Server Configuration Assistant	In all cases	Starts the HTTP Listener in non-SSL mode on port 7777.
Oracle Database Configuration Assistant	If you selected not to upgrade or migrate an existing instance when prompted at step 1	Automatically creates an Oracle8*i* Release 8.1.7 database. See "Identifying Your Database Environment" on page 2-23.
Oracle Database Migration Assistant	If you selected to migrate or upgrade a database when prompted at step 3.	Migrates or upgrades the selected database to Oracle8*i* release 8.1.7.

If a configuration assistant fails to install one of your selections, the *Configuration Tools* window displays the results of running these assistants. Otherwise, the *End of Installation* window appears. Correct the cause of the failure and Click [Retry] to reattempt installation, or click [Next] to continue.

12. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

    See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Oracle8*i* Enterprise Edition Minimal Installation

1. If the `oracle` user is not a member of the dba group created in "Create Linux Groups for Database Administrators" on page 2-6, or if there is a UNIX group with a name other than dba that serves as the OSDBA group, the *Privileged Operating System Groups* window appears. Enter the UNIX group name that will serve as the OSDBA group. If a separate UNIX group will server as the OSOPER group, specify it in this window as well.
2. Click [Next].
3. If Oracle Universal Installer detects an earlier version of an Oracle database on your system, you are prompted to upgrade your database with the Oracle Data Migration Assistant. Select the *Upgrade or Migrate an Existing Database* check box to have Oracle Data Migration Assistant start immediately *after* installation to migrate your database to an Oracle8*i* Release 3 (8.1.7) database.

   If you choose to migrate your database, go to step 9.
4. Click [Next].

   The *Select Starter Database* window appears.
5. Select [Yes] to install an Oracle8*i* database. Selecting [No] installs all server products, but does not create a new database. You can create your database later by manually running Oracle Database Configuration Assistant or running a SQL script.

   The *Database Identification* window appears.
6. Enter the Global Database Name and System Identifier (SID) in the fields provided:

In this field...	Enter the...
Global Database Name	Full database name that uniquely distinguishes it from any other database in your network domain. For example: `sales.acme.com` where `sales` is the name you want to call your database and `acme.com` is the network domain in which the database is located.
SID	System Identifier, the database instance name that uniquely distinguishes it from any other database on your system. The SID field defaults to the database name portion of the Global Database Name (`sales` in the example above) until it reaches eight characters in length or you enter a period. You can accept or change the default value.

7. Click [Next].

   The *Database File Location* window appears.

8. In the Directory for Database Files field, enter the path of the database file mount point. You can also use the *Browse...* button to navigate to the path of the mount point.

9. Click [Next].

   The *Summary* window appears.

10. Review the information to ensure that you have enough disk space and click [Install].

11. The *Install* window appears. Run the `root.sh` script when prompted.

    The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

    If you install Oracle Parallel Server, you must run the `root.sh` script on every node in the cluster.

    The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click

OK in the alert window after `root.sh` runs successfully to continue the installation.

Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

12. The *Configuration Tools* window appears at the end of installation depending on your selections above.

    The configuration assistants help to create and configure your database and network environments.

Table 3–2 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	If you selected any products that require network configuration	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.
Apache Web Server Configuration Assistant	If you selected the Oracle HTTP Server in the product selection screen	Starts the HTTP Listener in non-SSL mode on port 7777.
Oracle Database Configuration Assistant	If you selected: ■ [Yes] when prompted to install an Oracle8*i* database ■ selected not to upgrade or migrate a database in step 1	Automatically creates an Oracle8*i* Release 8.1.7 database. See "Identifying Your Database Environment" on page 2-23.
Oracle Database Migration Assistant	If you selected to migrate or upgrade a database when prompted	Migrates or upgrades the selected database to Oracle8*i* release 8.1.7.

If a configuration assistant fails to install one of your selections, the *Configuration Tools* window displays the results of running these assistants.

Otherwise, the *End of Installation* window appears. Correct the cause of the failure and Click [Retry] to reattempt installation, or click [Next] to continue.

13. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

    See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Oracle8*i* Enterprise Edition Custom Installation

The *Available Products* window appears. It displays all products available for installation. A typical Custom install configuration is displayed by default.

1. Select products you want to install (or deselect products you do not want to install) and click [Next].
2. Provide responses to any window prompts that appear.

   The *Summary* window appears.

   If you do not have enough disk space to install the products you have selected, you will be notified of this by the Installer. If necessary, deselect products in order to select a configuration suitable for your system. If this is not necessary, Click [Install].
3. The *Install* window appears. Run the `root.sh` script when prompted.

   The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

   If you install Oracle Parallel Server, you must run the `root.sh` script on every node in the cluster.

   The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

4. The *Configuration Tools* window may appear at the end of installation, depending on your selections above.

   The configuration assistants help to create and configure your database and network environments.

Table 3–3 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	If you selected any products that require network configuration	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.
Apache Web Server Configuration Assistant	If you selected the Oracle HTTP Server in the product selection screen	Starts the HTTP Listener in non-SSL mode on port 7777.
Oracle Database Configuration Assistant	If you selected: ■ Oracle8*i* Server in the product selection screen AND ■ you chose not to upgrade/migrate when prompted AND ■ you answered [Yes] when prompted to install an Oracle8*i* database	Automatically creates an Oracle8*i* Release 8.1.7 database. See "Identifying Your Database Environment" on page 2-23.
Oracle Database Migration Assistant	If you selected to migrate or upgrade a database when prompted	Migrates or upgrades the selected database to Oracle8*i* release 8.1.7.

Table 3–3 Configuration Assistants

This Assistant...	Starts...	And does the following...
Oracle Enterprise Manager Configuration Assistant	If you selected to install Oracle Management Server in the product selection screen	Allows you to use an existing Release 2.2 repository or configures a new Enterprise Manager repository. See step 4 of Oracle Management Server and refer to the *Oracle Enterprise Manager Configuration Guide* for instructions on how to use the assistant.

Note: If you use Custom installation to install Oracle Advanced Security into an existing ORACLE_HOME that already contains Oracle8*i* Enterprise Edition, you must install Oracle Advanced Security separately from any other product options, such as Oracle Partitioning. Unless you install additional products separately from Oracle Advanced Security, installation will fail

If a configuration assistant fails to install one of your selections, the *Configuration Tools* window displays the results of running these assistants. Otherwise, the *End of Installation* window appears. Correct the cause of the failure and Click [Retry] to reattempt installation, or click [Next] to continue.

5. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

   See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Installing Oracle8*i* Client

Note: For a list of products installed with each installation type, see the appropriate product section in Appendix A, "Oracle8i Products".

After selecting Oracle8*i* Client from the *Available Products* window, the *Installation Types* window appears.

1. Select the Oracle Client installation type you want to install and click [Next].
2. Proceed to one of the following sections based on the selection you made in step 1.

If You Selected...	See this Section...
Administrator, Programmer, or Application User	"Oracle8i Client Administrator, Programmer or Application User Installation" on page 3-15.
Custom	"Oracle8i Client Custom" on page 3-16.

Oracle8*i* Client Administrator, Programmer or Application User Installation

1. After selecting "Client Administrator, Programmer or Application User Installation," click [Next].

   The *Summary* window appears.

2. Review the information to ensure that you have enough disk space. You cannot make any product or space allocation changes once the installation begins
3. Click [Install]. Wait until the selected products are installed.
4. The *Install* window appears. Run the `root.sh` script when prompted.

   The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

   The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

   Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

5. The *Configuration Tools* window may appear at the end of installation, depending on your selections above.

Table 3–4 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	If you selected any products that require network configuration	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.

6. The *End of Installation* window appears.
7. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Oracle8*i* Client Custom

1. After selecting “Client Custom,” click [Next].
2. The *Available Products* window appears and displays all products available for installation.
3. Select products you want to install (or deselect products you do not want to install) and click [Next].
4. Provide responses to any window prompts that appear.

   The *Summary* window appears.
5. Review the information to ensure that you have enough disk space and click [Install].
6. The *Install* window appears. Run the `root.sh` Script when prompted.

The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

7. You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.
8. The *Configuration Tools* window may appear at the end of installation, depending on your selections above.

Table 3–5 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	If you selected any products that require network configuration	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.

9. The *End of Installation* window appears.
10. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Installing Oracle8*i* Management and Integration

Note: For a list of products installed with each installation type, see Appendix A, "Oracle8i Products".

The *Installation Types* window appears if you selected "Installing Oracle8i Management and Integration" on page 3-18. at step 8.

1. Select the installation type you want to install and choose [Next].
2. See the appropriate section based on the selection you made in step 1.

If You Selected...	See This Section...
Oracle Management Server	"Oracle Management Server Installation" on page 3-18
Oracle Internet Directory	"Oracle Internet Directory Installation" on page 3-21
Oracle Integration Server	"Oracle Integration Server Installation" on page 3-25
Custom	"Oracle8i Management and Integration Custom Installation" on page 3-29

Oracle Management Server Installation

The *Oracle Management Server Repository* window appears.

1. Select the repository to use with the Oracle Management Server.

Type	In this Situation...
Existing repository	A Release 2.2 repository has already been created and configured for the environment to be managed and you want this management server to share the existing 2.2 repository, or you want to upgrade or migrate an existing repository from a previous 2.x Release.
New repository	A Release 2.2 repository has not been created and configured for the environment to be managed, or you want to migrate an existing Release 1.x repository.

The *Summary* window appears.

2. Review the information to ensure that you have enough disk space. You cannot make any product or space allocation changes once the installation begins.

3. The *Install* window appears. Run the `root.sh` Script

   The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

   The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

   Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

   You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

4. Click [Install]. Wait until the selected products are installed.

   Oracle Enterprise Manager Configuration Assistant starts at the end of installation.

5. Provide responses to Oracle Enterprise Manager Configuration Assistant (EMCA), based on your selections.

If You Selected...	You are Prompted to...
existing repository	Provide the following repository connection information: ■ database user name and password for the existing repository. ■ database service containing the existing repository, specified with: `hostname:port_number:SID` ■ verify new repository connection information. If the existing repository is Release 1.*x*, you cannot migrate until a Release 2.2 repository exists. Do the following: **1.** Cancel EMCA. **2.** Exit the Installer **3.** Launch EMCA standalone **4.** Create a new Release 2.2 reposotory. **5.** Launch EMCA **6.** choose [new repository] to create a new repository, then exit At this point you may use EMCA to migrate your Release 1.x repository to the new Release 2.2 repository. See the Oracle Enterprise Manager Configuration Guide for details on reposotory migration.
new repository	Enter the following information regarding the database in which to create the new repository: ■ username (with DBA privileges) and password. ■ database service that will contain the new repository, specified with: `hostname:port_number:SID` Additional windows appear to help you create a repository in the selected database. See the *Oracle Enterprise Manager Configuration Guide* for additional information.

Note: The default port number used by most databases is 1521.

6. If you use Enterprise Manager Configuration Assistant, Click [Close] to exit. Otherwise, go to step 7
7. The *End of Installation* window appears.

8. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

   See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Oracle Internet Directory Installation

If an Oracle8*i* database Release 3 (8.1.7) is not currently installed, Oracle Universal Installer automatically installs one in the same ORACLE_HOME directory in which Oracle Internet Directory is installed.

If Oracle Universal Installer detects an existing Oracle8*i* database in this location, it does not install another one. However, for optimal results, Oracle Corporation recommends that you install Oracle Internet Directory on a system that does not currently have an Oracle8*i* database.

If you intend to upgrade an existing installation of Oracle Internet Directory and Oracle8*i* Enterprise Edition, and you initially installed Oracle Internet Directory separately, then you should upgrade each program separately in order to ensure that all components of Oracle Internet Directory are upgraded.

Before upgrading Oracle Internet Directory, stop the following processes:

- Oracle listener server
- Oracle database server
- Oracle Internet Directory Server

Note: If an Oracle8*i* Release 3 (8.1.7) database is currently installed, ensure that the database and the listener are running, and that you can connect with the `internal` user account without being prompted for a password:

```
$ sqlplus internal
```

If you were prompted for a password, see Chapter 1 of the *Oracle8i Administrator's Guide* for information on configuring the `internal` user account to log in without a password.

One of the following windows appears if you selected Oracle Internet Directory at step 1 of "Installing Oracle8i Management and Integration" on page 18

1. Follow the steps below based on the window that appears:

If Oracle8*i* Database...	Then The...	Go To...
Release 8.1.7 is already installed on the computer, but Oracle Internet Directory 2.1 is not installed	*Using an existing instance* window appears, you are prompted for the SID to use, and another *Oracle8i* database is not installed	Step 1 of "Installing Oracle Internet Directory for the First Time" on page 3 - 22
Releases 8.1.5, 8.1.6 and 8.1.7 and Oracle Internet Directory releases 2.0.4, 2.0.6 and 2.1 are *not* installed on the computer	*Database Identification* window appears and Oracle8*i* database release 8.1.7 is automatically installed in the same home with Oracle Internet Directory release 2.1	Step 3 of "Installing Oracle Internet Directory for the First Time" on page 3 - 22
Releases 8.1.5 or 8.1.6 and Oracle Internet Directory Release 2.0.4 or 2.0.6 are already installed on the computer	*Upgrade OID* window appears and prompts you to upgrade to *Oracle8i* database release 8.1.7 and Oracle Internet Directory release 2.1	"Upgrading Oracle Internet Directory" on page 3 - 25

Installing Oracle Internet Directory for the First Time

1. Select [Yes] to use the installed database with Oracle Internet Directory, and click [Next]. Otherwise, select [No] and click [Next] to use a different database with Oracle Internet Directory, and go to step 4.

   The *Oracle SID* window appears.

2. Enter the SID of the installed database.

3. Click [Next]. Go to step 5

   The *Database Identification* window appears.

4. Enter the Global Database Name and SID fields in the fields provided:

In This Field...	Enter The...
Global Database Name	Full database name that uniquely distinguishes it from any other database in your network domain. For example: `sales.us.acme.com` where *sales* is the name you want to call your database, and *us.acme.com* is the network domain in which the database is located.

In This Field...	Enter The...
SID	Database instance name that uniquely distinguishes it from any other database on your computer. The SID automatically defaults to the database name portion of the global database name (*sales* in the example above) until you reach eight charecters or enter a period. You can acccept or change the default value.

The *Oracle Internet Directory Database File Location* window appears.

5. Enter a directory location in which to install the Oracle Internet Directory database files. Oracle Corporation recommends installing database files and Oracle software on separate drives. These database files contain Oracle Internet Directory-specific tables and schema created during configuration.
6. Click [Next].

   The *Summary* window appears.
7. Review the information to ensure that you have enough disk space. You cannot make any product or space allocation changes once the installation begins
8. Click [Install]. Wait until the selected products are installed.

   The following information is automatically set during installation:

The...	Is Automatically Set to...
Use of an Encrypted Password	Yes
Encryption Schema	MD4
Approximate number of directory entries to be stored in Oracle Internet Directory	Under 10,000 entries
Password of the Administrator Distinguished Name	welcome

9. The *Install* window appears. Run the `root.sh` Script when prompted.

   The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

```
# cd $ORACLE_HOME
```

```
# ./root.sh
```

The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

10. The *Configuration Tools* window appears at the end of installation and automatically starts the following assistants to create and configure your network and Oracle Internet Directory environments:

This Assistant...	Starts...	And...
Net8 Configuration Assistant	If not currently installed on this computer	Prompts you to configure your Net8 server networking software. Select Perform typical configuration and accept all default settings by choosing the Next button as each window appears. **See Also**: "Server Network Configuration" on page 2-18 for a description of the configuration procedures performed.
OiD Configuration Assistant	In all cases	Creates Oracle Internet Directory tablespaces and schema in the Oracle8*i* database and starts the Oracle Internet Directory directory server. **Note**: If a database needs to be installed, Oracle Database Configuration Assistant is automatically launched within OiD Configuration Assistant to create a database with the UTF8 character set.

11. The *End of Installation* window appears.

12. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Upgrading Oracle Internet Directory

The *Upgrade OID* window appears if you have a previously-installed version of Oracle Internet Directory on your system.

1. Select [Yes] to upgrade an existing Oracle8*i* database already configured for use with Oracle Internet Directory.
2. Click [Next].

   The *Oracle SID* window appears.
3. Enter the system identifier (SID) of the Oracle8*i* database to be upgraded.

   The *OID Password* window appears.
4. Enter the password for the Oracle Directory Server user (*ODS* by default) and Oracle Internet Directory administrator (*WELCOME* by default).
5. The Configuration Tools window appears and automatically starts the following assistants to upgrade your Oracle8*i* database and Oracle Internet Directory environments:

This Assistant...	Upgrades...
Oracle Data Migration Assistant	Oracle8*i* database release 8.1.5 or 8.1.6 to 8.1.7.
OiD Upgrade Assistant	Oracle Internet Directory release 2.0.4 or 2.0.6 to release 2.1.

Oracle Integration Server Installation

A typical Oracle Integration Server consists of the following features:

- Advanced Queueing
- Advanced Replication
- Advanced Security
- Oracle8*i* JVM (with CORBA / ORB support)
- Oracle Message Broker
- Oracle Workflow
- Oracle8*i* Server

- Partitioning

1. The *Suffix Information* window appears. Enter the Lightweight Directory Access Protocol (LDAP) base naming context and suffix information that Oracle Message Broker uses for directory entries:

Where...	Is...
Directory Suffix	The full directory suffix. If you supply a directory suffix, make sure it includes all the information for the LDAP directory that Oracle Message Broker is using. The directory suffix is appended as part of the initial context that Oracle Message Broker uses when connecting to the LDAP directory. This field is optional.
Country Code	The country code used in the directory base naming context. The value supplied for the country code is used in the initial context, with a "c=" added. This field is optional.
Organization	The organization used in the directory base naming context. The value supplied for the organization is used in the initial context, with a "o=" added. This field is optional.
Organizational Unit Name	The organizational unit used in the directory base naming context. The value supplied for the organizational unit is used in the initial context, with a "ou=" added. This field is optional

Note: The values that you enter depend on the LDAP directory organization. The LDAP directory organization is determined when it is installed.

The *LDAP Information* window appears.

2. Enter the LDAP port and LDAP server that you want to select for the directory server. The LDAP server does not have to be running, or reside on the system where you are installing Oracle Message Broker.

3. If the `oracle` user is not a member of the `dba` group created in "Create Linux Groups for Database Administrators" on page 2-6, or if there is a UNIX group with a name other than `dba` that serves as the OSDBA group, the *Privileged Operating System Groups* window appears. Enter the UNIX group name that will

serve as the OSDBA group. If a separate UNIX group will server as the OSOPER group, specify it in this window as well.

4. Click [Next].

5. If Oracle Universal Installer detects an earlier version of an Oracle database on your system and you elect to install a database, you are prompted to upgrade your database with the Oracle Data Migration Assistant. Select the *Upgrade or Migrate an Existing Database* check box to have Oracle Data Migration Assistant start immediately *after* installation to migrate your database to an Oracle8*i* Release 3 (8.1.7) database. If you choose to migrate your database, go to step 8.

> **Note: Do not upgrade an Oracle8*i* database configured for use with Oracle Internet Directory through this installation type. Oracle8*i* database and Oracle Internet Directory upgrades must be performed by following the procedures in "Oracle Internet Directory Installation" on page 3 - 21.**

6. Click [Next].

   The *Database Identification* window appears if an *Oracle8i* database is not already installed in the specified Oracle home.

7. Enter the Global Database Name and SID in the fields provided:

In This Field...	Enter The...
Global Database Name	Full database name that uniquely distinguishes it from any other database in your network domain. For example: `sales.us.acme.com` where *sales* is the name you want to call your database and *us.acme.com* is the network domain where the database is located.
SID	Database instance name that uniquely distinguishes it from any other database on your computer. The SID automatically defaults to the database name portion of the global database name (*sales* in the example above) until you reach eight characters or enter a period. You can accept or change the default value.

This information is used when Oracle Database Configuration Assistant creates your database after installation.

The *Database File Location* window appears.

8. In the Directory for Database Files field, enter the path of the database file mount point. You can also use the *Browse...* button to navigate to the path of the mount point.

   Note: Oracle Corporation recommends that database files and Oracle software files be installed on separate disks.

   Click [Next].

   The *Summary* window appears.

9. Review the information to ensure that you have enough disk space and click [Install].

10. The *Install* window appears. Run the `root.sh` Script when prompted.

    The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

    The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

    Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

    You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

11. The *Configuration Tools* window appears at the end of installation, depending on your selections above. Depending on your selections above, the following assistants create and configure your database and network environments:

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	In all cases	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.
Oracle Database Configuration Assistant	If you selected *not* to upgrade an existing instance when prompted in step 5	Automatically creates an Oracle8*i* Release 3 (8.1.7) database.
Oracle Database Migration Assistant	If you selected to upgrade or migrate an existing database when prompted in step 5	Migrates or upgrades the selected database to Oracle8*i* Release 3 (8.1.7).
Oracke Workflow Install	If you chose not to upgrade or migrate an existing database in step 5	Installs and configures Oracle Workflow schema in the Oracle8*i* database.

12. The *End of Installation* window appears.
13. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

    See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Oracle8*i* Management and Integration Custom Installation

1. Select products you want to install (or deselect products you do not want to install) and click [Next].
2. Provide responses to any window prompts that appear.

   The *Summary* window appears.

   If you do not have enough disk space to install the products you have selected, you will be notified of this by the Installer. If necessary, deselect products in order to select a configuration suitable for your system. If this is not necessary, Click [Install].
3. The *Install* window appears. Run the `root.sh` script when prompted.

The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

If you install Oracle Parallel Server, you must run the `root.sh` script on every node in the cluster.

The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

4. The *Configuration Tools* window may appear at the end of installation, depending on your selections above.

   The configuration assistants help to create and configure your database and network environments.

Table 3–6 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	If you selected any products that require network configuration	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.
Apache Web Server Configuration Assistant	If you selected the Oracle HTTP Server in the product selection screen	Starts the HTTP Listener in non-SSL mode on port 7777.

Table 3–6 Configuration Assistants

This Assistant...	Starts...	And does the following...
Oracle Database Configuration Assistant	If you selected: ■ Oracle8*i* Server in the product selection screen AND ■ you chose not to upgrade/migrate when prompted AND ■ you answered [Yes] when prompted to install an Oracle8*i* database	Automatically creates an Oracle8*i* Release 8.1.7 database. See "Identifying Your Database Environment" on page 2-23.
Oracle Database Migration Assistant	If you selected to migrate or upgrade a database when prompted	Migrates or upgrades the selected database to Oracle8*i* release 8.1.7.
Oracle Enterprise Manager Configuration Assistant	If you selected to install Oracle Management Server in the product selection screen	Allows you to use an existing Release 2.2 repository or configures a new Enterprise Manager repository. See step 4 of Oracle Management Server and refer to the *Oracle Enterprise Manager Configuration Guide* for instructions on how to use the assistant.

Note: If you use Custom installation to install Oracle Advanced Security into an existing ORACLE_HOME that already contains Oracle8*i* Enterprise Edition, you must install Oracle Advanced Security separately from any other product options, such as Oracle Partitioning. Unless you install additional products separately from Oracle Advanced Security, installation will fail

---

If a configuration assistant fails to install one of your selections, the *Configuration Tools* window displays the results of running these assistants. Otherwise, the *End of Installation* window appears. Correct the cause of the failure and Click [Retry] to reattempt installation, or click [Next] to continue.

5. Provide responses to window prompts that appear. These prompts will vary depending on the components you select to install.

   The *Summary* window appears.

6. Review the information to ensure that you have enough disk space and click [Install].

7. The *Install* window appears. Run the `root.sh` Script when prompted.

   The Installer creates the `root.sh` script in the ORACLE_HOME directory and prompts you to run the script when it finishes installing Oracle products. Log in as the `root` user and run the script to set the necessary file permissions for Oracle products, and perform other `root`-related configuration activities.

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

   The `root.sh` script prompts you to confirm the environment before it performs any actions. If you need to reset the environment, terminate the `root.sh` script. You do not need to run Oracle Universal Installer again. Click OK in the alert window after `root.sh` runs successfully to continue the installation.

   Depending on the products you installed, messages are displayed to inform you of the progress of `root.sh`. You might also be prompted for user names and be given additional instructions.

You will be asked by the `root.sh` script to specify the local `bin` directory. If this directory does not already exist, `root.sh` creates it for you.

8. The *Configuration Tools* window appears at the end of installation and automatically starts the following assistants to create and configure your network and Oracle Internet Directory environments:

Table 3–7 Configuration Assistants

This Assistant...	Starts...	And does the following...
Net8 Configuration Assistant	If you answered "Yes" when prompted to install an Oracle8*i* database	Automatically configures your Net8 server networking software. See "Understanding Net8 Configuration" on page 2-17 for a description of the configuration procedures performed.
Oracle Database Configuration Assistant	If you answered "Yes" when prompted to install an Oracle8*i* database	Automatically creates an Oracle8*i* Release 8.1.7 database. See "Identifying Your Database Environment" on page 2-23.
Oracle Database Migration Assistant	If you selected to migrate or upgrade a database when prompted	Migrates or upgrades the selected database to Oracle8*i* release 8.1.7.
OiD Configuration Assistant	If you selected to install Oracle Internet Directory when selecting components	Creates Oracle Internet Directory tablespaces and schema in the Oracle8*i* database and starts the Oracle Internet Directory directory server. **Note:** If a database needs to be installed, Oracle Database Configuration Assistant is automatically launched within OiD Configuration Assistant to create a database with the UTF8 character set.

Table 3–7 Configuration Assistants

This Assistant...	Starts...	And does the following...
Oracle Workflow Install	If you made all of the following selections: ■ selected to install Oracle Workflow when selecting components at step 1; ■ clicked on [Yes] when prompted to install an Oracle8*i* database; ■ did not elect to install OiD when selecting components at step 1	Installs and configures Oracle Workflow schema in the Oracle8*i* database.

9. The *End of Installation* window appears.
10. Click [Exit] to exit Oracle Universal Installer, or click [Next Install] to install additional products. Selecting [Next Install] returns you to the Oracle Universal Installer "File Locations" Window.

See Also: "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Oracle Parallel Server Installation Notes

Creating Raw Devices

The size of the raw device that you create for the SYSTEM tablespace must be at least 275 MB. This requirement supersedes the corresponding file size requirement listed in the *Oracle8i Parallel Server Setup and Configuration Guide*. For more information on creating raw devices on Linux Intel systems, see the *Oracle8i Administrator's Reference*.

Oracle Parallel Server Installed Software Location

During installation, software products are installed on the node from which the Oracle Universal Installer is run and pushed to the other selected nodes in the cluster.

See Also: The *Oracle 8i Parallel Server Setup and Configuration Guide*, and *Oracle8i Parallel Server Installation, Configuration, and Administration*.

Re-Installing Oracle Parallel Server

If the installation fails before completion and you have to re-install, click [Yes] on all Installer dialog boxes that ask "Do you want to re-install <*name of a product*>?". Otherwise the remote copy operation to the other nodes will ignore the products for which you declined the re-install.

Reviewing a Log of an Installation Session

The Installer creates the `oraInventory` directory the first time it is run to keep an inventory of products that it installs on your system as well as other installation information. This information is particularly useful in diagnosing and resolving installation problems.

The location of `oraInventory` is defined in `/etc/oraInst.loc`.

The latest log file is *`oraInventory_location`*`/logs/installActions.log`. Log file names of previous installation sessions take the form `installActions`*`datetime`*`.log`.

For example:
`installActions1999-07-14_09-00-56-am.log`

Note: Do not delete or manually alter the `oraInventory` directory or its contents. Doing so can prevent the Installer from locating products that you install on your system.

The `make.log` file in `ORACLE_HOME/install` contains a log of every `make` action called for in the installation process. If there are any link errors during installation, they can be found there. Do not delete or alter the `make.log` file.

Cleaning Up After a Failed Installation

If an installation fails, you might need to remove files that the Installer created during the failed installation

To clean up after a failed installation:

1. Start the Oracle Universal Installer.
2. Click the [De-install Products] button and select any products that were left after the failed installation.
3. Click the [Remove] button.

To complete the clean up, you might need to manually remove the ORACLE_HOME directory, as the Installer may have copied files to your system but failed to register them during the unsuccessful installation. This step is not required if deinstallation cleans up `ORACLE_HOME`, and if only insignificant files are left after deinstallation.

Non-Interactive (“Silent”) Installation and Configuration

You can perform a non-interactive (or "silent") installation of Oracle8*i* products by supplying the Oracle Universal Installer with a *response file*. The Installer uses the variables and values contained in this text file to provide answers to some or all of the Installer’s user prompts. If you include responses for all of the Installer’s prompts in the response file, you can run a silent installation that displays no graphical output. You can also run Oracle Data Migration Assistant, Net8 Configuration Assistant, Oracle Database Configuration Assistant, and Oracle Enterprise Manager Configuration Assistant non-interactively by using response files.

Preparing the Response File

There are eleven Oracle Universal Installer response files, one for each install category and type, and four configuration tool response files included on the Oracle8*i* Release 3 (8.1.7) CD-ROM. You will need to edit the response file to suit your environment. In particular, the custom response files need extensive editing before you can use them for a non-interactive session.

To use a response file, copy the response file from the Oracle8*i* CD-ROM to a drive mounted on your system. For example:

```
$ cd cdrom_mount_point_directory/response
$ cp svrtypical.rsp local_directory
```

Edit the response file with any text editor to include information specific to your system. Each file contains instructions for properly configuring the response file. Table 3–8 lists the response files included on the Oracle8*i* CD-ROM.

Table 3–8 Response Files

File Name	Provides Responses for...
`svrtypical.rsp`	Typical installation of Oracle8*i* Enterprise Edition
`svrminimal.rsp`	Minimal installation of Oracle8*i* Enterprise Edition
`svrcustom.rsp`	Custom installation of Oracle8*i* Enterprise Edition
`omioms.rsp`	Oracle Management Server installation of Oracle8*i* Management and Integration
`omioid.rsp`	Oracle Internet Directory installation of Oracle8*i* Management and Integration
`omiois.rsp`	Oracle Integration Server installation type of Oracle Management and Integration
`omicustom.rsp`	Custom installation of Oracle8*i* Management Infrastructure
`clientadmin.rsp`	Administrator installation of Oracle8*i* Client
`clientprogmr.rsp`	Programmer installation of Oracle8*i* Client
`clientappuser.rsp`	Application User installation of Oracle8*i* Client
`clientcustom.rsp`	Custom installation of Oracle8*i* Client
`dbca.rsp`	Oracle Database Configuration Assistant
`net8ca.rsp`	Net8 Configuration Assistant
`emca.rsp`	Oracle Enterprise Manager Configuration Assistant

Specifying a Response File

To make the Installer use the response file at install time, follow the same steps as described in the section "Start Oracle Universal Installer (OUI)" on page 3-3, but specify the location of the response file that you wish to use as a parameter when starting the Installer.

```
$ ./runInstaller [-silent] -responseFile filename
```

To use a configuration assistant in silent mode, outside of an installation session, you need to make it use a response file. You may either have the Installer spawn the silent configuration assistant, or run the configuration assistant in standalone mode. Invoke the configuration assistant at the command line using the same mode and response file parameters.

To perform a completely silent installation or configuration session, use the `-silent` parameter. In silent mode, the DISPLAY environment variable must still be set as described in "DISPLAY" on page 2-10.

To run the Oracle Enterprise Manger Configuration Assistant in non-interactive mode, you must use both the `-silent` and `-responseFile` parameters.

The success or failure of the installation is logged in the `silentInstall.log` file. If an Oracle Inventory exists on your system, then the `silentInstall.log` file is created there. Otherwise, it is created in the *`oraInventory_location`*`/logs/` directory. The detailed results of the non-interactive installation session are found in the *`oraInventory_location`*`/logs/installActions.log` file.

Note: The Installer or configuration assistant will fail if you attempt a non-interactive session without appropriately configuring a response file.

See Also: For more information on silent install and installation using response files, see the *Oracle Universal Installer Concepts Guide*.

First time Installation in Silent Mode

If you will perform the first installation of Oracle products on a system with Oracle Universal Installer running in silent mode, you must manually create the `oraInst.loc` file. this file specifies the directory where the installer creates the inventory of Oracle products installed on the system. Before creating this file, read and complete the tasks detailed in Chapter 1 and Chapter 2.

To create the `oraInst.loc` file:

1. Log in as the `root` user.

   ```
   $ su
   ```

2. If it does not already exist on your system, you must create the `/var/opt/oracle` directory.

   ```
   # mkdir /var/opt/oracle
   ```

3. Change to the `/var/opt/oracle` directory.

   ```
   # cd /var/opt/oracle
   ```

4. Using a text editor, create a file called `oraInst.loc` with the following two lines of content:

   `inventory_loc-`*`inventory_directory.`*
   `inst_group=`

   Set `inventory_loc` to `ORACLE_BASE/oraInventory`. For example, if `ORACLE_BASE` is `/uo1/app/oracle`, then `inventory_directory` should be `/uo1/app/oracle/oraInventory`.

   Include, but do not set, `inst_group=` on the second line.

Running Oracle Enterprise Manager Configuration Assistant (EMCA) in Silent Mode

You man run Enterprise Manager Configuration Assistant in silent mode in one of two ways:

- standalone
- as part of a silent installation session.

In either case, you can only create a new repository; you cannot delete, upgrade or edit a repository using EMCA in silent mode.

The sections below describe how to run EMCA in silent mode under these two conditions.

Running Standalone EMCA in Silent Mode:

1. Complete preinstallation steps as described in Setup Tasks to Perform as the oracle User on page 2-9.
2. Verify that the Oracle Management Server is installed on the node where you intend to run EMCA silently.
3. Copy the response file `emca.rsp` to a local directory. Open it with a text viewer and edit it in accordance to the instructions in the response file.

   Important: Ensure that the repository user's USERNAME variable that you specify in the emca.rsp file is unique across your network.

Note: All response files may be found in the `response/` directory at the root of the Oracle8*i* CD-ROM.

4. Navigate to the `ORACLE_HOME/bin` directory and run `emca.rsp` by entering the following at the command prompt:

   ```
   % emca  -responseFile <path>/emca.rsp -silent
   ```

   Where <path> is the path to where the response file is located. For example,

   ```
   % temp
   ```

Running EMCA in Silent Mode as Part of a Silent Installation Session:

1. Copy the "parent" installation reponse file to a local directory and edit it by following the instructions in that parent response file. Ensure that Oracle Management Server will be installed as part of the parent silent install.

   The Oracle Management Server is only available for installation in the following parent response files:

   ```
   svrtypical.rsp
   svrcustom.rsp
   omioms.rsp
   omicustom.rsp.
   ```

2. Edit the following variables in the `oracle.sysman.oms_2.2.0.0.0` section of the parent reponse file to ensure that EMCA is properly launched in silent mode:

   ```
   emca
   ServerRepository_index
   EMCARspFileLocation
   ```

   Refer to the parent response file for detailed instructions.

3. Copy the response file `emca.rsp` to a local directory. Open it with a text viewer and edit it in accordance to the instructions in the response file.

   Important: Ensure that the repository user’s USERNAME variable that you specify in the emca.rsp file is unique across your network.

4. Navigate to the directory where the Oracle Universal Installer is installed. The parent response file will automatically spawn the EMCA response file when silent installation is complete. Run the parent response file with the following command:

   ```
   % setup.exe -responseFile <path>\<parent response file name> -silent
   ```

The following is an example of the `oracle.sysman.oms_2.2.0.0.0` in a parent response file:

```
#-------------------------------------------------------------
# Name              : emca
# Datatype           : StringList
# Description        : List of Optional Config tools to launch.  Following are
# possible values
# emca.bat           : Enterprise Manager Configuration Assistant
# Example value      : {"emca.bat"}
# Default value      : {"emca.bat"}
#-----------------------------------------------------------

OPTIONAL_CONFIG_TOOLS={"emca.bat"}

#-----------------------------------------------------------
# Name               : EMCARspFileLocation
# Datatype           : String
# Description        : Path to a customized copy of a response file for EMCA
based on # the emca.rsp provided with the release
# Valid values       : Full path to any valied EMCA response file
# Example value      :"/TEMP/EMCA.RSP"
# Default value      : None
# Mandatory          : Yes
#-----------------------------------------------------------

EMCARspFileLocation="/TEMP/EMCA.RSP"

#-----------------------------------------------------------
```

```
# Name                  : ServerRepository_index
# Datatype              : Number
# Description           : Set to "1" to create a new repository
# Valid value           : "1"
# Example  value        : "1"
# Default value         : "1"
# Mandatory             : Yes
#-------------------------------------------------------------

ServerRepository_index=1
```

Error Handling

Values for variables that are of the wrong context, format, or type are treated as if no value were specified. Variables which are outside any section are ignored.

A non-interactive installation fails if no response file is specified or if you attempt a silent installation with an incorrect or incomplete response file. If you attempt a silent installation and the Installer encounters an error, such as insufficient disk space, the installation fails. The results of your non-interactive installation is recorded in the installation session’s log file.

> **See Also:** "Reviewing a Log of an Installation Session" to view a log file summary of your installation session.

Validation of Values from Response File

The Installer or configuration assistant performs calculation and validation of the response file at run time. Failure of the validation process ends the installation or configuration.

Silent Installation and Net8 Configuration Assistant

If you perform a Minimal installation type of Oracle8*i* Enterprise Edition in silent mode, Net8 Configuration Assistant will fail to configure your system at the end of the installation. After the installation, complete Net8 configuration with the Net8 Configuration Assistant by executing `netca` from the ORACLE_HOME.

Note: You can start the Net8 Configuration Assistant after installation by entering the netca command. For more detailed configuration of Net8, use the Net8 Assistant by entering the `netasst` command. See the ***Net8 Administrator’s Guide*** for more information on configuring Net8.

4

Post-Installation

After completing the Oracle Universal Installer session, you must perform certain post-installation steps and configure Oracle8*i*. This chapter describes the required steps, as well as some optional ones.

- User Passwords
- Configuration Tasks to Perform as the root User
- Configuration Tasks to Perform as the oracle User
- Post-Installation for Oracle Products
- Reviewing Installed Starter Database Contents
- De-installing Oracle Software

Note: This chapter describes *basic configuration only*. The more sophisticated configuration and tuning typically required for production systems is described in the *Oracle8i Administrator's Reference Linux Intel* and in product administration and tuning guides.

User Passwords

Oracle Corporation recommends that you change the password for user names *immediately* after installation.

To change a password:

1. Start SQL*Plus:

   ```
   $ sqlplus
   ```

2. Connect with the user name and password that you want to change:

   ```
   Enter user-name: username/password
   ```

3. Change the password:

   ```
   SQL> ALTER USER USERNAME IDENTIFIED BY PASSWORD;
   ```

   See Also: *Oracle Enterprise Manager Administrator's Guide* for information on using Oracle Security Manager or Oracle DBA Studio to change the password

Configuration Tasks to Perform as the root User

Log in as the `root` user and perform the following tasks:

- ❑ Create Additional UNIX Accounts
- ❑ Verify Database File Security
- ❑ Automate Database Startup and Shutdown (Optional)
- ❑ Change Group Membership of the Apache Account

Create Additional UNIX Accounts

If necessary, create additional UNIX accounts with a system administration utility such as `admintool` or `useradd`. Each DBA user on the system must be a member of the OSDBA group.

Verify Database File Security

If you configure Oracle8*i* in a way similar to a United States NCSC C2 or European ITSEC E3 security evaluation configuration, verify database file security to ensure the integrity of the Oracle software installation. This task is optional if security is not an issue.

Many files must be protected to prevent unauthorized access to secure data. The file privileges and recommended ownership are as follows:

- The *oracle* account should have read, write, and execute privileges for all files and directories in an Oracle installation.
- The `oinstall` group should have read, write, and execute privileges on the `oraInventory` directory, but should not have write permissions on anything else.
- No user outside the *oracle* account or the `oinstall` group should have write access on any files or directories in an Oracle installation.
- In order to be installed properly, the Apache server is granted `oinstall` group privilege as a pre-installation step. This privilege should be removed. See Change Group Membership of the Apache Account.

Table 4–1, "Access Permissions on Oracle Directories and Files", summarizes the directory and file permissions for different types of files.

Note: These permissions are the default values and should not be changed.

Table 4–1 Access Permissions on Oracle Directories and Files

Directories/Files	Permissions	Comments
All database, redo log, and control files (extensions for these files are typically `.dbf`, `.log`, and `.ctl`)	640 `rw-r----`	To maintain discretionary access to data, all databases, redo logs, and control files must be readable only by the *oracle* account and `oinstall` group.
`$ORACLE_HOME/bin/`	751 `rwxr-x--x`	Must be writable by the *oracle* software owner, and executable by all users.
The `oracle` executable, and the following network executables: `$ORACLE_HOME/bin/oracle` and `$ORACLE_HOME/bin/dbsnmp`	6751 `rws-r-s--x`	The 6 sets the setuid bit and the setgid bit so the executables run as the *oracle* user and DBA group, regardless of who executes them.
All other executables.	751 `rwxr-x--x`	Must be writable by the *oracle* account and executable by all users.

Table 4–1 Access Permissions on Oracle Directories and Files

Directories/Files	Permissions	Comments
`$ORACLE_HOME/lib/`	755 `rwxr-xr-x`	The directory is readable, writable, and executable by the owner, readable and executable by all other users.
All files under `$ORACLE_HOME/lib/`	644 `rw-r--r--`	The files are readable and writable by the owner, read-only for all other users.
`$ORACLE_HOME/rdbms/log`	751 `rwxr-x--x`	Restricts access to files in the directory to the *`oracle`* account and `oinstall` group.
Product subdirectories such as `$ORACLE_HOME/sqlplus` or `$ORACLE_HOME/rdbms`	751 `rwxr-x--x`	Restricts access to log files to the *`oracle`* account and `oinstall` group.
Files in `$ORACLE_HOME/sqlplus` or `$ORACLE_HOME/rdbms`	644 `rw-r--r--`	The files are readable and writable by the owner, read-only for all other users.

`$ORACLE_HOME/network/trace`	777
	`rwxrwxrwx`
	or
	730
	`rwx-wx---`
		777 allows broad access to view and create trace files during development. Use 730 in a production environment to ensure that only the *`oracle`* account and members of the `oinstall` group have access to trace files.

All files under product `admin` directories, like `$ORACLE_HOME/rdbms\/admin` and `$ORACLE_HOME/sqlplus/\admin`	644 `-rw-r--r--`	SQL scripts should typically be run as the SYS user.

Automate Database Startup and Shutdown (Optional)

You can configure your system to automatically start Oracle databases when your system starts up and to shut down Oracle databases when your system shuts down. Automating database startup is optional, but automatic shutdown is recommended because it guards against improper shutdown of the database.

The `dbstart` and `dbshut` scripts are located in the `$ORACLE_HOME/bin` directory and can be used to automate database startup and shutdown.

The `dbstart` and `dbshut` scripts reference the same entries in the `oratab` file, so the scripts must apply to the same set of databases. For example, you cannot have `dbstart` automatically start up databases `sid1`, `sid2`, and `sid3`, and `dbshut` shut down only databases `sid1` and `sid2`. You can, however, specify that `dbshut` shut down a set of databases while `dbstart` is not used at all. To do this, include the `dbshut` entry in the shutdown file but omit the `dbstart` entry from the system startup files.

> **See Also:** For a description of system startup and shutdown procedures, check the `init` command in your Linux Intel documentation.

This process must be completed for every new database that you want to configure for automated startup and shutdown. Perform the following tasks to set up the `dbstart` and `dbshut` scripts so that they are called at system startup:

1. Edit the `etc/oratab` file.

   Database entries in the `oratab` file appear in the following format:

   ORACLE_SID:*ORACLE_HOME*:{Y|N}

   where Y or N specifies whether you want the `dbstart` and `dbshut` scripts to start up and shut down the database. Find the entries for all the databases that you want to start up. They are identified by the *sid* in the first field. Change the last field for each to Y.

2. Create a file named `dbora` in the `/etc/init.d` directory (if it does not already exist).

3. Create entries similar to the following at the end of the `dbora` file (if they do not already exist). Be sure to give the full path of the `dbstart` utility.

```
#!/bin/sh
# Set ORA_HOME to be equivalent to the ORACLE_HOME
# from which you wish to execute dbstart and
# dbshut
# set ORA_OWNER to the user id of the owner of the
# Oracle database in ORA_HOME
ORA_HOME=/u01/app/oracle/product/8.1.7
ORA_OWNER=oracle
if [! -f $ORA_HOME/bin/dbstart]
then
echo "Oracle startup: cannot start"
```

```
exit
fi
case "$1" in
'start')

# Start the Oracle databases:
# The following command assumes that the oracle login will not prompt the
# user for any values

su - $ORA_OWNER -c $ORA_HOME/bin/dbstart &
;;
'stop')

# Stop the Oracle databases:
# The following command assumes that the oracle login will not prompt the
# user for any values

su - $ORA_OWNER -c $ORA_HOME/bin/dbshut &
;;
esac
```

4. Link `dbora` by entering:

```
# ln -s /etc/init.d/dbora /etc/rc0.d/K10dbora
# ln -s /etc/init.d/dbora /etc/rc2.d/S99dbora
```

Change Group Membership of the Apache Account

After installing Oracle8*i*, the Apache account access to oraInventory needs to be removed in order to protect database security. Perform the following tasks:

1. Create a new group to which no other group or user has access.
2. Assign ownership of this group to Apache.
3. Change the Apache account primary GID group from the one that has ownership of `oraInventory` (typically `oinstall`) to the new group name.

Configuration Tasks to Perform as the *oracle* User

Perform the following tasks as the *`oracle`* user.

- ❑ Update UNIX Account Startup Files
- ❑ Configuration Environment Variables

- ❑ Apply Any Required Oracle Patches
- ❑ Set Initialization Parameters

Update UNIX Account Startup Files

Update the startup files of the *oracle* account and the UNIX accounts of Oracle users.

Configuration Environment Variables

Set the following environment variables in the `.profile` or `.login` file of the *oracle* account before using Oracle8*i* products. Table 4–2, "Environment Variable Settings" shows the recommended settings. The settings that you use here should correspond to the settings you used during installation as described in "Set Environment Variables" on page 2-9. The syntax for setting environment variables is as follows.

For the Bourne or Korn shell:

variable_name=*value*; export *variable_name*

For the C shell:

setenv *variable_name value*

Note: You should not define environment variables with names that are identical to those used for Oracle processes, for example: `CKPT`, `PMON`, and `DBWR`.

Table 4–2 Environment Variable Settings

Environment Variable	Recommended Setting
LD_LIBRARY_PATH	Set it to include `$ORACLE_HOME/lib`.
ORACLE_BASE	*software_mount_point*/app/oracle
ORACLE_HOME	$ORACLE_BASE/product/8.1.7

Table 4–2 Environment Variable Settings

Environment Variable	Recommended Setting
ORACLE_SID	If you do not remember the value you entered when you were prompted by the Oracle Universal Installer, you can find it listed in the Installer log file located in *oraInventory_location*/logs/installActions.log The *oraInventory_location* is defined in /etc/oraInst.loc
PATH	Make sure the new $ORACLE_HOME/bin directory is included in the PATH setting. See Chapter 2, "Pre-Installation" for other PATH requirements.
CLASSPATH	CLASSPATH must include the following: *JRE_Location/lib,* $ORACLE_HOME/JRE/lib/rt.jar: $ORACLE_HOME/jlib/*<product jar file>*:$ORACLE_HOME/*product*/jlib/*<product jar file>* **Note:** *JRE_Location* is defined as $ORACLE_HOME/JRE
TNS_ADMIN	Set it to the location of the Net8 configuration files. This variable only needs to be set if Net8 configuration files are not located in one of the default locations.
TWO_TASK	Set TWO_TASK to the Net8 connect string alias defined in tnsnames.ora which client software will use by default to connect to a server.

LD_LIBRARY_PATH

Required when using Oracle

ducts that use shared libraries. Set LD_LIBRARY_PATH to include $ORACLE_HOME/lib.

ORACLE_BASE

Specifies the directory at the top of the Oracle software and administrative file structure. The OFA-recommended value is:

software_mount_point/app/oracle.

For example:

/u01/app/oracle

ORACLE_HOME

Specifies the directory containing the Oracle software for a given release. The Optimal Flexible Architecture recommended value is:

`$ORACLE_BASE/product/`*`release`*.

For example:

`/u01/app/oracle/product/8.1.7`.

ORACLE_SID

Specifies the Oracle System Identifier (SID) which is the name of the Oracle Server instance. Because the *sid* is incorporated into many file names, Oracle Corporation recommends restricting it to no more than four characters to avoid filename problems on different operating systems.

PATH

After installation of Oracle software, the search path should include all of the following:

- `$ORACLE_HOME/bin`, `/bin`, `/usr/bin`
- the local `bin` directory specified when the `root.sh` script was run, usually `/usr/local/bin`

> **Note:** If you require `/usr/ucb` in your search path, make sure it comes after `/usr/ccs/bin` in the search order.

CLASSPATH

The CLASSPATH variable is used for Java functionality. CLASSPATH is different for various products. Refer to your product documentation for more information. In addition to any pre-existing settings, CLASSPATH must include the following JRE location(s):

`$ORACLE_HOME/JRE/lib:$ORACLE_HOME/jlib:$ORACLE_HOME/`*`product`*`/jlib`

The variable *product* indicates any product directory in the ORACLE_HOME, such as `rdbms` or `network`, where a JRE or file required for Java functionality are located.

TNS_ADMIN

To place the Net8 configuration files in a location other than the default locations (`/var/opt/oracle` or `$ORACLE_HOME/network/admin`), set the

TNS_ADMIN environment variable to the directory where Net8 configuration files are located. For example, if `tnsnames.ora` resides in the `/tns` directory, set TNS_ADMIN to `/tns`.

Oracle products will look for the `tnsnames.ora` file in the following order:

1. `.tnsnames.ora` file in the current user's home directory (Note the dot before the file name).
2. `$TNS_ADMIN/tnsnames.ora`
3. `/etc/`
4. `$ORACLE_HOME/network/admin/`

Check that a `tnsnames.ora` file exists in one of these locations; otherwise, you may be unable to connect to a database through Net8 using local naming.

TWO_TASK

If you have a Client/Server configuration, you can set TWO_TASK to the net service name of the database where client software will connect by default. When TWO_TASK is set, you do not have to specify the net service name of the database to connect to it with Oracle client software. See the *Net8 Administrator's Guide* and the *Oracle8i Administrator's Reference Linux Intel* for more information about net service names.

Initialize the oraenv Script

You have the option of using the `oraenv` script to set a common environment for oracle users. Follow the instructions below for a single-instance or multiple-instance configuration for the `oraenv` script.

Note: The C shell uses the `coraenv` command instead of the `oraenv` command.

Single-Instance Machine

On a single-instance machine, set the environment variable ORACLE_SID in the `.profile` or `.login` file of the *`oracle`* account followed by these commands to initialize the `oraenv` file at login.

For the Bourne or Korn shell:

```
ORAENV_ASK=NO
```

```
. /usr/local/bin/oraenv
```

For the C shell:

```
set ORAENV_ASK = NO
source /usr/local/bin/coraenv
unset ORAENV_ASK
```

Multiple-Instance Machine

On a multiple-instance machine, include a list of instance names and the commands necessary to initialize the `oraenv` file at the end of the startup file of the *`oracle`* account.

For the Bourne or Korn shell:

```
#!/usr/bin/sh
echo "The SIDs on this machine are:"
cat /etc/oratab | awk -F: '{print $1}' | grep -v "#"
ORAENV_ASK="YES"
. /usr/local/bin/oraenv
```

For the C shell:

```
#!/usr/bin/csh
echo "The SIDs on this machine are:"
cat /etc/oratab | awk -F: '{print $1}' | grep -v "#"
set ORAENV_ASK="YES"
source /usr/local/bin/coraenv
```

Update Other Oracle User Startup Files

To create the same environment for all *`oracle`* accounts, update each user startup file to include the following line at the end of the startup file:

- for `.profile` files used by the Bourne or Korn shells:

  ```
  . /usr/local/bin/oraenv
  ```

  for `.login` files used by the C shell:

  ```
  source /usr/local/bin/coraenv
  ```

- Settings for the ORACLE_BASE, ORACLE_HOME, and PATH environment variables as described in "Configuration Environment Variables" on page 4-7.

Update the oratab File

If you have created a database manually instead of using Oracle Database Configuration Assistant, you must ensure the system configuration is reflected in the `/var/opt/oracle/oratab` file.

Is the above file-name correct?

Add an entry for each Server instance on the system in the following format:

ORACLE_SID:*ORACLE_HOME*:{Y|N}

where Y or N indicates whether you want to activate the `dbstart` and `dbshut` scripts. Oracle Database Configuration Assistant automatically adds an entry for each database it creates.

Apply Any Required Oracle Patches

The Oracle8*i* release, which this manual accompanies, includes patches that must be applied to Oracle8*i* or other products. Patches can be found on the Oracle8*i* Release 3 (8.1.7) CD-ROM in the *cd_rom_mount_point*/patch directory. Review the README file included with each patch for installation instructions.

Set Initialization Parameters

You can change initialization parameters to configure and tune your system for optimal performance. The default `init`*sid*`.ora` file shipped with the distribution is located in the `$ORACLE_BASE/admin/`*sid*`/pfile` directory. A template `init.ora` file is also in `$ORACLE_HOME/dbs`. The file contains settings for small, medium, and large databases, with the settings for medium and large databases commented out. The size settings are relative to each other, but do not represent an empirical size of the database.

Modify init*sid*.ora Parameters

When you create a typical startup database using Oracle Database Configuration Assistant, your `init`*sid*`.ora` parameters are automatically set. You can manually modify the initialization parameters in the `init`*sid*`.ora` with a UNIX text editor. Activate the modified `init`*sid*`.ora` file by shutting down and restarting the database.

Do not use symbolic character representations such as question marks (?) for ORACLE_HOME in parameter files, as they may lead to startup errors.

To bring rollback segments online automatically with database startup, you must uncomment the `rollback_segments` in the `init`*sid*`.ora` file.

For example, change:

```
#rollback_segments = (r0, r1, r2, r3)
```

to:

```
rollback_segments = (r0, r1, r2, r3)
```

> **See Also:** *Oracle8i Administer's Reference for Linux Intel* for information on `init`*`sid.ora`* parameters, and for further information on tuning and configuring initialization parameters.

Post-Installation for Oracle Products

Perform the product-specific steps as necessary for your installation. Not all products require post-installation setup.

To review online documentation before you configure your Oracle products, see "De-installing Oracle Software" on page 4-29. It is not necessary to read product documentation before completing the configuration tasks in this manual, but more sophisticated tuning requires information in the product documentation.

The following products have post-installation steps:

- Multi-Threaded Server
- Net8
- Oracle Configuration Assistants
- Oracle Enterprise Manager
- Oracle Internet Directory
- Oracle Options
- Oracle Precompilers
- Oracle Supported Protocols
- Recovery Manager

Multi-Threaded Server

Oracle servers configured with Multi-Threaded Server require a higher setting for the initialization parameter SHARED_POOL_SIZE or a custom configuration that uses LARGE_POOL_SIZE. If you installed your server with Oracle Universal Installer, the value of SHARED_POOL_SIZE is set for you automatically by Oracle Database Configuration Assistant. However, if you created a database manually

you should raise SHARED_POOL_SIZE in the `initsid.ora` file. Typically, you should add 1 KB for each anticipated concurrent user.

> **See Also:** *Oracle8i Designing and Tuning for Performance* for further information on configuring Multi-Threaded Server.

Net8

Basic configuration of Net8 is done by Net8 Configuration Assistant when it is invoked by Oracle Universal Installer during installation of Net8. For an explanation of how Net8 Configuration Assistant configures your installation, see "Understanding Net8 Configuration" on page 2-17. For information on running Net8 Configuration Assistant as a stand-alone tool, see "Net8 Configuration Assistant" on page 4-15.

Verify and complete your initial configuration with the following steps:

1. Log in as `root` and reserve a port for the Net8 listener by making the following entry in the `/etc/services` file:

   ```
   listener_name 1521/tcp              #Net8 listener
   ```

   > **Note:** 1521 is the default port. If you chose a different port when you configured the Net8 listener, specify that port in the `/etc/services` file.

2. Check the status of the listener following installation by using the command:

   ```
   $ lsnrctl status [listener_name]
   ```

   The *`listener_name`* field is required if the listener has a name other than the default, `listener`.

   If the listener is not running, start it with the following command:

   ```
   $ lsnrctl start listener_name
   ```

3. Install and configure Oracle client software on a remote system, if necessary, then start SQL*Plus to test the connection to the server.

   ```
   $ sqlplus username/password@net_service_name
   ```

If you can successfully connect to the server with SQL*Plus, you have established network connectivity over TCP/IP.

See Also: Configuring a complete Oracle network is beyond the scope of this manual and is covered in detail in the *Net8 Administrator's Guide*.

Oracle Configuration Assistants

The following Oracle configuration assistants are described in this section:

- Net8 Configuration Assistant
- Oracle Data Migration Assistant
- Oracle Database Configuration Assistant
- Oracle Enterprise Manager Configuration Assistant

These configuration assistants are usually run during an installation session, but can also be run in a stand-alone mode. Like Oracle Universal Installer, each of these assistants can also be run non-interactively using a response file. See "Non-Interactive ("Silent") Installation and Configuration" on page 3-36 for information on using response files with the product assistants.

Net8 Configuration Assistant

When the Net8 Server or Net8 Client is installed, the Net8 Configuration Assistant is automatically launched by Oracle Universal Installer.

If you create a database using the Oracle Database Configuration Assistant during or after installation, it will automatically update the Net8 configuration with any configuration information necessary for the new database. Oracle Database Configuration Assistant either registers the database in a supported directory service so that clients can use the directory to connect to the database, or it will create an entry in the local naming file (`tnsnames.ora`) that can then be distributed to client machines to connect to the database.

If you choose to do a separate Oracle8*i* Client installation, the Net8 Configuration Assistant will automatically create a profile that is consistent with any selections you made during the installation. The Installer will automatically run the Net8 Configuration Assistant to set up a net service name in the Local Naming file found in the `$ORACLE_HOME/network/admin` directory of the client installation.

After installation is complete, more detailed configuration can be accomplished using the Net8 Configuration Assistant with the following command:

```
$ netasst
```

> **See Also:** See "Understanding Net8 Configuration" on page 2-17 for a description of how Net8 Configuration Assistant configures your installation.
>
> For information on the use and configuration of Net8, see the *Net8 Administrator's Guide*.

Oracle Data Migration Assistant

If you have installed Oracle8*i* to use with an existing database from a prior software release, and you did not choose to upgrade the database during the installation, you need to upgrade or migrate the database before mounting it.

> **See Also:** The process of migrating a database exceeds the scope of this manual. See *Oracle8i Migration* for detailed instructions and information.

Oracle Database Configuration Assistant

Oracle Database Configuration Assistant can create a default or customized database or it can be used to configure an existing database to use Oracle options. The assistant can create the database or present a collection of shell and SQL scripts which you can inspect, modify, and run at a later time. See "Identifying Your Database Environment" on page 2-23 for information on the types of databases that you can install using Oracle Database Configuration Assistant.

Start Oracle Database Configuration Assistant with the following command:

```
$ dbassist
```

For help with the Oracle Database Configuration Assistant, use the `-help` or `-h` command line parameters with `dbassist`.

```
$ dbassist -help
```

Oracle Corporation recommends running the `UTLRP.SQL` script after creating, upgrading, or migrating a database. This script recompiles all PL/SQL modules that may be in an `INVALID` state, including packages, procedures, types, and so on. This step is optional, but recommended so that the cost of recompilation is incurred during the installation rather than in the future.

Note: There should be no other data definition language (DDL) statements running on the database while it is running, and packages STANDARD and DBMS_STANDARD must already be valid.

1. Start SQL*Plus:

   ```
   $ SQLPLUS
   ```

2. Connect to the database with the SYS account:

   ```
   SQL> CONNECT SYS/PASSWORD AS SYSDBA
   ```

   where PASSWORD is CHANGE_ON_INSTALL by default, unless it was changed after installation.

3. Start the database (if necessary):

   ```
   SQL> STARTUP
   ```

   Run the UTLRP.SQL script:

   ```
   SQL> @ORACLE_BASE\ORACLE_HOME\RDBMS\ADMIN\UTLRP.SQL
   ```

Oracle Enterprise Manager Configuration Assistant

Oracle Enterprise Manager Configuration Assistant is a tool that enables you to create, configure, drop, or upgrade the Oracle Enterprise Manager repository.

See Also: For detailed information about the Oracle Enterprise Manager Configuration Assistant, see the *Oracle Enterprise Manager Configuration Guide.*

Oracle Enterprise Manager

If you installed Oracle Enterprise Manager Server through the Oracle8*i* Management Infrastructure, Custom installation, or Custom Management Infrastructure types, Oracle Enterprise Manager Configuration Assistant will automatically start at the end of the installation to guide you through repository configuration. If you installed Oracle Enterprise Manager through any other installation type, Oracle Enterprise Manager Configuration Assistant will not start automatically at the end of the installation.

Manually start Oracle Enterprise Manager Configuration Assistant after installation if a repository needs to be created configured, upgraded, or dropped.For

information on running Oracle Enterprise Manager Configuration Assistant as a stand-alone tool, see "Oracle Enterprise Manager Configuration Assistant" on page 4-17.

> **See Also:** There are further post-installation steps for Oracle Enterprise Manager that exceed the scope of this manual and are discussed in detail in the *Oracle Enterprise Manager Configuration Guide*.

Oracle Internet Directory

Carry out the following task after installation:

1. Run `cryptupgrd.sh` immediately after installation. The script can be found in `$ORACLE_HOME/ldap/bin`.

   > **See Also:** For more information, see the Oracle Internet Directory Administrator's Reference.

Oracle Options

Configuring the Database for Oracle Options

If you install additional Oracle Options after the initial installation, use Oracle Database Configuration Assistant to configure your database for the options you install.

1. Start up the Oracle Database Configuration Assistant by executing `dbassist`, which is located at:

   ```
   $ORACLE_HOME/bin/dbassist
   ```

2. Select [Modify Database].
3. Select the appropriate database SID from the list of those detected by the Oracle Database Configuration Assistant. The database that you want to modify must already be running.
4. Choose the options you wish to enable from the list and click the [Finish] button.

Execute privileges will be granted to PUBLIC for all of the options and packages.

Oracle *inter*Media

If you intend to install Oracle *inter*Media Text after your initial installation, ensure you have at least 10 MB of disk space for the data dictionary.

For *inter*Media Text, include `$ORACLE_HOME/ctx/lib` in the LD_LIBRARY_PATH environment variable.

Your database must include tablespaces specific to *inter*Media Text data. Verify that tablespaces exist to serve as default and temporary tablespaces for Oracle *inter*Media Text. Oracle *inter*Media Text uses the DRSYS tablespace for its default and temporary tablespaces. If tablespaces for Oracle *inter*Media Text do not exist or you do not want to use the DRSYS tablespace, create additional tablespaces before proceeding.

Note: There is no upgrade from previous releases of ConText Cartridge to Oracle *inter*Media Text 8.1. However, there is a migration that can be performed manually. See the *Oracle8i ConText to interMedia Text Migration* guide for documentation of this process.

See Also: *Oracle8i SQL Reference* for information on creating tablespaces.

Oracle Precompilers

Note: You cannot use Oracle Precompilers independently of Oracle8*i* to convert embedded PL/SQL.

Precompiler Configuration File Location

All precompiler configuration files are located in the following location:

```
$ORACLE_HOME/precomp/admin
```

Pro*C/C++

The configuration file `pcscfg.cfg` must be customized for your environment before using Pro*C/C++. This file is installed without content and may be configured with any text editor according to your site-specific requirements.

See Also: The *Programmer's Guide to the Pro*C/C++ Precompiler* for information on configuring the `pcscfg.cfg` file.

Oracle Supported Protocols

Perform the following steps after installing any protocol:

Note: This procedure fails if the TNS_ADMIN environment variable is not set or if `listener.ora` is not in one of the default locations (`/etc/` or `$ORACLE_HOME/network/admin`).

---

1. Verify that you have created and installed the necessary configuration files for the network.
2. To start the listener automatically when the machine is rebooted, log in as the `root` user and add a line similar to the following in the `/etc/init.d/dbora` system startup file:

   ```
   su - oracle -c "lsnrctl start"
   ```

3. If you have a client/server configuration, set the TWO_TASK environment variable on the client machines to the service name for the server (available from the `tnsnames.ora` file). See "Configuration Environment Variables" on page 4-7 for information on setting environment variables.
4. Start the listener on the server:

   ```
   $ lsnrctl start
   ```

5. Check the listener process:

   ```
   $ lsnrctl status
   ```

6. As the *oracle* user, start SQL*Plus, to test the connection:

   ```
   $ sqlplus username/password@service_name
   ```

Recovery Manager

Recovery Manager is an automated recovery utility that is installed as part of Oracle8*i*. It stores information in a recovery catalog in a separate Oracle8*i* database. This second Oracle8*i* database should be installed on a separate machine to provide maximum fault resistance.

> **Note:** If the installation and maintenance of a second Oracle8*i* database is impractical, Recovery Manager can also be used in a restricted mode without a recovery catalog.

To create a recovery catalog, perform the following steps:

1. Install Oracle8*i* on a separate machine from any other Oracle8*i* system and create a database for the recovery catalog.

   If you do not to write a custom script to create the database, create a typical, preconfigured database with Oracle Database Configuration Assistant. The default database is adequate for the recovery catalog.

2. Create a user in the recovery catalog database to be the `RECOVERY_CATALOG_OWNER`.

3. As the `RECOVERY_CATALOG_OWNER`, run the `createCatalog` command at the Oracle Recovery Manager prompt.

   > **See Also:** For more detail on Recovery Manager, see the *Oracle8i Backup and Recovery Guide.*

Secure Socket Layer

Once the Secure Socket Layer is installed, you must run Net8 Configuration Assistant to properly configure it for your system.

See Also: For more detail on Secure Socket Layer, refer to the installed documentation *Configuring Secure Socket Layer Authentication* in the *Oracle Advanced Security Administrator's Guide* in the generic documentation set.

Reviewing Installed Starter Database Contents

User Names and Passwords

This section describes the user names and passwords included in the starter database. The SYS, SYSTEM, and DBSNMP user names and INTERNAL alias passwords in the following table are automatically included in *all* databases created by Oracle Database Configuration Assistant.

User Name	Password	Description	See Also
CTXSYS	CTXSYS	CTXSYS is the Oracle *inter*Media Text user name with CONNECT, DBA, and RESOURCE database roles.	*Oracle8i interMedia Text Reference*
DBSNMP	DBSNMP	DBSNMP includes the CONNECT, RESOURCE, and SNMPAGENT database roles. Run `catnsnmp.sql` if you want to drop this role and user.	*Oracle Intelligent Agent User's Guide*
INTERNAL	ORACLE	INTERNAL is used for performing database administration tasks, including starting up and shutting down a database. **Note:** INTERNAL is *not* a true user name; it is an alias for the SYS user name (see below) and SYSDBA privilege. The password is required only for users who did not install the Oracle8*i* database. The user who installed the Oracle8*i* database is not prompted to enter a password when connecting as INTERNAL.	*Oracle8i Administrator's Guide*
MDSYS	MDSYS	MDSYS is the Oracle Spatial and *inter*Media Audio, Video, Locator, and Image administrator user name.	*Oracle Spatial User's Guide and Reference* *Oracle8i interMedia Locator User's Guide and Reference*
MTSSYS	MTSSYS	MTSSYS is the user name under which the Oracle Service for MTS runs.	*Using Microsoft Transaction Server With Oracle8*

User Name	Password	Description	See Also
ORDPLUGINS	ORDPLUGINS	ORDPLUGINS is the Oracle *inter*Media Audio and Video user name with the CONNECT and RESOURCE roles. ORDPLUGINS allows non-native plug-in formats for one session.	*Oracle8i interMedia Audio, Image, and Video User's Guide and Reference*
ORDSYS	ORDSYS	ORDSYS is the Oracle *inter*Media Audio, Video, Locator, and Image user name and the Oracle Time Series and Oracle Visual Information Retrieval administrator user name with CONNECT, JAVAUSERPRIV, and RESOURCE database roles.	*Oracle8i Time Series User's Guide* *Oracle8i Visual Information Retrieval User's Guide and Reference* *Oracle8i interMedia Audio, Image, and Video User's Guide and Reference*
OUTLN	OUTLN	OUTLN includes the CONNECT and RESOURCE database roles, and supports plan stability. Plan stability allows you to maintain the same execution plans for the same SQL statements. OUTLN acts as a place to centrally manage metadata associated with stored outlines.	*Oracle8i Concepts* *Oracle8i Designing and Tuning for Performance*
SYS	CHANGE_ON_INSTALL	SYS is used for performing database administration tasks. SYS includes the following database roles: AQ_ADMINISTRATOR_ROLE AQ_USER_ROLE CONNECT CTXAPP DBA DELETE_CATALOG_ROLE EXECUTE_CATALOG_ROLE EXP_FULL_DATABASE HS_ADMIN_ROLE IMP_FULL_DATABASE JAVA_ADMIN JAVADEBUGPRIV JAVAIDPRIV JAVAUSERPRIV OEM_MONITOR RECOVERY_CATALOG_OWNER RESOURCE SELECT_CATALOG_ROLE SNMPAGENT TIMESERIES_DBA TIMESERIES_DEVELOPER	*Oracle8i Administrator's Guide*

User Name	Password	Description	See Also
SYSTEM	MANAGER	SYSTEM is used for performing database administration tasks. SYSTEM includes the AQ_ADMINISTRATOR_ROLE and DBA database roles.	*Oracle8i Administrator's Guide*
SCOTT	TIGER	SCOTT includes the CONNECT and RESOURCE database roles.	*Oracle8i Administrator's Guide*

Database Identification

The Oracle8*i* database is identified by its global database name, which consists of the database name and network domain in which the database is located. The global database name uniquely distinguishes a database from any other database in the same network domain. You create a global database name when prompted in the *Database Identification* window during Oracle8*i* database installation. The global database name takes the form:

`database_name.database_domain`

For example:

`sales.us.acme.com`

Where...	Is...
sales	The name you give your database. The database name portion is a string of no more than 8 characters that can contain alpha, numeric, and additional characters. The database name is also assigned to the DB_NAME parameter in the `init.ora` file.
us.acme.com	The network domain in which the database is located, making the global database name unique. The domain portion is a string of no more than 128 characters that can contain alpha, numeric, period (.), and additional characters. The domain name is also assigned to the DB_DOMAIN parameter in the `init.ora` file.

The DB_NAME parameter (value *sales*) and DB_DOMAIN name parameter (value *us.acme.com*) combine to create the global database name value assigned to the SERVICE_NAMES parameter (value *sales.us.acme.com*) in the `init.ora` file.

The System Identifier (SID) identifies a specific Oracle8*i* instance that references the database. The SID uniquely distinguishes a database from any other database on the same computer. Multiple Oracle homes enable you to have multiple, active Oracle

databases on a single computer. Each database requires a unique SID and database name.

The SID name is taken from the value you entered for the database name in the *Database Identification* window, although you had the opportunity to change it. The SID can be up to 64 alphanumeric characters in length.

For example, if the SID and database name for an Oracle database are ORCL, each database file is located in the `$ORACLE_BASE/oradata/ORCL` directory and the initialization parameter file is located in the `$ORACLE_BASE/admin/ORCL/pfile` directory. The directory ORCL is named after the DB_NAME parameter value.

Tablespaces and Datafiles

An Oracle8*i* database is divided into smaller logical areas of space known as tablespaces. Each tablespace corresponds to one or more physical datafiles. Datafiles contain the contents of logical database structures such as tables and indexes. A datafile can be associated with only one tablespace and database.

Note: Unless you specified different names with Oracle Database Configuration Assistant, the tablespaces and datafiles described in the following table are also automatically included in the Custom database.

The tablespaces in the Oracle8*i* database contain the following types of datafiles located in the `$ORACLE_BASE/oradata/<db_name>` directory:

Tablespace	Datafile	Contains...
SYSTEM	system01.dbf	The data dictionary, including definitions of tables, views, and stored procedures needed by the Oracle database. Information in this area is maintained automatically. The SYSTEM tablespace is present in all Oracle databases.
USERS	users01.dbf	Your application data. As you create and enter data into tables, you fill this space with your data.

Tablespace	Datafile	Contains...
TEMP	temp01.dbf	Temporary tables and/or indexes created during the processing of your SQL statement. You may need to expand this tablespace if you are executing a SQL statement that involves a lot of sorting, such as ANALYZE COMPUTE STATISTICS on a very large table, or the constructs GROUP BY, ORDER BY, or DISTINCT.
RBS	rbs01.dbf	Rolled back transactions that fail to complete normally. You may need to expand this tablespace if you have long-running or high-data-volume transactions.
INDX	indx01.dbf	Indexes associated with the data in the USERS tablespace.
DRSYS	dr01.dbf	Oracle *inter*Media text-related schema objects.
TOOLS	tools01.dbf	Nothing. This datafile is created for use if the user wants to install any third-party or Oracle tools/products.

Note: If you choose to create a new repository and accept the default settings when running Oracle Enterprise Manager Configuration Assistant, a tablespace named OEM_REPOSITORY and a datafile named `oem_repository.ora` are also created.

See Also:

- The "Tablespaces and Datafiles" chapter of *Oracle8i Concepts*
- The "Managing Tablespaces" and "Managing Datafiles" chapters of the *Oracle8i Administrator's Guide*

Initialization Parameter File

The starter database contains one database initialization parameter file located in the `$ORACLE_BASE/admin/<db_name>/pfile` directory:

Initialization Parameter File	Description
`init.ora`	The parameter file `init.ora` must exist for an instance to start. A parameter file is a text file that contains a list of instance configuration parameters. The starter database `init.ora` file has preconfigured parameters. No edits are required to this file in order to use the starter database.

See Also: *Oracle8i Administrator's Guide* and *Oracle8i Reference* for Oracle8*i* **database**-specific initialization parameters and their default values**:**

Redo Log Files

The starter database contains three redo log files located in the `$ORACLE_BASE/oradata/<db_name>` directory:

Note: The redo logs `redo01.log`, `redo02.log`, and `redo03.log` are also automatically included in the Custom database.

Database Files	Disk Size	Description
`redo01.log`	1 MB	Redo log files hold a record of all changes made to data in the database buffer cache. If an instance failure occurs, the redo log files are used to recover the modified data that was in memory. Redo log files are used in a cyclical fashion. For example, if three files constitute the online redo log, the first file is filled, then the second file, and then the third file. The first file is then re-used and filled, the second file is re-used and filled, and so on.
`redo02.log`	1 MB	
`redo03.log`	1 MB	

See Also: *Oracle8i Backup and Recovery Guide*

Control Files

The starter database contains three control files located in the `$ORACLE_BASE/oradata/<db_name>` directory:

Control Files	Description

`control01.ctl`
`control02.ctl`
`control03.ctl`
	A control file is an administrative file required to start and run the database. The control file records the physical structure of the database. For example, a control file contains the database name, and the names and locations of the database's datafiles and redo log files.

Note: The files `control01.ctl`, `control02.ctl`, and `control03.ctl` are also automatically included in the Custom database. Oracle Corporation recommends that you keep at least three control files (on separate physical drives) for each database and set the CONTROL_FILES initialization parameter to list each control file.

See Also: *Oracle8i Administrator's Guide* for information on setting this initialization parameter value.

Rollback Segments

Rollback segments record the old values of data changed by each transaction (whether or not committed). Every database contains one or more rollback segments, which are portions of the database that record the actions of transactions in the event that a transaction is rolled back. Rollback segments are used to provide read consistency, to roll back transactions, and to recover the database.

The starter database contains the following rollback segments:

Rollback Segment	Contained in this Tablespace...	Used by
SYSTEM	SYSTEM	SYS
RB_TEMP	SYSTEM (private)	SYS

Rollback Segment	Contained in this Tablespace...	Used by
RB1 through RB16	RBS	PUBLIC (a pool of rollback segments that any instance requiring a rollback segment can use)

Data Dictionary

The data dictionary is a protected collection of tables and views containing reference information about the database, its structures, and its users. The data stored in the dictionary includes the following:

- Names of the Oracle database users
- Privileges and roles granted to each user
- Names and definitions of schema objects (including tables, views, snapshots, indexes, clusters, synonyms, sequences, procedures, functions, and packages)
- Integrity constraints
- Space allocation for database objects
- Auditing information, such as who accessed or updated various objects

See Also: For more information on the data dictionary, see *Oracle8i Concepts* and *Oracle8i Reference*.

De-installing Oracle Software

A complete de-installation of Oracle software requires you to remove any installed databases with the Oracle Database Configuration Assistant and de-configure Net8 with the Net8 Configuration Assistant. Both assistants must be run before you use the Installer to completely de-install Oracle software. The Oracle Internet Directory Control Utility and Oracle Internet Directory Monitor must be stopped before de-installation of Oracle Internet Directory. In addition, before beginning de-installation, the Apache account primary GID must be changed to the group that owns `oraInventory`. A partial de-installation of Oracle software does not necessarily require you to run either Oracle Database Configuration Assistant or Net8 Configuration Assistant.

Changing the Apache Account GID for De-Installation

1. log on as `root`.

2. Change the Apache account primary GID group from the Apache account group to the group that has ownership of `oraInventory` (typically `oinstall`).
3. log off as `root`.

De-installation of an Oracle Database with Oracle Database Configuration Assistant

1. Start the Oracle Database Configuration Assistant

   ```
   $ dbassist
   ```

2. From the initial screen, select "Delete a Database."
3. Click [Next].
4. Select the instance for the database that you want to delete.
5. Click [Finish]. Verify that you want to delete the database in the windows that appear.

Because you can only delete one database at a time, you must repeat these steps for each database that you want to delete.

After you have run Oracle Database Configuration Assistant, run the Net8 Configuration Assistant in de-install mode by invoking it at the command line with the `/deinst` parameter:

```
$ netca /deinst
```

De-installation of Oracle Internet Directory

To deinstall Oracle Internet Directory Services:

1. Stop the Oracle Internet Directory Server:

   ```
   $ oidctl connect=<net_service_name> server=oidldapd
   instance=<server_instance_number> stop
   ```

   where *<net_service_name>* is the network connection to the Oracle Internet Directory Server and *<server_instance_number>* is the instance number; this number appears in the Server List tab of Oracle Directory Manager.

2. Stop the Oracle Internet Directory Monitor

   ```
   $ oidmon stop
   ```

- Follow the procedures in "De-installation of an Oracle Database with Oracle Database Configuration Assistant" to remove the Oracle8*i* database configured with Oracle Internet Directory.

  See Also: For more information, see the Oracle Internet Directory Administrator's Reference.

De-installation of Oracle Software with Oracle Universal Installer

1. Start the Installer as described in "Oracle Universal Installer" on page 3-2.
2. Click the [De-install Products] button on the "Welcome" dialog box or the [Installed Products...] button available on any Installer screen. The "Inventory" dialog box appears, listing installed products.
3. In the "Inventory" dialog box, select any product(s) to be de-installed, then click the [Remove] button.

A

Oracle8*i* Products

This appendix lists the products included with Oracle8*i* Release 3 (8.1.7):

- Oracle8i Enterprise Edition or Oracle8i Components
- Oracle8i Client Components
- Oracle8i Management and Integration Components
- Product Descriptions

Note: The Custom installation type is not listed for any of the above three top-level components since it allows you to install all components in the current top-level component category. Some components can *only* be installed through a Custom installation. Such components have an availability of "No" listed for other installation types in the tables in this appendix.

Oracle8*i* Enterprise Edition or Oracle8*i* Components

This table alphabetically lists the components available with each installation type of the Oracle8*i* Enterprise Edition or Oracle8*i* top-level component.

	Oracle8*i* Enterprise Edition or Oracle8*i*	
Component	**Typical**	**Minimal**
Advanced Queueing	Yes	Yes
Advanced Replication	Yes	Yes
Apache configuration for Oracle Java Server Pages	Yes	Yes
Apache JServ	Yes	Yes
Apache WebServer Files	Yes	Yes
Generic Connectivity	Yes	Yes
Net8 Client, includes:	Yes	Yes
■ Net8 Assistant	Yes	Yes
■ Net8 Configuration Assistant	Yes	Yes
■ Oracle Protocol Support	Yes	Yes
Note: When Net8 Client is installed through the Typical or Minimal installation type, Oracle Protocol Support is automatically installed for the networking protocols detected. When Net8 Client is installed through the Custom installation type, you are prompted to select the additional networking protocols for which you want support (LU6.2). Named Pipes and TCP/IP protocol support is automatically installed and cannot be de-installed.		
Net8 Server	Yes	Yes
Object Type Translator, includes:	Yes	Yes
■ Oracle INTYPE File Assistant	Yes	Yes
Oracle Advanced Security, includes:[1]	Yes	No
1. Encryption and Integrity Support, includes:	Yes	No
■ DES40 Encryption	Yes	No
■ DES56 Encryption	Yes	No
■ 3DES_112 Encryption (2-key option)	Yes	No
■ 3DES_168 Integrity (3-key option)	Yes	No

Component	Oracle8*i* Enterprise Edition or Oracle8*i* Typical	Minimal
■ RC4_40 Encryption	Yes	No
■ RC4_56 Encryption	Yes	No
■ RC4_128 Encryption	Yes	No
■ RC4_256 Integrity	Yes	No
■ SHA-1 Integrity	Yes	No
■ MD5 Integrity	Yes	No
2. Thin JDBC Java-based Encryption Support, includes:	Yes	No
■ DES40 Encryption	Yes	No
■ DES56 Encryption	Yes	No
■ RC4_40 Encryption	Yes	No
■ RC4_56 Encryption	Yes	No
■ RC4_128 Encryption	Yes	No
■ RC4_256 Integrity	Yes	No
■ SHA-1 Integrity	Yes	No
■ MD5 Integrity	Yes	No
3. Authentication Support, includes:	Yes	No
■ CyberSafe (with SSO support)	No	No
■ DCE (with SSO support)	No	No
■ Entrust	No	No
■ Identix (for Biometrics)	Yes	No
■ Kerberos (with SSO support)	Yes	No
■ RADIUS (for Smart Cards, Token Cards, and Biometrics)	Yes	No
■ SecurID (for Token Cards)	Yes	No
■ SSL (with X.509 version 3) (with SSO support)	Yes	No
Note: Kerberos, SecurID, and Radius are installable through the Custom installation *Authentication Methods* window. Identix, CyberSafe, and Entrust only appear for installation in this window if the appropriate third-party software is installed. DCE is only installable though the Custom installation *Available Product Components* window.		

Component	Oracle8*i* Enterprise Edition or Oracle8*i* Typical	Minimal
4. Enterprise User Security, includes:	Yes	Yes
■ Oracle Enterprise Login Assistant	Yes	Yes
■ Oracle Wallet Manager	Yes	Yes
Note: Oracle Enterprise Login Assistant and Oracle Wallet Manager are features of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.		
Oracle Call Interface	Yes	Yes
Oracle Connection Manager	No	No
Oracle Data Migration Assistant	Yes	Yes
Oracle Database Configuration Assistant	Yes	Yes
Oracle Enterprise Java Beans and CORBA Tools	Yes	Yes
Oracle Enterprise Manager, includes three main components:	Yes	Yes
1. Oracle Enterprise Manager Client, includes:	Yes	Yes
■ Oracle Enterprise Manager Console	Yes	Yes
■ Oracle DBA Management Pack, includes:	Yes	Yes
Oracle DBA Studio	Yes	Yes
Oracle Instance Manager	Yes	Yes
Oracle Schema Manager	Yes	Yes
Oracle Security Manager	Yes	Yes
Oracle Storage Manager	Yes	Yes
SQL*Plus Worksheet	Yes	Yes
■ Oracle Enterprise Manager Quick Tours	Yes	No
■ Oracle Enterprise Manager Web Site	No	No
Note: Oracle Enterprise Manager Web Site uses the Oracle HTTP Server as a Web listener.		
2. Oracle Intelligent Agent, includes:	Yes	Yes
■ Data Collection Services	Yes	Yes
Oracle HTTP Server, includes	Yes	Yes
■ Apache Configuration for Oracle Java Server Pages	Yes	Yes
■ Apache Configuration for XML Developer's Kit	Yes	Yes

Component	Oracle8*i* Enterprise Edition or Oracle8*i* Typical	Oracle8*i* Enterprise Edition or Oracle8*i* Minimal
■ Apache JServ	Yes	Yes
■ Apache WebServer Files	Yes	Yes
■ Business Components for Java	Yes	Yes
■ `mod_ose`	Yes	Yes
■ `mod_perl`	Yes	Yes
■ `mod_plsql`	Yes	Yes
■ Perl Interpreter	Yes	Yes
3. Oracle Management Server, includes:	Yes	No
■ Oracle Enterprise Manager Configuration Assistant	Yes	No
■ Oracle Enterprise Manager Migration Assistant	Yes	No
Oracle *inter*Media, includes:	Yes	No
■ Oracle *inter*Media Audio	Yes	No
■ Oracle *inter*Media Client Option	Yes	No
■ Oracle *inter*Media Image	Yes	No
■ Oracle *inter*Media Locator	Yes	No
■ Oracle *inter*Media Text	Yes	No
■ Oracle *inter*Media Video	Yes	No
Oracle Internet Directory Client	Yes	Yes
Oracle JDBC Drivers, includes:	Yes	Yes
■ Oracle JDBC Thin Driver for JDK 1.1	Yes	Yes
■ Oracle JDBC Thin Driver for JDK 1.2	Yes	Yes
■ Oracle JDBC / OCI Driver for JDK 1.1	Yes	Yes
■ Oracle JDBC / OCI Driver for JDK 1.2	Yes	Yes
Oracle8*i* JVM, includes:	Yes	Yes
■ Java Virtual Machine	Yes	No
■ Oracle8*i* JVM Accelerator	Yes	No
■ Oracle Servlet Engine	Yes	No

Component	Oracle8*i* Enterprise Edition or Oracle8*i* Typical	Minimal
Oracle Names	No	No
Oracle Parallel Server, includes: [2]	Yes	No
■ Oracle Parallel Server Management	Yes	No
Note: Oracle Parallel Server is only installed if a cluster is detected.		
Oracle Partitioning[1]	Yes	Yes
Oracle SNMP Agent	No	No
Oracle Spatial[1]	Yes	No
Oracle SQLJ, includes:	Yes	Yes
■ SQLJ Runtime	Yes	Yes
■ SQLJ Translator	Yes	Yes
Oracle Trace	Yes	Yes
Oracle Time Series[1]	Yes	No
Oracle Universal Installer, includes:	Yes	Yes
■ Oracle's version of Java Runtime Environment	Yes	Yes
Oracle Utilities, includes:	Yes	Yes
■ Database Verify Utility	Yes	Yes
■ Export	Yes	Yes
■ Import	Yes	Yes
■ Migration Utility	Yes	Yes
■ Recovery Manager	Yes	Yes
■ SQL*Loader	Yes	Yes
■ Server Manager **Note:** Server Manager will no longer be available after release 8.1.7.	Yes	Yes
Oracle Visual Information Retrieval[1]	Yes	No
Oracle Visual Information Retrieval Client[1]	Yes	No
Oracle XML Developer's Kit	Yes	Yes
Oracle XML SQL Utility	Yes	Yes

Component	Oracle8*i* Enterprise Edition or Oracle8*i*	
	Typical	Minimal
Oracle8*i* Server[3] (the Oracle8*i* database), includes:	Yes	Yes
■ Oracle Database Demos	Yes	Yes
■ PL/SQL	Yes	Yes
■ PL/SQL Embedded Gateway	Yes	Yes
SQL*Plus	Yes	Yes

[1] Oracle Advanced Security, Oracle Partitioning, Oracle Spatial, Oracle Time Series, Oracle Visual Information Retrieval, and Oracle Visual Information Retrieval Client are available with Oracle8*i* Enterprise Edition, but are not available with Oracle8*i*.

[2] Oracle Parallel Server is available with Oracle8*i* Enterprise Edition, but is not available with Oracle8*i*.

[3] The type of Oracle8*i* Server depends upon the database type you purchased: Oracle8*i* Enterprise Edition or Oracle8*i*.

Oracle8*i* Client Components

This table alphabetically lists the components available with each installation type of the Oracle8*i* Client top-level component.

Component	Oracle8*i* Client		
	Administrator	Programmer	Application User
Advanced Queueing	Yes	Yes	Yes
Documentation Linux Intel (online)	Yes	Yes	Yes
Net8 Client, includes:	Yes	Yes	Yes
■ Net8 Assistant	Yes	Yes	Yes
■ Net8 Configuration Assistant	Yes	Yes	Yes
■ Oracle Protocol Support	Yes	Yes	Yes
Note: When Net8 Client is installed through the Typical or Minimal installation type, Oracle Protocol Support is automatically installed for the networking protocols detected. When Net8 Client is installed through the Custom installation type, you are prompted to select the additional networking protocols for which you want support (LU6.2). TCP/IP protocol support is automatically installed and cannot be de-installed.			
Object Type Translator, includes:	Yes	Yes	No
■ Oracle INTYPE File Assistant	Yes	Yes	No
Oracle Advanced Security, includes:[1]	Yes	Yes	Yes
1. Encryption and Integrity Support, includes:	Yes	Yes	Yes
■ DES40 Encryption	Yes	Yes	Yes
■ DES56 Encryption	Yes	Yes	Yes
■ 3DES_112 Encryption (2-key option)	Yes	Yes	Yes
■ 3DES_168 Integrity (3-key option)	Yes	Yes	Yes
■ RC4_40 Encryption	Yes	Yes	Yes
■ RC4_56 Encryption	Yes	Yes	Yes
■ RC4_128 Encryption	Yes	Yes	Yes
■ RC4_256 Integrity	Yes	Yes	Yes

Component	Oracle8*i* Client Administrator	Programmer	Application User
■ SHA-1 Integrity	Yes	Yes	Yes
■ MD5 Integrity	Yes	Yes	Yes
2. Thin JDBC Java-based Encryption Support, includes:	Yes	Yes	Yes
■ DES40 Encryption	Yes	Yes	Yes
■ DES56 Encryption	Yes	Yes	Yes
■ RC4_40 Encryption	Yes	Yes	Yes
■ RC4_56 Encryption	Yes	Yes	Yes
■ RC4_128 Encryption	Yes	Yes	Yes
■ RC4_256 Integrity	Yes	Yes	Yes
■ SHA-1 Integrity	Yes	Yes	Yes
■ MD5 Integrity	Yes	Yes	Yes
3. Authentication Support, includes:	Yes	Yes	Yes
■ CyberSafe (with SSO support)	No	No	No
■ DCE (with SSO support)	No	No	No
■ Entrust	No	No	No
■ Identix (for Biometrics)	Yes	Yes	Yes
■ Kerberos (with SSO support)	Yes	Yes	Yes
■ RADIUS (for Smart Cards, Token Cards, and Biometrics)	Yes	Yes	Yes
■ SecurID (for Token Cards)	Yes	Yes	Yes
■ SSL (with X.509 version 3) (with SSO support)	Yes	Yes	Yes
Note: Kerberos, SecurID, and Radius are installable through the Custom installation *Authentication Methods* window. Identix, CyberSafe, and Entrust only appear for installation in this window if the appropriate third-party software is installed. DCE is only installable though the Custom installation *Available Product Components* window.			
4. Enterprise User Security, includes:			
■ Oracle Enterprise Login Assistant	Yes	No	No
■ Oracle Wallet Manager	Yes	Yes	Yes
Note: Oracle Enterprise Login Assistant and Oracle Wallet Manager are features of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.			

Component	Oracle8*i* Client		
	Administrator	Programmer	Application User
Oracle Call Interface	Yes	Yes	Yes
Oracle Java Tools and CORBA Tools, includes:	Yes	Yes	Yes
■ Enterprise Java Beans	Yes	Yes	Yes
Oracle Enterprise Manager, includes:	Yes	No	No
1. Oracle Enterprise Manager Client, includes:	Yes	No	No
■ Oracle Enterprise Manager Console	Yes	No	No
■ Oracle DBA Pack, includes:	Yes	No	No
Oracle DBA Studio	Yes	No	No
Oracle Instance Manager	Yes	No	No
Oracle Schema Manager	Yes	No	No
Oracle Security Manager	Yes	No	No
Oracle Storage Manager	Yes	No	No
SQL*Plus Worksheet	Yes	No	No
■ Oracle Enterprise Manager Quick Tours	Yes	No	No
Oracle *inter*Media Client Option	Yes	Yes	No
Oracle Internet Directory Client	Yes	Yes	Yes
Oracle JDBC Drivers, includes:	Yes	Yes	Yes
■ Oracle JDBC Thin Driver for JDK 1.1	Yes	Yes	Yes
■ Oracle JDBC Thin Driver for JDK 1.2	Yes	Yes	Yes
■ Oracle JDBC / OCI Driver for JDK 1.1	Yes	Yes	Yes
■ Oracle JDBC / OCI Driver for JDK 1.2	Yes	Yes	No
Oracle SQLJ	Yes	Yes	No
■ SQLJ Runtime	Yes	Yes	No
■ SQLJ Translator	Yes	Yes	No
Oracle Universal Installer, includes:	Yes	Yes	Yes
■ Oracle's version of Java Runtime Environment	Yes	Yes	Yes
Oracle Utilities, includes:	Yes	Yes	Yes
■ Export	Yes	Yes	Yes
■ Import	Yes	Yes	Yes

Component	Oracle8*i* Client		
	Administrator	Programmer	Application User
■ Recovery Manager	Yes	Yes	No
■ SQL*Loader	Yes	Yes	Yes
■ TKPROF	Yes	Yes	No
Oracle Visual Information Retrieval Client	Yes	Yes	Yes
Oracle Workflow Builder	No	No	No
Oracle Workflow Mailer	No	No	No
Oracle XML Developer's Kit	Yes	Yes	Yes
Oracle XML SQL Utility	Yes	Yes	Yes
PL/SQL	Yes	Yes	No
Pro*C/C++	No	Yes	No
Pro*COBOL 1.8.52	No	No	No
Pro*FORTRAN	No	No	No
SQL*Module Ada	No	No	No
SQLJ, includes	Yes	Yes	Yes
■ SQLJ Runtime	Yes	Yes	Yes
■ SQLJ Translator	Yes	Yes	Yes
SQL*Plus	Yes	Yes	Yes

[1] Oracle Advanced Security is available with Oracle8*i* Enterprise Edition, but is not available with Oracle8*i*.

Oracle8*i* Management and Integration Components

This table alphabetically lists the components available with each installation type of the Oracle8*i* Management and Integration top-level component.

Note: This table lists all the components that are installed with the Oracle Internet Directory installation type if an Oracle8*i* database is not currently installed.

Component	Oracle8*i* Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Advanced Queueing	Yes	Yes	Yes
Advanced Replication	No	Yes	Yes
Generic Connectivity	No	Yes	Yes
Net8 Client, includes:	Yes	Yes	Yes
■ Net8 Assistant	Yes	Yes	Yes
■ Net8 Configuration Assistant	Yes	Yes	Yes
Net8 Server	Yes	Yes	Yes
Object Type Translator, includes:	No	Yes	Yes
■ Oracle INTYPE File Assistant	No	Yes	Yes
Oracle Advanced Security, includes:[1]	Yes	No	Yes
1. Authentication Support, includes:	Yes	No	Yes
■ SSL (with X.509 version 3) (with SSO support)	Yes	Yes	Yes
2. Oracle Wallet Manager	Yes	Yes	Yes
3. Oracle Enterprise Login Assistant **Note:** Oracle Enterprise Login Assistant and Oracle Wallet Manager are features of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.	Yes	No	No

Component	Oracle8*i* Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Oracle Application InterConnect (OAI)	No	No	No
■ OAI Adapter SDK	No	No	No
■ OAI CRM 11*i* Adapter	No	No	No
■ OAI Database Adapter	No	No	No
■ OAI Management Console	No	No	No
■ OAI Repository	No	No	No
■ OAI XML AQ Adapter (for Oracle8*i* database 8.1.5)	No	No	No
■ OAI XML AQ Adapter (for Oracle8*i* database 8.1.6 or higher)	No	No	No
Oracle Call Interface	No	Yes	Yes
Oracle Connection Manager	No	No	No
Oracle Data Migration Assistant t	No	Yes	Yes
Oracle Database Configuration Assistant	No	Yes	Yes
Oracle Enterprise Java Beans and CORBA Tools	No	Yes	Yes
Oracle Enterprise Manager, includes two main components:	Yes	No	No
1. Oracle Enterprise Manager Client, includes:	Yes	No	No
■ Oracle Enterprise Manager Console	Yes	No	No
■ Oracle Enterprise Manager DBA Management Pack, includes:	Yes	Yes	No
Oracle DBA Studio	Yes	No	No
Oracle Instance Manager	Yes	No	No
Oracle Schema Manager	Yes	No	No
Oracle Security Manager	Yes	No	No
Oracle Storage Manager	Yes	No	No
SQL*Plus Worksheet	Yes	No	No
■ Oracle Enterprise Manager Quick Tours	Yes	No	No
Note: Oracle Enterprise Manager Web Site uses the Oracle HTTP Server as a Web listener.			No
2. Oracle *inter*Media, includes:	Yes	No	No

Component	Oracle8*i* Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
*inter*Media Audio	No	No	No
*inter*Media Common Files	No	No	No
Note: Installed with all *inter*Media except *inter*Media text			
*inter*Media Image	No	No	No
*inter*Media Locator Service	No	No	No
*inter*Media Text	No	No	No
*inter*Media Video	No	No	No
3. Oracle Management Server, includes:	Yes	No	No
Oracle Enterprise Manager Configuration Assistant	Yes	No	No
Oracle Enterprise Manager Migration Assistant	Yes	No	No
Oracle Internet Directory Client	No	Yes	Yes
Oracle Internet Directory Client Toolset	No	Yes	Yes
Oracle Internet Directory Configuration Assistant	No	Yes	No
Oracle Internet Directory Server	No	Yes	No
Oracle8*i* JVM (either Oracle8*i* JVM Enterprise Edition or Oracle8*i* JVM, includes:	No	Yes	Yes
■ Enterprise Java Beans and CORBA Tools	No	Yes	Yes
■ Java Virtual Machine	No	Yes	Yes
■ Oracle8*i* JVM Accelerator	No	Yes	Yes
■ Oracle Java Tools	No	Yes	Yes
■ Oracle Servlet Engine	No	Yes	Yes
Oracle Intelligent Agent	No	Yes	Yes
Oracle JDBC Drivers, includes:	Yes	Yes	Yes
■ Oracle JDBC / OCI Driver for JDK 1.1	Yes	Yes	Yes
■ Oracle JDBC / OCI Driver for JDK 1.2	Yes	Yes	Yes
■ Oracle JDBC Thin Driver for JDK 1.1	Yes	Yes	Yes
■ Oracle JDBC Thin Driver for JDK 1.2	Yes	Yes	Yes

Component	Oracle8*i* Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Oracle Message Broker	No	No	Yes
Oracle Names	No	No	No
Oracle Partitioning[1]	No	No	Yes
Oracle Trace	No	Yes	Yes
Oracle Universal Installer, includes:	Yes	Yes	Yes
■ Oracle's version of Java Runtime Environment	Yes	Yes	Yes
Oracle Utilities, includes:	Yes	Yes	Yes
■ Database Verify Utility	No	Yes	Yes
■ Export	Yes	Yes	Yes
■ Import	Yes	Yes	Yes
■ Migration Utility	No	Yes	Yes
■ Recovery Manager	Yes	Yes	Yes
■ SQL*Loader	Yes	Yes	Yes
■ Server Manager	Yes	Yes	Yes
Oracle Visual Information Retrieval	No	No	No
Oracle Workflow	No	No	Yes
Oracle XML Developer's Kit	Yes	Yes	Yes
Oracle XML SQL Utility	Yes	Yes	Yes
Oracle8*i* Server (the Oracle8*i* database), includes:	No	Yes	Yes
■ Oracle Database Demos	No	Yes	Yes
■ PL/SQL	No	Yes	Yes
■ PL/SQL Embedded Gateway	No	Yes	Yes
SQLJ, including:	Yes	No	No
■ SQLJ Runtime	Yes	No	No
■ SQLJ Translator	No	No	No
SQL*Plus	Yes	Yes	Yes

[1] Oracle Advanced Security is available only with Oracle8*i* Enterprise Edition, but is not available with Oracle8*i*.

Product Descriptions

Table A–1, "Product Descriptions" provides descriptions and release numbers of products available for installation. Some products described below are automatically installed with other products.

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Advanced Queueing	8.1.7	Provides the functionality to support the Advanced Queueing API.	*Oracle8i Application Developer's Guide - Advanced Queueing*
Advanced Replication	8.1.7	Provides the functionality to support the Advanced Replication API.	*Oracle8i Replication*
Assistant Common Files (installed with Oracle assistants, such as Oracle Database Configuration Assistant and Net8 Assistant)	8.1.7	A collection of automatically installed files required by Oracle assistants. These files include: ■ BaliShare 1.0.8 (compressed) ■ DBUI 1.1.2 ■ EWT 3.3.6 (compressed) ■ ICE Browser 4.06.6 (compressed) ■ Java Swing Components 1.1.1 (compressed) ■ Kodiak 1.1.2 ■ Oracle Help for Java 3.1.3 (compressed) ■ SMUI 1.0.7	Not applicable
Data Collection Services (installed with Oracle Intelligent Agent)	2.2	Works as an extension of Oracle Intelligent Agent to collect system performance data (for example, file I/O or CPU usage data) for Capacity Planner and Performance Manager, which are data-collecting applications in the Oracle Diagnostics Pack.	*Oracle Enterprise Manager Administrator's Guide* *Oracle Enterprise Manager Concepts Guide*
Enterprise JavaBeans	8.1.7	An architecture for developing transactional applications as distributed components in Java.	*Oracle8i Enterprise JavaBeans and CORBA Developer's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Java Runtime Environment (Oracle's version)	1.1.8_10	Required for running Java applications, such as Oracle Universal Installer. Sun Microsystems' JRE Version 1.1.8 is the minimum standard Java platform for running Java programs.	Not applicable
Generic Connectivity	8.1.7	Also known as Heterogeneous Services, this feature implements an extensibility framework for accessing non-Oracle systems. This feature integrates the core of Oracle's gateway technology directly into the Oracle8*i* database server by extending the Oracle SQL engine to optimize and rewrite SQL for non-Oracle data stores.	***Getting to Know Oracle8i***
Legato Storage Manager (LSM)	5.5	If you are using Recovery Manager (RMAN) for Oracle database backups, a media management product such as LSM is required for backing up and restoring from tape storage. You can choose to install LSM from the Oracle8*i* CD-ROM, or use a third-party media management product that also complies with Oracle's Backup Solutions Program. LSM is a scaled-down version of Legato NetWorker. The Oracle Universal Installer prompts you to confirm whether or not you want to install LSM. When you confirm installation, LSM is installed automatically. To install LSM manually without using the installer, see Appendix , "Installing Legato Storage Manager Manually". For more information on this product, call toll free (1) 888-8-LEGATO in the United States of America.	*Legato Storage Manager Administrator's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Logical Unit Type 6.2 (LU6.2) protocol support	8.1.7	The LU6.2 protocol support enables an Oracle application on a PC to communicate with an Oracle database. This communication occurs over an SNA network with the Oracle database on a host system that supports APPC. An SNA network with the LU6.2 and Physical Unit Type 2.1 (PU2.1) protocols provides APPC. The LU6.2 protocol defines a session between two application programs; LU6.2 is a product-independent LU-type. The adapter is part of the IBM Advanced Program-to-Program Communication (APPC) architecture. APPC is the IBM peer-to-peer (program-to-program) protocol for a System Network Architecture (SNA) network. SNA is an IBM reference model similar to the Open Systems Interconnect (OSI) model of the International Standards Organization (ISO). APPC architecture lets the client and host communicate over an SNA network without forcing the client to emulate a terminal (as in terminal-to-host protocols). APPC architecture allows peer-to-peer communication; the client can initiate communication with the server.	*Net8 Administrator's Guide*
Net8 Assistant (Installed with Net8 Client)	8.1.7	Used by network administrators and DBAs to configure Net8.	*Net8 Administrator's Guide*
Net8 Client	8.1.7	Provides products that enable client connections to databases across a network. A client-side application sends a request to Net8 to be transported across the network to the server. Net8 Client (and not Oracle Universal Installer) installs TCP/IP and Named Pipes.	*Net8 Administrator's Guide*
Net8 Configuration Assistant (Installed with Net8 Client)	8.1.7	Automatically started during installation to configure directory service access and Net8 client and server components. Net8 Configuration Assistant can also be run in stand-alone mode to configure Net8 after its installation.	*Net8 Administrator's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Net8 Server	8.1.7	Provides products that allow the listener, through a protocol, to accept connections from client applications on the network. **Note:** Net8 Server is not installable through any Oracle8*i* Client installation types. Net8 clients communicate with Oracle servers through net service names. Net8 resolves net service names using the following naming methods: ■ Host Names ■ Local Names ■ Oracle Names ■ Directory Names	*Net8 Administrator's Guide*
Object Type Translator	8.1.7	Used to create C-struct representations of Abstract Data Types (ADTs) that have been created and stored in an Oracle database. To take advantage of objects, run Object Type Translator against the database, and a header file is generated that includes the C-structs.	*Oracle Call Interface Programmer's Guide*
Oracle Advanced Security	8.1.7	Oracle Advanced Security provides the following comprehensive suite of security services for Oracle8*i*: *This multicomponent product requires a separate license.*	*Oracle Advanced Security Administrator's Guide*
1. Authentication support	8.1.7	Oracle Advanced Security provides strong authentication support through a variety of authentication modules.	*Oracle Advanced Security Administrator's Guide*
2. Authorization support	8.1.7	Authorization solutions are provided with DCE, and with the enterprise role management functionality in Oracle Advanced Security.	*Oracle Advanced Security Administrator's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
3. **Encryption and Integrity support**	8.1.7	Oracle Advanced Security ensures data confidentiality during transmission using the encryption and data integrity types listed in the installable products tables above. It enables a variety of public-key solutions, including native encryption, Secure Sockets Layer (SSL), X.509 certificates, passwords, smartcards and biometrics. **Note:** Recent changes in the United States Export Administration Regulations (EAR) have made it possible for Oracle Corporation to ship the one edition of Oracle Advanced Security worldwide. Oracle Advanced Security functionality includes strong encryption for protocols into the Oracle database that were previously available only to the U.S. and Canadian markets.	*Oracle Advanced Security Administrator's Guide*
4. **Enterprise User Security support**	8.1.7	Oracle Advanced Security integrates with Lightweight Directory Access Protocol (LDAP) v3-compliant directory services, such as Oracle Internet Directory, for centralized enterprise user management, enterprise role management, and single sign-on.	*Oracle Advanced Security Administrator's Guide*
5. **Single Sign On support**	8.1.7	Oracle Advanced Security provides single sign-on to multiple accounts and applications with a single password. Strong authentication occurs transparently in subsequent connections. Kerberos, CyberSafe, DCE, and SSL-based single sign-on are supported.	*Oracle Advanced Security Administrator's Guide*
Oracle Application InterConnect (OAI)	3.1.3	Supports out-of-the-box integration of Oracle applications both with other Oracle applications and with 3rd party applications. It offers a full-featured integration platform for interconnecting customer relationship management (CRM) applications with ERP Systems such as SAP R/3, Retek, and Oracle Applications. OAI is built upon the Oracle Messaging Stack and takes full advantage of its features and functionality. This component is targeted specifically at the integration of Oracle CRM components with third-party ERP solutions.	*Oracle Applications InterConnect User's Guide*
Oracle Applications Manager (part of Oracle Enterprise Manager Integrated Applications)	2.2	Administers Concurrent Managers, the batch-process scheduling subsystem of Oracle Applications. With this tool, an administrator can improve system performance by creating, configuring, and monitoring all Concurrent Managers on multiple Oracle Applications instances from the Oracle Applications Manager Console.	*Oracle Enterprise Manager Concepts Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Call Interface	8.1.7	An application programming interface (API) for accessing an Oracle database from a C or C++ program.	*Oracle Call Interface Programmer's Guide*
Oracle Connection Manager	8.1.7	Acts like a router through which client connection requests can either be sent to the next hop or directly to a server. Clients can take advantage of the connection concentration, Net8 access control, or multi-protocol support features configured on the Connection Manager.	*Net8 Administrator's Guide*
Oracle Data Migration Assistant	8.1.7	Migrates existing Oracle7 databases (release 7.1.3.3.6 or later) to an Oracle8*i* database and upgrades Oracle8 databases to the current database release.	*Oracle8i Migration*
Oracle Database Configuration Assistant	8.1.7	Automates the process of creating, modifying, and deleting an Oracle database.	*Oracle8i Administrator's Guide*
Oracle DBA Management Pack	2.2	A set of tools and utilities bundled with Oracle Enterprise Manager which can be used to perform most of your database administration tasks, and supports all versions of Oracle databases.	*Oracle Enterprise Manager Administrator's Guide*
Oracle DBA Studio (part of Oracle DBA Management Pack)	2.2	Integrates the functionality of schema, security, storage, and instance management into one management tool.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Documentation	8.1.7	Online version of Oracle8*i* documentation available in HTML and PDF format.	"Accessing Installed Documentation" on page -xi
Oracle Enterprise Login Assistant	1.1	Enables single sign on, which implements a subset of the Wallet Manager functionality for opening a user wallet and enabling applications to use it.	*Oracle Advanced Security Administrator's Guide*
Oracle Enterprise Manager	2.2	Provides an integrated solution for centrally managing your heterogeneous environment. Oracle Enterprise Manager combines a graphical console, Oracle Management Servers, Oracle Intelligent Agents, common services, and tools to provide an integrated, comprehensive systems management platform for managing Oracle products.	*Oracle Enterprise Manager Concepts Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Enterprise Manager Configuration Assistant (part of Oracle Management Server)	2.2	Assists administrators with Oracle Enterprise Manager repository creation, removal, upgrade, and configuration.	*Oracle Enterprise Manager Configuration Guide*
Oracle Enterprise Manager Console	2.2	Client interface for the first tier of Oracle Enterprise Manager, which ■ Centrally administers, diagnoses, and tunes multiple databases ■ Manages other Oracle products and services ■ Monitors and responds to the status of Oracle components and third-party services 24 hours a day ■ Schedules jobs on multiple nodes at varying time intervals ■ Monitors networked services for events ■ Customizes your display by organizing databases and other service into logical administrative groups	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager Integrated Applications	2.2	Applications integrated and installed with Oracle Enterprise Manager that are used to manage your Oracle environment. The applications can be accessed from the Oracle Enterprise Manager Navigator pane, the console application drawers, or from your operating system.	*Oracle Enterprise Manager Concepts Guide*
Oracle Enterprise Manager Quick Tours	2.2	HTML-based training tools for learning Oracle Enterprise Manager products without having to install them. Quick tours are provided for the following components: ■ Oracle Enterprise Manager Console ■ Oracle DBA Management Pack	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager Web Site	2.2	Enables administrators to access the Oracle Enterprise Manager Console from a web browser.	*Oracle Enterprise Manager Configuration Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle HTTP Server		A component that provides a preconfigured, ready-to-use listener (for use with Oracle Enterprise Manager Web Site) to enable a browser-based Oracle Enterprise Manager Console. ■ Apache Configuration for Oracle Java Server Pages (JSPs) ■ Oracle8*i* JVM ■ Apache Web Server Files (Apache 1.3.12) **Note:** Oracle HTTP Server replaces Oracle Application Server Listener.	Apache documentation
Oracle Internet File System (*i*FS)	1.1	The Oracle Internet File System (Oracle *i*FS) makes the Oracle8*i* database look and act like a file system that can be accessed through Windows, the Web, FTP, and e-mail clients. Oracle *i*FS is also a superior development platform for many content management applications. Using Java and XML, you can leverage all the capabilities of the file system, customizing its appearance and behavior to fit your needs.	*Oracle Internet File System Setup and Administration Guide*
Oracle Instance Manager (part of Oracle DBA Studio)	2.2	Manages database instances and sessions in your Oracle environment.	*Oracle Enterprise Manager Administrator's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Integration Server	8.1.7	A suite of installable components designed to transform traditional businesses into e-businesses. Oracle Integration Server is designed to integrate and facilitate communication among the various applications (including CRM, ERP, business-to-business internet Marketplaces, and auction sites) that comprise an e-business. Oracle Integration Server consists of the following components: ■ Oracle8*i* database (with Advanced Queuing, Oracle8*i* JVM, and Oracle Enterprise Java Beans and CORBA Tools) ■ Partitioning ■ Advanced Replication ■ Oracle Advanced Security ■ Oracle Workflow ■ Oracle Message Broker ■ Oracle Application InterConnect ■ Oracle Internet Directory	The documentation listed in the definitions for each of the components installed with Oracle Integration Server
Oracle Intelligent Agent	8.1.7	Monitors services on the managed node for registered events and scheduled jobs sent by the console.	*Oracle Intelligent Agent User's Guide*
Oracle *inter*Media	8.1.7	Enables file management in a variety of media, including text, audio, and video through a specific component of interMedia. *This multi-component product requires a separate license.*	*Oracle8i interMedia Text Reference*
Oracle *inter*Media Audio (installed with Oracle *inter*Media, formerly Oracle Audio Cartridge)	8.1.7	Provides for the storage, retrieval and management of digitized audio data within an Oracle database.	*Oracle8i interMedia Audio, Image, and Video User's Guide and Reference*
Oracle *inter*Media Client (part of Oracle *inter*Media)	8.1.7	Provides an Oracle8*i* *inter*Media Audio, Image, and Video Java interface that lets you use client-side applications to manipulate and/or modify multimedia data stored in a network accessible database on the server.	*Oracle8i interMedia Text Reference*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle *inter*Media Common Files (installed with Oracle interMedia)	8.1.7	A set of files used by Oracle *inter*Media components.	Not applicable
Oracle *inter*Media Image (installed with Oracle *inter*Media, formerly Oracle Image Cartridge)	8.1.7	Provides for the storage, retrieval, and processing of two-dimensional, static bitmapped images. Images are stored efficiently using popular compression schemes in industry-standard desktop publishing image interchange formats.	*Oracle8i interMedia Audio, Image, and Video User's Guide and Reference*
Oracle *inter*Media Locator Service (installed with Oracle *inter*Media)	8.1.7	Enables Oracle8*i* to support online internet-based geocoding facilities for locator applications and proximity queries.	*Oracle8i interMedia Locator User's Guide and Reference*
Oracle *inter*Media Text (installed with Oracle *inter*Media, formerly Oracle ConText Cartridge)	8.1.7	Manages and search for text in the database as quickly and easily as any other type of data. Oracle *inter*Media Text also supports basic full-text searches in most languages supported by the Oracle database.	*Oracle8i interMedia Text Reference*
Oracle *inter*Media Text Manager (part of Oracle Enterprise Manager Integrated Applications)	2.2	A application for administering *inter*Media Text functionality.	*Oracle Enterprise Manager Concepts Guide*
Oracle *inter*Media Video (installed with Oracle *inter*Media, formerly Oracle Video Cartridge)	8.1.7	Provides for the storage, retrieval, and management of digitized video data within an Oracle database.	*Oracle8i interMedia Audio, Image, and Video User's Guide and Reference*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Internet Directory	2.2.1	An Oracle8*i* database-based LDAP V3 directory service for centralizing database user, Net8 network connector, and database listener parameters. Can be configured prior to server installation. Installing the Oracle8*i* database with the Custom installation options enables the user to specify that the LDAP directory server be used for storing these "entry attributes". A typical installation scenario is to install the Oracle Internet Directory on a dedicated server (distinct from the target of a particular Oracle8*i* database installation).	*Oracle Internet Directory Administrator's Guide*
Oracle Internet Directory Configuration Assistant	2.1.1	A tool for creating the Oracle Internet Directory tablespaces and schema in the Oracle8*i* database when Oracle Internet Directory is installed.	*Oracle Internet Directory Administrator's Guide*
Oracle Internet Directory Client Toolset	2.1.1	Oracle Internet Directory Client is available on Windows platforms to access OID server components.	*Oracle Internet Directory Administrator's Guide*
Oracle Internet Directory Manager (Oracle Directory Manager)	2.1.1	A Java-based tool for administering Oracle Internet Directory and its related processes.	*Oracle Internet Directory Administrator's Guide*
Oracle Java Database Connectivity (JDBC) Drivers	8.1.7	A standard set of Java classes, specified by JavaSoft, that provides vendor-independent access to relational data through Java.	*Oracle8i JDBC Developer's Guide and Reference*
Oracle8*i* JVM Enterprise Edition	8.1.7	Provides Oracle's Java Virtual Machine, CORBA 2.0 Object Request Broker, embedded JDBC drivers, SQLJ translator, and an Enterprise JavaBeans transaction server.	*Oracle8i Java Developer's Guide*
Oracle8*i* JVM Accelerator	8.1.7	Eliminates interpreter overhead by translating standard Java class files into specialized C source files. A platform-dependent C compiler then processes the C source files into native libraries, which can be loaded dynamically. The Oracle8i JVM Accelerator is portable to all OS and hardware platforms.	*Oracle8i Java Stored Procedures Development Guide; Oracle8i Java Developer's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle8*i* JVM Servlet Container (JSC)	8.1.7	The Oracle8*i* JVM Servlet Container is a built-in web server running inside the database. It is a servlet runner that works with the Apache server and with Oracle8*i* JVM to enable distribution of Java Server Pages (JSPs) and to enable servlets to run directly on the database.	*Oracle8i JVM Servlet Container User's Guide; Oracle8i Java Developer's Guide*
Oracle Java Tools	8.1.7	Provides Java tools to build and deploy Java stored procedures, CORBA objects, and Enterprise JavaBeans with Oracle's Java Virtual Machine.	*Oracle8i SQLJ Developer's Guide and Reference*
Oracle Management Server	2.2	The middle tier of Oracle Enterprise Manager, which provides centralized intelligence and distribution control between console clients and managed nodes.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Message Broker	2.0.1	This component provides Java Message Services (JMS) implementation, an industry standard API for accessing various messaging systems, including Oracle Advanced Queueing. This component supports both Publish/Subscribe and Point-to-Point (PTP) messaging models, and persistent and non-persistent queuing.	*Oracle Message Broker Administration Guide*
Oracle Names	8.1.7	A distributed naming service developed for Oracle environments to help simplify the setup and administration of global, client/server computing networks. Oracle Names does this by establishing and maintaining an integrated system of Names servers. Oracle Names servers work like a directory service storing addresses for all the database services on a network and making them available to clients that want to make a connection.	*Net8 Administrator's Guide*
Oracle Objects Functionality	8.1.7	Lets you create and manipulate objects, as well as to integrate objects with standard relational functionality.	
Oracle Parallel Server	8.1.7	Enables multiple Oracle instances to share a single Oracle database. *This product requires a separate license.*	*Oracle8i Parallel Server Setup and Configuration*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Parallel Server Management (installed with Oracle Enterprise Manager)	8.1.7	Oracle Parallel Server Manager is an extension to the Oracle Enterprise Manager Console, which enables administration of databases that use the Oracle Parallel Server Option. Once discovered, Parallel Server Databases appear in the Databases folder of the Console's navigator panel alongside single-instance databases. Parallel Servers behave similarly to single-instance databases, and the database administrator can start up, shut down, or check the status of Parallel Server databases.	*Oracle8i Parallel Server Setup and Configuration*
Oracle Parallel Server Manager (part of Oracle Enterprise Manager Integrated Applications)	2.2	Discovers and manages databases that use the Oracle Parallel Server option. An extension to the Oracle Enterprise Manager Console, Oracle Parallel Server Management lists all discovered parallel servers alongside single-instance databases in the Navigator's Databases folder. Using property sheets, you can start up and shut down databases using the Parallel Server option, as well as check the status of instances, datafiles, in-doubt transactions, profiles, redo log groups, roles, rollback segments, schema objects, users, and tablespaces.	*Oracle8i Parallel Server Setup and Configuration* *Oracle Enterprise Manager Concepts Guide*
Oracle Partitioning	8.1.7	Provides more control in managing tables and indexes by directing all maintenance operations to individual partitions rather than to tables and index names. *This product requires a separate license.*	
Oracle PL/SQL Embedded Gateway	8.1.7	A Java module gateway that authenticates user roles and enables secured access to build and invoke PL/SQL procedures. These procedures can retrieve data from database tables and generate HTTP responses. It may be deployed in one of two ways: ▪ `mod_plsql`: This module runs as a servlet on the HTTP Server middle tier. It creates "stateless" sessions, meaning information about requests is not maintained between client sessions. ▪ `mod_ose`: This module runs as a servlet within the database. By resetting the default database activation descriptor (DAD) from the default "stateless" to "stateful," conventional database locking schemes are enabled and session states are maintained.	*Oracle Internet Application Server Release: Using `mod_plsql`* *Oracle8i Administrator's Reference Release 3 (8.1.7)*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Schema Manager (part of Oracle DBA Studio)	2.2	Enables you to create, alter, or drop schema objects such as clusters, indexes, snapshots, tables, and views.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Security Manager (part of Oracle DBA Studio)	2.2	Manages database users and gives or revokes privileges, profiles, and roles to users.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Servlet Engine	8.1.7	A Web server built directly into the Oracle8*i* database. Oracle Servlet Engine includes an HTTP listener and the ability to distribute Java Server Pages (JSP's) and run servlets directly on the database.	*Oracle8i JVM Servlet Container*
Oracle Spatial (formerly Oracle Spatial Data Cartridge)	8.1.7	Oracle Spatial makes the storage, retrieval, and manipulation of spatial data easier and more intuitive to users. *This product requires a separate license.*	*Oracle8i Spatial User's Guide and Reference*
Oracle Spatial Index Advisor (part of Oracle Enterprise Manager Integrated Applications)	2.2	Helps analyze and tune spatial indexes on data. With the analyzer, you can see if indexes are properly defined for optimum query performance. The analyzer also provides an understanding of distribution of the data through visual inspection.	*Oracle Enterprise Manager Concepts Guide*
Oracle Storage Manager (part of Oracle DBA Studio)	2.2	Enables you to administer tablespaces, datafiles, redo logs, and rollback segments for optimum database storage.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Time Series (formerly Oracle8*i* Time Series Cartridge)	8.1.7	Stores and retrieves time-stamped data through object data types. *This product requires a separate license.*	*Oracle8i Time Series User's Guide*
Oracle Universal Installer	1.7.1.7.0	A Java-based application that lets you quickly install, update, and remove Oracle products.	*Oracle8i Installation Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle Utilities	8.1.7	A suite of products used for database administration which includes: ■ DBVERIFY ■ Export Utility ■ Import Utility ■ Migration Utility ■ OCOPY ■ ORADIM ■ Password UtilityRecovery Manager ■ Server Manager ■ SQL*Loader ■ TKPROF	*Oracle8i Utilities*
Oracle Visual Information Retrieval (formerly Oracle8*i* Visual Information Retrieval)	8.1.7	Provides image storage, content-based retrieval, and format conversion capabilities through an object data type. This option is a building block for various imaging applications, rather than being an end-user application.	*Oracle8i Visual Information Retrieval User's Guide and Reference*
Oracle Wallet Manager	2.2	Generates a public-private key pair, creates a certificate request for submission to a certificate authority, and Installs and configures a trusted certificate for the identity.	*Oracle Advanced Security Administrator's Guide*
Oracle Workflow	2.5.2	Oracle Workflow is a complete workflow management system that supports business process definition and automation. Its technology enables automation and continuous improvement of business processes, routing information of any type according to user-defined business rules.	*Oracle Workflow Guide*
Oracle8*i* Server	8.1.7	The database component of the Oracle8*i* Enterprise Edition or Oracle8*i* software	*Getting to Know Oracle8i*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Oracle XML Developer's Kit	8.1.7	This kit consists of a set of APIs for parsing and generating XML data. These interfaces have been written for Java, C, C++, and PL/SQL. This kit consists of the following components: ■ XML Parser for Java ■ XML Parser for C ■ XML Parser for C++ ■ XML Parser for PL/SQL ■ XML Class Generator for Java ■ XML Class Generator for C++ ■ XML Transviewer Beans ■ XSQL Servlet	*Oracle8i Application Developer's Guide - XML* *Oracle8i XML Reference*
Oracle XML SQL Utility	2.0	This utility is a set of Java classes and PL/SQL wrappers that permit queries to return result sets or objects wrapped in XML.	*Oracle8i Application Developer's Guide - XML* *Oracle8i XML Reference*
PL/SQL Embedded Gateway	8.1.7	Enables users to use their browsers to invoke PL/SQL procedures stored in an Oracle database. The stored procedures can retrieve data from tables in the database, and generate HTTP responses to return to client browsers. The PL/SQL Embedded Gateway also includes the PL/SQL Web Toolkit--a set of PL/SQL packages that enables users to retrieve information about the HTTP request, specify values for HTTP headers, set cookies, and generate HTML pages.	*Oracle Internet Application Server Release: Using* `mod_plsql`
Pro*C/C++	8.1.7	Takes SQL statements embedded in C and C++ programs and converts them to standard C code. When you precompile this code, the result is a C or C++ program that you can compile and use to build applications that access an Oracle database. *This product requires a separate license as a part of Oracle Programmer.*	*Pro*C/C++ Precompiler Programmer's Guide*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
Pro*COBOL	1.8.52	Takes SQL statements embedded in a COBOL program and converts them to standard COBOL code. When you precompile this code, the result is a COBOL program that you can compile and use to build applications that access an Oracle database. *This product requires a separate license as a part of Oracle Programmer.*	*Pro*COBOL Precompiler Programmer's Guide*
Pro*FORTRAN	1.8.52	Takes SQL statements embedded in a FORTRAN program and converts them to standard FORTRAN code. When you precompile this code, the result is a FORTRAN program that you can compile and use to build applications that access an Oracle database. *This product requires a separate license as a part of Oracle Programmer.*	*Pro*Fortran Supplement to the Oracle Precompilers Guide*
SQL*Module Ada	8.1.7	Takes SQL statements embedded in an Ada program and converts them to standard Ada code. When you precompile this code, the result is a Ada program that you can compile and use to build applications that access an Oracle database. *This product requires a separate license as a part of Oracle Programmer.*	*SQL*Module for Ada Programmer's Guide (8.0.4)*
SQL*Plus	8.1.7	Command line interface that allows SQL and PL/SQL database languages to be used with an Oracle database	*SQL*Plus User's Guide and Reference*
SQL*Plus Worksheet	2.2	Graphical user interface for manually entering SQL, PL/SQL, and DBA commands or running stored scripts.	*Oracle Enterprise Manager Administrator's Guide*
SQLJ	8.1.7	A standard way to embed SQL statements in Java programs.	*Oracle8i SQLJ Developer's Guide and Reference*
SQLJ Runtime (installed with SQLJ)	8.1.7	A thin layer of pure Java code that runs above the JDBC driver. When Oracle SQLJ translates a SQLJ source code, embedded SQL commands in a Java application are replaced by calls to the SQLJ runtime.	*Oracle8i SQLJ Developer's Guide and Reference*

Table A–1 Product Descriptions

Product	Release	Description	For more information, see...
SQLJ Translator (installed with SQLJ)	8.1.7	A preprocessor for Java programs that contain embedded SQL statements. Oracle SQLJ Translator converts the SQL statements to JDBC calls.	*Oracle8i SQLJ Developer's Guide and Reference*
TCP/IP Protocol Support	8.1.7	Enables client/server conversation over a network using TCP/IP and Net8. This combination of Oracle products enables an Oracle application on a client to communicate with remote Oracle databases through TCP/IP (if the Oracle database is running on a host system that supports network communication using TCP/IP). Multi-Threaded Server Support (MTS) is available in TCP/IP networks. Connection Pooling is available only with MTS on TCP/IP networks.	*Net8 Administrator's Guide*
XML Development Kit (Oracle's version)	(8.1.7)	Required for integrating and running XML applications with the database.	Not applicable

B

Legato Storage Manager

This appendix describes how to install, update, and remove Legato Storage Manager. It includes the following:

- Requirements for Legato Storage Manager
- Pre-Installation Steps for Legato Storage Manager (LSM)
- Installing Legato Storage Manager Manually
- Updating Legato Storage Manager
- Removing Legato Storage Manager Version 5.5
- Post-Installation Steps for Legato Storage Manager

Requirements for Legato Storage Manager

Legato Storage Manager is a restricted-functionality version of Legato NetWorker, a backup product.

Note: If you have Legato NetWorker already installed on your system, you will not have the option of installing Legato Storage Manager. To install the version of Legato Storage Manager included with this release of Oracle8*i*, you must first de-install any present version of Legato NetWorker. See "Removing an Existing Legato Storage Manager Installation" on page B-3.

The software requirements in Table B–1 apply to a default installation of Legato Storage Manager, with no relocation of the software components.

Table B–1 Legato Storage Manager Software Requirements

Components	Default Location	Space Requirement
GUI	`/usr/bin`	17 MB
Daemon and utility command files	`/usr/sbin`	26 MB
Library files	`/usr/lib`	10 MB
Online client file and server indexes; media database	`/nsr`	100 MB
Online manual pages	`/usr/share/man`	1 MB
Device Drivers	`/usr/kernel`	0.1 MB
	`/etc/LGTOuscsi`	15 MB
		169.1 MB

Pre-Installation Steps for Legato Storage Manager (LSM)

The Legato Storage Manager installation script modifies the following system files during installation:

- `/etc/rpc`
- `/etc/syslog.conf`

Make copies of the original versions of these files before you install Legato Storage Manager.

Removing an Existing Legato Storage Manager Installation

If you want to install Legato Storage Manager from the Oracle8*i* distribution, but Legato Storage Manager is already on your system, you must first remove the installed version.

1. Log in as the `root` user and shut down the Legato Storage Manager daemons:

   ```
   # nsr_shutdown
   ```

2. Use the `pkgrm` command to remove individual Legato Storage Manager packages, or all of the Legato Storage Manager packages at the same time.

   Caution: Some Legato Storage Manager software packages depend on each other. Remove packages only in the following order: ORCLman, ORCLserv, ORCLnode, ORCLclnt, ORCLdrvr. Do not remove any existing Legato Storage Manager index files in the `/nsr` directory.

   ```
   # pkgrm package_name
   ```

   where *`package_name`* is one of the following:

Package Name	Description
ORCLman	NetWorker Man Pages
ORCLserv	NetWorker Server
ORCLnode	NetWorker Storage Node
ORCLclnt	NetWorker Client
ORCLdrvr	NetWorker Device Drivers

Installing Legato Storage Manager Manually

You typically install Legato Storage Manager by using Oracle Universal Installer, selecting the Custom installation of Oracle8*i* Enterprise Edition, and selecting Legato Storage Manager.

If you do not install Legato Storage Manager using Oracle Universal Installer, you can manually install it using the following steps:

Note: If you are updating Legato Storage Manager, be sure to perform a partial removal of Legato Storage Manager using the procedure in the section "Removing Legato Storage Manager Version 5.5". Be sure not to remove any existing Legato Storage Manager files in the `/nsr` directory. For more information on updating, refer to the section "Updating Legato Storage Manager".

Be sure no Legato Storage Manager or NetWorker software is installed on your system. If Legato software exists but is not detected by the following installation steps, both the existing Legato software and the Legato Storage Manager might not function properly.

---

1. From the Oracle8*i* Release 3 (8.1.7) CD-ROM mount point, go to the `lsm` directory

   ```
   $ cd lsm
   ```

2. As `root` user, install the Legato Storage Manager software using the following `lsminst` command:

   ```
   # ./lsminst cd_rom_mount_point/stage/Components/lsm
   ```

   For each prompt asking if you want to continue the installation, enter Yes.

   When prompted for a directory to use for client and server information, you can accept the default or enter another directory name. To check that the directory used has sufficient disk space, see the "Legato Storage Manager Software Requirements" table.

   When prompted for a device name, you can enter either a carriage return ([ENTER]) or a proper no-rewind, BSD-semantics tape device name. The device is used by Legato Storage Manager for backups after it has been properly configured in the Legato Storage Manager Administrator GUI.

See Also: For details on device configuration, see Chapter 3 in the *Legato Storage Manager Administrator's Guide*.

For all other prompts displayed by `lsminst`, press [ENTER].

3. Update the MANPATH and PATH environment variables as required. MANPATH must include `/usr/share/man`, the pathname of the directory where the Legato Storage Manager man pages are installed. PATH must include `/usr/bin` and `/usr/sbin`, the pathnames of the directories where the Legato Storage Manager binaries are installed.

4. For each ORACLE_HOME to be enabled for Legato Storage Manager backups, follow these steps:

Note: If you later install another ORACLE_HOME on your system, you must follow these steps to enable Legato Storage Manager backups from that ORACLE_HOME.

   a. Log in as the *`oracle`* user.

   b. Copy `stage/Components/lsm/lib/liblsm.so` from the Oracle8*i* CD-ROM to the file `$ORACLE_HOME/lib/liblsm.so`:

```
$ cp stage/Components/lsm/lib/liblsm.so $ORACLE_HOME/lib/liblsm.so
```

   c. Shut down all Oracle instances that use this ORACLE_HOME.

   d. Remove the symbolic link `$ORACLE_HOME/lib/libobk.so` and create a symbolic link from `$ORACLE_HOME/lib/libobk.so` to `$ORACLE_HOME/lib/liblsm.so`:

```
$ cd $ORACLE_HOME/lib
$ rm libobk.so
$ ln -s liblsm.so libobk.so
```

   e. Restart all Oracle instances that use this ORACLE_HOME.

.

Updating Legato Storage Manager

To update to the latest version of Legato Storage Manager, follow these steps:

1. Perform a partial removal of Legato Storage Manager using the procedure in the section "Removing an Existing Legato Storage Manager Installation".

   Do *not* remove any existing Legato Storage Manager files in the `/nsr` directory.

2. Install the updated version of Legato Storage Manager using the procedure in the section "Installing Legato Storage Manager Manually".

Removing Legato Storage Manager Version 5.5

Note: You cannot remove Legato Storage Manager by using the Installer. Use the following steps to remove Legato Storage Manager version 5.5.

To remove Legato Storage Manager version 5.5, follow these steps:

1. For each ORACLE_HOME on your system enabled for backups:

   a. Shut down all Oracle instances that use this ORACLE_HOME.

   b. Remove `$ORACLE_HOME/lib/liblsm.so` and create a symbolic link from `$ORACLE_HOME/lib/libobk.so` to `$ORACLE_HOME/lib/libdsbtsh8.so`:

   ```
   $ cd $ORACLE_HOME/lib
   $ rm libobk.so
   $ rm liblsm.so
   $ ln -s libdsbtsh8.so libobk.so
   ```

   c. Restart all Oracle instances that use this ORACLE_HOME.

2. As `root` user, stop the Legato Storage Manager daemons by using the `nsr_shutdown` command:

   ```
   # nsr_shutdown
   ```

3. As `root` user, remove the Legato Storage Manager software by using the `pkgrm` command:

   ```
   # pkgrm ORCLman ORCLserv ORCLnode ORCLdrvr ORCLclnt
   ```

For each prompt displayed by the `pkgrm` command, enter "Yes."

> **Note:** Be sure to remove the software packages in the exact order shown in step 3.

4. To remove the Legato Storage Manager index and resource configuration files, remove the `/nsr` directory by running the following command as `root` user:

   ```
   # rm -rf /nsr/* /nsr
   ```

   If you remove the `/nsr` directory containing the index and configuration information, you will not be able to restore from the Legato Storage Manager backups. If you later re-install Legato Storage Manager or install another Legato product, you will need to rebuild the configuration.

Post-Installation Steps for Legato Storage Manager

You can install Legato Storage Manager by using the Installer and running the `root.sh` script as described in "Oracle8i Enterprise Edition Custom Installation" on page 3-12. Instructions for manually installing Legato Storage Manager from the Oracle8*i* CD-ROM are described in "Installing Legato Storage Manager Manually".

1. After the Legato Storage Manager installation has completed, verify that all the required packages were installed:

   ```
   # pkginfo | grep -i LSM
   application ORCLclnt       LSM (Backup/Recover) Client
   system ORCLdrvr            LSM (Backup/Recover) Device Drivers
   application ORCLman        LSM (Backup/Recover) Man Pages
   application ORCLnode       LSM (Backup/Recover) Storage Node
   application ORCLserv       LSM (Backup/Recover) Server
   ```

2. Configure the driver software to provide support for Legato Storage Manager to back up data to the SCSI storage devices attached to the system.

   > **See Also:** For more information, refer to the *Legato Storage Manager Administrator's Guide*.

Integrating SAP R/3 with Legato Storage Manager

To perform archive, backup, and recover operations, Legato Storage Manager provides a means to integrate SAP R/3 and Oracle8*i* backup and recovery. The backup and recovery is initiated from SAPDBA along with the SAP `br-tools`

(`brbackup`, `brarchive`, and `brrestore`) with the Legato Storage Manager server.

On the Oracle8*i* software CD-ROM, the directory containing the Legato Storage Manager software has a subdirectory named SAP with the following files for SAP R/3 on Oracle:

Table B–2 SAP R/3 Files

File Name	Description
`backint`	SAP API that integrates SAP R/3 backup and recovery with third-party utilities
`init.utl`	Parameter file that specifies the variables used by `backint` during backup, recover, and archive operations
`README`	Text file that describes the SAP R/3 files and where to install them

To set up and configure Legato Storage Manager with SAP R/3 on your system, perform the following tasks:

1. With SAP R/3 already installed, install Legato Storage Manager on your system. Follow the installation instructions in "Installing Legato Storage Manager Manually".
2. Include the pathname of the directory containing the Legato Storage Manager executables (`/usr/sbin`) in the PATH environment variable for the *`oracle`* user.
3. Configure a client resource for the Oracle8*i* server in Legato Storage Manager, according to the instructions in Chapter 2 of the *Legato Storage Manager Administrator's Guide*, which is included on the Oracle Online Generic Documentation CD-ROM.
4. From the subdirectory named SAP in the Legato Storage Manager directory on the Oracle8*i* CD-ROM, copy the `backint` program file into the directory where the SAP br-tools reside.
5. From the subdirectory named SAP in the Legato Storage Manager directory on the Oracle8*i* CD-ROM, copy the file `init.utl` into the directory where you installed Legato Storage Manager, `/usr/sbin`.

6. Instruct the SAP Database Administration program to use the `backint` program by setting the `backup_dev_type` parameter in the SAP initialization file, `init`*`sid`*`.sap`. In `init`*`sid`*`.sap`, set the parameter as follows:

   ```
   backup_dev_type = util_file
   ```

7. Instruct the SAP Database Administration program to use the file `init`*`sid`*`.utl` for `backint`-specific parameters by setting the `util_par_file` parameter in the SAP initialization file, `init`*`sid`*`.sap`.

   In `init`*`sid`*`.sap`, set the parameter as follows:

   ```
   util_par_file = ?/dbs/initsid.utl
   ```

The session report, `backint`*`sid`*`.log`, is created after the first backup session using SAP R/3 integrated with Legato Storage Manager. The report, typically located in the directory `/nsr/logs`, is appended to after each backup, recover, or archive

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