

Oracle8i™

Installation Guide for Intel-Linux

Release 8.1.5

July 1999

Part No. A74958-01

Topics Include:

[System Requirements](#)

[Setting the Environment](#)

[Installation](#)

[Configuring Oracle8i](#)

[National Language Support](#)

ORACLE™

Oracle8i Installation Guide for Intel-Linux

Part No. A74958-01

Release 8.1.5

Copyright © 1999 Oracle Corporation. All rights reserved.

Primary Author: Donn Fisher, with Reiko Nishi

Technical Contributors: Jamshed Patel and Srinivas Maturi, with Sanjib Das, Ravi Kuntamukkla, Sandy Lee, and Mangesh Nijasure.

The programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of such applications if the programs are used for such purposes, and Oracle Corporation disclaims liability for any damages caused by such use of the programs.

The programs (which include both the software and documentation) contain proprietary information of Oracle Corporation; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the programs is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. Oracle Corporation does not warrant that this document is error free. Except as may be expressly permitted in your license agreement for these programs, no part of these programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Oracle Corporation.

If the programs are delivered to the U.S. Government or anyone licensing or using the programs on behalf of the U.S. Government, the following notice is applicable:

Restricted Rights Notice Programs delivered subject to the DOD FAR Supplement are "commercial computer software" and use, duplication, and disclosure of the programs, including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, programs delivered subject to the Federal Acquisition Regulations are "restricted computer software" and use, duplication, and disclosure of the programs shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software - Restricted Rights (June, 1987). Oracle Corporation, 500 Oracle Parkway, Redwood City, CA 94065.

Oracle is a registered trademark, and ConText, Oracle Objects, Oracle Store, Oracle7, Oracle8, PL/SQL, PRO*C/C++, Programmer/2000, JDeveloper, Net8, Oracle Names, Oracle8i, Oracle interMedia, Pro*COBOL, Pro*FORTRAN, and SQL*Plus are trademarks or registered trademarks of Oracle Corporation. All other company or product names mentioned are used for identification purposes only and may be trademarks of their respective owners.

Contents

Send Us Your Comments	v
Preface.....	vii
Purpose.....	vii
Audience	vii
Oracle8i and Oracle8i Enterprise Edition.....	vii
Typographic Conventions	viii
Command Syntax	viii
Related Documentation	ix
Oracle Services and Support	ix
1 System Requirements	
Installation Overview	1-2
System Installation Requirements	1-2
Hardware Requirements	1-2
Disk Space Requirements	1-3
Operating System Software Requirements.....	1-3
Online Documentation Requirements.....	1-3
Additional Product-Specific Installation Requirements	1-4
Intel-Linux and Installation-Specific Issues and Restrictions	1-5
New ORACLE_HOME	1-6
Java Runtime Environment (JRE).....	1-6
Character Mode	1-6
Upgrading and Migrating	1-6

File Systems	1-6
Optimal Flexible Architecture	1-7
Very Large Files	1-7
New Products	1-7
Oracle7 to Oracle8.....	1-7
Oracle8 to Oracle8i	1-8

2 Setting the Environment

Linux Environment Summary	2-2
Setup Tasks to Perform as the root User	2-4
Setup Tasks to Perform as the <i>oracle</i> User	2-7
Setup Tasks for Oracle Products	2-9
Tools and Precompilers.....	2-10
Networking and System Management Products	2-10

3 Installation

Product Installation Categories and Installation Types	3-2
Starting the OUI	3-3
Installing Products for the First Time	3-5
Installing Additional Products after Initial Installation.....	3-5
Re-Installing Products.....	3-6
Creating a Database	3-6
Upgrading or Migrating an Existing System	3-6
De-installing Oracle Software	3-6
Cleaning Up After a Failed Installation.....	3-7
Non-Interactive Installation	3-7
Preparing the Response File.....	3-7
Specifying a Response File for the Oracle Universal Installer	3-8
Error Handling.....	3-8
Validation of Values from Response File	3-8

4 Configuring Oracle8i

Configuration Tasks to Perform as the root User	4-2
Configuration Tasks to Perform as the <i>oracle</i> User	4-7

Post-Installation for Oracle Products	4-12
Accessing Installed Documentation	4-18

A National Language Support

Supported Sort Sequences	A-2
Supported Character Sets	A-2
Supported Languages and Territories.....	A-5

Index

Send Us Your Comments

Oracle8i Installation Guide, Release 8.1.5 for Intel-Linux

Part No. A74958-01

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?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have other suggestions for improvement, please indicate the book title, part number, chapter, and section. You can send comments to:

Technical Documentation Manager
Platform Technologies Division
500 Oracle Parkway, Mailstop 10p2
Redwood Shores, CA 94065
USA

If you would like a reply, please give your name, postal or e-mail address, and telephone number.

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

Preface

Purpose

This guide and the *Oracle8i Administrator's Reference for Intel-Linux* provide instructions for installing and configuring Oracle8i on Intel-Linux. Product information is in your Oracle8i Documentation Library Set.

Audience

This document is intended for anyone responsible for installing Oracle8i on a Intel-Linux system.

Oracle8i and Oracle8i Enterprise Edition

Unless noted otherwise, features and functionality described in this document are common to both Oracle8i and Oracle8i Enterprise Edition.

Typographic Conventions

<code>monospace</code>	Monospace type indicates Linux 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.
<i>italics</i>	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.

Because Linux is case-sensitive, conventions in this document may differ from those used in other Oracle product documentation.

Command Syntax

Command syntax appears in `monospace` font. The following conventions apply to command syntax:

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: <pre>dd if=/dev/rdskc0t1d0s6 of=/dev/rst0 bs=10b \ count=10000</pre>
braces { }	Braces indicate required items: <code>.DEFINE {macro1}</code>
brackets []	Brackets indicate optional items: <code>cvtrcr termname [outfile]</code> Note that brackets have a different meaning when used in regular text.
ellipses ...	Ellipses indicate an arbitrary number of similar items: <code>CHKVAL fieldname value1 value2 ... valueN</code>
<i>italics</i>	Italic type indicates a variable. Substitute a value for the variable: <i>library_name</i>
vertical line	A vertical line indicates a choice within braces or brackets: <code>SIZE filesize [K M]</code>

Related Documentation

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

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

- *Oracle8i Administrator's Reference for Intel-Linux*
- *Oracle8i Tuning*
- *Oracle8i Administrator's Guide*
- *Net8 Administrator's Guide*

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.

Oracle Services and Support

A wide range of information about Oracle products and global services is available on the Internet, from <http://www.oracle.com>.

The sections below provide URLs for selected services.

Oracle Support Services

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

Oracle Store, for U.S.A. customers, is at <http://oraclestore.oracle.com>. Links to Stores in other countries are provided from this site.

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 key developer products to enable rapid development and deployment of applications built on Oracle technology.

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 Oracle8i on Intel-Linux and any restrictions with this release. Verify that your system meets the requirements described in this chapter before starting the installation.

- [Installation Overview](#)
- [System Installation Requirements](#)
- [Intel-Linux and Installation-Specific Issues and Restrictions](#)
- [New Products](#)

Installation Overview

Installing Oracle8i 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. *Check the Linux Environment:* make sure the Linux environment is properly set up for the products you want to install. See [Chapter 2, "Setting the Environment"](#) of this manual.
3. *Installation:* use the new Oracle Universal Installer provided on your software CD-ROM to install the Oracle software. See [Chapter 3, "Installation"](#) of this manual.
4. *Post-Installation:* create database objects, establish the user environment, and configure the installed Oracle products for the local system. See [Chapter 4, "Configuring Oracle8i"](#) of this manual.
5. *Client Installation:* if you want to install Oracle client tools, applications, and client interfaces, check the requirements and instructions in the installation guides for those products.

System Installation Requirements

Verify that your system meets the installation requirements described in the following sections before you install Oracle Products.

Hardware Requirements

Oracle8i, Release 8.1.5 for Intel-Linux requires the following hardware:

Table 1-1 Hardware Requirements

Hardware	Requirements
Memory	A minimum of 128 MB RAM is required. Oracle Corporation recommends 256 MB for improved performance.
Swap Space	Twice the amount of RAM is recommended for most systems.
CD-ROM Device	A CD-ROM drive supported by Intel-Linux is required. Oracle uses ISO 9660 format CD-ROM disks with RockRidge extensions.

Disk Space Requirements

The Oracle Universal Installer (OUI) allows you to choose your installation category and type as described in "[Product Installation Categories and Installation Types](#)" on page 3-2. Your choice will determine how much disk space you will need as shown in [Table 1-2](#). Custom installations require at least as much space as the minimal installations. Disk space requirements do not account for the size of your database, and 128 MB of RAM is the minimum amount required for running the products in this release. A production RDBMS supporting many users requires significantly greater disk space and memory.

Table 1-2 Disk Space Requirements for Installation

	Oracle8i Enterprise Edition	Oracle8i Client	Programmer/2000
Minimal	660 MB	N/A	N/A
Typical	811 MB	306 MB	276 MB
Custom	Custom installations require at least as much space as the minimal installations.		

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

Operating System Software Requirements

Oracle8i, Release 8.1.5 for Intel-Linux requires the following software:

Table 1-3 Operating System Software Requirements

OS Software	Requirements
Operating System	Linux kernel 2.2 or above
Operating System Libraries	GLIBC package version 2.1
Window Manager	Use any supported window manager, for example <code>fvwm</code> , that supports Motif version 1.2. Character mode installations are not supported for Release 8.1.5. See " Character Mode " on page 1-6.

Online Documentation Requirements

To view online documentation, you need a web browser. We recommend Netscape Navigator 4.0 or Microsoft Internet Explorer 4.0 or higher.

Additional Product-Specific Installation Requirements

This section provides product-specific information additional to hardware and software requirements provided earlier in this chapter.

Oracle8i Options

Table 1–4 *Restrictions, Requirements, and Installation Tasks for Oracle8i and Options*

Product Name	Restrictions and Requirements
Oracle8i, 8.1.5	None.
Oracle Programmer, 8.1.5	None.
Oracle Parallel Server, 8.1.5	Not available
Oracle Partitioning Option, 8.1.5	None.
Oracle interMedia, 8.1.5 (includes Audio, Text, Video, Locator, and Image) (formerly ConText)	None.

Tools and Precompilers

Table 1–5 *Restrictions, Requirements, and Installation Tasks for Tools and Precompilers*

Product Name	Restrictions and Requirements
Oracle Database Configuration Assistant, 8.1.5	None
Object Type Translator, 8.1.5	None
Oracle Call Interface, 8.1.5	None
Oracle Universal Installer, 1.6.0.7	Two terminal windows should remain open while using OUI.
Pro*C/C++, 8.1.5	Requires Intel-Linux egcs 1.1.2-12 or higher
Oracle JServer, 8.1.5 (includes JVM, and Java utilities)	See the Java README on the Product CD-ROM for restrictions and requirements.
Oracle JDBC Drivers	Requires JDK release 1.1.6 from http://www.blackdown.org
Oracle SQLJ, 8.1.5	None
SQL*Plus, 8.1.5	None

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 the Net8 products. Refer to the operating system and third party vendor networking product documentation for more information. Net8 products require the specific release of Oracle8i and Net8 supplied with this release.

Table 1–6 Restrictions, Requirements, and Installation Tasks for Networking and System Management Products

Product Name	Restrictions and Requirements
Oracle Intelligent Agent, 8.1.5	TCL library version 7.5 from http://www.scriptics.com
Oracle Names, 8.1.5	None
Net8, 8.1.5	None
Oracle Connection Manager, 8.1.5	None
Oracle TCP/IP Protocol, 8.1.5	None

Transparently Installed Products

Some products are automatically included with the Oracle8i Server. These products do not appear on lists of products that are included in your installation even though they have appeared as independent products in prior releases:

- PL/SQL, 8.1.5
- Oracle Database Utilities, 8.1.5
- Oracle Objects, 8.1.5
- Migration Utility, 8.1.5
- Server Manager, 8.1.5

Oracle Intelligent Agent automatically installs Oracle Data Gatherer.

Intel-Linux and Installation-Specific Issues and Restrictions

The following issues and restrictions may affect the installation or use of Oracle8i on Intel-Linux. You should also check the Release Notes that accompany this release and the README files in the `$ORACLE_HOME/rdbms/doc` directory before using Oracle8i. For release 8.1.5, the README files are uncompressed and linked to the top-level HTML file in the `doc` directory. README files for other products on the

Oracle8i Server distribution are in the `doc` or `admin/doc` directories for the respective products.

New ORACLE_HOME

You must not install Oracle8i Release 8.1.5 into an ORACLE_HOME directory containing any Oracle Software earlier than 8.1.5.

Java Runtime Environment (JRE)

JRE 1.1.6 v5 should be installed from <http://www.blackdown.org>. Please refer to the *Oracle8i Release Notes for Intel-Linux* for details.

Character Mode

Installation can no longer be performed using character mode. However, you may configure the OUI to perform a non-interactive installation of Oracle products. The OUI in non-interactive mode can be run directly from your machine console, X-windows environment, or an X-terminal emulator. For more information on the non-interactive installation of Oracle products, see "[Non-Interactive Installation](#)" in [Chapter 3](#).

Upgrading and Migrating

If you are upgrading an existing system, there are issues which exceed the scope of this book. See *Oracle8i Migration* for details on upgrade and migrate procedures.

File Systems

The Oracle 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 (for example, NFS based on the UDP protocol), although Oracle software can be installed on them.

Optimal Flexible Architecture

Optimal Flexible Architecture (OFA) is supported, but not enforced, by the OUI. The demonstration database installed by default when you select the [Typical] option in the OUI "Installation Types" dialog, is created under a single mount point.

See Also: For further information about OFA, refer to Appendix A, "Optimal Flexible Architecture" in the *Oracle8i Administrator's Reference for Intel-Linux*.

Very Large Files

Intel-Linux does not support large files greater than 2 GB.

New Products

The following sections list the names of new and modified products from a previous Oracle Server release.

Oracle7 to Oracle8

New Products

Connection Manager Connection Manager is part of the Oracle Net8 set of products. It provides support for multiple network protocols (replacing the Multi-Protocol Interchange), access control to Oracle Servers, and session concentration between clients and a server.

Image Cartridge The Image Cartridge is an extension to the Oracle8 Server and provides image storage, retrieval, and format conversion capabilities through an object data type. This cartridge supports image storage using binary large objects (BLOBS) and references to image data residing in external files (BFILES).

Object Type Translator The Object Type Translator converts database definitions of object types and named collection types into C-struct declarations which can be included in OCI or Pro*C/C++ applications.

Recovery Manager Recovery Manager integrates backup, restore, and recovery capabilities into the Oracle8 Server. It replaces the Enterprise Backup Utility.

Modified Products

Oracle Net8 Formerly, SQL*Net, enables network communication.

Oracle8 to Oracle8i

The following sections list and define the names of products that are new and modified to this release.

New Products

Oracle Partitioning Oracle Partitioning provides users more control in managing tables and indices by providing administration capabilities on subsets of tables.

Java Runtime Environment 1.1. JRE 1.1.6 v5 from <http://www.blackdown.org> is the minimum standard Java platform for running Java programs. It includes Java Virtual Machine, Java core classes, and supporting files.

Oracle Database Configuration Assistant Oracle Database Configuration Assistant automates the process of creating, modifying, or deleting a database.

Oracle JServer and Oracle JServer Enterprise Edition JServer offers a Java Virtual Machine, a CORBA ORB, an embedded JDBC driver, a SQLJ translator, and an Enterprise JavaBeans transaction server. Oracle JServer is licensed separately.

Oracle Universal Installer A Java application that installs Oracle products.

Oracle *interMedia* Enables Oracle to manage text, documents, image, audio, and video in an integrated fashion with other enterprise information. Extends Oracle reliability, availability, and data management to text and multimedia content in internet, electronic commerce, and media-rich applications.

Oracle *interMedia* Locator Service Oracle *interMedia* Locator Service enables users to store and query spatial data.

Oracle JDBC Drivers Oracle Java Database Connectivity Drivers give Java programmers access to industry leading Oracle7, Oracle8, and Oracle8i database servers.

Oracle SQLJ SQLJ is a new standard for embedding SQL within Java

Modified Products

Net8 Products Formerly Oracle Net8, products that enable client/server and server/server communication. Applies to Oracle Net8 Assistant, Oracle Net8 Client, and Oracle Net8 Server.

Oracle Spatial Formerly Oracle8 Spatial Cartridge, Oracle Spatial enables users to manipulate and store spatial data. Oracle Spatial is licensed separately.

Oracle Time Series Formerly Oracle8 Time Series Cartridge, Oracle Time Series provides the ability to store and retrieve time stamped data through object data types. Oracle Time Series is licensed separately.

Oracle Visual Information Retrieval Formerly Oracle8 Visual Information Retrieval Cartridge, it provides the ability to store, retrieve, and manipulate image data. Oracle8 Visual Information Retrieval is licensed separately.

Oracle Programmer Formerly Programmer 2000, it includes development tools and interfaces for creating applications that access an Oracle database. Programmer includes precompilers, networking services, basic client software, and documentation.

Oracle *interMedia* Audio Formerly Oracle Audio Cartridge, Audio enables management of digital audio data in several file formats.

Oracle *interMedia* Image Formerly Oracle Image Cartridge, Image provides the ability to store, retrieve, and process image data using popular and industry standard formats.

Oracle *interMedia* Text Formerly Oracle ConText Cartridge, Text provides full text retrieval and advanced linguistic capabilities for text data. Supports storing, querying, and viewing text in a variety of languages and formats using standard SQL and PL/SQL.

Oracle *interMedia* Video Formerly Oracle Video Cartridge, Video provides storage and retrieval of video data in several formats from a local or remote source.

Setting the Environment

Use this chapter to help you prepare your environment for installing Oracle8i, after you have verified the system meets the requirements described in [Chapter 1](#), "System Requirements" of this manual.

- [Linux Environment Summary](#)
- [Setup Tasks to Perform as the root User](#)
- [Setup Tasks to Perform as the oracle User](#)
- [Setup Tasks for Oracle Products](#)

Linux Environment Summary

[Table 2-1](#) summarizes the requirements for installing the Oracle8i Server. If your system fails to satisfy any listed requirement, perform the tasks listed on [page 2-4](#) as necessary to set up your environment to meet these requirements.

Table 2-1 Linux Environment Summary

Environmental Factor	Requirement for Oracle8i	
Linux Kernel Parameters:		
Shared Memory	SHMMAX	0.5 *(physical memory present in machine) up to a maximum of 1 GB This setting does not affect how much shared memory is needed or used by Oracle8i 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
	<hr/>	
Semaphores	SEMMNI	100
	SEMMSL	Set to 10 plus the largest <i>initsid.ora</i> PROCESSES parameter of an Oracle database on the system. The PROCESSES parameter can be found in each <i>initsid.ora</i> file, located in the ORACLE_HOME/db _s directory. The default value of PROCESSES for the Release 8.1.5 prebuilt database is 50.
	SEMMNS	Set to the sum of the PROCESSES parameter for each Oracle database <i>except</i> the largest one, plus 2 times the largest PROCESSES value, plus 10 times the number of Oracle databases. See " Configure the Linux Kernel for Oracle8i " on page 2-4 for an example of this formula.
	SEMOPM	100
	SEMVMX	32767

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 Oracle8i 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.

Table 2–1 Linux Environment Summary

Environmental Factor	Requirement for Oracle8i
Mount Points (Storage Devices)	The Oracle Universal Installer requires only two mount points: one for the software, and one for the database files. An 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.
Linux Groups for Oracle Roles	A Linux group is required for the OSDBA role. This book assumes that the group is named <code>dba</code> . The OSOPER role may belong to the same group as the OSDBA or to a different group.
Special Linux Group for the OUI <code>oraInventory</code>	All users installing Oracle in any <code>ORACLE_HOME</code> must belong to the same Linux group. The OUI inventory is shared by all <code>ORACLE_HOME</code> s on a machine, and is group writable. Oracle recommends installing with <code>oinstall</code> as the current primary group.
Linux Accounts	A Linux account that is dedicated solely to installing and upgrading the Oracle8i system. The account must be a member of the group used by OSDBA.
Permissions for File Creation	Set <code>umask</code> to <code>022</code> .
<code>ORACLE_BASE</code>	Not required, but recommended as part of an OFA-compliant installation. See " ORACLE_BASE " on page 2-8 for further information.

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 Oracle8i:

- [Configure the Linux Kernel for Oracle8i](#)
- [Create Mount Points](#)
- [Create Linux Groups for Database Administrators](#)
- [Create a Linux Group for the OUI Inventory](#)
- [Create a Linux Account to Own Oracle Software](#)

Note: In addition to these setup tasks, you will need `root` privileges near the start of the install if the file `/etc/oratab` is not writable by the `oracle` user. You will also need `root` privileges near the end of the install to run the `root.sh` script.

▮▮ Configure the Linux Kernel for Oracle8i

Configure the Linux kernel Interprocess Communication (IPC) parameters to accommodate the Shared Global Area (SGA) structure of the Oracle8i Server. 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 current shared memory and semaphore segments of the system, and their identification number and owner.
2. Set the following kernel parameters in:
`/usr/src/linux/include/asm/shmparam.h` and
`/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:

$$\text{SHMMAX} * \text{SHMSEG}$$

[Table 2-1](#) shows the recommended settings. The recommended values are optimal for one instance and are based on the default `initsid.ora` file. If you plan to install more than one instance, or to modify the `initsid.ora` file extensively, set these parameters higher.

To set the kernel parameter for SEMMNS, use the formula in [Table 2-1](#). For example, consider a system that has three Oracle instances with the PROCESSES parameter in their `initsid.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:

$$\text{SEMMNS} = ((A=100) + (B=100)) + ((C=200) * 2) + ((\# \text{ of instances}=3) * 10) = 630$$

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

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

► Create Mount Points

Oracle8i requires at least two mount points: one for the software and 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 and at least three for database files.

All software and database mount point names used for Oracle8i 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](#) 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 for Intel-Linux*.

▶▶ Create Linux Groups for Database Administrators

During installation, two Oracle roles are created: DBA and OPERATOR. Database administrators are granted these roles by virtue of their membership in corresponding Linux groups. You must create the group or groups 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.

On Intel-Linux, use the `groupadd` utility to create a group named `dba`. You can name the group something other than `dba`. If you plan to assign the OPERATOR role to a separate group, create that group also.

The OUI assigns both Oracle DBA and OPERATOR privileges to the Linux group, `dba`, by default. If you have not created a `dba` group, you will be prompted to enter the name or names you have chosen.

(Oracle8i documentation refers to these Linux groups as the OSDBA and OSOPER groups.)

▶▶ Create a Linux Group for the OUI Inventory

On Intel-Linux, use the `groupadd` utility to create a group named `oinstall`. The `oinstall` group will own the OUI `oraInventory`. The user account that runs the installation must be a member of this group.

▶▶ Create a Linux Account to Own Oracle Software

The *oracle* account is the Linux account that owns the Oracle8i software after installation. You must run the OUI from this account.

On Intel-Linux, use the operating system administration utility `useradd` to create an *oracle* account with the following properties:

Login Name	Any name, but this document refers to it as the <i>oracle</i> account.
Default GID	Corresponding to the <code>oinstall</code> group.
Home Directory	Choose a home directory consistent with other user home directories. The home directory of the <i>oracle</i> account does not have to be the same as the <code>ORACLE_HOME</code> directory.

Login Shell The default shell can be `/bin/sh`, `/bin/csh`, `/bin/ksh`, or `/bin/bash` but the examples in this document assume the Bourne shell (`/bin/sh`).

Note: Use the *oracle* account only for installing and maintaining Oracle software. Never use it for purposes unrelated to the Oracle*8i* Server. Do not log in to the database when using the *oracle* (Linux) account. Do not use *root* as the *oracle* account.

Sites with multiple Oracle servers may install them under the same *oracle* account, or separate ones. All *oracle* accounts must belong to the `oinstall` group which owns the `oraInventory` directory. For security purposes, it is possible to use different OSDBA groups for different systems. You can do this as long as the *oracle* user is not a member of the DBA group. You will be prompted to enter a non-default value for OSDBA and OSPER groups.

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 the files the OUI creates.

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:

```
umask 022
```

►► Set Environment Variables

Set the environment variables listed in this section before starting the OUI.

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.

DISPLAY

Set `DISPLAY` to the machine name or IP address, X server, and screen being used by your workstation to connect to the system where the software will be installed. Do not use the machine name or IP address of the system where the software is being installed. Use the machine name or IP of your own workstation. If you are not sure what the X server and screen setting should be, then use 0 (zero) for both. If you get an Xlib error similar to "Failed to connect to server" or "Connection refused by server" or "Can't open display" when starting the OUI, run one of the following commands:

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_machine_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_machine_name
```

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. If you are not using an OFA-compliant system, you do not have to set `ORACLE_BASE`.

ORACLE_HOME

Specifies the directory containing the Oracle software for a given release. The OFA-recommended value is: `$ORACLE_BASE/product/release`. For example: `/u01/app/oracle/product/8.1.5`.

Ensure that the value of `ORACLE_HOME` points to a directory that does not already contain any Oracle software.

NLS_LANG

Required to be set if installing or creating a database that uses a character set other than `US7ASCII` (the default). A complete list of valid character sets is available in [Appendix A, "National Language Support"](#) of this manual.

ORA_NLS33

Required if creating a database with a storage character set other than `US7ASCII`. Set `ORA_NLS33` to `$ORACLE_HOME/ocommon/nls/admin/data` before starting the OUI or creating the database.

►► Update the Environment for Current Session

After setting environment variables in the `.profile` or `.login` file of the *oracle* account, update the environment in the current shell session.

For the Bourne or Korn shell:

```
$ . ./profile
```

For the C shell:

```
% source .login
```

Setup Tasks for Oracle Products

Perform the following tasks as necessary:

- [Tools and Precompilers](#)
 - [Pre-Installation Steps for the Pro*C/C++ Precompiler](#)
- [Networking and System Management Products](#)
 - [Pre-Installation Steps for Net8](#)
 - [Pre-Installation Steps for Oracle Names Server](#)
 - [Pre-Installation Steps for Oracle Supported Protocols](#)

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.

Networking and System Management Products

Net8 Configuration Assistant

If the Net8 Server or Net8 Client is installed, the installer automatically launches the Net8 Configuration Assistant for initial configuration of the network.

►► Pre-Installation Steps for Net8

Shut down all Net8 listeners specific to the current ORACLE_HOME before installing Net8. To determine if any listeners are running, enter:

```
% ps -ef | grep tns
```

Shut down a running listener with the listener control utility:

```
% lsnrctl listener_name stop
```

►► Pre-Installation Steps for Oracle Names Server

If you want to use a well-known Names Server, create an alias for the machine hostname to `oramesrvr[0-4]` in the `/etc/hosts` file. For example:

```
128.128.44.123 mach1.eng oramesrvr0
```

You must also create the alias for the well-known Names Server on all server and client machines in the network. (A well-known Names Server is one that uses a default name, such that clients can find it on the network, without being individually configured.)

See Also: Names Servers and well-known Names Servers are discussed in the *Oracle Net8 Administrator's Guide*.

►► Pre-Installation Steps for 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 Oracle8i 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
```

Installation

This chapter describes how to start the Oracle Universal Installer (OUI) and create a new Oracle8i installation.

- [Product Installation Categories and Installation Types](#)
- [Starting the OUI](#)
- [Installing Products for the First Time](#)
- [Creating a Database](#)
- [Upgrading or Migrating an Existing System](#)
- [De-installing Oracle Software](#)
- [Non-Interactive Installation](#)
- [Non-Interactive Installation](#)

Product Installation Categories and Installation Types

Oracle8i comes with a choice of three installation categories: Oracle8i Enterprise Edition, Oracle8i Client, or Oracle Programmer. Each category gives you a choice of installation types: Typical, Minimal, and Custom. Choose the combination of products suitable for your purposes and requirements.

Table 3–1 shows the products which can be installed by each of the three installation categories.

Table 3–1 Oracle Universal Installer: Product Installation Categories

Products	Oracle8i Enterprise Edition	Oracle8i Client	Oracle Programmer
Oracle8i Server	X		
Oracle8i Client		X	
Oracle Programmer			X
Net8 Assistant	X	X	X
Oracle Call Interface	X	X	X
Oracle Object Type Translator	X	X	X
Pro*C			X
Oracle Universal Installer	X	X	X
SQL*Plus	X	X	
Oracle8i Utilities	X	X	
Net8 Server	X		
Net8 Client	X	X	X
Oracle Connection Manager	X		
Oracle Intelligent Agent	X		
Oracle Names	X		
Oracle Parallel Server	X		
Oracle Database Configuration Assistant	X	X	
Oracle Data Migration Assistant	X	X	
Oracle Partitioning	X		
Oracle interMedia	X		

Table 3–1 Oracle Universal Installer: Product Installation Categories

Products	Oracle8i Enterprise Edition	Oracle8i Client	Oracle Programmer
Oracle Visual Information Retrieval	X		
Oracle Spatial	X		
Oracle Time Series	X		
Intel-Linux Documentation	X	X	
SQLJ Translator	X	X	X
SQLJ Runtime	X	X	X
JDBC/OCI Driver	X	X	X
EJB/CORBA	X	X	X

Starting the OUI

Perform the following tasks to run the Installer:

- [Download and Install JRE 1.1.6 v5](#)
- [Mount the Oracle8i CD-ROM](#)
- [Start the OUI](#)

►► Download and Install JRE 1.1.6 v5

You must download JRE 1.1.6 v5 from <http://www.blackdown.org>. Install JRE in any directory where there is enough space on your system and create a symbolic link from `/usr/local/jre` to `installed_path_of_jre/jre_116_v5`.

►► Mount the Oracle8i CD-ROM

The Oracle8i CD-ROM is in ISO 9660 format with Rockridge extensions. You must have `root` privileges to mount or unmount the CD-ROM manually. Be sure to unmount the CD-ROM before removing it from the drive by using the `umount` command

1. Place the Oracle8i 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

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

▶▶ Start the OUI

CAUTION: Do not run the OUI as the `root` user.

To start the OUI:

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

```
cd cdrom_mount_point_directory
```

3. Start the OUI by entering the following:

```
./runInstaller
```

Note: The OUI is capable of running a non-interactive, "silent" installation of Oracle products that does not use the graphical interface. For instructions on using this feature of the OUI, see "[Non-Interactive Installation](#)" on page 3-7.

Installing Products for the First Time

1. In the "Welcome" dialog box, click the [Next] button to begin your installation.
2. In the "File Locations" dialog box, enter a value in the [Destination...] field for the desired location of your ORACLE_HOME.

You will be prompted to run `/tmp/orainstRoot.sh` as root before proceeding. This is to create a pointer file to the location of the `oraInventory` directory.

3. In the "Available Products" dialog box, select a product installation category, and in the dialog box which follows, "Installation Types", select an installation type. For more information on installation types, see "[Product Installation Categories and Installation Types](#)" on page 3-2. Products not available in all installation types are annotated as such in the table.
4. Proceed through the remaining dialogues using the online help for assistance; available by clicking the [Help] button.
5. After the OUI has finished installing the Oracle products, you must run the `root.sh` script. See "[Run the root.sh Script](#)" in [Chapter 4](#).

Installing Additional Products after Initial Installation

1. Referring to [Table 3-1](#) on page 3-2, identify the product installation category for the additional product or products that you wish to install.
2. Navigate past the "Welcome" and "File Locations" dialog boxes to the "Available Products" dialog box, and select the product installation category identified in the previous step.
3. Select [Custom] in the "Installation Types" dialog box.
4. In the dialog box that follows, "Available Product Components," currently installed products are shown pre-selected. Select any additional product or products to be installed.

CAUTION: Do not de-select any currently installed products, otherwise they will be de-installed.

In the "Products to be Installed" dialog box which follows, currently installed products are shown under "Already Installed." The additional products you have selected are shown under "New Installations."

Re-Installing Products

To re-install, the product(s) must first be de-installed using the method described in the section "[De-installing Oracle Software](#)", then installed according to one of the installation methods outlined elsewhere in this chapter: "[Installing Products for the First Time](#)" or "[Non-Interactive Installation](#)".

If an installation has failed or aborted, see the section "[De-installing Oracle Software](#)" on page 3-6.

Creating a Database

The OUI does not create a database. However, all server installation types allow at least the option of automatically launching the Oracle Database Configuration Assistant (DBCA) at the end of the installation session. The assistant can create a default or customized database. The assistant can create the database, or can output a SQL script which you can inspect and modify, then run via SQL*Plus or Server Manager.

You can also launch DBCA independently of the OUI. Make sure `$ORACLE_HOME/bin` is in your search path and enter the following:

```
$ dbassist &
```

Upgrading or Migrating an Existing System

If you have installed Oracle8i to use with an existing database from a prior software release, you must upgrade or migrate that database prior to mounting it using Oracle8i. The steps for this process exceed the scope of this manual. See *Oracle8i Migration* for instructions.

De-installing Oracle Software

To de-install Oracle software using the OUI, follow the steps below.

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

Cleaning Up After a Failed Installation

If an installation fails, it may be necessary to remove any files that the OUI created during the last session before you attempt another installation.

To clean up after a failed installation:

1. Start the OUI.
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 may need to manually remove the following items:

1. `ORACLE_HOME` directory
2. `oraInventory/./oui`

The location of the `oraInventory` directory can be obtained from the file `/etc/oraInst.loc`.

Non-Interactive Installation

You may perform a non-interactive, or "silent," install by supplying the OUI with a *response file*, a text file that contains values and variables that are used by the OUI during the installation process. By using a response file, you can perform an installation without some or any of the OUI's graphical interface.

Preparing the Response File

There are seven response files, one for each install type and for each category, included on the Oracle8i CD-ROM. The typical server response file is almost completely configured to perform a non-interactive, typical installation using the OUI. The custom response file requires extensive editing before it can be used as a response file for the OUI.

To use a response file, copy the response file from the Oracle8i CD-ROM to a drive mounted on your system. For example:

```
% cd cdrom_mount_point_directory/stage/Response/  
% cp ee_typical.rsp local_directory
```

Edit the response file you want to use with any text editor, to include information specific to your system. Each file contains instructions for properly configuring the response file.

Specifying a Response File for the Oracle Universal Installer

To make the OUI use the response file at install time, follow the same steps as described in the section "[Start the OUI](#)" on page 3-4, but specify the location of the response file that you wish to use as a parameter when running OUI:

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

To perform a completely silent installation with the OUI, use the flag `-silent`. Note that the OUI will fail if you use this flag and the response file has not been configured. The success or failure of the installation is logged in the `silentInstall.log` file in the `/tmp` directory.

Error Handling

The OUI treats wrong context, format, or type values as if no value were specified. Variables which are outside of any section are ignored.

Validation of Values from Response File

Calculation and validation of the response file is performed at install time by OUI. Failure of the validation process results in the termination of installation.

Configuring Oracle8i

You must perform certain post-installation steps and configure Oracle8i after completing the OUI session. This chapter describes the required steps, as well as some optional ones.

- [Configuration Tasks to Perform as the root User](#)
- [Configuration Tasks to Perform as the oracle User](#)
- [Post-Installation for Oracle Products](#)
- [Accessing Installed Documentation](#)

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 for Intel-Linux* and in product administration and tuning guides.

Configuration Tasks to Perform as the `root` User

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

- [Run the `root.sh` Script](#)
- [Create Additional Linux Accounts](#)
- [Verify Database File Security \(Optional\)](#)
- [Automate Database Startup and Shutdown \(Optional\)](#)

▶▶ Run the `root.sh` Script

The OUI creates the `root.sh` script in the `ORACLE_HOME` directory and prompts you to run the `root.sh` script. 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 for any reason, terminate the `root.sh` script. If you terminate the script, you must re-run it. You do not need to run the OUI again. Select the [OK] button after `root.sh` runs successfully to continue the installation. Select the [OK] button on the OUI screen after the `root.sh` script 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.

▶▶ Create Additional Linux Accounts

If necessary, create additional Linux accounts with your system administration utility (`useradd`). Each DBA on the system must have an account in the `OSDBA` group.

▶▶ Verify Database File Security (Optional)

Sites using Oracle8i configured in a way similar to a United States NCSC C2 or European ITSEC E3 security evaluation configuration must perform this task to

ensure the integrity of the Oracle software installation. This task is optional if security is not an issue.

Query the data dictionary view using SQL*Plus to list the accounts in the default database. Accounts in the database are based upon the products chosen in the OUI.

```
sql> SELECT username from dba_users;
```

You should delete accounts that you do not need.

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

- The *oracle* account should own all common system files and installation files.
- The OSDBA group should have read, write, and execute privileges on all common system files and installation files.
- No user outside the OSDBA group should have write access on any files or directories in an Oracle installation.

[Table 4-1](#) summarizes the directory and file permissions for different types of files. Note that 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 <i>oracle</i> account and OSDBA group.
\$ORACLE_HOME/bin/	751 rwxr-x--x	Must be writable by the <i>oracle</i> software owner, and executable by all users.
The <i>oracle</i> executable, and the following network executables: cmctl, cmadmin, cmgw, names, namesctl, tnsping, osslogin, trcroute, trcasst, onrsd, omevent, oratclsh, dbsnmp, lsnrctl, and tnslnsr.	6751 rws-r-s--x	The 6 sets the <i>setuid</i> bit so the executables run as the <i>oracle</i> user and <i>dba</i> group, regardless of who executes them.

Table 4–1 Access Permissions on Oracle Directories and Files

Directories/Files	Permissions	Comments
All other executables.	751 rwxr-x--x	Must be writable by the <i>oracle</i> software owner, and executable by all users.
\$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 log files to the <i>oracle</i> account and OSDBA group.
Product subdirectories such as \$ORACLE_HOME/sqlplus or \$ORACLE_HOME/rdbms	751 rwxr-x--x	Restricts access to log files to the <i>oracle</i> account and OSDBA 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 or 730 rwxrwxrwx or rwx-wx---	777 allows broad access to view and create trace files during development. Use 730 in a production environment to ensure that only members of the OSDBA 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)

Automating database startup is optional, but automatic shutdown is recommended, because it guards against improper shutdown of the database.

The `dbshut` and `dbstart` 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: Check the documentation for the `init` command in your Intel-Linux documentation for a description of system startup and shutdown procedures.

Automating Database Startup and Shutdown

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

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.

2. 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`.
3. Create a file named `dbora` in the `/etc/init.d` directory (if it does not already exist).
4. 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/8.1.5
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
```

5. Link dbora by entering:

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


Configuration Tasks to Perform as the *oracle* User

Perform the following tasks as the *oracle* user.

- ❑ [Update Linux Account Startup Files](#)
- ❑ [Update the oratab File](#)
- ❑ [Apply Any Required Oracle Patches](#)
- ❑ [Set Initialization Parameters](#)

►► Update Linux Account Startup Files

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

Set Environment Variables

Set the following environment variables in the `.profile` or `.login` file of the *oracle* account before using Oracle8i products. [Table 4-2](#) shows the OUI default values (which you might have modified). 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.

CLASSPATH

The classpath is used for Java functionality. CLASSPATH is different for various products. Refer to your product documentation for more information.

LD_LIBRARY_PATH

Required when using Oracle products 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 OFA-recommended value is `ORACLE_BASE/product/release`. For example: `/u01/app/oracle/product/8.1.5`.

ORACLE_SID

Specifies the Oracle system identifier, or *sid*, which is the name of the Oracle Server instance. Because the *sid* is incorporated into many filenames, Oracle Corporation recommends restricting it to no more than four characters to avoid filename problems on heterogeneous systems.

PATH

Verify that the search path includes all of the following:

- `ORACLE_HOME/bin`, `/bin` and `/usr/bin`
- the local `bin` directory, `/usr/local/bin`, created automatically by the OUI

Table 4–2 Default Environment Variable Settings

Environment Variable	Default Setting
CLASSPATH	There is no default setting, and CLASSPATH must include the following: <i>JRE_Location</i> , <code>ORACLE_HOME/jlib</code> , <code>ORACLE_HOME/product/jlib</code> Note: <i>JRE_Location</i> is the directory where the user has downloaded JRE 1.1.6 v5 from http://www.blackdown.org .
LD_LIBRARY_PATH	There is no default setting for LD_LIBRARY_PATH. Set it to include <code>ORACLE_HOME/lib</code> .
ORACLE_BASE	<i>software_mount_point/app/oracle</i>
ORACLE_HOME	<code>ORACLE_BASE/product/8.1.5</code>
ORACLE_SID	There is no default setting for ORACLE_SID. If you do not remember the value you entered, you can find it listed in the OUI log file.
PATH	There is no default setting for PATH. Make sure the new <code>ORACLE_HOME/bin</code> directory is included. See Chapter 2, "Setting the Environment" for other requirements.

Initialize the `oraenv` (`coraenv`) Script

You have option of using the `oraenv` or `coraenv` scripts to set a common environment for Oracle users. Follow the instructions below for a single-instance or multiple-instance configuration for the `oraenv` script, or the `coraenv` script if you are running the C shell.

Single-Instance Machine

On a single-instance machine, include the following commands to initialize the `oraenv` (`coraenv`) file at the end of the `.profile` or `.login` file of the `oracle` account.

For the Bourne or Korn shell:

```
ORAENV_ASK=NO
. /usr/bin/oraenv
```

For the C shell:

```
set ORAENV_ASK = NO
source /usr/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` (`coraenv`) file at the end of the startup file of the `oracle` account. The value of `ORACLE_SID` you defined before the OUI session is the default instance name.

For the Bourne or Korn shell:

```
#!/bin/sh
SIDLIST=`awk -F: '/^[^#]/{printf "%s", $1} '/etc/oratab`
echo "SIDs on this machine are $SIDLIST"
ORAENV_ASK=
. /usr/bin/oraenv
```

For the C shell:

```
set sidlist=`awk -F: '/^[^#]/{printf "%s", $1} '/etc/oratab`
echo "SIDs on this machine are $sidlist"
unset ORAENV_ASK sidlist
source /usr/bin/coraenv
```

Update Other Oracle User Startup Files

To create the same environment for all Oracle users, update each user startup file to include the following:

- `ORACLE_HOME/bin` in the `PATH` statement
- the following line at the end of the startup file:
`. /usr/bin/oraenv`
(or `source /usr/bin/coraenv` for C shell users)
- settings for `ORACLE_BASE` and `ORACLE_HOME`

» Update the `oratab` File

If you have created a database manually instead of using the Database Configuration Assistant (DBCA), you must ensure the system configuration is reflected in the `/etc/oratab` file.

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. The DBCA automatically adds an entry for each database it creates.

» Apply Any Required Oracle Patches

The Oracle8i release which this manual accompanies includes patches that must be applied to Oracle8i or other products. Patches can be found on the Product CD-ROM in the `/cd_rom_mount_point/patch` directory. Review the `README` file included with each patch for installation instructions.

» Set Initialization Parameters

The default `initsid.ora` file shipped with the distribution is located in the `$ORACLE_BASE/admin/sid/pfile` directory. A template `initsid.ora` file is also included in the `$ORACLE_HOME/dbs` directory. 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 `initsid.ora` Parameters

When you create a database using DBCA your `initsid.ora` parameters are automatically set. You can manually modify the initialization parameters in the

`init.ora` file with a Linux text editor. Activate the modified `init.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.

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

For example, change:

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

to:

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

See Also: *Oracle8i Administrator's Reference for Intel-Linux* for information on `init.ora` parameters.

Post-Installation for Oracle Products

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

To access online documentation before you configure your Oracle installation, see the instructions for accessing that documentation on page 4-18. 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 require post-installation steps:

- [Post-Installation for Oracle Options](#)
- [Post-Installation Steps for Oracle8i Recovery Manager](#)
- [Post-Installation Steps for Oracle Precompilers](#)
- [Post-Installation Steps for Net8](#)
- [Post-Installation Steps for Oracle Names Server \(Optional\)](#)
- [Post-Installation Steps for Oracle Supported Protocols](#)

►► Post-Installation for Oracle Options

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

If you intend to install Oracle interMedia Text, ensure you have at least 10 MB of disk space for the data dictionary.

Verify that tablespaces exist to serve as default and temporary tablespaces for Oracle interMedia Text. Oracle interMedia Text uses the DRSYS tablespace for its default and temporary tablespaces. If tablespaces for Oracle interMedia Text do not exist or you do not want to use the DRSYS tablespace, create additional tablespaces before proceeding.

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

1. Start up the Database Configuration Assistant (DBCA) by executing `dbassist`, which is located in the following directory:
`$ORACLE_HOME/bin/dbassist`
2. Select [Modify Database].
3. Select the appropriate database SID from the list of those detected by the DBCA. 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.

►► Post-Installation Steps for Oracle8i Recovery Manager

Recovery Manager is an automated recovery utility that is installed as part of Oracle8i. It stores information in a recovery catalog in a separate Oracle8i database.

This second Oracle8i database should be installed on a separate machine to provide maximum fault resistance.

Note: Recovery Manager can also be used in a restricted mode without a recovery catalog, if the installation and maintenance of a second Oracle8i database is impractical.

Perform the following steps if you want to create a recovery catalog:

1. Install Oracle8i on a separate machine from any other Oracle8i system and create a database for the recovery catalog.

If you choose not to write a custom script to create the database, create the default database with the OUI. 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 Recovery Manger prompt.

► Post-Installation Steps for Oracle Precompilers

Note: You cannot use Oracle Precompilers independently of Oracle8i to convert embedded PL/SQL.

Pro*C/C++

The configuration files `ottcfg.cfg` and `pcscfg.cfg` in `$ORACLE_HOME/precomp/admin` must be customized for your environment before using Pro*C/C++. See your C compiler documentation to determine how to configure this file.

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

► Post-Installation Steps for Net8

Configuring a complete Oracle network is beyond the scope of this manual, and is covered in detail in the *Net8 Administrator's Guide*. When the Net8 Server or Net8

Client is installed, the Net8 Configuration Assistant is automatically launched to complete initial configuration of Net8 as follows:

1. If you are installing Oracle8i, the Net8 Assistant will automatically create a profile called `sqlnet.ora` and a listener called `listener` with a listening end point that is consistent with any protocol support selections you made. In most cases, this results in listening on protocol TCP/IP using port number 1521. In all but the most complicated environments this will be the only listener you will ever need to configure. The listener will be started automatically by the Net8 Configuration Assistant. If you wish to check the status of the listener following installation you can do so by using the command:

```
$ lsnrctl status
```

If the listener is running, the output of the `lsnrctl status` command will be similar to the following:

```
Connecting to (ADDRESS=(PROTOCOL=IPC)(KEY=PNPKEY))
STATUS of the LISTENER
-----
Alias                listener
Version              TNSLSNR for SVR4: Version 8.1.5.0.0 - Production
...
```

If the listener is not running, start it up:

```
$ lsnrctl start listener
```

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

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

If you create a database using the Database Configuration Assistant during or after installation, it will automatically update the listener configuration with any necessary configuration information for this new database. This file can then be distributed to any client machines to connect to the Oracle8i database.

If you choose to complete a separate Oracle8i client install, the Net8 Configuration Assistant will automatically create a profile that is consistent with any selections you made during installation. The OUI will automatically run the Net8 Easy Configuration wizard which assists you in configuring a net service name in the Local Naming file located in the `$ORACLE_HOME/network/admin` directory of your client installation.

After installation is complete more detailed configuration can be accomplished using the Net8 Assistant by executing:

```
$ netasst
```

Net8 Easy Configuration is also available by executing:

```
$ netec
```

See Also: For information on the use and configuration of Net8 please refer to the *Net8 Administrator's Guide*.

3. After the Net8 Assistant creates the `tnsnames.ora` file, append its contents to existing `tnsnames.ora` files in the `$ORACLE_HOME/network/admin` directories of client machines.
4. Install SQL*Plus on a client machine, then start SQL*Plus to test the connection to the Server:

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

At this point you have established network connectivity over TCP/IP. For more advanced network configuration, refer to the *Net8 Administrator's Guide*.

►► Post-Installation Steps for Oracle Names Server (Optional)

Oracle Names Server is installed automatically with Net8. If you want to configure your network to use Oracle Names Server, complete the following:

1. Use the Net8 Assistant to create the Oracle Names configuration files `sqlnet.ora` and `names.ora`.
2. If you are using well-known Names Servers, verify they are correctly aliased in the `/etc/hosts` file of all network nodes.
3. If you are using your machine as the server, start the Names Server process:

```
$ namesctl startup
```

4. Check the Names Server process:

```
$ namesctl status
```

►► Post-Installation Steps for Oracle Supported Protocols

All Supported Protocols

Perform the following steps after installing any protocol:

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 system startup file:

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

On Intel-Linux, the startup file is `/etc/init.d/dbora`.

Note: This procedure fails if the `TNS_ADMIN` environment variable is not set in the `.profile` or `.login` file of the `oracle` account, or if `listener.ora` is not in one of the default locations (`/var/opt/oracle` or `$ORACLE_HOME/network/admin`).

3. If you have a client/server configuration, you must set the `TWO_TASK` environment variable on the clients to point to the server. Set the `TWO_TASK` environment variable on the client machines to the service name for the server (available from the `tnsnames.ora` file).
4. Start the listener process on the server:

```
$ lsnrctl start
```
5. Check the listener process:

```
$ lsnrctl status
```
6. As the `oracle` user, start SQL*Plus, then test the connection with a loopback:

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

Accessing Installed Documentation

Documentation is can be installed in HTML, or PDF (Adobe Portable Document Format, which requires Acrobat Reader), or both formats. Intel-Linux-specific documentation files are installed from the Oracle8i 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 OUI installs the files there.
- If `ORACLE_DOC` is not defined but `ORACLE_BASE` is defined, the OUI installs the files under the `$ORACLE_BASE/doc` directory.
- If neither `ORACLE_DOC` nor `ORACLE_BASE` are defined in the environment, the OUI installs the files under the `$ORACLE_HOME/doc` directory.

To access the documentation, open either the `index.htm` or `products.htm` file. The `index.htm` file requires a frames-enabled browser. The `products.htm` file does not a require a frames-enabled browser.

You can also access documentation directly from the CD-ROM.

See Also: Information on accessing documentation directly from CD-ROM is contained in the CD-ROM insert.

National Language Support

This appendix lists supported sort sequences, character sets, and languages and territories for Oracle products. This appendix is not a detailed discussion of Oracle National Language Support (NLS).

See Also: National Language Support is described in detail in the *Oracle8i Server Concepts* and the *Oracle8i Server Reference* guides.

- [Supported Sort Sequences](#)
- [Supported Character Sets](#)
- [Supported Languages and Territories](#)

Supported Sort Sequences

Available linguistic sort sequences are:

Arabic	German_Din	Italian	Spanish
Czech	XGerman	Latin	XSpanish
Danish	XGerman_Din	Norwegian	Swedish
XDanish	Greek	Polish	Swiss
Dutch	Hebrew	Russian	Turkish
Finnish	Hungarian	Slovak	Turkish
German	Icelandic	XSlovak	West_European

Supported Character Sets

Oracle NLS supports the following 7-bit, 8-bit and multi-byte character sets:

7-bit Character Sets

US7ASCII	US 7-bit ASCII(default)
D7DEC	DEC German 7-bit
F7DEC	DEC French 7-bit
S7DEC	DEC Swedish 7-bit
E7DEC	DEC Spanish 7-bit
AR7ASMO449PLUS	Arabic/Latin ASMO-Plus 7-bit
TR7DEC	DEC Turkish 7-bit
SF7ASCII	Finnish 7-bit ASCII extension
NDK7DEC	DEC Norwegian/Danish 7-bit
I7DEC	DEC Italian 7-bit
NL7DEC	DEC Dutch 7-bit
CH7DEC	DEC Swiss 7-bit
SF7DEC	DEC Finnish 7-bit

8-bit Character Sets

US8ICL	ICL EBCDIC 8-bit US
WE8ICL	ICL EBCDIC 8-bit West European
EE8PC853	IBM PC 8-bit East European - code page 853
LT8PC772	IBM PC 8-bit Lithuanian - code page 772
LT8PC774	IBM PC 8-bit Lithuanian - code page 774
DK8EBCDIC277	EBCDIC 8-bit Danish - code page 277
WE8DEC	DEC West European 8-bit
WE8HP	HP 8-bit West European
US8PC437	IBM PC 8-bit U. S. - code page 437
WE8EBCDIC37	EBCDIC 8-bit West European - code page 37
WE8EBCDIC500	EBCDIC 8-bit West European - code page 500
EL8EBCDIC875	EBCDIC 8-bit Greek - code page 875
WE8PC850	IBM PC 8-bit West European - code page 850 (for use with HFT terminals)
WE8ISO8859P1	ISO 8859-1 West European 8-bit
EE8ISO8859P2	ISO 8859-2 East European 8-bit
SE8ISO8859P3	ISO 8859-3 South European 8-bit
CL8ISO8859P5	ISO 8859-5 Cyrillic 8-bit
CL8MSWIN1251	Windows Cyrillic 8-bit (Replaces CL8MSWINDOW31)
CLMACCYRILLIC	Mac Cyrillic 8-bit
EL8ISO8859P7	ISO 8859-7 Latin/Greek 8-bit
IW8ISO8859P8	ISO 8859-8 Latin/Hebrew (Iwriet) 8-bit
WE8ISO8859P9	ISO 8859-9 West European/Turkish 8-bit
EL8DEC	DEC Latin/Greek 8-bit
TR8DEC	DEC Turkish 8-bit
EL8PC437S	IBM-PC Special American/Greek character set
EEC8EUROPA3	EEC's EUROPA3 West European/Greek 8-bit character set

RU8BESTA	Latin/Cyrillic BESTA 8-bit
RU8PC866	IBM-PC Latin/Cyrillic 8-bit - code page 866
RU8PC855	IBM-PC Latin/Cyrillic 8-bit - code page 855
D8EBCDIC273	EBCDIC 8-bit Austrian/German - code page 273/1
I8EBCDIC280	EBCDIC 8-bit Italian - code page 280/1
N8PC865	IBM PC 8-bit Norwegian - code page 865
TH8TISASCII	Thai Industrial Standard 620-2533 ASCII 8-bit
TH8TISEBCDIC	Thai Industrial Standard 620-2533 EBCDIC 8-bit
TR8PC857	IBM-PC Turkish 8-bit - code page 857
NEE8ISO8859P4	ISO 8859-4 North and North-east European
AR8ISO8859P6	Arabic/Latin ASMO-Plus 8-bit (not valid as a storage character set)
AR8ASMO708PLUS	ISO 8859-6 Latin /Arabic
TR8ISO8859P9	Turkish version ISO 8859-9 West European

Multi-byte Character Sets

JA16VMS	Japanese VMS Kanji
JA16EUC	Japanese Extended UNIX Code
JA16EBCDIC930	Japanese
JA16SJIS	Japanese Shift-JIS
JA16DBCS	Japanese IBM
KO16KSC5601	Korean KSC5601
KO16DBCS	Korean IBM
ZHS16CGB231280	Chinese GB2312-80
ZHS16GBK	Chinese GBK
ZHT32CNS11643-86	Taiwan Traditional Chinese
ZHT16BIG5	BIG5 Traditional Chinese
ZHT32EUC	Traditional Chinese Extended UNIX Code

Supported Languages and Territories

[Table A-1](#) lists language and territory names, and the corresponding NLS values. The table also lists the recommended character set for each language and territory pair.

Table A-1 Languages, Territories, and Recommended Character Sets

Language Name	NLS Value	Territory Name	NLS Value	Recommended Character Set
American	american	United States	america	US7ASCII
Arabic	arabic	United Arab Emirates	"united arab emirates"	AR8ISO8859P6
Brazilian Portuguese	"brazilian portuguese"	Brazil	brazil	WE8DEC
Canadian French	frc	Canada (Quebec)	frc	WE8DEC
Czech	czech	Czech Republic	czechoslovakia	EE8ISO8859P2
Danish	danish	Denmark	denmark	WE8DEC
Dutch	dutch	The Netherlands	"the netherlands"	WE8DEC
Finnish	finnish	Finland	finland	WE8DEC
French	french	France	france	WE8DEC
German	german	Germany	germany	WE8DEC
Greek	greek	Greece	greece	EL8DEC
Hungarian	hungarian	Hungary	hungary	WE8ISO8859P2
Icelandic	is	Iceland	is	WE8ISO8859P1
Italian	italian	Italy	italy	WE8DEC
Japanese	japanese	Japan	japan	JA16EUC
Korean	korean	Korea	korea	KO16KSC5601
Lithuanian	lt	Lithuania	lt	NEE8ISO8859P4
Mexican Spanish	esm	Mexico	esm	WE8DEC
Norwegian	norwegian	Norway	norway	WE8DEC
Polish	polish	Poland	poland	EE8ISO8859P2

Table A-1 Languages, Territories, and Recommended Character Sets (Cont.)

Language Name	NLS Value	Territory Name	NLS Value	Recommended Character Set
Portuguese	portuguese	Portugal	portugal	WE8DEC
Russian	russian	CIS	cis	CL8ISO8859P2
Simplified Chinese	"simplified chinese"	China	china	ZHS16CGB231280
Slovak	slovak	Slovakia	slovakia	EE8ISO8859P2
Spanish	spanish	Spain	spain	WE8DEC
Swedish	swedish	Sweden	sweden	WE8DEC
Thai	th	Thailand	th	TH8TISASCII
Traditional Chinese	"traditional chinese"	Taiwan	taiwan	ZHT32EUC
Turkish	turkish	Turkey	turkey	WE8ISO8859P9

Numerics

7-bit character sets, A-2

8-bit character sets, A-3

A

account

creating oracle account, 2-6

administrators

Linux accounts, 2-3, 4-2

Linux groups, 2-3

role, 2-6

automating startup and shutdown, 4-4

C

CD-ROM

mounting the, 3-3

character mode

issues and restrictions, 1-6

character sets

7-bit, A-2

8-bit, A-3

multi-byte, A-4

CLASSPATH variable

description, 4-7

commands

ipcs, 2-4

coraenv script

multiple instance machine, 4-9

single-instance machine, 4-9

D

database

automating startup and shutdown, 4-4

creation, 3-6

demonstration database, 1-7

mount points, 2-5

Database Configuration Assistant

creating a pre-configured database, 3-6

DBAs

See administrators

DBCA

See Oracle Database Configuration Assistant

dbshut script, 4-4

dbstart script, 4-4

de-installing products, 3-6

DISPLAY variable

description, 2-8

documentation

accessing, 4-18

location, 4-18

navigation files, 4-18

viewing requirements, 1-3

E

eight-bit character sets, A-3

environment

creating common, 4-9

requirements, 2-8

updating current session, 2-9

variables

descriptions and settings, 4-7

requirements, 2-2

F

files

- coraenv, 4-9
- dbshut, 4-4
- dbstart, 4-4
- listener.ora, 4-15
- modifying init.ora, 4-10
- Net8 configuration, 4-15
- oraenv, 4-9
- oratab, 4-10
- permissions for creation, 2-3
- response files, 3-7
- root.sh, 4-2
- security, 4-2
- setting permissions for creation, 2-7
- sqlnet.ora, 4-15
- support for very large files, 1-7
- supported File Systems, 1-6
- tnsnames.ora, 4-15

G

groups

- Linux groups, 2-3

H

- home directory, 2-6

I

init.ora file

- modifying parameters, 4-10

installation

- categories, 3-2
- first time installation, 3-5
- non-interactive, 1-6, 3-7
 - response files, 3-7
- of additional products after initial installation, 3-5
- Oracle Universal Installer, 3-3
 - using Oracle Universal Installer, 3-5
- overview, 1-2
- post-installation tasks, 4-1
- pre-installation tasks, 2-1

- product-specific, 3-2

- re-installing products, 3-6

requirements

- environment, 2-8
- interMedia Option, 1-4
- Net8, 1-5
- Object Type Translator, 1-4
- Optimal Flexible Architecture, 1-7
- Oracle Call Interface, 1-4
- Oracle Connection Manager, 1-5
- Oracle Database Configuration Assistant, 1-4
- Oracle Intelligent Agent, 1-5
- Oracle JDBC Drivers, 1-4
- Oracle JServer, 1-4
- Oracle Names, 1-5
- Oracle Parallel Server, 1-4
- Oracle Partitioning Option, 1-4
- Oracle Partitioning option, 1-4
- Oracle Programmer, 1-4
- Oracle SQLJ, 1-4
- Oracle Universal Installer, 1-4
- Pro*C/C++, 1-4
- product-specific, 1-4
- Server, 1-4
- SQL*Plus, 1-4
- TCP/IP protocol, 1-5

Installer

- See Oracle Universal Installer

instance name

- description, 4-8

interMedia Option

- installation requirements and tasks, 1-4

ipcs command

- checking shared memory, 2-4

issues and restrictions

- port-specific, 1-5

J

Java Runtime Environment

- JRE, 1-6

K

kernel

parameter settings, 2-2, 2-4

L

LD_LIBRARY_PATH variable
description, 4-7

Linux accounts
how to create, 2-6
requirements, 2-3
updating after installation, 4-8

Linux environment
summary of requirements, 2-2

Linux groups, 2-6
how to create, 2-6
requirements, 2-3

Linux kernel
how to configure, 2-4
parameter settings, 2-2, 2-4

listener.ora file, 4-15

M

migration, 3-6

mount points
naming conventions, 2-5
requirements, 2-3

multi-byte character sets, A-4

N

Names Server
post-installation tasks, 4-16

National Language Support
languages, A-2
sort sequences, A-2
supported character sets, A-2
territories, A-2

Net8
installation requirements and tasks, 1-5
Net8 Configuration Assistant, 2-10, 4-15
post-installation tasks, 4-14
pre-installation tasks, 2-10

NetWizard
See Net8, Net8 Configuration Assistant

NLS_LANG variable

description, 2-9

O

Object Type Translator
installation requirements and tasks, 1-4

OFA
See Optimal Flexible Architecture

operating system
requirements, 1-3

OPERATOR role, 2-6

Optimal Flexible Architecture
installation issues and restrictions, 1-7

options
installation requirements and tasks, 1-4

ORA_NLS variable
description, 2-9

oracle account
home directory, 2-6
how to create, 2-6
post-installation tasks, 4-7
pre-installation tasks, 2-7
requirements, 2-6
security, 2-7

Oracle Call Interface
installation requirements and tasks, 1-4

Oracle Connection Manager
installation requirements and tasks, 1-5

Oracle Database Configuration Assistant
installation requirements and tasks, 1-4

Oracle Intelligent Agent
installation requirements and tasks, 1-5

Oracle interMedia
data dictionary space requirements, 4-13
post-installation tasks, 4-13
SYSTEM tablespace, 4-13

Oracle JDBC Drivers
installation requirements and tasks, 1-4

Oracle JServer
installation requirements and tasks, 1-4

Oracle Names
installation requirements and tasks, 1-5

Oracle Names Server
pre-installation tasks, 2-10

Oracle Parallel Server

- installation requirements and tasks, 1-4
 - Re-Installing Oracle Parallel Server, 3-6
- Oracle Partitioning Option
 - installation requirements and tasks, 1-4
- Oracle Partitioning option
 - installation requirements and tasks, 1-4
- Oracle patches, 4-10
- Oracle Precompilers
 - post-installation tasks, 4-14
- Oracle products
 - pre-installation tasks, 2-9
- Oracle Programmer
 - installation requirements and tasks, 1-4
- Oracle Server
 - automating startup and shutdown, 4-4
 - installation requirements and tasks, 1-4
 - post-installation tasks, 4-13
 - restarting, 4-5
 - roles, 2-6
 - security, 2-6
 - shutdown, 4-5
- oracle software owner
 - See oracle account
- Oracle SQLJ
 - installation requirements and tasks, 1-4
- Oracle Universal Installer
 - de-installing products, 3-6
 - first time installation, 3-5
 - installation requirements and tasks, 1-4
 - response files, 3-8
 - error handling, 3-8
 - specifying a response file, 3-8
 - validation, 3-8
 - silent install
 - See installation, non-interactive
 - starting, 3-3
- ORACLE_BASE variable
 - description, 2-8, 4-8
 - requirements, 2-3
- ORACLE_HOME variable
 - and oracle account home directory, 2-6
 - description, 4-8
 - requirements, 1-6
- ORACLE_SID variable
 - description, 4-8

- Oracle8i, 1-4
- oraenv script
 - multiple instance machine, 4-9
 - single-instance machine, 4-9
- oratab file
 - post-installation tasks, 4-10
- OSDBA group, 2-6
- OSOPER group, 2-6
- OUI
 - See Oracle Universal Installer

P

- parameters
 - initialization, 4-10
 - init.ora file, 4-10
- patches
 - Oracle, 4-10
- PATH variable
 - description, 4-8
- permissions
 - file creation, 2-3
 - setting with umask, 2-7
- post-installation tasks
 - automate database startup and shutdown, 4-4
 - Names Server, 4-16
 - Net8, 4-14
 - Oracle interMedia, 4-13
 - Oracle Precompilers, 4-14
 - Oracle Server, 4-13
 - Pro*C/C++, 4-14
 - product-specific, 4-12
 - running root.sh, 4-2
- precompilers
 - software requirements, 1-4
- pre-installation tasks
 - as the root user, 2-4
 - Net8, 2-10
 - Oracle Names Server, 2-10
 - Pro*C/C++, 2-10
- Pro*C/C++
 - configuration files, 4-14
 - installation requirements and tasks, 1-4
 - post-installation tasks, 4-14
 - pre-installation tasks, 2-10

- product-specific
 - installation, 3-2
 - post-installation tasks, 4-12

R

- Recovery Manager
 - setting up, 4-14
- re-installation of products, 3-6
- related documentation, ix
- relinking, 2-6
- requirements
 - CD-ROM, 1-2
 - disk space, 1-3
 - file permissions, 2-3
 - hardware, 1-2
 - Linux accounts, 2-3
 - Linux environment, 2-2
 - Linux groups, 2-3
 - memory, 1-2, 1-3
 - mount points, 2-3
 - operating system, 1-3
 - oracle account, 2-6
 - ORACLE_BASE variable, 2-3
 - product-specific, 1-4
 - semaphores, 2-2
 - software, 1-3
 - swap space, 1-2
 - system installation, 1-2
 - window manager, 1-3
- response files
 - error handling, 3-8
 - validation, 3-8
- root user
 - post-installation tasks, 4-2
 - pre-installation tasks, 2-4
- root.sh script
 - running, 4-2

S

- scripts
 - dbshut, 4-4
 - dbstart, 4-4
 - oraenv (coraenv), 4-9

- root.sh, 4-2
- security, 2-6
 - verifying for files, 4-2
- semaphores
 - requirements, 2-2
 - setting the values, 2-4
- setup tasks
 - TCP/IP protocol, 2-11
- seven-bit character sets, A-2
- SGA
 - See System Global Area
- shared memory
 - configuring, 2-4
 - maximum, 2-5
- shutdown and startup, 4-4
- silent install
 - See installation, non-interactive
- software
 - mount points, 2-5
 - requirements, 1-3
- SQL*Plus
 - installation requirements and tasks, 1-4
- sqlnet.ora file, 4-15
- startup and shutdown, 4-4
- System Global Area
 - init.ora file, 4-10
 - setting shared memory, 2-4
- system requirements, 1-2
- SYSTEM tablespace
 - Oracle interMedia database objects, 4-13

T

- TCP/IP protocol
 - installation requirements and tasks, 1-5
 - setup tasks, 2-11
- tnsnames.ora file, 4-15
- TWO_TASK variable
 - setting, 4-17

U

- umask
 - requirement, 2-3
 - setting, 2-7

upgrading, 1-6, 3-6

V

very large files

support, 1-7

W

well-known Names Server, 4-16

window manager

requirements, 1-3