Oracle9*i*

Database Installation Guide

Release 1 (9.0.1.1.1) for Windows

June 2001
Part No. A90162-01

ORACLE®

Oracle9*i* Database Installation Guide, Release 1 (9.0.1.1.1) for Windows

Part No. A90162-01

Primary Author: Janelle Simmons

Contributors: Harish Akali, Warren Briese, Kristy Browder, Toby Close, Jonathan Creighton, Marcel De Maria, Mike DeMarco, Saheli Dey, Raj Gupta, Nicole Haba, Daniella Hansell, Ana Hernandez, Clara Jaeckel, Stephen Lee, Mark Kennedy, Matt McKerley, Miranda Nash, Anita Puronto, David Saslav, Helen Slattery, Debbie Steiner, Linus Tanaka, Tom Van Raalte, Alice Watson, Zakia Zerhouni

Contents

2   Preinstallation Requirements

3 Selecting Database Creation and Oracle Net Services Configuration Methods

4 Installing Oracle Components

5 Reviewing Your Installed Starter Database Contents

6 Postinstallation Configuration Tasks

A Individual Components Available for Installation

B Oracle Real Application Clusters Preinstallation Tasks

C Oracle Transparent Gateways

D Advanced Installation Topics

E   Globalization Support

F   Installing and Removing Legato Components

Glossary

Index

x

Send Us Your Comments

Oracle9*i* Database Installation Guide, Release 1 (9.0.1.1.1) for Windows

Part No. A90162-01

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this document. 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?

If you find any errors or have any other suggestions for improvement, please indicate the document title and part number, and the chapter, section, and page number (if available). You can send comments to us in the following ways:

- E-mail: ntdoc_us@oracle.com
- FAX - (650) 506-7365   Attn: Oracle Database for Windows Documentation
- Postal service:
  Oracle Corporation
  Oracle Database for Windows Documentation Manager
  500 Oracle Parkway, Mailstop 1op6
  Redwood Shores, CA 94065
  USA

If you would like a reply, please give your name, address, telephone number, and (optionally) electronic mail address.

If you have problems with the software, please contact your local Oracle Support Services. Contact information for Oracle Support Services is available at this Web site:

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

Preface

This guide is your primary source of introduction, preinstallation, installation, and postinstallation information for Oracle9*i* for Windows NT.

This preface contains these topics:

- Audience
- Organization
- Related Documentation
- Conventions
- Documentation Accessibility
- Component Accessibility

Audience

Oracle9i Database Installation Guide *for Windows* is necessary for anyone installing or configuring the Oracle9*i* Enterprise Edition, Oracle9*i* Standard Edition, and Oracle9*i* Personal Edition database types. Note that the term Oracle9*i* for Windows NT is used in this guide to describe all these types.

This guide describes *only* the features of Oracle9*i* for Windows NT software that apply to the Windows NT, Windows 98, and Windows 2000 operating systems. Installation and migrations procedures for Oracle9*i* Personal Edition on Windows 98 are not covered in this guide.

To use this document, you need to be familiar with the following:

- Windows NT, Windows 2000, and Windows 98 and have installed and tested them on your computer system

- Object-relational database management concepts

   See Also:
   - *Oracle9i Database Concepts* for more information about object-relational database management concepts

   - "Documentation Library Overview" on page 1-10 for information about the Oracle9*i* Online Documentation for Windows CD-ROM

Organization

This document contains:

Chapter 1, "Introducing Oracle9i for Windows NT"

Introduces you to Oracle9*i* for Windows NT, Oracle Universal Installer, and getting started with your Oracle documentation

Chapter 2, "Preinstallation Requirements"

Describes supported operating systems, requirements for Oracle9*i* for Windows NT installation types and individual components, migration and upgrade information, and supported protocols

Chapter 3, "Selecting Database Creation and Oracle Net Services Configuration Methods"

Describes the Oracle9*i* database creation and Oracle Net client/server network configuration methods available during installation

Chapter 4, "Installing Oracle Components"

Describes how to install and deinstall Oracle components

Chapter 5, "Reviewing Your Installed Starter Database Contents"

Describes the contents of your installed starter database

Chapter 6, "Postinstallation Configuration Tasks"

Describes postinstallation configuration tasks

Appendix A, "Individual Components Available for Installation"

Describes the individual components available with each installation type of the three top-level components and component descriptions

Appendix B, "Oracle Real Application Clusters Preinstallation Tasks"

Describes the required preinstallation tasks for cluster software and Oracle Real Application Clusters on Windows

Appendix C, "Oracle Transparent Gateways"

Describes system requirements for Oracle Transparent Gateways and provides installation worksheets

Appendix D, "Advanced Installation Topics"

Describes advanced installation topics not covered in Chapter 4

Appendix E, "Globalization Support"

Describes Globalization Support

Appendix F, "Installing and Removing Legato Components"

Describes how to install and remove Legato components

Glossary

Related Documentation

For more information, see the following resources:

- *Oracle9i Database Getting Starting for Windows*
- *Oracle9i Database Administrator's Guide for Windows*
- *Oracle9i Network, Directory, and Security Guide for Windows*
- The documentation for Oracle Enterprise Manager

Many books in the documentation set use the sample schemas of the seed database, which is installed by default when you install Oracle. Refer to *Oracle9i Sample Schemas* for information on how these schemas were created and how you can use them yourself.

In North America, printed documentation is available for sale in the Oracle Store at

```
http://oraclestore.oracle.com/
```

> **Note:** This installation guide and other platform-specific documentation are not available for purchase in printed format.

Customers in Europe, the Middle East, and Africa (EMEA) can purchase documentation from

```
http://www.oraclebookshop.com/
```

Other customers can contact their Oracle representative to purchase printed documentation.

To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

```
http://otn.oracle.com/admin/account/membership.html
```

If you already have a username and password for OTN, then you can go directly to the documentation section of the OTN Web site at

```
http://otn.oracle.com/docs/index.htm
```

To access the database documentation search engine directly, please visit

```
http://tahiti.oracle.com/
```

Conventions

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- Conventions in Text
- Conventions in Code Examples
- Conventions for Microsoft Windows Operating Systems

Conventions in Text

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
Bold	Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.	When you specify this clause, you create an **index-organized table**.
Italics	Italic typeface indicates book titles or emphasis.	*Oracle9i Database Concepts*
		Ensure that the recovery catalog and target database do *not* reside on the same disk.
`UPPERCASE monospace (fixed-width font)`	Uppercase monospace typeface indicates elements supplied by the system. Such elements include parameters, privileges, datatypes, RMAN keywords, SQL keywords, SQL*Plus or utility commands, packages and methods, as well as system-supplied column names, database objects and structures, usernames, and roles.	You can specify this clause only for a `NUMBER` column.
		You can back up the database by using the `BACKUP` command.
		Query the `TABLE_NAME` column in the `USER_TABLES` data dictionary view.
		Use the `DBMS_STATS.GENERATE_STATS` procedure.

Convention	Meaning	Example
`lowercase monospace (fixed-width font)`	Lowercase monospace typeface indicates executables, filenames, directory names, and sample user-supplied elements. Such elements include computer and database names, net service names, and connect identifiers, as well as user-supplied database objects and structures, column names, packages and classes, usernames and roles, program units, and parameter values. **Note:** Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.	Enter `sqlplus` to open SQL*Plus. The password is specified in the `orapwd` file. Back up the datafiles and control files in the `/disk1/oracle/dbs` directory. The `department_id`, `department_name`, and `location_id` columns are in the `hr.departments` table. Set the `QUERY_REWRITE_ENABLED` initialization parameter to `true`. Connect as `oe` user. The `JRepUtil` class implements these methods.
`lowercase monospace (fixed-width font) italic`	Lowercase monospace italic font represents placeholders or variables.	You can specify the `parallel_clause`. Run `U`*`old_release`*`.SQL` where *`old_release`* refers to the release you installed prior to upgrading.

Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

Convention	Meaning	Example
[ ]	Brackets enclose one or more optional items. Do not enter the brackets.	`DECIMAL (`*`digits`* `[ ,` *`precision`* `])`
{ }	Braces enclose two or more items, one of which is required. Do not enter the braces.	`{ENABLE	DISABLE}`
		A vertical bar represents a choice of two or more options within brackets or braces. Enter one of the options. Do not enter the vertical bar.	`{ENABLE	DISABLE}`  `[COMPRESS	NOCOMPRESS]`

Convention	Meaning	Example
`...`	Horizontal ellipsis points indicate either:	
	■ That we have omitted parts of the code that are not directly related to the example	`CREATE TABLE ... AS subquery;`
	■ That you can repeat a portion of the code	`SELECT col1, col2, ... , coln FROM employees;`
`.` `.` `.`	Vertical ellipsis points indicate that we have omitted several lines of code not directly related to the example.	
Other notation	You must enter symbols other than brackets, braces, vertical bars, and ellipsis points as shown.	`  acctbal NUMBER(11,2);` `  acct    CONSTANT NUMBER(4) := 3;`
Italics	Italicized text indicates placeholders or variables for which you must supply particular values.	`CONNECT SYSTEM/system_password` `DB_NAME = database_name`

UPPERCASE	Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase in order to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown. However, because these terms are not case sensitive, you can enter them in lowercase.	`SELECT last_name, employee_id FROM employees;`
		`SELECT * FROM USER_TABLES;`
		`DROP TABLE hr.employees;`

lowercase	Lowercase typeface indicates programmatic elements that you supply. For example, lowercase indicates names of tables, columns, or files.
	
	Note: Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.
		`SELECT last_name, employee_id FROM employees;`
		`sqlplus hr/hr`
		`CREATE USER mjones IDENTIFIED BY ty3MU9;`

Conventions for Microsoft Windows Operating Systems

The following table describes conventions for Microsoft Windows operating systems and provides examples of their use.

Convention	Meaning	Example
Choose Start >	How to start a program.	To start the Oracle Database Configuration Assistant, choose Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Database Configuration Assistant.
File and directory names	File and directory names are not case sensitive. The following special characters are not allowed: left angle bracket (<), right angle bracket (>), colon (:), double quotation marks ("), slash (/), pipe (|), and dash (-). The special character backslash (\) is treated as an element separator, even when it appears in quotes. If the file name begins with \\, then Windows assumes it uses the Universal Naming Convention.	`c:\winnt"\"system32` is the same as `C:\WINNT\SYSTEM32`
`C:\>`	Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is the caret (^). Your prompt reflects the subdirectory in which you are working. Referred to as the *command prompt* in this manual.	`C:\oracle\oradata>`

	The backslash (\) special character is sometimes required as an escape character for the double quotation mark (") special character at the Windows command prompt. Parentheses and the single quotation mark (') do not require an escape character. Refer to your Windows operating system documentation for more information on escape and special characters.	`C:\>exp scott/tiger TABLES=emp QUERY=\"WHERE job='SALESMAN' and sal<1600\"`
		
		`C:\>imp SYSTEM/`*password* `FROMUSER=scott TABLES=(emp, dept)`

HOME_NAME	Represents the Oracle home name. The home name can be up to 16 alphanumeric characters. The only special character allowed in the home name is the underscore.	`C:\> net start Oracle`*HOME_NAME*`TNSListener`

Convention	Meaning	Example
ORACLE_HOME and *ORACLE_BASE*	In releases prior to Oracle8*i* release 8.1.3, when you installed Oracle components, all subdirectories were located under a top level *ORACLE_HOME* directory that by default used one of the following names:	Go to the *ORACLE_BASE**ORACLE_HOME*\\ rdbms\\admin directory.
	■ C:\\orant for Windows NT	
	■ C:\\orawin95 for Windows 95	
	■ C:\\orawin98 for Windows 98	
	This release complies with Optimal Flexible Architecture (OFA) guidelines. All subdirectories are not under a top level *ORACLE_HOME* directory. There is a top level directory called *ORACLE_BASE* that by default is C:\\oracle. If you install Oracle9*i* release 1 (9.0.1) on a computer with no other Oracle software installed, then the default setting for the first Oracle home directory is C:\\ oracle\\ora90. The Oracle home directory is located directly under *ORACLE_BASE*.	
	All directory path examples in this guide follow OFA conventions.	
	Refer to *Oracle9i Database Getting Starting for Windows* for additional information about OFA compliances and for information about installing Oracle products in non-OFA compliant directories.	

Documentation Accessibility

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

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

JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

This documentation may contain links to Web sites of other companies or organizations that Oracle Corporation does not own or control. Oracle Corporation neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Support for Hearing and Speech Impaired Customers

Oracle Corporation provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, seven days a week.

For technical questions, call:

1.800.446.2398

For non-technical questions, call:

1.800.464.2330

Component Accessibility

Java Access Bridge Setup for Oracle9*i* for Windows

This section contains setup information to enable Oracle9*i* components to use a screen reader. The following procedures are needed only if you use a screen reader.

Java Access Bridge enables assistive technologies, such as a JAWS screen reader, to read Java applications running on Windows. Assistive technologies can read Oracle9*i* components, such as Oracle Universal Installer, Oracle Enterprise Manager, and Oracle Database Configuration Assistant.

> **See Also:** After installation, Java Access Bridge documentation located in:
>
> `\AccessBridge-1_0\doc`

This section contains these topics:

- Setup for Oracle Universal Installer
- Setup for Oracle Installed Components

Setup for Oracle Universal Installer

Install and configure Java Access Bridge for Windows before installing Oracle9*i* components to enable assistive technologies to read Oracle Universal Installer windows.

Before you Begin

Exit any assistive technology software that is running.

To install the Java Access Bridge:

1. From the first component CD-ROM, copy `\AccessBridge\ accessbridge1_0.zip` to a location on your hard drive.

2. Extract the files onto your hard drive.

3. Add `access-bridge.jar` and `jaccess-1_1.jar` to the `CLASSPATH` user environment variable.

   a. Open the Windows System Control Panel. For Windows NT or Windows 2000, choose Start > Settings > Control Panel > System.

      On Windows NT, select the Environment tab. On Windows 2000, select the Advance tab. Then, choose the Environment Variables button.

b. Add the following to the `CLASSPATH` user environment variable:

```
;x:\AccessBridge-1_0\installer\installerFiles\
access-bridge.jar; x:\AccessBridge\installer\
installerFiles\jaccess-1_1.jar
```

where `x:\AccessBridge-1_0` is the full path of the Access Bridge location on your hard drive.

c. Copy `JavaAccessBridge.dll` and `WindowsAccessBridge.dll` from `x:\AccessBridge-1_0\installer\installerFiles\` to `operating system\system32\`.

Setup for Oracle Installed Components

Install and configure Java Access Bridge for Windows after installing Oracle9*i* components to enable assistive technologies to read Oracle9*i* component windows.

Perform the following steps to install and configure Java Access Bridge:

- Step 1: Install Java Access Bridge Software
- Step 2: Configure Oracle to use Java Access Bridge

Step 1: Install Java Access Bridge Software
To install the Java Access Bridge:

1. From the first component CD-ROM, copy `\AccessBridge\accessbridge1_0.zip` to a location on your hard drive.

2. Extract the files onto your hard drive.

3. Java Access Bridge must be installed into the subdirectory of Java Runtime Environment (JRE) 1.1.8 used by Oracle. By default, JRE 1.1.8 used by Oracle is installed in:

   `C:\Program Files\Oracle\jre\1.1.8`.

   The following table list the files to copy from the Java Access Bridge location on your hard drive to the appropriate subdirectory of the JRE used by Oracle.

Copy...	To...
\AccessBridge-1_0\installer\ installerFiles\ jaccess-1_1.jar	\lib\jaccess.jar (rename jaccess-1_1.jar to jaccess.jar)
\AccessBridge-1_0\ access-bridge.jar	\lib\
\AccessBridge-1_0\ JavaAccessBridge.dll	\bin\
\AccessBridge-1_0\ WindowsAccessBridge.dll	\bin\

4. In the destination folder, rename `jaccess-1_1.jar` to `jaccess.jar`.

5. Use a text editor to modify `\lib\awt.properties` that is located in the subdirectory of JRE 1.1.8 used by Oracle.

6. Add the following lines to `awt.properties`:

   `AWT.EventQueueClass=com.cun.java.accessibility.util.EventQueueMonitor`

   `AWT.assistive_technologies=com.sun.java.accessibility.AccessBridge`

Step 2: Configure Oracle to use Java Access Bridge

To configure Oracle to use Java Access Bridge, set the system environment variable `ORACLE_OEM_CLASSPATH` to point to the installed Java Access Bridge files.

Open the Windows System Control Panel. For Windows NT or Windows 2000, choose Start > Settings > Control Panel > System.

■ On Windows NT:

   a. Select the Environment tab.

   b. Select a variable in the System Variables list.

   c. In the Variable field, enter `ORACLE_OEM_CLASSPATH`.

    d. In the Value field, enter the full path of `jaccess.jar` and `access-bridge.jar`. For example, if JRE 1.1.8 is installed in the default location, then these paths are:

```
c:\Program Files\Oracle\jre\1.1.8\lib\jaccess.jar;c:\
Program Files\Oralce\jre\1.1.8\lib\access-bridge.jar
```

    e. Choose Set.

    f. Choose OK.

- On Windows 2000:

    a. Select the Advanced tab.

    b. Choose the Environment Variables button.

    The Environment Variables dialog displays.

    c. Choose the New button under the System Variable list.

    The New System Variable dialog displays.

    d. In the Variable Name field, enter `ORACLE_OEM_CLASSPATH`.

    e. In the Variable Value field, enter the full path of `jaccess.jar` and `access-bridge.jar`. For example, if JRE 1.1.8 is installed in the default location, then these paths are:

```
c:\Program Files\Oracle\jre\1.1.8\lib\jaccess.jar;c:\
Program Files\Oralce\jre\1.1.8\lib\access-bridge.jar
```

    f. Choose OK.

    g. Choose OK.

    h. Choose OK.

What's New in Oracle9*i* for Windows?

This section describes new features of Oracle9*i* for Windows release 1 (9.0.1) and provides pointers to additional information.

The following sections describe the new features in Oracle9*i*:

- Oracle9i Release 1 (9.0.1) New Features in Oracle9i for Windows

   See Also:

   - *Oracle9i Database New Features* for the list of new features, options, and enhancements of Oracle9*i*
   - The README file at the root level of the documentation CD-ROM for more information about the Oracle9*i* Online Documentation for Windows

Oracle9*i* Release 1 (9.0.1) New Features in Oracle9*i* for Windows

This section contains these topics:

- **Integration With Windows NT and Windows 2000**

  - Oracle9*i* supports several versions of Microsoft Windows, including Windows 2000 and Windows NT.

  - Oracle9*i* supports enhanced integration with Microsoft Transaction Services and Internet Information Services. The public key infrastructure (PKI) and Single Sign-On capabilities in Oracle9*i* have also been well integrated with Windows 2000, Active Directory, and Microsoft Certificate Store.

  - Oracle9*i* also provides an enhanced solution to allow the Oracle database to participate as a Resource Manager in Microsoft Transaction Server and COM+ Transactions environment, providing enhanced performance and scalability.

  - Windows security supports Oracle Wallets in the registry and Active Directory and allows Oracle products to use Microsoft Certificate Store.

  - Customers who implement Oracle Internet Directory as their central Directory while using Active Directory to support their desktop environments can use Microsoft Active Directory Service Interfaces (ADSI) to access Oracle Internet Directory from the Windows desktop environment.

  - Meta-directory synchronization between Active Directory and Oracle Internet Directory facilitates centralized scheduling and configuration of Oracle and third party meta-directory components. Synchronization between Active Directory and Oracle Internet Directory can be achieved by deploying Oracle Directory Integration Platform and an Active Directory Synchronization agent from Siemens.

  - Oracle Fail Safe, shipping in a subsequent CD pack, provides high availability for Oracle databases and applications deployed on all Microsoft Cluster Server clusters configured with Windows NT and Windows 2000.

  - For Windows developers, Oracle9*i* offers an enhanced native OLE DB provider. XML, database events, and Oracle9*i* extensions are supported through Oracle Objects for OLE. The COM Automation Feature now supports Java stored procedures.

- *i*SQL*Plus

  *i*SQL*Plus is a browser-based implementation of SQL*Plus. You can use
  *i*SQL*Plus over the Internet to connect to an Oracle database and perform the
  same actions as you would through the SQL*Plus command line. The *i*SQL*Plus
  implementation uses a Web browser, an Oracle HTTP Server with the *i*SQL*Plus
  Server, and an Oracle Database Server.

- **Microsoft Transaction Server (MTS)**

  The following table describes some of the new features in Microsoft Transaction
  Server for Oracle9*i*.

Better performance	Communication between the Microsoft Transaction Server application and the Oracle Service for MTS is no longer required.
High availability	The Oracle database is no longer dependent on the Oracle Service for MTS. Previously, if the Oracle Service for MTS was stopped, the Oracle database was unable to participate in Microsoft Transaction Server transactions.
Improved scalability	The code that allows an Oracle database to participate in Microsoft Transaction Server transactions is now embedded in each Microsoft Transaction Server application process.
Easier configuration	Previous versions required a Windows NT service named Oracle Service for MTS to be created for each Oracle database, enabling the database to participate in Microsoft Transaction Server transactions. Moreover, only one Oracle Service for MTS was supported for each Oracle database. This release no longer requires this service.

  > **See Also:** *Oracle Developer's Guide for Microsoft Transaction Server*

- **Oracle COM Automation**

  Oracle COM Automation Feature is now available for Java as well as PL/SQL.
  While the general functionality is parallel, the developer's guide indicates those
  areas where functionality, setup, and architecture differ.

  For this release, Oracle has renamed the `com81.dll` to `orawpcom.dll`. Users
  migrating from Oracle8*i* must rerun `comwrap.sql` to continue using Oracle
  COM Automation feature for PL/SQL.

  > **See Also:** *Oracle COM Automation Feature Developer's Guide*

- **Oracle DBA Studio Integration into the Enterprise Manager Console**

  Oracle DBA Studio is no longer available as a separate application. The functionality of this component has been integrated with Oracle Enterprise Manager Console.

  > **See Also:** *Oracle Enterprise Manager Administrator's Guide*

- **Oracle Objects for OLE**

  Oracle Objects for OLE supports the creation of temporary binary large objects (BLOBs) or character large objects (CLOBs) that can be manipulated and then bound into SQL statements or PL/SQL blocks, or copied into permanent LOBs.

  Oracle Objects for OLE supports database events. This asynchronous notification is modeled along the same lines as the failover handler, thus a client can subscribe to one or more database events and can continue with other processing. Each database event that the client is interested in is stored as a subscription by Oracle Objects for OLE.

  > **See Also:** Oracle Objects for OLE Online Help

- **Oracle OLAP Services**

  Oracle OLAP Services provides a Java OLAP API and an analytical engine. Using OLAP Services, developers can build analytical applications that support complex statistical, mathematical, and financial calculations along with predictive analytical functions such as forecasting, modeling, consolidations, allocations, and scenario management. Because the OLAP API is all Java, OLAP Services supports deployment of analytical applications to large, geographically distributed user communities on the Internet. Oracle OLAP Services is installed with Oracle9*i* Enterprise Edition.

  > **See Also:** *Oracle9i OLAP Services Concepts and Administration Guide*

- **Oracle Real Application Clusters**

Oracle Real Application Clusters is a new, breakthrough software architecture with scalability and high availability features that exceed the capabilities of previous Oracle cluster-enabled software releases.

The following table describes some of the features in Oracle Real Application Clusters for Oracle9*i*.

Cache Fusion	A breakthrough technology that guarantees cache coherency among multiple cluster nodes without incurring disk I/O costs.
Cluster Configuration	The Oracle9*i* release of Oracle Real Application Clusters on Windows provides for easier cluster configuration: ■ Oracle Operating System Dependent clusterware (Oracle OSDs) are provided in this release. The OSDs serve as communication links between the operating system and Oracle Real Application Clusters software. ■ The Oracle Cluster Setup Wizard creates a cluster or adds a node to an existing cluster.
Centralized Node Information	Easier configuration through centralized node information: ■ Use Oracle Enterprise Manager or the `srvctl` utility to manage instances, including adding or removing them. There is no need to update distributed files on the nodes. ■ Add an instance dynamically using Oracle Database Configuration Assistant.

See Also:

- The Oracle9*i* Real Application Clusters documentation set for additional new features

- The Oracle Real Application Clusters Guard for Windows documentation set for information about separately installable, Windows-specific enhancements to Oracle9*i* Real Application Clusters. This documentation is on the Oracle Fail Safe and Oracle Real Application Clusters Guard component CD-ROM, shipping in a subsequent CD pack.

- **Oracle Ultra Search**

  Oracle Ultra Search, a new feature of Oracle9*i*, provides an "Out-of-the-Box" solution that can find your information wherever it lives. Ultra Search provides the following features:

  - Searches content regardless of location—in Oracle and non-Oracle databases, on Web servers, in files on disk, or on corporate mail servers.

  - Uses a "crawler" to crawl, index, and make searchable your corporate Intranet; the documents stay in their own repositories and the crawled information builds an index that stays within your firewall in a designated Oracle9*i* database.

  - Provides a Web-style search with intuitive search menus and self-service access. There is no need to code against hard-to-use low level APIs. For advanced users, however, APIs are also exposed.

  - Organizes and categorizes your content by extracting valuable metadata that can be used in portal applications.

  - Provides effective search capabilities by returning more relevant hits.

    See Also: Visit the OTN Ultra Search Web page to learn more about the technology at:

    ```
    http://technet/index.html
    ```

- **Oracle Workflow**

  Oracle Workflow now provides the Business Event System, a new application service that leverages the Oracle Advanced Queuing infrastructure to communicate business events among systems within an enterprise and between enterprises. The Business Event System includes the Event Manager, for registering subscriptions to significant events, and event activities, for modeling business events within workflow processes. This support allows Oracle Workflow users to deal with business objects, and E-business integration flows powerfully and flexibly, with minimal intrusion into core applications.

- **Oracle9*i* on Windows 2000**

  There are some differences between using Oracle9*i* on Windows 2000 and Windows NT 4.0.

    See Also: *Oracle9i Database Getting Starting for Windows*

- **Workspace Manager**

  Workspace Manager provides a long-transaction framework built on a workspace management system. It uses a series of short transactions and multiple data versions to implement a complete long-transaction event that maintains atomicity and concurrency. Changes are stored in the database as different workspaces. Users are permitted to create new versions of data to update, while maintaining a copy of the old data. The ongoing results of the long transaction are stored persistently, ensuring concurrency and consistency.

  > **See Also:** *Oracle9i Application Developer's Guide - Workspace Manager*

Oracle9*i* release 1 (9.0.1) Deprecated and Desupported Components

The following components that were part of 8.1.7 are not available for installation with release 1 (9.0.1):

- **Database user INTERNAL**

  `CONNECT INTERNAL` and `CONNECT INTERNAL/`*PASSWORD* are not supported in Oracle9*i*.

  > **See Also:** *Oracle9i Database Administrator's Guide*

- **Logical Unit Type 6.2 (LU6.2) Protocol Support**

  LU6.2 protocol is not supported for Oracle9*i*. Migrate or upgrade to TCP/IP-based protocols.

- **Pro*COBOL**

  As of this release of the Oracle database server, the Pro*COBOL precompiler no longer supports the Fujitsu compiler.

- **Server Manager**

  Server Manager is no longer available. Use SQL*Plus instead. Most Server Manager scripts should work in a SQL*Plus environment, but some scripts need to be modified.

  > **See Also:** *Oracle9i Database Migration* for information about modifying Server Manager scripts

- **Windows 95**

    Windows 95 is not supported for Oracle9*i*.

- **Very Large Memory (VLM)**

    Very Large Memory (VLM) configurations are not supported for this release.

1

Introducing Oracle9*i* for Windows NT

This chapter introduces you to Oracle9*i* for Windows NT and helps you plan your installation.

This chapter contains these topics:

- Oracle9i for Windows NT Overview
- Planning Your Installation
- Documentation Library Overview
- What Documentation Do I Read First?
- Getting Started with Installation

Oracle9*i* for Windows NT Overview

Oracle9*i* for Windows NT is a development and deployment platform for the Internet. Oracle9*i* for Windows NT features include the following:

- A built-in Java Virtual Machine (JVM) that lets you store and run Java code within an Oracle9*i* database

- Support for the Common Object Request Broker Architecture (CORBA), the Internet Inter-ORB Protocol (IIOP), and Enterprise JavaBeans

- Support for SQLJ, a programming syntax that lets you embed SQL statements in Java programs

- Integration with the Component Object Model (COM) and Microsoft Transaction Server

- Integration with Oracle Enterprise Manager Console and front-end management applications that are fully accessible from clients (including Web browsers)

  See Also:

  - *Oracle9i Database Concepts*

  - *Oracle9i Database New Features*

  - *Oracle Enterprise Manager Concepts Guide*

Planning Your Installation

This section provides information about Oracle Universal Installer, installation types, database configurations, and concepts you should be aware of in planning an installation.

- Using Optimal Flexible Architecture

- Oracle Universal Installer Overview

- Oracle9i Products for Installation

- Licensing Information

- Oracle9i Database Options

Using Optimal Flexible Architecture

Oracle Corporation recommends using the Optimal Flexible Architecture (OFA) standard when installing and configuring Oracle9*i* databases. The OFA standard is a set of configuration guidelines for creating fast, highly available, reliable Oracle databases that require little maintenance. The following advantages are the most important:

- Structured organization of directories and files and the consistent naming used for database files simplify database administration.

- Distribution of I/O across multiple disks prevents performance bottlenecks caused by multiple read or write commands issued simultaneously to a single drive.

- Distribution of applications across multiple disks safeguards against database failures.

- Login home directories are not at risk when database administrators add, move, or delete Oracle home directories.

- Multiple versions of application software can execute concurrently.

- Software upgrades can be tested in an Oracle home in a separate directory from the Oracle home where your production database is located.

> **Note:** The Oracle Universal Installer supports OFA, but does not require OFA.

Benefits of Using Multiple Oracle Homes

The main benefit of using multiple Oracle homes is that you can run multiple releases of the same products concurrently. For example, you can test an Oracle9*i* release 1 (9.0.1) database patch before you run your production database Oracle9*i* release 1 (9.0.1) against it.

Multiple Oracle Home Functionality in Different Releases

Modifications to multiple Oracle home functionality have occurred since it was introduced in Oracle8 release 8.0.4. This section helps you determine the capabilities of your Oracle home depending on the release you are using.

Oracle8 Releases Before 8.0.4

Releases of Oracle for Windows NT and Windows 95 prior to Oracle8 release 8.0.4 support only single Oracle homes, allowing you to install and run Oracle products in a single Oracle home. Different releases of Oracle products can be installed in the same Oracle home provided they have different first or second-digit release numbers. For example, you can install Oracle7 release 7.2 products and Oracle7 release 7.3 products or Oracle7 release 7.*x* and Oracle8 release 8.*x* products in the same Oracle home. However, you cannot install multiple third-digit releases of the same products. For example, you cannot install Oracle7 release 7.3.2 and Oracle7 release 7.3.3 products on the same computer; one installation overwrites the other.

Oracle8 Releases 8.0.4 to 8.0.6

You can install one or more releases of Oracle products in multiple Oracle homes. For example, with multiple Oracle homes, you can install Oracle8 release 8.0.*x* and Oracle8*i* release 8.1.3 products or Oracle7 release 7.*x* and Oracle8 release 8.0.*x* products in different Oracle homes on the same computer.

You can also install different releases of Oracle products in the same Oracle home provided they have different first or second-digit release numbers. For example, you can install Oracle7 release 7.2 products and Oracle8 release 8.0.*x* products in the same Oracle home.

Oracle8*i* Release 8.1.3 to Oracle9*i* Release 1 (9.0.1)

These releases have the same multiple Oracle home functionality as Oracle8 releases 8.0.4 to 8.0.6, but the following restrictions apply:

- You cannot install any release from Oracle8*i* release 8.1.3 to Oracle9*i* release 1 (9.0.1) into an Oracle home that was created using the old installer. (The old installer was called Oracle Installer and was used for installations before Oracle8*i* release 8.1.3; the new Java-based installer is called Oracle Universal Installer.)

- You cannot install releases prior to Oracle8*i* release 8.1.3 into an Oracle home that was created by any release from Oracle8*i* release 8.1.3 to Oracle9*i* release 1 (9.0.1).

- Releases from Oracle8*i* release 8.1.3 to Oracle9*i* release 1 (9.0.1) must be installed in separate Oracle homes. You cannot have more than one release installed in each Oracle home.

    See Also: "Multiple Oracle Homes and Optimal Flexible Architecture" of *Oracle9i Database Getting Starting for Windows*

Oracle Universal Installer Overview

Oracle Universal Installer is a Java-based graphical user interface (GUI) tool that enables you to install Oracle components from your CD-ROM. Oracle Universal Installer provides the following capabilities:

- Component and suite installations

- Web-based installations

- National language and globalization support

- Distributed installation support

- Unattended "silent" installations using response files

- Deinstallation of installed components

- Multiple Oracle homes support

> **See Also:** Appendix D, "Advanced Installation Topics" for more information about Web-based and silent installations

Oracle Universal Installer Restrictions

- Using the old Oracle Installer installer shipped with releases 7.*x* and 8.0.*x*) to install components into an Oracle9*i* release 1 (9.0.1) Oracle home directory is *not* supported. Likewise, you cannot install release 1 (9.0.1) components into a release 7.*x*, 8.0.*x*, 8.1.3, or 8.1.4 Oracle home.

- 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*MetaLink*. Visit:

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

- Oracle Universal Installer is capable of running a noninteractive installation of Oracle products and can optionally be configured for "silent" mode. Silent mode is a background process and does not display windows.

- Oracle Universal Installer is capable of Web-based installations. Refer to *Oracle Universal Installer Concepts Guide* for more information about this Installer feature.

- Installation of Oracle9*i* database components from a remote Terminal Services Client onto a Windows 2000 server that is running a **Terminal Server** Service or a Windows NT 4.0 Terminal Server is not supported. If you attempt to install

Oracle9*i* in this manner, many database configuration tools, such as Oracle Data Migration Assistant, Oracle Database Configuration Assistant, Oracle Internet Directory Configuration Assistant, Oracle Net Configuration Assistant, and Oracle Workflow Configuration Assistant, hang. Start all the configuration tools from the Terminal Server console and not from the Terminal Services Client.

> **See Also:** *Oracle Universal Installer Concepts Guide*
>
> This guide is included in your Oracle9*i* Online Documentation Library for Windows and is automatically installed on your hard drive during installation. Choose Start > Programs > Oracle Installation Products > Universal Installer Concepts Guide to access this guide.

Using the Keyboard to Navigation Oracle Universal Installer

This guide describes how to navigate Oracle Universal Installer windows with a mouse. You can also navigate with keyboard commands. Windows operating systems include a series of keyboard commands that can be used with Oracle Universal Installer. For example, the tab key enables you to navigate from item to item in a window. Oracle Universal Installer includes several windows that require navigation through components in a hierarchical tree. These windows include:

- Available Product Components window (lists the components available for installation)
- Summary window (lists the components about to be installed)
- Inventory window (lists the installed components)

Table 1–1 describes how to navigate these windows with keyboard commands:

Table 1–1   Keyboard Commands for Navigating Oracle Universal Installer

To...	Use The...
Move up and down a list of components	Up and down arrows
Open an expandable tree of components	Right arrow
Close an expanded tree of components	Left arrow
Select or deselect a component	Space bar

> **See Also:** The Microsoft Web site for information on standard keyboard navigational commands:
>
> `http://www.microsoft.com/`

Oracle9*i* Products for Installation

During installation, you are asked to choose one of three top-level components. These products are:

- Oracle9i Database
- Oracle9i Client
- Oracle9i Management and Integration

Each top-level component contains several installation types, each of which contain a series of individual components. The following sections lists the three top-level components and their installation types.

Oracle9*i* Database

The Oracle9*i* Database is an object-oriented relational database management system, which consists of an Oracle database and an Oracle instance. There are four installation types: Enterprise Edition, Standard Edition, Personal Edition, or Custom.

- **Enterprise Edition:** If you select this type, Oracle Universal Installer installs a preconfigured seed database, networking services, licensable Oracle Options, database environment tools, the Oracle Enterprise Manager framework of management tools, including Console, Management Server, and Intelligent Agent, Oracle utilities, and online documentation. It also installs those products most commonly used in data warehousing and transaction processing environments.

- **Standard Edition:** If you select this type, Oracle Universal Installer installs a preconfigured seed database, networking services, Oracle Enterprise Manager framework of management tools, including Console, Management Server, and Intelligent Agent, and Oracle utilities.

- **Personal Edition:** If you select this type, Oracle Universal Installer installs the same software as the Enterprise Edition installation type, but supports only a single user development and deployment environment that requires full compatibility with Enterprise Edition and Standard Edition.

  Personal Edition is the only Oracle9*i* Database installation type that is supported on Windows 98. Note that Oracle Management Server and Intelligent Agent are not supported on Windows 98.

- **Custom:** If you select this type, Oracle Universal Installer prompts you to select individual components to install from the components available with Enterprise Edition, Standard Edition, and Personal Edition installations.

Oracle9*i* Client

The Oracle9*i* Client is a front-end database application that connects to the database through one or more application servers. There are three Client installation types: Administrator, Runtime, and Custom.

- **Administrator:** If you select this type, Oracle Universal Installer installs the Oracle Enterprise Manager Console, including enterprise management tools, networking services, utilities, and basic client software.

- **Runtime:** If you select this type, Oracle Universal Installer installs networking services and support files.

- **Custom:** If you select this type, Oracle Universal Installer prompts you to select individual components to install from the components available with Administrator and Runtime.

Oracle9*i* Management and Integration

Oracle Management Server is a central processing and distribution system for management tasks. It enables distributed control between clients and managed nodes. Oracle Internet Directory is an database-based LDAP v3 directory server. Oracle Integration Server is a suite of software that provides internet and intranet tools to integrate applications within and across organizations.

There are four Management and Integration installation types: Oracle Management Server, Oracle Internet Directory, Oracle Integration Server, and Custom.

- **Oracle Management Server:** If you select this type, Oracle Universal Installer installs the Oracle Management Server, which processes all system management tasks from the Enterprise Manager console and administers the distribution of these tasks to Intelligent Agents on managed nodes across the enterprise. In addition, Oracle Universal Installer installs basic client software.

- **Oracle Internet Directory:** If you select this type, Oracle Universal Installer installs a Lightweight Directory Access Protocol (LDAP)-enabled Oracle Internet Directory Server, LDAP-enabled client tools, and the Oracle Internet Directory database schema.

- **Oracle Integration Server:** If you select this type, Oracle Universal Installer installs XML-enabled components that integrate enterprise applications. Components include Oracle9*i* JVM, a workflow engine, and advanced queuing.

- **Custom:** If you select this type, Oracle Universal Installer prompts you to select individual components to install from the components available with Oracle Management Server, Oracle Internet Directory, and Oracle Integration Server.

  See Also: Appendix A, "Individual Components Available for Installation" for a list of individual components installed with each installation type

Licensing Information

Although the component CD-ROM in your kit contains many Oracle components, you may use only those components for which you have purchased licenses. Those components that require separately purchasable licenses are identified in their descriptions in Appendix A.

Oracle Support Services does not provide support for components for which licenses have not been purchased.

  See Also:

  - "Oracle9i Database Options" on page 1-9
  - Appendix A, "Individual Components Available for Installation"

Oracle9*i* Database Options

The following products require a separate license:

- Oracle Advanced Security
- Oracle Change Management Pack
- Oracle Data Mining
- Oracle Diagnostics Pack
- Oracle Label Security
- Oracle Management Pack for SAP R/3
- Oracle Management Pack for Oracle Applications

- Oracle OLAP Services

- Oracle Partitioning

- Oracle Real Application Clusters

- Oracle Spatial

- Oracle Tuning Pack

    See Also:

    - *Global License Terms* for additional licensing information

    - "Component Descriptions" on page A-20

Documentation Library Overview

Your Oracle documentation set is provided in both HTML and PDF formats on two CD-ROMs in your CD Pack that are labeled as follows:

- Oracle9*i* Online Documentation Library CD-ROM for Windows

- Oracle9*i* Online Documentation Library CD-ROM for Windows - Installation CD

Use the first CD-ROM to browse the library from the CD-ROM or copy files directly to a local system. Use the second CD-ROM to install the documentation library with Oracle Universal Installer. The contents of the library are the same on both CDs.

The library includes a Web-based search tool that enables you to search for information about a particular product, parameter, file name, procedure, error message, or other area of interest. The search tool also makes it possible to construct a "virtual book" drawn from the complete documentation library, but consisting of topics and procedures relevant for your needs. The library also includes a comprehensive Master Index, as well as lists of SQL and PL/SQL keywords, initialization parameters, catalog views, and data dictionary views.

Instructions for installing the library and viewing its contents are in three README files at the root level of the documentation CD-ROMs:

- `README.htm`

- `README.pdf`

- `README.txt`

The contents of the three files are identical; only the format differs.

The following manuals are not included on the Oracle9*i* Online Documentation Library for Windows CD-ROM:

- This installation guide and *Oracle9i Database release notes for Windows*

  To access these documents before installation, open start_here.htm in the \doc directory on the first component CD-ROM.

  To access these documents after installation, choose Start > Programs > Oracle - *HOME_NAME* > Release Documentation or open start_here.htm in the *ORACLE_BASE**ORACLE_HOME*\doc directory on your hard drive.

- Oracle Migration Workbench documentation

  The latest version can be viewed at: http://otn.oracle.com/

- Oracle Fail Safe and Oracle Real Application Clusters Guard documentation

  These documents are on the Oracle Fail Safe and Oracle Real Application Clusters Guard product CD-ROM, shipping in a subsequent CD pack.

- Oracle Migration Workbench

  After installation, Oracle Migration Workbench documentation is available in:

  ORACLE_BASE*ORACLE_HOME*\Omwb\Docs\

- Oracle Transparent Gateway

  After installation, Oracle Transparent Gateway documentation is available in:

  ORACLE_BASE*ORACLE_HOME*\tg4msql\doc

  ORACLE_BASE*ORACLE_HOME*\tg4sybs\doc

  ORACLE_BASE*ORACLE_HOME*\tg4tera\doc

- Oracle Data Mining

  Oracle9i Data Mining Administrator's Guide and *Oracle9i Data Mining Concepts* ship on the Oracle Data Mining CD-ROM in your CD pack.

What Documentation Do I Read First?

The README file at the root level of the documentation CD-ROM includes a description of your Oracle documentation set. This README provides a list of:

- Available online documentation formats

- Documentation available on your Oracle9*i* Online Documentation Library for Windows CD-ROM

Oracle Corporation recommends that you read or review the documentation listed in Table 1–2 *before* you install Oracle components. This helps ensure that you make the correct decisions during Oracle component installation.

Table 1–2   What Documentation Do I Read First?

For Information About...	See...
Important last-minute installation and configuration information	*Oracle9i Database release notes for Windows* (click `start_ here.htm` in the `\doc` directory on the component CD-ROM.)
	Note: After installation, view README files for additional components in the *ORACLE_BASE**ORACLE_ HOME*\`relnotes` directory.
How to obtain customer support	*Oracle Customer Support Guide*
Basic database concepts and administration	- *Oracle9i Database Concepts*
	- *Oracle9i Database Administrator's Guide*
	- *Oracle9i Database Administrator's Guide for Windows*
Oracle Enterprise Manager concepts and administration	- *Oracle Enterprise Manager Concepts Guide*
	- *Oracle Enterprise Manager Administrator's Guide*
	- *Oracle Enterprise Manager Configuration Guide*
Networking concepts and administration	*Oracle9i Net Services Administrator's Guide*
Creating a correctly configured Oracle9*i* database from the start	- *Oracle9i Database Administrator's Guide for Windows*
	- *Oracle9i Database Administrator's Guide*
	- *Oracle9i Database Performance Guide and Reference*
Noninteractive installation using response files	"About Oracle Components in Noninteractive Mode" on page D-2

Table 1–2   What Documentation Do I Read First? (Cont.)

For Information About...	See...
Upgrading or migrating an Oracle database from a previous release	■ "Migration and Upgrade Requirements" on page 2-18 ■ *Oracle9i Database Migration* **Note:** Oracle Data Migration Assistant automatically prompts you during installation to migrate a pre-9.0 database detected on your hard drive. Do not use Oracle Data Migration Assistant to upgrade or migrate a cluster database.
Upgrading an Oracle9*i* database configured for use with Oracle Internet Directory	■ *Oracle Internet Directory Administrator's Guide* ■ "Migration and Upgrade Requirements" on page 2-18 ■ "Oracle Internet Directory Installation" on page 4-23
Installing Oracle components in multiple homes on a computer	■ "Using Optimal Flexible Architecture" on page 1-3 ■ "Multiple Oracle Homes and Optimal Flexible Architecture" of *Oracle9i Database Getting Starting for Windows*
Installing all Oracle components available on the CD-ROM	Chapter 4, "Installing Oracle Components"

Getting Started with Installation

You are now ready to begin the installation process. To start quickly, follow these chapters in the order listed:

To...	See...
Find out about installation requirements for:	Chapter 2, "Preinstallation Requirements"
■ Each installation type	
■ Migrating an Oracle database	
■ Individual components	
■ Single Oracle home components	
■ Oracle Enterprise Manager components	
■ Networking protocols and vendors	
Select a method for creating your Oracle9*i* database and configuring your Oracle Net client/server environment	Chapter 3, "Selecting Database Creation and Oracle Net Services Configuration Methods"
Perform preinstallation tasks for Oracle Real Application Clusters clustered databases	Chapter B, "Oracle Real Application Clusters Preinstallation Tasks"
Install and deinstall Oracle components	Chapter 4, "Installing Oracle Components"
Install Oracle components noninteractively	"About Oracle Components in Noninteractive Mode" on page D-2

2

Preinstallation Requirements

This chapter describes installation requirements for an Oracle9*i* installation.

This chapter contains these topics:

- Single Oracle Home Components
- Top-Level Component System Requirements
- Mandatory Individual Component Requirements
- Oracle Enterprise Manager Requirements
- Migration and Upgrade Requirements
- Networking Protocol Vendor Requirements

Single Oracle Home Components

Most Oracle components can be installed multiple times on the same computer. However, the following components can only be installed once for each computer:

- Oracle Performance Monitor for Windows NT

- Oracle Objects for OLE

- Oracle Provider for OLE DB

> **Notes:**   All Oracle7 components and all Oracle8 release 8.0.3 components are non-multiple Oracle home products.

> **See Also:**   "Using Optimal Flexible Architecture" on page 1-3

If you attempt to install these components a second time, Oracle Universal Installer detects that these products are already installed in another Oracle home and automatically removes them from the installation process without prompting you. The following information is logged to the `installActions.log` file in the `c:\Program Files\Oracle\Inventory\logs` directory.

```
# product_name is a single oracle home product. It is already
installed in currently_installed_location.
```

If you are performing an installation and notice that one or more single Oracle home components are not available for installation during the current session, check to see if any of these components or any previous versions of these components are installed in another Oracle home. If you want to install these in the currently selected Oracle home, then first deinstall the conflicting versions.

> **See Also:**   Appendix A, "Individual Components Available for Installation" for the installation types under which these components are installed

Top-Level Component System Requirements

The following sections list the system requirements for each top-level component. Each top-level component contains several installation types, each of which contain a series of individual components. Some individual components also have requirements that must be satisfied before installation. Those requirements are described in "Mandatory Individual Component Requirements" on page 2-11 and "Oracle Enterprise Manager Requirements" on page 2-14.

- System Requirements for FAT and NTFS File Systems
- Oracle9i Database System Requirements
- Oracle9i Client System Requirements
- Oracle9i Management and Integration System Requirements
- Unsupported Components and Features on Windows Terminal Servers
- Component Certification

Important: The hard disk requirements for each Oracle9*i* top-level component include 25 MB required to install Java Runtime Environment (JRE) and Oracle Universal Installer on the partition where the operating system is installed. If sufficient space is not detected, installation fails and an error message appears.

System Requirements for FAT and NTFS File Systems

This chapter lists system requirements for both the File Allocation Table (FAT) and NT File System (NTFS) file systems. Because of the difference in space allocation on both file systems, the hard disk requirements vary.

Oracle Corporation recommends installing on NTFS for Windows NT and Windows 2000, or FAT32 for Windows 98.

> **See Also:** "About NTFS File System and Windows NT Registry Permissions" on page 6-2

> **Important:** Review the FAT and NTFS system requirements listed in this section to determine if you have enough hard disk space for installation. These values are more accurate than the hard disk values reported by the Oracle Universal Installer Installation Types window and Summary window. These windows do not include:
>
> - Accurate FAT disk space values
> - The space required to create a database
> - The size of compressed files that are expanded on the hard drive

---

Oracle9*i* Database System Requirements

The Oracle9*i* Database top-level component consists of the following installation types:

- Enterprise Edition
- Standard Edition
- Personal Edition
- Custom

The system requirements for Enterprise Edition, Standard Edition, and Personal Edition are described in Table 2–1. The requirements for Custom depend upon the components selected for installation.

Table 2–1 Oracle9i Database System Requirements

Requirement	Enterprise Edition	Standard Edition	Personal Edition
Operating System	Windows NT 4.0[1], Windows 2000[2], and Windows **Terminal Server**[3]	Windows NT 4.0[1], Windows 2000[2], and Windows Terminal Server[3]	Windows NT 4.0[1], Windows 2000[2], and Windows Terminal Server[3]
Windows NT 4.0 Service Pack	Certified with 5.0 or higher	Certified with 5.0 or higher	Certified with 5.0 or higher
Windows 2000 Service Pack	Not required; certified with 1 or higher	Not required; certified with 1 or higher	Not required; certified with 1 or higher
Minimal Processor[4]	Pentium 166 or Pentium 200	Pentium 166 or Pentium 200	Pentium 166 or Pentium 200
Recommended Processor	Pentium 233 or Pentium 266	Pentium 233 or Pentium 266	Pentium 233 or Pentium 266
RAM[5]	128 MB (256 MB recommended)	128 MB (256 MB recommended)	128 MB (256 MB recommended)
FAT file system:			
■ Oracle home drive	4.5 GB	4.5 GB	4.0 GB
■ System drive	140 MB	140 MB	140 MB
NTFS file system:			
■ Oracle home drive	2.75 GB	2.7 GB	2.75 GB
■ System drive	140 MB	140 MB	140 MB
Temp Space[6]	400 MB	400 MB	400 MB
Virtual Memory[7]	Initial Size 200 MB Maximum Size 400 MB	Initial Size 200 MB Maximum Size 400 MB	Initial Size 200 MB Maximum Size 400 MB
Video	256 color	256 color	256 color

[1] Windows NT includes: Windows NT Workstation 4.0, Windows NT Server 4.0, Windows NT Server Enterprise Edition 4.0, and Windows NT 4.0 Server, Terminal Server Edition.

[2] Windows 2000 includes: Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter.

[3] Oracle supports Terminal Services on Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter. See "Unsupported Components and Features on Windows Terminal Servers" on page 2-10 for additional information.

[4] If you run the Oracle Intelligent Agent, Oracle Management Server (includes Oracle HTTP Server), and Oracle Enterprise Manager Client on the same computer, the minimal processor requirement is a Pentium III 866, the recommended processor requirement is a Pentium III 1 GHz, the minimal RAM requirement is 128 MB, and the recommended RAM requirement is 256 MB.

[5] You cannot run Oracle Universal Installer and Oracle Data Migration Assistant or Oracle Database Configuration Assistant during the same installation session on a 128 MB computer. To run these assistants, answer No if prompted to migrate or create a database. After installation is complete and Oracle Universal Installer has exited, run these assistants.

[6] If your default temp space is less than 400 MB, then update the TEMP user environment variable to a location with the required amount of space. You must reboot your computer for this change to take effect.

[7] Depending on how many applications are running on the computer, you may need to further increase the paging file size or reduce the size of the System Global Area (SGA) if you run out of virtual memory. Note that if temporary files and the paging file are both stored on the same physical drive, a situation can occur where the space requirements for one can limit the size of another. If your system has limited free space, then first install the Oracle9i software. After the installation is finished, create a database with the Oracle Database Configuration Assistant.

See Also:

- "Unsupported Components and Features on Windows Terminal Servers" on page 2-10

- "Installations Meeting Minimal Memory Requirements" on page 4-4

- "Oracle9i Database Components" on page A-2 for a list of individual components installed with each installation type

Oracle9*i* Client System Requirements

The Oracle9*i* Client top-level component consists of the following installation types:

- Administrator

- Runtime

- Custom

Table 2–2 describes the system requirements for Administrator and Runtime. The requirements for Custom depend upon the components selected for installation.

Table 2–2   Oracle9i Client System Requirements

Requirement	Administrator[1]	Runtime
Operating System	Windows 98, Windows NT 4.0[2], Windows 2000[3], and Windows **Terminal Server**[4]	Windows 98, Windows NT 4.0[2], Windows 2000[3], and Windows Terminal Server[4]
Windows NT 4.0 Service Pack	Certified with 5.0 or higher	Certified with 5.0 or higher
Windows 2000 Service Pack	Not required; certified with 1 or higher	Not required; certified with 1 or higher
Minimal Processor	Pentium 166	Pentium 166

Table 2–2   Oracle9i Client System Requirements (Cont.)

Requirement	Administrator[1]	Runtime
Recommended Processor	Pentium I 266	Pentium I 266
RAM	128 MB (minimal)	128 MB (minimal)
	256 (recommended)	256 (recommended)
FAT file system:		
■ Oracle home drive	1 GB	800 MB
■ System drive	51 MB	51 MB
NTFS file system:		
■ Oracle home drive	650 MB	486 MB
■ System drive	51 MB	51 MB
Web browser (if using Oracle Enterprise Manager Web Site)	■ Netscape Navigator 4.7 or higher ■ Microsoft Internet Explorer 5.0 or higher	None

[1]   The processor and RAM requirements identified are applicable to an Enterprise Manager Client installation and to a thin Web-based Enterprise Manager Client.

[2]   Windows NT includes: Windows NT Workstation 4.0, Windows NT Server 4.0, Windows NT Server Enterprise Edition 4.0, and Windows NT 4.0 Server, Terminal Server Edition.

[3]   Windows 2000 includes: Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter.

[4]   Oracle supports Terminal Services on Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter. See "Unsupported Components and Features on Windows Terminal Servers" on page 2-10 for additional information.

See Also:

- "Unsupported Components and Features on Windows Terminal Servers" on page 2-10

- "Oracle9i Client Components" on page A-9 for a list of individual components installed with each installation type

Oracle9*i* Management and Integration System Requirements

The Oracle9*i* Management and Integration top-level component consists of the following installation types:

- Oracle Management Server
- Oracle Internet Directory
- Oracle Integration Server
- Custom

The system requirements for Oracle Management Server, Oracle Internet Directory, and Oracle Integration Server are described in . The requirements for Custom depend upon the components selected for installation.

Table 2–3 Oracle9i Management and Integration System Requirements

Requirement	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Operating System	Windows NT 4.0[1], Windows 2000[2], and Windows **Terminal Server**[3]	Windows NT 4.0[1], Windows 2000[2], and Windows Terminal Server[3]	Windows NT 4.0[1], Windows 2000[2], and Windows Terminal Server[3]
Windows NT 4.0 Service Pack	Certified with 5.0 or higher	Certified with 5.0 or higher	Certified with 5.0 or higher
Windows 2000 Service Pack	Not required; certified with 1 or higher	Not required; certified with 1 or higher	Not required; certified with 1 or higher
Minimal Processor	Pentium 266	Pentium 166	Pentium 166 or Pentium 200
Processor	Pentium II 300	Pentium II 300	Pentium 233 or Pentium 266
UNIX Emulation Utility	None	Cygwin 1.0. Visit: `http://sourceware.cygnus.com/cygwin/` or MKS Toolkit 5.1 or 6.0. Visit: `http://www.datafocus.com/products/`	None
RAM	128 MB (minimal) 256 MB (recommended)	128 MB (minimal) 256 MB (recommended)	128 MB (minimal) 256 MB (recommended)

Table 2–3   Oracle9i Management and Integration System Requirements (Cont.)

Requirement	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
FAT file system:			
■ Oracle home drive	1 GB	5 GB	5 GB
■ System drive	18.8 MB	34 MB	34 MB
NTFS file system:			
■ Oracle home drive	750 MB	3 GB (includes database; 300 MB without database)	3 GB (includes database; 300 MB without database)
■ System drive	40 MB	34 MB	40 MB
Temp Space[4]	400 MB	400 MB	400 MB
Virtual Memory[5]	Initial Size 200 MB	Initial Size 200 MB	Initial Size 200 MB
	Maximum Size 400 MB	Maximum Size 400 MB	Maximum Size 400 MB

[1]   Windows NT includes: Windows NT Workstation 4.0, Windows NT Server 4.0, Windows NT Server Enterprise Edition 4.0, and Windows NT 4.0 Server, Terminal Server Edition.

[2]   Windows 2000 includes: Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter.

[3]   Oracle supports Terminal Services on Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter. See "Unsupported Components and Features on Windows Terminal Servers" on page 2-10 for additional information.

[4]   If your default temp space is less than 400 MB, then update the TEMP user environment variable to a location with the required amount of space. You must reboot your computer for this change to take effect.

[5]   Depending on how many applications are running on the computer, you may need to further increase the paging file size or reduce the size of the System Global Area (SGA) if you run out of virtual memory. Note that if temporary files and the paging file are both stored on the same physical drive, a situation can occur where the space requirements for one can limit the size of another. If your system has limited free space, then first install the Oracle9i software. After the installation is finished, create a database with the Oracle Database Configuration Assistant.

See Also:

- "Unsupported Components and Features on Windows Terminal Servers" on page 2-10

- "Oracle9i Management and Integration Components" on page A-14 for a list of individual components installed with each installation type

Unsupported Components and Features on Windows Terminal Servers

The following products and features are not supported on Windows Terminal Servers:

- Installation of Oracle9*i* server components from a remote Terminal Services Client onto a Windows 2000 server that is running Terminal Server Service or a Windows NT 4.0 Terminal Server is unsupported. If you attempt to install Oracle9*i* in this manner, many database configuration tools, such as Oracle Data Migration, Oracle Database Configuration Assistant, Oracle Internet Directory Configuration Assistant, and Oracle Workflow Configuration Assistant, hang. Start all the configuration tools from the Terminal Server console and not from the Terminal Services Client.

- Connection Manager

- Oracle Fail Safe

- Oracle HTTP Server *powered by Apache*

- Oracle Migration Workbench

- Oracle Names

- Oracle Object Link Manager

- Oracle Services for Microsoft Transaction Server

- Server Management (SRVM)

> **See Also:**
>
> - The Microsoft Web site for more information on terminal servers:
>   `http://www.microsoft.com/`
>
> - The Oracle*MetaLink* Web site for the latest Terminal Server certification information:
>   `http://metalink.oracle.com/`

Component Certification

Oracle Corporation provides support information for components on various platforms, lists compatible client and database versions, and identifies patches and workaround information.

Find the latest certification information at:

```
http://metalink.oracle.com/
```

You must register online before using Oracle*MetaLink*. After logging into Oracle*MetaLink*, select Product Lifecycle from the left-hand column.

Mandatory Individual Component Requirements

Table 2–4 identifies mandatory individual component requirements that must be met *before* installation. See Appendix A, "Individual Components Available for Installation" for the installation types with which these individual components can be installed. Appropriate documentation for preinstallation procedures is also identified. This table does not include preinstallation requirements for Oracle Enterprise Manager, Oracle Real Application Clusters, or Oracle Transparent Gateways.

See Also:

- "Oracle Enterprise Manager Requirements" on page 2-14

- Appendix B, "Oracle Real Application Clusters Preinstallation Tasks"

- "System Requirements for Oracle Transparent Gateways" on page C-2

Table 2–4   Mandatory Individual Component Requirements

Component	Description	See Also...
Oracle Advanced Security	You must satisfy hardware and software requirements to use authentication support with Oracle components. In addition, using Oracle Advanced Security with Secure Socket Layer (SSL) and Public Key Infrastructure (PKI) requires preinstallation of an Lightweight Directory Access Protocol (LDAP) directory such as Oracle Internet Directory (provided on the component CD-ROMs).	*Oracle Advanced Security Administrator's Guide*

Table 2–4   Mandatory Individual Component Requirements (Cont.)

Component	Description	See Also...
Oracle Real Application Clusters ■ Installation	Perform the following tasks: 1. Install the Oracle9*i* operating system dependent layer or vendor-supplied operating system dependent layer, which includes your cluster software. This layer must be Oracle certified. 2. Set up raw devices before installing Oracle9*i* Enterprise Edition and Oracle Real Application Clusters. 3. Install Oracle Real Application Clusters only on a disk that is private to and exclusively owned by the installation system (for example, the system disk). Unless you have specific reasons to do so and understand the risks involved, do not install Oracle Real Application Clusters on a disk that can be owned or mounted by more than one system.	■ Your vendor documentation for information on operating system dependent layer installation ■ "Oracle Real Application Clusters Preinstallation Tasks" on page B-1 for raw device creation instructions
Oracle Real Application Clusters (Cont.) ■ Upgrading and Migrating	Review all upgrade and migration issues prior to installation.	■ "Migration and Upgrade Requirements" on page 2-18 ■ *Oracle9i Database Migration*
Oracle Internet Directory ■ Migrating	If you are migrating Oracle8*i* Database release 8.1.7 and Oracle Internet Directory release 2.1.1 to Oracle9*i* release 1 (9.0.1) and 3.0.1, respectively, ensure that you: ■ Stop the Oracle listener service, Oracle database service, and Oracle Internet Directory service. ■ Know the system identifier (SID), Oracle directory server (ODS) user password, and Oracle Internet Directory administrator password of the Oracle8*i* Database to migrate. ■ Perform a complete backup prior to migration. There is no network downtime during Oracle Internet Directory migration in a multinode replication environment. The other nodes are available while the migration of one node is in progress. In a replicated environment, Oracle Internet Directory release 3.0.1 running on one node can coexist with other nodes running Oracle Internet Directory releases 2.1.1 and 2.0.6. Review all guidelines for migrating a multinode replication network before migrating. **Note:** LDAP Data Interchange Format (LDIF)-based manual migration is available as an alternative to automatically migrating Oracle Internet Directory through Oracle Universal Installer.	■ *Oracle Internet Directory Administrator's Guide*

Table 2–4   Mandatory Individual Component Requirements (Cont.)

Component	Description	See Also...
■ Currently installed Oracle9*i* Database	If you have Oracle9*i* Database release 1 (9.0.1) installed on a computer and you now want to install Oracle Internet Directory release 3.0.1 in the same Oracle home, ensure that both the database and listener are running.	■ Chapter 4, "Installing Oracle Components"
■ No Oracle9*i* Database currently installed	To install Oracle Internet Directory release 3.0.1, choose the Oracle Internet Directory installation type of the Oracle9*i* Management and Integration top level component; this creates the correct underlying Oracle9*i* Database as part of Oracle Internet Directory release 3.0.1 installation.	■ Chapter 4, "Installing Oracle Components"
■ Downgrading	You cannot downgrade Oracle Internet Directory release 3.0.1 to 2.*x*.	
Oracle Snap-Ins to the Microsoft Management Console	Oracle9*i* ships several Snap-Ins for the Microsoft Management Console (MMC). The MMC is a built-in feature of Windows 2000. Windows NT requires the Windows NT 4.0 Option pack. Reapply service pack 5 after installing the Windows NT option pack. Install Internet Explorer version 5 (IE5) or later before installing Oracle Snap-Ins. If you install any Oracle Snap-Ins before installing IE5, then reinstall the Oracle Snap-Ins. The Oracle Snap-In components that have this dependency are: ■ Oracle Administration Assistant for Windows NT ■ Oracle Performance Monitor for Windows NT **Note:** Installing Oracle Administration Assistant for Windows NT automatically installs each Oracle Snap-in component.	The following Web site to download the MMC add-on: `http://www.microsoft.com/`
Oracle Workflow	Ensure that you have configured the required hardware and software.	■ *Oracle Workflow Server Installation Notes* ■ *Oracle Workflow Client Installation Notes*
Oracle9*i* integration with Active Directory	The user performing the Oracle9*i* installation must perform preinstallation requirements for integration to be successful.	"Using Oracle9*i* Directory Server Features with Active Directory" of *Oracle9i Network, Directory, and Security Guide for Windows*

Table 2–4   Mandatory Individual Component Requirements (Cont.)

Component	Description	See Also...
Recovery Manager (part of Oracle Utilities)	To back up to nondisk media, Recovery Manager requires a media management layer such as Legato Storage Manager (LSM) server, which is included on the CD-ROM. LSM server requires the following system configuration: ■ Minimum Processor: Intel Pentium 200 MHz ■ Recommended Processor: Intel Pentium 450 MHz or higher ■ RAM: 128 MB ■ Hard disk: 64 MB ■ Backup for Windows 98, Windows NT, and Windows 2000: Additional 5% of total backup data or 100 MB for online indexes **Note:** You must also meet the minimum Oracle9*i* Database requirements for the system configuration. For more information on these requirements, see "Oracle9i Database System Requirements" on page 2-4.	*Legato Storage Manager Administrator's Guide*

Oracle Enterprise Manager Requirements

Review the following requirements before beginning installation of Oracle Enterprise Manager components:

■ Oracle Management Server Requirements

■ Oracle Enterprise Manager Web Site Requirements

■ Oracle Enterprise Manager Paging Server Requirements

> **See Also:** Appendix A, "Individual Components Available for Installation" for the installation types under which Oracle Enterprise Manager components are installed

Oracle Management Server Requirements

Oracle Management Server, the middle tier of the Oracle Enterprise Manager framework, is responsible for:

- Authenticating Oracle Enterprise Manager administrators
- Processing management functions
- Providing a centralized data store of administrative information

Prior to installing Oracle Management Server, determine whether you will use an existing Oracle Enterprise Manager **repository** or create a new Oracle Enterprise Manager repository.

Use an Existing Repository

If the existing repository is release 1 (9.0.1), then no further preinstallation steps are required.

> **Important:**   All Oracle Enterprise Manager products must be of the same release. Do not upgrade Oracle Management Server and the repository until all Oracle Enterprise Manager users have upgraded their software to Oracle9*i* release 1 (9.0.1). Older versions of Enterprise Manager are not supported with the new release.

If the existing repository is release 2.*x*, then upgrade the older repository to the current release by running Oracle Enterprise Manager Configuration Assistant after installation.

Create a New Repository

If you decide to create a new release 1 (9.0.1) repository, then you must install and start a database (or select an existing, running database to which you have access) in which to create a new repository. Optionally, if the database software is detected in the Oracle home where Oracle Management Server is installed, then when the Oracle Enterprise Manager Configuration Assistant starts, you can choose to have the assistant create a new database instance and automatically create the repository in that new instance. The following database versions have been certified for the release 1 (9.0.1) repository: 9.0.1, 8.1.7, 8.1.6, and 8.0.6.

> **Note:** Oracle Enterprise Manager Configuration Assistant is automatically started during the configuration phase in the Oracle9*i* Database Custom installation type, the Oracle Management Server installation type, and the Oracle9*i* Management and Integration Custom installation type. However, if you want to configure the Oracle Management Server, then this assistant must be manually started after all other installation types. After an installation, Oracle Enterprise Manager Configuration Assistant is available from Start > Oracle - *HOME_NAME* > Configuration and Migration Tools > Enterprise Manager Configuration Assistant.

> **See Also:** "General Repository Guidelines" of *Oracle Enterprise Manager Configuration Guide* for details on repository creation, initial size of a release 1 (9.0.1) repository, and guidelines on how much it can grow

Oracle Enterprise Manager Web Site Requirements

If you want to run the Oracle Enterprise Manager Console and supported management applications from within a Web browser, then you must install Oracle Enterprise Manager Web Site. By default, Oracle Enterprise Manager Web Site bundles a preconfigured Oracle HTTP Server to act as its Web listener. However, Web-enabled Oracle Enterprise Manager also supports the following additional Web servers (although any Web server using a standard common gateway interface [CGI] can support Oracle Enterprise Manager release 1 [9.0.1]):

- Oracle Internet Application Server release 1.0 or higher for Windows NT and Windows 2000

- Microsoft Internet Information Server release 4.0 or higher for Windows NT and Windows 2000

- Apache release 1.3.9 or higher for Windows NT and Windows 2000

> **Note:** There are no system requirements specific to Oracle Enterprise Manager Web Site (other than requiring 820 MB of available hard disk space); only system requirements for the chosen Web server. See the appropriate Web server documentation for system requirements.

> **See Also:** *Oracle Enterprise Manager Configuration Guide* for more information about Oracle Enterprise Manager Web Site

Oracle Enterprise Manager Paging Server Requirements

To send Oracle Enterprise Manager administrators page notifications of event and job status changes, optionally install the Oracle Enterprise Manager Paging Server on a Windows NT or Windows 2000 computer that contains a modem configured to dial an outside line.

Migration and Upgrade Requirements

> **Note:** This guide does not describe Oracle9*i* Personal Edition
> installation and migration procedures on Windows 98. See the
> documentation included with your Oracle9*i* Personal Edition for
> Windows 98 software documentation for installation and migration
> instructions.

Oracle Corporation recommends installing Oracle9*i* release 1 (9.0.1) into a new
Oracle home directory. If you must install Oracle9*i* release 1 (9.0.1) into an Oracle
home directory that contains previously installed Oracle8*i* components, then use
Oracle Universal Installer to remove these components before beginning a new
installation.

Refer to *Oracle9i Database Migration* before deciding to migrate or upgrade an
existing database. Migration and upgrade procedures on Windows NT are covered
in *Oracle9i Database Migration*. However, this section describes several Windows
NT-specific issues to understand before following the instructions in *Oracle9i
Database Migration*.

The following sections describe specific migration requirements:

- Policies for Linking and Relinking Applications

- Migrating and Upgrading Releases 7.x and 8.x

- Oracle Real Application Clusters Migration and Upgrade Requirements

Policies for Linking and Relinking Applications

Oracle Corporation recommends that you upgrade your client software to match
the current server software. For example, if you upgrade your Oracle server to
release 1 (9.0.1), then Oracle corporation recommends upgrading the client software
to release 1 (9.0.1) as well. Keeping the server and client software at the same release
number ensures the maximum stability for your applications. In addition, the latest
Oracle client software may provide added functionality and performance
enhancements that were not available with previous releases.

> **See Also:** *Oracle9i Database Migration* for rules regarding linking
> and relinking applications when you perform a feature release
> upgrade of the client software

Migrating and Upgrading Releases 7.*x* and 8.*x*

Before using the Migration utility or Oracle Data Migration Assistant to migrate to the latest release, an Oracle7 database must be at least release 7.3.4 and an Oracle8 database must be at least release 8.0.6. See the documentation that accompanied your previous database release for information on how to migrate to release 7.3.4 or 8.0.6.

Oracle Command Line Tools with the Migration Utility

If you use the Migration utility to migrate or upgrade your Oracle database, the instructions in *Oracle9i Database Migration* prompt you to enter information at the command prompt of an Oracle tool. The command tool to use (SQL*DBA, Server Manager, or SQL*Plus) depends upon the database release from which you are migrating or upgrading. Table 2–5 describes the tools to use and the method for starting these tools:

Table 2–5   Oracle Command Line Tools

If Migrating from Oracle Release...	Use...	By Entering...
7.1.*x*	SQL*DBA	`C:\> SQLDBA71` `MODE=LINE`
7.2.*x*	SQL*DBA	`C:\> SQLDBA72` `MODE=LINE`
7.3.*x*	Server Manager	`C:\> SVRMGR23`
8.0.*x*	Server Manager	`C:\> SVRMGR30`

8.1.*x*	Server Manager or SQL*Plus	`C:\> SVRMGRL`
		or
		`C:\> SQLPLUS`

If you use the Migration utility to migrate or upgrade your Oracle database, the instructions in *Oracle9i Database Migration* also prompt you to use the ORADIM utility at the MS-DOS command prompt. The ORADIM utility creates, starts, stops, and modifies database instances on Windows NT. Table 2–6 describes the method for starting the ORADIM utility depending upon the database release from which you are migrating or upgrading:

Table 2–6   ORADIM Versions

If Migrating from Oracle Release...	Use...	By Entering...
7.1.*x*	ORADIM71	C:\> ORADIM71 *OPTIONS*
7.2.*x*	ORADIM72	C:\> ORADIM72 *OPTIONS*
7.3.*x*	ORADIM73	C:\> ORADIM73 *OPTIONS*
8.0.*x*	ORADIM80	C:\> ORADIM80 *OPTIONS*
8.1.*x*	ORADIM	C:\> ORADIM *OPTIONS*

> **See Also:** "Postinstallation Database Creation" of *Oracle9i Database Administrator's Guide for Windows* for more information on using the ORADIM utility

Required Oracle7 Server SQL*Net Patch Releases

When migrating from Oracle7 Server release 7.3.4 to the latest release, install the appropriate patch of SQL*Net in the 7.3.4 Oracle home *before* migrating with either Oracle Data Migration Assistant or the Migration utility. Migration fails if you do *not* install the appropriate patch of SQL*Net. This table describes the required SQL*Net patch releases.

When migrating from release 7.3.4, use the terminal patchset 7.3.4.5.

Obtain this patch and installation instructions from Oracle*MetaLink*:

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

Oracle Real Application Clusters Migration and Upgrade Requirements

Before following the migration procedures listed in the *Oracle9i Database Migration*, stop any operating system dependent clusterware layer services.

- If you are using Oracle operating system dependent layers (OSDs), then stop the `OracleCMService9i` and `Oracle Object Service` services.

- If you are using vendor OSDs, then refer to your vendor documentation.

> **Note:** Oracle Data Migration Configuration Assistant does not support the upgrade or migration of cluster databases. Instead, use the Migration utility to migrate after installation as described in *Oracle9i Database Migration*.

See Also:

- *Oracle9i Database Migration*

- *Oracle9i Real Application Clusters Concepts*

- *Oracle9i Real Application Clusters Installation and Configuration*

- *Oracle9i Real Application Clusters Administration*

- *Oracle9i Real Application Clusters Deployment and Performance*

Networking Protocol Vendor Requirements

Table 2–7 lists the supported vendor for each networking protocol:

Table 2–7   Supported Networking Protocol Vendors

Protocol Feature	Operating System	Supported Vendor
TCP/IP protocol	Windows NT and Windows 98	Microsoft TCP/IP
Named Pipes protocol	Windows NT and Windows 98	Microsoft NETBEUI
Host naming method	Windows NT	Microsoft TCP/IP
Windows native authentication method	Windows NT and Windows 98	Microsoft
Logical Unit Type 6.2 (LU6.2) protocol	Windows NT	LU6.2 protocol support is obsolete in this release.

> **Note:** The VI protocol is not supported on Windows platforms for this release.

3

Selecting Database Creation and Oracle Net Services Configuration Methods

This chapter describes the Oracle9*i* database creation and Oracle Net Services client/server configuration methods available during installation. At a minimum, you must understand the creation and networking methods *before* performing an installation.

This chapter contains these topics:

- About Database Creation and Network Configuration Methods
- Types of Database Environments
- Selecting a Database Creation Method
- Configuring Your Network

> **See Also:**
>
> - Glossary for definitions of terms used in this chapter
> - *Oracle9i Net Services Administrator's Guide* for detailed descriptions of the networking concepts in this chapter

About Database Creation and Network Configuration Methods

Oracle Universal Installer provides several methods for creating an Oracle9*i* database and configuring your Oracle Net client/server networking environment during installation.

The method to select during installation depends upon:

- Your own expertise with database creation and network configuration

- The requirements of your database and network environment

You must understand these methods *before* you begin installation. By reviewing the information in this chapter, you can ensure that you create and configure a database and network environment that best matches your needs from the beginning.

Oracle9*i* Database and Oracle Net components are installed through several installation types. Review the installation types in Table 3–1 to identify how much user input is required for database creation and network configuration during installation. See the remaining sections of this chapter for specific details on what information is automatically created, and what information you must provide.

Table 3–1   Installation Types

Installation Types	User Input Required for Database Creation	User Input Required for Oracle Net Configuration
		Amount of Input
Oracle9*i* Database		
▪ Enterprise Edition	Minimal	None
▪ Standard Edition	Minimal	None
▪ Personal Edition	Minimal	None
▪ Custom, and select:		
Oracle Net Services or	Not applicable	None[2] or Extensive[2]
Oracle9*i*	Extensive[1]	Not applicable
Oracle9*i* Client[3]		
▪ Administrator	Not applicable	Minimal
▪ Runtime	Not applicable	Minimal

Table 3–1 Installation Types (Cont.)

Installation Types	User Input Required for Database Creation	User Input Required for Oracle Net Configuration
	Amount of Input	
Oracle9*i* Management and Integration		
■ Oracle Management Server	Not applicable	Minimal
■ Oracle Internet Directory	Minimal	Minimal
■ Oracle Integration Server	Minimal	Minimal
■ Custom, and select:		
Oracle9*i*	Extensive[1]	Not applicable
or		
Oracle Net Services	Not applicable	Minimal or Extensive

[1] Selecting through the Custom installation type offers several database creation choices, from a complete custom creation requiring extensive user input to a creation requiring minimal user input. See "Selecting a Database Creation Method" on page 3-5 for more information.

[2] Selecting through the Custom installation type prompts you to create a configuration requiring either no user input or a configuration requiring extensive user input. See "Configuring Your Network" on page 3-8 for more information.

[3] You cannot install an Oracle9*i* Database through the Oracle9*i* Client top-level component.

Notes:

- If you select the Oracle Internet Directory installation type described in the Table 3–1, then an Oracle9*i* Database will be automatically installed if one is not currently installed in the same Oracle home. Use this database for storing only Oracle Internet Directory information.

- If you select the Oracle Integration Server installation type and no Oracle9*i* Database is currently installed in the current Oracle home, then the same database that you receive with the Enterprise Edition installation type is automatically installed.

Types of Database Environments

Oracle Universal Installer enables you to create an Oracle9*i* Database that operates in one of the environments shown in Table 3–2. Identify the environment appropriate for your Oracle9*i* Database:

Table 3–2   Database Configuration Types

Environment	Description
General Purpose	Users perform a variety of database tasks, ranging from simple transactions to complex queries. Select this database environment for general purpose usage.
Transaction Processing	Users perform large numbers of concurrent transactions, where each transaction is a relatively simple operation processing a small amount of data. Transactions consist of reading, writing, and deleting data in database tables.
	Billing databases, such as those commonly found on internet commerce sites, are the most common example of this database configuration. These are also known as online transaction processing (OLTP) databases.
Data Warehouse	Users perform numerous complex queries that process large volumes of data. Response time, accuracy, and availability are key issues.
	These queries (typically read-only) range from a simple fetch of a few records to complex queries that sort thousands of records from many different tables. Data warehousing environments are also known as Decision Support System (DSS) environments.
Customized	Allows you to create a customized database configuration or a custom installation of Oracle components that meets specialized requirements.
	Select this configuration method only if you are prepared to provide detailed component and database environment information. Choosing this option requires a longer installation session than choosing a preconfigured database.

Table 3–2 Database Configuration Types (Cont.)

Environment	Description
Software Only	Allows you to install Oracle components without creating a database.
	Select this method only if you are prepared to provide extensive database configuration information when you create a database. Oracle Corporation recommends that you install at least one seed database to serve as a template for database configuration.

See Also: Oracle Database Configuration Assistant Online Help for information on the initialization file parameters affected by your database selection

Selecting a Database Creation Method

Oracle Database Configuration Assistant is a tool that enables you to create an Oracle9*i* Database for Transaction Processing, Data Warehouse, or General Purpose environments. Oracle Database Configuration Assistant is automatically started by Oracle Universal Installer when you select to create an Oracle9*i* Database as part of the installation process or can be manually run as a standalone tool after installation.

When you run Oracle Universal Installer and select Oracle9*i* Database in the Available Products window, the Installation Types window appears and presents you with four installation types. Each installation type enables you to create the database configuration types listed in Table 3–2.

See Also:

- "Postinstallation Database Creation" of *Oracle9i Database Administrator's Guide for Windows* for information on running Oracle Database Configuration Assistant in standalone mode

- "Database Tools Overview" of *Oracle9i Database Getting Starting for Windows* for instructions on starting this tool in standalone mode

The database configurations types (General Purpose, Transaction Processing, Data Warehouse, Customized, and Software Only) created with the Enterprise Edition, Standard Edition, Personal Edition, and Custom installation types and the amount of user input required are described in Table 3–3, Table 3–4, and Table 3–5. Review these selections and identify the database that best matches your database requirements and database creation expertise:

Table 3–3   Database Configuration—Enterprise Edition and Personal Edition

If You Perform These Steps...	Then...
Select the Enterprise Edition or Personal Edition installation type.	Oracle Database Configuration Assistant automatically starts at the end of installation and configures the database according to the selected database configuration type:
	■ Default initialization parameters
	■ Automatic installation and configuration of various database options, such as Oracle JVM, Oracle Spatial, and Oracle *inter*Media components [1]
	■ Advanced replication capabilities
	■ Database configured in dedicated server mode [2]
	■ Archiving mode set to NOARCHIVELOG
	No user input is required other than the global database name and SID you are prompted to enter prior to Oracle Database Configuration Assistant startup.
	Note: Personal Edition does not offer Oracle Real Application Clusters.

[1]   Oracle Database Configuration Assistant configures only components installed through Oracle Universal Installer.

[2]   See "Postinstallation Database Creation" of *Oracle9i Database Administrator's Guide for Windows* for descriptions of dedicated server mode and shared server mode.

> **Note:**   The Oracle9*i* database created through the Enterprise Edition installation type is also created if you select the Oracle Integration Server or Oracle Internet Directory installation type and no Oracle9*i* database is currently installed in the specified Oracle home.

Table 3–4   Database Configuration—Standard Edition

If You Perform These Steps...	Then...
Select the Standard Edition installation type.	Oracle Database Configuration Assistant automatically starts at the end of installation and configures the database according to the selected database configuration type. The one difference is that the following components are not part of the Standard Edition installation type:
	■ Oracle Advanced Security
	■ Oracle COM Automation Feature
	■ Oracle OLAP Services
	■ Oracle Partitioning
	■ Oracle Real Application Clusters
	■ Oracle Spatial
	If you want to use these components with your Oracle9*i* database, you must separately install them through the Oracle9*i* Database Custom installation type and configure them manually with Oracle Database Configuration Assistant or by running scripts.

Table 3–5   Database Configuration—Custom

If You Perform These Steps...	Then...
1. Select the Custom installation type. 2. Select Oracle9*i* and additional products in the Available Product Components window. 3. Select Yes when prompted to create a starter database. Oracle Database Configuration Assistant prompts you to select a *database environment*: Transaction Processing Data Warehouse General Purpose	Oracle Database Configuration Assistant guides you in the creation of a database customized to match the environment (Transaction Processing, Data Warehouse, or General Purpose) and configuration mode (dedicated server or shared server) you select. Database options such as Oracle JVM, Oracle Spatial, advanced replication, and Oracle *inter*Media (if installed) are automatically configured. Select this option only if you are experienced with advanced database creation procedures, such as customizing:
	■ Data, control, and undo log file settings
	■ Tablespace and extent sizes
	■ Database memory parameters
	■ Archiving modes, formats, and destinations
	■ Trace file destinations
	■ Character set values

Configuring Your Network

Oracle Net Configuration Assistant is a tool that enables you to configure your network environment to enable Oracle clients to connect to an Oracle9*i* database. Oracle Net Configuration Assistant can be automatically started from Oracle Universal Installer through most installation types or manually started as a standalone tool.

Depending on the installation type selected, Oracle Net Configuration Assistant configures your network in one of the following ways:

- Automatically configures your network for standard database connection methods with minimal user input
- Creates a customized network by prompting for extensive input

Configuration consists of creating and modifying a series of network files located in the *ORACLE_BASE**ORACLE_HOME*\network\admin directory.

> **See Also:**
>
> - *Oracle9i Net Services Administrator's Guide* or the Oracle Net Configuration Assistant online help for information on running Oracle Net Configuration Assistant in standalone mode
>
> - "Database Tools Overview" of *Oracle9i Database Getting Starting for Windows* for instructions on starting Oracle Net Configuration Assistant in standalone mode

Configuring the Server Network

The type of network configuration created with the server installation types and the amount of user input required are described in subsequent sections. Review Table 3–6 and Table 3–7 and identify the network configuration that best matches your requirements and network configuration expertise:

Table 3–6 Net Services Configuration—Enterprise Edition, Standard Edition, or Personal Edition

If You Perform These Steps...	Then...
1. Select Oracle9*i* Database.	Oracle Net Configuration Assistant automatically creates your Oracle Net server environment by configuring information in the following files:
2. Select the Enterprise Edition, Standard Edition, or Personal Edition installation type.	■ `listener.ora` file Configures a **listener** named LISTENER with protocol addresses for both the Oracle9*i* Database (using your operating system's preferred protocol, which is typically TCP/IP on port 1521) and for external procedures (using the IPC protocol) Configures service information for external procedures ■ `sqlnet.ora` file Configures the database to accept operating system authenticated connections (**OPS$**) Configures the server's domain as the **default domain** (the TCP/IP domain in which your computer is located). This domain is automatically appended to any unqualified net service name Configures the naming methods the server uses to resolve a net service name to a **connect descriptor** ■ `tnsnames.ora` file Creates a **net service name** in the `tnsnames.ora` file to use for external procedures **Note:** You cannot configure access to a lightweight directory access protocol (LDAP)-compliant **directory server** through the Enterprise Edition, Standard Edition, and Personal Edition installation types. Directory server configuration is available only through the Custom installation type.
	Oracle Database Configuration Assistant automatically configures additional Oracle Net server information in the following files during successful creation of the Oracle9*i* Database: ■ `listener.ora` file Configures service information for the Oracle9*i* database ■ `tnsnames.ora` Configures one or more net service names in the `tnsnames.ora` file for the database to connect back to itself **Note:** Oracle Database Configuration Assistant configures additional information for Oracle Real Application Clusters installations. See *Oracle9i Real Application Clusters Installation and Configuration* for more information.

Table 3–7   Net Services Configuration—Custom Database

If You Select These Installation Types...	Then...
1. Select Oracle9*i* Database.	Oracle Net Configuration Assistant first prompts you to select a naming method to a connect descriptor for connection to an Oracle9*i* database:
2. Select Custom.	■ Complete directory server usage configuration. This requires that you enter a directory server type and location. Also specify the directory location that contains the **Oracle Context**. You are prompted for this information if you have never configured the Oracle home directory service usage.
3. Select Oracle Net Services.	■ Create listeners to use for database connections
	■ Select the naming method to use when connecting to the local database. By default, the local naming method is selected. In most circumstances, Oracle Corporation recommends this default. You also have the option to use one of the following naming methods: local naming, directory naming, Oracle Names, host naming, or external naming.
	Oracle Net Configuration Assistant then automatically creates your Oracle Net server environment by configuring information in the following files:
	■ `listener.ora` file
	Configures a listener with a name and protocol address that you choose. In addition, a protocol address and service information for external procedures are configured.
	■ `sqlnet.ora` file
	Configures the database to accept operating system authenticated connections (`OPS$`)
	Configures the server's domain as the default domain (the TCP/IP domain in which your computer is located). This domain is automatically appended to any unqualified net service name.
	Configures the naming methods the server uses to resolve a name to a connect descriptor
	■ `tnsnames.ora` and `listener.ora` files
	Creates a net service name entry for external procedure connections
	Oracle Database Configuration Assistant automatically configures additional Oracle Net server information in the following file during successful creation of the Oracle9*i* database:
	■ `listener.ora` file
	Configures service information for the Oracle9*i* database
	■ `tnsnames.ora`
	Configures one or more net service names in the `tnsnames.ora` file for the database to connect back to itself

Configuring the Client Network

The type of network configurations created with the client installation types and the amount of user input required are described in the following tables. Review Table 3–8 and Table 3–9 and identify the network configuration that best matches your requirements and network configuration expertise:

Table 3–8   Net Services Configuration—Administrator or Runtime

If You Perform These Steps...		Then...
1.	Select Oracle9*i* Client.	Oracle Net Configuration Assistant selects the **local naming** method or **directory naming** method based on your existing directory usage configuration.
2.	Select Administrator or Runtime.	Oracle Net Configuration Assistant then automatically creates your client environment by configuring information in the following files:
		■ `sqlnet.ora` file
		Configures the client's domain as the default domain (the TCP/IP domain in which your computer is located). This domain is automatically appended to any unqualified net service name given in the connect string.
		Configures the naming methods the client uses to resolve a name to a connect descriptor
		■ `tnsnames.ora` file
		Configures a net service name, if the local naming method was selected above

Table 3–9   Net Services Configuration—Custom Client

If You Perform These Steps...	Then...
1. Select Oracle9*i* Client.	Oracle Net Configuration Assistant first prompts you to select a naming method to a connect descriptor for connection to an Oracle9*i* database:
2. Select Custom. 3. Select Oracle Net Services.	■ Perform Typical configuration. This configuration method selects the local naming or directory naming method based on your existing directory usage configuration. ■ Or select the **local naming** or **directory naming** method to use for accessing the databases Depending on your selection, you are prompted for additional information. For the local naming method, you are prompted to enter a net service name, a database service name, and a networking protocol to use. By default, the database service name is its global database name. Oracle Net Configuration Assistant then automatically creates your Oracle Net client environment by configuring information in the following files: ■ `sqlnet.ora` file Configures the client to request operating system authenticated connections (OPS$) Configures the client's domain as the default domain (the TCP/IP domain in which your computer is located). This domain is automatically appended to any unqualified name. Configures the naming methods the client uses to resolve a name to a connect descriptor ■ `tnsnames.ora` file Configures a net service name, if the local naming method was selected above

4

Installing Oracle Components

This chapter describes how to install Oracle components from the component CD-ROMs.

This chapter contains these topics:

- Installation Differences Between Windows NT and UNIX

- Preinstallation Tasks

- Installations Meeting Minimal Memory Requirements

- Installing Oracle Components

- Deinstalling Oracle Components and Services

> **See Also:**
>
> - "Using Optimal Flexible Architecture" on page 1-3
>
> - "Oracle Universal Installer Restrictions" on page 1-6
>
> - "Using the Keyboard to Navigation Oracle Universal Installer" on page 1-6
>
> - Appendix D, "Advanced Installation Topics" for information on such topics as using response files, and installing and using Oracle components in different languages.
>
> - The README file on the documentation CD-ROM for information on installing and viewing your Oracle9*i* Online Documentation CD-ROM for Windows

Installation Differences Between Windows NT and UNIX

Database administrators experienced with installing Oracle components in UNIX environments must note that many manual setup tasks required on UNIX are not required on Windows NT. Table 4–1 lists the key differences between UNIX and Windows installation.

Table 4–1   Key Differences between UNIX and Windows Installations

The...	On UNIX Platforms...	On Windows Platforms...
Environment variables, such as PATH, ORACLE_BASE, ORACLE_HOME, and ORACLE_SID	Must be set manually	Are set in the registry by Oracle Universal Installer
DBA account for database administrators	Must be created manually	Is created by Oracle Universal Installer
Account for running Oracle Universal Installer	Must be created manually	Is not required
Account solely dedicated to installing and upgrading Oracle components	Must be created manually	Is not required

> **See Also:**   "Oracle9i Windows/UNIX Differences" of *Oracle9i Database Getting Starting for Windows*

Preinstallation Tasks

Perform the following tasks before installing Oracle components.

> **Note:**   The ORACLE_HOME environment variable is automatically set in the registry. Setting this variable is not necessary or recommended and prevents multiple Oracle home environments from functioning properly.

To perform preinstallation tasks:

1. Read the appropriate online documentation described in "What Documentation Do I Read First?" on page 1-12 before you begin installation. This is particularly important if you are upgrading or migrating an existing Oracle database, or want to correctly configure your Oracle9*i* database from the start.

2. Review and satisfy applicable system and component requirements in Chapter 2, "Preinstallation Requirements" before you begin installation. Also, refer to "Installations Meeting Minimal Memory Requirements" on page 4-4 if your system *only* meets the minimal memory requirements.

3. Start your operating system.

4. Log on as a member of the Administrators group to the computer on which to install Oracle components.

5. Back up any databases to migrate or upgrade. Review "Migration and Upgrade Requirements" on page 2-18.

6. If applicable, install and test your network hardware and software. Optionally, review Appendix B, "Oracle Real Application Clusters Preinstallation Tasks" if installing Oracle Real Application Clusters.

7. Stop all Oracle services (if any are running) for the Oracle home into which you want to install Oracle components:

   a. On Windows NT, choose Start > Settings > Control Panel > Services. On Windows 2000, choose Start > Programs > Administrative Tools > Services.

   b. If any Oracle services (their names begin with Oracle) exist and have the status *Started,* select the service and choose Stop on Windows NT, or choose Action > Stop on Windows 2000. In particular, ensure that the Oracle listener service (named Oracle*HOME_NAME*TNSListener for release 8.1 databases, OracleTNSListener80 for release 8.0 databases, or OracleTNSListener for release 7.3 databases) is stopped.

   c. Choose Close to exit the Services window.

8. Continue to "Installing Oracle Components" on page 4-5.

   See Also:

   - "Using Optimal Flexible Architecture" on page 1-3

   - "Multiple Oracle Homes and Optimal Flexible Architecture" of *Oracle9i Database Getting Starting for Windows* for more information

   - Appendix B, "Oracle Real Application Clusters Preinstallation Tasks"

Installations Meeting Minimal Memory Requirements

On computer systems that meet the minimum memory and virtual memory requirements, 128 MB and 200 MB respectively, perform the following:

- **For Oracle9*i* Database installations:**

    1. During Oracle9*i* Database installation, choose the Software Only database configuration method.

    2. After installation, run Oracle Net Configuration Assistant. Choose Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Net Configuration Assistant.

    3. After installation, run Oracle Database Configuration Assistant from the Start Menu. Choose Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Database Configuration Assistant.

- **For Oracle9*i* Management and Integration installations:**

    From the Configuration Tools window, stop the following configuration assistants:

    - OiD Configuration Assistant

    - Oracle Workflow Configuration Assistant

        See Also:

        - "Oracle9i Database Installation Types" on page 4-8 for specific installation instructions

        - "Oracle9i Management and Integration Installation Types" on page 4-19 for specific installation instructions

Installing Oracle Components

Follow these procedures to install Oracle9*i* components.

Notes:

- Using the old Oracle Installer (Installer shipped with releases 7.*x* and 8.0.*x*) to install components into an Oracle9*i* release 1 (9.0.1) Oracle home directory is *not* supported. Likewise, you cannot install release 1 (9.0.1) components into a release 7.*x*, 8.0.*x*, or 8.1.*x* Oracle home.

- The Oracle Universal Installer is capable of running a noninteractive installation of Oracle products. See "About Oracle Components in Noninteractive Mode" on page D-2 for instructions on using this feature of Oracle Universal Installer.

To install Oracle components:

1. Ensure that you have followed all preinstallation steps described in "Preinstallation Tasks" on page 4-2.

2. Insert the first component CD-ROM.

   The Autorun window automatically appears. If the Autorun window does not appear:

   a. Choose Start > Run.

   b. Enter the following:

      DRIVE_LETTER:\autorun\autorun.exe

      The Autorun window appears.

3. Choose to install Oracle9*i* directly from the CD-ROMs or to copy the contents of each CD-ROM and install from your hard drive. Table 4–2 lists the procedures for each installation method.

Table 4–2 Multiple CD-ROM Installations

To...	Do This...
Install from the CD-ROMs	Choose Install/Deinstall Products from the Autorun window. The Welcome window appears.

Install from your hard drive	1. Create three directories at the same level on your hard drive with the names `Disk1`, `Disk2`, and `Disk3`. You must use these names. For example:
	
	`d:\install\Disk1`
	
	`d:\install\Disk2`
	
	`d:\install\Disk3`
	
	2. Copy the contents of component CD-ROM 1 of 3 to the directory named `Disk1`.
	
	3. Copy the contents of component CD-ROM 2 of 3 to the directory named `Disk2`.
	
	4. Copy the contents of component CD-ROM 3 of 3 to the directory named `Disk3`.
	
	5. Run `Disk1\setup.exe`.
	
	The Welcome widows appears.

4. Choose Next.

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

5. Enter the Oracle home name and directory path in which to install Oracle components in the Destination fields. The directory path must be a mapped drive.

   > **Attention:**
   >
   > - If you have an existing Oracle home created with a pre-9.0.*x* release, you *must* change the default installation location to a new Oracle home.
   >
   > - **Universal Naming Convention (UNC)** names are not supported at this time.

   If you are installing Oracle Real Application Clusters, then all nodes in the cluster must have the same Oracle home name.

The Oracle home name can be up to 16 characters in length and must include only alphanumeric characters and underscores. Spaces are not allowed. Note that Oracle Universal Installer does not accept a number as the first character in the Name field. The default directory path is *<drive with the most available space>*:\oracle\ora90.

> **Note:** If you install Oracle9*i* into an Oracle home directory that already contains Oracle9*i* release 1 (9.0.1) client software, the listener is not created. To create the listener, install Oracle9*i* in a different Oracle home.

6. Choose Next.

The Available Products window appears.

7. Select the Oracle top-level component you want to install and choose Next. See Table 4–3 for the appropriate section based on the selection you made.

Table 4–3   Oracle9i Available Products

If You Select...	See This Section...
Oracle9*i* Database	"Oracle9i Database Installation Types" on page 4-8
Oracle9*i* Client	"Oracle9i Client Installation Types" on page 4-16
Oracle9*i* Management and Integration	"Oracle9i Management and Integration Installation Types" on page 4-19

See Also:

- "Oracle9i Products for Installation" on page 1-7

- Appendix A, "Individual Components Available for Installation"

Oracle9*i* Database Installation Types

The Installation Types window appears when selecting Oracle9*i* Database at step 7 on page 4-7.

1. Select the installation type you want to install and choose Next. To install an Oracle Transparent Gateway, select Custom. See the appropriate section based on your selection.

Table 4–4   Oracle9i Database Installation Types

If You Select...	See This Section...
Enterprise Edition, Standard Edition, or Personal Edition	"Enterprise Edition, Standard Edition, or Personal Edition Installation" on page 4-8
Custom	"Custom Oracle9i Database Installations" on page 4-13

Enterprise Edition, Standard Edition, or Personal Edition Installation

The installation windows that appear if you select Enterprise Edition, Standard Edition, or Personal Edition at step 1 on page 4-8 depend upon your computer configuration and which Oracle components are currently installed.

If your computer is detected to be part of a cluster, the Cluster Node Selection window appears. Select the nodes in the cluster on which to install Oracle Real Application Clusters software and choose Next.

> **See Also:**   "Installations Meeting Minimal Memory Requirements" on page 4-4

1. Select the appropriate database configuration from Table 4–5.

Table 4–5   Database Configuration Environments

If You Select...	Then Oracle Universal Installer...
General Purpose	Automatically starts Oracle Database Configuration Assistant to install a preconfigured database optimized for general purpose usage.
Transaction Processing	Automatically starts Oracle Database Configuration Assistant to install a preconfigured database optimized for transaction processing environment.

Table 4–5   Database Configuration Environments

If You Select...	Then Oracle Universal Installer...
Data Warehouse	Automatically starts Oracle Database Configuration Assistant to install a preconfigured database optimized for data warehousing environment.
Customized	Automatically starts Oracle Database Configuration Assistant to enable the creation of a customized database. This option takes longer than the preconfigured options.
Software Only	Installs software only and does not run any configuration tools. Manually start Oracle Database Configuration Assistant and Oracle Net Configuration Assistant after installation to install and configure your database. Go to step 9.

2. Choose Next.

If a pre-9.0 Oracle database is detected on your computer, then the Upgrading or Migrating an Existing Database window appears. Optionally, select to migrate or upgrade your database with Oracle Data Migration Assistant. Go to step 3.

> **Note:**   Do not upgrade an Oracle9*i* database configured for use with Oracle Internet Directory through this installation type. Oracle9*i* database and Oracle Internet Directory upgrades must be performed by following the procedures in "Oracle Internet Directory Installation" on page 4-23.

If no Oracle database is detected on your computer, then the Database Identification window appears and prompts you select a preconfigured database type. Go to step 4.

3. Select whether or not to upgrade or migrate your database to the latest release. See Table 4–6 for the appropriate section based on the selection you made:

Table 4–6   Upgrading or Migrating an Existing Database Window

If You...		Then...
Want to upgrade or migrate	1.	Select the Upgrade or Migrate an Existing Database check box and the SID of the database to upgrade or migrate to the latest Oracle9*i* database release.
	2.	Choose Next.
		The Summary window appears.
	3.	Go to step 10.
Do not want to upgrade or migrate	1.	Do not select the Upgrade or Migrate an Existing Database check box.
	2.	Choose Next.
		The Database Identification window appears.
	3.	Go to step 4.

4. Enter the **global database name** and **SID** in the fields provided. If you selected to configure a customized database environment, then go to step 9.

> **Note:** For Oracle Real Application Clusters, the SID you enter is automatically appended with an identifier. For example, if DB is entered, the first instance in the cluster is given a SID of DB1, and the second instance is given a SID of DB2.

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

5. Choose Next.

The Database File Location window appears.

6. Enter the directory location for the database files. The directory location must be a mapped drive.

> **Note:**
>
> - Oracle Corporation recommends installing database files and Oracle software files on separate disks.
>
> - **Universal Naming Convention (UNC)** names are not supported at this time.

7. Choose Next.

   The Database Character Set window appears.

8. Choose the database character set from the available options. By default, the database character set is automatically chosen based on the locale setting of the operating system.

9. Choose Next.

   The Summary window appears.

10. Review the space requirements to ensure that you have enough disk space and choose Install.

11. If you are installing from the CD-ROMs, then you are prompted to insert the subsequent disks to continue with installation.

12. Wait until the selected components are installed.

The Configuration Tools window appears at the end of installation and automatically starts the assistants shown in Table 4–7 to create and configure your database and network environments:

Table 4–7   Configuration Assistants—Database Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	■ In all cases except when selecting the Software Only configuration type ■ If Oracle Net services release 1 (9.0.1) is not already installed in the currently-specified Oracle home **Note:** Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.	Automatically configures your Oracle Net server networking software **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Starting Oracle HTTP Service	In all cases except when selecting the Software Only configuration type	Creates and starts the HTTP listener as a standalone process for the current session in non-SSL mode on port 7777. The Oracle*HOME_NAME*HTTPServer service starts after a computer reboot.
Oracle Database Configuration Assistant	■ If no Oracle database is installed in the currently-specified Oracle home ■ If you did not select to migrate or upgrade a detected database when prompted at step 3 on page 4-10 **See Also**: "Usernames and Passwords Overview" on page 5-2 for information on password management	Automatically creates an Oracle9*i* release 1 (9.0.1) database **See Also:** "Selecting a Database Creation Method" on page 3-5 for a description of the configuration procedures performed
Oracle Data Migration Assistant	If you selected to migrate or upgrade a detected database when prompted at step 3	Migrates or upgrades the selected database to Oracle9*i* release 1 (9.0.1)
Oracle Intelligent Agent	If the database and Intelligent Agent are installed	Automatically starts the Agent service

The Configuration Tools window displays the results of running these assistants.

Notes:

- Oracle Enterprise Manager Configuration Assistant does not automatically start at the end of installation to configure Oracle Management Server or create its service. You must manually start Oracle Enterprise Manager Configuration Assistant after installation in order to create a new release 1 (9.0.1) repository, edit configuration parameters, remove a release 1 (9.0.1) repository, or upgrade a 2.*x* repository to the current release. Select Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Enterprise Manager Configuration Assistant.
  See Also: *Oracle Enterprise Manager Configuration Guide* for more information.

- Oracle Database Configuration Assistant and Oracle Data Migration Assistant never run together during the same installation session.

---

13. Choose Next to continue.

The End of Installation window appears.

14. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

> **See Also:**   "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Custom Oracle9*i* Database Installations

The Available Product Components window appears when you select Custom at step 1 on page 4-8. The Install Status column of the Available Product Components window displays the status of all components available for installation:

1. Select the check box of each component to install.

> **Note:**   Only components with a check mark are installed.

---

2. Choose Next.

   The Component Locations window appears and enables you to select alternate locations in which to install some components.

3. Choose Next to accept the default locations. Otherwise, choose a component from the list box and change the default location.

4. If you selected any of the following components at step 1 on page 4-13, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information.

Table 4–8   Custom Oracle9i Database Component Prompts

If You Select...	You Are...
Oracle Net Services	*Not* prompted to enter any information. However, Oracle Net Configuration Assistant starts at the end of installation to configure your server networking files if Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home.
	Note: Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.
	See Also: "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Oracle Management Server	Prompted to select between using an existing or new release 1 (9.0.1) repository. See "Oracle Management Server Installation" on page 4-19 for a description of windows that appear.
	See Also: *Oracle Enterprise Manager Configuration Guide* for more information
Oracle Real Application Clusters	Prompted to select the nodes in the cluster on which you want to install the software.
	Note: This component only appears for selection if your computer is detected to be part of a cluster.
Oracle Services for Microsoft Transaction Server	Prompted to:
	■ Install Microsoft Transaction Server after installation, if it is not currently installed.
	■ Enter a port on which the Oracle MTS Recovery Service will listen.

Table 4–8   Custom Oracle9i Database Component Prompts (Cont.)

If You Select...	You Are...
Oracle9*i*	Prompted to: ■ Create a database (if you did not select to migrate one). Oracle Database Configuration Assistant starts at the end of installation and guides you through database creation. ■ Enter the **global database name** and **SID** of the database to create. **See Also:** "Selecting a Database Creation Method" on page 3-5 for a description of the database configuration procedures you can perform **Note:** If an earlier release of an Oracle database is detected on your hard drive, then you are prompted to upgrade or migrate to Oracle9*i* Database release 1 (9.0.1). Oracle Data Migration Assistant starts at the end of installation and guides you through database upgrade or migration.
Microsoft SQL Server Transparent Gateway	Prompted to enter the Microsoft SQL Server Name and Microsoft SQL Database Name.
Sybase Server Transparent Gateway	Prompted to enter the Sybase Server Name, Sybase Database Name, and the directory path in which Sybase is installed.
Teradata Transparent Gateway	Prompted to enter the ODBC data source name.

The Summary window appears.

5. Review the space requirements to ensure that you have enough disk space and choose Install.

6. Wait until the selected components are installed and any configuration tools have completed running. If a configuration assistant fails, then correct the cause of the failure and choose Retry.

The End of Installation window appears.

7. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

> **See Also:** "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Oracle9*i* Client Installation Types

> **Note:** Reboot your computer after the first Oracle installation on Windows 98. Subsequent installations only require a reboot if the Oracle home changes.

> **See Also:** "Oracle9i Client Components" on page A-9 for a list of components installed with each Oracle9*i* Client installation type

The Installation Types window appears when selecting Oracle9*i* Client at step 7 on page 4-7.

1. Select the installation type you want to install and choose Next. See the appropriate section based on your selection.

Table 4–9 Oracle9i Client Installation Types

If You Select...	See This Section...
Administrator or Runtime	"Client Administrator or Runtime Installations" on page 4-16
Custom	"Custom Oracle9i Client Installations" on page 4-17

Client Administrator or Runtime Installations

The Summary window appears.

1. Review the space requirements to ensure that you have enough disk space and choose Install.

2. Wait until the selected components are installed.

The Configuration Tools window appears and Oracle Net Configuration Assistant starts. The configuration assistant prompts you to select a method to configure client access to your Oracle9*i* Database if Oracle Net Client release 1 (9.0.1) is not already installed in the currently-specified Oracle home.

> **See Also:** "Configuring the Client Network" on page 3-11

3. Select a method for configuring client access to your Oracle9*i* Database. See the online Help and "Configuring the Client Network" on page 3-11 for more information on your choices.

   The End of Installation window appears.

4. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

   > **See Also:** See "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Custom Oracle9*i* Client Installations

The Available Product Components window appears if you select Custom at step 1 on page 4-16. The Install Status column of the Available Product Components window displays the status of all components available for installation.

1. Select the check box of each component to install.

   > **Note:** Only components with a check mark are installed.

2. Select appropriate components to install and choose Next.

   The Component Locations window appears and enables you to select alternate locations in which to install some components.

3. Choose Next to accept the default locations. Otherwise, choose a component to enable a text box for changing the default location, and choose Next.

4. If you select any of the components listed in Table 4–10, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information.

Table 4–10   Custom Oracle9i Client Component Prompts

If You Select...	You Are...
Oracle Net Services	*Not* prompted to enter any information. However, Oracle Net Configuration Assistant starts at the end of installation and prompts you to configure client access to your Oracle9*i* database if Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home.
	Note: Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.
	See Also: "Configuring the Client Network" on page 3-11 for a description of the configuration procedures performed
Oracle Services for Microsoft Transaction Server	Prompted to:
	■ Install Microsoft Transaction Server after installation, if it is not currently installed.
	■ Enter a port on which the Oracle MTS Recovery Service will listen.

The Summary window appears.

5. Review the space requirements to ensure that you have enough disk space and choose Install.

6. Wait until the selected components are installed and any configuration tools have completed running.

The End of Installation window appears.

7. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

See Also: "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Oracle9*i* Management and Integration Installation Types

The Installation Types window appears if you select Oracle9*i* Management and Integration at step 7 on page 4-7.

1. Select the installation type you want to install and choose Next. See the appropriate section based on your selection.

Table 4–11   Oracle9i Management and Integration Installation Types

If You Select...	See This Section...
Oracle Management Server	"Oracle Management Server Installation" on page 4-19
Oracle Internet Directory	"Oracle Internet Directory Installation" on page 4-23
Oracle Integration Server	"Oracle Integration Server Installation" on page 4-29
Custom	"Custom Oracle9i Management and Integration Installations" on page 4-33

Oracle Management Server Installation

The Oracle Management Server Repository window appears.

Important: Do not upgrade or migrate the Oracle Management Server and repository until all users of both components have upgraded or migrated their Oracle Enterprise Manager software (for example, Console and Management Packs) to release 1 (9.0.1). All Oracle Enterprise Manager products must be of the same release. Older components are not compatible with the newer release.

1. Carefully review Table 4–12 and select the repository type to use with the Oracle Management Server:

Table 4–12   Oracle Management Server Repository Types

Type	In This Situation...
Use an existing repository	Select this type:
	■ If you have already created a release 1 (9.0.1) repository for the environment to be managed and want this Oracle Management Server to use that existing repository. Oracle Enterprise Manager Configuration Assistant automatically starts at the end of installation to configure the Management Server to use the existing repository.
	■ If you want to upgrade an existing release 2.*x* repository to release 1 (9.0.1). Oracle Enterprise Manager Configuration Assistant automatically starts at the end of installation and performs some configuration procedures. However, the repository is *not* automatically upgraded. When installation is complete, manually start Oracle Enterprise Manager Configuration Assistant to upgrade the existing release 2.*x* repository to release 1 (9.0.1). Start Oracle Enterprise Manager Configuration Assistant as follows:
	Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Enterprise Manager Configuration Assistant
Require a new repository	Select this type:
	■ If an existing release 1 (9.0.1) repository does not exist or if you want a completely separate management setup. Oracle Enterprise Manager Configuration Assistant automatically starts at the end of installation to create a new repository.

> **See Also:** "Use an Existing Repository" on page 2-15 for more information on upgrading and migrating an Oracle Enterprise Manager repository

The Summary window appears.

2. Review the space requirements to ensure that you have enough disk space and choose Install.

The Configuration Tools window appears at the end of installation and automatically starts the assistants shown in Table 4–11 to create and partially configure your network and database repository environments:

Table 4–13   Configuration Assistants with Management Server Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home **Note:** Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.	Prompts you to configure your Oracle Net networking software **See Also:** "Configuring the Client Network" on page 3-11 for a description of the configuration procedures performed
Starting Oracle HTTP Service	In all cases	Creates and starts the HTTP listener as a standalone process for the current session in non-SSL mode on port 7777. Also uses port 3339 for browser based Oracle Enterprise Manager and the Oracle Enterprise Manager Repository Web Site. The Oracle*HOME_NAME*HTTPServer service starts after a computer reboot.
Enterprise Manager Configuration Assistant	In all cases	Guides you through repository creation and Oracle Management Server configuration. See step 3 for instructions. **See Also:** *Oracle Enterprise Manager Configuration Guide* for more information

The Welcome window of Enterprise Manager Configuration Assistant appears.

3. Click Next.

The Select Database for Repository window appears.

Table 4–14 provides appropriate responses based on the repository type you selected in step 1 of "Oracle Management Server Installation" on page 4-20:

Table 4–14   Select Database for Repository Window Options

If You Selected...	You are Prompted to Enter the Following Information...
Use an existing repository	Release 1 (9.0.1) repository connection information: ■ Username and password for the existing release 1 (9.0.1) repository ■ The database connect string, specified as: *hostname:port_number:SID* If you need to upgrade your release 2.*x* repository to a release 1 (9.0.1) repository, then you must also start Oracle Enterprise Manager Configuration Assistant *after* installation to perform the upgrade. **See Also:** "Use an Existing Repository" on page 2-15
Require a new repository	Information about the database in which to create the repository: ■ Username (with DBA privileges) and password (for example, SYSTEM/MANAGER) ■ The database connect string, specified as: *hostname:port_number:SID* ■ Role to use to connect (for example, SYSDBA) After Enterprise Manager Configuration Assistant connects to the database, you must provide the following: ■ Database username and password of the new repository owner. (Accept the default or choose a new name.) You must enter a unique username for each new repository owner in a network. ■ A default tablespace for the repository ■ A temporary tablespace for the repository **See Also**: *Oracle Enterprise Manager Configuration Guide* for more information on creating a new repository or using an existing repository

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

4. Provide appropriate responses to the remaining Oracle Enterprise Manager Configuration Assistant windows.

   The End of Installation window appears.

5. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

6. If you are migrating or upgrading your repository, run the appropriate tool after installation as described in step 1 of "Oracle Management Server Installation" on page 4-20.

   > **See Also:** "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Oracle Internet Directory Installation

> **Note:** Oracle Corporation recommends installing the Oracle9*i* database through this option; this creates the correct underlying Oracle9*i* database as part of Oracle Internet Directory 3.0.1 installation.

One of the windows shown in Table 4–15 appears if you select Oracle Internet Directory at step 1 on page 4-19. The following steps are based on the window that appears.

Table 4–15   Oracle Internet Directory Installation Options

If Oracle database...	Then the...	Go to...
Release 1 (9.0.1) is already installed on the computer, but Oracle Internet Directory release 3.0.1 is not installed	Using an existing instance window appears and you are prompted for the **SID** you want to use for Oracle Internet Directory	Step 1 of "Installing Oracle Internet Directory for the First Time" on page 4-24
Release 1 (9.0.1) and Oracle Internet Directory release 3.0.1 are *not* installed on the computer	Database Identification window appears and Oracle9*i* database is automatically installed in the same Oracle home directory with Oracle Internet Directory release 3.0.1	Step 4 of "Installing Oracle Internet Directory for the First Time" on page 4-24

Table 4–15   Oracle Internet Directory Installation Options (Cont.)

If Oracle database...	Then the...	Go to...
Release 3 (8.1.7) and Oracle Internet Directory release 2.1.1.*x* are already installed on the computer	Upgrade OID window appears and prompts you to upgrade to Oracle9*i* database and Oracle Internet Directory release 3.0.1	Step 1 of "Upgrading Oracle Internet Directory" on page 4-27

Installing Oracle Internet Directory for the First Time

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

   The Database Identification window appears.

2. Enter the SID of the installed database and choose Next.

3. Go to Step 5.

4. Enter the **global database name** and **SID** in the fields provided.

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

   The OID Database File Location window appears.

5. Enter a directory location to install the Oracle Internet Directory database files. These database files correspond to Oracle Internet Directory-specific tables and schema created during configuration.

   Oracle Corporation recommends installing database files and Oracle software on separate hard disks.

6. Choose Next.

   The Summary window appears.

7. Review the space requirements to ensure that you have enough disk space and choose Install. Table 4–16 lists the information which is automatically set during installation:

Table 4–16   Oracle9i Database Installation Types

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

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 4–17   Configuration Assistants with the Oracle Internet Directory Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home **Note:** Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.	Automatically configures your Oracle Net Services networking software **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Starting Oracle HTTP Service	In all cases	Creates and starts the HTTP listener as a standalone process for the current session in non-SSL mode on port 7777. The Oracle*HOME_NAME*HTTPServer service starts after a computer reboot.

Table 4–17   Configuration Assistants with the Oracle Internet Directory Installation Type

This Tool...	Starts...	And...
Oracle Intelligent Agent	If the database and Intelligent Agent are installed	Automatically starts the Agent service
OiD Configuration Assistant	In all cases	Creates Oracle Internet Directory tablespaces and schema in the Oracle9*i* Database and starts the Oracle Internet Directory directory server
		The port on which the Oracle Internet Directory Server is started is logged in the file `ORACLE_BASE\ORACLE_HOME\ldap\install\oidca.log`.
		By default Oracle Internet Directory server is started on port 389. If this port is not available, then Oracle Internet Directory server is started on an available port higher than 5000.
		Note: If a database needs to be installed, Oracle Database Configuration Assistant automatically starts within OiD Configuration Assistant to create a database with the UTF8 character set.
		Oracle Database Configuration Assistant enables the changing of default passwords after database creation. Do *not* use the Password Management button at this time. Change the passwords for SYS and SYSTEM only after the Oracle Internet Directory installation is complete.

The End of Installation window appears.

8. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

> **See Also:**   "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Upgrading Oracle Internet Directory

> **Note:** Before upgrading Oracle Internet Directory, the OID Database Password must be reset to `ods` using the command line OID Database Password Utility. Enter the following command:
>
> ```
> oidpasswd [connect=net_service_name]
> ```

If you intend to upgrade an existing Oracle Internet Directory installation and Oracle8*i* Server, and you installed Oracle Internet Directory separately, then you must upgrade the OID database when you upgrade Oracle Internet Directory.

Before upgrading, stop the Oracle Listener, Oracle Database, and Oracle Internet Directory services.

> **See Also:** *Oracle Internet Directory Administrator's Guide* for more information on using the OID Database Password utility

1. Make an appropriate selection and choose Next.

Select...	To...
Yes	Automatically upgrade the existing Oracle8*i* database to release 1 (9.0.1) and the Oracle Internet Directory software, LDAP schema, and Oracle Internet Directory database schema to release 3.0.1. Choose Next and go to step 2.
	See Also: "Oracle Internet Directory" on page 2-12 for more information on upgrading
No	Not upgrade your release 8.1.7 Oracle8*i* database. Instead, a new Oracle9*i* database release 1 (9.0.1) is installed and configured for use with Oracle Internet Directory release 3.0.1. The release 8.1.7 Oracle8*i* database remains unchanged and only Oracle Internet Directory release 2.1.1 is upgraded to release 3.0.1.

The Upgrade OID data window appears.

2. Back up Oracle Internet Directory prior to upgrading and choose Next.

The Oracle SID window appears.

3. Enter the system identifier (**SID**) of the Oracle8*i* database to upgrade and choose Next.

> **Note:** Ensure that you enter a SID for an Oracle8*i* database that is configured for use with Oracle Internet Directory.

The OID Password window appears.

4. Enter the password for the Oracle Directory Server user (ODS by default) and choose Next.

The OID Administrator Password window appears.

5. Enter the password for the Oracle Internet Directory administrator (WELCOME by default) and choose Next.

The Upgrading or Migrating an Existing Database window appears.

6. Select the Upgrade or Migrate an Existing Database check box and the SID of the database you want to migrate to an Oracle9*i* release 1 (9.0.1) database.

The Summary window appears.

7. Review the space requirements to ensure that you have enough disk space and choose Install.

8. Wait until the selected components are installed.

The Configuration Tools window appears and automatically starts the following assistants to upgrade your Oracle8*i* database and Oracle Internet Directory environments:

Table 4–18   Configuration Assistants with Oracle Internet Directory Upgrade

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home **Note:** Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.	Prompts you to configure your Oracle Net server networking software. Select Perform typical configuration and accept all default settings by choosing the Next button as each window appears. **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed

Table 4–18 Configuration Assistants with Oracle Internet Directory Upgrade

This Tool...	Starts...	And...
Starting Oracle HTTP Service	In all cases except when selecting the Software Only configuration type	Creates and starts the HTTP listener as a standalone process for the current session in non-SSL mode on port 7777. The Oracle*HOME_NAME*HTTPServer service starts after a computer reboot.
Oracle Intelligent Agent	If the database and Intelligent Agent are installed	Automatically starts the Agent service
Oracle Data Migration Assistant	In all cases	Upgrades Oracle8*i* database release 8.1.7 to release 1 (9.0.1)
OiD Upgrade Assistant	In all cases	Upgrades Oracle Internet Directory release 2.1.1 to release 3.0.1

The End of Installation window appears.

9. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

> **See Also:** "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Oracle Integration Server Installation

Go to the appropriate step based on whether an Oracle database is detected on your computer:

If...	Then...	Go To...
A pre-release 1 (9.0.1) Oracle database is detected on your computer	The Upgrading or Migrating an Existing Database window appears and prompts you to migrate or upgrade your database with Oracle Data Migration Assistant	Step 1
No Oracle database is detected on your computer	The Database Identification window appears and prompts you to enter the **global database name** and **SID** for your Oracle9*i* Database	Step 2

1. Select whether or not to upgrade or migrate your database to the latest release:

If You...	Then...	
Want to upgrade or migrate	1.	Select the Upgrade or Migrate an Existing Database check box and the SID of the database to upgrade or migrate to the latest Oracle9*i* Database release.
	2.	Choose Next.
		The Summary window appears.
	3.	Go to step 8.
Do not want to upgrade or migrate	1.	Do not select the Upgrade or Migrate an Existing Database check box.
	2.	Choose Next.
		The Database Identification window appears.
	3.	Go to step 2.

2. Enter the **global database name** and **SID** in the fields provided.

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

3. Choose Next.

   The Database File Location window appears.

4. Enter the directory location for the database files. The directory location must be a mapped drive.

   > **Note:**
   >
   > - Oracle Corporation recommends installing database files and Oracle software files on separate disks.
   >
   > - **Universal Naming Convention (UNC)** names are not supported at this time.

5. Choose Next.

   The Database Character Set window appears.

6. Choose the database character set from the available options. By default, the database character set is automatically chosen based on the locale setting of the operating system.

7. Choose Next.

   The Summary window appears.

8. Review the space requirements to ensure that you have enough disk space and choose Install.

9. Wait until the selected components are installed.

   The Configuration Tools window appears at the end of installation and, based on your selections above, automatically starts the assistants shown in Table 4–19 to create and configure your database and network environments:

Table 4–19   Configuration Assistants—Oracle Integration Server Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home **Note:** Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.	Automatically configures your Oracle Net Services networking software **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Starting Oracle HTTP Service	In all cases except when selecting the Software Only configuration type	Creates and starts the HTTP listener as a standalone process for the current session in non-SSL mode on port 7777. The Oracle*HOME_NAME*HTTPServer service starts after a computer reboot.
Oracle Data Migration Assistant	If you selected to migrate or upgrade a detected database when prompted at step 1	Migrates or upgrades the selected database to Oracle9*i* release 1 (9.0.1)
Oracle Database Configuration Assistant	If a release 1 (9.0.1) Oracle9*i* Database is not already installed in the currently-specified Oracle home	Automatically creates an Oracle9*i* release 1 (9.0.1) database

Table 4–19   Configuration Assistants—Oracle Integration Server Installation Type (Cont.)

This Tool...	Starts...	And...
Oracle Intelligent Agent	If the database and Intelligent Agent are installed	Automatically starts the Agent service
Oracle Workflow Configuration Assistant	In all cases.	Configures Oracle Workflow schema in the Oracle9*i* database
		You are prompted for the Workflow Password, SYS Password, and SYSTEM Password. Several MS-DOS command prompts automatically open and close. Do not manually close these windows, or you will interrupt the configuration process.
		See Also: *Oracle Workflow Server Installation Notes* for instructions about using Oracle Workflow Configuration Assistant

10. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

See Also:

- *Oracle Workflow Server Installation Notes* for information about Oracle Workflow Configuration Assistant and postinstallation procedures

- "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Custom Oracle9*i* Management and Integration Installations

The Available Product Components window displays all components available for installation if you select Custom at step 1 of "Oracle9i Management and Integration Installation Types" on page 4-19.

1. Select the check box of each component to install.

Note: Only components with a check mark are installed.

---

2. Choose Next.

   The Component Locations window appears and enables you to select alternate locations in which to install some components.

3. Choose Next to accept the default locations. Otherwise, choose a component to enable a text box for changing the default location. Then, choose Next.

4. If you select any of the components shown in Table 4–20, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information:

Table 4–20   Custom Oracle9i Management and Integration Component Prompts

If You Select...	Then...
Oracle Management Server	Go to "Oracle Management Server Installation" on page 4-19 for installation instructions.
Oracle Integration Server	Go to "Oracle Integration Server Installation" on page 4-29 for installation instructions. You are prompted to create a new Oracle9*i* Database if one is not installed in the currently-specified Oracle home.

Table 4–20   Custom Oracle9i Management and Integration Component Prompts

If You Select...	Then...
Oracle Internet Directory	The procedures to follow depend upon the following:
	■ If Oracle9*i* Database release 1 (9.0.1) is already installed in the currently-specified Oracle home, but Oracle Internet Directory 3.0.1 is not, go to step 1 of "Installing Oracle Internet Directory for the First Time" on page 4-24.
	■ If Oracle9*i* database Release 1 (9.0.1) and Oracle Internet Directory releases 3.0.1 are *not* installed in the currently-specified Oracle home, the Database Identification window appears. Go to step 5 on page 4-34.
	■ If Oracle8*i* database release 8.1.7 and Oracle Internet Directory release 2.0.6 are already installed in the currently-specified Oracle home, go to step 1 of "Upgrading Oracle Internet Directory" on page 4-27.

5. Enter the **global database name** and **SID** for the Oracle9*i* Database and choose Next:

   The OID Database File Location window appears if a database is not currently installed.

6. 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 hard disks. These database files correspond to Oracle Internet Directory-specific tables and schema created during configuration.

7. Choose Next.

   The OID User Password Encryption window appears.

8. Select whether or not to enable password encryption and choose Next.

   The User Password Hashing Algorithm window appears.

9. Select an encryption schema to use and choose Next.

   The OID Administrator Password window appears.

10. Enter a password.

    This password enables you to make all changes in Oracle Internet Directory.

11. Enter the same password a second time and choose Next.

    The OID Size Configuration window appears.

12. Select the approximate number of directory entries to be stored in Oracle Internet Directory and choose Next.

The Summary window appears.

13. Review the space requirements to ensure that you have enough disk space and choose Install.

The Configuration Tools window appears at the end of installation and automatically starts the assistants shown in Table 4–21 to create and configure the Oracle9i Database for use with Oracle Internet Directory:

Table 4–21 Configuration Assistants—Custom Oracle9i Management and Integration Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services release 1 (9.0.1) is not already installed in the currently-specified Oracle home **Note:** Net8 release 8.1.7 or earlier installations in this Oracle home will be upgraded.	Automatically configures your Oracle Net listener networking software **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Starting Oracle HTTP Service	If you select the Oracle HTTP Server in the Available Product Components window	Starts the HTTP listener in non-SSL mode on port 7777
Oracle Intelligent Agent	If the database and Intelligent Agent are installed	Automatically starts the Agent service
OiD Configuration Assistant	If you select Oracle Internet Directory in the Available Product Components window	Creates Oracle Internet Directory tablespaces and schema in the Oracle9i Database and starts the Oracle Internet Directory directory server **See Also:** OiD Configuration Assistant in Table 4–14
Oracle Database Configuration Assistant	If you select Oracle9i in the Available Product Components window, and you chose not to upgrade when prompted, and you selected Yes when prompted to install an Oracle9i database	Oracle Database Configuration Assistant automatically starts within OiD Configuration Assistant to guide you through a Custom installation to create a database with the UTF8 character set. DBCA enables the changing of default passwords after database creation. Do *not* use the Password Management button at this time. Change the passwords for SYS and SYSTEM only after the Oracle Internet Directory installation is complete.

Table 4–21 Configuration Assistants—Custom Oracle9i Management and Integration Installation Type

This Tool...	Starts...	And...
Oracle Data Migration Assistant	If you select to upgrade a database	Upgrades the selected database to Oracle9*i*
Oracle Enterprise Manager Configuration Assistant	If you select to install Oracle Management Server in the Available Product Components window	Enables the configuration of the local Oracle Management Server to use an existing repository or to create a new repository
Oracle Workflow Configuration Assistant	If you select to install Oracle Workflow in the Available Product Components window	Configures Oracle Workflow schema in the Oracle9*i* database
		You are prompted for the Workflow Password, SYS Password, and SYSTEM Password. Several MS-DOS command prompts automatically open and close. Do not manually close these windows, or you will interrupt the configuration process.
		See Also: *Oracle Workflow Server Installation Notes* for instructions on using Oracle Workflow Configuration Assistant

The End of Installation window appears.

> **Note:** It is not possible to install and configure Oracle Internet Directory and Oracle Workflow in the same installation session. If you perform a Custom installation and choose to install both Oracle Internet Directory and Oracle Workflow, then only OiD Configuration Assistant starts during postinstallation. To configure Oracle Workflow, you must manually start Oracle Workflow Configuration Assistant after installation.
>
> To configure Oracle Workflow manually:
>
> **1.** Exit Oracle Universal Installer at the end of installation.
>
> **2.** Enter the following command:
>
> *DRIVE_LETTER*:*ORACLE_BASE**ORACLE_ HOME*\wf\install> wfinstall.bat
>
> **See Also**: *Oracle Workflow Server Installation Notes* for more information

14. Choose Exit to exit Oracle Universal Installer or choose Next Install to install additional components.

> **See Also:** "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Reviewing the Installation Session Log

The first time the Installer runs it creates the `SYSTEM_DRIVE:\Program Files\Oracle\Inventory\logs` directory. An inventory of installed components and installation actions performed are kept in this directory.

`installActions.log` is the most recent log file. Log file names of previous installation sessions are also in this directory and take the form `installActionsdate_time.log` (for example, `installActions2001-07-14_09-00-56-am.log`).

You can also view a list of installed components by choosing Installed Products on any window of Oracle Universal Installer. A window of installed programs appears.

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

Deinstalling Oracle Components and Services

This section describes how to deinstall Oracle components, utilities, and services.

> **Notes:**
>
> ■ Silent deinstallations are not supported at this time.
>
> ■ Deinstalling Oracle9*i* JVM causes Oracle Universal Installer to remove the database and other products dependent on Oracle9*i* JVM from your system.

This section contains these topics:

- Stopping Oracle Services for Windows
- Deinstalling Components with Oracle Universal Installer
- Removing Oracle Keys From the Registry on Windows NT and Windows 2000
- Removing Oracle Keys from the Registry on Windows 98

> **Note:** Manual removal of components is permitted only if you exit Oracle Universal Installer during an installation. For example:
>
> - Choosing Cancel
> - Turning off the computer
> - If the installation does not complete (that is, all required configuration tools do not run at the end)
> - In these cases, Oracle Universal Installer does not register the installation in its inventory. However, files may have been copied to your Oracle home. Remove these files manually and restart the installation.

Stopping Oracle Services for Windows

You must first stop the Oracle Windows NT services before deinstalling Oracle components or removing any registry entries.

To stop Windows NT services:

1. Choose Start > Settings > Control Panel > Services.
2. If any Oracle services (names begin with `Oracle` or `Ora`) exist and have the status *Started*, select the service, and choose Stop.
3. Choose Close to exit the Services window.
4. Exit the Control Panel.

Stopping and Removing Oracle Internet Directory Services

1. Stop the Oracle Internet Directory Server at the MS-DOS command prompt:

```
C:\> 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 at the MS-DOS command prompt:

```
C:\> oidmon STOP
```

3. Remove the Oracle Internet Directory service `OracleDirectoryService` from the registry:

```
C:\> oidmon REMOVE
```

4. Follow the procedures in "Deinstalling Components with Oracle Universal Installer" on page 4-40 to remove the Oracle9*i* Database configured with Oracle Internet Directory.

Stopping and Removing Oracle Management Server Service Registry Entry

1. Stop the Oracle Management Server (`OracleHOME_NAMEManagementServer`) from the Control Panel:

On Windows NT, choose Start > Settings > Control Panel > Services. On Windows 2000, choose Start > Programs > Administrative Tools > Services.

2. Remove the Oracle Management Server service `OracleHOME_NAMEManagementServer` from the registry:

```
C:\> omsntsrv -u Home_Name
```

where *Home_Name* is the Oracle home name.

Deinstalling Components with Oracle Universal Installer

This section describes how to use Oracle Universal Installer to deinstall Oracle components (which deinstalls them from the installer inventory) instead of removing them manually.

Do not delete an Oracle home manually (for example, by deleting the directory structure with Windows NT Explorer or MS-DOS command prompt) because the components in that Oracle home remain registered in the Oracle Universal Installer inventory. If you then attempt an installation in the same Oracle home, some or all of the components selected may not be installed because the installer determines they are already installed.

Oracle Universal Installer creates Windows NT services for Oracle components during installation. However, the installer does not delete services created by Oracle Net Configuration Assistant, OiD Configuration Assistant, and Oracle Database Configuration Assistant.

To deinstall components with Oracle Universal Installer:

1. Ensure that you first follow the instructions in "Stopping Oracle Services for Windows" on page 4-38.

2. Choose Start > Programs > Oracle Installation Products > Universal Installer.

    The Welcome window for Oracle Universal Installer appears.

3. Choose the Deinstall Products button.

    The Inventory window appears.

4. Expand the tree of installed components until you find the components to deinstall.

5. Check the boxes of components to deinstall.

6. Choose Remove.

    The Confirmation window appears.

7. Choose Yes to deinstall the selected components.

> **Note:** A message may appear indicating that removing some components may cause other components to not function properly.

The components are deinstalled from your computer. The Inventory window appears without the deinstalled components.

8. Choose Close to close the Inventory window.

9. Choose Exit to exit Oracle Universal Installer.

Removing Oracle Keys From the Registry on Windows NT and Windows 2000

In rare situations, you may want to correct serious system problems by completely removing Oracle components from the computer.

Remove all Oracle components from your computer only as a last resort, and only if you want to remove all Oracle components from your system.

> **Note:** You can also use the ORADIM utility to manually deinstall an instance and services. See "Postinstallation Database Creation" of *Oracle9i Database Administrator's Guide for Windows.*

Oracle Universal Installer does not delete services created by Oracle Net Configuration Assistant, OiD Configuration Assistant, and Oracle Database Configuration Assistant. In addition, several other registry keys are not deleted.

To remove the Oracle Net Service Registry Entry:

1. Log in as a member of the Administrators group.

2. Ensure that you first follow the instructions in "Stopping Oracle Services for Windows" on page 4-38.

3. Start the registry at the MS-DOS command prompt:

   `C:\> regedt32`

4. Go to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services` and delete the `Oracle`*HOME_NAME*`TNSListener` registry entry. Oracle Universal Installer automatically deletes all other Oracle Net Services.

5. Exit the registry.

To remove all Oracle components from a computer on Windows NT:

> **Caution:** These instructions remove *all* Oracle components, services, and registry entries from your computer. In addition, any database files under *ORACLE_BASE*\oradata*DB_NAME* are also removed. Exercise extreme care when removing registry entries. Removing incorrect entries can break your system.

1. Log in as a member of the Administrators group.

2. Ensure that you first follow the instructions in "Stopping Oracle Services for Windows" on page 4-38.

3. Start the registry at the MS-DOS command prompt:

    `C:\> regedt32`

4. Go to `HKEY_CLASSES_ROOT`.

5. Delete any key that starts with `Oracle`, `ORA`, or `ORCL`.

6. Go to `HKEY_LOCAL_MACHINE\SOFTWARE`.

7. Delete the `ORACLE` and `Apache Group` keys.

8. Go to `HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\odbcinst.ini`.

9. Delete the `Oracle ODBC Driver` key.

10. Go to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services`.

11. Delete all keys under here that begin with `ORACLE`.

12. Go to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \Eventlog\Application`.

13. Delete all keys under here that begin with `ORACLE`.

14. Go to `HKEY_CURRENT_USER`.

15. Delete `ORACLE`.

16. Go to `HKEY_CURRENT_USER\SOFTWARE\ORACLE`.

17. Delete keys that start with `Oracle` or `ORCL` (if any exist).

18. Go to `HKEY_CURRENT_USER\SOFTWARE\ODBC\odbcinst.ini`.

19. Delete any Oracle keys (if any exist).

20. Close the registry.

21. Reboot your computer.

Update the System Variable Path

1. Go to Start > Settings > Control Panel > System > Environment tab.

2. Choose the system variable path and modify the Path variable.

3. Remove any Oracle entries from the path. For example, if JRE was installed by Oracle, remove the `%ORACLE_HOME%\BIN` path and the `JRE` path. You may see a path similar to this one:

   `C:\oracle\ora81\bin;G:\program files\oracle\jre\1.1.7\bin`

4. Exit the Control Panel.

Remove Oracle from the Start Menu

1. Go to *SYSTEM_DRIVE*`:\winnt\profiles\all users\start menu\programs`.

2. Delete the following icons:

   - Oracle - *HOME_NAME*

   - Oracle Installation Products

     where *HOME_NAME* is the previous Oracle home name.

3. Delete *SYSTEM_DRIVE*`:\program files\oracle` through Windows NT Explorer.

4. Delete all *ORACLE_BASE* directories on your hard drive.

5. Reboot your computer.

Removing Oracle Keys from the Registry on Windows 98

To remove all Oracle components from a computer on Windows 98:

1. Start the registry at the MS-DOS command prompt:

   `C:\> regedit`

2. Go to `HKEY_CLASSES_ROOT`.

3. Delete any key that starts with `Oracle` or `ORCL`.

4. Go to `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE`.

5. Delete the `ORACLE` key.

6. Go to `HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\odbcinst.ini`.

7. Delete the `Oracle ODBC Driver` key.

8. Go to `HKEY_CURRENT_USER\SOFTWARE\ORACLE`.

9. Delete keys that start with `Oracle` or `ORCL` (if any exist).

10. Go to `HKEY_CURRENT_USER\SOFTWARE\ODBC\odbcinst.ini`.

11. Delete any Oracle keys.

12. Close the registry.

13. Reboot your computer.

Update the System Variable Path

Edit your `autoexec.bat` file and remove your `%ORACLE_HOME%\BIN` and `JRE` paths from the path setting.

Remove Oracle from the Start Menu

1. Delete *SYSTEM_DRIVE*:\Program Files\Oracle through Windows Explorer.

2. Delete icons from:

   - *SYSTEM_DRIVE*:\windows\start menu\programs\oracle - *HOME_NAME*

   - *SYSTEM_DRIVE*:\windows\start menu\programs\oracle installation products

   where *HOME_NAME* is the previous Oracle home name.

3. Delete all *ORACLE_BASE* directories on your hard drive.

4. Reboot your computer.

5

Reviewing Your Installed Starter Database Contents

This chapter describes the contents of the default starter database created through Oracle Database Configuration Assistant for the Enterprise Edition, Standard Edition, Personal Edition, Oracle Internet Directory, or Oracle Integration Server installation types. Where possible, references to information applicable to the custom database creation method are provided.

This chapter contains these topics:

- Usernames and Passwords Overview
- Database Identification Overview
- Oracle9i Services on Windows Overview
- Tablespaces and Datafiles Overview
- Initialization Parameter File Overview
- Redo Log Files Overview
- Control Files Overview
- Rollback Segments Overview
- Data Dictionary Overview

Usernames and Passwords Overview

Oracle9*i* installs with a number of default database accounts. Oracle Database Configuration Assistant locks and expires all default database accounts upon successful installation with the following exceptions:

- SYS

- SYSTEM

- SCOTT

- DBSNMP

- OUTLN

- AURORAORBUNAUTHENTICATED

- AURORAJISUTILITY$

- OSE$HTTP$ADMIN

You must unlock all other accounts before using them. Oracle Corporation recommends changing all user passwords *immediately* after installation.

> **Important: If installing Oracle Internet Directory, then change the passwords for SYS and SYSTEM only after the Oracle Internet Directory installation is complete.**

At a minimum, Oracle Database Configuration Assistant creates the SYS, SYSTEM, and DBSNMP accounts in *all* databases. Additional accounts are created depending on the components installed. Unlock accounts and change passwords before using these accounts. Table 5–2 describes the accounts and passwords.

See Also:

- *Oracle9i Database Administrator's Guide* for information on Oracle security procedures and security best practices

- *Oracle Enterprise Manager Administrator's Guide* for information on security management

Unlocking and Changing Passwords

At the end of installation, several configuration assistants automatically start to create and configure your database and network environments. One such assistant is the Oracle Database Configuration Assistant. When Oracle Database Configuration Assistant finishes your database configuration, it displays a screen with your database information and the Password Management button. Use the Password Management button to change this information immediately after installation.

To change a password during the database installation and configuration process:

1. From the Oracle Database Configuration Assistant window, choose the Password Management button.

   > **Note:**   The Password Management button is not available when using Oracle Database Configuration Assistant as a standalone tool.

2. Select the username and clear the check mark.

3. Enter a new password and confirm the new password for each username.

   > **Note:**   If you unlock a password, but do not specify a new password, then the password is expired until the next time you access that account.

Alternatively, use SQL*Plus to unlock accounts and change passwords any time after the installation process.

To change a password after installation:

1. Start SQL*Plus:

   `C:\> sqlplus /NOLOG`

2. Connect as SYSDBA:

   `SQL> CONNECT / AS SYSDBA`

3. Change the password according to the SQL commands indicated in Table 5–1:

Table 5–1   SQL Commands for Administering Accounts and Passwords

To...	Do this...
Unlock a password	`ALTER USER username ACCOUNT UNLOCK;`
Lock a password	`ALTER USER username ACCOUNT LOCK;`
Change the password of an unlocked account	`ALTER USER username IDENTIFIED BY password;`
Change the password of a locked account	`ALTER USER username IDENTIFIED BY password ACCOUNT UNLOCK;`

Granting Limited SYS Database Role Privileges

Any database user can be granted limited SYS database role privileges to use the Oracle Enterprise Manager Diagnostic Pack. Grant users access to these necessary SYS privileges by granting the OEM_MONITOR role. This role is created when the database is installed and is defined in the following SQL script:

`\ORACLE_BASE\ORACLE_HOME\rdbms\admin\catsnmp.sql`

> **See Also:**   *Oracle9i SQL Reference* for information on the GRANT statement

Reviewing Usernames and Passwords

Table 5–2 describes the administrative usernames and passwords.

Table 5–2   Administrative Usernames and Passwords

Username	Password	Description	See Also
SYSTEM[1]	MANAGER	Used for performing database administration tasks. SYSTEM includes the AQ_ADMINISTRATOR_ROLE and DBA database roles.	*Oracle9i Database Administrator's Guide*
SYS[1]	CHANGE_ON_ INSTALL[2]	Used for performing database administration tasks.[3]	*Oracle9i Database Administrator's Guide*
AURORAJIS UTILITY$	Randomly assigned at installation	Used internally by Enterprise JavaBeans (EJB) and Common Object Request Broker Architecture (CORBA) Tools. Log on as SYS to change the password for this username.	Not applicable

Table 5–2   Administrative Usernames and Passwords (Cont.)

Username	Password	Description	See Also
AURORAORB UNAUTHENTICATED	Randomly assigned at installation	Used internally by EJB and CORBA Tools. Log on as SYS to change the password for this username.	Not applicable
CTXSYS	CTXSYS	The Oracle Text username with CONNECT, DBA, and RESOURCE database roles.	*Oracle Text Reference*
DBSNMP	DBSNMP	Includes the CONNECT and SELECT ANY DICTIONARY database roles. Run catnsnmp.sql if you want to drop this role and user.	*Oracle Intelligent Agent User's Guide*
LBACSYS	LBACSYS	The Oracle Label Security administrator username.	*Oracle Label Security Administrator's Guide*
MDSYS	MDSYS	The Oracle Spatial and Oracle Locator administrator username.	*Oracle Spatial User's Guide and Reference*
OLAPDBA	OLAPDBA	OLAPDBA is the identity that OLAP Services uses to authenticate user credentials. When you change the password for OLAPDBA in the database, you must make the same change to the User Password configuration setting for OLAP Services. OLAPDBA includes the OLAP_DBA database role.	■ *Oracle9i OLAP Services Concepts and Administration Guide* ■ OLAP Services Instance Manager Help
OLAPSVR	INSTANCE	The proxy identification used by all OLAP Services connections. Includes the OLAP_DBA, CONNECT, RESOURCE, and SELECT_CATALOG_ROLE database roles. When you change the password for OLAPSVR in the database, you must make the same change to the OlapProxyPwd configuration setting for OLAP Services.	■ *Oracle9i OLAP Services Concepts and Administration Guide* ■ OLAP Services Instance Manager Help
OLAPSYS	MANAGER	OLAPSYS is the identity used to create OLAP metadata structures. OLAPSYS includes OLAP_DBA, CONNECT, and RESOURCE database roles.	*Oracle9i OLAP Services Concepts and Administration Guide*
ORDPLUGINS	ORDPLUGINS	The Oracle *inter*Media Audio and Video username with CONNECT and RESOURCE database roles. Allows non-native plug-in formats for one session.	*Oracle interMedia User's Guide and Reference*

Table 5–2   Administrative Usernames and Passwords (Cont.)

Username	Password	Description	See Also
ORDSYS	ORDSYS	The Oracle *inter*Media Audio, Video, Locator, and Image administrator username with CONNECT, JAVAUSERPRIV, and RESOURCE database roles.	*Oracle interMedia User's Guide and Reference*
OSE$HTTP$ADMIN	Randomly assigned at installation	Used internally by the Oracle Servlet Engine. Log on as SYS to change the password for this username.	Not applicable
OUTLN	OUTLN	Centrally manages metadata associated with stored outlines. Supports plan stability, which enables maintenance of the same execution plans for the same SQL statements. Includes CONNECT and RESOURCE database roles	■ *Oracle9i Database Concepts* ■ *Oracle9i Database Performance Guide and Reference*
SCOTT	TIGER	Includes CONNECT and RESOURCE database roles.	*Oracle9i Database Administrator's Guide for Windows*
WKSYS	WKSYS	Used for storing Ultra Search system dictionaries and PL/SQL packages. WKSYS includes CONNECT, CTXAPP, DBA, JAVASYSPRIV, JAVAUSERPRIV, and RESOURCE database roles	Oracle Ultra Search Online Documentation

[1]   If installing Oracle Internet Directory, then change the passwords for SYS and SYSTEM only after the Oracle Internet Directory installation is complete.

[2]   SQL statement must include the privilege AS SYSDBA or AS SYSOPER.

[3]   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, JAVA_DEPLOY, JAVAIDPRIV, JAVAUSERPRIV, JAVASYSPRIV, OEM_MONITOR, OLAP_ DBA, RECOVERY_CATALOG_OWNER, RESOURCE, SELECT_CATALOG_ROLE, WKADMIN, WKUSER, WM_ADMIN_ROLE

See Also:

■   "Privileges, Roles, and Security Policies" of *Oracle9i Database Concepts*

■   "The Oracle Database Administrator" of *Oracle9i Database Administrator's Guide*

■   "Administering External Users and Roles" of *Oracle9i Network, Directory, and Security Guide for Windows*

Database Identification Overview

The Oracle9*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. You create a global database name when prompted in the Oracle Universal Installer Database Identification window during Oracle9*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 eight characters that can contain alpha, numeric, and additional characters. The database name is 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 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).

The system identifier (SID) identifies a specific Oracle9*i* instance that references the database. The SID uniquely distinguishes a database instance from any other database instance on the same computer. Multiple Oracle homes enable you to have multiple, active Oracle databases on a single computer. Each database requires a unique global database name, and each database instance on the same computer requires a unique SID.

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.

Oracle9*i* Services on Windows Overview

Two main Oracle services are automatically started after installation:

- `OracleServiceSID` (the Oracle9*i* Database service)

- `OracleHOME_NAMETNSListener` (the Oracle9*i* Database listener service)

If you installed Oracle Enterprise Manager components, additional services automatically start:

- `OracleHOME_NAMEAgent`

- `OracleHOME_NAMEManagementServer`

- `OracleHOME_NAMEHTTPServer`

However, other services for networking or other individual components may not automatically start.

> **See Also:**
>
> - "Individual Component Postinstallation Configuration Tasks" on page 6-5
>
> - "Oracle9*i* Services on Windows" of *Oracle9i Database Getting Starting for Windows* for a complete list of services and instructions on starting Oracle services in the Windows NT Control Panel.

Tablespaces and Datafiles Overview

An Oracle9*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.

Table 5–3 list the tablespaces and datafiles in the Oracle9*i* Database. Datafiles are located in the *ORACLE_BASE*\oradata*DB_NAME* directory.

> **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.

Table 5–3 Tablespaces and Datafiles

Tablespace	Datafile	Contains...
CWMLITE	CWMLITE.DBF	OLAP tablespace
DRSYS	drsys01.dbf	Oracle Text-related Schema objects.
EXAMPLE	EXAMPLE01.DBF	Sample Schema
INDX	indx01.dbf	Indexes associated with the data in the USERS tablespace.
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 the constructs GROUP BY, ORDER BY, or DISTINCT.
TOOLS	tools01.dbf	Nothing. This datafile is created for use if the user wants to install any third-party or Oracle tools/components.
SYSTEM	system01.dbf	The data dictionary, including definitions of tables, views, and stored procedures needed by the Oracle9*i* Database. Information in this area is maintained automatically. The SYSTEM tablespace is present in all Oracle databases.

Table 5–3   Tablespaces and Datafiles

Tablespace	Datafile	Contains...
UNDOTBS	UNDOTBS01.DBF	A dedicated tablespaces that stores only undo information when the database is run in **automatic undo management mode**. An **undo tablespace** contains one or more undo segments. Undo segments maintain transaction history that is used to roll back, or undo, changes to the database. All starter databases are configured to run in automatic undo management mode.
USERS	users01.dbf	Your application data. As you create and enter data into tables, you fill this space with your data.

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:

- "Tablespaces, Datafiles, and Control Files" of *Oracle9i Database Concepts*

- "Managing Tablespaces" and "Managing Datafiles" of *Oracle9i Database Administrator's Guide*

- "Managing Undo Space" of *Oracle9i Database Administrator's Guide*

Initialization Parameter File Overview

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:

- "Oracle9*i* Database Specifications for Windows NT" of *Oracle9i Database Administrator's Guide for Windows* for a list of Oracle9*i* Database-specific initialization parameters for Windows NT and their default values

- *Oracle9i Database Reference* for more information on initialization parameters

Redo Log Files Overview

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	File Size	Description
redo01.log	100 MB	A redo log can be either an online redo log or an archived redo log. The online redo log is a set of two or more redo log groups that records all changes made to Oracle datafiles and control files. An archived redo log is a copy of an online redo log that has been copied to an offline destination. If the database is in ARCHIVELOG mode and automatic archiving is enabled, then the archive process or processes copy each online redo log to one or more archive log destinations after it is filled.
redo02.log	100 MB	
redo03.log	100 MB	

See Also:

- *Oracle9i User-Managed Backup and Recovery Guide*

- "Managing the Online Redo Log" of *Oracle9i Database Administrator's Guide*

Control Files Overview

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: "Managing Control Files" of *Oracle9i Database Administrator's Guide* for information on setting this initialization parameter value

Rollback Segments Overview

Oracle9*i* databases are capable of managing their own undo (rollback) segments. Administrators no longer need to carefully plan and tune the number and sizes of rollback segments or decide how to strategically assign transactions to a particular rollback segment. Oracle9*i* also allows administrators to allocate their undo space in a single undo tablespace with the database taking care of issues such as undo block contention, consistent read retention, and space utilization.

See Also:

- *Oracle9i Database Administrator's Guide*

- *Oracle9i User-Managed Backup and Recovery Guide*

Data Dictionary Overview

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:

  - "The Data Dictionary" of *Oracle9i Database Concepts*

  - "Static Data Dictionary Views" of *Oracle9i Database Reference*

6

Postinstallation Configuration Tasks

This chapter identifies postinstallation configuration tasks. Where appropriate, this chapter references other guides for procedures on performing these configuration tasks.

This chapter contains these topics:

- About NTFS File System and Windows NT Registry Permissions
- Validating Invalid PL/SQL Modules With the utlrp.sql Script
- Individual Component Postinstallation Configuration Tasks

About NTFS File System and Windows NT Registry Permissions

Oracle Corporation recommends that you configure Oracle9*i* database files, directories, and registry settings to allow only authorized database administrators (DBAs) to have full control. These topics describe how to perform these tasks:

■   Setting NTFS File System Security

■   Setting Windows NT Registry Security

> **See Also:**   Your Windows NT documentation for more information about modifying NTFS file system and Windows NT registry settings

Setting NTFS File System Security

The Oracle9*i* database uses files to store database data, backup data, log information, and so on. To do this, the Oracle9*i* database process runs under a security account. This security account (the Windows NT LocalSystem account called SYSTEM) includes the ability to create and access these files. The security account is assigned to the service that the Oracle9*i* database uses (in the Control Panel). This account requires full file system permissions to create, read, write, delete, and execute files.

To ensure that only authorized users have full file system permissions:

1.   Go into Windows NT Explorer.

2.   Right-click Oracle9*i* database files (in the *ORACLE_BASE*\oradata*DB_NAME* directory), executables and dynamic link libraries (in the *ORACLE_ BASE**ORACLE_HOME*\bin directory), and directories.

3.   Select Properties from the menu that appears.

4. Adjust the file and directory permissions to ensure that:

   ■ *Only* the security account that the Oracle9*i* Database is configured to use has full control permissions to these files

   ■ User accounts that must run Oracle applications (for example, SQL*Plus and Pro*C) have read privileges on their executables (for example, `sqlplus.exe` for SQL*Plus)

Note: The Oracle9*i* Database uses the Windows NT LocalSystem built-in security account. Therefore, file permissions must be granted to the `SYSTEM` account of the local computer running the Oracle9*i* Database.

Setting Windows NT Registry Security

Oracle Corporation recommends that you remove write permissions from users who are *not* Oracle9*i* DBAs or system administrators in `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE` of the Windows NT registry.

To remove write permissions:

1. Open the registry.

2. Go to `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE`.

3. Select Permissions from the Security main menu.

   The Registry Key Permissions dialog box appears.

4. Remove write permissions from any users who are not Oracle9*i* DBAs or system administrators. Note that the `SYSTEM` account must have Full Control, since this is the account with which the Oracle9*i* Database runs.

5. Ensure that user accounts that must run Oracle applications have read privileges.

6. Choose OK.

7. Exit the registry.

Validating Invalid PL/SQL Modules With the utlrp.sql Script

When the Oracle9*i* Database is created through the Enterprise Edition, Standard Edition, or Personal Edition installation type, the `utlrp.sql` script is automatically run. However, when an Oracle9*i* Database is created through the Custom installation type, this script is not automatically run. 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:

   ```
   C:\> 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 you changed it after installation.

3. Start the database (if necessary):

   ```
   SQL> STARTUP
   ```

4. Run the `utlrp.sql` script:

   ```
   SQL> @ORACLE_BASE\ORACLE_HOME\rdbms\admin\utlrp.sql
   ```

Individual Component Postinstallation Configuration Tasks

Some individual components require postinstallation configuration tasks. Table 6–1 lists configuration requirements and the sections or documents referenced for specific configuration procedures. This table does not include postinstallation configuration tasks for Oracle OLAP Services and Oracle Workflow.

> **See Also:**
>
> - "Oracle OLAP Services" on page 6-8
>
> - "Oracle Workflow" on page 6-11

Table 6–1 Individual Component Postinstallation Configuration Tasks

Component	Description	See Also...
Management Pack for Oracle Applications	After installation is complete, you have additional configuration tasks to perform before using the Management Pack for Oracle Applications.	*Getting Started with the Oracle Management Pack for Oracle Applications*
Shared server support	Configuration is dependent on how support was installed. If you installed the Oracle9*i* database through the Enterprise Edition, Standard Edition, or Personal Edition installation types, shared support was *not* configured. If you created your Oracle9*i* database through Oracle Database Configuration Assistant, you were offered a choice of shared or dedicated server support.	■ "Postinstallation Configuration Tasks" of *Oracle9i Database Administrator's Guide for Windows* ■ Chapter 3, "Selecting Database Creation and Oracle Net Services Configuration Methods"
Oracle Net Services network software	Oracle Net Configuration Assistant is a tool that assists you in configuring your Oracle network. If you installed Oracle Net Services, Oracle Net Configuration Assistant automatically guided you through network configuration of client computers and Oracle9*i* Database servers. You can also configure your Oracle network after installation with the Oracle Net Configuration Assistant and Oracle Net Manager tools.	■ *Oracle9i Net Services Administrator's Guide* and the online help available with both tools ■ "Configuring Your Network" on page 3-8 for a discussion of available configuration choices
Oracle Administration Assistant for Windows NT	This tool requires the Microsoft Management Console (the latest version available is recommended) and HTML Help 1.2 or higher to run. Microsoft Management Console is included with Windows 2000, but must be manually installed if you are using Windows NT 4.0.	Microsoft documentation or visit: `http://www.microsoft.com/`

Table 6–1   Individual Component Postinstallation Configuration Tasks (Cont.)

Component	Description	See Also...
Oracle Advanced Security	Authentication, encryption, integrity support, and enterprise user security require configuration.	*Oracle Advanced Security Administrator's Guide*
Oracle Enterprise Manager	There are two situations where postinstallation configuration is required: **Case 1:** If you installed Oracle Management Server through the Oracle9*i* Database installation type and you want to start Oracle Enterprise Manager by logging into that Management Server, then you must start Oracle Enterprise Manager Configuration Assistant after installation to configure the Oracle Management Server to use a repository and to create its service. **Case 2:** If you installed Oracle Management Server and you want to upgrade an existing release 2.*x* repository to a release 1 (9.0.1) repository, then you must start Oracle Enterprise Manager Configuration Assistant to upgrade the repository.	*Oracle Enterprise Manager Configuration Guide*
Oracle HTTP Server	You can start, stop, and verify the status of Oracle HTTP Server; view the default initial static page; and check log files.	*Oracle Enterprise Manager Configuration Guide*
■ Oracle *inter*Media ■ Oracle Spatial	These components are automatically configured when installed during the same installation as the Oracle9*i* Database. If you installed these components during a separate installation from the Oracle9*i* Database or if you manually copied Oracle7 `listener.ora` and `tnsnames.ora` files into your Oracle9*i* network directory, manual configuration tasks need to be performed.	"Postinstallation Configuration Tasks" of *Oracle9i Database Administrator's Guide for Windows* for procedures

Oracle Internet Directory
■ UNIX Emulation Utility
	You must download a UNIX emulation utility for Windows NT to run Oracle Internet Directory's shell script tools on Windows NT (`BULKLOAD.SH`, `BULKDELETE.SH`, `BULKMODIFY.SH`, `CATALOG.SH`, and `LDAPREPL.SH`). Two certified third-party software vendors provide this utility:
	
	■ Cygnus (open source)
	`http://sourceware.cygnus.com/cygwin/`
	■ MKS Toolkit (commercially available)
	`http://www.datafocus.com/products/`
		Oracle Internet Directory Administrator's Guide

Table 6–1   Individual Component Postinstallation Configuration Tasks (Cont.)

Component	Description	See Also...
Oracle Internet Directory (Cont.) ■ Password Encryption	If you are upgrading from Oracle Internet Directory release 2.1.1, you must upgrade the password to support multiple hash schemes.	*Oracle Internet Directory Administrator's Guide*
Oracle Real Application Clusters	Postinstallation configuration procedures must be performed to enable high availability and Oracle Enterprise Manager functionality.	*Oracle9i Real Application Clusters Installation and Configuration*
Oracle Services for Microsoft Transaction Server	For Windows NT installation, if you did not install the Microsoft Management Console (MMC) before installing Oracle9i, then you must manually start the OracleMTSRecoveryService service and change its status to *Automatic*. Perform the following tasks before using Oracle Services for Microsoft Transaction Server: ■ Create the Microsoft Transaction Server administrator account ■ Schedule a database server-level transaction recovery job	"Managing Recovery Scenarios" of *Oracle Developer's Guide for Microsoft Transaction Server*
PL/SQL External Routines	Configuration is dependent on the network configuration files used. In nearly all cases, configuration is automatic. However, if you are using pre-8.0.3 tnsnames.ora and listener.ora files with your 9.0 database, manual configuration is required.	"Developing Applications" of *Oracle9i Database Getting Starting for Windows*
Pro*COBOL	Pro*COBOL supports specific compilers.	"Introducing Pro*COBOL" of *Pro*COBOL Precompiler Getting Started for Windows*
SQL*Plus help file	If you want to use online help with SQL*Plus, you must populate the SQL*Plus tables with help files.	"Installing SQL*Plus Help and Demonstration Tables" of *SQL*Plus Getting Started for Windows*

Oracle OLAP Services

This section contains these topics:

- **OLAP Services Postinstallation Tasks**
- **CORBA Naming Service**
- **Unlocking OLAP Accounts and Changing OLAP Passwords**
- **Memory Requirements for MOLAP**
- **Changes to the Oracle OLAP API**

OLAP Services Postinstallation Tasks

After installing OLAP Services, perform the following additional steps.

> **Note:** *ORACLE_HOME* is the pathname of your Oracle home directory, such as `c:\OraHome90`.

1. Two scripts must be executed for the OLAP metadata to set up materialized views correctly for the OLAP API.

   To execute these scripts:

   a. Unlock the OLAPSYS identity and reset the password.

   b. Open SQL*Plus or SQL*Plus Worksheet from the Windows Program menu.

   c. Log in using the OLAPSYS identity.

   d. Execute these scripts:

   ```
   @oracle_home/cwmlite/admin/onemrv.sql
   @oracle_home/cwmlite/admin/onemrsyn.sql
   ```

2. The OLAP API client batch file must be edited so that the OLAP service name appears in upper-case letters. To edit this file:

   a. Use any text editor to open the batch file:

   `\ORACLE_BASE\ORACLE_HOME\olap\olapi\bin\olapi.bat`

   b. Change the service name from lower- to upper-case letters in three places in the last line of the file, in the `-ServerName`, `-DORBagentAddr`, and `-SessionIIOPService` settings.

   c. Save the file.

3. The SID must be appended to the `SessionIIOPService` configuration settings. To edit the Windows registry where this value is stored:

   a. Open the Windows Run dialog box and start `regedit`.

   b. On the `HKEY_LOCAL_MACHINE` page, expand the folders for `SOFTWARE/ORACLE/OLAP/ExpressServer/OLAPServer`.

   c. Select `OLAPI`.

   d. The registry settings appear in the right pane.

   e. Double-click `SessionIIOPService`.

   f. The Edit string dialog box is displayed.

   g. In the Value data box, add the SID for your OLAP-enabled database to the end of the value.

   h. Choose OK.

CORBA Naming Service

An OLAP service automatically registers with the Oracle CORBA naming service, which is provided with the Oracle database. Java clients that are connecting through the OLAP API should use this naming service to locate the OLAP service.

> **See Also:**
>
> - "Connecting to a Data Store" of *Oracle9i OLAP Services Developer's Guide to the Oracle OLAP API*
>
> - Technical Note Number A92121-01, "Getting the CORBA Stub for an OLAP API Connection" available from `http://www.oracle.com/support/metalink/`

Unlocking OLAP Accounts and Changing OLAP Passwords

Oracle9*i* OLAP Services uses the system-provided Oracle usernames `OLAPSRV` and `OLAPDBA` to connect to the Oracle database. OLAP Services stores these passwords in the Windows registry. If the password for an OLAP system username is changed in the Oracle database before it is changed in the Windows registry, neither the Oracle9*i* OLAP service nor Oracle9*i* OLAP Services Instance Manager can connect to the Oracle database.

Because OLAP Services Instance Manager is used to save the OLAP system passwords to the Windows registry in an encrypted form, you cannot update the system passwords in the Windows registry if you cannot access OLAP Services Instance Manager.

During installation of Oracle9*i*, you are prompted to unlock system-provided database identities (usernames) and reset their passwords. If you reset the password using a password other than the default password, the password in the database and the password in the Windows registry do not match and you cannot access OLAP Services Instance Manager. If you do not reset the password, Oracle expires the password and you cannot access OLAP Services Instance Manager.

To prevent this situation, during installation you should do the following:

1. Unlock the username.

2. Reset the password to the default password as shown in the following table.

Username	Default Password
OLAPSRV	INSTANCE
OLAPDBA	OLAPDBA

After installation is complete, you can change the passwords for the OLAP Services system usernames by first resetting the passwords in OLAP Services Instance Manager and then resetting the password in the database.

Memory Requirements for MOLAP

The `PageBufferCount` configuration parameter has a default setting of `4096`, which is appropriate for ROLAP applications. Instances of OLAP Services that support MOLAP applications require additional memory resources. To support MOLAP, set `PageBufferCount` to `NA` to give OLAP Services access to half of the physical memory. Note that you may need to fine tune this setting to allow sufficient memory for the database to run on the same computer.

> **See Also:** "Tuning" of *Oracle9i OLAP Services Concepts and Administration Guide* for more information

Changes to the Oracle OLAP API

The `CURSOR_MANAGER_DATA_UPDATED` event in the `CursorManagerUpdateEvent` class is not supported in this release.

Oracle Workflow

This section contains these topics:

- Oracle Workflow Postinstallation Tasks
- workflow.log File
- Installing and Configuring Your Web Server for Oracle Workflow

Oracle Workflow Postinstallation Tasks

You must perform a number of configuration procedures, including:

- Editing the `init.ora` parameter file
- Installing and configuring a Web server
- Verifying your base URL
- Setting up the Oracle Workflow Monitor and HTML help

> **See Also:**
> - *Oracle Workflow Server Installation Notes*
> - *Oracle Workflow Client Installation Notes*
> - *Oracle Workflow Guide*

workflow.log File

The `workflow.log` file produced during installation of Oracle Workflow can contain sensitive information. To protect this sensitive information, either delete `workflow.log` or change the permissions for the file so that only authorized administrators can access it.

Installing and Configuring Your Web Server for Oracle Workflow

If you install Oracle9*i* Application Server release 1.0.2.2 as your Web server, specify the settings listed in Table 6–2 when creating a Database Access Descriptor (DAD) for Oracle Workflow.

Table 6–2   Oracle Workflow DAD Settings

Field...	Enter...
Database Access Descriptor Name	*your_Workflow_DAD*
Schema Name	Leave Blank
Oracle User Name	Leave Blank
Oracle Password	Leave Blank
Oracle Connect String	*connect_string*
Authentication Mode	Basic
Session Cookie Name	Leave Blank
Package/Session Management Type	Stateless (Reset Package State)
Enable Connection Pooling?	Yes
Default (Home) Page	wfa_html.home

Attention: Be sure you leave the Oracle User Name and Oracle Password blank to enable mod_plsql database authentication.

You can also leave any remaining settings blank.

A

Individual Components Available for Installation

This appendix identifies higher-level components available with each installation type. The Custom installation type is not listed for any of the above three top-level components since it enables installation of all components in the current category.

Specific topics discussed are:

- Oracle9i Database Components
- Oracle9i Client Components
- Oracle9i Management and Integration Components
- Component Descriptions

> **Note:** 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.

> **See Also:** "Reviewing the Installation Session Log" on page 4-37 for information about a log file of all components and features installed (including lower-level components such as Required Support Files or Common Files)

Oracle9*i* Database Components

Table A–1 alphabetically lists the components available with each installation type of the Oracle9*i* Database top-level component.

Table A–1   Oracle9i Database Components

Component	Oracle9*i* Database		
	Enterprise Edition	Standard Edition	Personal Edition
Advanced Queueing	Yes	Yes	Yes
Advanced Replication[1]	Yes[2]	Yes	Yes
Generic Connectivity	Yes	Yes	Yes
Object Type Translator, includes:	Yes	Yes	Yes
■ Oracle INTYPE File Assistant	Yes	Yes	Yes
Oracle Administration Assistant for Windows NT	Yes	Yes	Yes
Oracle Advanced Security, includes:	Yes	No	Yes
■ Authentication Support, includes:	Yes	No	Yes
■ DCE (with SSO support)	Yes	No	Yes
■ Entrust	Yes	No	Yes
■ Kerberos (with SSO support)	Yes	No	Yes
■ RADIUS (for Smart Cards, Token Cards, and Biometrics)	Yes	No	Yes
■ Secure Socket Layer (with X.509 version 3 and SSO support)	Yes	Yes	Yes
■ Encryption and Integrity Support, includes:	Yes	No	Yes
■ DES40 Encryption	Yes	No	Yes
■ DES56 Encryption	Yes	No	Yes
■ 3DES_112 Encryption (2-key option)	Yes	No	Yes
■ 3DES_168 Integrity (3-key option)	Yes	No	Yes
■ MD5 Integrity	Yes	No	Yes
■ RC4_40 Encryption	Yes	No	Yes
■ RC4_56 Encryption	Yes	No	Yes
■ RC4_128 Encryption	Yes	No	Yes

Table A–1   Oracle9i Database Components (Cont.)

Component	Oracle9*i* Database		
	Enterprise Edition	Standard Edition	Personal Edition
■ RC4_256 Encryption	Yes	No	Yes
■ SHA-1 Integrity	Yes	No	Yes
■ Enterprise User Security, includes:	Yes	No	Yes
■ Oracle Enterprise Login Assistant	Yes	No	Yes
■ Oracle Enterprise Security Manager (available as an Oracle Enterprise Manager Integrated Application)	Yes	No	Yes
■ Oracle Wallet Manager	Yes	No	Yes
Note: Oracle Enterprise Login Assistant, Oracle Enterprise Security Manager, and Oracle Wallet Manager are features of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.			
■ Thin JDBC Java-based Encryption Support, includes:	Yes	No	Yes
■ DES40 Encryption	Yes	No	Yes
■ DES56 Encryption	Yes	No	Yes
■ MD5 Integrity	Yes	No	Yes
■ RC4_40 Encryption	Yes	No	Yes
■ RC4_56 Encryption	Yes	No	Yes
■ RC4_128 Encryption	Yes	No	Yes
■ RC4_256 Encryption	Yes	No	Yes
■ SHA-1 Integrity	Yes	No	Yes
Oracle Call Interface	Yes	Yes	Yes
Oracle COM Automation Feature	Yes	No	Yes
Oracle Connection Manager	No	No	No
Oracle Data Migration Assistant	Yes	Yes	Yes
Oracle Database Configuration Assistant	Yes	Yes	Yes
Oracle Dynamic Services	Yes	Yes	Yes

Table A–1   Oracle9i Database Components (Cont.)

| Component | Oracle9*i* Database | | |
	Enterprise Edition	Standard Edition	Personal Edition
Oracle Enterprise JavaBeans and CORBA Tools	Yes	Yes	Yes
Oracle Enterprise Manager, includes:	Yes	Yes	Yes
■ Oracle Enterprise Manager Client, includes:	Yes	Yes	Yes
■ Oracle Enterprise Manager Console	Yes	Yes	Yes
■ Oracle Enterprise Manager Integrated Applications, includes:	Yes	Yes	Yes
Oracle Data Guard Manager	Yes	Yes	Yes
Oracle Directory Manager	Yes	Yes	Yes
Oracle Enterprise Security Manager **Note:** Licensed through the Oracle Advanced Security.	Yes	Yes	Yes
Oracle Forms Server Manager	Yes	Yes	Yes
Oracle LogMiner Viewer	Yes	Yes	Yes
Oracle Net Manager	Yes	Yes	Yes
OLAP Services Instance Manager	Yes	Yes	Yes
Oracle Policy Manager	Yes	Yes	Yes
Oracle Spatial Index Advisor	Yes	Yes	Yes
Oracle Text Manager	Yes	Yes	Yes
SQL*Plus Worksheet	Yes	Yes	Yes
■ Oracle Enterprise Manager Management Packs, include:	Yes	No	No
Oracle Change Management Pack	Yes	No	No
Oracle Diagnostics Pack	Yes	No	No
Oracle Management Pack for Oracle Applications	Yes	No	No
Oracle Standard Management Pack	No	Yes	No
Oracle Tuning Pack	Yes	No	No
■ Oracle Enterprise Manager Paging Server	Yes	Yes	Yes
■ Oracle Enterprise Manager Quick Tours	Yes	No	Yes
■ Oracle Enterprise Manager Web Site[3]	Yes	Yes	Yes

Table A–1   Oracle9i Database Components (Cont.)

Component	Oracle9*i* Database		
	Enterprise Edition	Standard Edition	Personal Edition
■ Oracle Intelligent Agent (includes data collection services)[4]	Yes	Yes	Yes
■ Oracle Management Server[5], includes:	Yes	Yes	Yes
■ Oracle Enterprise Manager Configuration Assistant	Yes	Yes	Yes
Oracle HTTP Server *powered by Apache*, includes:	Yes	Yes	Yes
■ Apache Configuration for Oracle Java Server Pages	Yes	Yes	Yes
■ Apache Configuration for Oracle XML Developer's Kit	Yes	Yes	Yes
■ Apache JServ, includes:	Yes	Yes	Yes
■ JSDK	Yes	Yes	Yes
■ Sun JDK	Yes	Yes	Yes
■ Apache Module for Oracle Servlet Engine	Yes	Yes	Yes
■ Apache Web Server Files	Yes	Yes	Yes
■ Business Components for Java (BC4J) Runtime	Yes	Yes	Yes
■ Oracle Mod PL/SQL Gateway	Yes	Yes	Yes
■ Oracle Perl Interpreter	Yes	Yes	Yes
Oracle *inter*Media, includes:	Yes	Yes	Yes
■ Oracle *inter*Media Annotator	Yes	Yes	Yes
■ Oracle *inter*Media Audio	Yes	Yes	Yes
■ Oracle *inter*Media Client Option	Yes	Yes	Yes
■ Oracle *inter*Media Image	Yes	Yes	Yes
■ Oracle *inter*Media Locator	Yes	Yes	Yes
■ Oracle *inter*Media Video	Yes	Yes	Yes
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

Table A–1   Oracle9i Database Components (Cont.)

| | Oracle9i Database | | |
Component	Enterprise Edition	Standard Edition	Personal Edition
■ Oracle JDBC/OCI Driver for JDK 1.1	Yes	Yes	Yes
■ Oracle JDBC/OCI Driver for JDK 1.2	Yes	Yes	Yes
Oracle Migration Workbench	No	No	No
Oracle Label Security	No	No	No
Oracle Names	No	No	No
Oracle Objects for OLE	Yes	Yes	Yes
Oracle ODBC Driver	Yes	Yes	Yes
Oracle OLAP Services	Yes	No	No
Oracle Net Services, includes:	Yes	Yes	Yes
■ Oracle Net Configuration Assistant	Yes	Yes	Yes
■ Oracle Net Manager	Yes	Yes	Yes
■ Oracle Net Listener	Yes	Yes	Yes
■ Oracle Net Protocol Support[6]	Yes	Yes	Yes
Oracle Partitioning	Yes	No	Yes
Oracle Performance Monitor for Windows NT	No	No	No
Oracle Provider for OLE DB	Yes	Yes	Yes
Oracle Remote Configuration Agent	Yes	Yes	Yes
Oracle Services for Microsoft Transaction Server	No	No	No
Oracle SNMP Agent	Yes	Yes	Yes
Oracle Spatial	Yes	No	Yes
Oracle SQLJ, includes:	Yes	Yes	Yes
■ SQLJ Runtime	Yes	Yes	Yes
■ SQLJ Translator	Yes	Yes	Yes
Oracle Syndication Server	Yes	Yes	Yes
Oracle Text	Yes	Yes	Yes

Table A–1   Oracle9i Database Components (Cont.)

Component	Oracle9i Database		
	Enterprise Edition	Standard Edition	Personal Edition
Oracle Trace	Yes	Yes	Yes
Oracle Universal Installer, includes:	Yes	Yes	Yes
■ Oracle's version of Java Runtime Environment	Yes	Yes	Yes
■ Oracle Home Selector	Yes	Yes	Yes
Oracle Utilities, includes:	Yes	Yes	Yes
■ Character Set Migration Utility	Yes	Yes	Yes
■ Database Verify Utility	Yes	Yes	Yes
■ Export	Yes	Yes	Yes
■ Import	Yes	Yes	Yes
■ Migration Utility	Yes	Yes	Yes
■ Recovery Manager	Yes	Yes	Yes
■ SQL*Loader	Yes	Yes	Yes
Oracle Ultra Search Middle Tier	Yes	Yes	Yes
Oracle Ultra Search Server	Yes	Yes	Yes
Oracle Workspace Manager	Yes	Yes	Yes
Oracle XML Developer's Kit	Yes	Yes	Yes
Oracle XML SQL Utility	Yes	Yes	Yes
Oracle9i JVM, includes:	Yes	Yes	Yes
■ Java Virtual Machine	Yes	Yes	Yes
■ Oracle9i JVM Accelerator	Yes	Yes	Yes
■ Oracle Servlet Engine	Yes	Yes	Yes
Oracle9i Real Application Clusters[7]	Yes	No	No
Oracle9i Server (the Oracle9i Database), includes:	Yes	Yes	Yes
■ Oracle Database Demos	Yes	Yes	Yes
■ PL/SQL	Yes	Yes	Yes

Table A–1   Oracle9i Database Components (Cont.)

Component	Oracle9i Database		
	Enterprise Edition	Standard Edition	Personal Edition
▪ PL/SQL Embedded Gateway	Yes	Yes	Yes
Oracle9i Windows Documentation (release documentation, such as installation guide and release notes)	Yes	Yes	Yes
Pro*C/C++	Yes	No	Yes
Pro*COBOL 9.0.1	Yes	No	Yes
Pro*COBOL 1.8.76	Yes	No	Yes
Replication Management API	Yes	Yes	Yes
Sample Schema Demos	Yes	Yes	Yes
SQL*Plus	Yes	Yes	Yes

[1]   Updatable materialized views can be created in any edition of the database.

[2]   Multimaster replication is only available in the Enterprise Edition.

[3]   Oracle Enterprise Manager Web Site includes a preconfigured Oracle HTTP Server as the Web listener for browser-based Oracle Enterprise Manager.

[4]   Oracle Intelligent Agent is only available on Windows NT and 2000 for Oracle9i Personal Edition. Oracle Intelligent Agent is not supported and its functionality is not available on Windows 98 databases of Oracle9i Personal Edition.

[5]   Oracle Management Server includes a preconfigured Oracle HTTP Server as the Web listener for the central Enterprise Manager Reporting Web site.

[6]   When Oracle Net Services is installed through the Oracle9i Database installation type, Oracle Protocol Support is automatically installed for the networking protocols detected.

[7]   Oracle Real Application Clusters is only installed if a cluster is detected.

See Also: "Component Descriptions" on page A-20 for descriptions and release numbers of these components

Oracle9*i* Client Components

Table A–2 alphabetically lists the components available with each installation type of the Oracle9*i* Client top-level component.

Table A–2   Oracle9i Client Components

Component	Oracle9*i* Client	
	Administrator	Runtime
Advanced Queueing API	Yes	Yes
Object Type Translator, includes:	Yes	No
■ Oracle INTYPE File Assistant	Yes	No
Oracle Advanced Security, includes:	Yes	Yes
■ Authentication Support, includes:	Yes	Yes
■ CyberSafe (with SSO support)	No	No
■ DCE (with SSO support)	No	No
■ Entrust	No	No
■ Kerberos (with SSO support)	No	No
■ RADIUS (for Smart Cards, Token Cards, and Biometrics)	No	No
■ Secure Socket Layer (with X.509 version 3 and SSO support)	Yes	Yes
■ Encryption and Integrity Support, includes:	Yes	Yes
■ 3DES_112 Encryption (2-key option)	Yes	Yes
■ 3DES_168 Integrity (3-key option)	Yes	Yes
■ DES40 Encryption	Yes	Yes
■ DES56 Encryption	Yes	Yes
■ MD5 Integrity	Yes	Yes
■ RC4_40 Encryption	Yes	Yes
■ RC4_56 Encryption	Yes	Yes
■ RC4_128 Encryption	Yes	Yes
■ RC4_256 Encryption	Yes	Yes
■ SHA-1 Integrity	Yes	Yes

Table A–2 Oracle9i Client Components (Cont.)

	Oracle9i Client	
Component	**Administrator**	**Runtime**
▪ Enterprise User Security, includes:	Yes	Yes
▪ Oracle Enterprise Login Assistant[1]	Yes	Yes
▪ Oracle Enterprise Security Manager[1] (available as an Oracle Enterprise Manager Integrated Application)	Yes	No
▪ Oracle Wallet Manager[1]	Yes	Yes
▪ Thin JDBC Java-based Encryption Support, includes:	Yes	Yes
▪ DES40 Encryption	Yes	Yes
▪ DES56 Encryption	Yes	Yes
▪ MD5 Integrity	Yes	Yes
▪ RC4_40 Encryption	Yes	Yes
▪ RC4_56 Encryption	Yes	Yes
▪ RC4_128 Encryption	Yes	Yes
▪ RC4_256 Encryption	Yes	Yes
▪ SHA-1 Integrity	Yes	Yes
Oracle Call Interface	Yes	No
Oracle Dynamic Services Server	Yes	Yes
Oracle Enterprise JavaBeans and CORBA Tools	Yes	Yes
Oracle Enterprise Manager, includes:	Yes	No
▪ Oracle Enterprise Manager Client, includes:	Yes	No
▪ Oracle Enterprise Manager Console	Yes	No
▪ Oracle Enterprise Manager Integrated Applications, includes:	Yes	No
Oracle Data Guard Manager	Yes	No
Oracle Directory Manager	Yes	No
Oracle Enterprise Security Manager **Note:** Licensed through Oracle Advanced Security.	Yes	No
Oracle Forms Server Manager	Yes	No

Table A–2   Oracle9i Client Components (Cont.)

	Oracle9*i* Client	
Component	Administrator	Runtime
Oracle LogMiner Viewer	Yes	No
Oracle Net Manager	Yes	No
Oracle Policy Manager	Yes	No
OLAP Services Instance Manager	Yes	No
Oracle Spatial Index Advisor	Yes	No
Oracle Text Manager	Yes	No
SQL*Plus Worksheet	Yes	No
■ Oracle Enterprise Manager Management Packs, include:	Yes	No
■ Oracle Change Management Pack	Yes	No
■ Oracle Diagnostics Pack	Yes	No
■ Oracle Management Pack for Oracle Applications	Yes	No
■ Oracle Standard Management Pack	No	No
■ Oracle Tuning Pack	Yes	No
Oracle HTTP Server[2]	No	No
Oracle *inter*Media Annotator	Yes	Yes
Oracle *inter*Media Client Option	Yes	Yes
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
Oracle Migration Workbench	No	No
Oracle Net Services, includes:	Yes	Yes
■ Oracle Net Configuration Assistant	Yes	Yes
■ Oracle Net Manager	Yes	Yes

Table A–2 Oracle9i Client Components (Cont.)

Component	Oracle9i Client	
	Administrator	Runtime
▪ Oracle Net Protocol Support	Yes	Yes
Oracle Objects for OLE	Yes	No
Oracle ODBC Driver	Yes	No
Oracle Provider for OLE DB	Yes	No
Oracle Services for Microsoft Transaction Server	No	No
Oracle SQLJ, includes:	Yes	Yes
▪ SQLJ Runtime	Yes	Yes
▪ SQLJ Translator	Yes	Yes
Oracle Syndication Server	Yes	Yes
Oracle Ultra Search Middle Tier	Yes	No
Oracle Universal Installer, includes:	Yes	Yes
▪ Oracle's version of Java Runtime Environment	Yes	Yes
▪ Oracle Home Selector	Yes	Yes
Oracle Utilities, includes:	Yes	Yes
▪ Character Set Migration Utility	Yes	Yes
▪ Export	Yes	Yes
▪ Import	Yes	Yes
▪ Recovery Manager	Yes	Yes
▪ SQL*Loader	Yes	Yes
Oracle Workflow Builder	No	No
Oracle Workflow Mailer	No	No
Oracle XML Developer's Kit	Yes	No
Oracle XML SQL Utility	Yes	No
Oracle9i Windows Documentation (release documentation, such as installation guide and release notes)	Yes	Yes
PL/SQL	Yes	Yes

Table A–2   Oracle9i Client Components (Cont.)

	Oracle9*i* Client	
Component	**Administrator**	**Runtime**
Pro*C/C++	Yes	No
Pro*COBOL 9.0.1	Yes	No
Pro*COBOL 1.8.76	Yes	No
Replication Management API	Yes	Yes
SQL*Plus	Yes	Yes

[1]   Oracle Enterprise Login Assistant, Oracle Enterprise Security Manager, and Oracle Wallet Manager are features of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.

[2]   See "Oracle HTTP Server powered by Apache, includes:" on page A-5 for a list of subcomponents installed with Oracle HTTP Server.

> **See Also:**   "Component Descriptions" on page A-20 for descriptions and release numbers of these components

Oracle9*i* Management and Integration Components

Table A–3 alphabetically lists the components available with each installation type of the Oracle9i Management and Integration top-level component.

> **Note:** This table lists *all* the components that are installed with the Oracle Internet Directory and Oracle Integration Server installation types if an Oracle9*i* Database is not currently installed.

Table A–3   Oracle9i Management and Integration Components

| Component | Oracle9*i* Management and Integration | | |
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Advanced Queueing API	Yes	Yes	Yes
Advanced Replication Management API	No	Yes	Yes
Generic Connectivity	No	Yes	Yes
Object Type Translator, includes:	No	Yes	Yes
▪ Oracle INTYPE File Assistant	No	Yes	Yes
Oracle Advanced Security, includes:	Yes	Yes	Yes
▪ Oracle Enterprise Login Assistant[1]	Yes	Yes	No
▪ Oracle Enterprise Security Manager[1] (available as an Oracle Enterprise Manager Integrated Application)	Yes	No	No
▪ Secure Socket Layer (with X.509 version 3 and SSO support)	Yes	Yes	Yes
▪ Oracle Wallet Manager[1]	Yes	Yes	Yes
Oracle Call Interface	No	Yes	Yes
Oracle Connection Manager	No	No	No
Oracle Data Migration Assistant	No	Yes	Yes
Oracle Database Configuration Assistant	No	Yes	Yes
Oracle Dynamic Services Server	No	Yes	Yes
Oracle Enterprise JavaBeans and CORBA Tools	No	Yes	Yes

Table A–3 Oracle9i Management and Integration Components (Cont.)

Component	Oracle9i Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Oracle Enterprise Manager, includes:	Yes	No	No
■ Oracle Enterprise Manager Client, includes:	Yes	No	No
■ Oracle Enterprise Manager Console	Yes	No	No
■ Oracle Enterprise Manager Integrated Applications, includes:	Yes	No	No
OLAP Services Instance Manager	Yes	No	No
Oracle Data Guard Manager	Yes	No	No
Oracle Directory Manager	Yes	Yes	No
Oracle Enterprise Security Manager	Yes	No	No
Note: Licensed through Oracle Advanced Security.			
Oracle Forms Server Manager	Yes	No	No
Oracle LogMiner Viewer	Yes	No	No
Oracle Net Manager	Yes	No	No
Oracle Policy Manager	Yes	No	No
Oracle Spatial Index Advisor	Yes	No	No
Oracle Text Manager	Yes	No	No
SQL*Plus Worksheet	Yes	No	No
■ Oracle Enterprise Manager Management Packs, include:	Yes	No	No
■ Oracle Change Management Pack	Yes	No	No
■ Oracle Diagnostics Pack	Yes	No	No
■ Oracle Management Pack for Oracle Applications	Yes	No	No
■ Oracle Standard Management Pack	No	No	No
■ Oracle Tuning Pack	Yes	No	No
■ Oracle Enterprise Manager Paging Server	Yes	No	No
■ Oracle Enterprise Manager Quick Tours	Yes	No	No

Table A–3   Oracle9i Management and Integration Components (Cont.)

Component	Oracle9*i* Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
■ Oracle Management Server, includes:[2]	Yes	No	No
■ Oracle Enterprise Manager Configuration Assistant	Yes	No	No
■ Oracle Enterprise Manager Web Site[2]	Yes	No	No
■ Oracle Intelligent Agent	Yes	Yes	Yes
Oracle HTTP Server[3]	Yes	Yes	Yes
Oracle *inter*Media Annotator	Yes	Yes	Yes
Oracle *inter*Media, includes:	Yes	Yes	Yes
■ *inter*Media Audio	Yes	Yes	Yes
■ *inter*Media Image	Yes	Yes	Yes
■ *inter*Media Locator	Yes	Yes	Yes
■ *inter*Media Video	Yes	Yes	Yes
Oracle *inter*Media Client Option	No	Yes	Yes
Oracle Internet Directory Client	Yes	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
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	Yes
Oracle Names	No	No	No
Oracle Net Services, includes:	Yes	Yes	Yes
■ Oracle Net Configuration Assistant	Yes	Yes	Yes
■ Oracle Net Listener	Yes	Yes	Yes

Table A–3   Oracle9i Management and Integration Components (Cont.)

| Component | Oracle9*i* Management and Integration | | |
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
▪ Oracle Net Manager	Yes	Yes	Yes
▪ Oracle Net Protocol Support	No	No	Yes
Oracle Objects for OLE	No	No	Yes
Oracle ODBC Driver	No	No	No
Oracle Partitioning	No	No	Yes
Oracle Provider for OLE DB	No	No	Yes
Oracle Remote Configuration Agent	No	Yes	Yes
Oracle SNMP Agent	Yes	No	Yes
Oracle SQLJ, includes:	Yes	No	No
▪ SQLJ Runtime	Yes	Yes	Yes
▪ SQLJ Translator	No	No	No
Oracle Syndication Server	No	Yes	Yes
Oracle Text	Yes	No	Yes
Oracle Trace	No	Yes	Yes
Oracle Ultra Search Middle Tier	No	Yes	Yes
Oracle Ultra Search Server	No	Yes	Yes
Oracle Universal Installer, includes:	Yes	Yes	Yes
▪ Oracle's version of Java Runtime Environment	Yes	Yes	Yes
▪ Oracle Home Selector	Yes	Yes	Yes
Oracle Utilities, includes:	No	Yes	Yes
▪ Character Set Migration Utility	No	Yes	Yes
▪ Database Verify Utility	No	Yes	Yes
▪ Export	Yes	Yes	Yes
▪ Import	Yes	Yes	Yes

Table A–3   Oracle9i Management and Integration Components (Cont.)

Component	Oracle9i Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
▪ Migration Utility	No	Yes	Yes
▪ Recovery Manager	Yes	Yes	Yes
▪ SQL*Loader	Yes	Yes	Yes
Oracle Workflow	No	No	Yes
Oracle Workspace Manager	No	Yes	No
Oracle XML Developer's Kit[4]	Yes	Yes	Yes
Oracle XML SQL Utility	Yes	Yes	Yes
Oracle9i JVM, includes:	No	Yes	Yes
▪ Enterprise JavaBeans and CORBA Tools	No	Yes	Yes
▪ Java Virtual Machine	No	Yes	Yes
▪ Oracle9i JVM Accelerator	No	Yes	Yes
▪ Oracle Java Tools	No	Yes	Yes
▪ Oracle Servlet Engine	No	Yes	Yes
Oracle9i Server (the Oracle9i Database), includes:	No	Yes	Yes
▪ Oracle Database Demos	No	Yes	Yes
▪ PL/SQL	No	Yes	Yes
▪ PL/SQL Embedded Gateway	No	Yes	Yes

Table A–3   Oracle9i Management and Integration Components (Cont.)

Component	Oracle9*i* Management and Integration		
	Oracle Management Server	Oracle Internet Directory	Oracle Integration Server
Oracle9*i* Windows Documentation (release documentation, such as installation guide and release notes)	Yes	Yes	Yes
Pro*C/C++	No	No	No
Pro*COBOL 1.8.76	No	No	No
Replication Management API	No	Yes	Yes
SQL*Plus	Yes	Yes	Yes

[1]   Oracle Enterprise Login Assistant, Oracle Wallet Manager, and Oracle Enterprise Security Manager are features of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.

[2]   Oracle Management Server includes a preconfigured Oracle HTTP Server as a Web listener for the central Enterprise Manager Reporting Web Site and for browser-based Enterprise Manager.

[3]   See "Oracle HTTP Server powered by Apache, includes:" on page A-5 for a list of subcomponents installed with Oracle HTTP Server.

[4]   A subset of the Oracle XML Developer's Kit is installed with Oracle Internet Directory. See the installation log in the *SYSTEM_DRIVE*:\Program Files\Oracle\Inventory\logs directory for a specific list.

Component Descriptions

Table A–4 provides descriptions and release numbers of individual components available for installation with the three top-level components. References are made to documentation that more fully describes these components. Some components described below are automatically installed with other components.

> **Note:** Components that require a separate license are identified in their descriptions in this appendix.

Table A–4   Component Descriptions

Component	Release	Description	See Also...
Advanced Queueing	9.0.1	A component that provides the functionality to support the Advanced Queueing application programming interface (API).	*Oracle9i Application Developer's Guide - Advanced Queuing*
Advanced Replication	9.0.1	A component that provides the functionality to support the Advanced Replication Management API. The API is a tool that enables you to build customized scripts for replication administration.	■ *Oracle9i Replication* ■ *Oracle9i Replication Management API Reference*
Assistant Common Files (installed with Oracle assistants, such as Oracle Database Configuration Assistant and Oracle Net Configuration Assistant)	9.0.1	A collection of automatically installed files required by Oracle assistants. These files include: ■ BaliShare 1.1.9 (compressed) ■ DBUI 2.1.2 ■ EWT 3.3.18 (compressed) ■ EWTCompat 3.3.15 ■ ICE Browser 5.06.3 (compressed) ■ Java Swing Components 1.1.1 (compressed) ■ JEWT 4.1.7 ■ JLE 1.0.6 ■ Kodiak 1.2.1 ■ Oracle Help for Java 3.2.9 - JEWT (compressed)	Not applicable
Enterprise JavaBeans	9.0.1	An architecture for developing transactional applications as distributed components in Java	*Oracle9i Enterprise JavaBeans Developer's Guide and Reference*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Generic Connectivity	9.0.1	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 database server by extending the Oracle SQL engine to optimize and rewrite SQL for non-Oracle data stores.	*Oracle9i Heterogeneous Connectivity Administrator's Guide*
Java Runtime Environment (Oracle's version)	1.1.8	Required for running Java applications, such as Oracle Universal Installer.	Not applicable
Java Virtual Machine (part of Oracle9*i* JVM)	9.0.1	A complete JDK 1.2-compliant Java execution environment. The Java VM runs in the same process space and address space as the database server, sharing its memory heaps and directly accessing its relational data. This design optimizes memory use, increases throughput, and delivers an open, highly available, secure, and manageable Java server.	*Oracle9i Java Developer's Guide*
LSM Administrator GUI	5.7	A client tool for administering the Legato Storage Manager (LSM) server from a separate Windows NT computer.	■ Appendix F, "Installing and Removing Legato Components" ■ *Legato Storage Manager Administrator's Guide*
Legato Storage Manager (LSM) server	5.7	If you are using Recovery Manager (RMAN) for database backups, a media management component such as LSM server is required for backing up and restoring from tape. You can choose to install the media management component on the first component CD-ROM, which is LSM server, or use a third-party media management component that also complies with Oracle's Backup Solutions Program. LSM server also includes a scaled-down version of Legato NetWorker. For more information on this component, call toll free (1) 888-8-LEGATO in the United States of America.	■ Appendix F, "Installing and Removing Legato Components" ■ *Legato Storage Manager Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
LogMiner Viewer (an Oracle Enterprise Manager Integrated Application)	9.0.1	A tool that enables you to query redo log files to help analyze past database modification activity.	■ *Oracle Enterprise Manager Concepts Guide* ■ *Oracle9i Database Administrator's Guide*
Object Type Translator (OTT)	9.0.1	OTT is used to create C-struct representations of Abstract Data Types that have been created and stored in an Oracle database. To take advantage of objects, run OTT against the database, and a header file is generated that includes the C-structs.	*Oracle Call Interface Programmer's Guide*
Oracle Administration Assistant for Windows NT	9.0.1	A tool that enables you to start and stop the database service, automatically start Oracle services, view Oracle background process information, and configure database users to be authenticated by Windows NT.	"Authenticating Database Users with Windows" of *Oracle9i Network, Directory, and Security Guide for Windows*
Oracle Advanced Security	9.0.1	Oracle Advanced Security provides the following comprehensive suite of security services for Oracle9i. *This multicomponent product requires a separate license.*	*Oracle Advanced Security Administrator's Guide*
■ **Authentication support**		Strong authentication support is provided.	*Oracle Advanced Security Administrator's Guide*
■ **Authorization support**		Authorization solutions are provided with the distributed computing environment (DCE), and with the enterprise role management functionality in Oracle Advanced Security.	*Oracle Advanced Security Administrator's Guide*
■ **Encryption and Integrity support**		Data confidentiality is ensured using the encryption and data integrity types. **Note:** Recent changes in United States Export Administration Regulations (EAR) make it possible for Oracle Corporation to ship one edition of Oracle Advanced Security worldwide. Oracle Advanced Security includes strong encryption for protocols into the Oracle9i Database that were previously available only to the U.S. and Canadian markets.	*Oracle Advanced Security Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Advanced Security (Cont.) ■ **Enterprise User Security support**		Integration with Lightweight Directory Access Protocol (LDAP) v3-compliant directory services is provided, such as Oracle Internet Directory, for centralized enterprise user management, enterprise role management, and single sign-on.	*Oracle Advanced Security Administrator's Guide*
■ **Single Sign On support**		Single sign on is provided (users authenticate once). Strong authentication then occurs transparently in subsequent connections. Kerberos, CyberSafe, DCE, and secure socket layer (SSL)-based single sign on are supported.	*Oracle Advanced Security Administrator's Guide*
Oracle Call Interface (OCI)	9.0.1	An API for accessing an Oracle database from a C or C++ program. You make calls directly to the OCI functions from within your C or C++ program to direct the execution of your SQL statements.	■ *Oracle Call Interface Programmer's Guide* ■ *Oracle Call Interface Getting Started for Windows*
Oracle Change Management Pack (an optional Oracle Enterprise Manager Management Pack)	9.0.1	The Oracle Change Management Pack is a group of integrated applications used to track and make changes to database object definitions. You can use the pack to track metadata changes in databases, eliminate errors and loss of data when upgrading databases to support new applications, analyze the impact and complex dependencies associated with metadata change, and automatically perform upgrades using easy-to-learn wizards that teach systematic upgrade steps. *This component requires a separate license.*	*Getting Started with Oracle Change Management Pack*
Oracle COM Automation Feature	9.0.1	A feature that enables PL/SQL developers to programmatically manipulate COM objects through the OLE Automation interface (IDispatch).	*Oracle COM Automation Feature Developer's Guide*
Oracle Connection Manager	9.0.1	A component that acts like a router through which client connection requests can either be sent to the next hop or directly to a server. Clients who route their connection requests through Oracle Connection Manager can take advantage of the connection concentration, access control, or multiprotocol support features configured on that Connection Manager.	*Oracle9i Net Services Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Data Guard Manager (an Oracle Enterprise Manager Integrated Application)	9.0.1	A tool that helps to automate the tasks involved in setting up and managing a standby database environment.	■ *Oracle Enterprise Manager Concepts Guide* ■ *Oracle9i Data Guard Concepts and Administration*
Oracle Data Migration Assistant	9.0.1	A tool that migrates existing Oracle databases (release 7.3.4.0.0 or later) to Oracle9*i* release 1 (9.0.1).	*Oracle9i Database Migration*
Oracle Database Configuration Assistant	9.0.1	A tool that automates the process of creating, modifying, and deleting an Oracle9*i* database. You can create an Oracle9*i* database that is customized to the needs of your environment.	■ *Oracle9i Database Administrator's Guide* ■ "Postinstallation Database Creation" of *Oracle9i Database Administrator's Guide for Windows*
Oracle Database Demos	9.0.1	A collection of demonstrations that illustrate important Oracle9*i* database features.	Not applicable
Oracle Developer Forms Server Manager (an Oracle Enterprise Manager Integrated Application)	9.0.1	A tool that enables you to control and monitor Forms Listener, Forms Server, Load Balancer Server, and Load Balancer Client. In addition to providing basic controls such as startup and shutdown, this tool can also monitor for events that include service down, excessive memory usage, and excessive CPU usage, and can also automatically fix the problems when they occur.	*Oracle Enterprise Manager Concepts Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Diagnostics Pack (an optional Oracle Enterprise Manager Management Pack)	9.0.1	The Oracle Diagnostics Pack extends Oracle Enterprise Manager to enable the monitoring, diagnosing, and capacity planning of the multitiered Oracle server environment. The Oracle Diagnostics Pack provides discovery and graphical representation of targets, such as databases or nodes, automated collection of performance and resource usage data, and central monitoring and administration of remote systems using intelligent agents. The Oracle Diagnostics Pack offers a single performance monitoring solution that combines automated agent-based monitoring with real-time graphical charts and historical trend analysis, providing a logical step-by-step methodology for discovering and investigating performance problems. It also provides automated generation and Web publication of Performance Manager charts and Capacity Planner analysis reports. *This component requires a separate license.*	*Getting Started with the Oracle Diagnostics Pack*
Oracle Directory Manager (an Oracle Enterprise Manager Integrated Application)	3.0.1	A Java-based tool for administering most functional areas of Oracle Internet Directory and its related processes.	*Oracle Internet Directory Administrator's Guide*
Oracle Dynamic Services	9.0.1	Oracle Dynamic Services is a Java-based programmable framework for composing, managing, and deploying Internet services.	▪ *Oracle Dynamic Services User's and Administrator's Guide* ▪ Oracle Dynamic Services readme located in *ORACLE_BASE*\ *ORACLE_HOME*\ ds\doc\readme. txt
Oracle Enterprise JavaBeans and CORBA Tools	9.0.1	An architecture for developing transactional applications as distributed components in Java.	*Oracle9i Enterprise JavaBeans Developer's Guide and Reference*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Enterprise Login Assistant	9.0.1	A tool that enables single sign on, which implements a subset of Oracle Wallet Manager functionality for opening a user wallet and enabling applications to use it.	*Oracle Advanced Security Administrator's Guide* *Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager	9.0.1	A suite of components that provide an integrated solution for centrally managing your heterogeneous environment. Oracle Enterprise Manager combines a graphical console, Oracle Management Servers, Oracle Intelligent Agents, and tools to provide an integrated, comprehensive systems management platform for managing Oracle and third-party components.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager Client	9.0.1	The first tier of Oracle Enterprise Manager is comprised of clients such as consoles and management applications, which present graphical user interfaces to administrators for all management tasks. These client components can be installed locally or brought up with a Web browser.	*Oracle Enterprise Manager Concepts Guide*
Oracle Enterprise Manager Configuration Assistant (installed automatically with Oracle Management Server)	9.0.1	A tool that assists administrators with Oracle Enterprise Manager repository creation, removal, upgrade, and configuration.	*Oracle Enterprise Manager Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Enterprise Manager Console	9.0.1	Client interface for the first tier of Oracle Enterprise Manager, which: ■ Centrally administers, diagnoses, and tunes multiple databases ■ Manages other Oracle components 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 services into logical administrative groups	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager Integrated Applications	9.0.1	Applications integrated with Oracle Enterprise Manager for managing your Oracle environment, and installed with Oracle Enterprise Manager if your environment requires them. Most applications are accessible from the Oracle Enterprise Manager Navigator pane and/or the console application drawers, or from your operating system.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager Paging Server	9.0.1	A feature that enables administrators to receive paging notifications from the Oracle Enterprise Manager Console.	*Oracle Enterprise Manager Configuration Guide*
Oracle Enterprise Manager Quick Tours	9.0.1	HTML-based training tools that provide a fast and easy way to learn about a variety of Oracle Enterprise Manager components without having to actually install them. Quick tours are provided for the following components: ■ Oracle Enterprise Manager ■ Oracle Change Management Pack ■ Oracle Diagnostics Pack ■ Oracle Tuning Pack ■ Oracle Management Pack for Oracle Applications ■ Management Pack for SAP R/3 ■ Oracle Standard Management Pack	*Oracle Enterprise Manager Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Enterprise Manager Web Site	9.0.1	A component that enables administrators to access the Oracle Enterprise Manager Console from a Web browser.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Security Manager (an Oracle Enterprise Manager Integrated Application)	9.0.1	A tool that helps you administer the Oracle environment for user security using an LDAP-compliant directory server. This tool allows an administrator to manage enterprise-level role authorization among multiple databases simultaneously.	*Oracle Advanced Security Administrator's Guide*
Oracle Fail Safe	3.2.1	A component that provides high availability for Oracle databases and applications deployed on all Microsoft Cluster Server clusters configured with Windows NT or Windows 2000 Datacenter	*Oracle Fail Safe Concepts and Administration Guide* on the CD-ROM on which Oracle Fail Safe is shipped
Oracle Home Selector (installed with Oracle Universal Installer)	1.7.0	A tool that enables you to edit your environment path to make an appropriate Oracle home directory your primary home.	"Multiple Oracle Homes and Optimal Flexible Architecture" of *Oracle9i Database Getting Starting for Windows*
Oracle HTTP Server *powered by Apache*	1.3.12	A component that provides a preconfigured, ready-to-use listener used by browser-based Oracle Enterprise Manager Console and the central Enterprise Manager Repository Web Site.	*Oracle Enterprise Manager Configuration Guide* Online documentation available from the Start Menu

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Integration Server	9.0.1	An installation type designed to transform traditional businesses into e-businesses. Oracle Integration Server is designed to integrate and facilitate communication among the various applications (including customer relationship management, enterprise resource planning, business-to-business Internet marketplaces, and auction sites) that comprise an e-business. Oracle Integration Server consists of the following components: ■ Oracle9*i* Database (with Advanced Queuing, Oracle9*i* JVM, and Oracle Enterprise JavaBeans and CORBA Tools) ■ Partitioning ■ Advanced Replication ■ Oracle Advanced Security ■ Oracle Workflow ■ Oracle Internet Directory	The documentation listed in the descriptions for each of the components installed with Oracle Integration Server
Oracle Intelligent Agent	9.0.1	Oracle Intelligent Agent monitors targets on a managed node for registered events and scheduled jobs sent by the Oracle Enterprise Manager Console. Oracle Intelligent Agent also collects statistical data for Capacity Planner and Performance Manager, which are data collecting applications in the Oracle Diagnostics Pack.	*Oracle Intelligent Agent User's Guide*

Oracle *inter*Media	9.0.1	A component that provides file management in a variety of media, from text to audio to video. Files in each medium are managed through a specific component of *inter*Media.
		
		 This multicomponent product requires a separate license.
			Oracle interMedia User's Guide and Reference
			
			 Oracle *inter*Media readme located in `ORACLE_BASE\`
			`ORACLE_HOME\ord\`
			`dadmin\README.txt`

Oracle *inter*Media Audio
 	
 (installed with Oracle *inter*Media)
	9.0.1	A component that provides for the storage, retrieval, and management of digitized audio data within an Oracle database.	*Oracle interMedia User's Guide and Reference*
			
			 Oracle *inter*Media readme located in `ORACLE_BASE\`
			`ORACLE_HOME\ord\`
			`dadmin\README.txt`

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle *inter*Media Client Option (part of Oracle *inter*Media)	9.0.1	A component that provides an Oracle *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. It also provides a simple Oracle *inter*Media Image sample (`simpimg.exe`) developed using Microsoft Visual C++. `simpimg.exe` locates and updates images using Oracle *inter*Media Image in an Oracle9*i* Database.	*Oracle interMedia User's Guide and Reference* Oracle *inter*Media readme located in `ORACLE_BASE\ ORACLE_HOME\ord\ dadmin\README.txt`
Oracle *inter*Media Image (installed with Oracle *inter*Media)	9.0.1	A component that 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.	*Oracle interMedia User's Guide and Reference* Oracle *inter*Media readme located in `ORACLE_BASE\ ORACLE_HOME\ord\ dadmin\README.txt`
Oracle *inter*Media Locator (installed with Oracle *inter*Media)	9.0.1	A component that enables Oracle9*i* to support online Internet-based geocoding facilities for locator applications and proximity queries.	*Oracle Spatial User's Guide and Reference* Oracle *inter*Media readme located in `ORACLE_BASE\ ORACLE_HOME\ord\ dadmin\README.txt`
Oracle *inter*Media Video (installed with Oracle *inter*Media)	9.0.1	A component that provides for the storage, retrieval, and management of digitized video data within an Oracle database.	*Oracle interMedia User's Guide and Reference* Oracle *inter*Media readme located in `ORACLE_BASE\ ORACLE_HOME\ord\ dadmin\README.txt`

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Internet Directory	3.0.1	An Oracle9*i* Database-based LDAP v3 directory server, which can be configured prior to server installation for use in centralizing database user, Oracle Net network connector, database listener, Oracle Advanced Security, and Oracle Integration Server parameters, as well as for general-purpose LDAP usage (when purchased separately).	*Oracle Internet Directory Administrator's Guide*
		Installing the Oracle9*i* Database through the Custom installation type enables the user to specify the LDAP directory server to use for storing these attributes. A typical installation scenario is to install Oracle Internet Directory on a dedicated server (distinct from the target resource for a particular Oracle9*i* Database installation).	
Oracle Internet Directory Client	3.0.1	A component that enables the various components of the Oracle9*i* Database to use Oracle Internet Directory for centralized storage (as mentioned under the description for Oracle Internet Directory on page A-31).	*Oracle Internet Directory Administrator's Guide*
Oracle Internet Directory Configuration Assistant	3.0.1	A tool for creating the Oracle Internet Directory tablespaces and schema in the Oracle9*i* Database when Oracle Internet Directory is installed.	*Oracle Internet Directory Administrator's Guide*
Oracle Internet Directory Server	3.0.1	A component that responds to LDAP client requests for information about people and resources, and to updates of that information.	*Oracle Internet Directory Administrator's Guide*
Oracle Internet File System (Oracle 9*i*FS)	1.2	Oracle 9*i*FS makes the Oracle9*i* Database look and act like a file system that can be accessed through Windows, the Web, FTP, and e-mail clients. Oracle 9*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* **Note:** This component ships on a separate CD-ROM in your CD pack.
Oracle INTYPE File Assistant (installed with the Object Type Translator)	9.0.1	An assistant that helps you to create an INTYPE file, which provides a list of types for the Object Type Translator to translate. This component is automatically installed with the Object Type Translator.	*Oracle Call Interface Getting Started for Windows*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Java Database Connectivity (JDBC) Drivers	9.0.1	A standard set of Java classes, specified by JavaSoft, that provide vendor-independent access to relational data from Java.	*Oracle9i JDBC Developer's Guide and Reference*
Oracle Java Tools	9.0.1	Provides Java tools to build and deploy Java stored procedures, CORBA objects, and Enterprise JavaBeans with Oracle9i JVM.	*Oracle9i SQLJ Developer's Guide and Reference*
Oracle Management Pack for Oracle Applications (an optional Oracle Enterprise Manager Management Pack)	9.0.1	The Oracle Management Pack for Oracle Applications extends Oracle Enterprise Manager to enable administrators to correlate all tiers of their Oracle Applications deployment. This deployment extends from Oracle Applications-specific Concurrent Processing down through the middle tier to the database and node. *This component requires a separate license.*	*Getting Started with the Oracle Management Pack for Oracle Applications*
Oracle Management Server	9.0.1	The middle tier of Oracle Enterprise Manager, which provides centralized intelligence and distributed control between console clients and managed nodes.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Migration Workbench	2.0.1	Tools that simplify the process of migrating data and applications from non-Oracle databases to Oracle9i. The Oracle Migration Workbench enables quick and easy migration of an entire application system (that is, the database schema including triggers and stored procedures) in an integrated, visual environment. Migrations from the following non-Oracle databases are supported: ■ Microsoft Access ■ Microsoft SQL Server ■ Sybase Adaptive Server	■ *Oracle Migration Workbench Reference for MS Access Reference Guide* ■ *Oracle Migration Workbench Reference for MS SQL Server and Sybase Adaptive Server Reference Guide* **Note:** Access these documents from *ORACLE_BASE\ ORACLE_HOME* Omwb\Docs\ or http://otn. oracle.com/
Oracle Label Security	9.0.1	Provides sophisticated Fine Grain Access Control, including label-based access control. *This component requires a separate license.*	*Oracle Label Security Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Names	9.0.1	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 server, storing addresses for all the database services on a network and making them available to clients that want to make a connection. **Note**: In future releases, Oracle Names will not be supported as a centralized naming method. Consider using directory naming.	*Oracle9i Net Services Administrator's Guide*
Oracle Net Configuration Assistant (previously called Net8 Configuration Assistant)	9.0.1	A postinstallation tool that enables you to configure network components. Oracle Net Configuration Assistant runs automatically after installation, as described in this guide. Use it on either the client or server. It may also be run in standalone mode to configure naming methods usage, the listener, net service names in the `tnsnames.ora` file, and directory server usage.	*Oracle9i Net Services Administrator's Guide*
Oracle Net Listener	9.0.1	A process that resides on the server whose responsibility is to listen for incoming client connection requests and manage traffic to the server.	*Oracle9i Net Services Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...

Oracle Net Manager
 	
(previously called Net8 Assistant)
 	
(an Oracle Enterprise Manager Integrated Application)
	9.0.1	A tool that combines configuration abilities with component control to provide an integrated environment for configuring and managing Oracle Net Services. It can be used on either the client or server.
		
		Use Oracle Net Manager to configure the following network components:
		
		■ Naming Methods
		
		  Configure the different ways in which connect identifiers are resolved into connect descriptors.
		
		■ Naming
		
		  Define simple names, connect identifiers, and map them to connect descriptors to identify the network location and identification of a service. Oracle Net Manager supports configuration of connect descriptors in local `tnsnames.ora` files, a centralized LDAP-compliant directory server, or an Oracle Names server.
		
		■ Listeners
		
		  Create and configure listeners to receive client connections.
			Oracle9i Net Services Administrator's Guide

Oracle Net Protocol Support	9.0.1	Support that enables client/server conversation over a network using the Named Pipes or TCP/IP protocol. This combination of Oracle components enables an Oracle application on a client to communicate with remote Oracle databases through Named Pipes or TCP/IP (if the Oracle database is running on a host system that supports network communication using Named Pipes or TCP/IP).	*Oracle9i Net Services Administrator's Guide*
Oracle Net Services	9.0.1	A suite of networking components that provide enterprise-wide connectivity solutions in distributed, heterogeneous computing environments. Oracle Net Services is comprised of Oracle Net, listener, Oracle Connection Manager, Oracle Net Configuration Assistant, and Oracle Net Manager.	*Oracle9i Net Services Administrator's Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Objects for Object Linking and Embedding (OO4O)	9.0.1	A custom control (OCX or ActiveX) combined with an OLE in-process server that lets you plug native Oracle9*i* Database functionality into your Windows applications.	Online help available from the Start Menu.
Oracle Objects Functionality	9.0.1	Lets you create and manipulate objects, as well as integrate objects with standard relational functionality.	
Oracle OLAP Services	9.0.1	OLAP Services provides a Java OLAP API and an analytical engine. Using OLAP Services, developers can build analytical applications that support complex statistical, mathematical, and financial calculations along with predictive analytical functions such as forecasting, modeling, consolidations, allocations, and scenario management. Because the OLAP API is all Java, OLAP Services supports deployment of analytical applications to large, geographically distributed user communities on the Internet. OLAP Services is installed with Oracle9*i* Enterprise Edition. *This component requires a separate license.*	■ *Oracle9i OLAP Services Concepts and Administration Guide* ■ *Oracle9i OLAP Services Developer's Guide to the Oracle OLAP API*
Oracle Open Database Connectivity (ODBC) Driver	9.0.1	A component that provides support for ODBC connections from Windows NT, Windows 2000, and Windows 98 client systems to Oracle9*i* databases. The Oracle ODBC Driver complies with Version 3.51 of the Microsoft ODBC specification. The SQLBulkOperations ODBC function is not supported.	Online help available from the Start Menu.
Oracle Partitioning	9.0.1	A feature that provides more control in managing tables and indexes by directing all maintenance operations to individual partitions rather than to tables and index names. *This component requires a separate license.*	*Oracle9i Database Concepts*
Oracle Performance Monitor for Windows NT	9.0.1	A tool that enables database administrators to monitor local and remote database performance through the Windows NT Performance Monitor.	"Monitoring a Database" of *Oracle9i Database Administrator's Guide for Windows*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Policy Manager (an Oracle Enterprise Manager Integrated Application)	9.0.1	Enables you to create and administer security policies for a Virtual Private Database (VPD) and Oracle Label Security.	*Oracle Label Security Administrator's Guide*
Oracle Provider for OLE DB	9.0.1	Interfaces that offer high performance and efficient access to Oracle data by applications, compilers, and other database components.	*Oracle Provider for OLE DB Developer's Guide*
Oracle Real Application Clusters	9.0.1	A component that enables multiple Oracle instances to share a single Oracle database. *This component requires a separate license.*	■ Appendix B, "Oracle Real Application Clusters Preinstallation Tasks" ■ *Oracle9i Real Application Clusters Installation and Configuration*
Oracle Real Application Clusters Guard	3.2	A component that integrates Oracle Real Application Clusters databases with Microsoft Cluster Server clusters deployed on Windows NT and Windows 2000. This component enhances the high availability features of Oracle Real Application Clusters by offering these additional benefits: ■ Automatically restarts failed instances and listeners in a cluster, if you want ■ Detects and resolves problems with instances that hang ■ Eliminates connect-time failover TCP/IP timeout delays for new connection requests ■ Optionally, runs user-written scripts after a cluster database comes online or goes offline	*Oracle Real Application Clusters Guard Concepts and Administration Guide* on the CD-ROM on which Oracle Real Application Clusters Guard is shipped
Oracle Remote Configuration Agent	9.0.1	A component that enables remote configuration and monitoring from Oracle Administration Assistant for Windows NT.	Not applicable

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Services for Microsoft Transaction Server	9.0.1	A component that provides full integration of database releases 8.0.6, 8.1.*x*, and 9.0 with Microsoft Transaction Server. This component enables you to develop and deploy COM-based applications using Microsoft Transaction Server.	*Oracle Developer's Guide for Microsoft Transaction Server*
Oracle Servlet Engine (part of Oracle Oracle9*i* JVM)	9.0.1	A Web server built directly into the Oracle9*i* Database. Oracle Servlet Engine includes an HTTP listener and the ability to distribute Java Server Pages (JSPs) and run servlets directly on the database.	*Oracle9i Servlet Engine Developer's Guide*
Oracle SNMP Agent	9.0.1	A component that enables Oracle components to be located, identified, and monitored by any SNMP-based network management system.	*Oracle SNMP Support Reference Guide*
Oracle Spatial (previously called Oracle8*i* Spatial)	9.0.1	A component that makes the storage, retrieval, and manipulation of spatial data easier and more intuitive to users. *This component requires a separate license.*	*Oracle Spatial User's Guide and Reference*
Oracle Spatial Index Advisor (an Oracle Enterprise Manager Integrated Application)	9.0.1	A tool that helps you 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 Administrator's Guide*
Oracle SQLJ	9.0.1	A preprocessor for Java programs with embedded SQL statements. It generates Java programs with JDBC calls.	*Oracle9i SQLJ Developer's Guide and Reference*
Oracle Standard Management Pack	9.0.1	The Oracle Standard Management Pack is an optional set of applications that provide advanced tools that allow you to monitor and diagnose problems, tune high impact indexes, and track and compare changes in your Oracle environment.	*Getting Started with the Oracle Standard Management Pack*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Syndication Server	9.0.1	Oracle Syndication Server securely syndicates internet content to internet subscribers. Oracle Syndication Server supports all available communication mechanisms while allowing the subscriber access through multiple channels to internet resources, enterprise portals, corporate databases, and conventional file systems.	■ *Oracle Syndication Server User's and Administrator's Guide* ■ Oracle Syndication Server readme located in `ORACLE_BASE\ ORACLE_HOME\ syndication\ doc\readme.txt`
Oracle Text (installed with Oracle *inter*Media) (previously called Oracle *inter*Media Text)	9.0.1	A component that manages and searches for text in the database as quickly and easily as any other type of data. Oracle Text's search techniques make text a standard datatype in the Oracle9*i* Database that you can create, modify, and delete. Additionally, with Oracle Text, new text-based developments or extensions to existing applications are easy and cost-effective to build with standard SQL tools. With Oracle Text, you can search for data in any Oracle database application that uses text. This can range from search-enabling a comments field in an existing application to implementing large-scale document management systems dealing with multiple document formats and complex search criteria. Oracle Text also supports basic full-text searches in most languages supported by the Oracle9*i* Database.	*Oracle Text Reference*
Oracle Text Manager (an Oracle Enterprise Manager Integrated Application)	9.0.1	A text-search system for managing and searching for text in the Oracle9*i* Database. This application helps you manage and search for text in the database as quickly and easily as any other type of data.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Trace	9.0.1	A component that collects performance and resource utilization data, such as SQL Parse, Execute, Fetch statistics, and Wait statistics.	*Oracle9i Database Performance Guide and Reference*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Tuning Pack (an optional Oracle Enterprise Manager Management Pack)	9.0.1	The Oracle Tuning Pack provides advanced tools that focus on tuning the highest impact database performance areas, such as: application SQL, indexing strategies, instance parameters controlling I/O, SGA performance, and object sizing, placement, and reorganization. The tools in this pack work together to accomplish many database tuning tasks. The applications included in the Oracle Tuning Pack are: Oracle SQL Analyze, Oracle Expert, Outline Editor, Outline Management, Oracle Index Tuning Wizard, Reorg Wizard, and the Tablespace Map. *This component requires a separate license.*	*Database Tuning with the Oracle Tuning Pack*
Oracle Universal Installer	2.0.1	A graphical user interface (GUI) application that lets you quickly install, update, and remove Oracle components.	*Universal Installer Concepts Guide*
Oracle Utilities	9.0.1	A suite of components used for database administration. Oracle Utilities include the Character Set Migration utility, Export utility, Import utility, SQL*Loader, Database Verify utility, Migration utility, and Recovery Manager.	*Oracle9i Database Utilities* **Note:** Windows NT-only utilities like the ORADIM utility are described in *Oracle9i Database Administrator's Guide for Windows*
Oracle Wallet Manager	9.0.1	A tool that generates a public-private key pair and creates a certificate request for submission to a certificate authority, installs a certificate for the identity, and configures trusted certificates for the identity.	*Oracle Advanced Security Administrator's Guide*
Oracle Workflow	2.6.1	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*
Oracle Workflow Builder	2.6.1	Oracle Workflow Builder is a graphical user interface tool for creating, viewing, and modifying workflow process definitions. It contains a Navigator window to define the activities and components of your business process.	*Oracle Workflow Guide*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Workflow Mailer	2.6.1	This component performs e-mail send and response processing for the Oracle Workflow Notification System. The program sends notification e-mail messages to users and interprets user responses to complete the notifications. This component has an implementation that can integrate directly with any MAPI-compliant mail application on Windows NT. Install the MAPI-compliant implementation on a Windows NT computer by selecting Oracle Workflow Mailer through the Custom installation type of the Oracle9*i* Client top-level component. This implementation requires a MAPI-compliant mail application installed on the computer and acting as your mail server.	*Oracle Workflow Guide*
Oracle Workspace Manager	9.0.1	Oracle Workspace Manager provides a long-transaction framework built on a workspace management system. It uses a series of short transactions and multiple data versions to implement a complete long-transaction event that maintains atomicity and concurrency. Changes are stored in the database as different workspaces. Users are permitted to create new versions of data to update, while maintaining a copy of the old data. The ongoing results of the long transaction are stored persistently, ensuring concurrency and consistency.	*Oracle9i Application Developer's Guide - Workspace Manager*
Oracle XML Developer's Kit	9.0.1	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	■ *Oracle9i Application Developer's Guide - XML* ■ *Oracle9i XML Reference*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle XML SQL Utility	9.0.1	This utility is a set of Java classes and PL/SQL wrappers that permit queries to return result sets or objects wrapped in XML.	■ *Oracle9i Application Developer's Guide - XML* ■ *Oracle9i XML Reference*
Oracle9i Advanced Analytic Services - Data Mining	9.0.1	Oracle9i Advanced Analytic Services — Data Mining, which is embedded in the database, enables you to build integrated business intelligence applications with complete programmatic control of data mining functions that deliver powerful, scalable modeling and real-time scoring. All model-building and scoring functions are accessible through a Java-based API. Data Mining enables e-businesses to incorporate predictions and classifications throughout all customer interactions and business processes. *This component requires a separate license.*	■ *Oracle9i Data Mining Administrator's Guide* ■ *Oracle9i Data Mining Concepts* **Note:** This documentation ships on the Oracle Data Mining CD-ROM in your CD Pack.
Oracle9i JVM	9.0.1	A component that provides a JDK 1.2-compliant Java Virtual Machine, a CORBA 2.0 Object Request Broker, embedded JDBC drivers, a SQLJ translator, and an Enterprise JavaBeans transaction server.	*Oracle9i Java Developer's Guide*
Oracle9i JVM Accelerator (part of Oracle9i JVM)	9.0.1	This component enhances the current functionality of Oracle9i JVM to provide native compilation of Java code to improve performance.	*Oracle9i Java Stored Procedures Developer's Guide*
Oracle9i JVM Servlet Container (JSC)	9.0.1	The Oracle9i JVM Servlet Container is a built-in Web server running inside the database. It is a servlet runner that works with the Oracle HTTP Server and with Oracle9i JVM to enable distribution of Java Server Pages (JSPs) and to enable servlets to run directly in the database.	■ *Oracle9i Servlet Engine Developer's Guide* ■ *Oracle9i Java Developer's Guide*
Oracle9i Server	9.0.1	The database component of the Oracle9i Enterprise Edition, Oracle9i Standard Edition, or Oracle9i Personal Edition software.	■ *Oracle9i Database New Features* ■ *Oracle9i Database Concepts*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle9*i* Windows Documentation (Release documentation, such as Installation Guide and Release Notes)	9.0.1	The installation guide (this guide) describes how to install Oracle components. The *Oracle9i Database release notes for Windows* contain important last minute information not included in the documentation library of your Oracle9*i* Online Windows Documentation CD-ROM.	This installation guide *Oracle9i Database release notes for Windows*
PL/SQL	9.0.1	PL/SQL, Oracle's procedural extension of SQL, is an advanced fourth-generation programming language (4GL). It offers modern features such as data encapsulation, overloading, collection types, exception handling, and information hiding. PL/SQL also offers seamless SQL access, tight integration with the Oracle server and tools, portability, and security.	*PL/SQL User's Guide and Reference*
PL/SQL Embedded Gateway	9.0.1	This component takes and incorporates PL/SQL Gateway generic functionality directly into the Oracle9*i* Database. This component enables users to use their browsers to invoke PL/SQL procedures stored in an Oracle9*i* Database. The stored procedures can retrieve data from tables in the database, and generate HTTP responses (for example, HTML pages) that include the data to return to the client browser.	*Oracle9i Servlet Engine Developer's Guide*
Pro*C/C++	9.0.1	The Pro*C/C++ precompiler takes SQL statements embedded in your 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 compile and use to build applications that access an Oracle9*i* database.	■ *Pro*C/C++ Precompiler Programmer's Guide* ■ *Pro*C/C++ Precompiler Getting Started for Windows*
Pro*COBOL	9.0.1 and 1.8.76	To access an Oracle9*i* Database, you use a high-level query language called Structured Query Language (SQL). You often use SQL through an interactive interface, such as SQL*Plus. Pro*COBOL is a precompiler that converts SQL statements embedded within COBOL programs into standard Oracle run-time library calls. The output file can then be compiled by a COBOL compiler.	■ *Pro*COBOL Precompiler Programmer's Guide* ■ *Pro*COBOL Precompiler Getting Started for Windows*

Table A–4   Component Descriptions (Cont.)

Component	Release	Description	See Also...
Server Management (SRVM)	9.0.1	A component that provides the management tools and utilities to manage an Oracle Real Application Clusters configuration. This component is automatically installed on the server with Oracle Real Application Clusters.	■ "Oracle Real Application Clusters Preinstallation Tasks" on page B-1 ■ *Oracle9i Real Application Clusters Installation and Configuration*
SQL*Plus	9.0.1	A tool that lets you use the SQL and PL/SQL database languages in Windows environments. SQL*Plus has both command line and graphical user interface (GUI) versions.	*SQL*Plus User's Guide and Reference*
SQL*Plus Worksheet (an Oracle Enterprise Manager Integrated Application)	9.0.1	A GUI application for manually entering SQL, PL/SQL, and database administrator commands or running stored scripts.	*Oracle Enterprise Manager Administrator's Guide*
SQLJ Runtime (installed with Oracle SQLJ)	9.0.1	A thin layer of pure Java code that runs above the JDBC driver. When Oracle SQLJ translates your SQLJ source code, embedded SQL commands in your Java application are replaced by calls to the SQLJ runtime.	*Oracle9i SQLJ Developer's Guide and Reference*
SQLJ Translator (installed with Oracle SQLJ)	9.0.1	A preprocessor for Java programs that contains embedded SQL statements. SQLJ Translator converts the SQL statements to JDBC calls.	*Oracle9i SQLJ Developer's Guide and Reference*
WINSOCK2 on Windows NT support	9.0.1	Oracle Net supports both the WINSOCK 1.1 and WINSOCK2 socket interface. Oracle Net automatically detects WINSOCK2 on Windows NT and uses it if it is available. WINSOCK2 is a standard feature of the Windows NT release 4.0 operating system. Oracle uses these WINSOCK2 features in Oracle Net Services: ■ Overlapped I/O with events ■ Shared sockets (can be enabled as an optional feature)	"Oracle Net Services Configuration" of *Oracle9i Network, Directory, and Security Guide for Windows*
XML Development Kit	9.0.1	Required for integrating and running XML applications with the database.	*Oracle9i Application Developer's Guide - XML*

B

Oracle Real Application Clusters Preinstallation Tasks

This appendix describes the required preinstallation tasks for cluster software and Oracle Real Application Clusters on Windows. Windows-specific information is described in this section and in the Oracle Cluster Setup Wizard online Help.

> **Note:** Oracle Real Application Clusters requires a separate license.

This appendix contains these topics:

- About Oracle Real Application Clusters
- Preinstallation Tasks
- Deleting Previous Versions of Oracle Operating System Dependent Clusterware
- Troubleshooting the Oracle Real Application Clusters Installation

> **See Also:** The following Oracle9*i* Real Application Clusters documentation set included on your Oracle9*i* Online Documentation for Windows CD-ROM:
>
> - *Oracle9i Real Application Clusters Documentation Online Roadmap*
> - *Oracle9i Real Application Clusters Concepts*
> - *Oracle9i Real Application Clusters Installation and Configuration*
> - *Oracle9i Real Application Clusters Administration*
> - *Oracle9i Real Application Clusters Deployment and Performance*

About Oracle Real Application Clusters

This appendix is intended for network administrators and database administrators who install, configure, and use Oracle Real Application Clusters on Windows NT or Windows 2000 clusters. This appendix assumes you are familiar with Oracle Real Application Clusters concepts and Windows NT or Windows 2000 operating systems. You must install and test your operating system for the cluster and network hardware before installing Oracle Real Application Clusters.

This section contains these topics:

- Real Application Clusters System Requirements
- Node Preparation for a Real Application Clusters Installation
- Oracle Cluster Setup Wizard Overview
- Raw Devices Management Utilities Overview

Real Application Clusters System Requirements

In addition to the system requirements listed in Chapter 2, you must meet these requirements:

Hardware
Each node in a cluster requires the following hardware:

- External shared hard disks
- Certified hardware configurations

Software
Each node in a cluster requires the following software:

- Certified vendor-supplied operating system dependent clusterware layer
- Oracle operating system dependent clusterware layer

RAM
256 MB for each instance

> **See Also:** "Oracle9i Database System Requirements" on page 2-4

About Hardware and Network Configuration

Before running the Oracle Cluster Setup Wizard, have the following information available about your hardware and network configuration:

- The public network names (known as host or TCP/IP names) of each node

- Whether you have a high-speed private interconnect and, if so, what are the private network names of each node

- Whether you are using **Virtual Interface Architecture (VIA)** hardware and, if so, what are the available Network Interface Card (NIC) names

Node Preparation for a Real Application Clusters Installation

You must create a specific number of logical drives on Windows computers prior to running Oracle Universal Installer. Oracle Real Application Clusters uses logical drives to store the control, data, and redo log files. You must properly configure logical drives on shared disks in order to create an Oracle Real Application Clusters database using Oracle Database Configuration Assistant.

About Extended Partitions and Logical Drives

An extended partition identifies raw space on the disk. Oracle9*i* database files can only be stored on logical drives within an extended partition.

> **Note:** Creating a large number of logical partitions may cause a significant increase in the time needed to reboot and start the disk administration tools.

Only one extended partition can be created for each disk. Oracle Corporation recommends creating the extended partition on an unpartitioned disk and using the entire disk for the extended partition.

Windows 2000 offers two disk storage types: basic and dynamic. Create primary partitions, an extended partition, and logical drives only on basic disks. A basic disk uses the same partitions as earlier versions of Windows and contains up to four primary partitions, or three primary partitions and one extended partition.

Within the extended partition, assign a symbolic name to each of the logical drives. For example, for a database named db, use the following format for a symbolic link to the logical drives created for the two redo log files, required for an instance of a cluster database:

```
db_redo1_1
db_redo1_2
```

A symbolic link serves as a name for a logical drive which the Oracle database uses as a datafile, such as db_system1 for the SYSTEM tablespace. It is also used when Oracle Database Configuration Assistant copies the seed datafiles from the component CD-ROMs. A copy of the datafile is made to db_system1 that links to a specific logical drive.

The hard disk numbers may be different from node to node, but the number of logical drives and the drive sizes must be identical. When the nodes are rebooted, the hard disk and partition names can change, and symbolic link names can map to a different partition. However, the physical disk remains the same. The Oracle Object Service tracks and updates the symbolic links, so that the links are mapped correctly after rebooting.

 To use Oracle Database Configuration Assistant, you must configure logical drives as described in this section. Create these devices before running Oracle Universal Installer to install the Oracle9i Enterprise Edition software. Oracle Database Configuration Assistant cannot create an Oracle Real Application Clusters database unless you have properly configured these logical drives:

- Seven for datafiles

- Two for control files

- One logical drive for each instance for the automatic undo tablespace (or one rollback segment tablespace for the database if you do not use automatic undo management)

- At least two for redo log files for each instance

- One for context

- Recommended: One for the server parameter file

- One for Oracle9i interMedia

- One for Oracle OLAP Services

- One for the Voting disk. This logical drive stores configuration data for Server Management (SRVM) and for the Oracle Operating System Dependent clusterware (Oracle operating system dependent clusterware). Vendor operating system dependent clusterware requires the voting disk for Oracle Real Application Clusters configuration information.

If you do not create the database with Oracle Database Configuration Assistant, then the number of logical drives you create depends on the number of datafiles, redo log files, and control files you plan to create. However, you must still create a logical drive of 100 MB for the Voting disk.

> **Note:** Each instance of an Oracle Real Application Clusters database has its own log files, but control files and datafiles are shared by instances in a cluster. Each instance's log files must be readable by all other instances to facilitate database recovery.

Planning Your Logical Drives Configuration

Consider the following when planning your logical drives configuration:

- Ensure that there are a few spare logical drives of the same size. You may need these for emergency file relocations or additions if a tablespace unexpectedly becomes full. If a logical drive is unused, you can drop it and recreate it as two drives, as needed.

- You cannot extend a logical drive after it has been created with Windows disk management tools. Therefore, it is not possible to add more space to the logical drive. As a consequence, the size of the datafile created in the logical drive becomes a fixed size and cannot be extended.

  To add more space to a database tablespace, create an extended partition with the required size. Then execute the ALTER TABLESPACE *tablespace_name* ADD DATAFILE SQL statement.

  > **See Also:** *Oracle9i SQL Reference* for additional ALTER TABLESPACE syntax

- For best results, select a limited set of standard partition sizes for your entire database. Partition sizes of 50 MB, 100 MB, 500 MB, and 1 GB are suitable for most databases. Also create a few very small and very large spare partitions that are, for example, 1 MB and perhaps 5 GB or greater in size.

- Based on your plans for using each logical drive, determine the placement of the spare logical drives. You can mix different sizes on one disk, or segment each disk into same-sized drives.

When Oracle Database Configuration Assistant creates the database, it verifies that you created the symbolic link names and the logical drives are sized to meet the minimum size requirements. Use the tablespace size requirements in Table B–1 for the General Purpose, Transaction Processing, and Data Warehouse database configuration types. The preconfigured database options automatically create tablespaces and files with the capacities shown in Table B–1. If you use the Customized database configuration, use these recommended sizes as guidelines.

> **Note:** Windows disk management tools write a signature to the first 1 MB of space on each physical disk. The first extended partition created on each disk starts after this initial signature of 1 MB size. Therefore, when considering size requirements of your disks for Oracle Real Application Clusters database usage, remember to account for an initial 1 MB of space on each disk that cannot be used for extended partitions.
>
> Oracle Database Configuration Assistant's Customized database creation type requires the extended partitions names and sizes listed in Table B–1. These extended partitions contains database control files, datafiles, and redo log files after an Oracle Real Application Clusters database is created on them by Oracle Database Configuration Assistant.

Table B–1 Logical Drive File Sizes for Oracle Database Configuration Assistant

Create a Partition For...	With File Size...
SYSTEM tablespace	400 MB
Server parameter file	5 MB
USERS tablespace	120 MB
TEMP tablespace	100 MB

Table B–1   Logical Drive File Sizes for Oracle Database Configuration Assistant

Create a Partition For...	With File Size...
UNDOTBS tablespace[1]	625 MB (total)
or RBS tablespace	625 MB
EXAMPLE tablespace	160 MB
CWMLITE tablespace (OLAP)	100 MB
INDX tablespace	70 MB
TOOLS tablespace	12 MB
DRSYS tablespace	90 MB
First control file	110 MB
Second control file	110 MB
Two redo log files for each node	120 MB (for each file)
srvcfg (Voting disk (for clusterware)	100 MB

[1] By default, Oracle Database Configuration Assistant uses automatic undo management. You should have one undo tablespace for each instance. If you use manual undo management, make the RBS tablespace raw device datafile at least 625 MB in size.

> **Note:**   Undo tablespace raw device datafiles for the preconfigured Transaction Processing and General Purpose database templates should be at least 200 MB each.
>
> If you use the preconfigured Data Warehousing database, then create a raw device datafile for an undo tablespace for the first instance that is at least 625 MB in size. For subsequent instances, create undo tablespace raw device datafiles that are at least 200 MB in size.
>
> If you use the New Database template with automatic undo management, then divide the 625 MB among the instances. If you have more than two instances, make sure that the undo tablespace raw device datafiles are at least 50 MB in size.
>
> If you use manual undo management, make the RBS tablespace raw device datafile at least 625 MB in size.

Oracle Cluster Setup Wizard Overview

> **Note:** Oracle Cluster Setup Wizard installs Oracle9*i* operating system dependent clusterware and raw device management utilities. If you do not use Cluster Setup Wizard, then Oracle Object Link Manager and the raw device management utilities do not get installed until Oracle Universal Installer is run. The raw device management utilities are required to configure a raw device before Oracle Universal Installer is invoked. If you intend to use vendor operating system dependent clusterware instead of Oracle9*i* operating system dependent clusterware, then you can temporarily install the raw device management utilities.

> **See Also:** "Installing the Raw Devices Management Utilities Manually" on page B-10 for installation instructions if you do not run Oracle Cluster Setup Wizard

The Oracle Cluster Setup Wizard performs the following tasks on all nodes:

- Installs and starts Oracle9*i* operating system dependent clusterware

- Installs Object Link Manager and starts the Oracle Object Service on all nodes. This tool creates persistent symbolic links to the logical drives required for an Oracle Real Application Clusters database. The service updates all nodes when symbolic links are modified, and is set to Automatic, so that it starts whenever you reboot.

- Preserves existing symbolic link information created by previous invocations of Oracle Object Link Manager

- Installs other disk management tools on all nodes

- Adds a node to an existing cluster

Raw Devices Management Utilities Overview

Additional disk management tools are installed by the Oracle Cluster Setup Wizard on all nodes. These tools are not installed if you do not run Oracle Cluster Setup Wizard. Table B–2 describes the disk management tools.

Table B–2   Raw Devices Disk Management Utilities

Tool	Used for the following tasks...
Object Link Manager	A graphical user interface (GUI) tool that creates or modifies symbolic links to logical drives. This utility can be used as part of the Oracle Cluster Setup Wizard, or separately.
DeleteDisk	Reformats an entire disk and deletes its contents.
LetterDelete	Removes all drive letters from Oracle raw partitions and updates the disk key registry to disable reboot mappings.
LogPartFormat	Initializes all space in a logical partition to zero and removes the symbolic link name.
crlogdr	Creates and deletes logical drives and their associated symbolic names on a disk that does not have a primary partition and one extended partition. Use this tool to review the disk layout.
ExportSYMLinks	Reads persistent symbolic links from their respective disk drives and generates a TBL file of the list (named by default symmap.tbl).
ImportSYMLinks	Reads a TBL file and creates persistent symbolic links on the disks and on all nodes in the cluster.

See Also:

- "Installing the Raw Devices Management Utilities Manually"

- The readme file on using the tools. The disk management tools and the readme file are located in the *directory*\olm directory, where *directory* is where you installed the Oracle operating system dependent clusterware with the Oracle Cluster Setup Wizard.

Installing the Raw Devices Management Utilities Manually

If you did not install Oracle9*i* operating system dependent clusterware using the Oracle Cluster Setup Wizard, then install the raw device management utilities manually.

To manually install the disk management utilities, perform the following tasks on each node of the cluster:

1. Create a temporary directory.

2. From the first component CD-ROM, copy the contents of the \preinstall_rac\olm directory to the temporary directory you created.

3. Install Oracle Object Service by entering the following command from the temporary directory you created:

   ```
   C:\temp> OracleOBJService /INSTALL
   ```

   Note: The Oracle Cluster Setup Wizard automatically creates and starts this service.

   ---

4. Set the Oracle Object Service service on each node in the cluster to automatic.

   a. Choose Start > Settings > Control Panel > Services.

   b. Select the Oracle Object Service. Choose Startup.

   c. From Startup Type, select Automatic.

Preinstallation Tasks

Perform the following tasks on your Windows NT or Windows 2000 computer to prepare a set of nodes for cluster software installation:

- Task 1: Creating an Extended Partition
- Task 2: Creating Logical Drives
- Task 3: Assigning Symbolic Link Names
- Task 4: Creating a Cluster

> **Note:** For Windows 2000, tasks 2 and 3 are covered in "Creating an Extended Partition and Logical Drives on Windows 2000" on page B-12

Task 1: Creating an Extended Partition

The following procedure creates an extended partition using Windows NT Disk Administrator. To create extended partitions and logical drives on Windows 2000, refer to "Creating an Extended Partition and Logical Drives on Windows 2000" on page B-12.

1. Log in as member of the Administrators Group.

2. Choose Start > Programs > Administrative Tools > Disk Administrator.

   The Disk Administrator window appears, showing all the disks in your shared array. Note that the lines display diagonally from top right to bottom left, indicating unpartitioned devices.

3. Right-click an unpartitioned disk, or an area of free space on a disk that does not contain an extended partition.

   This displays the Disk Administrator Create Extended option.

4. Select Create Extended. The Disk Administrator displays the maximum sizes for the extended partition.

5. Enter the size of the partition of the extended partition, then choose OK.

> **Note:** Changes are not saved until you choose Commit Changes Now or exit Disk Administrator.

Creating an Extended Partition and Logical Drives on Windows 2000

> **Note:** If you are creating logical drives for a database to be created by Oracle Database Configuration Assistant, refer to the file sizes in Table B–1 on page B-6.

To create an extended partition and logical drives:

Both the client and server computers must be members of the same domain or within a trusted domain.

Run Disk Management from one node to configure logical drives on the shared disk for the entire cluster.

1. Choose Settings > Control Panel.

2. Double-click Administrative Tools > Computer Management.

3. In the console tree, select Disk Management.

   The Disk Management window displays disks and volumes in a graphical view and in a list view. View the status of a disk or volume in the Status column of the list view. Figure B–1 shows the status of Healthy for volumes, and Online for disks.

Figure B–1   Computer Management Window
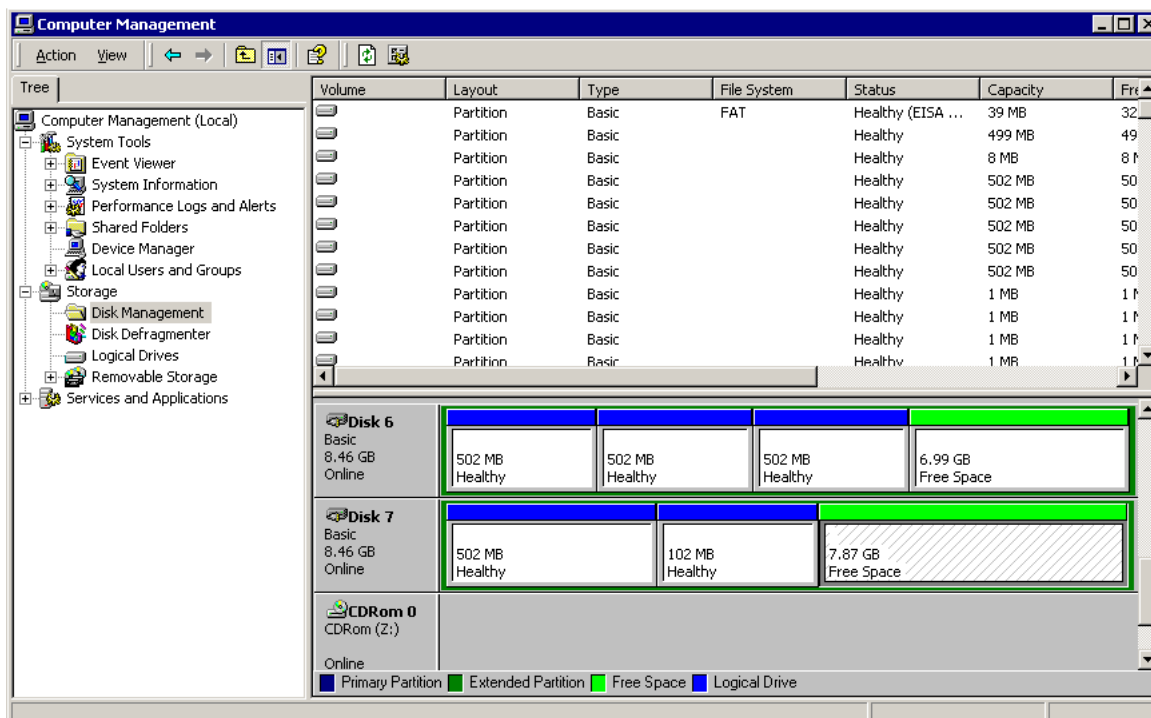
4. Right-click an unallocated region of a basic disk, and choose Create Partition. Or, right-click free space in an extended partition, and choose Create Logical Drive.

5. In the Create Partition wizard, choose Next > Primary Partition > Extended Partition, or Logical Drive, and follow the instructions on your screen.

6. For each logical drive, select the logical drive and unassign drive letters.

   To view properties of a basic disk, in Disk Management, right-click the partition, logical drive, or other basic volume, and click Properties.

   Note: If the Disk Management window is open during any disk management modifications, such as creating symbolic links or adding logical partitions, you need to close and open the window to view any changes you applied.

Task 2: Creating Logical Drives

Run the Windows NT Disk Administrator from one node to configure logical drives on the shared disk for the entire cluster. You can use more than one disk to accommodate all the partitions, depending on your shared disk array's configuration.

> **See Also:** "Creating an Extended Partition and Logical Drives on Windows 2000" on page B-12

1. Select an area of free space in the extended partition.

   > **Note:** Oracle Corporation recommends you do not create more than 120 logical drives in an extended partition. Creating a large number of logical drives can cause a significant increase in the time needed to reboot and start the disk administration tools.

2. Choose Partition > Create.

   The Disk Administrator window displays the minimum and maximum sizes for the logical drive.

   a. Enter the size of the logical drive that you want to create.

      Create the logical drives with file sizes shown in Table B–1 on page B-6.

   b. Choose OK.

3. Select the logical drive.

4. Choose Tools > Assign Drive Letter.

5. Select the Do not assign a drive letter option, then choose OK.

   > **Note:** Optionally, run the `LetterDelete` utility after creating all logical drives to remove all drive letter assignments with a single command.

6. Repeat Steps 1-5 until the required number of logical drives are created.

7. Choose Partition > Commit Changes Now.

> **Note:** Changes are not saved until you choose Commit Changes Now or exit the Disk Administrator.

A confirmation dialog appears, informing you that changes have been made to the disk.

8. Choose Yes to acknowledge the message.

A dialog box appears, informing you the disks have been updated successfully.

9. Choose OK.

10. Choose Partition > Exit.

Changes should be visible on all nodes.

The Disk Administrator window below illustrates an example of a disk configuration. The logical partitions are sized to allow Oracle Database Configuration Assistant to create a cluster database.
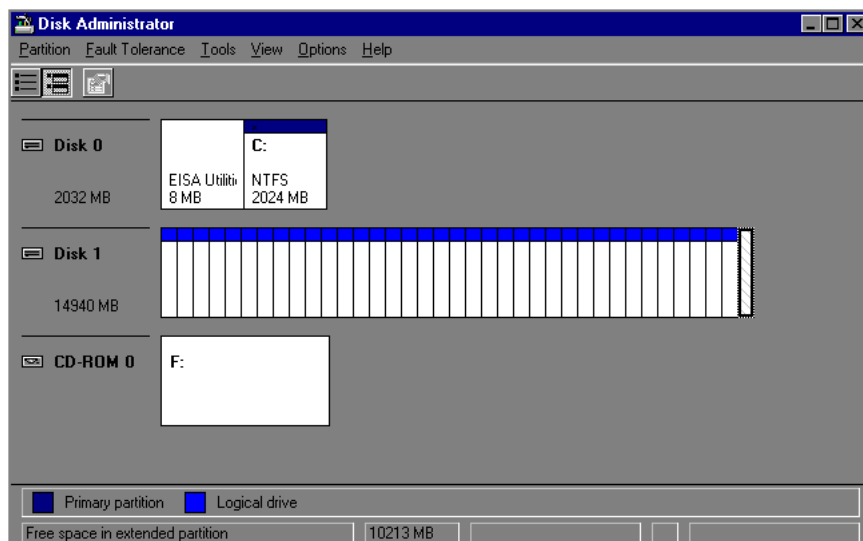
The Disk Administrator window shows two disks. The following table describes the partitions on Disk 0 and Disk 1:

This disk...	Contains...
Disk 0	A primary partition
Disk 1	An extended partition with 36 logical partitions and an area of free space

Task 3: Assigning Symbolic Link Names

Use one of the following methods to assign symbolic link names:

- Using Oracle Cluster Setup Wizard

- Using Object Link Manager

- Using ImportSYMLinks Utility

Using Oracle Cluster Setup Wizard

The Oracle Cluster Setup Wizard assists with cluster creation and the addition of nodes to an existing cluster. It also enables you to assign symbolic link names to logical drives. Refer to "Task 4: Creating a Cluster" on page B-18 to create symbolic link names and create a cluster using Oracle Cluster Setup Wizard.

Using Object Link Manager

Object Link Manager is a GUI tool that assigns symbolic link names or renames existing symbolic link names.

> **See Also:**
>
> - "Oracle Cluster Setup Wizard Overview" on page B-8
>
> - "Installing the Raw Devices Management Utilities Manually" on page B-10 to install Oracle Object Link Manager

1. Select `c:\`*`temp`*`\GUIOracleOBJManager.exe` where *temp* is the temporary directory defined in step 2 on page B-10.

    The Oracle Object Manager window displays.

2. Select the row to update and click any spot within the highlighted row.

   An edit window, with an active blinking cursor, opens in the New Link Name column.

3. Enter the new Link name and choose Enter.

4. Repeat steps 2 and 3 to create additional symbolic link names.

   > **Note:** Do not proceed to step 5 if the edit window is active. Changes will not apply.

5. Select Options > Commit.

Using ImportSYMLinks Utility

The `ImportSYMLinks` utility is a command line tool that assigns symbolic link names or renames existing symbolic link names.

> **See Also:**
>
> - "Installing the Raw Devices Management Utilities Manually" on page B-10 to install ImportSYMLinks utility
> - "Oracle Cluster Setup Wizard Overview" on page B-8

1. Create a TBL file.

To...	Do this...
Modify an existing symbolic link name	1. Export existing links to a TBL file using the following command: `ExportSYMLinks.exe [/f:filename]` If `/f:filename` is not specified, then the default filename, `symmap.tbl`, is generated in the current working directory. **Note**: Duplicate links are indented in the `symmap.tbl` file. All valid unmapped device names are also exported.
Create a TBL file	A sample ASCII file is located in the following directory on the first component CD-ROM:[1] `\preinstall_rac\olm\sample.tbl` 1. Create a TBL file. 2. Save the file.

---

[1] This sample file contains symbolic link names associated with raw partitions for a two-node cluster database.

2. Use the following command to import symbolic link mappings:

   `ImportSYMLinks.exe [/f:filename]`

   For example, `ImportSYMLinks.exe /f:c:\temp\mysymlinks.tbl`

   where `temp` is the temporary directory defined in step 2 on page B-10 and `filename` is the full path and filename of the valid TBL file.

Task 4: Creating a Cluster

If you intend to use Oracle9*i* operating system dependent clusterware, then use the Oracle Cluster Setup Wizard to install Oracle9*i* operating system dependent clusterware, assign symbolic links, and create a cluster. If you intend to use vendor operating system dependent clusterware, then refer to your vendor documentation.

Run the Oracle Cluster Setup Wizard on a node that is to become a node in the cluster. Running the wizard from a node that will not become a node in the cluster is not supported. To add a node to an existing cluster, run the Oracle Cluster Setup Wizard from the CD-ROM at any time.

> **See Also:**
>
> - "Oracle Cluster Setup Wizard Overview" on page B-8
> - "Adding a Node at the Clusterware Layer on Windows NT and Windows 2000" of *Oracle9i Real Application Clusters Administration*

Before you Begin

- Make sure all the nodes to be part of the cluster are up and can communicate with each other in a TCP/IP environment.

- Make sure you have 2 MB available on each node to install the Oracle operating system dependent clusterware and Object Link Manager.

- Stop the vendor operating system dependent clusterware. This only applies if you plan to install the Oracle operating system dependent clusterware, and have a version of your vendor operating system dependent clusterware running.

> **Note:** Oracle Corporation recommends using the same username and password on each node in a cluster, or a domain username. You must have administrative privileges and each node must be in the same domain.
>
> To verify administrative privileges, from the node on which the Oracle Cluster Setup Wizard runs, enter the following for *each* node in the cluster:
>
> ```
> NET USE \\host_name\C$
> ```
>
> where `host_name` is the public network name for the other node.
>
> For example, if you run the Oracle Cluster Setup Wizard on `node1` and plan to create a four-node cluster with `node1`, `node2`, `node3`, and `node4`, then enter the following commands on `node1`:
>
> ```
> NET USE \\node2\C$
> ```
>
> ```
> NET USE \\node3\C$
> ```
>
> ```
> NET USE \\node4\C$
> ```
>
> If the following appears, you have administrative privileges on each node:
>
> ```
> The command completed successfully.
> ```

1. On one node of the cluster, insert the first component CD-ROM, and navigate to the `\preinstall_rac\clustersetup` directory.

2. Select `clustersetup.exe`.

   The Oracle Cluster Setup Wizard appears

3. Choose Next.

4. Choose to Create a cluster, then choose Next.

   The Disk Configuration screen displays.

5. Optionally, perform one of the following tasks to rename or add a symbolic link:

To...		Do this...
Rename a symbolic link	1.	Choose the Create Oracle Symbolic Links button.
		The Oracle Object Link Manger windows displays.
	2.	From the Symbolic Link column, select a row to update.
		The cursor starts blinking.
	3.	Enter the new link name.
	4.	Repeat steps 2 and 3 to rename any additional symbolic link names.
	5.	Choose Apply.
	6.	When the progress bar at the bottom of the screen stops moving, choose Close.
Create a symbolic link	1.	Choose the Create Oracle Symbolic Links button.
		The Object Link Manager window displays.
	2.	From the Symbolic Link column, select an empty row.
		The cursor starts blinking.
	3.	Enter a link name.
	4.	Repeat steps 2 and 3 to assign any additional symbolic link names.
	5.	When the progress bar at the bottom of the screen stops moving, choose Close.

6. From the Disk Configuration screen, assign a Voting disk, labeled as srvcfg, by highlighting the corresponding row.

7. Choose Next.

8. Complete the additional Oracle Cluster Setup screens.

> **See Also:**
>
> - Oracle Cluster Setup Wizard online Help
> - "Performing Cluster Diagnostics" on page B-23 if the Node Selection Page does not display
> - Chapter 4 for installation steps for Oracle9*i* Enterprise Edition and Oracle Real Application Clusters

Deleting Previous Versions of Oracle Operating System Dependent Clusterware

If you want to deinstall previous versions of Oracle operating system dependent clusterware, use the following steps to manually remove them.

To manually delete previous versions of Oracle operating system dependent clusterware:

1. Shut down the Oracle database.

2. Stop the operating system dependent clusterware service, `OracleCMService`.

> **Note:** For Oracle Parallel Server releases 8.0 and 7.3, stop the `OraclePGMSService`.

3. Start the registry editor from the command prompt:

```
C:\> regedt32
```

The Registry Editor window appears.

4. Navigate to `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\OSD`.

5. Delete the `OSD` subkey.

6. Navigate to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services`.

7. Delete the service entry for `OracleCMService`.

8. Repeat the steps on all nodes within the cluster.

9. Reboot the computers on which you deleted the keys.

Troubleshooting the Oracle Real Application Clusters Installation

This section contains these topics:

- Performing Cluster Diagnostics
- Terminal Services Client on Windows 2000
- Stopping Preexisting Oracle Services
- Mappings Do Not Appear
- Unable to Start a Dedicated Server Process
- Windows NT Disk Administrator Cannot Create Logical Drives
- Compatibility Issues for Physical Partitions and Logical Drives

Performing Cluster Diagnostics

If Oracle Universal Installer does not display the Node Selection page, perform clusterware diagnostics by executing the `lsnodes -v` command and analyzing its output.

From the `\preinstall_rac` directory, execute the following:

```
lsnodes -v
```

Refer to your clusterware documentation if the detailed output indicates that your clusterware is not running.

Terminal Services Client on Windows 2000

Do not use Terminal Services Client with any of the disk management tools. Changes may not apply.

Stopping Preexisting Oracle Services

You may get the following warning message while using the Cluster Setup Wizard if you have `OracleGSDService` or `OracleServiceSID` running on any of the nodes in the cluster you are creating:

```
The nodes that we are trying to install the software on could not be
cleaned completely
```

Please stop these services on all the nodes and then start Oracle Cluster Setup Wizard again.

Mappings Do Not Appear

If mappings do not appear in the Object Link Manager, make sure the `Oracle Object Service` is started on all nodes in the cluster.

Unable to Start a Dedicated Server Process

Make sure `OracleServiceSID` and `OracleHOME_NAMETNSListener` run under the same Windows NT account with the same user ID.

Windows NT Disk Administrator Cannot Create Logical Drives

Most likely, an extended partition was not created. Create the extended partition and the multiple logical drives within the extended partition.

Compatibility Issues for Physical Partitions and Logical Drives

Question: What is the impact if I have created logical drives, but defined physical disk convention names for them. For example:

```
PhysicalDrivesys1=\Device\Harddisk2\Partition1
```

```
PhysicalDriveusr1=\Device\Harddisk3\Partition1
```

Answer: An Oracle database handles the datafile using the physical disk convention, even though it really is a logical drive. This will not cause any data corruption or loss, as long as you continue using the physical disk naming conventions. Oracle Corporation recommends that you convert to the logical drive at your earliest convenience.

Question: What is the impact if I have created logical names representing Partition0. For example:

```
db_system1=\Device\Harddisk1\Partition0
```

Answer: This poses severe problems because the Disk Administrator typically writes a signature into the first block of every disk, and consequently the Oracle database may overwrite a portion of the signature with a datafile header.

> **Note:** This may also cause data loss. Never use `Partition0` with the logical partition convention.

Question: How do I transfer the contents of any raw partition to a standard file system for backup purposes?

Answer: Use the Oracle utility `OCOPY` to copy data to or from a raw partition for both physical partitions and logical drives.

The physical partition and logical drive conventions are not compatible with one another due to the extra block that is skipped for physical raw conventions. This also means you cannot simply do an `OCOPY` command from a physical disk to a logical drive, as the contents of these partitions are incompatible.

If your database installation uses physical disk conventions with logical drives, Oracle Corporation recommends converting to the logical drive conventions using these steps.

To convert from a physical convention to a logical convention:

1. Perform a full database export to a (local) file system.

2. Create logical drives and define logical names for these partitions.

3. Re-create the database using Oracle Database Configuration Assistant on the new logical drives.

4. Perform the full database import to the newly-created database.

> **See Also:**
>
> - *Oracle9i Database Administrator's Guide for Windows*
> - *Oracle9i Database Getting Starting for Windows*

C

Oracle Transparent Gateways

This appendix explains how to install the Oracle Transparent Gateway software from the component CD-ROM.

This appendix contains these topics:

- System Requirements for Oracle Transparent Gateways
- Installing Oracle Transparent Gateways
- Deinstalling Oracle Transparent Gateways

> **See Also:** The Oracle Transparent Gateway documentation (available after installation):
>
> - *ORACLE_BASE**ORACLE_HOME*\tg4msql\doc
> - *ORACLE_BASE**ORACLE_HOME*\tg4sybs\doc
> - *ORACLE_BASE**ORACLE_HOME*\tg4tera\doc

System Requirements for Oracle Transparent Gateways

Review the following sections before installing Oracle Transparent Gateways:

- Gateway System Requirements
- Tested Gateway Configurations
- Gateway Installation Worksheets

Gateway components can be located on one platform or distributed over several platforms. Use the installation worksheet provided for your configuration to ensure that you have all the information required before beginning installation.

As Oracle continues to support new releases and changes of the Oracle database server and Microsoft SQL Server, the supported configuration information is updated. For current, supported configuration information, visit:

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

Gateway System Requirements

The following tables summarize system requirements for Oracle Transparent Gateways. Oracle Corporation supports the software configurations described in this section as long as the underlying system software products are supported by their respective vendors. Verify the latest support status with your system software vendors. Refer to the table that contains information about the database type for which you need access:

- Microsoft SQL Server Gateway System Requirements
- Sybase Gateway System Requirements
- Teradata Gateway System Requirements

Microsoft SQL Server Gateway System Requirements

Review Table C–1 to ensure that your system meets requirements to create a gateway for the Oracle Transparent Gateway for Microsoft SQL Server.

Table C–1   Microsoft SQL Server Gateway System Requirements

Hardware and Software	Requirements
Processor	An Intel or 100% compatible personal computer (PC), based on a Pentium processor
Memory	26 MB of real memory is recommended to support the gateway. The total real memory requirement for the concurrent use of the gateway also depends on these factors: ■ The SQL statement issued by the user ■ The number of cursors currently opened against Microsoft SQL ■ The number of columns in the table being accessed
CD-ROM Drive	An internal or external CD-ROM drive
Disk Space	200 MB of free disk space
Operating System	Microsoft Windows NT Workstation Version 4.0, Microsoft Windows NT Server Version 4.0, or Microsoft Windows 2000
Oracle Database Server	Oracle9*i* Database release 1 (9.0.1) The Oracle database server can reside on any supported platform.
Oracle Networking	On the gateway computer: ■ Oracle Net Services ■ Oracle Protocol Support for Named Pipes or TCP/IP On the Oracle database server computer: ■ Oracle Net Services ■ Oracle Protocol Support for Named Pipes or TCP/IP The Oracle Net Services components are included on the Oracle9*i* component CD-ROM.
Microsoft	■ Network transport protocol software, TCP/IP or Named Pipes, included with Microsoft Windows NT ■ Microsoft SQL Server Version 7.0 or SQL Server 2000, installed on a computer with Microsoft Windows NT Server

Sybase Gateway System Requirements

Review Table C–2 to ensure that your system meets requirements to create a gateway for the Oracle Transparent Gateway for Sybase.

Table C–2   Sybase Gateway System Requirements

Hardware and Software	Requirements
Processor	An Intel or 100% compatible personal computer (PC), based on a Pentium processor
Memory	26 MB of real memory is recommended to support the gateway. The total real memory requirement for the concurrent use of the gateway also depends on these factors: ■ The SQL statement issued by the user ■ The number of cursors currently opened against Sybase ■ The number of columns in the table being accessed
CD-ROM Drive	An internal or external CD-ROM drive
Disk Space	200 MB of free disk space
Operating System	Microsoft Windows NT Workstation Version 4.0, Microsoft Windows NT Server Version 4.0, or Microsoft Windows 2000
Oracle Database Server	Oracle9*i* Database release 1 (9.0.1) The Oracle database server can reside on any supported platform.
Oracle Networking	On the gateway computer: ■ Oracle Net Services ■ Oracle Protocol Support for Named Pipes or TCP/IP On the Oracle database server computer: ■ Oracle Net Services ■ Oracle Protocol Support for Named Pipes or TCP/IP The Oracle Net Services components are included on the Oracle9*i* component CD-ROM.
Sybase	Sybase Server or Client, version 11.9.2 or 12.0 is required. If Sybase Server is not on the same computer as the gateway, then the version of Sybase Open client library certified for your Sybase Server is required.

Teradata Gateway System Requirements

Review Table C–3 to ensure that your system meets requirements to create a gateway for the Oracle Transparent Gateway for Teradata.

Table C–3   Teradata Gateway System Requirements

Hardware and Software	Requirements
Processor	An Intel or 100% compatible personal computer (PC), based on a Pentium processor
Memory	26 MB of real memory is recommended to support the gateway. The total real memory requirement for the concurrent use of the gateway also depends on these factors: ■ The SQL statement issued by the user ■ The number of cursors currently opened against Teradata ■ The number of columns in the table being accessed
CD-ROM Drive	An internal or external CD-ROM drive
Disk Space	200 MB of free disk space
Operating System	Windows NT Workstation Version 4.0, Microsoft Windows NT Server Version 4.0, or Microsoft Windows 2000
Oracle Database Server	Oracle9*i* Database release 1 (9.0.1) The Oracle database server can reside on any supported platform.
Oracle Networking	On the gateway computer: ■ Oracle Net Services ■ Oracle Protocol Support for Named Pipes or TCP/IP On the Oracle database server computer: ■ Oracle Net Services ■ Oracle Protocol Support for Named Pipes or TCP/IP The Oracle Net Services components are included on the Oracle9*i* component CD-ROM.
Teradata	Teradata V2R.03.00.02 or V2R.04.00.0115
NCR's Teradata ODBC Driver	Version 02.08.00.00

Tested Gateway Configurations

The following tables provide gateway configurations tested by Oracle at the time of this document release. Oracle continues to provide support for the most recent releases of Oracle and non-Oracle systems in a timely manner.

> **See Also:** Oracle Corporation continually updates supported gateway configurations. For the latest supported configuration information, either contact Oracle Support Services or visit the following Web site:
>
> `http://www.oracle.com/gateways/`

Microsoft SQL Server Gateway Configurations

See Table C–4 for configurations for creating a gateway for the Oracle Transparent Gateway for Microsoft SQL Server.

Table C–4   Microsoft SQL Server Gateway Configurations

Database	Gateway and Operating System
Microsoft SQL Server Version 7.0	tg4msql release 9.0.1 running on Windows NT 4.0, Service Pack 6.0.a
	tg4msql release 9.0.1 running on Windows 2000, Service Pack 2
Microsoft SQL Server 2000	tg4msql release 9.0.1 running on Windows NT 4.0, Service Pack 6.0.a
	tg4msql release 9.0.1 running on Windows 2000, Service Pack 2

Sybase Gateway Configurations

See Table C–5 for configurations for creating a gateway for the Oracle Transparent Gateway for Sybase.

Table C–5   Sybase Gateway Configurations

Database	Gateway and Operating System
Sybase Version 11.9.2	tg4sybs release 9.0.1 running on Windows NT 4.0, Service Pack 6.0.a
	tg4sybs release 9.0.1 running on Windows 2000, Service Pack 2
Sybase Version 12.0	tg4sybs release 9.0.1 running on Windows NT 4.0, Service Pack 6.0.a
	tg4sybs release 9.0.1 running on Windows 2000, Service Pack 2

Teradata Gateway Configurations

See Table C–6 for configurations for creating a gateway for the Oracle Transparent Gateway for Teradata.

Table C–6   Teradata Gateway Configurations

Database	Gateway and Operating System
Teradata V2R.03.00.02 through NCR's Teradata ODBC Driver Version 02.08.00.00	tg4tera release 9.0.1 running on Windows NT 4.0, Service Pack 6.0.a
	tg4tera release 9.0.1 running on Windows 2000, Service Pack 2
Teradata V2R.04.00.0115 through NCR's Teradata ODBC Driver Version 02.08.00.00	tg4tera release 9.0.1 running on Windows NT 4.0, Service Pack 6.0.a
	tg4tera release 9.0.1 running on Windows 2000, Service Pack 2

Gateway Installation Worksheets

Select the worksheet appropriate for your system in one of the following tables, and use the values you enter as a reference during the configuration process:

- Microsoft SQL Server Worksheet
- Sybase Worksheet
- Teradata Worksheet

Microsoft SQL Server Worksheet

Enter your system values in Table C–7 to prepare for a Microsoft SQL Server gateway configuration.

Table C–7 Microsoft SQL Server Installation Worksheet

Description	Value
Oracle database server computer name	
Oracle database server platform (operating system and its version number)	
ORACLE_HOME of Oracle database server (full path name)	
Gateway computer name	
Gateway computer platform (operating system and its version number)	
ORACLE_HOME of the gateway (full path name)	
Name of the Microsoft SQL Server to which the gateway will connect	
Name of the Microsoft SQL Server database to which the gateway will connect	

Sybase Worksheet

Enter your system values in Table C–8 to prepare for a Sybase gateway configuration.

Table C–8   Sybase Installation Worksheet

Description	Value
Oracle database server computer name	
Oracle database server platform (operating system and its version number)	
ORACLE_HOME of Oracle database server (full path name)	
Gateway computer name	
Gateway computer platform (operating system and its version number)	
ORACLE_HOME of the gateway (full path name)	
Name of the Sybase Server to which the gateway will connect	
Name of the Sybase database to which the gateway will connect	

Teradata Worksheet

Enter your system values in Table C–9 to prepare for a Teradata gateway configuration.

Table C–9   Teradata Installation Worksheet

Description	Value
Oracle database server computer name	
Oracle database server platform (operating system and its version number)	
ORACLE_HOME of Oracle database server (full path name)	
Gateway computer name	
ORACLE_HOME of the gateway (full path name)	
ODBC Data Source Name (DSN) to be used by the gateway	

Installing Oracle Transparent Gateways

Complete instructions for starting Oracle Universal Installer and installing the Gateway software are discussed in Chapter 4.

> **See Also:**
>
> - "Installing Oracle Components" on page 4-5 for information about starting Oracle Universal Installer
>
> - "Custom Oracle9i Database Installations" on page 4-13 for information about installing the Gateway software
>
> - "Reviewing the Installation Session Log" on page 4-37 for a summary of your installation session

Deinstalling Oracle Transparent Gateways

Complete instructions for deinstalling Oracle components are discussed in Chapter 4.

> **See Also:** "Deinstalling Components with Oracle Universal Installer" on page 4-40

D

Advanced Installation Topics

This appendix describes advanced installation topics.

This appendix contains these topics:

- About Oracle Components in Noninteractive Mode
- About Oracle Components in Different Languages
- About Web-based Installations

About Oracle Components in Noninteractive Mode

> **Note:** Noninteractive deinstallations are not supported at this time.

Typically, Oracle Universal Installer runs in interactive mode, which means you are prompted to provide information in windows. However, experienced users can also run Oracle Universal Installer in noninteractive (also called silent) mode by using response files. These are text files containing variables and values used by Oracle Universal Installer during the installation process.

Silent installations are recommended in cases when no interaction with the user is intended or when a nongraphical terminal is used. The user needs to first edit a response file to specify the components to install. With Oracle Universal Installer (OUI) release 1.7.*x* or earlier, the target installation system still requires login to a desktop system on Windows NT.

Using silent installation enables you to bypass the graphical user interface (GUI) of Oracle Universal Installer interactive mode. Table D–1 lists the available response files in the \Response directory on the first component CD-ROM:

Table D–1   Response Files

Response File Name	This File Silently Runs The...
enterprise.rsp	Enterprise Edition installation of Oracle9*i* Database
standard.rsp	Standard Edition installation of Oracle9*i* Database
personal.rsp	Personal Edition installation of Oracle9*i* Database
custom.rsp	Custom installation of Oracle9*i* Database
clientadmin.rsp	Administrator installation of Oracle9*i* Client
clientruntime.rsp	Runtime installation of Oracle9*i* Client
clientcustom.rsp	Custom installation of Oracle9*i* Client
oms.rsp	Oracle Management Server installation of Oracle9*i* Management and Integration
oid.rsp	Oracle Internet Directory installation of Oracle9*i* Management and Integration
omicustom.rsp	Custom installation of Oracle Management Infrastructure

Table D–1   Response Files (Cont.)

Response File Name	This File Silently Runs The...
`dbca.rsp`	Oracle Database Configuration Assistant
`netca.rsp`	Oracle Net Configuration Assistant to perform the configuration you receive with the Enterprise Edition, Standard Edition, Personal Edition, Administrator, Runtime, Oracle Integration Server, Oracle Management Server, or Oracle Internet Directory installation types.
`emca.rsp`	Oracle Enterprise Manager Configuration Assistant as a component or as part of a silent installation session to create a repository. See "Running Oracle Enterprise Manager Configuration Assistant in Silent Mode" on page D-5 for procedures.

Copying and Modifying a Response File

To copy and modify a response file:

1. Copy the appropriate files from the `\Response` directory on the first component CD-ROM to your hard drive.

2. Choose Start > Programs > Oracle Installation Products > Universal Installer Concepts Guide.

   The *Oracle Universal Installer Concepts Guide* appears in HTML format.

3. Modify the templates with any text file editor by following the instructions in both the response files and the *Oracle Universal Installer Concepts Guide*.

Creating a Single Installation Stage From Multiple CD-ROMs

Release 1 (9.0.1) is included on three component CD-ROMs. This means that you may not be able to answer all installation questions, walk away, and expect the installation to be finished upon return. It is possible to copy the contents of the three CD-ROMs to a hard disk staging area so that Oracle Universal Installer finds the second and third CD-ROMs without prompting.

To create a single installation stage from multiple CD-ROMs:

1. Ensure that you have enough disk space on your hard drive to hold the contents of three CD-ROMs.

2. Create three directories at the same level on your hard drive with the names `Disk1`, `Disk2`, and `Disk3`. You must use these names.

3. Copy the contents of component CD-ROM 1 of 3 to the directory named `Disk1`.

4. Copy the contents of component CD-ROM 2 of 3 to the directory named `Disk2`.

5. Copy the contents of component CD-ROM 3 of 3 to the directory named `Disk3`.

6. Run `setup.exe` from the directory named `Disk1`.

   Installation proceeds without prompting you to insert additional component CD-ROMs.

Running Oracle Universal Installer and Specifying a Response File

To run Oracle Universal Installer and specify the response file:

1. Go to the MS-DOS command prompt.

2. Go to the directory where Oracle Universal Installer is installed.

3. Run the appropriate response file. For example,

   ```
   C:\program files\oracle\oui\install> setup.exe –RESPONSEFILE
   filename –SILENT –NOWELCOME
   ```

Where...	Description
filename	Identifies the full path of the specific response file
–SILENT	Runs Oracle Universal Installer in complete silent mode. The Welcome window is suppressed automatically. This parameter is optional. If you use -SILENT, -NOWELCOME is not necessary.
–NOWELCOME	Suppresses the Welcome window that appears during installation. This parameter is optional.

See Also: *Oracle Universal Installer Concepts Guide*

Running Oracle Enterprise Manager Configuration Assistant in Silent Mode

You can silently run Oracle Enterprise Manager Configuration Assistant as a standalone component or as part of a silent installation session to create a repository. Advanced features, such as repository upgrade, deletion, and modification from silent mode are not supported. These advanced features of Oracle Enterprise Manager Configuration Assistant must be performed in interactive mode.

Oracle Enterprise Manager Configuration Assistant in silent mode only supports repository creation.

> **Important:** If you create more than one Oracle Enterprise Manager repository in a network, then each Oracle Enterprise Manager repository username must be unique. Ensure that the value specified for the repository USERNAME variable in the emca.rsp file is unique across your network.
>
> It is extremely important to ensure that the name of each repository user created is unique across your entire network. If you use the same response file more than once to create a repository, the repositories created must be on separate networks.

Silently Running Oracle Enterprise Manager Configuration Assistant as a Standalone Component

1. Ensure that Oracle Management Server is installed on the computer on which to silently run Oracle Enterprise Manager Configuration Assistant.

2. Verify that *ORACLE_BASE**ORACLE_HOME*\bin is set in the Windows NT or 2000 environment path.

3. Copy the emca.rsp response file from the \Response file directory of the first component CD-ROM to a local directory.

4. Edit emca.rsp by following the instructions in the file.

> **Important:** Ensure that the value specified for the repository USERNAME variable in the emca.rsp file is unique across your network.

5. Navigate to *ORACLE_BASE**ORACLE_HOME*\bin.

6. Run `emca.rsp` from the command prompt:

   ```
   C:\ORACLE_BASE\ORACLE_HOME\bin> emca -RESPONSEFILE
   path\emca.rsp -SILENT
   ```

   where `path` is the path to `emca.rsp`. For example, `C:\temp`.

   > **Note:** `-RESPONSEFILE` and `-SILENT` parameters are required when running `emca.rsp`.

Running Oracle Enterprise Manager Configuration Assistant in a Silent Installation Session

Oracle Management Server is automatically installed with the `enterprise.rsp`, `standard.rsp`, and `personal.rsp` response files. If you use these response files to install Oracle Management Server and you want to create a new repository, you must run Oracle Enterprise Manager Configuration Assistant after the silent installation.

You can either run Oracle Enterprise Manager Configuration Assistant interactively to create the repository, or you can edit and run the `emca.rsp` response file to silently create the repository. Automatically running Oracle Enterprise Manager Configuration Assistant silently after:

- An `enterprise.rsp`, `standard.rsp` or `personal.rsp` response file installation is not supported

- A `custom.rsp` response file installation is supported. Refer to the steps in this section for instructions

To automatically start Oracle Enterprise Manager Configuration Assistant during a Custom Oracle9*i* Database, an Oracle Management Server, or a Custom Oracle9*i* Management and Integration response file installation, perform the following steps:

1. Copy the parent installation response file to a local directory. Oracle Management Server, which must be installed with the parent silent installation, is only available for installation in the following parent response files:

   - `custom.rsp`

   - `oms.rsp`

   - `omicustom.rsp`

2. Edit the file by following the instructions in that file.

3. Ensure that Oracle Enterprise Manager Configuration Assistant starts in silent mode by editing the following variables in the `[oracle.sysman.oms_9.0.1.0.0]` section of the parent response file:

`OPTIONAL_CONFIG_TOOLS`

`launchEMCA`

`s_responseFileEMCA`

> **Note:** On Windows NT or 2000, the `OPTIONAL_CONFIG_TOOLS` variable must be set to `emca.bat.`

4. Copy the `emca.rsp` response file to a local directory.

5. Edit `emca.rsp` by following the instructions in the file.

> **Note:** Ensure that the value specified for the repository user's `USERNAME` variable in `emca.rsp` is unique across your network.

6. Go to the directory where Oracle Universal Installer is installed.

7. Run the parent response file. This automatically starts the Oracle Enterprise Manager Configuration Assistant response file (`emca.rsp`) when silent installation is complete. For example,

`C:\> setup.exe -RESPONSEFILE filename -SILENT`

where `filename` is the full path of the parent response file.

An example of an updated `[oracle.sysman.oms_9.0.1.0.0]` section of a parent response file for Windows NT and Windows 2000 is partially shown below:

```
[oracle.sysman.oms_9.0.1.0.0]
#-------------------------------------------------------------------------
# Name          : OPTIONAL_CONFIG_TOOLS
# Datatype      : StringList
# Description   : Specifying "emca" will launch the Oracle Enterprise
#                 Manager Migration Assistant configuration tool at the end
#                 of installation.
# Valid values  : {"emca"} or {}
# Example value : {"emca"}
# Default value : {}
```

```
# Mandatory      : No
#------------------------------------------------------------------------------

OPTIONAL_CONFIG_TOOLS={emca}

#------------------------------------------------------------------------------
# Name           : launchEMCA
# Datatype       : Boolean
# Description     : Launch the Enterprise Manager Configuration Assistant
#                  at the end of installation to configure Oracle Management
#                  Server
# Valid values   : true, false
# Example value  : true
# Default value  : true
# Mandatory      : No
#------------------------------------------------------------------------------

launchEMCA=<true>

#------------------------------------------------------------------------------
# Name           : s_responseFileEMCA
# Datatype       : String
# Description     : This string contains the value of the -responseFile
#                  argument for launching the Enterprise Manager
#                  Configuration Assistant in silent mode.  Use the
#                  "emca.rsp" response file template from the CD to customize
#                  silent Enteprise Manager configuration.  Set the value of
#                  this variable to your customized EMCA response file
#                  location.
# Valid values   : The full path to a customized EMCA response file based on
#                  the emca.rsp template.
# Example value  : "c:\temp\response\emca.rsp"
# Default value  : None
# Mandatory      : Yes, for installs with the "-silent" flag
#------------------------------------------------------------------------------

s_responseFileEMCA=<c:\temp\response\emca.rsp>
```

About Oracle Components in Different Languages

This section describes the following features:

- Running Oracle Universal Installer in Different Languages
- Using Oracle Components in Different Languages

Running Oracle Universal Installer in Different Languages

Oracle Universal Installer runs by default in the selected language of your operating system. Oracle Universal Installer can also be run in the languages shown in the following table:

■ Brazilian Portuguese	■ German	■ Japanese	■ Simplified Chinese
■ French	■ Italian	■ Korean	■ Spanish

To run Oracle Universal Installer in a different language:

1. Change the language in which your operating system is running. For example, on Windows NT:

   a. Choose Start > Settings > Control Panel > Regional Settings.

   b. Select a language from the above list and choose OK.

2. Run Oracle Universal Installer by following the instructions in "Installing Oracle Components" on page 4-5.

> **Note:** The selected language is assigned to the NLS_LANG registry parameter.

> **See Also:** "Configuration Parameters and the Registry" of *Oracle9i Database Getting Starting for Windows* for more information on using the registry

Using Oracle Components in Different Languages

You can select other languages in which to use Oracle components (for example, Oracle Net Configuration Assistant, Oracle Database Configuration Assistant, Oracle Enterprise Manager Configuration Assistant). Note that this does *not* change the language in which Oracle Universal Installer is run. For the Oracle component to run in the selected language, it must be the same as the language set for your operating system. You can change your operating system language in the Control Panel's Regional Settings window.

To use components in different languages:

1. Follow the instructions in "Installing Oracle Components" on page 4-5 to start Oracle Universal Installer.

2. Select the top-level component you want to install:

   - Oracle9*i* Database

   - Oracle9*i* Client

   - Oracle9*i* Management and Integration

3. Select the Custom installation type.

   The Available Product Components window appears.

4. Choose Product Languages.

   The Language Selection window appears.

5. Select a language in which to use Oracle components from the Available Languages field.

6. Use the > arrow to move the language to the Selected Languages field and choose OK.

7. Select appropriate components for installation and choose Next.

   After installation is complete, the dialog box wording, messages, and online help for the installed components display in the language you selected.

About Web-based Installations

To install Oracle components from a Web browser:

1. Configure your Web server so that it can serve files from the release 1 (9.0.1) component CD-ROMs.

2. In the File Locations window of Oracle Universal Installer, enter the URL of the `products.jar` file. For example:

   `http://acme.us.oracle.com/901/stage/products.jar`

When performing a Web-based installation on a computer in which no Oracle products have previously been installed, you may experience two errors. These errors occur when installing the Oracle Administration Assistant for Windows NT and Oracle Intelligent Agent. Both errors occur when Oracle Universal Installer attempts to download a library from the indicated URL. The error messages are as follows:

- First error:

  `Error Occurred`

- Second error:

  `There was an error during loading library : NtServicesQueries.`

To work around these two errors, do the following:

1. In both cases, when the errors occur, you are given an option to stop the installation of all components or to stop the installation of that particular component. Choose to stop the installation of only that particular component and continue.

2. After installation is complete, restart Oracle Universal Installer.

3. Use the same URL as was used in the original installation, and perform an Oracle9*i* Database Custom installation.

4. In the Available Product Components window of Oracle Universal Installer, choose to install Oracle Intelligent Agent (located under Oracle Enterprise Manager Products) and Oracle Administration Assistant for Windows NT. Deselect all other selected components.

   The installation of these two components now proceeds normally.

E

Globalization Support

This appendix describes Globalization Support.

This appendix contains these topics:

- About NLS_LANG Parameters
- Commonly Used Values for NLS_LANG
- NLS_LANG Settings in MS-DOS Mode and Batch Mode

About NLS_LANG Parameters

Oracle provides Globalization Support that enables users to interact with a database in their own language, as defined by the NLS_LANG parameter. When you install Oracle9*i* components, the NLS_LANG parameter is set in the registry.

The default value of the NLS_LANG parameter at installation is automatically chosen based on the locale setting of the operating system. The operating system locale and NLS_LANG value mappings are listed under "Commonly Used Values for NLS_LANG" on page E-3.

The NLS_LANG parameter is stored in the registry under the HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\HOME*ID*\NLS_LANG subkey, where *ID* is the unique number identifying the Oracle home.

The NLS_LANG parameter uses the following format:

NLS_LANG = *LANGUAGE_TERRITORY.CHARACTER_SET*

where:

LANGUAGE	Specifies the language and conventions for displaying messages, day name, and month name.
TERRITORY	Specifies the territory and conventions for calculating week and day numbers.
CHARACTER_SET	Controls the character set used for displaying messages.

See Also:

- *Oracle9i Database Getting Starting for Windows* for more information on the subkey locations for multiple Oracle homes

- *Oracle9i Globalization Support Guide* for information on the NLS_LANG parameter and Globalization Support initialization parameters

Commonly Used Values for NLS_LANG

Table E–1 lists commonly used `NLS_LANG` values for various operating system locales:

Table E–1   NLS_LANG Parameter Values

Operating System Locale	NLS_LANG Value
Arabic (U.A.E.)	ARABIC_UNITED ARAB EMIRATES.AR8MSWIN1256
Bulgarian	BULGARIAN_BULGARIA.CL8MSWIN1251
Catalan	CATALAN_CATALONIA.WE8MSWIN1252
Chinese (PRC)	SIMPLIFIED CHINESE_CHINA.ZHS16GBK
Chinese (Taiwan)	TRADITIONAL CHINESE_TAIWAN.ZHT16MSWIN950
Croatian	CROATIAN_CROATIA.EE8MSWIN1250
Czech	CZECH_CZECH REPUBLIC.EE8MSWIN1250
Danish	DANISH_DENMARK.WE8MSWIN1252
Dutch (Netherlands)	DUTCH_THE NETHERLANDS.WE8MSWIN1252
English (United Kingdom)	ENGLISH_UNITED KINGDOM.WE8MSWIN1252
English (United States)	AMERICAN_AMERICA.WE8MSWIN1252
Estonian	ESTONIAN_ESTONIA.BLT8MSWIN1257
Finnish	FINNISH_FINLAND.WE8MSWIN1252
French (Canada)	CANADIAN FRENCH_CANADA.WE8MSWIN1252
French (France)	FRENCH_FRANCE.WE8MSWIN1252
German (Germany)	GERMAN_GERMANY.WE8MSWIN1252
Greek	GREEK_GREECE.EL8MSWIN1253
Hebrew	HEBREW_ISRAEL.IW8MSWIN1255
Hungarian	HUNGARIAN_HUNGARY.EE8MSWIN1250
Icelandic	ICELANDIC_ICELAND.WE8MSWIN1252
Indonesian	INDONESIAN_INDONESIA.WE8MSWIN1252
Italian (Italy)	ITALIAN_ITALY.WE8MSWIN1252
Japanese	JAPANESE_JAPAN.JA16SJIS

Table E–1   NLS_LANG Parameter Values (Cont.)

Operating System Locale	NLS_LANG Value
Korean	KOREAN_KOREA.KO16MSWIN949
Latvian	LATVIAN_LATVIA.BLT8MSWIN1257
Lithuanian	LITHUANIAN_LITHUANIA.BLT8MSWIN1257
Norwegian	NORWEGIAN_NORWAY.WE8MSWIN1252
Polish	POLISH_POLAND.EE8MSWIN1250
Portuguese (Brazil)	BRAZILIAN PORTUGUESE_BRAZIL.WE8MSWIN1252
Portuguese (Portugal)	PORTUGUESE_PORTUGAL.WE8MSWIN1252
Romanian	ROMANIAN_ROMANIA.EE8MSWIN1250
Russian	RUSSIAN_CIS.CL8MSWIN1251
Slovak	SLOVAK_SLOVAKIA.EE8MSWIN1250
Spanish (Spain)	SPANISH_SPAIN.WE8MSWIN1252
Swedish	SWEDISH_SWEDEN.WE8MSWIN1252
Thai	THAI_THAILAND.TH8TISASCII
Spanish (Mexico)	MEXICAN SPANISH_MEXICO.WE8MSWIN1252
Spanish (Venezuela)	LATIN AMERICAN SPANISH_VENEZUELA.WE8MSWIN1252
Turkish	TURKISH_TURKEY.TR8MSWIN1254
Ukrainian	UKRAINIAN_UKRAINE.CL8MSWIN1251
Vietnamese	VIETNAMESE_VIETNAM.VN8MSWIN1258

NLS_LANG Settings in MS-DOS Mode and Batch Mode

When using the Oracle Internet Directory command line tools and Oracle utilities such as SQL*Plus, SQL Loader, Import, and Export in MS-DOS mode, the character set field of the NLS_LANG parameter for the session must first be set to the correct value.

> **Note:** Oracle Internet Directory command line tools are run from the computer's MS-DOS command prompt. You do *not* need a UNIX emulation utility for Windows NT to run these tools. An emulation utility is only required for running Oracle Internet Directory's shell script tools. See *Oracle Internet Directory Administrator's Guide* for more information.

This is required because MS-DOS mode uses, with a few exceptions, a different character set (or code-page) from Windows (ANSI code-page), and the default Oracle home NLS_LANG parameter in the registry is always set to the appropriate Windows code-page. If the NLS_LANG parameter for the MS-DOS mode session is not set appropriately, error messages and data can be corrupted due to incorrect character set conversion.

For Japanese, Korean, Simplified Chinese, and Traditional Chinese, the MS-DOS code-page is identical to the ANSI code-page. In this case, there is no need to set the NLS_LANG parameter in MS-DOS mode.

Similarly, in batch mode, set the correct character set value of the NLS_LANG by inserting a SET NLS_LANG command at the start of the batch procedure, according to the character set of the files to be processed in the procedure.

Table E–2 lists the Oracle character sets that correspond to the MS-DOS mode for various operating system locales:

Table E–2 Oracle Character Sets for Operating System Locales

Operating System Locale	Character Set
Arabic	AR8ASMO8X
Catalan	WE8PC850
Chinese (PRC)	ZHS16GBK
Chinese (Taiwan)	ZHT16MSWIN950
Czech	EE8PC852

Table E–2   Oracle Character Sets for Operating System Locales (Cont.)

Operating System Locale	Character Set
Danish	WE8PC850
Dutch	WE8PC850
English (United Kingdom)	WE8PC850
English (United States)	US8PC437
Finnish	WE8PC850
French	WE8PC850
German	WE8PC850
Greek	EL8PC737
Hungarian	EE8PC852
Italian	WE8PC850
Japanese	JA16SJIS
Korean	KO16MSWIN949
Norwegian	WE8PC850
Polish	EE8PC852
Portuguese	WE8PC850
Romanian	EE8PC852
Russian	RU8PC866
Slovak	EE8PC852
Slovenian	EE8PC852
Spanish	WE8PC850
Swedish	WE8PC850
Turkish	TR8PC857

> **See Also:**   "Managing Globalization Support in the Directory" of
> *Oracle Internet Directory Administrator's Guide* for Oracle Internet
> Directory Globalization Support issues and required NLS_LANG
> environment variables for the various components and tools in an
> Oracle Internet Directory environment

F

Installing and Removing Legato Components

This appendix describes how to install and remove Legato Storage Manager (LSM) components.

This appendix contains these topics:

- About LSM Server
- About LSM Administrator GUI

> **Note:** You do *not* need to separately install these two Legato components on the same computer. The LSM server software includes LSM Administrator GUI. If you install LSM server, do *not* separately install LSM Administrator GUI on the same computer. To administer LSM server from a separate Windows NT or Windows 2000 computer, install LSM Administrator GUI on that Windows NT or Windows 2000 computer using the instructions in "Installing LSM Administrator GUI" on page F-7.

About LSM Server

LSM server is a media management layer (MML). An MML, such as LSM, is required for backing up and restoring from tape storage if you are using Recovery Manager (RMAN) for Oracle database backups and restores. LSM is a scaled-down version of Legato NetWorker.

This section describes how to perform the following steps:

- Updating LSM Server
- Installing LSM Server
- Removing LSM Server

> **Note:** If you install LSM server software according to the instructions in this section, you do *not* need to separately install LSM Administrator GUI on the same computer.

Updating LSM Server

To update to a newer version of LSM server:

1. Perform a partial removal of LSM server by following the steps in "Removing LSM Server" on page F-5 and selecting Partial Removal.

2. Install the updated version of LSM server by following the steps in "Installing LSM Server" on page F-2.

Installing LSM Server

To install LSM server:

1. Log on to the computer as a member of the Administrator's group of Windows NT or Windows 2000.

2. Shut down all Oracle instances on the Windows system, using SQL*Plus.

3. Stop all Oracle database services. Oracle database services are of the form `OracleServiceSID`. For example, on Windows NT:

   a. Choose Start > Settings > Control Panel.

   b. Choose Services.

   c. Select `OracleServiceSID`, and choose Stop.

   d. Choose Close to exit from the Services window.

4. Insert the first component CD-ROM. The Autorun window appears.

   If the Autorun window does not appear:

   a. Choose Start > Run.

   b. Enter the following:

      `DRIVE_LETTER:\autorun\autorun.exe`

      The Autorun window appears.

5. Choose Explore CD.

6. Navigate to the `\lsm` directory.

7. Choose the `lsm57_nt.exe` self-extracting zip file.

8. Specify a directory in which to unzip the files when prompted.

9. Choose the `lsminst.exe` file.

   When the installation is complete, the LSM server is installed in the `C:\win32app\nsr` directory by default.

> **Important:** Running `lsminst.exe` installs the LSM server software in `C:\win32app\nsr` by default. If you do *not* want LSM server installed in this directory due to insufficient space, lack of a `C:` drive, and so on, follow these instructions:
>
> 1. Copy the entire LSM directory from the CD-ROM to the drive in which you want to install LSM server.
>
> 2. Extract the files from the `lsm57_nt.exe` self-extracting zip file.
>
> 3. Modify the `server.iss` file located in the LSM directory. Change `Path=C:\win32app\nsr\` to `Path=drive:\path name`. You can change either the drive name (from the default `C:`) or the directory path name (from the default `\win32app\nsr\`), or both. The `Path` must end with `\nsr` and must not contain any spaces. Save the updated `server.iss` file.
>
> 4. Choose `lsminst.exe`.
>
> Follow the instructions in step 10 to verify the installation.

10. Verify that Legato services have started.

    On Windows NT:

    a. Choose Start > Settings > Control Panel.

    b. Choose Services.

    On Windows 2000:

    - Choose Start > Programs > Administrative Tools > Services.

    Check that the Status of each of the following services is marked Started:

    `NetWorker Backup and Recover Server`

    `NetWorker Power Monitor` (on Windows 2000 only)

    `NetWorker Remote Exec Service`

11. Add the LSM installation directory to your system search path:

    a. Open the Control Panel.

    b. Choose System.

    c. Choose the Environment tab.

    d. Select `Path` from the System Variables list box.

    e. Add the following to the Value field:

       `;C:\win32app\nsr\bin`

    where the semicolon (`;`) separates the new entry from the existing entries. If you installed LSM server in a nondefault drive or directory, replace `C:\win32app\nsr\bin` above with the correct drive and path name, where the path name always ends in `\bin`.

    f. Choose Set.

    g. Choose OK.

    h. Restart your computer for all changes to take effect.

    See Also: The "Media Management" chapter in the *Legato Storage Manager Administrator's Guide* for storage device configuration information

Removing LSM Server

Important: Do *not* remove your indexes if you are upgrading from LSM to Legato NetWorker Module for Oracle. Select Partial Removal. Ensure that you have a recent, full backup of the file indexes (`\nsr\index`), server resource files (`\nsr\res`), and media database (`\nsr\mm`) available. See the *Installation Guide* for the Legato NetWorker Module for the Oracle version to which you are upgrading.

You cannot remove LSM server using Oracle Universal Installer. Follow the steps below to remove the LSM server software.

To remove LSM server:

1. Log on to the computer as a member of the Administrator's group of Windows NT or Windows 2000.

2. Shut down all Oracle instances on the Windows system, using SQL*Plus.

3. Stop all Oracle database services. Oracle database services are of the form `OracleServiceSID`. For example, on Windows NT:

   a. Choose Start > Settings > Control Panel.

   b. Choose Services.

   c. Select `OracleServiceSID`, and choose Stop.

   d. Choose Close to exit from the Services window.

4. Choose Start > Programs > NetWorker Group > Uninstall NetWorker.

5. Select either Complete Removal or Partial Removal.

   > **Note:** Select Complete Removal only if you want to remove all your database, index, and resource files.

   The NetWorker Uninstaller removes LSM server from your computer.

6. If you are updating from a previous version of the LSM server software on Windows NT, remove the interface file, `orasbt.dll`, from the `C:\winnt\system32` directory, where `winnt` is the installation directory for Windows NT.

7. If you selected Partial Removal, be sure to remove the `nsr\bin` directory manually. For example, if LSM was installed in the default directory, then remove the `C:\win32app\nsr\bin` directory.

About LSM Administrator GUI

If you want to administer LSM server from a separate Windows NT or Windows 2000 computer, you need to install LSM Administrator GUI (included on the first component CD-ROM) on the computer.

This section describes how to perform the following steps:

- Updating LSM Administrator GUI
- Installing LSM Administrator GUI
- Removing LSM Administrator GUI

Updating LSM Administrator GUI

To update to a newer version of LSM Administrator GUI on your Windows NT client computer:

1. Perform a complete removal of the existing LSM Administrator GUI using the procedure in "Removing LSM Administrator GUI" on page F-9.

2. Install the updated version of LSM Administrator GUI using the procedure in "Installing LSM Administrator GUI" on page F-7.

Installing LSM Administrator GUI

If you plan to use LSM server to back up to tape, and want to administer LSM server from a Windows NT or Windows 2000 client computer, you need to install LSM Administrator GUI on the client computer.

Note: Installation of LSM Administrator GUI is supported only on Windows NT and Windows 2000. Also, before you install LSM Administrator GUI, be sure that LSM server and NetWorker software are *not* currently installed on your Windows NT or Windows 2000 client computer.

To install LSM Administrator GUI on your Windows NT or Windows 2000 client computer:

1. Log on to the computer as a member of the Administrator's group of Windows NT or Windows 2000.

2. Insert the first component CD-ROM into your CD-ROM drive.

3. Navigate to the `\lsm` folder on the CD-ROM.

4. Choose the `lsm57_nt.exe` self-extracting zip file.

5. Specify a directory in which to unzip the files when prompted.

6. Choose `setup.exe`, or run `setup.exe` from the MS-DOS command prompt without any command options. SETUP Options appears.

7. Select Client Only and choose Next.

8. Choose Next in the Choose destination directory window to accept the default destination directory, `C:\Program Files\nsr`, for LSM Administrator GUI installation. To choose an alternate destination directory for the installation, choose Browse and select the desired location.

9. Leave the field blank and choose Next in the Authorize NetWorker Servers window.

   A message box appears stating that the software has been installed successfully.

10. Choose OK.

11. Verify that Legato services have started:

    On Windows NT:

    a. Choose Start > Settings > Control Panel.

    b. Choose Services.

    On Windows 2000:

    ■ Choose Start > Programs > Administrative Tools > Services.

    Check that the Status of each of the following services is marked Started:

    `NetWorker Power Monitor` (on Windows 2000 only)

    `NetWorker Remote Exec Service`

    > **See Also:** *Legato Storage Manager Administrator's Guide* for more information on using LSM Administrator GUI

Removing LSM Administrator GUI

To remove LSM Administrator GUI from your Windows NT or Windows 2000 client computer:

1. Log on to the computer as a member of the Administrator's group of Windows NT or Windows 2000.

2. Shut down all Oracle instances on the Windows system, using SQL*Plus.

3. Stop all Oracle database services. Oracle database services are of the form `OracleServiceSID`. For example, on Windows NT:

   a. Choose Start > Settings > Control Panel.

   b. Choose Services.

   c. Select `OracleServiceSID`, and choose Stop.

   d. Choose Close to exit from the Services window.

4. Choose Start > Programs > NetWorker Group > Uninstall NetWorker.

5. Select Complete as the uninstall option in the Uninstall NetWorker window, and choose OK.

6. When a message box appears stating that the client has been removed successfully, choose OK.

Glossary

automatic undo management mode

A mode of the database in which undo data is stored in a dedicated **undo tablespace**. Unlike in **manual undo management mode**, the only undo management that you must perform is the creation of the undo tablespace. All other undo management is performed automatically.

cluster

A cluster generally comprises two or more computers, or "nodes." Oracle Real Application Clusters software and a collection of hardware, known as a "cluster," unite the processing power of each component to become a single, robust computing environment. Oracle Real Application Clusters is a robust computing environment that harnesses the processing power of multiple, interconnected computers.

connect descriptor

A specially formatted description of the destination for a network connection. A connect descriptor contains destination service and network route information.

The destination service is indicated by using its service name for the Oracle9*i* Database or its Oracle system identifier (**SID**) for Oracle release 8.0, or version 7 databases. The network route provides, at a minimum, the location of the **listener** through use of a network address.

connect identifier

A name, net service name, or service name that resolves to a connect descriptor. Users initiate a connect request by passing a username and password along with a connect identifier in a connect string for the service to which they want to connect, for example:

```
SQL> CONNECT username/password@connect_identifier
```

default domain

The network domain within which most client requests take place. It can be the domain where the client resides, or a domain from which the client often requests network services. The default domain is also the client configuration parameter that determines what domain to append to unqualified network name requests. A name request is unqualified if it does not have a "." character within it.

Directory Information Tree (DIT)

A hierarchical tree-like structure in a directory server of the Distinguished Names (DNs) of the entries.

directory naming context

A subtree that is of significance within a directory server. It is usually the top of some organizational subtree. Some directories only allow one such context that is fixed; others allow none to many to be configured by the directory administrator.

directory naming

A **naming method** that specifies a directory server to resolve a net service name into a connect descriptor. The net service name is stored centrally in a directory server.

directory server

An Lightweight Directory Access Protocol (LDAP)-compliant directory server. A directory can provide centralized storage and retrieval of database network components, user and corporate policies preferences, user authentication, and security information, replacing client-side and server-side localized files.

external procedures

A PL/SQL routine executing on an Oracle server can call an external procedure or function that is written in the C programming language and stored in a shared library. In order for the Oracle9*i* Database to connect to external procedures, the server must be configured with a net service name and the **listener** must be configured with protocol address and service information.

global database name

The 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.

Interprocess Communication (IPC)

A protocol used by client applications that resides on the same node as the **listener** to communicate with the database. IPC can provide a faster local connection than TCP/IP.

installation type

An installation type is a predefined component set that automatically selects which components to install. See "Oracle9i Products for Installation" on page 1-7 for a list of installation types available with each top-level component.

ldap.ora file

A file created by the Oracle Net Configuration Assistant that contains the following directory access information:

- Type of directory
- Location of directory
- Default administrative context the client or server uses to look up or configure connect identifiers for connections to database services

The `ldap.ora` file resides in *ORACLE_BASE**ORACLE_HOME*\network\admin.

listener

A process that resides on the server whose responsibility is to listen for incoming client connection requests and manage the traffic to the server.

When a client requests a network session with a database server, a listener receives the actual request. If the client information matches the listener information, then the listener grants a connection to the database server.

listener.ora file

A configuration file for the listener that identifies the:

- Listener name
- Protocol addresses on which it is accepting connection requests
- Services for which it is listening

The listener.ora file resides in *ORACLE_BASE\ORACLE_ HOME*\network\admin.

An Oracle9*i* Database does not require identification of the database service because of service registration. However, static service configuration is required for an Oracle9*i* Database if you plan to use Oracle Enterprise Manager.

local naming

A **naming method** that resolves a net service name into a connect descriptor. This name is configured and stored in the **tnsnames.ora file** on each individual client.

manual undo management mode

A mode of the database in which undo blocks are stored in user-managed rollback segments. In **automatic undo management mode**, undo blocks are stored in system-managed, dedicated **undo tablespaces**.

naming method

A resolution method used by a client application to resolve a connect identifier to a network address when attempting to connect to a database service. Oracle Net Services supports the following naming methods:

- Local naming
- Directory naming
- Oracle Names
- Host naming
- External naming

net service name

A simple name for a service that resolves to a connect descriptor. Users initiate a connect request by passing a username and password along with a net service name in a connect string for the service to which they want to connect:

```
SQL> CONNECT username/password@net_service_name
```

Depending on your needs, net service names can be stored in a variety of places, including:

- Local configuration file, tnsnames.ora, on each client
- Directory server
- Oracle Names server
- External naming service, such as Network Information Service (NIS) or Cell Directory Service (CDS)

operating system authenticated connections

Windows NT login credentials can be used to authenticate users connecting to an Oracle9i database. The benefits of Windows NT native authentication include:

- Enabling users to connect to multiple Oracle9i databases without supplying a username or password
- Centralizing Oracle9i database user authorization information in Windows NT, which frees Oracle9i from storing or managing user passwords

OPS$

The initialization file parameter `OS_AUTHENT_PREFIX` enables users to specify a prefix that Oracle uses to authenticate users attempting to connect to the database. Oracle concatenates the value of this parameter to the beginning of the user's operating system account name and password. When a connection request is attempted, Oracle compares the prefixed username with Oracle usernames in the database.

The default value of this parameter is `" "` (a null string), thereby eliminating the addition of any prefix to operating system account names. In earlier releases, `OPS$` (short for operating system specific) was the default setting.

Oracle Context

The root of a directory subtree with a relative distinguished name of `cn=OracleContext`, under which all Oracle software information is kept. There may be one (or more than one) Oracle Context in a directory. An Oracle Context can be associated with a directory naming context.

The Oracle Context can contain the following Oracle entries:

- Connect identifiers for use with Oracle Net Services directory naming to make database connections

- Enterprise user security for use with Oracle Advanced Security

Oracle home name

The name of the current Oracle home. Each Oracle home has a home name that distinguishes it from all other Oracle homes on your computer. During installation, you are prompted to enter an Oracle home name in the Name field of the Oracle Universal Installer's File Locations window.

Oracle home

The directory path in which to install Oracle components (for example, `D:\oracle\ora90`). You are prompted to enter an Oracle home in the Path field of the Oracle Universal Installer's File Locations window.

Oracle Management Server

The middle tier of Oracle Enterprise Manager, which provides centralized intelligence and distribution control between console clients and managed nodes.

Oracle schema

A set of rules that determine what can be stored in an LDAP-compliant directory server. Oracle has its own schema that is applied to many types of Oracle entries, including Oracle Net Services entries. The Oracle schema for Oracle Net Services entries includes the attributes the entries may contain.

Oracle9*i* Database Online Documentation CD-ROM

The CD-ROMs in your kit that include the Oracle9*i* Database Online Documentation. The Oracle9*i* Database Online Documentation CD-ROMs are separate from the component CD-ROMs.

The Oracle9*i* Database Online Documentation CD-ROMs do not include this installation guide or *Oracle9i release notes for Windows.* These documents are only included on the first component CD-ROM.

Oracle9*i* Enterprise Edition

The complete database type.

Oracle9*i* Personal Edition

One of the available Oracle9*i* database types. Oracle9*i* Personal Edition for Windows NT and Windows 2000 does not include Oracle Real Application Clusters.

Oracle9*i* Standard Edition

One of the available Oracle9*i* Database types. Oracle9*i* Standard Edition does not include Oracle Advanced Security, Oracle COM Automation Feature, Oracle OLAP Services, Oracle Partitioning, Oracle Real Application Clusters, and Oracle Spatial.

protocol address

An address that identifies the network address of a network object.

When a connection is made, the client and the receiver of the request, such as the **listener**, Oracle Names Server, or Oracle Connection Manager, are configured with identical protocol addresses. The client uses this address to send the connection request to a particular network object location, and the recipient "listens" for requests on this address. It is important to install the same protocols for the client and the connection recipient, as well as configure the same addresses.

repository

A set of tables in an Oracle database that store information regarding the state of services managed and monitored by Oracle Enterprise Manager, as well as information about the separately licensable management packs. It is used as a back-end store by the Oracle Management Servers.

sqlnet.ora file

A configuration file for the client or server that specifies the:

- Client domain to append to unqualified service names or net service names

- Order of naming methods for the client to use when resolving a name

- Logging and tracing features to use

- Route of connections

- Preferred Oracle Names servers

- External naming parameters

- Oracle Advanced Security parameters

The `sqlnet.ora` file resides in *ORACLE_BASE**ORACLE_HOME*\network\admin.

service registration

A feature by which the PMON process (an instance background process) automatically registers information with a **listener**. Because this information is registered with the listener, the **listener.ora file** does not need to be configured with this static information.

Service registration provides the listener with the following information:

- Service name(s) for each running instance of the database

- Instance name(s) of the database

- Service handlers (dispatchers and dedicated servers) available for each instance

  This allows the listener to direct a client's request appropriately.

- Dispatcher, instance, and node load information

  This allows the listener to determine which dispatcher can best handle a client connection's request. If all dispatchers are blocked, the listener can spawn a dedicated server for the connection.

This information allows the listener to determine how best to service a client connection request.

SID

The Oracle system identifier that uniquely distinguishes the database 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 `sales.us.acme.com`) until you reach eight characters or enter a period. You can accept or change the default value.

> **Note:** For Oracle Real Application Clusters, the SID you enter is automatically appended with an identifier. For example, if `DB` is entered, the first instance in the cluster is given a SID of `DB1`, and the second instance is given a SID of `DB2`.

system identifier

See SID.

Terminal Server

Microsoft Windows Terminal Server is a Windows thin-client terminal server, a product that adds support for multiple, simultaneous client sessions on the Windows NT Server. Windows Terminal Server provides an operating system graphical user interface (GUI) to users of Oracle9*i* databases.

tnsnames.ora file

A configuration file that contains net service names mapped to connect descriptors. This file is used for the local naming method. The `tnsnames.ora` file resides in *ORACLE_BASE**ORACLE_HOME*\network\admin.

top-level components

When you run Oracle Universal Installer from the component CD-ROM, you are prompted in the Available Products window to install a top-level component. Each top-level component contains several installation types from which to choose. Each installation type contains a predefined set of individual components. See "Oracle9i Products for Installation" on page 1-7 for a list of installation types available with each top-level component.

UNC

See Universal Naming Convention (UNC)

undo tablespace

A dedicated tablespace that stores only undo information when the database is run in **automatic undo management mode**. An undo tablespace contains one or more undo segments. The creation of any other types of segment (for example, tables, indexes) in undo tablespaces is not allowed.

In the automatic mode, each Oracle instance is assigned one and only one undo tablespace. Each undo tablespace is composed of a set of undo files. Undo blocks are grouped in extents. At any point in time, an extent is either allocated to (and used by) a transaction table, or is free.

Blocks in undo tablespaces are grouped into the following categories:

- File control blocks, bitmap blocks, and so forth used for space management
- Undo segments containing transaction table blocks, undo blocks, and extent-map blocks used for transaction management
- Free blocks that are unallocated to file control or undo segments

unqualified name

A net service name that does not contain a network domain.

Universal Naming Convention (UNC)

The Universal Naming Convention provides a means to access files on a network without mapping the network drive to a drive letter. UNC names are constructed in the following manner:

```
\\computer name\share name\filename
```

Virtual Interface Architecture (VIA)

Virtual Interface Architecture is an industry-standard architecture for intercluster communications. VIA's rapid server-to-server communication enhances an application's scalability and performance. VIA does this by allowing a single application to run efficiently across dozens of clustered nodes and by accelerating the data exchange among distributed application modules running on different application servers.

Index