Oracle9*i*

Database Installation Guide

Release 2 (9.2.0.1.0) for Windows

May 2002

Part No. A95493-01

ORACLE®

Oracle9*i* Database Installation Guide, Release 2 (9.2.0.1.0) for Windows

Part No. A95493-01

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Preface

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

This manual describes only the features of Oracle9*i* for Windows software that apply to the Windows NT, Windows 2000, Windows XP, and Windows 98 operating systems.

This preface contains these topics:

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

Audience

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

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

- Windows NT, Windows 2000, Windows XP, 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 1-9 for information about the Oracle9*i* Database Documentation CD

Organization

This document contains:

Chapter 1, "Introducing Oracle9i for Windows"

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

Chapter 2, "Preinstallation Requirements"

Describes supported operating systems, requirements for Oracle9*i* for Windows installation types and individual components, 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

Glossary

Related Documentation

For more information, see the following resources:

- *Oracle9i Database Getting Started for Windows*
- *Oracle9i Database Administrator's Guide for Windows*
- *Oracle9i Security and Network Integration Guide*
- 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 Oracle Store at

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

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 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 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.
`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 italic monospace (fixed-width) font`	Lowercase italic monospace 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]
...	Horizontal ellipsis points indicate either: ■ That we have omitted parts of the code that are not directly related to the example ■ That you can repeat a portion of the code	CREATE TABLE ... AS *subquery*; SELECT *col1*, *col2*, ... , *coln* FROM employees;
. . .	Vertical ellipsis points indicate that we have omitted several lines of code not directly related to the example.	SQL> SELECT NAME FROM V$DATAFILE; NAME ---------- /fsl/dbs/tbs_01.dbf /fs1/dbs/tbs_02.dbf . . . /fsl/dbs/tbs_09.dbf 9 rows selected.
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;

Convention	Meaning	Example
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 Windows Operating Systems

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

Convention	Meaning	Example
Choose Start >	How to start a program. For example, to start Database Configuration Assistant, you must click the Start button on the taskbar and then choose Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > 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 special characters <, >, :, ", /, |, and - are not allowed. The special character \ is treated as an element separator, even when it appears in quotes. If the file name begins with \ \, Windows assumes it uses the Universal Naming Convention.	`c:\winnt"\"system32` is the same as `C:\WINNT\SYSTEM32`

Convention	Meaning	Example
`C:\>`	Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is "^". Your prompt reflects the subdirectory in which you are working. Referred to as the command prompt in this manual.	`C:\oracle\oradata>`

Special characters	The backslash special character (\) is sometimes required as an escape character for the double quote (") special character at the Windows command prompt. Parentheses and the single quote special character (') do not require an escape character. See 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 was: ▪ `C:\orant` for Windows NT ▪ `C:\orawin98` for Windows 98 or whatever you called your Oracle home. 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 the latest Oracle release on a computer with no other Oracle software installed, then the default setting for the first Oracle home directory is `C:\oracle\ora`*nn* where *nn* is the latest release number. The Oracle home directory is located directly under *ORACLE_BASE*. All directory path examples in this manual follow OFA conventions. See *Oracle9i Database Getting Started for Windows* for additional information on OFA compliance and for information on installing Oracle products in non-OFA compliant directories.	Go to the *ORACLE_BASE*`\`*ORACLE_HOME*`\rdbms\admin` directory.

Component Accessibility

Java Access Bridge Setup for Oracle9*i* for Windows

This section contains setup information to enable Oracle components to use a screen reader.

Java Access Bridge enables assistive technologies, such as the JAWS screen reader, to read Java applications running on Windows operating systems. Assistive technologies can read Java-based interfaces, such as Oracle Universal Installer, Oracle Enterprise Manager, and Database Configuration Assistant.

Your Oracle9*i* Database component CDs contain two different versions of the Java Runtime Environment (JRE) that is used by Oracle Universal Installer during installation. The CDs contain JRE 1.31 and JRE 1.1.8. The JREs enable use of the Java Access Bridge during installation.

Complete the following procedures to install and configure the access bridge for each of the JREs.

This section contains the following topics:

- Setup for JRE 1.3.1
- Setup for JRE 1.1.8

Setup for JRE 1.3.1

To setup Access Bridge with JRE 1.3.1, run the batch file on the first component CD. The batch file is located in `\install\win32\access_setup.bat`.

Setup for JRE 1.1.8

This section features the following topics regarding use of Access Bridge with JRE 1.1.8:

- 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 Oracle components to enable assistive technologies to read Oracle Universal Installer windows.

Before you begin Java Access Bridge installation, exit any assistive technology software that is running.

To install the Java Access Bridge:

1. From the first component CD, copy `\AccessBridge\accessbridge-1_0_2.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 Advanced tab. Then, choose the Environment Variables button.

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

      ```
      ;x:\AccessBridge-1_0_2\installer\installerFiles\access-bridge.jar
      ;x:\AccessBridge\installer\installerFiles\jaccess-1_1.jar
      ```

      where *x*`:\AccessBridge-1_0_2` 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 Oracle components to enable assistive technologies to read Oracle 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 Java Access Bridge:

1. From the first component CD, copy `\AccessBridge\accessbridge1_0_2.zip` to a location on your hard drive.
2. Extract the files onto your hard drive.
3. Install the Java Access Bridge into the correct subdirectory used by Oracle components.

   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 lists the files to copy from the Java Access Bridge location on your hard drive to the appropriate subdirectory of the JRE used by Oracle components.

Copy...	To...
`\AccessBridge-1_0_2\installer\installerFiles\jaccess-1_1.jar`	`\lib\jaccess.jar` (rename `jaccess-1_1.jar` to `jaccess.jar`)
`\AccessBridge-1_0_2\access-bridge.jar`	`\lib\`
`\AccessBridge-1_0_2\JavaAccessBridge.dll`	`\bin\`
`\AccessBridge-1_0_2\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 components.
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:

1. Select the Environment tab.
2. Select a variable in the System Variables list.
3. In the Variable field, enter `ORACLE_OEM_CLASSPATH`.
4. 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\Oracle\jre\1.1.8\lib\access-bridge.jar
   ```

5. Select Set.
6. Select OK.

On Windows 2000:

1. Select the Advanced tab.
2. Select the Environment Variables button.

   The Environment Variables dialog appears.
3. Choose the New button under the System Variable list.

   The New System Variable dialog appears.
4. In the Variable Name field, enter `ORACLE_OEM_CLASSPATH`.
5. 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\Oracle\jre\1.1.8\lib\access-bridge.jar
   ```

6. Select OK.

Documentation Accessibility

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Accessibility of Code Examples in Documentation 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.

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For technical questions, call:

1.800.446.2398

For non-technical questions, call:

1.800.464.2330

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

This section describes new features of Oracle9*i* for Windows release 2 (9.2) and provides pointers to additional information.

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

- Oracle9i Release 2 (9.2) New Features in Oracle9i for Windows
- 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 for more information about the Oracle9*i* Online Windows Documentation

Oracle9*i* Release 2 (9.2) New Features in Oracle9*i* for Windows

This section contains these topics:

- Cluster File System
- Enhanced Security
- Oracle Provider for OLE DB
- Oracle Services for Microsoft Transaction Server
- User Migration Utility
- Very Large Memory (VLM) Support
- Oracle9i Release 2 (9.2) Deprecated and Desupported Components

Cluster File System

This feature will be available in a subsequent Oracle9*i* release 2 (9.2) CD pack.

Cluster File System is a shared file system that is used to store Oracle home files and Oracle datafiles for Real Application Clusters on Windows NT and Windows 2000 platforms. Oracle Cluster Setup Wizard installs and starts the `OracleClusterFileSystem` service and creates one or two shared file systems.

See Also:

- "Real Application Clusters Overview" on page B-2
- "Shared Disk Storage and the Cluster File System Advantage" of *Oracle9i Real Application Clusters Concepts*

Enhanced Security

`SYS` and `SYSTEM` Password Change Requirement

If you use Database Configuration Assistant to create a database, be aware that you are required to change the `SYS` and `SYSTEM` passwords at the end of the configuration process. This is a new security procedure designed to protect access to your data.

Oracle Provider for OLE DB

ADO.NET application developers can use Oracle Provider for OLE DB (OraOLEDB) through OLE DB .NET Data Provider. A connection attribute, OLEDB.NET, can be set at connection time for OraOLEDB to be compatible with OLE DB .NET Data Provider.

See Also: *Oracle Provider for OLE DB Developer's Guide*

Oracle Services for Microsoft Transaction Server

Oracle Services for Microsoft Transaction Server supports .NET transactional applications with OLE DB .NET through the Oracle Provider for OLE DB and ODBC .NET through the Oracle ODBC driver.

User Migration Utility

A new command-line tool, the User Migration Utility, simplifies the conversion of local or external database users to enterprise users.

See Also:

- "Database Tools Overview" in *Oracle9i Database Getting Started for Windows*
- "Manually Migrating Users" in *Oracle9i Security and Network Integration Guide*
- "Migrating Local or External Users to Enterprise Users" in *Oracle Advanced Security Administrator's Guide*

Very Large Memory (VLM) Support

Oracle9*i* release 2 (9.2) for Windows supports Very Large Memory (VLM) configurations in Windows 2000 and Windows XP, which allows Oracle9*i* release 2 (9.2) to access more than the 4 gigabyte (GB) of RAM traditionally available to Windows applications.

See Also: "Oracle Scalability on Windows" in *Oracle9i Database Getting Started for Windows*

Oracle9*i* Release 2 (9.2) Deprecated and Desupported Components

The following Oracle9*i* Database components that were part of release 1 (9.0.1) are not available for installation with release 2 (9.2):

- Remote Method Invocation (RMI) / Internet Inter-ORB Protocol (IIOP)
- General Inter-ORB Protocol (GIOP)
- Oracle Servlet Engine (OSE)
- Common Object Request Broker Architecture (CORBA) framework and J2EE containers
- Java 2 Enterprise Edition (J2EE)
- Java Transaction API (JTA)
- Java Naming and Directory Interface (JNDI)
- CosNaming
- servlets
- Oracle Java Server Pages (OSJP)
- Enterprise Java Beans (EJB) container

The following components will be deprecated in a future release:

- INTYPE File Assistant (IFA)
- Oracle Trace. Oracle Corporation strongly advises the use of SQL Trace and TKPROF instead.

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

- **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.

  Synchronization between Active Directory and Oracle Internet Directory facilitates centralized scheduling and configuration of Oracle and third party meta-directory components.
- 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 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 Services for Microsoft Transaction Server Developer's Guide*

- **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*

- **Database Configuration Assistant Improvements**

  Database Configuration Assistant has been redesigned to include database definitions saved as templates. The templates can generate databases. Users can define new templates, modify existing templates, or use the ones Oracle provides. When creating a database with Database Configuration Assistant, users can include Oracle's new Sample Schemas.

- **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 Internet Directory Administration Improvements**

  Administration of Oracle Internet Directory replication server has been improved with the addition of new replication queue management and reconciliation tools.

- **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 Personal Edition for Windows 98**

  Oracle9*i* release 1 (9.0.1.1.1) is the terminal release of Oracle Personal Edition for Windows 98.

- **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

Centralized Cluster Database Configuration Information:

- Easier configuration through a centralized configuration information repository.
- Use Oracle Enterprise Manager or the `srvctl` utility to add manage instances, including adding or removing their static configuration information.
- Add or delete an instance to or from a cluster database dynamically by using Database Configuration Assistant.

See Also:

- The Oracle 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 Oracle Real Application Clusters. This documentation is on the Oracle Fail Safe and Oracle Real Application Clusters Guard component CD, 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 is located. 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://otn.oracle.com/products/ultrasearch/`

- **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: "Using Oracle9*i* on Windows 2000" in *Oracle9i Database Getting Started for Windows*

- **Windows XP Support**

  Oracle9*i* release 1 (9.0.1.1.1) for Windows is certified on Windows XP Professional Edition.

  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.

- **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*. Use the following instead:

  `CONNECT / AS SYSDBA`

  `CONNECT `*`username/password`*` AS SYSDBA`

  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

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

This chapter contains these topics:

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

Oracle9*i* for Windows Overview

Oracle9*i* for Windows is a development and deployment platform for the Internet. Oracle9*i* for Windows 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 SQLJ, a programming syntax that supports embeded 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 Licensable 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: 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 2 (9.2) database patch before you run your production database Oracle9*i* release 2 (9.2) 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 2 (9.2)

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 2 (9.2) 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 2 (9.2).
- Releases from Oracle8*i* release 8.1.3 to Oracle9*i* release 2 (9.2) 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 Started 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. 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 shipped with releases 7.*x* and 8.0.*x*) to install components into an Oracle9*i* release 2 (9.2) Oracle home directory is *not* supported. Likewise, you cannot install release 2 (9.2) 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/`
- 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 Windows NT 4.0 Terminal Server is not supported. If you attempt to install

Oracle9*i* in this manner, many database configuration tools will 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* Database Documentation CDs and is automatically installed on your hard drive during installation. To access this guide, choose Start > Programs > Oracle Installation Products > Universal Installer Concepts Guide.

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 contains a series of individual components. The following sections list 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:** 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.

  Note: Oracle9*i* release 1 (9.0.1.1.1) was the terminal release for Personal Edition 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:** 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.

There are four Management and Integration installation types:

- **Oracle Management Server:** If you select this type, Oracle Universal Installer installs Oracle Enterprise Manager Console and 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 database, LDAP-enabled client tools, and the Oracle Internet Directory database schema.
- **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 CDs in your CD pack contain 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 Licensable Database Options" on page 1-8
- Appendix A, "Individual Components Available for Installation"

Oracle9*i* Licensable Database Options

The following products require a separate license:

- Enterprise Integration Gateways, which include:
  - Procedural Gateway for APPC
  - Procedural Gateway for IBM MQSeries
  - Transparent Gateway for IBM DRDA
- Oracle Advanced Security
- Oracle Data Mining

- Oracle Enterprise Manager Packs, which include:
  - Oracle Change Management Pack
  - Oracle Diagnostics Pack
  - Oracle Management Pack for SAP R/3
  - Oracle Tuning Pack
- Oracle Label Security
- Oracle OLAP
- Oracle Open Gateways, which include:
  - Transparent Gateway for Microsoft SQL Server
  - Transparent Gateway for Sybase
  - Transparent Gateway for Teradata
- Oracle Partitioning
- Oracle Real Application Clusters
- Oracle Spatial

See Also:

- *Global License Terms* for additional licensing information
- "Component Descriptions" on page A-15

Documentation Library Overview

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

- Oracle9*i* Database Documentation for Windows, Viewable CD
- Oracle9*i* Database Documentation for Windows, Installation CD

Use the first CD to browse the library from the CD or copy files directly to a local system. Use the second CD to install the entire 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 CDs:

- `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* Database Documentation CDs:

- 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.

  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 Enterprise Integration Gateways documentation

  These documents are on the Oracle Enterprise Integration Gateways documentation CD.

- Oracle Migration Workbench documentation

  These documents are now available on the Oracle9*i* Database Documentation CDs.

- 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, shipping in a subsequent CD pack.

- 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

What Documentation Do I Read First?

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

- Available online documentation formats
- Documentation available on your Oracle9*i* Database Documentation CDs

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

Table 1–1 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 first component CD.) **Note:** After installation, view README files for additional components in the *ORACLE_BASE**ORACLE_HOME*\`relnotes` directory.
How to obtain customer support	`http://www.oracle.com/support/`
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*

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

For Information About...	See...
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 Tuning Guide and Reference*
Upgrading an Oracle database from a previous release	■ "Database Upgrade Requirements" on page 2-15 ■ *Oracle9i Database Migration* **Note:** Oracle Database Upgrade Assistant automatically prompts you during installation to upgrade a pre-9.0 database detected on your hard drive. Do not use Oracle Database Upgrade Assistant to upgrade a cluster database.
Installing all Oracle components available on the CD	Chapter 4, "Installing Oracle Components"
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 Started for Windows*
Upgrading an Oracle9*i* database configured for use with Oracle Internet Directory	■ *Oracle Internet Directory Administrator's Guide* ■ "Database Upgrade Requirements" on page 2-15 ■ "Oracle Internet Directory Installations" on page 4-22
Installing Oracle Real Application Clusters	■ *Oracle9i Real Application Clusters Documentation Online Roadmap* ■ *Oracle9i Real Application Clusters Setup and Configuration* ■ Appendix B, "Oracle Real Application Clusters Preinstallation Tasks"
Noninteractive installation using response files	"About Oracle Components in Noninteractive Mode" on page D-2

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: ■ Each installation type ■ Migrating an Oracle database ■ Individual components ■ Single Oracle home components ■ Oracle Enterprise Manager components ■ Networking protocols and vendors	Chapter 2, "Preinstallation Requirements"
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	Appendix 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* for Windows installation.

This chapter contains these topics:

- Single Oracle Home Components
- Top-Level Component System Requirements
- Mandatory Individual Component Requirements
- Database Upgrade Requirements

Single Oracle Home Components

Most Oracle components can be installed multiple times on the same computer. However, the following components are only 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 2-10.

- System Requirements for FAT and NTFS File Systems
- Oracle9i System Requirements
- Component Certifications

Important: The hard disk requirements for each Oracle9*i* top-level component include 32 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, Windows 2000, and Windows XP or FAT32 for Windows 98.

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

Note: Review the FAT and NTFS system requirements listed in this section. These values are more accurate than the hard disk values reported by the Oracle Universal Installer Installation 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

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Oracle9*i* System Requirements

This section contains these topics:

- Operating System and Service Pack Requirements
- Protocol Support
- Processor Requirements
- Hardware Requirements
- Space Requirements
- Web Browser Requirements

See Also:

- "Mandatory Individual Component Requirements" on page 2-10
- "Oracle9i Database Components" on page A-2 for a list of individual components installed with each installation type

Operating System and Service Pack Requirements

Oracle9*i* Client top-level component is supported on Windows 98, Windows NT, Windows 2000, and Windows XP Professional.

Oracle9*i* Database and Oracle9*i* Management and Integration top-level components are supported on the following operating systems:

- Windows NT with service pack 5 or higher.

  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

- Windows 2000 with service pack 1 or higher.

  Windows 2000 includes: Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, Windows 2000 Datacenter, and Terminal Services

- Windows XP Professional

See Also: "Component Certifications" on page 2-7

Protocol Support

The **Oracle Net foundation layer** uses Oracle protocol support to communicate with the following industry-standard network protocols:

- TCP/IP
- TCP/IP with SSL
- Named Pipes

Processor Requirements

Table 2–1 lists the processor requirements for each installation type.

Table 2–1 Processor Requirements

Installation Type	Processor Requirement
Enterprise Edition, Standard Edition, Personal Edition, Administrator, and Runtime	■ Minimal Processor: Pentium 166 or Pentium 200 ■ Recommended Processor: Pentium 266
Oracle Management Server	■ Minimal Processor: Pentium 266 ■ Recommended Processor: Pentium 300
Oracle Internet Directory	■ Minimal Processor: Pentium 166 ■ Recommended Processor: Pentium 300

Hardware Requirements

Oracle9*i* Database and Oracle9*i* Management and Integration top-level components require the following hardware components:

- RAM: 128 MB (256 MB recommended)
- Virtual Memory: Initial Size 200 MB, Maximum Size 400 MB
- Video Adapter: 256 color

> **See Also:** "Installations Meeting Minimal Memory Requirements" on page 4-2

Oracle9*i* Client top-level component requires 128 MB of RAM, 256 MB of RAM is recommended.

Space Requirements

The requirements for Custom depend upon the components selected for installation.

FAT space requirements are listed in Table 2–2 and NTFS space requirements are listed in Table 2–3.

Table 2–2 Hard Disk Space Requirements for FAT

Installation Type	System Drive	Oracle Home Drive
Enterprise Edition	140 MB	4.75 GB
Standard Edition	140 MB	4.5 GB
Personal Edition	140 MB	4.75 GB
Administrator	90 MB	1.5 GB
Runtime	50 MB	400 MB
Oracle Management Server	100 MB	1.5 GB
Oracle Internet Directory	50 MB	4 GB

Table 2–3 Hard Disk Space Requirements for NTFS

Installation Type	System Drive	Oracle Home Drive
Enterprise Edition	140 MB	2.85 GB
Standard Edition	140 MB	2.8 GB
Personal Edition	140 MB	2.75 GB
Administrator	90 MB	790 MB
Runtime	50 MB	150 MB
Oracle Management Server	100 MB	945 MB
Oracle Internet Directory	50 MB	2.3 GB (includes database)

Web Browser Requirements

The following Web browsers are supported for browser-based Oracle Enterprise Manager Console, central Enterprise Manager Repository Web Site, and *i*SQL*Plus:

- Netscape Navigator 4.76 or higher
- Microsoft Internet Explorer 5.0 or higher
- Microsoft Internet Explorer 6.0 (required with Windows XP)

See Also:

- "Component Certifications" on page 2-7
- Appendix A, "Individual Components Available for Installation" for a list of individual components installed with each installation type

Component Certifications

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. From the Products Lifecycle page, select the Certifications button. Other Product Lifecycle options include Product Availability, Desupport Notices, and Alerts.

The following sections list the components and features that are *not* supported on Windows Terminal Servers and Windows XP:

- Windows Terminal Servers
- Windows XP

Windows Terminal Servers

Oracle supports Terminal Services on Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Datacenter.

The following products and features are not supported on Windows Terminal Servers or Windows XP Remote Desktop:

- 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 hang. Examples includes Oracle Database Upgrade Assistant, Database Configuration Assistant, Oracle Internet Directory Configuration Assistant, and Oracle Workflow Configuration Assistant. Start all configuration tools from the Terminal Server console and not from the Terminal Services Client.
- Connection Manager
- Oracle Fail Safe
- Oracle HTTP Server
- 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/`

Windows XP

The following components are not certified on Windows XP:

- DCE Adapter Support
- Entrust PKI Support
- Generic Connectivity
- Legato NetWorker
- Oracle Dynamic Services
- Oracle Enterprise Integration Gateways, which include the following:
  - Procedural Gateway for APPC
  - Procedural Gateway for IBM MQSeries
  - Transparent Gateway for IBM DRDA
  - Oracle Visual Workbench for Oracle Procedural Gateways for IBM MQSeries
- Oracle Enterprise Manager Paging Server
- Oracle Enterprise Manager Web Site
- Oracle Fail Safe

  Windows XP does not support the clustering technology found in Microsoft Cluster Server (MSCS). Therefore, Oracle Fail Safe Server, which integrates with MSCS, is not supported on Windows XP. However, Oracle Fail Safe Manager is supported.
- Oracle Messaging Gateway
- Oracle Open System Gateways, which include the following:
  - Transparent Gateway for Sybase
  - Transparent Gateway for Teradata
  - Transparent Gateway for Microsoft SQL Server
- Oracle Real Application Clusters, including Cluster File System and Server Management
- Oracle Real Application Clusters Guard

- Oracle Syndication Server
- NCIPHER Accelerator Support

Mandatory Individual Component Requirements

The following individual components have mandatory preinstallation requirements:

- Oracle Advanced Security
- Oracle Enterprise Manager
- Oracle Internet Directory
- Oracle Managed Files
- Oracle Real Application Clusters
- Oracle Snap-Ins to the Microsoft Management Console
- Oracle Transparent Gateways
- Oracle Workflow
- Oracle9i Integration with Active Directory

Oracle Advanced Security

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 a Lightweight Directory Access Protocol (LDAP) directory such as Oracle Internet Directory (provided on the component CDs).

See Also: *Oracle Advanced Security Administrator's Guide*

Oracle Enterprise Manager

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 2 (9.2). Older versions of Enterprise Manager are not supported with the new release.

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:** *Oracle Enterprise Manager Configuration Guide* for additional Enterprise Manager system requirements and certifications

Oracle Management Server Requirements

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 2 (9.2), then no further preinstallation steps are required.

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 To create a new release 2 (9.2) repository, 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 Oracle Enterprise Manager Configuration Assistant starts, 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 2 (9.2) repository: 9.2, 9.0.1, and 8.1.7.

Oracle Enterprise Manager Configuration Assistant automatically starts during the configuration phase of the following installation types: Custom Oracle9*i* Database, Oracle Management Server, and Custom Oracle9*i* Management and Integration. For all other installation types, manually start Oracle Enterprise Manager Configuration Assistant to configure Oracle Management Server. After 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 2 (9.2) repository, and guidelines on how much it can grow

Oracle Enterprise Manager Web Site Requirements

Install Oracle Enterprise Manager Web Site to run Oracle Enterprise Manager Console and supported management applications from a Web browser. It also allows administrators to access reports published from Enterprise Manager Console from a central reporting Web site. Oracle Enterprise Manager Web Site requires 820 MB of available hard disk space. 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 2 (9.2)):

- Oracle Internet Application Server release 1.0 or higher for Windows NT and Windows 2000
- Microsoft Internet Information Server (IIS) release 4.0 or higher for Windows NT and IIS 5.0 or higher for Windows 2000
- Oracle HTTP Server release 1.3.22 or higher for Windows NT, Windows 2000, and Windows XP
- Apache release 1.3.22 or higher for Windows NT and Windows 2000

> **See Also:**
>
> - *Oracle Enterprise Manager Configuration Guide* for more information about Oracle Enterprise Manager Web Site
> - The appropriate Web server documentation for additional system requirements

Oracle Enterprise Manager Paging Server Requirements

Install Oracle Enterprise Manager Paging Server on a computer with a modem. A modem is required in order to send event and job status changes to the pager of an Oracle Enterprise Manager administrator.

Oracle Internet Directory

This section contains these topics:

- Upgrading Oracle Internet Directory
- Installing Oracle Internet Directory on an Existing Database
- Installing Oracle Internet Directory Release 9.2
- Downgrading Oracle Internet Directory

Upgrading Oracle Internet Directory

Oracle Internet Directory upgrade is supported from Oracle Internet Directory release 2.1.1.*x* and 3.0.1.*x*. If the Oracle home where you intend to perform the upgrade of Oracle Internet Directory also contains a complete Enterprise Edition installation, then you must perform the Oracle Internet Directory upgrade before the Enterprise Edition upgrade.

There is no network downtime during Oracle Internet Directory upgrade in a multinode replication environment when you upgrade one node at a time. The other nodes are available while the upgrade of one node is in progress.

Installing Oracle Internet Directory on an Existing Database

If you have Oracle9*i* release 2 (9.2) installed on a computer and you now want to install Oracle Internet Directory release 9.2 in the same Oracle home, ensure that both the database and listener are running.

Installing Oracle Internet Directory Release 9.2

To install Oracle Internet Directory release 9.2, choose the Oracle Internet Directory installation type from the Oracle9*i* Management and Integration top-level component; this creates the correct underlying Oracle9*i* database as part of Oracle Internet Directory release 9.2 installation.

Downgrading Oracle Internet Directory

You cannot downgrade Oracle Internet Directory release 9.2 to 3.0.1.*x* or 2.1.1.*x*.

See Also:

- "Oracle Internet Directory Installations" on page 4-22
- *Oracle Internet Directory Administrator's Guide*

Oracle Managed Files

Configuration procedures are required in order to enable Oracle Managed Files.

> **See Also:** "Using Oracle-Managed Files" in *Oracle9i Database Administrator's Guide*

Oracle Real Application Clusters

Refer to Appendix B, "Oracle Real Application Clusters Preinstallation Tasks" for hardware, software, and preinstallation requirements. You must complete these tasks *before* using Oracle Universal Installer.

Upgrading Oracle Real Application Clusters

Review all upgrade issues prior to installation.

> **See Also:**
>
> - "Oracle Real Application Clusters Upgrade Requirements" on page 2-18
> - *Oracle9i Database Migration*

Oracle Snap-Ins to the Microsoft Management Console

Oracle9*i* ships several Snap-Ins for the Microsoft Management Console (MMC). MMC is a built-in feature of Windows 2000. Windows NT requires the Windows NT 4.0 Option pack. Reapply the previously installed service pack after installing the Windows NT option pack.

Install Internet Explorer version 5.0 (IE5.0) or later before installing Oracle Snap-Ins. If you install any Oracle Snap-Ins before installing IE5.0, 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
- Oracle Services for Microsoft Transaction Server

> **Note:** Installing Oracle Administration Assistant for Windows NT automatically installs each Oracle Snap-in component.

Download the MMC add-on from the following Web site:

`http://www.microsoft.com/`

Oracle Transparent Gateways

See Appendix C, "Oracle Transparent Gateways" for hardware, software, and preinstallation requirements.

Oracle Workflow

Ensure that you have configured the required hardware and software.

See Also:

- *Oracle Workflow Server Installation Notes*
- *Oracle Workflow Client Installation Notes*

Oracle9*i* Integration with Active Directory

You must perform preinstallation requirements for integration to be successful.

See Also: "Using Oracle9*i* Directory Server Features with Active Directory" of *Oracle9i Security and Network Integration Guide*

Database Upgrade Requirements

Oracle Corporation recommends installing Oracle9*i* release 2 (9.2) into a new Oracle home directory. If you must install Oracle9*i* release 2 (9.2) 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 upgrade an existing database. Upgrade procedures on Windows are covered in *Oracle9i Database Migration*. However, this section describes several Windows-specific issues to understand before following the instructions in *Oracle9i Database Migration*.

The following sections describe specific upgrade requirements:

- Policies for Linking and Relinking Applications
- Upgrading Releases 7.3.4 and 8.0.6
- Downgrading a Database
- Oracle Real Application Clusters 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 2 (9.2), then Oracle corporation recommends upgrading the client software to release 2 (9.2) as well. Keeping the server and client software at the same release number ensures 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

Upgrading Releases 7.3.4 and 8.0.6

Before using the Migration utility or Oracle Data Upgrade Assistant to upgrade 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 upgrade to release 7.3.4 or 8.0.6.

Oracle Command Line Tools with the Migration Utility

If you use the Migration utility to 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 upgrading. Table 2–4 describes the tools to use and the method for starting these tools:

Table 2–4 Oracle Command Line Tools

If Upgrading from Oracle Release...	Use...	By Entering...
7.3.4	Server Manager	`C:\> SVRMGR23`
8.0.6	Server Manager	`C:\> SVRMGR30`

8.1.7	Server Manager or SQL*Plus	`C:\> SVRMGRL`
		or
		`C:\> SQLPLUS`

9.0.1	SQL*Plus	`C:\> SQLPLUS`

If you use the Migration utility to 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 2–5 describes the method for starting the ORADIM utility depending upon the database release from which you are upgrading:

Table 2–5 ORADIM Versions

If Upgrading from Oracle Release...	Use...	By Entering...
7.3.4	`ORADIM73`	`C:\> ORADIM73 OPTIONS`
8.0.6	`ORADIM80`	`C:\> ORADIM80 OPTIONS`
8.1.7	`ORADIM`	`C:\> ORADIM OPTIONS`
9.0.1	`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 upgrading 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* upgrading with either Oracle Data Upgrade Assistant or the Migration utility. Upgrade fails if you do *not* install the appropriate patch of SQL*Net.

When upgrading 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/`

Downgrading a Database

Refer to Chapter 7 of *Oracle9i Database Migration* for details.

Oracle Real Application Clusters Upgrade Requirements

To upgrade Oracle Real Application Clusters using Database Upgrade Assistant, start the database instance to be upgraded on each cluster node.

See Also:

- *Oracle9i Database Migration*
- *Oracle9i Real Application Clusters Setup and Configuration*

3

Selecting Database Creation and Oracle Net Services Configuration Methods

This chapter describes Oracle9*i* database creation and Oracle Net Services 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:

- The 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 Services 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* and Oracle Net Services 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 User Input Required for Installation Types

Installation Types	User Input Required for Database Creation	User Input Required for Oracle Net Services 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	Not applicable	None[2] or Extensive[2]
or		
Oracle9*i*	Extensive[1]	Not applicable
Oracle9*i* Client[3]		
■ Administrator	Not applicable	Minimal
■ Runtime	Not applicable	Minimal

Table 3–1 User Input Required for Installation Types (Cont.)

Installation Types	User Input Required for Database Creation	User Input Required for Oracle Net Services Configuration
	Amount of Input	
Oracle9*i* Management and Integration		
■ Oracle Management Server	Not applicable	Minimal
■ Oracle Internet Directory	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 3-7 for more information.

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

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

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

Selecting a Database Creation Method

Database Configuration Assistant is a tool that enables you to create an Oracle9*i* database for Transaction Processing, Data Warehouse, or General Purpose environments. 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 Database Configuration Assistant in standalone mode
- "Database Tools Overview" of *Oracle9i Database Getting Started 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.	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 and Oracle Spatial 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 Database Configuration Assistant startup. At the end of the database creation process, you are required to change the `SYS` and `SYSTEM` passwords. **Note:** Personal Edition does not offer Oracle Real Application Clusters.

[1] 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 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.	Database Configuration Assistant automatically starts at the end of installation and configures the database according to the selected database configuration type. At the end of the database creation process, you are required to change the `SYS` and `SYSTEM` passwords. Refer to "Oracle9i Licensable Database Options" on page 1-8 or Appendix A, "Individual Components Available for Installation" for a list of components that are not part of the Standard Edition installation type.

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. Database Configuration Assistant prompts you to select a *database environment*: Transaction Processing Data Warehouse General Purpose	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, and advanced replication (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 At the end of the database creation process, you are required to change the SYS and SYSTEM passwords.

Configuring Your Network

Oracle Net Configuration Assistant is a tool that enables you to configure the Oracle Net Services 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 the 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 network configuration files located in the default *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 Started 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. **2.** Select the Enterprise Edition, Standard Edition, or Personal Edition installation type.	Oracle Net Configuration Assistant automatically creates your Oracle Net Services environment by configuring information in the following files: ■ `listener.ora` file Configures a **listener** named `LISTENER` with protocol addresses for both the Oracle9*i* database (using the preferred protocol for your operating system, 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$**). Refer to "Windows Native Authentication Overview" of *Oracle9i Security and Network Integration Guide* for more details. Configures the server's network 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 server uses to resolve a name to a **connect descriptor** ■ `tnsnames.ora` file Creates a **net service name** file to use for external procedure connections **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. Database Configuration Assistant automatically configures additional Oracle Net Services 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 a net service name for the database to connect back to itself **Note**: Database Configuration Assistant configures additional information for Oracle Real Application Clusters installations. See *Oracle9i Real Application Clusters Setup 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. **2.** Select Custom. **3.** Select Oracle Net Services.	Oracle Net Configuration Assistant first prompts you to select a naming method to a connect descriptor for connection to an Oracle9*i* database: ■ Complete directory server usage configuration. This requires that you enter a directory server type and location, if you have one, and specify which **Oracle Context** should be used by default for this Oracle home. You are prompted for this information if you have never configured the Oracle home for directory usage. ■ 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: directory naming if directory usage configuration was completed, local naming, Oracle Names, host naming, or external naming. Oracle Net Configuration Assistant then automatically creates the Oracle Net Services 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 static service information for external procedures are configured. ■ `sqlnet.ora` file Configures the database to accept **operating system authenticated connections** (**OPS$**). Refer to "Windows Native Authentication Overview" of *Oracle9i Security and Network Integration Guide* for more details. Configures the server's network 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 server uses to resolve a name to a connect descriptor ■ `tnsnames.ora` file Creates a net service name entry for external procedure connections ■ `ldap.ora` file Configures access to the directory server

Table 3–7 Net Services Configuration—Custom Database (Cont.)

If You Select These Installation Types...	Then...
	Database Configuration Assistant automatically configures additional Oracle Net Services 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 a net service name 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 prompts you to configure the **directory naming** or **local naming** method based upon if you choose to use a directory server or not.
2. Select Administrator or Runtime.	If you choose to use a directory server, Oracle Net Configuration Assistant prompts you to complete directory server usage. If you do not choose to use a directory server, the Oracle Net Configuration Assistant prompts you to configure a net service name in a `tnsnames.ora` file. 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 to connect to the database, if the local naming method was selected ■ `ldap.ora` file Configures access to the directory server

Table 3–9 Net Services Configuration—Custom Client

If You Perform These Steps...	Then...
1. Select Oracle9*i* Client. 2. Select Custom. 3. Select Oracle Net Services.	Oracle Net Configuration Assistant prompts you to configure a naming method to resolve a name to a connect descriptor for a connection to an Oracle9*i* database. Oracle Net Configuration Assistant provides you with the option of selecting one or more naming methods (**directory naming**, **local naming**, Oracle Names, host naming, or external naming) or using the Perform typical configuration option. The Perform typical configuration option automatically selects the local naming or directory naming method based on your existing directory usage configuration. 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$**). Refer to "Windows Native Authentication Overview" of *Oracle9i Security and Network Integration Guide* for more details. 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 to connect to the database, if the local naming method was selected

4

Installing Oracle Components

This chapter describes how to install Oracle components from the component CDs.

This chapter contains these topics:

- Installation Differences Between Windows and UNIX
- Installations Meeting Minimal Memory Requirements
- Before You Install Oracle9i
- Beginning Your Oracle9i Installation
- Choosing an Installation Type
- Deinstalling Oracle Components and Services

See Also:

- "Using Optimal Flexible Architecture" on page 1-3
- "Oracle Universal Installer Restrictions" on page 1-5
- 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 for information on installing and viewing your Oracle9*i* Database Documentation for Windows

Installation Differences Between Windows 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. 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 Started for Windows*

Installations Meeting Minimal Memory Requirements

Installations of Oracle9*i* on computers with 128 MB of RAM and 200 MB of virtual memory have the following limitations:

- Computers with 128 MB of memory are not able to run Oracle Database Upgrade Assistant, Database Configuration Assistant, or Oracle Net Services Configuration Assistant during an Oracle Universal Installer installation session.
- 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 Oracle9*i* software. After the installation is finished, create a database with the Database Configuration Assistant.

On computer systems that barely 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 the appropriate configuration assistant for your needs:
     - To create a new database, run Database Configuration Assistant from the Start Menu. Choose Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Database Configuration Assistant.
     - To upgrade an existing database, run Oracle Database Upgrade Assistant from the Start Menu. Choose Start > Programs > Oracle - *HOME_NAME* > Configuration and Migration Tools > Oracle Database Upgrade Assistant.

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

  From the Configuration Tools window, select the following configuration assistants and choose Stop:

  - OiD Configuration Assistant
  - Oracle Workflow Configuration Assistant

  See Also:

  - Chapter 3, "Selecting Database Creation and Oracle Net Services Configuration Methods"
  - "Beginning Your Oracle9i Installation" on page 4-5 for specific installation instructions
  - *Oracle Internet Directory Administrator's Guide* for more information about starting Oracle Internet Directory after installation

Before You Install Oracle9*i*

Perform the following tasks before installing Oracle components:

1. Read the appropriate online documentation described in "What Documentation Do I Read First?" on page 1-11 before you begin installation. This is particularly important if you are upgrading an existing Oracle database, or want to correctly configure a new Oracle9*i* database that meets your needs.
2. Review and satisfy applicable system and component requirements in Chapter 2, "Preinstallation Requirements" before you begin installation. Refer to "Installations Meeting Minimal Memory Requirements" on page 4-2 if your system *only* meets the minimal memory requirements.
3. If you are installing Oracle Real Application Clusters, then you must complete "Oracle Real Application Clusters Preinstallation Tasks" on page B-1 before running Oracle Universal Installer.
4. Log on as a member of the Administrators group to the computer on which to install Oracle components. Log on as a member of the Domain Administrators group if you are installing on a Primary Domain Controller (PDC) or a Backup Domain Controller (BDC).
5. Delete the `ORACLE_HOME` environment variable if it exists. Refer to your Microsoft online help for more information about deleting environment variables.

   Note: The `ORACLE_HOME` environment variable is automatically set in the registry. Manually setting this variable prevents installation.

6. Back up any databases to upgrade. Review "Database Upgrade Requirements" on page 2-15.
7. If you are installing in an existing Oracle9*i* release 1 (9.0.1) or release 2 (9.2.0) home, stop all Oracle services:
   - On Windows NT, choose Start > Settings > Control Panel > Services.
   - On Windows 2000, choose Start > Settings > Control Panel> Administrative Tools > Services.
   - On Windows XP, choose Start > Control Panel > Administrative Tools > Services.

a. If any Oracle services (their names begin with "Ora") exist and have the status *Started*, select the service.

b. Choose Stop on Windows NT, or choose Action > Stop on Windows 2000.

In particular, ensure that the Oracle listener service is stopped. This service is named `Oracle`*`HOME_NAME`*`TNSListener` for release 8.1 databases, `OracleTNSListener80` for release 8.0 databases, or `OracleTNSListener` for release 7.3 databases.

c. Choose Close to exit the Services window.

8. Continue to the "Beginning Your Oracle9i Installation" section.

Beginning Your Oracle9*i* Installation

Using the old Oracle Installer (Installer shipped with releases 7.*x* and 8.0.*x*) to install components into an Oracle9*i* release 2 (9.2) Oracle home directory is *not* supported. Likewise, you cannot install release 2 (9.2) components into a release 7.*x*, 8.0.*x*, or 8.1.*x* Oracle home.

See Also:

- "Planning Your Installation" on page 1-2
- Appendix B, "Oracle Real Application Clusters Preinstallation Tasks"
- "Advanced Installation Topics"

Follow these procedures to install Oracle9*i* components.

To install Oracle components 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 each component CD to the appropriate directory.

3. Run `Disk1\setup.exe`.

The Welcome window appears.

4. Continue to step 3 of the next section.

To install Oracle components from the CDs:

1. Insert the first component CD.

   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.

2. Choose Install/Deinstall Products from the Autorun window.

   The Welcome window appears.

3. Choose Next.

   - If Oracle Universal Installer is running on a cluster, then the Cluster Node Selection window appears. Select the nodes on which you want to install the Oracle software. The local node is always selected by default.
   - The File Locations window appears. Do *not* change the directory path in the Source field. This is the location of installation files.

4. Enter the Oracle home name and directory path in which to install Oracle components in the Destination fields.

   Attention: Do not install Oracle9*i* release 2 (9.2) software into an existing Oracle home that contains Oracle8*i* or earlier software.

   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\ora92.

Note: If you install Oracle9*i* into an Oracle home directory that already contains Oracle9*i* release 2 (9.2) client software, the listener is not created. To create the listener, install and run Oracle Net Configuration Assistant. If the Administrator client is installed before Oracle9*i*, then Oracle Net Configuration Assistant is already installed.

5. Choose Next.

   The Available Products window appears. Continue to the "Choosing an Installation Type" section.

Choosing an Installation Type

Select the Oracle top-level component and installation type from Table 4–2 that best meets your needs. Choose Next. Proceed to one of the following sections based on your selection.

Table 4–2 Top-Level Components

This Top-Level Component...	Contains These Installation Type...
Oracle9i Database	■ Enterprise Edition, Standard Edition, or Personal Edition Installations ■ Custom Oracle9i Database Installations
Oracle9i Client	■ Client Administrator or Runtime Installations ■ Custom Oracle9i Client Installations
Oracle9i Management and Integration	■ Oracle Management Server Installations ■ Oracle Internet Directory Installations ■ Custom Oracle9i Management and Integration Installations

See Also:

- "Planning Your Installation" on page 1-2
- "Licensing Information" on page 1-8
- Appendix A, "Individual Components Available for Installation" if you are unsure of which installation type to choose

Enterprise Edition, Standard Edition, or Personal Edition Installations

The installation windows that appear when you select Enterprise Edition, Standard Edition, or Personal Edition depend upon your computer configuration and which Oracle components are currently installed.

1. From the Database Configuration Types window, select a database confutation that meets your needs. Table 4–3 describes the available configuration environments.

Table 4–3 Database Configuration Environments

If You Select...	Then Oracle Universal Installer...
General Purpose	Automatically starts Database Configuration Assistant to install a preconfigured database optimized for general purpose usage. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords.
Transaction Processing	Automatically starts Database Configuration Assistant to install a preconfigured database optimized for transaction processing environment. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords.
Data Warehouse	Automatically starts Database Configuration Assistant to install a preconfigured database optimized for data warehousing environment. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords.
Customized	Automatically starts Database Configuration Assistant to enable the creation of a customized database. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords. This option takes longer than the preconfigured options. Continue to step 3.

Table 4–3 Database Configuration Environments (Cont.)

If You Select...	Then Oracle Universal Installer...
Software Only	Installs software only and does not run any configuration tools. Select this option if your computer barely meets the minimum memory requirements. Manually start Database Configuration Assistant and Oracle Net Configuration Assistant after installation to install and configure your database and Oracle Net Services environment. Continue to step 10. **See Also**: "Installations Meeting Minimal Memory Requirements" on page 4-2

2. If Microsoft Transaction Server is detected, then the Oracle Services for Microsoft Transaction Server window appears. Enter a port number for this service.
3. Choose Next.

   The next window depends on whether or not an existing database is detected:

   - If a pre-9.2 Oracle database is detected on your computer, then the Upgrading an Existing Database window appears. Optionally, select to upgrade your database with Oracle Database Upgrade Assistant. Continue to step 4.
   - If an Oracle database is not detected on your computer, then the Database Identification window appears and prompts you to select a preconfigured database type. Go to step 5.

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 Installations" on page 4-22.

---

4. Select whether or not to upgrade your database to the latest release.

   To upgrade an existing database:

   a. Select the Upgrade an Existing Database check box and the SID of the database to upgrade to the latest Oracle9*i* database release.

   b. Choose Next.

      The Summary window appears.

   c. Continue to step 11.

   To install a new database:

   a. Do not select the Upgrade an Existing Database check box.

   b. Choose Next.

      The Database Identification window appears.

   c. Go to step 5.

5. Enter the **global database name** and **SID** in the fields provided. If you selected to configure a Customized database environment, then go to step 10. If you are upgrading an existing database, then go to step 8.

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

   > **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`.

6. Choose Next.

   The Database File Location window appears.

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

8. Choose Next.

   The Database Character Set window appears.

9. 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.
10. Choose Next.

    The Summary window appears.
11. Review the space requirements to ensure that you have enough disk space and choose Install.
12. If you are installing from the CDs, then you are prompted to insert the subsequent disks to continue with installation.
13. Wait until the selected components are installed.

    The Configuration Tools window appears at the end of installation.

    See Also: "Installations Meeting Minimal Memory Requirements" on page 4-2 if your computer has only 128 MB of RAM

    Table 4–4 lists the assistants that automatically start to create and configure your database and Oracle Net Services environments:

Table 4–4 Configuration Assistants—Database Installation Type

This Tool...	Starts...	And...
Oracle Cluster Configuration Assistant	When Oracle Universal Installer is started on a cluster. It does not show up when the Software Only option is selected	Starts Global Services Daemon (GSD) on all the nodes selected for installation. **See Also**: Appendix B, "Oracle Real Application Clusters Preinstallation Tasks"
Oracle Net Configuration Assistant	■ In all cases except when selecting the Software Only configuration type ■ If Oracle Net services release 2 (9.2) is not already installed in the currently-specified Oracle home	Automatically configures the Oracle Net Services environment **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed

Table 4–4 Configuration Assistants—Database Installation Type (Cont.)

This Tool...	Starts...	And...
Database Configuration Assistant	■ If no Oracle database is installed in the currently-specified Oracle home ■ If you did not select to upgrade a detected database when prompted at step 4 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 2 (9.2) database. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords. **See Also**: "Selecting a Database Creation Method" on page 3-5 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. Review the port settings and access URLs on the End of Installation window. The Oracle*HOME_NAME*HTTPServer service starts when you restart your computer.
Oracle Database Upgrade Assistant	If you selected to upgrade a detected database when prompted at step 4	Upgrades the selected database to Oracle9*i* release 2 (9.2)
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: Database Configuration Assistant and Oracle Database Upgrade Assistant never run during the same installation session.

14. Choose Next to continue.

    The End of Installation window appears.

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

Enterprise Manager Console Standalone appears.

See Also:

- "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session
- Chapter 6, "Postinstallation Configuration Tasks"

Custom Oracle9*i* Database Installations

The Available Product Components window appears when you select the Custom Oracle9*i* Database installation type. 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 non Oracle home 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 from the Available Product Components window, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information.

Table 4–5 Custom Oracle9i Database Component Prompts

If You Select...	You Are Prompted To...
Oracle Net Services	Enter directory usage, listener, and naming method information. **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Oracle Management Server	Select between using an existing or new release 2 (9.2) repository. See "Oracle Management Server Installations" on page 4-18 for a description of windows that appear. **See Also:** *Oracle Enterprise Manager Configuration Guide* for more information

Table 4–5 Custom Oracle9i Database Component Prompts (Cont.)

If You Select...	You Are Prompted To...
Oracle Procedural Gateways for IBM MQSeries	■ Select the location of MQSeries Queue Manager. ■ Enter the name of the local MQSeries Queue Manager.
Oracle Real Application Clusters	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	■ Install Microsoft Transaction Server after installation, if it is not currently installed. ■ Enter a port on which the Oracle MTS Recovery Service will listen.
Oracle Transparent Gateway for IBM DRDA	Select a network protocol with which to communicate with the DRDA server.
Oracle9*i*	■ Create a database (if you did not select to upgrade one). Database Configuration Assistant starts at the end of installation and guides you through database creation. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords. ■ 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 to Oracle9*i* database release 2 (9.2). Oracle Database Upgrade Assistant starts at the end of installation and guides you through database upgrade.
Microsoft SQL Server Transparent Gateway	Enter the Microsoft SQL Server Name and Microsoft SQL Database Name.
Sybase Server Transparent Gateway	Enter the Sybase Server Name, Sybase Database Name, and the directory path in which Sybase is installed.
Teradata Transparent Gateway	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.

If you chose to install Enterprise Manager, then Enterprise Manager Console Standalone appears.

See Also:

- "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session
- Chapter 6, "Postinstallation Configuration Tasks"

Client Administrator or Runtime Installations

The Summary window appears when you select the Administrator or Runtime Client installation type.

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 2 (9.2) is not already installed in the currently-specified Oracle home.

See Also:

- "Installations Meeting Minimal Memory Requirements" on page 4-2 if your computer has 128 MB of RAM
- "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.

If you selected the Administrator installation type, then Enterprise Manager Console Standalone appears.

Note: Restart your computer after the first Oracle installation on Windows 98. Subsequent installations only require a shut down and restart if the Oracle home changes.

See Also:

- "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session
- Chapter 6, "Postinstallation Configuration Tasks"
- "Oracle9i Client Components" on page A-7 for a list of components installed with each Oracle9*i* Client installation type

Custom Oracle9*i* Client Installations

The Available Product Components window appears when you select the Custom Oracle9*i* Client installation type. 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 from the list box and change the default location.
4. If you select any of the components listed in Table 4–6, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information.

Table 4–6 Custom Oracle9i Client Component Prompts

If You Select...	You Are Prompted To...
Oracle Net Services	Configure client access to the Oracle9*i* database if Oracle Net Services is not already installed in the currently-specified Oracle home. **See Also:** "Configuring the Client Network" on page 3-11 for a description of the configuration procedures performed
Oracle Services for Microsoft Transaction Server	■ 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.

If you chose to install Enterprise Manager, then Enterprise Manager Console Standalone appears.

Note: Restart your computer after the first Oracle installation on Windows 98. Subsequent installations only require a shut down and restart if the Oracle home changes.

See Also:

- "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session
- Chapter 6, "Postinstallation Configuration Tasks"
- "Oracle9i Client Components" on page A-7 for a list of components installed with each Oracle9*i* Client installation type

Oracle Management Server Installations

The Oracle Management Server Repository window appears when you select the Oracle Management Server installation type.

Important: Do not upgrade the Oracle Management Server and repository until all users of both components have upgraded their Oracle Enterprise Manager software (for example, Console and Management Packs) to release 2 (9.2). All Oracle Enterprise Manager products must be of the same release. Older components are not compatible with the newer release.

---

1. Carefully review Table 4–7 and select the repository type to use with the Oracle Management Server.

Table 4–7 Oracle Management Server Repository Types

Type	Select This Type If...
Use an existing repository	■ You have already created a release 2 (9.2) 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 Oracle Management Server to use the existing repository. ■ You want to upgrade an existing release 2.*x* repository to release 2 (9.2). 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 2 (9.2). 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	An existing release 2 (9.2) 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 2-11 for more information on upgrading an Oracle Enterprise Manager repository
- *Oracle Enterprise Manager Configuration Guide*

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.

See Also: "Installations Meeting Minimal Memory Requirements" on page 4-2 if your computer has only 128 MB of RAM

Table 4–8 lists the assistants that automatically start to create and partially configure your Oracle Net Services and database repository environments.

Table 4–8 Configuration Assistants with Management Server Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services is not already installed in the currently-specified Oracle home	Prompts you to configure the Oracle Net Services environment **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. Review the port settings and access URLs on the End of Installation window. 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 when you restart your computer.
Enterprise Manager Configuration Assistant	In all cases	Guides you through repository creation and Oracle Management Server configuration. Continue to step 3. **See Also:** *Oracle Enterprise Manager Configuration Guide* for more information

The Welcome window of Enterprise Manager Configuration Assistant appears.

3. Choose Next.

   The Select Database for Repository window appears.

Table 4–9 provides appropriate responses based on the repository type you selected in step 1 of "Oracle Management Server Installations" on page 4-18:

Table 4–9 Select Database for Repository Window Options

If You Selected...	You are Prompted to Enter the Following Information...
Use an existing repository	Release 2 (9.2) repository connection information: ■ Username and password for the existing release 2 (9.2) repository ■ The database connect string, specified as: *hostname:port_number:SID* If you need to upgrade your release 2.*x* repository to a release 2 (9.2) 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 2-11
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 upgrading your repository, run the appropriate tool after installation as described in step 1 on page 4-19.

Enterprise Manager Console Standalone appears.

See Also:

- "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session
- Chapter 6, "Postinstallation Configuration Tasks"

Oracle Internet Directory Installations

The installation windows that appear when you select Oracle Internet Directory depend upon your computer configuration and which Oracle components are currently installed. Table 4–10 summarizes the steps you need to perform to install Oracle Internet Directory. Proceed to one of the following selections:

Table 4–10 Oracle Internet Directory Installation Options

If Oracle database...	Then the...	Go to...
Release 2 (9.2) is already installed in the same Oracle home, but Oracle Internet Directory release 2 (9.2) 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 4-23
Release 2 (9.2) and Oracle Internet Directory release 2 (9.2) 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 2 (9.2)	Step 2 of "Installing Oracle Internet Directory for the First Time" on page 4-23
Oracle Internet Directory release 2.1.1.*x* or 3.0.1.*x* is already installed in an Oracle home	Upgrade OID window appears and prompts you to upgrade to Oracle9*i* release 2 (9.2) and Oracle Internet Directory release 2 (9.2)	"Upgrading Oracle Internet Directory" on page 4-25

Installing Oracle Internet Directory for the First Time

After selecting Oracle Internet Directory in the Installation Types window, the Using an existing instance window appears. Follow these procedures to install Oracle Internet Directory:

1. Choose between one of the following options:
   - To use the existing database from the current Oracle home for your Oracle Internet Directory installation, select Yes. Choose Next.
   - To create a new database for your Oracle Internet Directory installation, select No. Choose Next.
2. The Database Identification window appears.
   - If you are using an existing database, enter the **SID** of the existing database and choose Next. Note that this database must reside in the current Oracle home directory.
   - If you are creating a new database, enter the values for the **global database name** and **SID** in the appropriate fields. Choose Next.

   The OID Database File Location window appears.
3. Enter a directory location in which to install the Oracle Internet Directory database files. These database files contain tables specific to Oracle Internet Directory that are created during configuration.
4. Choose Next.
   - The Database Character Set window appears if Oracle9*i* release 2 (9.2) and Oracle Internet Directory release 9.2 are not installed. Accept the default value and select Next.
   - Otherwise the Summary window appears. Review the information to ensure that you have enough disk space.
5. Choose Install.

   The Install window appears. The values in Table 4–11 are automatically set during installation.

Table 4–11 Oracle Internet Directory Values Set at Installation

Setting	Value
Use of an Encrypted Password	Yes
Encryption schema	MD4

Table 4–11 Oracle Internet Directory Values Set at Installation (Cont.)

Setting	Value
Approximate number of directory entries to be stored in Oracle Internet Directory	Under 10,000 entries
Password of the Administrator Distinguished Name (`cn=orcladmin`)	welcome

The Configuration Tools window appears at the end of installation.

> **See Also:** "Installations Meeting Minimal Memory Requirements" on page 4-2 if your computer has only 128 MB of RAM

Table 4–12 lists the assistants that automatically start to create and configure the Oracle Net Services and Oracle Internet Directory environments.

Table 4–12 Configuration Assistants with the Oracle Internet Directory Installation Type

This Tool...	Starts...	And...
Oracle Net Configuration Assistant	If Oracle Net Services is not already installed in the currently-specified Oracle home	Automatically configures the Oracle Net Services environment **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. Review the port settings and access URLs on the End of Installation window. The `Oracle`*`HOME_NAME`*`HTTPServer` service starts when you restart your computer.
Oracle Intelligent Agent	If the database and Intelligent Agent are installed	Automatically starts the Agent service

Table 4–12 Configuration Assistants with the Oracle Internet Directory Installation Type (Cont.)

This Tool...	Starts...	And...
Database Configuration Assistant	In all cases except when using an existing database in the Oracle home for the Oracle Internet Directory installation	Automatically creates an Oracle9*i* database. Creates Oracle Internet Directory tablespaces and schema in the Oracle9*i* release 2 (9.2) database when installing Oracle Internet Directory in a new Oracle home that does not have Enterprise Edition installed. **Note:** If a new database is installed, Database Configuration Assistant automatically starts and creates a database with an AL32UTF8 character set. If you are performing a Custom installation of Oracle Internet Directory, then do not change the **global database name** or **SID** in the Database Identification window. Oracle Internet Directory will not successfully install if you changes these values.
OiD Configuration Assistant	In all cases	Automatically starts the Oracle Internet Directory directory server, and configures the default schema and the Directory Information Tree to support various Oracle components.

The End of Installation window appears.

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

See Also: "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session

Upgrading Oracle Internet Directory

Oracle Internet Directory upgrade is supported from Oracle Internet Directory release 2.1.1.*x* and 3.0.1.*x*. If the Oracle home where you intend to perform the upgrade of Oracle Internet Directory also contains a complete Enterprise Edition installation, then you must perform the Oracle Internet Directory upgrade before the Enterprise Edition upgrade.

Single-Node Upgrade

Perform the following procedures to upgrade the OID installed in the Oracle home.

- Preparing to Upgrade Oracle Internet Directory
- Starting Oracle Internet Directory Upgrade

Preparing to Upgrade Oracle Internet Directory

If Oracle Internet Directory release 2.1.1.*x* or 3.0.1.*x* is already installed in an Oracle home, ensure that you:

1. Stop the Oracle listener service, Oracle database service, and Oracle Internet Directory processes (OID Monitor, OID Server, Replication Server, and Directory Integration Server).
2. Know the system identifier (SID), Oracle directory server (ODS) user password, and Oracle Internet Directory administrator password of the Oracle8*i* or Oracle9*i* release 1 (9.0.1) database to upgrade.
3. Remove the Oracle Directory service registered in the existing Oracle home, by executing the following:

   ```
   oidmon remove
   ```

4. Perform a complete backup prior to upgrade. The best way to do this is to create a backup of the database.

   > **See Also:** An alternative upgrade procedure is available to perform the upgrade manually rather than through Oracle Universal Installer. It is documented in the "Alternate Procedure-Upgrading a Stand-Alone Node" section in Appendix D of *Oracle Internet Directory Administrator's Guide*

Starting Oracle Internet Directory Upgrade

The Upgrade OID windows appears if you have a previously installed version of Oracle Internet Directory on your computer. Follow these procedures to upgrade Oracle Internet Directory:

1. The Upgrading an Existing Database windows appears. Select the Oracle Internet Directory Oracle8*i* or Oracle9*i* release 1 (9.0.1) database to upgrade.
2. Select Yes to upgrade the existing database.
3. Choose Next.

   The Oracle SID window appears.
4. Enter the **SID** of the existing database.
5. Choose Next.

   The Configuration Tools window appears at the end of installation.

See Also: "Installations Meeting Minimal Memory Requirements" on page 4-2 if your computer has only 128 MB of RAM

Table 4–12 lists the assistants that automatically start to create and configure the Oracle Net Services and Oracle Internet Directory environments.

Table 4–13 Configuration Assistants

The...	Upgrades...
Oracle Database Upgrade Assistant	Oracle8*i* or Oracle9*i* release 1 (9.0.1) to a Oracle9*i* release 2 (9.2) database
OiD Upgrade Assistant	Oracle Internet Directory release 2.1.1.*x* or 3.0.1.*x* to 9.2.0 **See Also**: "Appendix D" of *Oracle Internet Directory Administrator's Guide* for more information on upgrading an existing Oracle Internet Directory database

6. Continue the Oracle Internet Directory section in "Individual Component Postinstallation Configuration Tasks" on page 6-8 to complete any required postinstallation tasks.

Upgrading Oracle Internet Directory in a Multi-Node Environment

You can upgrade a multi-node Oracle Internet Directory system in two ways:

- Upgrading One Node at a Time
- Upgrading all the Nodes at the Same Time

Upgrading One Node at a Time

In this method, while the upgrade on one node is in progress, all other nodes remain available. This method requires you to follow the following guidelines:

- When you are upgrading a replication network one node at a time, the upgrade is not complete until all nodes are upgraded. However, during this period, all network nodes except the one being upgraded remain available.
- While the upgrade is in progress, only one node should be read-write. The remaining nodes should be read-only.
- Perform the upgrade on the Master Definition Site (MDS) before you upgrade the other sites.

Perform the following tasks *before* upgrading one node at a time:

1. Stop the Oracle Internet Directory processes.
2. Delete ASR push jobs temporarily.

   Run the `delasrjobs.sql` script located in the *ORACLE_BASE**ORACLE_HOME*\ldap\admin directory. This script deletes the Oracle9*i* Replication jobs on the other master sites that push changes to the MDS. Deleting these jobs temporarily removes the node from the replication environment so that no changes can be applied to it. Other nodes, however, remain operational and continue replicating changes.
3. Perform the upgrade at each node. Refer to "Single-Node Upgrade" on page 4-25 for more information.
4. After you have upgraded the node, create ASR push jobs.

   Create jobs on the other nodes by running the `creasrjobs.sql` script on the upgraded node. The script is located in the *ORACLE_BASE**ORACLE_HOME*\ldap\admin directory. This script creates the jobs on the other nodes that were previously deleted. These newly created jobs start pushing the existing changes and new changes on the other nodes to the node you have just upgraded.

Upgrading all the Nodes at the Same Time

If you use this method, the system is not available during the upgrade process. Perform the following tasks *before* upgrading all the nodes at the same time:

1. Set all the nodes in the network to read-only mode.
   - Edit the input file:
     - `dn`:
     - `changetype: modify`
     - `replace: orclservermode`
     - `orclservermode: r`
   - Run the following command against all the nodes in the replication network:

     ```
     ldapmodify -D super_user_DN -w super_user_password -h host_name -p
     port_number -f input_file.ldif
     ```

2. Wait until all the changes in the change log queue are applied. Before moving to the next step, wait for the change log queue to empty.

   Note: If you skip this step, then the changes in the change log queue are applied once the nodes are upgraded.

3. Verify that you have stopped the Oracle Internet Directory processes and shut down the database.
4. Perform the upgrade at each node. Refer to "Single-Node Upgrade" on page 4-25 for more information.

Backward Compatibility

When an existing replication Directory Replication Group (DRG) is being upgraded, some of the updates made on the upgraded Oracle Internet Directory 9.2.0 will not replicate to the nodes that are not upgraded yet. These upgrades will eventually replicate successfully once the consumer is upgraded to 9.2.0. If possible,

- Do not make changes on the upgraded nodes unless all the nodes in the DRG are upgraded.
- If you need to update upgraded nodes, then do not push the changes to the other nodes unless they are upgraded. Pushing the changes can be temporarily disabled by bringing the replication server up in a specific mode (`-o FALSE`). Run the following command to start the replication in this mode:

  ```
  oidctl connect=connect_string server=server_name instance=1 flags="-p port
  -h host_name -o FALSE" start
  ```

Custom Oracle9*i* Management and Integration Installations

The Available Product Components window displays all components available for installation when you select the Custom Oracle9*i* Management and Integration installation type.

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 4–14, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information.

Table 4–14 Custom Oracle9i Management and Integration Component Prompts

If You Select...	Then...
Oracle Management Server	Go to "Oracle Management Server Installations" on page 4-18 for installation instructions.
Oracle Internet Directory	Go to "Oracle Internet Directory Installations" on page 4-22 for installation instructions.

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 partitions. 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 Oracle Management Server Repository window appears.

13. Select to use an existing repository or create a new repository and choose Next.

    The Create Database window appears.

14. Select whether or not to create a new database during this installation session and choose Next.

    If you selected to create a database, then the Database File Locations window appears.

    - Enter the Oracle home name and directory path in which to install Oracle components in the Destination fields and choose Next.

      Attention: Do not install Oracle9*i* release 2 (9.2) software into an existing Oracle home that contains Oracle8*i* or earlier software.

    The Database Character Set window appears.

15. 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.

16. Choose Next.

    The Summary window appears.

17. 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.

    See Also: "Installations Meeting Minimal Memory Requirements" on page 4-2 if your computer has only 128 MB of RAM

Table 4–15 lists the assistants that automatically start to create and configure the Oracle9*i* database for use with Oracle Internet Directory.

Table 4–15 Configuration Assistants—Custom Oracle9i Management and Integration Installation Type

This Tool...	Starts If...	And...
Oracle Net Configuration Assistant	Oracle Net Services is not already installed in the currently-specified Oracle home	Automatically configures the Oracle Net Services environment **See Also:** "Configuring the Server Network" on page 3-8 for a description of the configuration procedures performed
Starting Oracle HTTP Service	You select the Oracle HTTP Server in the Available Product Components window	Starts the HTTP listener in non-SSL mode. Review the port settings and access URLs on the End of Installation window.
Oracle Intelligent Agent	The database and Intelligent Agent are installed	Automatically starts the Agent service
OiD Configuration Assistant	You select Oracle Internet Directory in the Available Product Components window	Automatically starts the Oracle Internet Directory Server, and configures the default schema and the Directory Information Tree to support various Oracle components.
Database Configuration Assistant	You select Oracle9*i* in the Available Product Components window, and you chose not to upgrade when prompted, and you selected Yes when prompted to install an Oracle9*i* database	Database Configuration Assistant automatically starts within OiD Configuration Assistant to guide you through a Custom installation to create a database with the AL32UTF8 character set. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords. 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.
Oracle Database Upgrade Assistant	You select to upgrade a database	Upgrades the selected database to Oracle9*i*
Oracle Enterprise Manager Configuration Assistant	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

Table 4–15 Configuration Assistants—Custom Oracle9i Management and Integration Installation Type

This Tool...	Starts If...	And...
Oracle Workflow Configuration Assistant	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.

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

Enterprise Manager Console Standalone appears.

Note: You cannot 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

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See Also:

- "Reviewing the Installation Session Log" on page 4-34 for a summary of your installation session
- Chapter 6, "Postinstallation Configuration Tasks"

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.

Log filenames take the form installActions*date_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.

Note: 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 on Windows Platforms
- Deinstalling Components with Oracle Universal Installer
- Removing Oracle Keys From the Registry on Windows NT, Windows 2000, and Windows XP
- Removing Oracle Keys from the Registry on Windows 98

Note: Manually removing components is not recommended unless 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 on Windows Platforms

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

To stop Windows services:

1. Open the Services control panel:
   - On Windows NT, choose Start > Settings > Control Panel > Services.
   - On Windows 2000, choose Start > Settings > Control Panel> Administrative Tools > Services.
   - On Windows XP, choose Start > Control Panel > Administrative Tools > 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 4-37 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 (`Oracle`*HOME_NAME*`ManagementServer`) from the Control Panel.

   When prompted, enter the Administrator and password for the Oracle Management Server service. The default Administrator name is `sysman` and the password is `oem_temp`. If you changed the `oem_temp` password, substitute the correct password.

2. Remove the Oracle Management Server service 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 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 services for Oracle components during installation. However, the installer does not delete services created by Oracle Net Configuration Assistant, OiD Configuration Assistant, and Database Configuration Assistant.

To deinstall components with Oracle Universal Installer:

1. Ensure that you first follow the instructions in "Stopping Oracle Services on Windows Platforms" on page 4-35.
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, Windows 2000, and Windows XP

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.

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

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*.

Caution: Use Microsoft Registry Editor at your own risk. Incorrect usage of Registry Editor can cause serious problems and may require reinstallation of your operating system.

To remove the Oracle Net Service registry entry on Windows NT, Windows 2000, and Windows XP:

1. Log in as a member of the Administrators group.
2. Ensure that you first follow the instructions in "Stopping Oracle Services on Windows Platforms" on page 4-35.
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, Windows 2000, and Windows XP:

> **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 on Windows Platforms" on page 4-35.
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\SYSTEM\CurrentControlSet\Services.
9. Delete all keys under here that begin with ORACLE.
10. Go to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Eventlog\Application.
11. Delete all keys under here that begin with ORACLE.
12. Go to HKEY_CURRENT_USER.
13. Delete ORACLE.
14. Go to HKEY_CURRENT_USER\SOFTWARE\ORACLE.
15. Delete keys that start with Oracle or ORCL (if any exist).
16. Delete any Oracle keys (if any exist).
17. Close the registry.
18. Restart 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;C:\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 Explorer.
4. Delete all *`ORACLE_BASE`* directories on your hard drive.
5. Restart 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. Restart 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. Restart your computer.

5

Reviewing Your Installed Starter Database Contents

This chapter describes the contents of the default starter database created through Database Configuration Assistant for the Enterprise Edition, Standard Edition, Personal Edition, or Oracle Internet Directory. 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. Database Configuration Assistant locks and expires all default database accounts upon successful installation with the following exceptions:

- SYS
- SYSTEM
- SCOTT
- DBSNMP

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

At a minimum, Database Configuration Assistant creates the SYS, SYSTEM, and DBSNMP accounts in *all* databases. At the end of the database creation process, you are required to change the SYS and SYSTEM passwords. 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:

- "Modifying Oracle Performance Monitor for Windows NT Parameters", of *Oracle9i Database Getting Started for Windows*, for instructions on how to change the password for Oracle Performance Monitor for Windows NT
- *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 Oracle Net Services environments. One such assistant is the Database Configuration Assistant. When Database Configuration Assistant finishes your database configuration, it displays a screen with your database information and the Password Management button. You are required to change the SYS and SYSTEM passwords on this screen. Use the Password Management button to unlock only the usernames you will use. Oracle Corporation strongly recommends changing the default password immediately after unlocking the username.

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

1. From the Database Configuration Assistant window, choose the Password Management button.
2. Select the username and clear the check mark.
3. Enter a new password and confirm the new password for each username.

Note: If a password is unlocked and a new password is not specified, then the password is expired until the next time the account is accessed.

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

Action	SQL Statement
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	User assigned[1] or MANAGER	Used for performing database administration tasks. SYSTEM includes the AQ_ADMINISTRATOR_ROLE, DBA, and SALES_HISTORY_ROLE database roles.	*Oracle9i Database Administrator's Guide*
SYS	User assigned[12] or CHANGE_ON_INSTALL[2]	Used for performing database administration tasks.[3]	*Oracle9i Database Administrator's Guide*

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

Username	Password	Description	See Also
ANONYMOUS	ANONYMOUS	Allows HTTP access to Oracle XML DB.	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*
ODM	ODM	ODM performs data mining operations. Includes the AQ_USER_ROLE, AQ_ADMINISTRATOR_ROLE, and SELECT_CATALOG_ROLE roles.	■ *Oracle9i Data Mining Administrator's Guide* ■ *Oracle9i Data Mining Concepts*
ODM_MTR	MTRPW	ODM_MTR is the account associated with the data repository for data mining sample programs. Includes the SELECT_CATALOG_ROLE role.	■ *Oracle9i Data Mining Administrator's Guide* ■ *Oracle9i Data Mining Concepts*
OLAPSYS	MANAGER	OLAPSYS is the identity used to create OLAP metadata structures. OLAPSYS includes OLAP_DBA, CONNECT, and RESOURCE database roles.	*Oracle9i OLAP User's 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*
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*

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

Username	Password	Description	See Also
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 Tuning 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
WMSYS	WMSYS	The WMSYS schema is used to store all the metadata information for Oracle Workspace Manager. WMSYS includes CONNECT, RESOURCE, and WM_ADMIN_ROLE database roles.	*Oracle9i Application Developer's Guide - Workspace Manager*
XDB	CHANGE_ON_INSTALL	Used for storing Oracle XML DB data and metadata. Includes CONNECT and RESOURCE database roles.	Not applicable

[1] If you use Database Configuration Assistant to create a database, then you are required to change the SYS and SYSTEM passwords at the end of the configuration process.

[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, GATHER_SYSTEM_STATISTICS, HS_ADMIN_ROLE, IMP_FULL_DATABASE, JAVA_ADMIN, JAVADEBUGPRIV, JAVA_DEPLOY, JAVAIDPRIV, JAVAUSERPRIV, JAVASYSPRIV, LOGSTDBY_ADMINISTRATOR, OEM_MONITOR, OLAP_DBA, RECOVERY_CATALOG_OWNER, RESOURCE, SELECT_CATALOG_ROLE, and WKUSER

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 Security and Network Integration Guide*

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:

- OracleService*SID* (the Oracle9*i* database service)
- Oracle*HOME_NAME*TNSListener (the Oracle9*i* database listener service)

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

- Oracle*HOME_NAME*Agent
- Oracle*HOME_NAME*ManagementServer
- Oracle*HOME_NAME*HTTPServer

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

See Also:

- "Individual Component Postinstallation Configuration Tasks" on page 6-8
- "Oracle9*i* Services on Windows" of *Oracle9i Database Getting Started for Windows* for a complete list of services and instructions on starting Oracle services in the Windows 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 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	CWMLITE01.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.
ODM	ODM01.DBF	ODM and ODM_MTR schema objects.
TEMP	Temp01.dbf	Temporary tables and 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.
XDB	xdb01.dbf	Used for storing Oracle XML DB data and metadata.

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.

The initialization 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 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.

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.

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

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.

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 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 Registry Permissions
- Patch Set Information
- Validating Invalid PL/SQL Modules
- Individual Component Postinstallation Configuration Tasks

About NTFS File System and Windows Registry Permissions

Oracle Corporation recommends that you configure Oracle database files, directories, and registry settings to allow only authorized database administrators (DBAs) to have full control. If you created a database using Database Configuration Assistant or upgraded a database using Oracle Database Upgrade Assistant, then no further action is required.

This section describes the permissions automatically set by Oracle Universal Installer, Database Configuration Assistant, and Oracle Database Upgrade Assistant and the steps to set these permissions manually.

This section contains these topics:

- File Permissions
- Setting NTFS File System Security
- Setting Windows Registry Security

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

File Permissions

Beginning with this release, Oracle Universal Installer, Database Configuration Assistant, and Database Upgrade Assistant set file permissions when Oracle software is installed or upgraded.

This section contains these topics:

- File Permissions Set by Oracle Universal Installer
- File Permissions Set by Database Configuration Assistant
- File Permissions Set by Database Upgrade Assistant

File Permissions Set by Oracle Universal Installer

During Oracle9*i* installation, by default Oracle Universal Installer installs software in *\ORACLE_BASE\ORACLE_HOME*.

Oracle Universal Installer sets the following permissions to this directory, and all files and directories under this directory:

- `Administrators` - Full Control
- `System` - Full Control
- `Authenticated Users` - Read, Execute and List Contents

> **Important:** If these accounts already exist and possess more restrictive permissions, then the most restrictive permissions are retained. If accounts other than `Administrators`, `System`, and `Authenticated Users` already exist, then the permissions for these accounts are removed.

File Permissions Set by Database Configuration Assistant

During database configuration, Database Configuration Assistant installs files and directories in the following default locations:

- Administration files in directories under `\`*`ORACLE_BASE`*`\admin\`*`database_name`*

  where *`database_name`* is the database name or SID.
- Database files in directories under `\`*`ORACLE_BASE`*`\oradata\`*`database_name`*
- REDO Log files and Control files in `\`*`ORACLE_BASE`*`\oradata\`*`database_name`*
- `SPFILE`*`SID`*`.ORA` file under the directory `\`*`ORACLE_BASE`*`\`*`ORACLE_HOME`*`\database`

Database Configuration Assistant sets the following permissions to these directories, and all files and directories under this directory:

- `Administrators` - Full Control
- `System` - Full Control

> **Important:** If these accounts already exist and possess more restrictive permissions, then the most restrictive permissions are retained. If accounts other than `Administrators` and `System` already exist, then the permissions for these accounts are removed.

File Permissions Set by Database Upgrade Assistant

When an older version (7.3.4, 8.0.6, 8.1.7, 9.0.1) of the database is upgraded to Oracle9*i* release 2 (9.2), Database Upgrade Assistant installs software in the following directories:

- Administration files in directories under `\`*`ORACLE_BASE`*`\admin\`*`database_name`*

  where *`database_name`* is the database name or SID.
- Database files in directories under `\`*`ORACLE_BASE`*`\oradata\`*`database_name`*
- REDO Log files and Control files in `\`*`ORACLE_BASE`*`\oradata\`*`database_name`*
- `SPFILE`*`SID`*`.ORA` file under the directory `\`*`ORACLE_BASE`*`\`*`ORACLE_HOME`*`\database`

Database Upgrade Assistant sets the following permissions to these directories, and all files and directories under this directory:

- `Administrators` - Full Control
- `System` - Full Control

Important: If these accounts already exist and possess more restrictive permissions, then the most restrictive permissions are retained. If accounts other than `Administrators` and `System` already exist, then the permissions for these accounts are removed.

Setting NTFS File System Security

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

1. Go to Windows Explorer.
2. Set the following permissions for each directory or file:

Directory	Group and Permissions
*ORACLE_BASE**ORACLE_HOME*	■ Administrators - Full Control ■ System - Full Control ■ Authenticated Users - Read, Execute and List Contents
■ *ORACLE_BASE*\admin*database_name* ■ *ORACLE_BASE*\oradata*database_name* ■ *ORACLE_BASE*\oradata*database_name* ■ *ORACLE_BASE**ORACLE_HOME*\database\spfile*SID*.ora	■ Administrators - Full Control ■ System - Full Control

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

See Also: Your Windows online help for more information about how to modify NTFS file system and Windows registry settings

Setting Windows 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 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.

Patch Set Information

An Oracle database installation always installs the base release, for example, Oracle9*i* release 1 (9.0.1.1.0). Oracle Corporation recommends installing the latest patch set release after successful installation of the base release.

Current patch set information is available at

`http://metalink.oracle.com`

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

To find and download patches:

1. Find the latest patch set.

   To find the latest patch set for Oracle9*i*, enter the values defined in Table 6–1 and then select Submit.

Table 6–1 Patch Set Information

Field	Value
Product Family	Oracle Server
Release	Select the highest release available for the base release you installed.
Platform	MS Windows NT/2000 Server
Limit Search to	Latest Product Patch sets or Minipacks

2. From the list of selected patches, select a patch to download.

   Note that patch sets for Oracle databases are identified as "*x.x.x* PATCH SET FOR ORACLE DATA SERVER."

3. Review the README before proceeding with the download.

   The README contains installation requirements and instructions.

4. Download and install the patch.

Validating Invalid PL/SQL Modules

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 the script 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. The following sections list configuration requirements and the sections or documents referenced for specific configuration procedures.

- Management Pack for Oracle Applications
- Messaging Gateway
- Oracle Advanced Security
- Oracle Administration Assistant for Windows NT
- Oracle Enterprise Manager
- Oracle Enterprise Manager Web Site
- Oracle HTTP Server
- Oracle interMedia and Oracle Spatial
- Oracle Internet Directory
- Oracle OLAP API
- Oracle Performance Monitor for Windows NT
- Oracle Real Application Clusters
- Oracle Services for Microsoft Transaction Server
- Oracle Workflow
- Oracle XML DB
- PL/SQL External Procedures
- Pro*COBOL
- Shared Server Support
- Oracle Net Services

Management Pack for Oracle Applications

After installation is complete, you have additional configuration tasks to perform before using the Management Pack for Oracle Applications.

> **See Also:** *Getting Started with the Oracle Management Pack for Oracle Applications*

Messaging Gateway

Messaging Gateway, an Oracle9*i* Advanced Queuing feature, requires additional configuration.

> **See Also:** "Setting Up Messaging Gateway" of *Oracle9i Application Developer's Guide - Advanced Queuing*

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.

> **See Also:**
>
> - Microsoft documentation
> - Visit `http://www.microsoft.com/`

Oracle Advanced Security

Authentication, encryption, integrity support, and enterprise user security require configuration.

> **See Also:** *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 2 (9.2) repository, then you must start Oracle Enterprise Manager Configuration Assistant to upgrade the repository.

> **See Also:** "Configuring and Controlling the Management Server" of *Oracle Enterprise Manager Configuration Guide*

Oracle Enterprise Manager Web Site

Before you can use Oracle Enterprise Manager Web Site, you must complete postinstallation configuration steps.

> **See Also:** "Running Enterprise Manager Console from a Web Browser" in *Oracle Enterprise Manager Configuration Guide*

Oracle HTTP Server

You can start, stop, and verify the status of Oracle HTTP Server.

> **See Also:**
>
> - *Oracle Enterprise Manager Configuration Guide*
> - "Managing HTTP Servers" in *Oracle Enterprise Manager Administrator's Guide*

Oracle *inter*Media and 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.

> **See Also:** "Postinstallation Configuration Tasks" of *Oracle9i Database Administrator's Guide for Windows* for procedures

Oracle Internet Directory

This section contains these topics:

- Post-Upgrade Tasks
- UNIX Emulation Utility

Post-Upgrade Tasks

Perform the following post-upgrade tasks for Oracle Internet Directory:

- Job Queue Processes Parameter in init.ora File
- Default Subscriber Configuration

Job Queue Processes Parameter in init.ora File Set the Job Queue Process parameter in the `init.ora` file of the database to the following values:

- For single-node, set the parameter to at least 1.
- For multi-node, set the parameter to (`Number of nodes - 1`)

Default Subscriber Configuration The following information needs to be added to the root **Oracle Context** in the entry identified by the following `DN`, "`cn=Common, cn=Products, %RootOracleContextDN%`". By default, the `RootOracleContextDN` is "`cn=OracleContext`". Table 6–2 lists the attributes in the Root Oracle Context.

Table 6–2 Attributes in the Root Oracle Context

Attribute	Description
Subscriber Search Base (`orclSubscriberSearchBase`)	This attribute identifies the node in the **Directory Information Tree (DIT)** under which all subscribers are placed.
Subscriber Nick Name Attribute (`orclSubscriberNickNameAttribute`)	This attribute identifies the nickname attribute to be used when searching for a subscriber under the subscriber search base.
Default Subscriber (`orclDefaultSubscriber`)	This attribute identifies the root of your organization (same as the value specified in the Upgrading Subscriber screen of OiD Configuration Assistant.

The following information needs to be added in the subscriber-specific Oracle Context in the entry identified by the following `DN`, "`cn=Common, cn=Products, cn=oracleContext, subscriber DN`". Table 6–3 lists the attributes in the Default Subscriber Oracle Context.

Table 6–3 Attributes in the Default Subscriber Oracle Context

Attribute	Description
User Search Base (`orclCommonUserBase`)	This attribute identifies the node in the DIT under which all users are placed. During the upgrade, this attribute value is set to the `subscriber DN` value. **Note**: If this attribute is not set, then the password policy under the Root Oracle Context will be applied.

Table 6–3 Attributes in the Default Subscriber Oracle Context

Attribute	Description
User Nick Name Attribute (`orclCommonNickNameAttribute`)	This attribute identifies the nickname attribute to be used when searching for a user under the user search base.
Group Search Base (`orclCommonGroupSearchBase`)	This attribute identifies the node in the DIT under which all groups are placed.

Note: You can update these attributes by using Oracle Directory Manager.

See Also: *Oracle Internet Directory Administrator's Guide* for more information about these attributes

Password Policy Configuration If the password policy exists in the earlier release of Oracle Internet Directory (located under `DN` "`cn=pwdpolicyentry, cn=Oracle Internet Directory`"), then this policy will be applied to both the Root Oracle Context and the default Subscriber Oracle Context. The original `DN` containing the policy "`cn=pwdpolicyentry, cn=Oracle Internet Directory`" will be removed from the earlier release. Otherwise, the default password policy is set up as part of the Subscriber Oracle Context creation. By default, the password policy for the default subscriber is set to the following values:

- User passwords expire in 60 days (`pwdmaxage=5184000`).
- Accounts are locked out after 10 successive failed login attempts (`pwdlockout=1` and `pwdmaxfailure=10`).
- Password syntax checking is enabled and a minimum length of user password is five characters (`pwdchecksyntax=1` and `pwdinlength=5`).
- User passwords must contain at least one numeric value (`orclpwdalphanumberic=1`)

Note: You can find the above attribute values in the "cn=PwdPolicyEntry, cn=Common, cn=Products, cn=oracleContext, <subscriber DN>".

The password policy under Root Oracle Context applies to all entries under the root DSE. However, it does not apply to entries under Root Oracle Context.

See Also: *Oracle Internet Directory Administrator's Guide* for more information on how to change the default password policy.

If the upgraded Oracle Internet Directory is integrating with other Oracle components, appropriate access control policies will need to be set up to grant necessary privileges to the Oracle components.

User Data Upgrade

You must do this if you choose to do the user data upgrade as a postinstallation step.

Password Conversions The password format in Oracle Internet Directory release 9.2 is base-64. The older passwords stored in hexadecimal must be converted. To perform the conversion, follow these steps:

1. Use the command below to perform an `ldapsearch` to output all the encrypted user passwords to a file. In this case, *ORACLE_HOME*`/ldap/install/pwdin.ldif` is used as the output file.

   ```
   ORACLE_HOME/bin/ldapsearch -L -h OID host_name -p OID Non-SSL port -D OID
   Super User DN -w OID Super User Password -b "" -s sub "objectclass=*" dn
   userpassword > $OH/ldap/install/pwdin.ldif
   ```

2. Issue the command below to use the `passwordconvert` tool to convert the user passwords in *ORACLE_HOME*`/ldap/install/pwdin.ldif` and output them to *ORACLE_HOME*`/ldap/install/pwdout.ldif`.

   ```
   ORACLE_HOME/bin/passwordconvert -m hex2base64 -f modify
   ORACLE_HOME/ldap/install/pwdin.ldif ORACLE_HOME/ldap/install/pwdout.ldif
   ```

3. Issue the command below to use `ldapmodify` to upload the BASE-64 encoded user passwords in

   $*ORACLE_HOME*`/ldap/install/pwdout.ldif` back into Oracle Internet Directory.

   ORACLE_HOME`/bin/ldapmodify -h` *OID host_name* `-p` *OID Non-SSL port* `-D` *OID Super User DN* `-w` *OID Super User Password* `> -f` *ORACLE_HOME*`/ldap/install/pwdout.ldif`

UNIX Emulation Utility

You must download a UNIX emulation utility for Windows to run Oracle Internet Directory shell script tools on Windows (`BULKLOAD.SH`, `BULKDELETE.SH`, `BULKMODIFY.SH`, `CATALOG.SH`, and `LDAPREPL.SH`). Two certified third-party software vendors provide this utility:

- Cygnus (open source)

  `http://sources.redhat.com/cygwin/`

- MKS Toolkit (commercially available)

  `http://www.datafocus.com/products/`

See Also: *Oracle Internet Directory Administrator's Guide*

Oracle Net Services

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.

See Also:

- *Oracle9i Net Services Administrator's Guide* and the online help available with both tools
- "Configuring Your Network" on page 3-7 for a discussion of available configuration choices

Oracle OLAP API

Before writing Java programs that use the OLAP API, you must make the files accessible in your Java development environment.

> **See Also:** "Setting Up the Development Environment" of *Oracle9i OLAP Developer's Guide to the OLAP API*

Oracle Performance Monitor for Windows NT

Before using Oracle Performance Monitor for Windows NT to view Oracle-specific counters, you must specify the `SYSTEM` password using `OperfCfg.exe` located in the *`ORACLE_BASE`*`\`*`ORACLE_HOME`*`\bin` directory.

To set the SYSTEM password, enter the following:

```
C:\> operfcfg.exe -U SYSTEM -P password[-D database_name]
```

> **See Also:** *Oracle9i Database Getting Started for Windows* and *Oracle9i Database Administrator's Guide for Windows* for additional information about Oracle Performance Monitor for Windows NT

Oracle Real Application Clusters

Postinstallation configuration procedures must be performed to enable high availability and Oracle Enterprise Manager functionality.

> **See Also:** *Oracle9i Real Application Clusters Setup and Configuration*

Oracle Services for Microsoft Transaction Server

For Windows NT installations, if you did not install the Microsoft Management Console (MMC) before installing Oracle9*i*, 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

> **See Also:** "Managing Recovery Scenarios" of *Oracle Services for Microsoft Transaction Server Developer's Guide*

Oracle Workflow

You must perform a number of configuration tasks, 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*

Oracle XML DB

Refer to *Oracle9i XML Database Developer's Guide - Oracle XML DB* for more information on the following tasks:

- Re-installation of Oracle XML DB
- Configuring or customizing the Oracle XML DB tablespace
- Configuring FTP, HTTP / WebDAV port numbers

See Also: Appendix A of *Oracle9i XML Database Developer's Guide - Oracle XML DB*

PL/SQL External Procedures

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 release 2 (9.2) database, manual configuration is required.

See Also: "Developing Applications" of *Oracle9i Database Getting Started for Windows*

Pro*COBOL

Pro*COBOL supports specific compilers.

> **See Also:** "Introducing Pro*COBOL" of *Pro*COBOL Precompiler Getting Started for Windows*

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 Database Configuration Assistant, you were offered a choice of shared or dedicated server support.

> **See Also:**
>
> - "Postinstallation Configuration Tasks" of *Oracle9i Database Administrator's Guide for Windows*
> - Chapter 3, "Selecting Database Creation and Oracle Net Services Configuration Methods"

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 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 are only 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 4-34 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 Availability

Component	Enterprise Edition	Standard Edition	Personal Edition
Advanced Queueing API	Yes	Yes	Yes
Advanced Replication[1]	Yes[2]	Yes	Yes
Database Configuration Assistant	Yes	Yes	Yes
Generic Connectivity	Yes	Yes	Yes
*i*SQL*Plus	Yes	Yes	Yes
Object Type Translator	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
■ 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
RC4_256 Encryption	Yes	No	Yes

Table A–1 Oracle9i Database Components Availability (Cont.)

Component	Enterprise Edition	Standard Edition	Personal Edition
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
■ Thin JDBC Java-based Encryption Support	Yes	No	Yes
Oracle C++ Call Interface	Yes	Yes	Yes
Oracle Call Interface	Yes	Yes	Yes
Oracle COM Automation Feature	Yes	Yes	Yes
Oracle Connection Manager	No	No	No
Oracle Data Mining	Yes	No	Yes
Oracle Database Upgrade Assistant	Yes	Yes	Yes
Oracle Database Utilities	Yes	Yes	Yes
Oracle Dynamic Services	Yes	Yes	Yes
Oracle Enterprise Manager Configuration Assistant	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	Yes	Yes	Yes
Oracle Forms Server Manager	Yes	Yes	Yes
Oracle LogMiner Viewer	Yes	Yes	Yes
Oracle Policy Manager	Yes	Yes	Yes
Oracle Spatial Index Advisor	Yes	Yes	Yes

Table A–1 Oracle9i Database Components Availability (Cont.)

Component	Enterprise Edition	Standard Edition	Personal Edition
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	Yes	Yes
■ Oracle Enterprise Manager Web Site[3]	Yes	Yes	Yes
■ Oracle Intelligent Agent (includes data collection services)	Yes	Yes	Yes
■ Oracle Management Server[4]	Yes	Yes	Yes
Oracle HTTP Server, 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 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

Table A–1 Oracle9i Database Components Availability (Cont.)

Component	Enterprise Edition	Standard Edition	Personal Edition
■ Oracle *inter*Media Client Option	Yes	Yes	Yes
■ Oracle *inter*Media Java Client	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 *inter*Media Web Client	Yes	Yes	Yes
Oracle Internet Directory Client	Yes	Yes	Yes
Oracle JDBC Drivers	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	Yes	No	No
Oracle OLAP API	Yes	No	Yes
Oracle Programmer	Yes	Yes	Yes
Oracle Net Services[5]	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 Procedural Gateway for APPC	No	No	No
Oracle Procedural Gateways for IBM MQSeries	No	No	No
Oracle Real Application Clusters[6]	Yes	No	No
Oracle Remote Configuration Agent	Yes	Yes	Yes
Oracle Services for Microsoft Transaction Server	Yes	Yes	Yes
Oracle SNMP Agent	Yes	Yes	Yes

Table A–1 Oracle9i Database Components Availability (Cont.)

Component	Enterprise Edition	Standard Edition	Personal Edition
Oracle SOAP Client	Yes	Yes	Yes
Oracle SOAP for JServ	Yes	Yes	Yes
Oracle SOAP Server	Yes	Yes	Yes
Oracle Spatial	Yes	Yes	Yes
Oracle SQLJ	Yes	Yes	Yes
Oracle Text	Yes	Yes	Yes
Oracle Trace	Yes	Yes	Yes
Oracle Transparent Gateway for IBM DRDA	No	No	No
Oracle Transparent Gateway for Microsoft SQL Server	No	No	No
Oracle Transparent Gateway for Sybase	No	No	No
Oracle Transparent Gateway for Teradata	No	No	No
Oracle Universal Installer	Yes	Yes	Yes
Oracle Ultra Search Middle Tier	Yes	Yes	Yes
Oracle Ultra Search Server	Yes	Yes	Yes
Oracle Workflow Manager	Yes	Yes	Yes
Oracle Workspace Manager	Yes	Yes	Yes
Oracle XML Developer's Kit	Yes	Yes	Yes
Oracle XML SQL Utility	Yes	Yes	Yes
Oracle JVM, includes:	Yes	Yes	Yes
■ Java Virtual Machine	Yes	Yes	Yes
■ Oracle Java Tools	Yes	Yes	Yes
■ Oracle JVM Accelerator	Yes	Yes	Yes
Oracle9*i* Development Kit	Yes	Yes	Yes
Oracle9*i* Globalization Support	Yes	Yes	Yes
Oracle9*i* Server (the Oracle9*i* database), includes:	Yes	Yes	Yes
■ Oracle Database Demos	Yes	Yes	Yes
■ PL/SQL	Yes	Yes	Yes

Table A–1 Oracle9i Database Components Availability (Cont.)

Component	Enterprise Edition	Standard Edition	Personal Edition
■ PL/SQL Embedded Gateway	Yes	Yes	Yes
Oracle9*i* Syndication Server	Yes	Yes	Yes
Oracle9*i* Windows Documentation (release documentation, such as installation guide and release notes)	Yes	Yes	Yes
PL/SQL	Yes	Yes	Yes
Pro*C/C++	Yes	No	Yes
Pro*COBOL	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 available only in 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 Management Server includes a preconfigured Oracle HTTP Server as the Web listener for browser-based Enterprise Manager as well as the central Enterprise Manager Reporting Web site.

[5] When Oracle Net Services is installed through the Oracle9*i* database installation type, Oracle Protocol Support is automatically installed for the networking protocols detected.

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

See Also: "Component Descriptions" on page A-15 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 Availability

Component	Administrator	Runtime
Advanced Queueing API	Yes	No
Object Type Translator	Yes	No
Oracle Administrative Assistant for Windows NT	Yes	No
Oracle Advanced Security, includes:	Yes	No
■ Authentication Support, includes:	No	No
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
■ Encryption and Integrity Support, includes:	Yes	No
3DES_112 Encryption (2-key option)	Yes	No
3DES_168 Integrity (3-key option)	Yes	No
DES40 Encryption	Yes	No
DES56 Encryption	Yes	No
MD5 Integrity	Yes	No
RC4_40 Encryption	Yes	No
RC4_56 Encryption	Yes	No
RC4_128 Encryption	Yes	No
RC4_256 Encryption	Yes	No
SHA-1 Integrity	Yes	No
■ Enterprise User Security, includes:	Yes	No
Oracle Enterprise Login Assistant	Yes	No
Oracle Enterprise Security Manager (available as an Oracle Enterprise Manager Integrated Application)	Yes	No
Oracle Wallet Manager	Yes	No
■ Thin JDBC Java-based Encryption Support	Yes	No

Table A–2 Oracle9i Client Components Availability (Cont.)

Component	Administrator	Runtime
Oracle Call Interface	Yes	No
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	Yes	No
Oracle Forms Server Manager	Yes	No
Oracle LogMiner Viewer	Yes	No
Oracle Policy 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[1]	No	No
Oracle *inter*Media Annotator	Yes	No
Oracle *inter*Media Client Option	Yes	No
Oracle *inter*Media Java Client	Yes	No
Oracle *inter*Media Web Client	Yes	No
Oracle Internet Directory Client	Yes	No
Oracle Java Tools	Yes	No

Table A–2 Oracle9i Client Components Availability (Cont.)

Component	Administrator	Runtime
Oracle JDBC Drivers	Yes	Yes
Oracle Migration Workbench	No	No
Oracle Net Services	Yes	No
Oracle Objects for OLE	Yes	No
Oracle ODBC Driver	Yes	No
Oracle Programmer	Yes	No
Oracle Provider for OLE DB	Yes	No
Oracle Services for Microsoft Transaction Server	Yes	No
Oracle SQLJ	Yes	No
Oracle Syndication Server	Yes	No
Oracle Ultra Search Middle Tier	Yes	No
Oracle Universal Installer	Yes	No
Oracle Utilities	Yes	No
Oracle Workflow Builder	Yes	No
Oracle Workflow Mailer	Yes	No
Oracle XML Developer's Kit	Yes	No
Oracle XML SQL Utility	Yes	No
Oracle9*i* Globalization Support	Yes	Yes
Oracle9*i* Windows Documentation (release documentation, such as installation guide and release notes)	Yes	No
PL/SQL	Yes	No
Pro*C/C++	Yes	No
Pro*COBOL	Yes	No
Remote Configuration Agent	Yes	Yes
Replication Management API	Yes	No
SQL*Plus	Yes	Yes

[1] See "Oracle HTTP Server" on page A-23 for a list of subcomponents installed with Oracle HTTP Server.

See Also: "Component Descriptions" on page A-15 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 Oracle9*i* Management and Integration top-level component.

Note: This table lists *all* the components that are installed with the Oracle Internet Directory installation types if an Oracle9*i* database is not currently installed.

Table A–3 Oracle9i Management and Integration Components Availability

Component	Oracle Management Server	Oracle Internet Directory
Advanced Queueing API	Yes	Yes
Advanced Replication Management API	No	Yes
Database Configuration Assistant	No	Yes
Generic Connectivity	No	Yes
Object Type Translator	No	Yes
Oracle Advanced Security, includes:	Yes	Yes
■ Oracle Enterprise Login Assistant	Yes	Yes
■ Oracle Enterprise Security Manager (an Oracle Enterprise Manager Integrated Application)	Yes	No
■ Oracle Wallet Manager	Yes	Yes
Oracle Call Interface	No	Yes
Oracle Connection Manager	No	No
Oracle Database Upgrade Assistant	No	Yes
Oracle Dynamic Services Server	No	Yes
Oracle Enterprise Manager, includes:	Yes	No
■ Oracle Enterprise Manager Client, includes:	Yes	No

Table A–3 Oracle9i Management and Integration Components Availability (Cont.)

Component	Oracle Management Server	Oracle Internet Directory
Oracle Enterprise Manager Console	Yes	No
■ Oracle Enterprise Manager Integrated Applications, includes:	Yes	No
OLAP Instance Manager	Yes	No
Oracle Data Guard Manager	Yes	No
Oracle Directory Manager	Yes	Yes
Oracle Enterprise Security Manager	Yes	No
Oracle Forms Server Manager	Yes	No
Oracle LogMiner Viewer	Yes	No
Oracle Policy 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 Enterprise Manager Paging Server	Yes	No
■ Oracle Enterprise Manager Quick Tours	Yes	No
■ Oracle Management Server[1]	Yes	No
■ Oracle Enterprise Manager Web Site[1]	Yes	No
■ Oracle Intelligent Agent	Yes	Yes
Oracle HTTP Server[2]	Yes	Yes
■ Apache Configuration for Oracle Java Server Pages	Yes	Yes
■ Apache Configuration for Oracle XML Developer's Kit	Yes	Yes

Table A–3 Oracle9i Management and Integration Components Availability (Cont.)

Component	Oracle Management Server	Oracle Internet Directory
■ Apache JServ, includes:	Yes	Yes
JSDK	Yes	Yes
Sun JDK	Yes	Yes
■ Apache Web Server Files	Yes	Yes
■ Oracle Mod PL/SQL Gateway	Yes	Yes
■ Oracle Perl Interpreter	Yes	Yes
Oracle *inter*Media, includes:	Yes	Yes
■ *inter*Media Audio	Yes	Yes
■ *inter*Media Annotator	Yes	Yes
■ *inter*Media Client Option	No	Yes
■ *inter*Media Image	Yes	Yes
■ *inter*Media Java Client	Yes	Yes
■ *inter*Media Locator	Yes	Yes
■ *inter*Media Video	Yes	Yes
Oracle Internet Directory Client	No	Yes
Oracle Internet Directory Client Toolset	No	Yes
Oracle Internet Directory Configuration Assistant	No	Yes
Oracle Internet Directory Server	No	Yes
Oracle JDBC Drivers	Yes	Yes
Oracle Names	No	No
Oracle Net Services	Yes	Yes
Oracle Objects for OLE	No	No
Oracle ODBC Driver	No	No
Oracle Partitioning	No	No
Oracle Provider for OLE DB	No	No
Oracle Remote Configuration Agent	No	Yes

Table A–3 Oracle9i Management and Integration Components Availability (Cont.)

Component	Oracle Management Server	Oracle Internet Directory
Oracle SNMP Agent	Yes	No
Oracle SOAP Client	Yes	Yes
Oracle SOAP for JServ	Yes	Yes
Oracle SOAP Server	Yes	Yes
Oracle SQLJ	Yes	No
■ SQLJ Translator	No	No
Oracle Syndication Server	No	Yes
Oracle Text	Yes	No
Oracle Trace	No	Yes
Oracle Ultra Search Middle Tier	No	Yes
Oracle Ultra Search Server	No	Yes
Oracle Universal Installer	Yes	Yes
Oracle Utilities	No	Yes
Oracle Workflow	No	No
Oracle Workflow Manager	Yes	No
Oracle Workspace Manager	No	Yes
Oracle XML Developer's Kit[3]	Yes	Yes
Oracle XML SQL Utility	Yes	Yes
Oracle JVM, includes:	No	Yes
■ Java Virtual Machine	No	Yes
■ Oracle JVM Accelerator	No	Yes
■ Oracle Java Tools	Yes	Yes
Oracle9*i* Globalization Support	Yes	Yes
Oracle9*i* Server (the Oracle9*i* database), includes:	No	Yes
■ Oracle Database Demos	No	Yes
■ PL/SQL	No	Yes

Table A–3 Oracle9i Management and Integration Components Availability (Cont.)

Component	Oracle Management Server	Oracle Internet Directory
■ PL/SQL Embedded Gateway	No	Yes
Oracle9*i* Windows Documentation (release documentation, such as installation guide and release notes)	Yes	Yes
Pro*C/C++	No	No
Pro*COBOL	No	No
Replication Management API	No	Yes
SQL*Plus	Yes	Yes

[1] 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.

[2] See "Oracle HTTP Server" on page A-23 for a list of subcomponents installed with Oracle HTTP Server.

[3] 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 in Table A–1 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 API	9.2	A component that provides the functionality to support the Advanced Queueing application programming interface (API).	*Oracle9i Application Developer's Guide - Advanced Queuing*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Advanced Replication	9.2	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 Advanced Replication* ■ *Oracle9i Replication Management API Reference*
Assistant Common Files (installed with Oracle assistants, such as Database Configuration Assistant and Oracle Net Configuration Assistant)	9.2	A collection of automatically installed files required by Oracle assistants. These files include: ■ BaliShare 1.1.17 (compressed) ■ DBUI 2.2.11 ■ EWT 3.4.13 (compressed) ■ ICE Browser 5.06.8 (compressed) ■ Java Swing Components 1.1.1 (compressed) ■ JEWT 4.1.10 ■ JLE 2.0.1 ■ Kodiak 1.2.1 ■ Oracle Help for Java 3.2.13 - EWT (compressed) ■ Oracle Help for Java 4.1.13 - JEWT (compressed)	Not applicable
Database Configuration Assistant	9.2	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*
Generic Connectivity	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
***i*SQL*Plus**	9.2	*i*SQL*Plus is a browser-based interface to SQL*Plus. This interface allows SQL, PL/SQL and SQL*Plus commands to run through a Web browser.	■ *SQL*Plus Getting Started for Windows* ■ *i*SQL*Plus Online Help
Java Runtime Environment (versions used by Oracle)	1.1.8.18 1.3.1.2	Java Runtime Environment (JRE) is required for running Java applications, such as Oracle Universal Installer.	Not applicable
LogMiner Viewer (an Oracle Enterprise Manager Integrated Application)	9.2	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)	9.2	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. Includes Oracle INTYPE File Assistant.	*Oracle Call Interface Programmer's Guide*
Oracle Administration Assistant for Windows NT	9.2	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 Security and Network Integration Guide*
Oracle Advanced Security	9.2	Oracle Advanced Security provides the following comprehensive suite of security services for Oracle9*i*. All database editions include Secure Socket Layer (with X.509 version 3 and SSO support). *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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
■ **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 Oracle9*i* database that were previously available only to the U.S. and Canadian markets.	*Oracle Advanced Security Administrator's Guide*
■ **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)	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Change Management Pack (an optional Oracle Enterprise Manager Management Pack)	9.2	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 Cluster Configuration Assistant	9.2	The Oracle Cluster Configuration Assistant starts when the Oracle Universal Installer is started on a cluster. This assistant starts the Global Services Daemon (GSD) on all the nodes selected for installation. Oracle Cluster Configuration Assistant does not start when the Software Only option is selected	Not applicable
Oracle COM Automation Feature	9.2	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	9.2	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*
Oracle Data Guard Manager (an Oracle Enterprise Manager Integrated Application)	9.2	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 Database Upgrade Assistant	9.2	A tool that upgrades existing Oracle databases (release 7.3.4. or later) to Oracle9*i* release 2 (9.2).	*Oracle9i Database Migration*
Oracle Database Demos	9.2	A collection of demonstrations that illustrate important Oracle9*i* database features.	Not applicable

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Forms Server Manager (an Oracle Enterprise Manager Integrated Application)	9.2	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*
Oracle Diagnostics Pack (an optional Oracle Enterprise Manager Management Pack)	9.2	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)	9.2	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	9.2	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

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Enterprise Login Assistant	9.2	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. **Note:** Oracle Enterprise Login Assistant is a feature of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.	■ *Oracle Advanced Security Administrator's Guide* ■ *Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager	9.2	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	9.2	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	9.2	A tool that assists administrators with Oracle Enterprise Manager repository creation, removal, upgrade, and configuration. Oracle Enterprise Manager Configuration Assistant is automatically installed with Oracle Management Server.	*Oracle Enterprise Manager Administrator's Guide*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Enterprise Manager Console	9.2	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	9.2	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 the console application drawers, or from your operating system.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Manager Paging Server	9.2	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	9.2	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	9.2	Enterprise Manager Web Site for Oracle9*i* allows administrators to access Oracle Enterprise Manager Console from a Web browser. It also allows administrators to access reports published from Enterprise Manager Console from a central reporting Web site.	*Oracle Enterprise Manager Administrator's Guide*
Oracle Enterprise Security Manager (an Oracle Enterprise Manager Integrated Application)	9.2	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. **Note:** Oracle Enterprise Security Manager is a feature of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.	*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 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 Started for Windows*
Oracle HTTP Server	1.3.22.0.0a	A component that provides a preconfigured, ready-to-use listener used by browser-based Oracle Enterprise Manager Console, central Enterprise Manager Repository Web Site, and *i*SQL*Plus.	■ *Oracle Enterprise Manager Configuration Guide* ■ Online documentation available from the Start Menu

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Intelligent Agent	9.2	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	9.2	Oracle *inter*Media enables Oracle9*i* databases to store, manage, and retrieve image, audio, and video data in an integrated fashion with other enterprise information.	■ *Oracle interMedia User's Guide and Reference* ■ Oracle *inter*Media readme located in *ORACLE_BASE**ORACLE_HOME*\ord\im\admin\README.txt
Oracle *inter*Media Audio (installed with Oracle *inter*Media)	9.2	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\im\admin\README.txt
Oracle *inter*Media Client Option (part of Oracle *inter*Media)	9.2	A component that provides an Oracle *inter*Media Audio, Image, and Video Java interface that lets you use client-side applications to manipulate and modify multimedia data stored in a network-accessible database on the server.	■ *Oracle interMedia User's Guide and Reference* ■ Oracle *inter*Media readme located in *ORACLE_BASE**ORACLE_HOME*\ord\im\admin\README.txt
Oracle *inter*Media Image (installed with Oracle *inter*Media)	9.2	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\im\admin\README.txt

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle *inter*Media Locator (installed with Oracle *inter*Media)	9.2	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*\md\doc\README_LOCATOR.doc
Oracle *inter*Media Video (installed with Oracle *inter*Media)	9.2	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\im\admin\README.txt
Oracle Internet Directory	9.2	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, and Oracle Advanced Security, as well as for general-purpose LDAP usage (when purchased separately). 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 Administrator's Guide*
Oracle Internet Directory Client	9.2	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-25).	*Oracle Internet Directory Administrator's Guide*
Oracle Internet Directory Configuration Assistant	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Internet Directory Server	9.2	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 INTYPE File Assistant (installed with the Object Type Translator)	9.2	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*
Oracle Java Database Connectivity (JDBC) Drivers	9.2	A standard set of Java classes, specified by JavaSoft, that provide vendor-independent access to relational data from Java. Includes: ■ Oracle JDBC Thin Driver for JDKs 1.1, 1.2, and 1.4 ■ Oracle JDBC / OCI Driver for JDKs 1.1, 1.2, and 1.4	*Oracle9i JDBC Developer's Guide and Reference*
Oracle Java Tools	9.2	Provides Java tools to build and deploy Java stored procedures, and Enterprise JavaBeans with Oracle JVM.	*Oracle9i SQLJ Developer's Guide and Reference*
Oracle JVM	9.2	A component that provides a JDK 1.2-compliant Java Virtual Machine, embedded JDBC drivers, a SQLJ translator, and an Enterprise JavaBeans transaction server.	*Oracle9i Java Developer's Guide*
Oracle Management Pack for Oracle Applications (an optional Oracle Enterprise Manager Management Pack)	9.2	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.	*Getting Started with Oracle Management Pack for Oracle Applications*
Oracle Management Server	9.2	The middle tier of Oracle Enterprise Manager, which provides centralized intelligence and distributed control between console clients and managed nodes. Automatically installs Oracle Enterprise Manager Configuration Assistant.	*Oracle Enterprise Manager Administrator's Guide*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Messaging Gateway	9.2	Oracle Messaging Gateway is an Oracle database feature. It provides integration of Oracle-based applications with third party message queuing-based applications. It provides automatic queue-to-queue propagation from Advanced Queuing (AQ) queue to a third party queue and from a third party queue to an Advanced Queuing (AQ) queue. Advanced Queuing is a high performance messaging queuing feature of Oracle database.	*Oracle9i Application Developer's Guide - Advanced Queuing*
Oracle Migration Workbench	2.0.1	Tools that simplify the process of migrating data and applications from non-Oracle databases to Oracle9*i*. 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: ■ IBM DB2 / AS400 V4R5 ■ Informix Dynamic Server ■ Microsoft Access ■ Microsoft SQL Server ■ MySQL ■ Sybase Adaptive Server	The Oracle Migration Workbench documentation for your non-Oracle database As of this release, Oracle Migration Workbench is available on the Oracle9*i* Database Documentation CD
Oracle Label Security	9.2	Provides sophisticated Fine Grain Access Control, including label-based access control. *This component requires a separate license.*	*Oracle Label Security Administrator's Guide*
Oracle Names	9.2	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 Oracle Names servers. Oracle Names servers store addresses for all the database services on a network and make 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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Net Configuration Assistant	9.2	A postinstallation tool that enables you to configure Oracle Net Services 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, and directory server usage.	*Oracle9i Net Services Administrator's Guide*
Oracle Net Listener	9.2	A process that resides on the server whose responsibility is to listen for incoming client connection requests and manage traffic to the database server.	*Oracle9i Net Services Administrator's Guide*
Oracle Net Manager	9.2	An Oracle Net Services 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 directory server, or an Oracle Names server. ■ Listeners Create and configure listeners to receive client connections.	*Oracle9i Net Services Administrator's Guide*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Net Protocol Support	9.2	Support that enables client / server conversation over a network using the Named Pipes, TCP / IP, or TCP / IP with SSL 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	9.2	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*
Oracle Objects for Object Linking and Embedding (OO4O)	9.2	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 OLAP	9.2	Oracle OLAP provides a Java OLAP API and an analytical engine. Using Oracle OLAP, 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, Oracle OLAP supports deployment of analytical applications to large, geographically distributed user communities on the Internet. Oracle OLAP is installed with Enterprise Edition. *This component requires a separate license.*	■ *Oracle9i OLAP User's Guide* ■ *Oracle9i OLAP Developer's Guide to the OLAP API*
Oracle Open Database Connectivity (ODBC) Driver	9.2	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.	Online Help available from the Start Menu.

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Partitioning	9.2	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	9.2	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*
Oracle Policy Manager (an Oracle Enterprise Manager Integrated Application)	9.2	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 Programmer	9.2	A suite of interfaces and tools that allow an application developer to build applications to access and manipulate Oracle9i data and schemas. Includes the Oracle Precompilers, Oracle Call Interface, Oracle ODBC Driver, Oracle Objects for OLE, SQL*Module, and Object Type Translator.	Not applicable
Oracle Provider for OLE DB	9.2	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	9.2	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 Setup and Configuration*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
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 on which Oracle Real Application Clusters Guard is shipped
Oracle Remote Configuration Agent	9.2	A component that enables remote configuration and monitoring from Oracle Administration Assistant for Windows NT.	Not applicable
Oracle Services for Microsoft Transaction Server	9.2	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 Services for Microsoft Transaction Server Developer's Guide*
Oracle SNMP Agent	9.2	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)	9.2	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)	9.2	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	9.2	A preprocessor for Java programs with embedded SQL statements. It generates Java programs with JDBC calls.	*Oracle9i SQLJ Developer's Guide and Reference*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Standard Management Pack	9.2	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*
Oracle Streams	9.2	Oracle Streams is new technology available in Oracle9*i* release 2 (9.2) Enterprise Edition that enables the propagation and management of data, transactions and events in a data stream either within a database, or from one database to another. The stream routes published information to subscribed destinations. The result is a new feature that provides greater functionality and flexibility than traditional solutions for capturing and managing events, and sharing the events with other databases and applications. As users' needs change, they can simply implement a new capability of Oracle Streams, without sacrificing existing capabilities.	*Oracle9i Streams*
Oracle Syndication Server	9.2	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

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Text	9.2	A component that manages and searches for text in the database as quickly and easily as any other type of data. Oracle Text 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)	9.2	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	9.2	A component that collects performance and resource utilization data, such as SQL Parse, Execute, Fetch statistics, and Wait statistics. **Note**: Oracle Trace will be deprecated in a future release. Oracle Corporation strongly advises the use of SQL Trace and TKPROF instead.	*Oracle9i Database Performance Tuning Guide and Reference*
Oracle Tuning Pack (an optional Oracle Enterprise Manager Management Pack)	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Universal Installer	2.2.0.10.0	A graphical user interface (GUI) application that lets you quickly install, update, and remove Oracle components. Oracle Universal Installer includes Java Runtime Environment (version used by Oracle) and Oracle Home Selector.	*Universal Installer Concepts Guide*
Oracle Utilities	9.2	A suite of components used for database administration. Oracle Utilities include: ■ Character Set Migration utility ■ Export / Import utility ■ SQL*Loader ■ Database Verify utility (not available with Client installation types) ■ Migration utility (not available with Client installation types) ■ Recovery Manager	*Oracle9i Database Utilities* **Note:** Windows NT-only utilities like ORADIM are described in *Oracle9i Database Administrator's Guide for Windows*
Oracle Wallet Manager	9.2	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. **Note:** Oracle Wallet Manager is a feature of Oracle Advanced Security and can only be used if you have purchased an Oracle Advanced Security license.	*Oracle Advanced Security Administrator's Guide*
Oracle Workflow	2.6.2	Oracle Workflow is a complete workflow management system that supports business process definition and automation. Its technology enables automation and continuous improvement of business processes, routing information of any type according to user-defined business rules.	*Workflow Server Installation Notes*
Oracle Workflow Builder	2.6.2	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.	*Workflow Client Installation Notes*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle Workflow Mailer	2.6.2	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 Messaging Application Programming Interface (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.	*Workflow Client Installation Notes*
Oracle Workspace Manager	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle XML Developer's Kit	9.2	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 Oracle JVM (not installed with Client installation types) ■ XML Parser for PL/SQL ■ XML Class Generator for Java ■ XML Class Generator for C++ ■ XML Transviewer Beans ■ XML Transx ■ XSQL Servlet	■ *Oracle9i XML Developer's Kits Guide - XDK* ■ *Oracle9i XML API Reference - XDK and Oracle XML DB*
Oracle XML SQL Utility	9.2	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 XML Developer's Kits Guide - XDK* ■ *Oracle9i XML API Reference - XDK and Oracle XML DB*
Oracle9*i* Advanced Analytic Services - Data Mining	9.2	Oracle9*i* 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*
Oracle JVM Accelerator (part of Oracle JVM)	9.2	This component enhances the current functionality of Oracle JVM to provide native compilation of Java code to improve performance.	*Oracle9i Java Stored Procedures Developer's Guide*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Oracle JVM Servlet Container (JSC)	9.2	The Oracle 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 Oracle JVM to enable distribution of Java Server Pages (JSPs) and to enable servlets to run directly in the database.	*Oracle9i Java Developer's Guide*
Oracle9*i* Server	9.2	The database component of the Enterprise Edition, Standard Edition, or Personal Edition software.	■ *Oracle9i Database New Features* ■ *Oracle9i Database Concepts*
Oracle9*i* Windows Documentation (Release documentation, such as Installation Guide and Release Notes)	9.2	The installation guide (this guide) describes how to install Oracle components. *Oracle9i Database Release Notes for Windows* contains important last minute information not included in the documentation library of your Oracle9*i* Database Documentation CD.	■ This installation guide ■ *Oracle9i Database Release Notes for Windows*
PL/SQL	9.2	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	9.2	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.	-
Pro*C/C++	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
Pro*COBOL	9.2 and 1.8.77	To access an Oracle 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*
Server Management (SRVM)	9.2	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 Setup and Configuration*
SQL*Plus	9.2	A tool that lets you use the SQL, PL/SQL, and SQL*Plus database languages. SQL*Plus has command line, graphical, and browser-based interfaces.	■ *SQL*Plus Getting Started for Windows* ■ *i*SQL*Plus Online Help
SQL*Plus Worksheet (an Oracle Enterprise Manager Integrated Application)	9.2	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)	9.2	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)	9.2	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*

Table A–4 Component Descriptions (Cont.)

Component	Release	Description	See Also...
WINSOCK2 on Windows NT support	9.2	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 Security and Network Integration Guide*
XML Development Kit	9.2	Required for integrating and running XML applications with the database.	*Oracle9i XML Developer's Kits Guide - XDK*

B

Oracle Real Application Clusters Preinstallation Tasks

This appendix describes the required preinstallation tasks for Oracle9*i* cluster software on Windows NT and Windows 2000. Real Application Clusters is not supported on Windows XP. 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:

- Real Application Clusters Installation Requirements
- Real Application Clusters Overview
- Real Application Clusters Preinstallation Tasks
- Deleting Oracle Operating System Dependent Clusterware
- Troubleshooting the Real Application Clusters Installation

> **See Also:** The Oracle9*i* Real Application Clusters documentation set included on your Oracle9*i* Database Documentation CD:
>
> - *Oracle9i Real Application Clusters Documentation Online Roadmap*
> - *Oracle9i Real Application Clusters Concepts*
> - *Oracle9i Real Application Clusters Setup and Configuration*
> - *Oracle9i Real Application Clusters Administration*
> - *Oracle9i Real Application Clusters Deployment and Performance*

Real Application Clusters Installation Requirements

In addition to the Enterprise Edition 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

Hardware and Network Configurations

Have the following hardware and network configuration information available:

- 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

Software

Each node in a cluster requires one of the following software types:

- Oracle Corporation certified vendor-supplied operating system dependent clusterware layer
- Oracle operating system dependent clusterware layer

RAM

256 MB for each instance

See Also: "Oracle9i System Requirements" on page 2-4

Real Application Clusters Overview

To create a cluster database using **Oracle Cluster Setup Wizard**, configure an extended partition for the Voting disk before starting Oracle Universal Installer. Database Configuration Assistant cannot create a Real Application Clusters database unless you have properly configured the extended partition.

The Voting disk stores configuration data for Server Management (SRVM) and for the Oracle operating system dependent clusterware. Vendor operating system dependent clusterware also requires this disk for Real Application Clusters configuration information.

Real Application Clusters uses logical drives within an unformatted extended partition to store the control, data, and redo log files. Only one extended partition is created for each disk. Oracle Corporation recommends creating the extended partition on an unpartitioned disk and using the entire disk for the extended partition.

On Cluster File System (CFS), Real Application Clusters can use shared partitions formatted with Cluster File System to store Oracle home files, or Oracle datafiles, or both file types. RAID volumes are supported.

Note: Cluster File System will be available in a subsequent Oracle9*i* release 2 (9.2) CD pack.

Each instance shares a set of unformatted devices on a shared disk subsystem for datafiles. The number and type of raw devices required depends on several factors.

If you plan to use one of the General Purpose, Transaction Processing, or Data Warehouse database configuration types, then you must create specific tablespaces using the minimum sizes as listed in Table B–1 on page B-3. When considering size requirements of your disks, remember to account for the initial signature of 1 MB or 2 MBs on each disk that cannot be used for extended partitions. These requirements are the same for both the vendor supplied clusterware layer and Oracle supplied clusterware layer.

If you do not create the database with 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.

Table B–1 Logical Drive Disk Sizes for Database Configuration Assistant

Create a Partition For...	With File Size...
SYSTEM tablespace	420 MB
server parameter file	5 MB
USERS tablespace	120 MB
TEMP tablespace	120 MB

Table B–1 Logical Drive Disk Sizes for Database Configuration Assistant (Cont.)

Create a Partition For...	With File Size...
UNDOTBS tablespace	320 MB
EXAMPLE tablespace	160 MB
CWMLITE tablespace	100 MB
XML tablespace	50 MB
ODM tablespace	280 MB
INDX tablespace	70 MB
TOOLS tablespace	12 MB
DRSYS tablespace	250 MB
First control file	110 MB
Second control file	110 MB
Two redo log files for each instance	120 MB (for each file)
srvcfg (Voting disk for clusterware)	100 MB

By default, Database Configuration Assistant uses automatic undo management. You should create one Undo tablespace for each instance. Logical drive for the Undo tablespace for all preconfigured database templates should be at least 320 MB. If you use manual undo management, make the RBS logical drive at least 625 MB in size.

See Also:

- "Planning Your Raw Device Creation Strategy" in *Oracle9i Real Application Clusters Setup and Configuration*
- "DBCA Database Configuration Options" in *Oracle9i Real Application Clusters Setup and Configuration*
- "Types of Database Environments" on page 3-3

Real Application Clusters 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 and Logical Drives
- Task 2: Assigning Symbolic Link Names
- Task 3: Creating a Cluster

Task 1: Creating an Extended Partition and Logical Drives

To configure unformatted logical drives, create an extended partition and multiple logical drives.

From one node in the cluster, run Windows NT Disk Administrator or Disk Management to create an extended partition and multiple logical drives. Each computer must be a member of the same domain or within a trusted domain.

> **See Also:** Your Windows Disk Administrator or Disk Management online help for more information about creating and managing extended partitions and logical drives

This section contains instructions for:

- Windows NT
- Windows 2000

Windows NT

Run the Windows NT Disk Administrator from one node to create an extended partition and 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. Each computer must be a member of the same domain or within a trusted domain.

To create an extended partition:

1. Log in as member of the Administrators Group.
2. Choose Start > Programs > Administrative Tools > Disk Administrator.

   The Disk Administrator window appears.

3. Right-click an unpartitioned disk, or an area of free space on a disk that does not contain an extended partition.

   The Disk Administrator Create Extended option appears.

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.

To create a logical drive:

> **Note:** When storing Oracle files on raw devices, Oracle Corporation recommends that you do not create more than 120 logical drives within an extended partition. Doing so can significantly increase the time needed to restart your computer and start the disk administration tools.

1. Select an area of free space in the extended partition.

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-3.

   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 all required logical drives are created.

7. Choose Partition > Commit Changes Now.

A confirmation dialog appears, informing you that changes have been made to the disk.

8. Choose Yes to acknowledge the message.

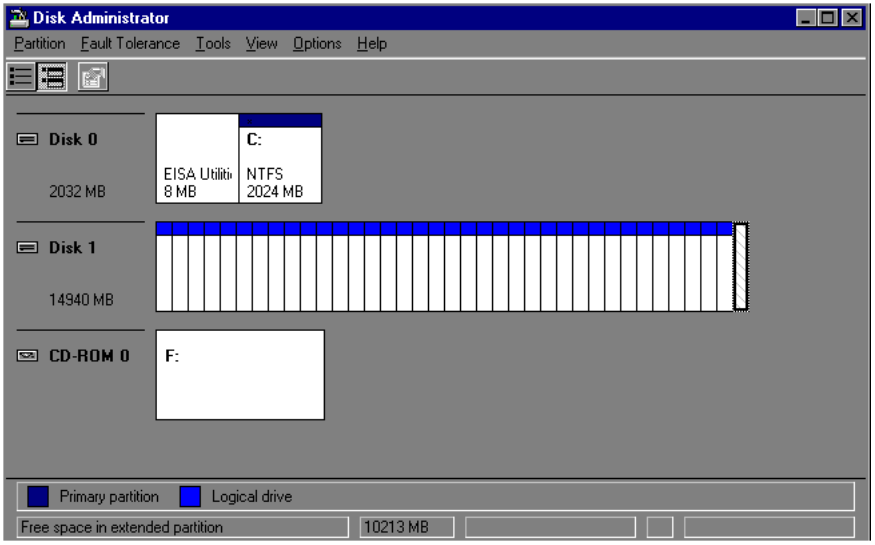
   A dialog box appears, informing you the disks have been updated successfully.

9. Choose OK.

10. Choose Partition > Exit.

    Changes should be visible on all nodes.

The Disk Administrator window illustrates an example of a disk configuration. The logical partitions are sized to allow 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

Windows 2000

Run the Windows 2000 Disk Management from one node to create an extended partition and 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. Each computer must be a member of the same domain or within a trusted domain.

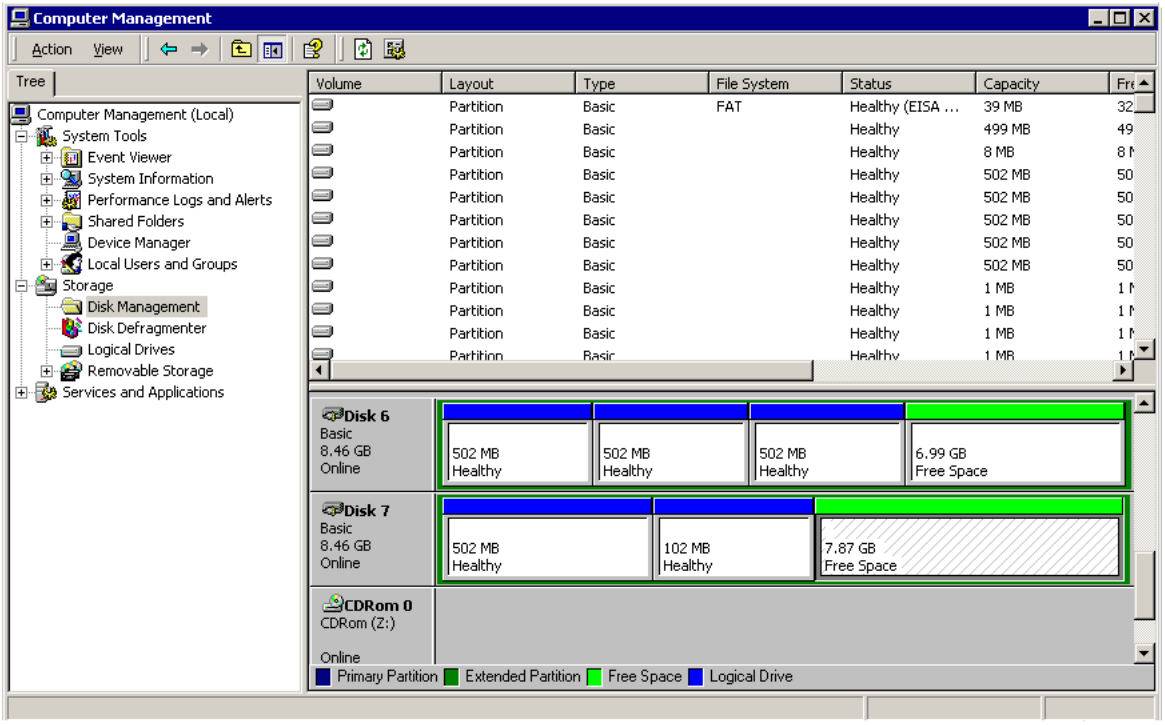
You must create primary partitions, an extended partition, and logical drives on basic disks. Dynamic disks are not supported. A basic disk uses the same partitions as earlier versions of Windows and can contain up to four primary partitions, or three primary partitions and one extended partition.

To create an extended partition and logical drives:

1. Choose Settings > Control Panel.
2. Double-click Administrative Tools.
3. Expand the Storage folder and select Disk Management.

   The Computer Management window appears. 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 > Extended Partition > Next, or Logical Drive > Next. Set the appropriate logical drive size for each tablespace datafile listed in Table B–1 on page B-3.
6. Choose Next.
7. From the Assign Drive Letter or Path wizard page, select the Do not assign a drive letter or drive path option.
8. Choose Next.
9. From the Format Partition wizard page, select the Do not format this partition option.

10. Choose Next.
11. Choose Finish.

> **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: 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 3: Creating a Cluster" on page B-12 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:** "Installing the Raw Devices Management Utilities Manually" on page B-16 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-16.

   The Oracle Object Manager window appears.

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-16 to install ImportSYMLinks utility

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:[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-16 and *filename* is the full path and filename of the valid TBL file.

Task 3: 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.

If you intend to use vendor operating system dependent clusterware instead of Oracle9*i* operating system dependent clusterware, then you do not need to run **Oracle Cluster Setup Wizard**. However, the raw device management utilities are required to configure a raw device *before* Oracle Universal Installer is invoked. You must temporarily install the raw device management utilities.

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 at any time.

> **See Also:** "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, 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 appears.

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 window appears. 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 appears. 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. Choose to Create a cluster, then choose Next.

   The Network Selection window appears.
9. If the nodes are connected by a high speed private network, then select the Use private network for interconnect option. Otherwise, select the Use public network for interconnect option and choose Next.

10. The Network Configuration window appears. Enter the names of the nodes and choose Next.
    - If private network was chosen in step 9, enter the public and private names for the nodes.
    - If public network was chosen, enter the public names
11. If VIA is detected on the local node, then the VIA Detection window appears. Chose whether or not to use VIA for the clusterware interconnect. After making your selection, choose next.
12. The Install Location window appears. Choose an installation location, then chose Next.
13. A progress window displays the various actions performed by Oracle Cluster Setup Wizard.

See Also:

- Oracle Cluster Setup Wizard online Help
- "Performing Cluster Diagnostics" on page B-18 if the Node Selection Page does not display
- Chapter 4 for installation steps for Oracle9*i* Enterprise Edition and Real Application Clusters

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

Utility	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 mappings when you restart your computer.
`LogPartFormat`	Initializes all space in a logical partition to zero and removes the symbolic link name.

Table B–2 Raw Devices Disk Management Utilities

Utility	Used for the following tasks...
`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" on page B-16
- 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 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 manually install the raw device management utilities.

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, 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. Refer to your Microsoft online help for more information about configuring, starting, and stopping services.

Deleting 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:

1. Shut down the Oracle database.
2. Stop the operating system dependent clusterware service, `OracleCMService9i`.

   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\OSD9i`.
5. Delete the `OSD` subkey.
6. Navigate to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services`.
7. Delete the service entry for `OracleCMService9i`.
8. Delete the `osd9i` directory under `\winnt\system32`.
9. Repeat the steps on all nodes within the cluster.
10. Restart the computers on which you deleted the keys.

Troubleshooting the Real Application Clusters Installation

This section contains these topics:

- Error Messages
- 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

Error Messages

Real Application Clusters Management Tools Error Messages are located in Appendix C of *Oracle9i Real Application Clusters Administration*.

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 `OracleService`*`SID`* 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
```

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 `OracleService`*`SID`* and `Oracle`*`HOME_NAME`*`TNSListener` run under the same Windows 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:

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 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 Started for Windows*

C

Oracle Transparent Gateways

This appendix explains how to install the Oracle Transparent Gateway software from the component CD.

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 Drive	An internal or external CD 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* release 2 (9.2) 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.
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 Drive	An internal or external CD 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* release 2 (9.2) 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.
Sybase	Sybase Server, version 11.9.2, 12.0, or 12.5 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 Drive	An internal or external CD 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* release 2 (9.2) 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.
Teradata	Teradata V2R.03.00.02 or V2R.04.00.0115
NCR's Teradata ODBC Driver	Version 02.08.00.00

See Also: For installation and configuration information about Enterprise Integration Gateways, refer to the following documentation located on the Oracle Enterprise Integration Gateways documentation CD:

- *Oracle Transparent Gateway for IBM DRDA Installation and User's Guide for Windows*
- *Oracle Procedural Gateway for APPC Installation and Configuration Guide for Windows*
- *Oracle Procedural Gateway and Tools for IBM MQSeries Installation and User's Guide for Windows*

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 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4msql release 9.2 running on Windows 2000, Service Pack 1 or higher
Microsoft SQL Server 2000	tg4msql release 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4msql release 9.2 running on Windows 2000, Service Pack 1 or higher

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 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4sybs release 9.2 running on Windows 2000, Service Pack 1 or higher
Sybase Version 12.0	tg4sybs release 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4sybs release 9.2 running on Windows 2000, Service Pack 1 or higher
Sybase Version 12.5	tg4sybs release 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4sybs release 9.2 running on Windows 2000, Service Pack 1 or higher

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 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4tera release 9.2 running on Windows 2000, Service Pack 1 or higher
Teradata V2R.04.00.0115 through NCR's Teradata ODBC Driver Version 02.08.00.00	tg4tera release 9.2 running on Windows NT 4.0, Service Pack 5 or higher tg4tera release 9.2 running on Windows 2000, Service Pack 1 or higher

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:

- "Beginning Your Oracle9i Installation" 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 4-34 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 4-37

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

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.

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:

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 Oracle9*i* Management and Integration

Table D–1 Response Files (Cont.)

Response File Name	This File Silently Runs The...
`dbca.rsp`	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 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 to your hard drive.
2. Choose Start > Programs > Oracle Installation Products > Universal Installer Concepts Guide.

   Oracle Universal Installer Concepts Guide appears in HTML format.
3. Modify the response files with any text file editor by following the instructions in both the response files and *Oracle Universal Installer Concepts Guide.*

Creating a Single Installation Stage From Multiple CDs

Release 2 (9.2) is included on three component CDs. 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 CDs to a hard disk staging area so that Oracle Universal Installer finds the second and third CDs without prompting.

To create a single installation stage from multiple CDs:

1. Ensure that you have enough disk space on your hard drive to hold the contents of three CDs.
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 each component CD to the appropriate directory.
4. Run `setup.exe` from the directory named `Disk1`.

   Installation proceeds without prompting you to insert additional component CDs.

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 -silent
   -nowelcome -responseFile filename
   ```

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

In interactive mode, Oracle Enterprise Manager Configuration Assistant configures the Oracle Management Server **repository** on a local system. It can create, upgrade, or delete a repository, and edit existing configurations. This assistant can create the `OEM_REPOSITORY` tablespace within an existing Oracle database or invoke Database Configuration Assistant to create a new Oracle database to store the repository tables.

In silent mode, Oracle Enterprise Manager Configuration Assistant is limited to creating an `OEM_REPOSITORY` tablespace within an existing database on a local system. You can silently run Oracle Enterprise Manager Configuration Assistant as a standalone component or as part of a silent installation session.

See the following sections for more details:

- Silently Running Oracle Enterprise Manager Configuration Assistant as a Standalone Component
- Silently Running Oracle Enterprise Manager Configuration Assistant During an Installation Session

---

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.

If you use the same response file more than once to create a repository, the repositories created must be on separate networks.

See Also: *Oracle Enterprise Manager Configuration Guide* for more information about using Oracle Enterprise Manager Configuration Assistant

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 environment path.
3. Copy the emca.rsp response file from the \Response file directory of the first component CD to a local directory.
4. Edit emca.rsp by following the instructions in the file.

   Important: each Oracle Management Server repository must have a unique database username, even if they are in different databases; the repository username must not conflict with any other repository username in the same network.

5. Navigate to *ORACLE_BASE**ORACLE_HOME*\bin.
6. Run emca.rsp from the command prompt:

   ```
   C:\ORACLE_BASE\ORACLE_HOME\bin> emca -silent -responseFile path\emca.rsp
   ```

   where *path* is the path to emca.rsp. For example, C:\temp.

   Note: Both the -silent and -responseFile options are required when running Oracle Enterprise Manager Configuration Assistant in silent mode.

Silently Running Oracle Enterprise Manager Configuration Assistant During an Installation Session

Oracle Management Server can be installed with the following response files:

- `custom.rsp`
- `enterprise.rsp`
- `omicustom.rsp`
- `oms.rsp`
- `personal.rsp`
- `standard.rsp`

If you install Oracle Management Server with the `enterprise.rsp`, `personal.rsp`, or `standard.rsp` response files, then running Oracle Enterprise Manager Configuration Assistant in a silent installation session is not supported. To create a repository, you must start Oracle Enterprise Manager Configuration Assistant interactively from the Start menu. Choose Start > Oracle - *HOME_NAME* > Configuration and Migration Tools > Enterprise Manager Configuration Assistant.

If you install Oracle Management Server with the `oms.rsp`, `custom.rsp`, or `omicustom.rsp` response files, then you can create a repository interactively or silently.

To automatically create a repository during a silent installation, perform the following steps:

1. Copy one of the following parent installation response files to a local directory:
   - `custom.rsp`
   - `oms.rsp`
   - `omicustom.rsp`
2. Edit the file by following the instructions in that file.

3. Edit the following variables in the `[oracle.sysman.oms_9.2.0.1.0]` section of the parent response file:

   ```
   OPTIONAL_CONFIG_TOOLS
   launchEMCA
   s_responseFileEMCA
   ```

   Note: On Windows operating systems, 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 Oracle Enterprise Manager Configuration Assistant response file (`emca.rsp`) when silent installation is complete. For example,

   ```
   C:\Program Files\Oracle\oui\install> setup.exe -silent -responseFile
   filename
   ```

   where *`filename`* is the full path of the parent response file.

Here is an example of an updated `[oracle.sysman.oms_9.2.0.1.0]` section:

```
[oracle.sysman.oms_9.2.0.1.0]

#-------------------------------------------------------------------------
# Name          : OPTIONAL_CONFIG_TOOLS
# Datatype      : StringList
# Description   : Specifying "emca" will launch the Oracle Enterprise Manager
#                 Configuration Assistant configuration tool at the end of
#                 installation.
# Valid values  : {"emca"} or {}
# Example value : {"emca"}
# Default value : {}
# Mandatory     : No
#-------------------------------------------------------------------------
```

```
OPTIONAL_CONFIG_TOOLS={ORACLE_BASE\ORACLE_HOME\bin\emca.bat}

#-------------------------------------------------------------------------
# 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>

#-------------------------------------------------------------------------
# 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>
```

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 following languages:

- Brazilian Portuguese
- German
- Japanese
- Simplified Chinese
- Traditional 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 preceding table list and choose OK.
2. Run Oracle Universal Installer by following the instructions in "Beginning Your Oracle9i Installation" on page 4-5.

> **Note:** The selected language is assigned to the NLS_LANG registry parameter.

Using Oracle Components in Different Languages

You can select other languages in which to use Oracle components (for example, Oracle Net Configuration Assistant, 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 Regional Settings window from the Control Panel.

To use components in different languages:

1. Follow the instructions in "Beginning Your Oracle9i Installation" on page 4-5 to start Oracle Universal Installer.
2. From the Available Products window, select the Product Languages button:

   The Language Selection window appears.
3. Select a language in which to use Oracle components from the Available Languages field.

4. Use the > arrow to move the language to the Selected Languages field and choose OK.
5. 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 2 (9.2.0) component CDs.
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/920/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 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 Started for Windows* for more information on the subkey locations for multiple Oracle homes
- *Oracle9i Database 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 MS-DOS command prompt. You do *not* need a UNIX emulation utility for Windows 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 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

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

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 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 server

A 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.

Enterprise Edition

The complete database installation type.

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.

installation type

An installation type is a predefined component set that automatically selects which components to install. See "Oracle9i Products for Installation" on page 1-6 for a list of installation types available with each top-level component.

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.

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 and 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 login credentials can be used to authenticate users connecting to an Oracle9*i* database. The benefits of Windows native authentication include:

- Enabling users to connect to multiple Oracle9*i* databases without supplying a username or password
- Centralizing Oracle9*i* database user authorization information in Windows, which frees Oracle9*i* 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 Cluster Setup Wizard

The Oracle Cluster Setup Wizard performs the following tasks on all nodes:

- Installs and starts Oracle9*i* operating system dependent clusterware
- Optionally, installs and starts the `OracleClusterFileSystem` service and creates one or two shared file systems.
- Optionally, installs Object Link Manager and starts the `Oracle Object Service` on all nodes. This tool creates persistent symbolic links to logical drives. The service updates all nodes when symbolic links are modified, and is set to Automatic, so that it starts whenever you shut down and restart your computer.
- 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

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

The directory path in which to install Oracle components (for example, `D:\oracle\ora92`). You are prompted to enter an Oracle home in the Path field of the Oracle Universal Installer's File Locations window.

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 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 Documentation for Windows CD

The CDs in your kit that include the Oracle9*i* Database Documentation for Windows. The Oracle9*i* Database Documentation for Windows CDs are separate from the component CDs.

The Oracle9*i* Database Documentation for Windows CDs do not include this installation guide or *Oracle9i Database Release Notes for Windows*. These documents are only included on the first component CD.

Oracle Net foundation layer

A networking communication layer that is responsible for establishing and maintaining the connection between the client application and server, as well as exchanging messages between them.

Personal Edition

One of the available database installation types. Personal Edition for Windows does not include Oracle Real Application Clusters.

> **Note:** Oracle9*i* release 1 (9.0.1.1.1) was the terminal release of Personal Edition on Windows 98.

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 located in any Oracle database accessible to the Oracle Management Server. Oracle Management Server uses a repository to store all system data and application data, information on the state of managed nodes distributed throughout the environment, as well as information about the separately licensable management packs.

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 distinguishes the database from all 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`.

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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`.

Standard Edition

One of the available database installation types. Standard Edition does not include Oracle Advanced Security, Oracle COM Automation Feature, Oracle OLAP, Oracle Partitioning, Oracle Real Application Clusters, or Oracle Spatial.

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, 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 1-6 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.

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