Oracle9*i*

Client Installation Guide

Release 2 (9.2.0.1.0) for Windows

May 2002
Part No. A95494-01

ORACLE®

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

Part No. A95494-01

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Preface

This manual is your primary source of introduction, preinstallation, installation, and postinstallation information for Oracle9*i* Client 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 Client Installation Guide for Windows is necessary for anyone installing or configuring the Administrator or Runtime Oracle9*i* Client installation 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 1-7 for information about the Oracle9*i* Database Documentation CDs

Organization

This document contains:

Chapter 1, "Introducing Oracle9i Client for Windows"

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

Chapter 2, "Preinstallation Requirements"

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

Chapter 3, "Selecting Oracle Net Services Configuration Methods"

Describes Oracle Net Services network configuration methods available during installation

Chapter 4, "Installing Oracle Components"

Describes how to install and deinstall Oracle components

Chapter 5, "Postinstallation Configuration Tasks"

Describes postinstallation configuration tasks

Appendix A, "Individual Components Available for Installation"

Describes the individual components available with each installation type and component descriptions

Appendix B, "Advanced Installation Topics"

Describes advanced installation topics not covered in Chapter 4

Appendix C, "Globalization Support"

Describes Globalization Support

Glossary

Related Documentation

For more information, see the following resources:

- *Oracle9i Database Getting Started 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 `Uold_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 OracleHOME_NAMETNSListener`

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* Database Documentation CDs

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

This section contains these topics:

- 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

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.

<table>
<tr><td>Better performance</td><td>Communication between the Microsoft Transaction Server application and the Oracle Service for MTS is no longer required.</td></tr>
<tr><td>Easier configuration</td><td>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.</td></tr>
</table>

> **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* Client for Windows

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

This chapter contains these topics:

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

Planning Your Installation

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

- Using Optimal Flexible Architecture

- Oracle Universal Installer Overview

- Oracle9i Client 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 B, "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.

  > **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* Client Products for Installation

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.

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 1-6

- Appendix A, "Individual Components Available for Installation"

Oracle9*i* Licensable Database Options

The following products require a separate license:

- Oracle Advanced Security

- Oracle Enterprise Manager Packs, which include:

  - Oracle Change Management Pack

  - Oracle Diagnostics Pack

  - Oracle Management Pack for SAP R/3

  - Oracle Tuning Pack

  See Also:

  - *Global License Terms* for additional licensing information

  - "Component Descriptions" on page A-5

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 Client 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 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 Client 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*

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

For Information About...	See...
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*
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 1-2
	■ "Multiple Oracle Homes and Optimal Flexible Architecture" of *Oracle9i Database Getting Started for Windows*
Noninteractive installation using response files	"About Oracle Components in Noninteractive Mode" on page B-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 ■ Individual components ■ Single Oracle home components ■ Networking protocols	Chapter 2, "Preinstallation Requirements"
Select a method for configuring your Oracle Net client/server environment	Chapter 3, "Selecting Oracle Net Services Configuration Methods"
Install and deinstall Oracle components	Chapter 4, "Installing Oracle Components"
Install Oracle components noninteractively	"About Oracle Components in Noninteractive Mode" on page B-2

2

Preinstallation Requirements

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

This chapter contains these topics:

- Single Oracle Home Components
- Client Component System Requirements
- Mandatory Individual Component Requirements
- Policies for Linking and Relinking Applications

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 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 1-2

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

Client Component System Requirements

The following sections list the system requirements for each installation type, 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 2-7.

- System Requirements for FAT and NTFS File Systems

- Oracle9i Client System Requirements

- Component Certifications

> **Important:** The hard disk requirements for each Oracle9i Client installation type 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 Professional, or FAT32 for Windows 98.

> **See Also:** "About NTFS File System and Windows Registry Permissions" on page 5-2

> **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

Oracle9*i* Client 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 2-7

Operating System and Service Pack Requirements

The Oracle9*i* Client top-level component is supported on Windows 98, Windows NT, Windows 2000, and Windows XP Professional. Windows NT requires service pack 5 and Windows 2000 requires service pack 1.

> **See Also:** "Component Certifications" on page 2-6

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

The following processor requirements apply for each Oracle9*i* Client installation type:

- Minimal Processor: Pentium 166 or Pentium 200
- Recommended Processor: Pentium 266

Hardware Requirements

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

Space Requirements

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

FAT space requirements are listed in Table 2–1 and NTFS space requirements are listed in Table 2–2.

Table 2–1   Hard Disk Space Requirements for FAT

Installation Type	System Drive	Oracle Home Drive
Administrator	90 MB	1.5 GB
Runtime	50 MB	400 MB

Table 2–2   Hard Disk Space Requirements for NTFS

Installation Type	System Drive	Oracle Home Drive
Administrator	90 MB	790 MB
Runtime	50 MB	150 MB

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 2-6

  - 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 client 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:

- Oracle Migration Workbench
- Oracle Services for Microsoft Transaction Server

> **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

- NCIPHER Accelerator Support

Mandatory Individual Component Requirements

The following individual components have mandatory preinstallation requirements:

- Oracle Advanced Security

- 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 Oracle9*i* Database component CDs).

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

Oracle Workflow

Ensure that you have configured the required hardware and software.

> **See Also:** *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*

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

3

Selecting Oracle Net Services Configuration Methods

This chapter describes 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 Network Configuration Methods
- Configuring Your Client 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 Network Configuration Methods

Oracle Universal Installer provides several methods for configuring your Oracle Net Services networking environment during installation.

The method to select during installation depends upon:

- Your own expertise with network configuration
- The requirements of your network environment

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

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 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 Client Installation Types

Installation Types	User Input Required for Oracle Net Services Configuration
	Amount of Input
Oracle9i Client[1]	
■ Administrator	Minimal
■ Runtime	Minimal
■ Custom, and select:	
Oracle Net Services	Minimal or Extensive[2]

[1] You cannot install an Oracle9i database from the Oracle9i Client component CD.

[2] Selecting through the Custom installation type prompts you to create a configuration requiring either minimal user input or a configuration requiring extensive user input. See "Configuring Your Client Network" on page 3-3 for more information.

Configuring Your Client 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 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 3–2 and Table 3–3 and identify the network configuration that best matches your requirements and network configuration expertise.

Table 3–2   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 3–3   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
- Before You Install Oracle9i
- 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 1-2
> - "Oracle Universal Installer Restrictions" on page 1-5
> - Appendix B, "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*

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 1-8 before you begin installation.

2. Review and satisfy applicable system and component requirements in Chapter 2, "Preinstallation Requirements" before you begin installation.

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

4. 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.

5. 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.

6. 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
>
> - "Advanced Installation Topics"

Follow these procedures to install Oracle9*i* components from the CD:

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.

    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.

    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.

5. Choose Next.

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

Choosing an Installation Type

Select the 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...
Oracle9*i* Client	■ Client Administrator or Runtime Installations
	■ Custom Oracle9i Client Installations

See Also:

- ■ "Planning Your Installation" on page 1-2

- ■ "Licensing Information" on page 1-6

- ■ Appendix A, "Individual Components Available for Installation" if you are unsure of which installation type to choose

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:

   - ■ "Before You Install Oracle9i" on page 4-2 if your computer has 128 MB of RAM

   - ■ "Configuring the Client Network" on page 3-4

3. Select a method for configuring client access to your Oracle9*i* database. See the online Help and "Configuring the Client Network" on page 3-4 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 4-8 for a summary of your installation session

- Chapter 5, "Postinstallation Configuration Tasks"

- "Oracle9i Client Components" on page A-2 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 4–3, provide appropriate responses when prompted. Note that most components install silently without prompting you for additional information.

Table 4–3   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 3-4 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 4-8 for a summary of your installation session
- Chapter 5, "Postinstallation Configuration Tasks"
- "Oracle9i Client Components" on page A-2 for a list of components installed with each Oracle9*i* Client installation type

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 `installActionsdate_time.log` (for example, `installActions2001-07-14_09-00-56-am.log`).

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

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

Deinstalling Oracle Components and Services

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

> **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.

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 .

To deinstall components with Oracle Universal Installer:

1. Ensure that you first follow the instructions in "Stopping Oracle Services on Windows Platforms" on page 4-10.

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 4-10.

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

   ```
   C:\> regedt32
   ```

4. Go to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services` and delete the `OracleHOME_NAMETNSListener` 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 4-10.

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

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
- 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 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.

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 `\ORACLE_BASE\ORACLE_HOME`:

   - `Administrators` - Full Control

   - `System` - Full Control

   - `Authenticated Users` - Read, Execute and List Contents

   > **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 5–1 and then select Submit.

   Table 5–1   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.

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

- Oracle Advanced Security

- Oracle HTTP Server

- Oracle Workflow

- Pro*COBOL

- 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*

Oracle Advanced Security

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

> **See Also:** *Oracle Advanced Security Administrator's 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 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 Client Network" on page 3-3 for a discussion of available configuration choices

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 Client Installation Notes*

Pro*COBOL

Pro*COBOL supports specific compilers.

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

A

Individual Components Available for Installation

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

Specific topics discussed are:

- Oracle9i Client 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 4-8 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* Client Components

Table A–1 alphabetically lists the components available with each installation type.

Table A–1   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

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

Component	Administrator	Runtime
Oracle Wallet Manager	Yes	No
■ Thin JDBC Java-based Encryption Support	Yes	No
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	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

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

Component	Administrator	Runtime
Oracle Internet Directory Client	Yes	No
Oracle Java Tools	Yes	No
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	No	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

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

Component	Administrator	Runtime
Pro*C/C++	Yes	No
Pro*COBOL	Yes	No
Remote Configuration Agent	Yes	Yes
Replication Management API	Yes	No
SQL*Plus	Yes	Yes

> **See Also:**   "Component Descriptions" on page A-5 for descriptions and release numbers of these components

Component Descriptions

Table A–2 provides descriptions and release numbers of individual components available for installation. References are made to documentation that more fully describes these components.

> **Note:**   Components that require a separate license are identified in their descriptions in this appendix.

Table A–2   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*
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
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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
■ **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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
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 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 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 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*

Table A–2 Component Descriptions (Cont.)

Component	Release	Description	See Also...
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 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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
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*

Table A–2 Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
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 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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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

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 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.	*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 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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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 CDs
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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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.	*Oracle9i Net Services Administrator's Guide*
		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.	
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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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 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.
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 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*
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 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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
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 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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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*
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*
Oracle9i 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 Client Release Notes for Windows* contains important last minute information not included in the documentation library of your Oracle9i Database Documentation CDs.	■ This installation guide ■ *Oracle9i Client 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*
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 Oracle9i database.	■ *Pro*C/C++ Precompiler Programmer's Guide* ■ *Pro*C/C++ Precompiler Getting Started for Windows*
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*

Table A–2   Component Descriptions (Cont.)

Component	Release	Description	See Also...
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* ■ *iSQL*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*
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

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 B–1 lists the available response files in the \Response directory on the first component CD:

Table B–1   Response Files

Response File Name	This File Silently Runs The...
clientadmin.rsp	Administrator installation of Oracle9*i* Client
clientruntime.rsp	Runtime installation of Oracle9*i* Client
clientcustom.rsp	Custom installation of Oracle9*i* Client
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.

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*.

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*

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 4-3.

   > **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. 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 4-3 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.

C

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 C-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 C−1 lists commonly used NLS_LANG values for various operating system locales:

Table C−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 C–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 C–2 lists the Oracle character sets that correspond to the MS-DOS mode for various operating system locales:

Table C–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 C–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

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.

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.

installation type

An installation type is a predefined component set that automatically selects which components to install. See "Oracle9i Client Products for Installation" on page 1-5 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.

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 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 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 CDs CD

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

The Oracle9*i* Database Documentation CDs CDs do not include this installation guide or *Oracle9i Client 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.

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.

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`.

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.

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`.

UNC

See Universal Naming Convention (UNC)

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`

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