



CHAPTER 1

Oracle9i Installation



Because this book is about a marriage of Oracle9i and Windows, we begin with a quick look at the evolutions of Oracle Corporation and Microsoft Corporation. When Larry Ellison, Bob Miner, and Ed Oates started Software Development Laboratories in 1977, they had no idea that the database product they built would evolve into Oracle9i in less than a quarter of a century. Software Development Laboratories was renamed Oracle Corporation in 1982. Within five years, Oracle positioned itself as the largest vendor of database management software in the world. The new economy brought with it a slew of e-business applications, including ERP and CRM, which firmly placed Oracle as the second-largest software company. Since the launch of Oracle Version 6 in 1992, Oracle has launched a new version of their industry-leading database software every two to three years. While Oracle8i was the world's first object relational database management system (ORDBMS), Oracle9i can rightfully claim to be the first RDBMS that delivers a development and deployment platform for the Internet.

It is interesting to note the almost parallel growth of Microsoft Corporation into the world's largest software company. Microsoft first became a household name in the early 1990s with its productivity software such as Word, Excel, and PowerPoint. Microsoft Windows NT 3.51 was first released in 1995. When Windows 95 was released with its groundbreaking look and feel, it became the operating system of choice on desktops throughout the world. Microsoft took advantage of the Windows 95 wave to release Windows NT 4.0, a server operating system with the same look and feel as Windows 95. Even though the earlier releases of Windows NT had significant issues, Microsoft quickly took over a significant chunk of the mid-size business server market with Windows NT 4.0. Competition in the form of Novell's NetWare Server and IBM's OS/2 was overwhelmed in the span of three years. Through all this, UNIX-based operating systems continued to hold their own in the enterprise market. With Windows NT 5.0, Microsoft planned to enter the enterprise market and compete with heavyweights such as Sun Microsystems, IBM, and HP. After long delays, Microsoft released Windows NT 5.0 as Windows 2000 in the summer of 2000. Within a few months, those who had criticized Microsoft's operating systems stood up and took notice of Windows 2000. In performance, reliability, and scalability, Windows 2000 outclassed its Windows predecessors within the first year. In fact, it is now estimated that there are more Windows 2000 servers than Windows NT servers.

Since its recent launch, Windows XP is fast becoming the operating system of choice on PCs; however, it is targeted toward home and small-business users and is not positioned in the server market.

While the big debate between UNIX and Windows communities continues, we believe that a majority of sites running Windows NT Server today will deploy Oracle on Windows 2000 Server by year-end. It is for this reason that this book focuses on Oracle9i on the Windows 2000 Server. Unless mentioned otherwise, all topics and discussions in this book apply equally well to Windows NT 4.0, Windows XP

Professional, and Windows 2000. We begin with topics related to a standard installation of Oracle9i on Windows.

**NOTE**

We have been successfully running Oracle9i Enterprise Edition on Windows XP Professional on one of our test machines for over three months. As this book goes to the press, Oracle has certified Oracle9i on Windows XP Professional. However, Microsoft has not positioned Windows XP as an operating system for servers and recommends that you use Windows 2000 on your servers.

Introducing Oracle9i for Windows NT/2000

Oracle9i for Windows 2000 is the latest release from Oracle Corporation. In contrast to Oracle8i Server, which was termed an object ORDBMS, Oracle9i claims to be a development and deployment platform for the Internet. This is because a wide range of development and management tools are available to support Internet data warehouses and applications. Visit <http://www.oracle.com/ip> for more information on the features that make Oracle9i a powerful platform for the Internet. Before going into the installation details, it is useful to review the features of Oracle9i.

Many of the enhancements in Oracle9i were seen in bits and pieces in later releases of Oracle8i, either as patches or separately licensed features. Oracle9i has combined these add-ons into one product. Some of the features of Oracle9i for Windows NT/2000 are described here:

- Oracle9i Enterprise Manager has been enhanced to include guided expert diagnostics and problem resolution. All essential management functions can now be managed from a standard Web browser.
- Oracle9i's public key infrastructure and single sign-on capabilities have been integrated with Windows 2000, Active Directory, and Microsoft Certificate Store. Integration with Microsoft Transaction Server, Microsoft Message Queuing, and Internet Information Server is much improved.
- Oracle9i offers a variety of features for Windows developers including enhanced native object linking and embedding database (OLEDB) support. Oracle9i also includes support for XML, COM+, and extensions through Oracle Data Objects for Windows (formerly Oracle Objects for OLE).

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- Oracle9i includes a built-in Java Virtual Machine (JVM), which allows you to store and run Java code within the database itself. Developers familiar with Java can now write application logic using Java instead of Oracle's native PL/SQL.
- Oracle9i includes a product named iSQL*Plus, a Java-based implementation of the popular SQL*Plus utility that runs in a browser. You can use iSQL*Plus to connect to an Oracle database through the Internet and execute SQL commands. iSQL*Plus depends on the Oracle HTTP Server and the iSQL*Plus Server.
- Oracle9i also supports Common Object Request Broker Architecture (CORBA), the Internet Inter-ORB Protocol (IIOP), and Enterprise JavaBeans.
- Oracle9i includes support for SQLJ, a programming syntax that lets you embed SQL statements in Java programs.
- Oracle9i provides improved memory management for very large memory (VLM) Windows boxes having more than 4GB of RAM.

Now that you have looked at some of the new features of Oracle9i, you're ready to look at topics related to installation.

The Environment Used in This Book

Scores of illustrations and sample scripts are included in this book to help experiential learning. The configuration of the test installation is summarized in Table 1-1.

Category	Product/Component	Version/Specification	Comments
Hardware 1	PC	*256MB RAM *8GB disk, one primary partition and one extended partition with two logical drives named C: and D: Pentium III, 733Mhz *17" SVGA monitor *4MB VRAM	All device drivers for the HP machine were available on the Windows 2000 media.

TABLE 1-1. *Hardware Environment Used in Test Installation*

Category	Product/Component	Version/Specification	Comments
Hardware 2	Laptop	*256MB RAM *10GB disk, single partition, one logical drive named C: *Pentium III, 1GHz *15" SVGA monitor *4MB VRAM	Dell Inspiron Series.
Operating system for Hardware 1	Windows 2000 Server	With SP2	
Operating system for Hardware 2	Windows XP	Professional Edition	
Oracle software	Enterprise Edition	Version 9.0.1.0	Downloaded from technet.oracle.com .

TABLE I-1. *Hardware Environment Used in Test Installation (continued)*

The Oracle9i Enterprise Edition was installed in the default folder named c:\oracle\ora90 under the Oracle Home ORAHOME90. Multiplexed data files, control files, and redo log files were stored in the folder d:\oracle\ora90. All folder names, filenames, and paths used in this book reflect the test environment. You must replace the names as appropriate for your installation before using the examples. Finally, Windows is installed in the c:\windows folder in the test installation.

Preinstallation Checks and Tasks

Sufficient planning is required to complete an Oracle9i installation on the first attempt. In this phase, you must decide how to organize the software and the database files, determine the hardware configuration for your server, and make choices on the operating system and file system types. This section covers the system requirements, provides tips, and describes some terms that will help you in your installation.

Oracle9i System Requirements

Oracle9i Server on Windows 2000 is available in three editions: Enterprise, Standard, and Personal. The system requirements vary based on the edition you choose to install. The requirements for Oracle9i Enterprise Server are summarized here.

Supported Windows Server Operating Systems

Oracle9i Server is supported on any computer with Windows 2000 (Professional, Server, Advanced Server, or Datacenter). Service Pack 2 is recommended. In addition, Windows NT 4.0 (Workstation, Server, Server Enterprise Edition, or Terminal Server) with service pack 6.0a is also supported.

Recommended Hardware

Choose the hardware for your Oracle9i installation carefully. Oracle recommends a system with Pentium 233MHz or better CPU and RAM of 256MB (128MB minimum). For better performance, we recommend that you use a system with a minimum of 512MB RAM in production. In our tests, we have noted that about 4.6GB of disk space is used on file allocation table (FAT) file systems for a typical Oracle9i (Enterprise Edition) installation; however, 3.1GB of disk space is sufficient on an NT file system (NTFS). We also observed that a page file of approximately 400MB was used during our test installation on a machine with 256MB RAM. If you have 256MB RAM, we recommend that you set your virtual memory settings to 400MB. A machine with video support for 256 colors is also recommended.

Oracle9i Client Software

Oracle9i client software can run on any computer with Windows 95, 98, Me, NT 4.0, XP, or 2000. Service Pack 6.0a is required for Windows NT clients, and Service Pack 2 is required for Windows 2000 clients.

We recommend that you use computers with Pentium 166 or better CPUs having at least 64MB of RAM (128MB recommended). In our tests, Oracle client software required about 1.05GB of disk space on a FAT file system and about 580MB on an NTFS.

If you are planning to administer Oracle9i Server over the Web, you will need Netscape Navigator 4.7 or Internet Explorer 5.0, or later. Information on Web Installation is included in Chapter 2.

File Organization

Oracle recommends using the Oracle Flexible Architecture (OFA). OFA has several advantages, including

- Better file system organization and easy administration.
- Improves scalability, as database files can be added easily.
- Better performance can be obtained by distributing the input/output (I/O) across disk drives.
- Data can be protected better by distributing it on multiple disk drives.

Understanding Oracle Home

If you have multiple installations of Oracle products (typically, different versions), then each installation is performed in a different base folder. Each installation is labeled as a separate Oracle Home by Oracle Universal Installer (OUI). Most Oracle components can be installed repeatedly in different locations. If an Oracle component is installed for a second time on the same computer, OUI detects the previous installation and takes appropriate action. Suitable logs are written in the `c:\program files\oracle\inventory\logs` folder. The following components, however, can be installed in only one location (single Oracle Home):

- Oracle Performance Monitor for NT
- Oracle Objects for OLE
- Oracle Open Database Connectivity (ODBC) Driver
- Oracle SNMP agent

FAT Versus NT File System

A great strength of Windows NT and 2000 is their ability to support multiple file systems. While both support FAT and NTFS, there are some inherent characteristics of these file systems that you must note before choosing your file system. A full discussion on this subject is beyond the scope of this book. Several good resources are available on the Web for this purpose. Refer to Appendix A for information on these resources. Some important considerations are summarized here.

Hardware

System partitions on Intel x86-based computers can be formatted either FAT or NTFS. RISC-based computers, however, support only FAT for their system partitions. The boot partition on both Intel x86 and RISC systems can be either FAT or NTFS.

On RISC systems, you can install Oracle software only on Windows NT. This is because Microsoft has dropped support for Windows 2000 Server on RISC-based systems. Microsoft has also dropped support for machines using extended industry standard architecture (EISA) and microchannel architecture (MCA).

Performance

By and large, NTFS provides better performance than FAT. A FAT file system maintains a FAT to track files and directories at the beginning of the FAT volume. To prevent corruption, the system maintains two copies of the FAT on the disk and can access this copy if the primary copy gets corrupted. Since these tables require constant updating, the hard disk heads have to return frequently to the beginning of the volume, which

results in a degradation of performance. FAT can also result in fragmented files quite quickly. Disk defragmentation utilities are available with the operating system to resolve this problem temporarily. Executive Software's Diskeeper and Raxco Software's PerfectDisk2000 are two good tools to defragment NTFS partitions. Finally, since the directory structure on FAT has no formal organization, locating a file on a large FAT volume is time consuming.

Security

NTFS is far more secure than FAT simply because it is tightly integrated with the operating system security. NTFS also allows users to set file-level security and permissions on folders. Local or domain accounts can be used to provide different levels of access to files and folders. Windows 2000 also supports encryption on NTFS partitions, making them more secure.

Access

In some situations it is useful to access your volumes from other operating systems such as MS-DOS. In such a situation, FAT is recommended. Of course, MS-DOS can recognize only FAT volumes smaller than 2GB. Even today, some hardware devices and peripherals require MS-DOS for their configurations. In such situations, you must keep a FAT partition.

For a production environment, you are strongly encouraged to use NTFS partitions. A FAT partition of 2GB is simply not big enough or secure enough.

Reliability

In general, NTFS is considered to be a more reliable file system than FAT. NTFS is considered to be the finest journaling file system available by many in the industry. This is because it maintains a special transaction log to track file I/O events. This log is used automatically to recover from system crashes.

Disk Space

In general, NTFS uses less space than FAT32 for storing the same amount of data. In our tests, Oracle9i installation on NTFS needed much less space. Table 1-2 summarizes our findings.

Product	FAT32	NTFS
Oracle9i Server	4.6GB	3.1GB
Oracle9i Client	1.05GB	580MB

TABLE 1-2. *Disk Requirements for Oracle9i*

Understanding OUI

For a first-time user, OUI can be quite daunting, so this section begins with the basics. OUI is a Java-based application used by Oracle Corporation to install Oracle products on all platforms. Its features allow users to complete a variety of installations. These features include

1. Component and suite installations
2. Web-based installations
3. National language and globalization support
4. Distributed installation support
5. Unattended “silent” installations using response files
6. Deinstallation of components
7. Support for multiple Oracle homes

You should be aware of the restrictions imposed by OUI before you begin your installation. These restrictions are

- Do not use Oracle9i OUI to install components into the same directories as those used by previous versions (7.x or 8.x). OUI will warn you if you attempt to do so.
- OUI automatically installs Oracle’s version of the Java Runtime Environment (JRE). This version is required to run OUI and other Oracle assistants. Do not modify the JRE without explicit instructions from Oracle support personnel.
- OUI can perform noninteractive installation in *silent* mode. In this situation, it runs as a background process and does not display on the screen. This is normal behavior.
- OUI is capable of performing a web-based installation. Refer to *Oracle Universal Installer Concepts Guide* in Oracle documentation for more information before attempting a web-based installation.

If you have not seen OUI before, we recommend that you first read the “Step-by-Step Guide to Installing Oracle Components” section to get a feel for OUI before continuing.

Understanding Product Options

Oracle9i is available in many different forms, each providing several components. Understand each package before you begin an installation, and understand the need for a component before installing it. Oracle9i Server is available in three *avatars*:

- Enterprise Edition
- Standard Edition
- Personal Edition

Oracle9i Database Options

The following components require a separate license even if they are a part of your installation media:

- Oracle Advanced Security
- Oracle Data Mining
- Oracle Diagnostics Pack
- Oracle Label Security
- Oracle Management Pack for SAP R/3
- Oracle Management Pack for Oracle Applications
- Oracle OLAP
- Oracle Partitioning
- Oracle Real Application Clusters (ORAC)
- Oracle Spatial
- Oracle Tuning Pack

Oracle Components in Enterprise Edition

The Enterprise Edition of Oracle9i Server is a good choice for sites that plan to deploy Oracle applications in a web or client/server environment. The components available on this edition are listed here:

- Advanced queueing
- Advanced replication
- Character-set scanner

- Common schema demos
- Object-type translator
- Oracle INTYPE File Assistant
- Oracle OLAP services
- Oracle Net Services, including Oracle Net Configuration Assistant, Oracle Net Manager, Oracle Net Listener, Oracle Protocol Support (automatically installed for detected networking protocols during installation)
- Oracle Administration Assistant for Windows NT
- Oracle Advanced Security, including encryption and integrity support

Oracle Components in Standard Edition

The Standard Edition *does not* include the following components that are available with Enterprise Edition:

- Oracle OLAP Services
- Oracle Advanced Security

Oracle Components in Personal Edition

The Personal Edition includes a full-featured Oracle9i database; however, it is a single-user system that can be used in development or learning or for small applications. Oracle Net Services are not included on this edition.

Shared (Multithreaded) Server

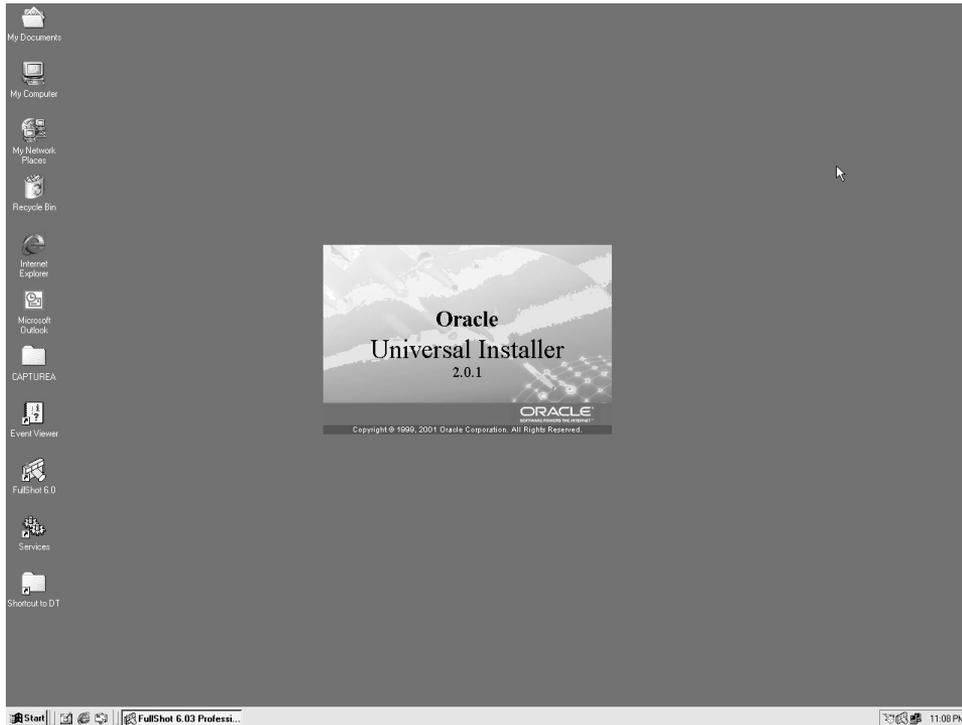
If you are planning to use the Shared Server (called Multithreaded Server in earlier versions) option, you should not install the default (starter) database that is provided by OUI. This is because the starter database is configured for dedicated servers. Complete the installation without the starter database and then use the Database Creation Assistant to create a custom database. Shared Servers can be configured at this time.

Step-by-Step Guide to Installing Oracle Components

Log in to Windows as a user who has Administrator privileges. Place the Oracle distribution CD in the CD-ROM drive of your system. It should automatically start the installation process. If it doesn't start automatically, execute **setup.exe** from the

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base folder of the distribution CD. You should see the Java-based installer start with a screen similar to the one shown here:



If you have used OUI in earlier releases, you will notice that the number of dialog boxes has been reduced in Oracle9i. OUI takes a few seconds to load. After this you should see a Welcome screen similar to the one shown in Figure 1-1.

You can proceed with the installation by clicking the Next button. You can also view previously installed products and deinstall Oracle components by clicking the appropriate buttons in the Welcome screen. For now, proceed with the installation by clicking the Next button. The File Locations dialog box, shown in Figure 1-2, should appear with the Source Path field pointing to your CD-ROM drive.

If you have downloaded Oracle software from Oracle's site, you should have three folders named disk1, disk2, and disk3. In this case, you must point the Source Path to the disk1\stage folder in your download location. The Destination area of the dialog box has two items. The Oracle Home, which defaults to OraHome90, is a label used to identify this installation. You can rename the Oracle Home if you wish; however, if you have a previous version of Oracle Server installed, use a different Oracle Home for this installation. OUI will generate an error later in the



FIGURE I-1. *OUI Welcome screen*

installation if it was unable to use the Oracle Home specified by you. The second item is the complete path for the location. OUI defaults the location to the drive that has the maximum free space on your system. The path is constructed by appending the Oracle Base (Ora90) to the string *Oracle*. For example, a target location could be `c:\Oracle\Ora90\`. If you choose to install another Oracle product, for example, Oracle9i Application Server, you can install this in the same root directory, but it must be in a separate Oracle Base. For example, if you have installed Oracle9i in a folder named `c:\Oracle\Ora90`, you can install Application Server in `c:\Oracle\isuites`. OUI will warn you if you attempt to install Application Server in the folder `c:\Oracle\Ora90`. When you have these settings correct, click the Next button.

In this part of the installation, you choose the products that you want to install on your system. You can choose to install the Oracle9i Database (Server) or install an Oracle client. Optionally, you could install management and integration tools,

which allow you to administer Oracle9i Server from a client. A sample screen is shown here:



In the next step, you can specify the language support that you require for your Oracle9i installation. Choose one or more languages as appropriate and continue by clicking the Next button. A sample screen is shown here:



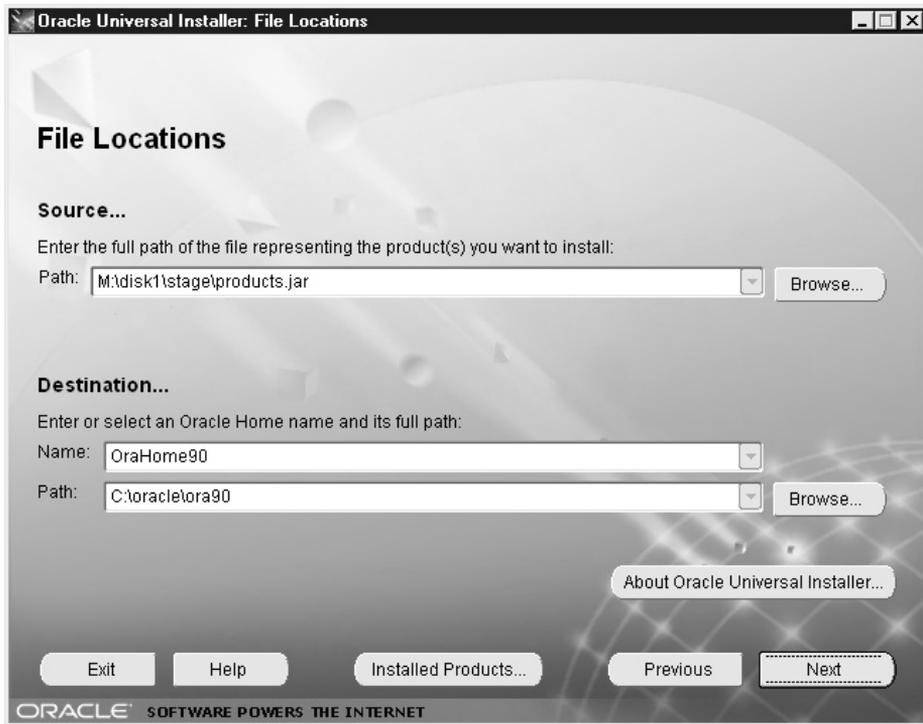


FIGURE 1-2. *File Locations dialog box*

In the next part of the installation, you can pick the Oracle edition that you want to install. The sample screen shown in Figure 1-3 appears only if you have chosen to install the Oracle9i database. Please review your license before you select this option. If you have installed Oracle products before, you could choose the Custom option and install only the components that you require. We recommend that you select one of the other options and go through with a mock installation. When you are sure of the components that you need for your site, you can selectively deinstall components that you do not need. The Enterprise Edition is being installed here.

The next screen (see Figure 1-4) lists the components you have chosen to install. If this is a fresh (first-time) installation, you should see New Install under the Install Status column. If you want to avoid installing a component, you can discard it from the list by clearing the appropriate check box.

Pay special attention to the list of components presented to you in this dialog box. Oracle products are shipped in a variety of packages. Even though the lists appear similar, there are small differences in components available on different packages. This dialog box also provides information on whether a component is required or

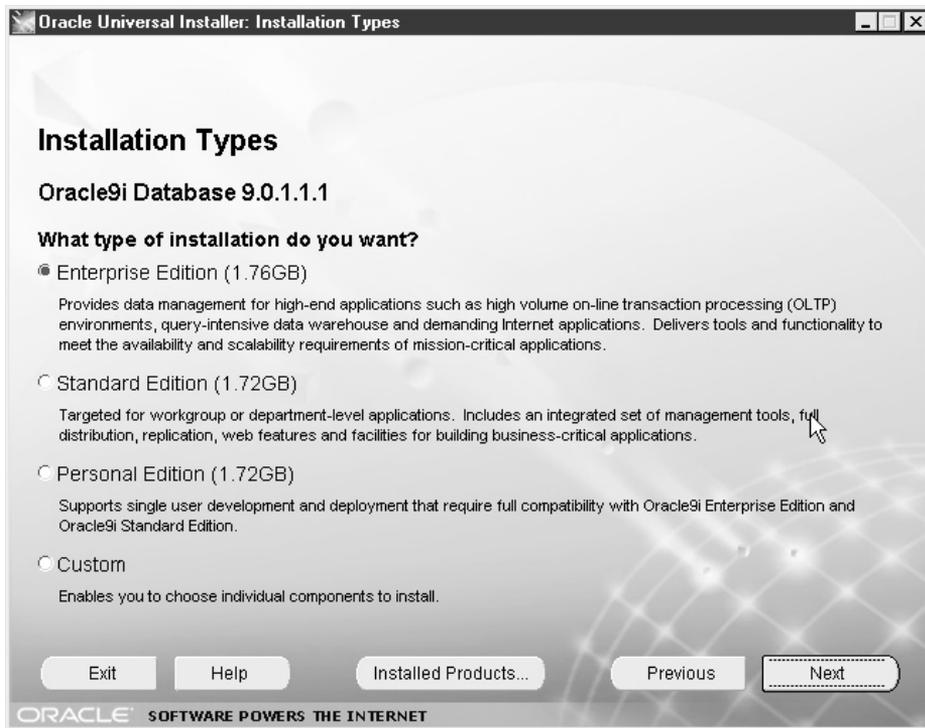


FIGURE I-3. *Installation Types dialog box*

not. If a component is marked Optional, you can choose not to install it. Pay special attention to any components marked No. If you choose to install a component marked No, you might corrupt a previous installation.

You can confirm your choice of components by clicking the Next button to begin the installation. A typical Oracle9i installation takes 20–30 minutes depending on your system. View the installation log provided at the end of the installation to determine if the installation was successful. If any components failed to install, you can try to install them later by using a custom installation. Exit OUI when the installation is completed.

Post-Installation Tasks

By now, you should have a working Oracle9i installation. A few additional post-installation tasks are recommended to keep your site running smoothly. You might want to take a few minutes to read this section so that you can avoid some common pitfalls.

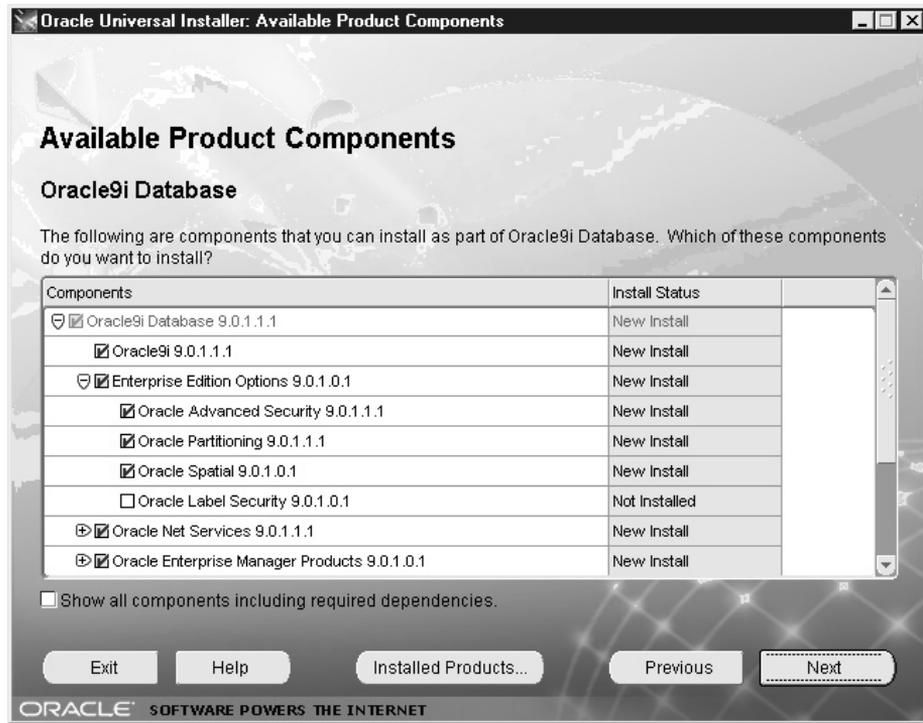


FIGURE I-4. Available Product Components dialog box

A typical Oracle9i installation creates several files in several folders on your computer. The built-in Windows security account SYSTEM must have full permissions to these folders. However, these files are protected from user accounts on the system. You can use Windows Explorer to set appropriate permissions. Select the Oracle installation folder (c:\oracle), right-click, and choose Properties from the context menu. Set file and directory permissions such that the SYSTEM account has full permissions on the Oracle directory structure. Assign read permissions to *everyone* on the c:\oracle\bin folder since it contains executables such as SQL*Plus and Import/Export. Better yet, assign permissions to specific executables in the c:\oracle\bin folder.

Windows Registry

Oracle9i on Windows 2000 uses the Windows registry extensively. All environment settings required by Oracle components are in the registry. The HKEY_CLASSES_ROOT, HKEY_LOCAL_MACHINE, and HKEY_CURRENT_USER keys are used by Oracle components. You can locate these entries easily by searching for the strings Oracle

or ORCL in Registry Editor. *Do not* modify or delete these entries manually as this can corrupt your installation!

To ensure that the Oracle-related registry entries are secure, set proper permissions on the HKEY_LOCAL_MACHINE\Software\Oracle key. Give full control to the SYSTEM account and read-only access to other users by setting Permissions in the Security menu.



NOTE

On UNIX systems, a DBA account is used for the installation. Suitable environment variables for Oracle Server are set for this account. On Windows, OUI automatically adds all environment settings to the registry.

Post-Installation for Individual Components

Although OUI completes most of the configuration during the installation, a few additional tasks must be completed for some of the Oracle components. This section provides an overview of these tasks.

Oracle Management Pack for Applications

After the installation of the management pack for Oracle applications, you need to configure Oracle Intelligent Agent on the managed nodes. You then need to configure Oracle Management Server and Oracle Enterprise Manager. More information on these is included in Chapter 7.

Shared Server Support

If you have installed the default database during installation, Shared Server support (called Multithreaded Server support in earlier releases) is not available for that database; however, you can configure Shared Servers if you use Database Creation Assistant to create a custom database.

If you have installed the default database, you can also manually configure Shared Servers later. A section on Shared Servers is included in Chapter 6.

Oracle Java Virtual Machine (JVM)

If you want to install Oracle JVM features such as servlets, Java Server Pages, EJB applications, or CORBA applications then unlock the following Oracle users and change their passwords:

- AURORA\$JIS\$UTILITY\$
- OSE\$HTTP\$ADMIN
- AURORA\$ORB\$UNAUTHENTICATED

You can unlock a user account using Oracle Enterprise Manager or with the ALTER USER command as shown here:

```
SQL> ALTER USER aurora$jis$utility$ ACCOUNT UNLOCK;  
User altered.
```

Oracle OLAP Services

Oracle OLAP services use two database users, OLAPSVR and OLAPDBA. These accounts are automatically created during installation; however, they are initially locked. You have to unlock them on Oracle Server before using OLAP services. Be sure to change the passwords for these users. More information is available in *OLAP Services Concept and Administration Guide* in Oracle documentation.

Oracle Administration Assistant for Windows

This tool requires Microsoft Management Console (preferably the latest version available) and HTML Help 1.2 to run. Microsoft Management Console is included in Microsoft Windows 2000, but it has to be installed manually in Windows NT from the Option Pack CD-ROM. You can also download the Option Pack from <http://download.microsoft.com>.

Oracle Advanced Security

Oracle Advanced Security (ASO) is available with the Enterprise Edition only. It provides additional security features for data encryption, integrity, and authentication. Industry-standard algorithms for encryption such as DES and RC4 are supported. The Single Sign-On (SSO) feature provides a user access to multiple databases with a single password. SSL support is also included. These components require you to complete post-installation tasks manually.

Oracle Enterprise Manager

You need to perform additional tasks to manage and monitor services with Oracle Enterprise Manager (OEM). OEM needs a database to house its repository. If you do not have an existing database, you must create one before starting OEM. OEM automatically creates a repository when you start it the first time.

OEM uses Management Server service on Windows NT/2000. If this service is not available on your server, it is created during the installation of OEM. We recommend that you set this service to start automatically. If you don't, be sure to start this service before starting OEM.

Oracle Management Server Repository

Oracle Management Server (OMS) requires a repository to be created before it can be used. If you have an older version (1.x or 2.x) of OMS repository, you can migrate it to the current version using OEM Migration Assistant after OMS installation is complete.

Oracle Internet Directory

If you are planning to run Oracle Internet Directory, you need to get third-party UNIX-emulation software to run the required shell scripts such as `bulkload.sh`, `bulkdelete.sh`, `bulkmodify.sh`, `catalog.sh`, and `ldaprepl.sh`. You can get these from either of the two approved vendors:

- **Cygnus** <http://sources.redhat.com/>
- **MKS Toolkit** <http://www.datafocus.com/products/>

Oracle Real Application Cluster

The Oracle Real Application Cluster configuration (previously called Oracle Parallel Server) allows multiple instances to share a single Oracle database. This configuration is useful for 24 x 7 sites since it provides high-availability and load-balancing. Post-installation configuration procedures must be performed for high availability and integration with OEM.

Oracle Services for Microsoft Transaction Server

If you are using Windows NT, install the Microsoft Management Console (MMC) before you install Oracle9i. If you have already installed Oracle9i, create an NT account for Microsoft Transaction Server with administrator privileges. Set the Transaction Server service to start automatically. Schedule a database server-level transaction recovery job in MMC.

Oracle Workflow

Workflow requires the following post-installation tasks:

- Additional settings in parameter file (`init.ora`)
- Installation and configuration of Web Server
- Verification of base URL for Workflow
- Setting up Workflow and HTML Help

Deinstallation of Oracle Products

In some situations, you might want to deinstall Oracle products because you no longer need them on the system. Even if you want to reinstall Oracle products, we recommend that you deinstall existing components before reinstallation.

Deinstallation Using OUI

Of course, the easiest way to deinstall Oracle components is to use OUI. Start OUI from the Oracle Shortcut folder. When you reach the Welcome screen, click the Deinstall Products button to see a screen similar to the one shown here:



Select the product(s) that you want to remove and click the Next button. Follow the wizard until you are finished with the deinstallation.

Manual Deinstallation

Sometimes, OUI leaves certain registry settings, files, and folders on your system after deinstallation. If you want to purge an Oracle installation from your system, you can manually deinstall Oracle components. The Enterprise Edition can be deinstalled as follows:

1. Log on to the Windows 2000 system as an Administrator. Stop all Oracle services by choosing the Services applet. Oracle services are typically named with a prefix oracle or ora. Once you have stopped all Oracle services, we recommend that you set them to manual start mode.
2. Take a backup of Windows Registry. Start Registry Editor and choose File | Export from the menu.



CAUTION

Microsoft recommends that you do not modify Windows Registry manually. Modifying the Windows Registry could result in other applications or Windows not working properly.

3. Start Registry Editor by using the command **regedt32**. Navigate to the HKEY_CLASSES_ROOT node and delete all keys that begin with the string Oracle, ORA, or ORCL.
4. Navigate to the HKEY_LOCAL_MACHINE/SOFTWARE key and delete the Oracle and Apache Group keys.
5. Delete the Oracle ODBC Driver key under HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\odbcinst.ini.
6. Remove all keys beginning with the string ORACLE under the keys HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services and HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog\Application.
7. Delete all keys beginning with the string Oracle or ORCL under the key HKEY_CURRENT_USER\SOFTWARE\ORACLE.
8. Delete keys with the string Oracle in HKEY_CURRENT_USER\SOFTWARE\ODBC\odbcinst.ini.
9. Search the registry for keys containing the strings Oracle and ORCL and delete them.
10. Close Registry Editor.
11. Edit your environment settings (System applet in Control Panel) and modify the PATH variable to remove all Oracle entries from the PATH.
12. Delete shortcuts for Oracle Home and Oracle Installation Products from the ALL USERS profile. This is available in the Path winnt | Profiles | All Users | Start | Programs menu on Windows NT and Documents and Settings | All Users | Start Menu | Programs on Windows 2000 and XP systems.
13. Delete the Oracle folder under Program Files. You might not succeed in deleting the folder as Windows might have locked some files (DLLs). In this case, reboot the system and delete the folder.
14. Delete the Oracle Base folder (named ORACLE, by default).

**NOTE**

When you attempt to delete the c:\oracle folder, you might get the error "Access is denied." If you get this error, rename the c:\oracle\ora90\bin\oci.dll file to c:\oracle\ora90\bin\ocibak, reboot the machine, and delete the c:\oracle folder.

Note that Oracle9i Enterprise Edition also installs third-party software such as Apache HTTP Server (the Oracle HTTP Server is a modified Apache Web Server).

In Chapter 1, you have learned how to perform a basic Oracle installation with OUI. The concepts that have been introduced in this chapter will be extended to advanced installation techniques in Chapter 2.