

# Installing Microsoft SQL Server 2000

## In This Chapter

- Satisfying the minimum installation requirements
- Figuring out other stuff you must have
- Setting up server and client software
- Installing analysis services
- Installing Microsoft English Query

Installing Microsoft SQL Server 2000 is a piece of cake. You must choose a few options along the way, but it is simple, and I'm going to show you how to do it.

## Microsoft SQL Server 2000: The Minimum Requirements

As Microsoft adds more features to SQL Server, adding more disk space and memory is also necessary. To install and run Microsoft SQL Server 2000, you need to satisfy this list of the minimum requirements:

### Computer Processor

- Intel Pentium 166 MHz or higher

### Peripherals

- CD-ROM drive
- Networking card on client and server

Operating system -- Depending on the edition that you are installing, certain operating systems are supported:

- Enterprise Edition: Microsoft Windows NT Server 4.0, Windows 2000 Advanced Server, or Windows 2000 Data Center Server
- Standard Edition: Microsoft Windows NT Server 4.0, Windows 2000 Server, Windows 2000 Advanced Server, or Windows 2000 Data Center Server
- Personal Edition: Microsoft Windows 98, Windows NT Workstation 4.0, Windows NT Server 4.0, Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced
- Developer Edition: Microsoft Windows NT Workstation 4.0, Windows NT Server 4.0, Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, or Windows 2000 Data Center Server
- CE Edition: Microsoft Windows CE 3.0

### Memory

- For Windows 2000: An absolute minimum of 64MB; I recommend at least 128MB (with 256MB or greater being optimal)
- For Windows NT or Windows 98: An absolute minimum of 32MB; I recommend at least 64MB (with 128MB or greater being optimal)

### Approximate disk space for new installation

- Database components: 95MB minimum to 270MB maximum, with 250MB for a typical installation
- Analysis Services: 50MB for a minimum installation, with 130MB for a typical installation
- English Query: 80MB for a typical installation
- Desktop Engine: 44MB

- Additional disk space is required for your data

## Do I Need Anything Else?

Actually, you do need more than just the minimum requirements indicated in the preceding section. Before SQL Server 2000 can be installed, you must have Internet Explorer 5 or higher installed. Also, if you are using Windows NT 4.0 Workstation or Server, you must have service pack 5 or higher installed.

Internet Explorer 5 (or greater) can be downloaded from the Web at [www.microsoft.com/ie](http://www.microsoft.com/ie). Windows NT service packs can be downloaded from the Web at [www.microsoft.com/windowsnt](http://www.microsoft.com/windowsnt).

If you are running Windows 95, you must first install the Windows Common Controls Library. The Windows Common Controls Library can be installed under the setup program's Prerequisites option.

## Installing the Goods on the Server

Microsoft has made installing SQL Server 2000 very easy. Installation is performed by answering questions in a series of steps. Most of the time, you simply accept all the defaults presented in these steps and the installation program does the rest. This section guides you through installing Microsoft SQL Server 2000 on your server. After you install SQL Server 2000, you need to install the client-side software to access the server from any client computer.

The installation process can take up to 15 minutes, depending on the speed of your computer.

Some of the SQL Server 2000 features are not available when running SQL Server 2000 on Windows 98. Enterprise-wide features are not available because, under Windows 98, SQL Server 2000 is considered to be for a single user. Therefore, it's recommended that you run SQL Server 2000 on Windows NT 4.0 or higher. The examples I use in this chapter are for installing Microsoft SQL Server 2000 Enterprise Edition on Windows 2000 Advanced Server.

To install Microsoft SQL Server 2000, follow these steps:

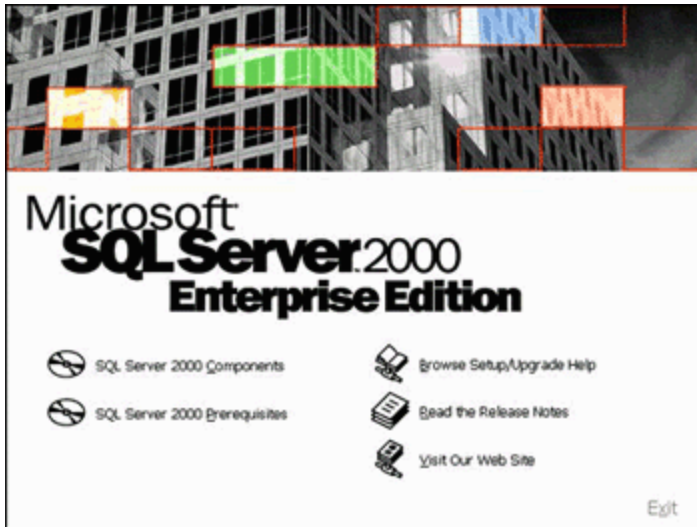
### 1. Start the Setup program.

Place the SQL Server 2000 CD-ROM into the CD-ROM drive. If your CD-ROM is configured to run automatically when a disc is inserted, the Setup program runs automatically, showing a series of menus that allow you to set up different components of SQL Server 2000. If the Setup program runs automatically, click the desired installation option:

- SQL Server 2000 Components
- SQL Server 2000 Prerequisites (needed only for Windows 95)
- Browse Setup/Upgrade Help
- Read the Release Notes
- Visit our Web Site

If your CD-ROM is not configured to run automatically when a disc is inserted, choose the Start-Run menu option. Then type `d:\autorun.exe`. If `d` is not the letter corresponding to your CD-ROM drive, then substitute your drive letter for `d`. For more information about auto-insert notification, refer to *Windows 98 For Dummies*, by Andy Rathbone, and *Windows NT 4 For Dummies*, by Andy Rathbone and Susan Crawford (both published by IDG Books Worldwide, Inc.).

In either case, the Setup program begins with the choices shown in Figure BC1-1.



**Figure BC1-1:** The SQL Server 2000 Setup options screen.

**2. If you are installing on Windows 95, install the prerequisites by clicking the Install SQL Server 2000 Prerequisites menu option (see Figure BC1-2).**

This option is not necessary for Windows NT 4 or Windows 2000. If you do click this option, you will see the screen shown in Figure BC-2, allowing you to install the Windows Common Controls Library.



**Figure BC1-2:** SQL Server 2000 Windows 95 Prerequisites.

**3. Click the Install SQL Server 2000 Components menu option.**

Click this menu option to choose the edition of SQL Server that you want to install. Depending on the edition printed on your CD-ROM, you may see different options on your screen than those presented in Figure 2-3. I'm installing SQL Server 2000 Enterprise Edition, so I have a choice of installing the database server, analysis services, or English Query.

**4. Click the Install Database Server menu option.**

Click this menu option to begin the installation process of SQL Server 2000. Clicking this menu runs another setup program, with a filename of SETUP.EXE. A welcome screen appears. Click Next when you are ready to begin. Figure BC1-3 shows the installation component option for the Enterprise Edition.



**Figure BC1-3:** Install SQL Server 2000 Enterprise Edition components.

**5. Enter the name of the server on which you will install SQL Server; then click Next.**

Multiple instances of SQL Server 2000 can be installed on a single physical computer. If you do install multiple instances, each instance will use its own set of resources, such as disk space, memory, and processor time. A second instance of SQL Server will be identified as the computer name, followed by a dollar sign and then the name of the instance. A single instance of SQL Server will be identified as just the computer name.

**Local Computer:** Choose this option if you want to install SQL Server 2000 on the same computer that the Setup program is running on. If this is the first time that you are installing SQL Server and you check this option, the text box that allows you to enter your server name will be filled-in for you and will be disabled. This is because the setup program knows which instance you are trying to modify or install.

**Remote Computer:** Choose this option if you want to install SQL Server 2000 on a computer that is not the same as the one on which the Setup program is running. If you select this option, you can click the Browse button to search for a computer on your network. Rather than browse, you can simply enter the name of your remote computer in the text box provided.

**Virtual Server:** This option is enabled only if the Setup program detects that this computer is a clustered computer running with Microsoft Cluster Services. If this option is enabled, type the name of a new or existing virtual server name in the cluster. Clustering is briefly mentioned in Chapter 13.

**6. Select the installation option you desire and then click Next.**

Select the desired option for the installation on the server chosen in the prior step using these options:

**Create a new instance of SQL Server or install Client Tools:** Choose this option if you want to create a new instance of SQL Server 2000 on the computer designated in the prior step. This option can also be used to install Client Tools. This is the default option.

**Upgrade, remove, or add components to an existing instance of SQL Server:** Choose this option if you want to change any of the parameters involved in an existing instance of SQL Server 2000. This option is enabled only if you have already installed SQL Server on the computer that was designated in the previous step.

**Advanced options:** This option allows you to configure advanced options for network administrators, such as rebuilding the registry or recording a file for unattended installation, known as an ISS file. These options are beyond the scope of this book.

**7. From the User Information dialog box, specify your name and company name, if applicable. Then click Next.**

**Name:** Enter your name. This field is required.

Many organizations don't want you to type your actual name in the Name field because you can't change the name in the Name field without completely reinstalling SQL Server. If you leave the company or get laid off (not that that would ever happen, right?), the company would have an administrative nightmare on its hands. Often, the name of the company is entered in both the Name and Company fields.

**Company:** Type the name of your company. This field is optional.

#### **8. View the Software License Agreement; accept the agreement by clicking Yes.**

You must accept this agreement to install SQL Server 2000. Read the agreement carefully.

The agreement is written in a series of pages. Scroll down to read all the agreement until you reach the end. When you get to the bottom of the agreement, click the Yes button.

#### **9. Select one of the installation definition options and click Next.**

Select the desired installation definition option. You can choose from these options:

**Client Tools Only:** Choose this option if you want to install administrative tools, such as Query Analyzer, for use with a server that has already been installed.

**Server and Client Tools:** Choose this option if you want to install not only administrative tools but also SQL Server 2000 itself. This is the default option.

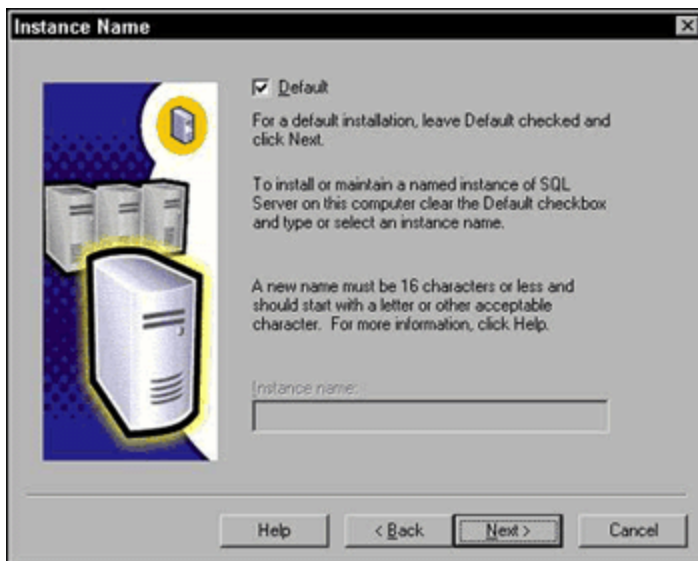
**Connectivity Only:** Choose this option if you want to install only connectivity, such as data access components and network libraries. This does not install SQL Server 2000 or any of the administrative tools.

#### **10. Choose the instance name and click Next (see Figure BC1-4).**

Choose the desired instance name. SQL Server 2000 can have many instances installed on the same computer at the same time. Each instance will use its own set of resources, such as disk space, memory, and processor time. The first instance of SQL Server 2000 installed on any computer is called the default instance. You can choose from these options:

**Default:** Select this check box if this is the default, also known as the first, installation of SQL Server on the desired computer. You can, if you want, uncheck this option on the first installation and provide a specific instance name, but I don't recommend doing so. This option is checked by default.

**Instance Name:** This option is enabled if you check the Default check box, because you cannot name the default instance. However, if the Default check box is not checked, you can enter the name of the desired instance, such as TestLab. That way, one computer can support multiple instances.



**Figure BC1-4:** Choose the instance name.

**11. From the Setup Type dialog box, choose the installation type by choosing from the following options; then click Next.**

**Typical:** Choose this option if you want to perform an installation that Microsoft has determined to contain the most common options. Typical is the default option. If you are new to Microsoft SQL Server, it's probably a good idea to use this option.

**Minimum:** Choose this option if you have limited disk space, such as that on a laptop computer. If you choose this option, you need to have the SQL Server 2000 CD-ROM handy every time you use SQL Server.

**Custom:** Choose this option if you are an advanced user and don't want to accept the default installation as you would in the Typical option. The Custom option allows the advanced user more control of the features that are installed.

In addition, you can specify the location for the program files (SQL Server itself and all the wizards) and for data files (your databases and system databases). By default, the Setup program uses the C:\Program Files\Microsoft SQL Server folder as a base folder. Then, subfolders are created under this folder, based on the name of your instance. All data folders and program files for this instance are placed under this subfolder. If you would like to accept the default locations, click Next. If not, click the Browse button adjacent to the location you want to change. Doing so brings up a dialog box for you to select or enter a new location.

As you can see, it is easier to choose the default options. Click Next when you are ready to continue.

**12. From the SQL Server Services Accounts dialog box, specify the logon accounts by choosing from the following options and then clicking Next.**

The SQL Server service is a Windows NT or Windows 2000 service that controls SQL Server. If this service isn't running, you won't be able to access SQL Server. When a SQL Server service is started, it needs a logon name and password. These fields allow you to specify the following parameters:

**Use the Same Account for All Services. Auto Start SQL Server Service:** Choose this option if all SQL Server services (SQL Server, SQL Server Agent, Distributed Transaction Coordinator, Microsoft Search, and Analysis Services) are to use the same logon parameters. In addition, the SQL Server service will automatically start when the computer is booted. This option is selected by default. I recommend using this option.

**Customize the Settings for Each Service:** Choose this option if all SQL Server services (SQL Server, SQL Server Agent, Distributed Transaction Coordinator, Microsoft Search, and Analysis Services) are to have different logon parameters. To use this option, you click the services on the left part of the dialog box. As you click each service, you can specify the settings for each service on the right.

**Use the Local System Account:** Choose this option if the specified service(s) is (are) to have access only to the SQL Server that's installed on the local computer. This option is limited in functionality. For example, if you choose this option, the SQL Server service can't perform replication.

**Use a Domain User Account:** Choose this option if the service(s) is (are) to have access not only to the SQL Server you're installing now on the local computer but also to other servers and files on the network as well. If you choose this option, you must supply the user name and password for access to the local SQL Server and other resources. If this option is selected, type the Username, Password, and Domain in the text boxes provided. This option is selected by default.

### **So you want to set up a Domain User account?**

A Domain User account must meet these requirements, so ask your network administrator to ensure the following:

- The account must be a member of the Administrators local group.
- The account should have the Password Never Expires attribute set.
- The account should have Log on as a service rights set.
- All logon hours must be allowed for the account.

### **13. Select the desired authentication mode and click Next.**

SQL Server 2000 supports two different authentication methods:

**Windows Authentication Mode:** Choose this option if you want users to gain access to SQL Server using a trusted connection between the Windows NT or Windows 2000 domain. This option is not available if SQL Server 2000 is running on a Windows 95 or Windows 98 computer. This option is selected by default for Windows NT or Windows 2000 servers.

**Mixed Mode:** This mode uses a combination of Windows Authentication and SQL Server Authentication. If you select this mode, SQL Server 2000 attempts to validate the user, based on a user name and password. If this attempt fails, then SQL Server 2000 makes a call to the Windows NT or Windows 2000 domain to test for validation, just as the Windows Authentication Mode does. This mode is not recommended because it is supported for backward compatibility only.

**Enter Password:** This text box is enabled only if you choose the Mixed Mode option. Enter the password for the sa (or system administrator) user, who has full access to all areas of SQL Server 2000.

**Confirm Password:** This text box is enabled only if you choose the Mixed Mode option. Re-enter the password for the sa (or system administrator) user, who has full access to all areas of SQL Server 2000.

**Blank Password:** Check this box if the sa user is to have no password. Prior versions of SQL Server used no password as the default, and subsequently, many users gained access to unauthorized resources simply because they knew that the sa password was blank. Therefore, use this option carefully.

### **14. From the Start Copying Files dialog box, click Next when you are ready to continue.**

### **15. Choose the desired licensing mode and click Continue.**

SQL Server 2000 supports two different licensing modes. It is important that you understand these modes because the licensing mode cannot be changed after the server is installed. The available licensing modes are as follows:

**Per Seat:** Choose this option if you have client access licenses (which you purchase separately) that will be used to access more than one server. Many times, this is the most economical option for small organizations, so it is selected by default. However, if you are going to use SQL Server 2000 in conjunction with a Web server, this may not be the correct option for you.

**Processing License:** Choose this option if you purchased a single license for each processor. This option is typical for use with a Web server when you do not know how many users will be connected to the server. With this type of license, any number of devices can connect to the server.

**16. Congratulations, you did it. SQL Server 2000 is now set up on your server. Click Finish.**

## What About Your Clients?

After you install the Server software, you might also install client-side software to connect to SQL Server 2000. If you are trying to connect to SQL Server 2000 using a computer that has any version of Windows 2000 as the operating system, you do not need to install any client software because these components are built in. However, other operating systems need to have the client software installed.

A client computer needs to have a **db-library** (or database library) installed to act as a conduit to connect to SQL Server for a given protocol, called a **net-library** (or network library). You always need to install the db-library and a net-library for management tools to be used with Microsoft SQL Server 2000.

To install Microsoft SQL Server 2000 client-side software, follow these steps:

**1. Follow exactly the same procedure in the preceding section, "Installing the Goods on the Server," up to Step 9.**

**2. In the Installation Definition dialog box, choose the Connectivity Only option and click Next.**

Clicking Next begins copying connectivity files onto your computer.

## Installing Analysis Services

In Microsoft SQL Server 7.0, analysis services were called Online Analytical Processing, or OLAP. You might find the OLAP word straggling in documentation every once in a while, but OLAP is now referred to as analysis services. Analysis services are a very robust set of services that allows you to slice, dice, and julienne your data.

To install analysis services, follow the few steps below:

**1. Follow exactly the same procedure in the preceding section, "Installing the Goods on the Server," up to Step 3.**

**2. Click the Install Analysis Services menu option and click Next when you are ready to continue.**

Clicking this menu option begins the installation of analysis services by presenting you with a welcome screen.

**3. View the Software License Agreement; accept the agreement by clicking Yes.**

You must accept this agreement to install Analysis Services. Read the agreement carefully.

The agreement is written in a series of pages. Scroll down to read all the agreement until you reach the end. After you get to the bottom of the agreement, click the Yes button.

#### **4. Specify the components you want to install and then click Next.**

By default, the most common components are already checked for you. However, you have the choice of setting up the following components:

- Analysis server
- Analysis Manager
- Decision Support Objects
- Client components
- Sample applications
- Books Online

#### **5. Specify the data folder location and then click Next.**

By default, the system installs Decision Support Services in C:\Program Files\Microsoft Analysis Services\Data. If you want to change this folder designation, click Browse and choose a different folder.

#### **6. Select the program folder you want the files to be installed into and click Next.**

By default, Microsoft SQL Server\Analysis Services is entered for you. If you want to change the default, simply type in a new program folder name. After you click the Next button, the files are copied to your hard drive. You may be prompted to restart your computer to complete the installation if you are not installing on Windows 2000. That's all there is to it!

colspan="2"> colspan="2"> In Plain English: Installing Microsoft English Query

In addition to installing Microsoft SQL Server 2000 and analysis services on the server and installing the client software, you can also install the Microsoft English Query. The Microsoft English Query is a tool that allows you to query your database by specifying sentences in English rather than SQL. I do not cover English Query in this book.

### **To install Microsoft English Query, follow these steps:**

**1. Follow exactly the same procedure in the preceding section, "Installing the Goods on the Server," up to Step 3.**

**2. Click the Install English Query menu option and click Continue when you are ready to proceed.**

Clicking this menu option begins the installation of Microsoft English Query by presenting you with a welcome screen.

**3. View the Software License Agreement; accept the agreement by clicking I Agree.**

You must accept this agreement to install Microsoft English Query. Read the agreement carefully. The agreement is written in a series of pages. Scroll down to read all the agreement until you reach the end. After you get to the bottom of the agreement, click the I Agree button.

#### **4. Select the type of installation desired and click Next when you are ready to continue.**

You can choose from two separate types of installation:

**Complete:** Click this button if you want to install all components for English Query.

**Run-Time Only:** Click this button if you want to install only the components needed to use the English Queries that you have already set up. If this is the first time you are installing English Query, use the Complete option.

Additionally, you can change the installation folder if you want. By default, Microsoft English Query is installed in the C:\Program Files\Microsoft English Query folder. I recommend using this folder, but if you want to change it, click the Change Folder button.

After you click the desired type of installation, files are copied to your hard drive. You may be prompted to restart your computer to complete the installation if you are not installing on Windows 2000.