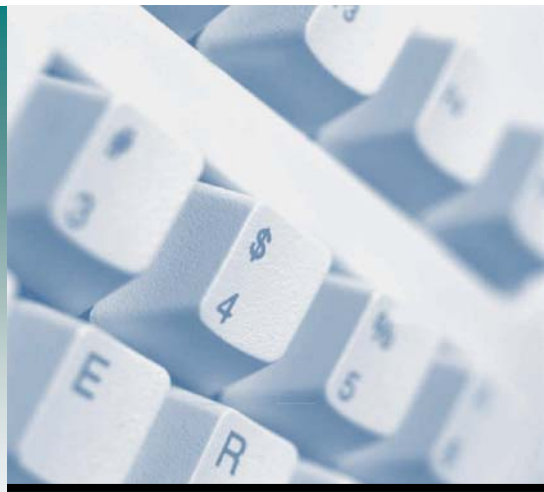

Microsoft®

Windows XP

System Maintenance

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Computer Courseware

Chapter One: Optimizing and Maintaining your Computer

Chapter Objectives:

- Formatting and copying a floppy disk
- Defragmenting and fixing errors on your hard disk
- Backing up and restoring your hard disk
- Freeing up space on your hard disk
- Scheduling tasks
- Installing and removing software
- Adding and removing Windows components
- Installing a printer
- Installing new hardware
- Using the Windows XP update feature
- Installing and Reinstalling Windows XP
- Using the Device Manager

☑ Prerequisites

- How to use the mouse to click, double-click, drop-and-drag, and right-click
- How to use menus, toolbars, and dialog boxes
- How to view and navigate through the contents of your computer (disk drives and folders)

Cars require maintenance to keep them running at their peak performance. Some car maintenance tasks are simple and routine, such as changing oil every 3,000 miles. Others are more complicated, such as installing a new radio. Computers are no different. Your computer requires routine maintenance to prevent and/or correct problems, when you want to add or remove hardware or software, and to keep it running at its best possible performance.

This chapter explains how to optimize and maintain your computer. You'll learn how to find and correct problems on your computer's hard disk, install and remove software, backup and restore your important files, add new hardware to your computer, and a lot more.

Lesson 1-1: Formatting a Floppy Disk

Figure 1-1

The Format 3½ Floppy dialog box

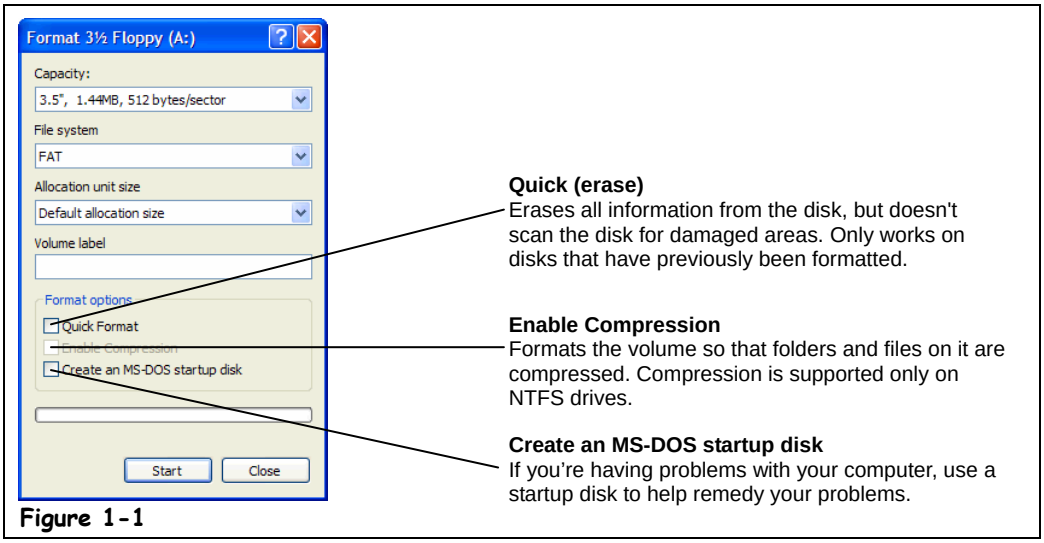
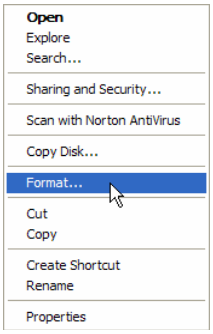


Figure 1-1



Shortcut menu

Before you can use a floppy disk, you must format it so that you can save information on it. You can also format a disk to erase any files that are saved on it and prepare it for new files. You can save yourself a lot of time by buying pre-formatted disks—just make sure they are formatted in IBM format!

Unless you have an extra floppy handy, you don't have to walk through this lesson's step-by-step exercise, but when you need to format a floppy, here's how to do it:

1. **Insert the floppy disk you want to format into the floppy drive.**

   NOTE: Formatting a floppy disk completely erases any information stored on it, so make sure the disk you want to format doesn't contain any information you may need.

2. **Under the Start menu, double-click the My Computer icon to open it.**

   The My Computer window appears.

3. **Right-click the drive containing the floppy disk you want to format (usually A:), and select Format from the shortcut menu.**

   The Format dialog box appears. There are several options you can specify when formatting a floppy disk—see Figure 1-1 to see what they are.

4. **Click Start.**

   The floppy drive whirs as it formats the floppy disk. Formatting a floppy disk usually takes about a minute. When the format is complete, the Format Results dialog box appears with information about the formatted disk.

   NOTE: If the Format Results dialog box says your floppy disk has bytes in bad sectors, throw it away. A floppy disk with bad sectors is not reliable and should not be entrusted with your valuable data.

5. **Click Close to close the Results dialog box, and click Close again to close the Format dialog box.**

Quick Reference

To Format a Floppy Disk:

1. Insert the floppy you want to format into the floppy drive.
2. Open My Computer, right-click the floppy drive and select Format from the shortcut menu.
3. Select the formatting options and click Start.

Lesson 1-2: Copying a Floppy Disk

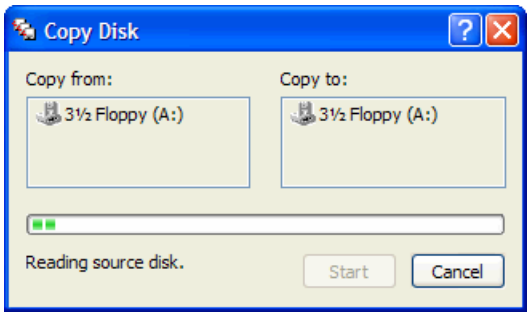


Figure 1-2

Figure 1-2

The Copy Disk dialog box

Instead of merely copying files and folders, someday you may find it necessary to make an exact copy of a floppy disk. You should check two things before copying a floppy disk. First, make sure the floppies are the same density—most floppies are the High Density 1.44 MB type, so this shouldn't be a problem. Second, make sure that the destination floppy—the one where the information is being copied—doesn't contain any information you may need, as the copy command will delete and replace any previously stored information with the information you are copying.

Unless you have a couple extra floppies on hand, this isn't a hands-on exercise. When you do need to copy a floppy disk, however, here's what to do:

1. **Insert the original floppy disk you want to copy into the floppy drive.**
2. **Open My Computer from the Start menu.**

   The My Computer window appears.
3. **Right-click the drive containing the floppy disk you want to copy (usually A:), and select Copy Disk from the shortcut menu.**

   The Copy Disk dialog box appears. Not many options are listed here—just select the drive you want the files copied from and where you want the files copied. Yes, you can choose the same drive as the disk you copy from.
4. **Click Start.**

   It will take about a minute for Windows to read all the information from the original source disk into your computer's memory.
5. **When prompted, insert the second destination disk and press <Enter>.**

   Depending on your computer's configuration, Windows may ask you to swap the two disks several times to copy all the information from one to the other.
6. **Finish the copy procedure by following the on-screen instructions.**

Quick Reference

To Copy a Floppy Disk:

1. Insert the source floppy you want to copy into the floppy drive.
2. Open My Computer, right-click the floppy drive, and select Copy Disk from the shortcut menu.
3. Click Start.
4. Follow the on-screen instructions and insert the source and destination disks as prompted.

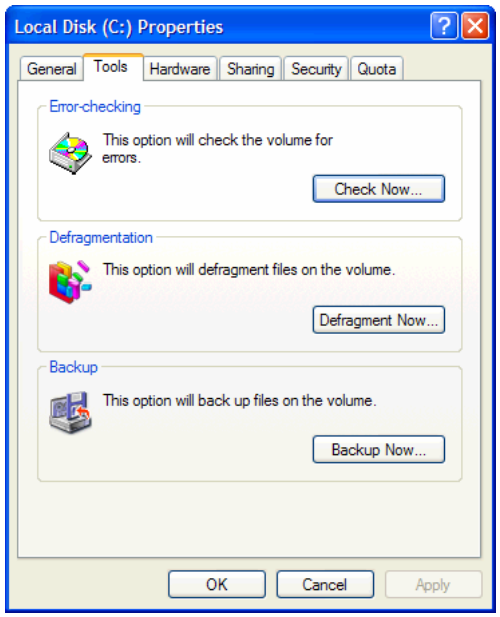
Lesson 1-3: Repairing Disk Errors

Figure 1-3

The Tools tab of the (C:) Properties dialog box

Figure 1-4

The Checking Disk progress dialog box



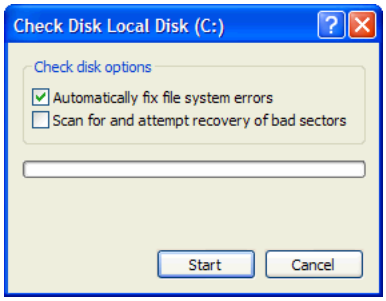


Figure 1-4

Figure 1-3

Error-checking icon

Over time, errors begin to appear on your computer's hard drive, affecting its performance. Fortunately, most of the hard drive damage caused by normal wear and tear is not serious and can easily be diagnosed and fixed by a hard drive repair program. Microsoft Windows XP comes with a hard drive repair program called *Error-checking*. In this lesson, you will learn how to use Error-checking to diagnose and repair any errors on your computer's hard disk—a preventative maintenance task that you should do at least once a month.

1. **Open My Computer from the Start menu.**

   Next, you need to right-click the drive you want to check.

2. **Right-click the (C:) Local Disk icon and select Properties from the shortcut menu.**

   The Properties for the selected drive appear in the General Properties dialog box. Error-checking and several other maintenance tools are located on the Tools tab.

3. **Click the Tools tab.**

   The Tools tab appears, as shown in Figure 1-3.

4. **Click the Check Now button to start the Error-checking program.**

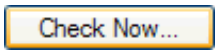
   The Checking Disk dialog box appears, as shown in Figure 1-4. The (C:) drive is selected as the drive to be scanned, because it was the drive you right-clicked. Error-checking doesn't have many options, but the ones it does have are important. There are two different types of tests you can have Error-checking run: *Automatically fix errors*, and *Scan for and attempt recovery of bad sectors*.

Turning off your computer without using the Windows XP Shut Down sequence is the biggest cause of hard disk errors.

- **Automatically fix file system errors:** Select the "Automatically fix errors" check box to have Windows fix disk errors without asking your approval first. If you don't select this check box, Windows XP will prompt you to fix each and every error it finds. All files must be closed to run this program, and the drive is not available to run other tasks while the disk is being checked. If it is in use, you will be asked if you want to reschedule the disk checking for the next time you start your computer.

Checking or unchecking the "Scan for and attempt recovery of bad sectors" box does one of two things:

- **Scan for and attempt recovery of bad sectors *unchecked*:** Checks only the files and folders on the selected drive(s) for errors. A standard test takes only a minute or two to run, and is the computer-equivalent of a 10-point maintenance check they do on your car during a routine oil change.
- **Scan for and attempt recovery of bad sectors *checked*:** Checks the files and folders on the selected drive(s) for errors *and* the surface of the hard drive for physical damage. This can take a *long time*—up to several hours if you have a large hard drive. A thorough test is the computer-equivalent of an annual vehicle inspection.



Check Now button

5. Check the Scan for and attempt recovery of bad sectors option.

This will run a thorough test on the (C:) hard drive and will automatically fix any file or folder errors. Remember that you cannot have any files from this disk open, or the program cannot begin.

6. Click Start.

The files and folders on the (C:) drive are checked, and its progress is displayed.

NOTE: Try not to touch Windows while Error-checking is running. No, it won't hurt anything, but any time you make any changes to your computer while Error-checking is running, Error-checking starts all over again.

NOTE: If Error-checking reports any bytes in bad sectors (only available if you perform a thorough test), that is not a good sign. Bad sectors are often a sign of an imminent hardware failure. Backup everything on the disk immediately, and then run a thorough Error-checking test every few days. If more bad sectors appear, the drive will likely fail shortly. You shouldn't continue using floppy disks that have bad sectors.

7. Click OK to close the Results window, and click OK to close the Properties window.

That's all there is to using Error-checking. You can also use Error-checking on floppy disks, which are notorious for developing disk errors. If you're checking a floppy disk, make sure you always select the thorough test option.

Quick Reference

To Use Error-checking:

1. Open My Computer.
2. Right-click the disk you want to scan, select Properties from the shortcut menu, and click the Tools tab.
3. Click the Check Now button.
4. Specify if you want any errors to be automatically fixed, and if you want to scan for and attempt recovery of bad sectors.
5. Click Start.

Lesson 1-4: Defragmenting Your Hard Disk

Figure 1-5

The Tools tab of the (C:) Properties dialog box.

Figure 1-6

Disk Defragmenter reports if the disk needs to be defragmented.

Figure 1-7

The Defragmenting Drive displays the defragmentation process.

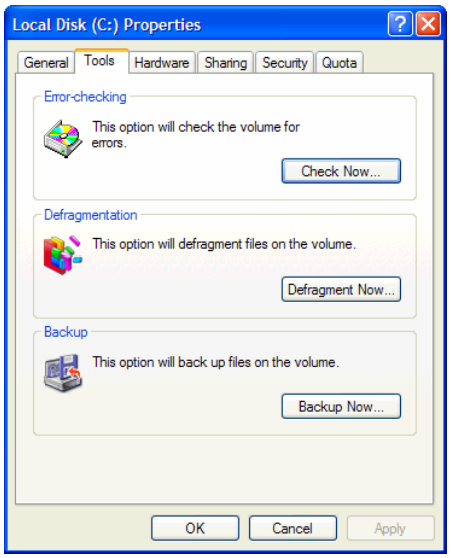


Figure 1-5

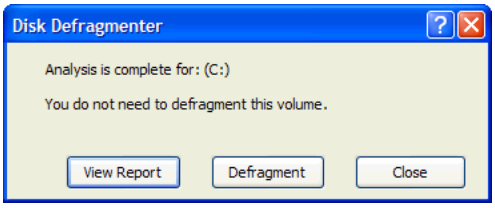


Figure 1-6

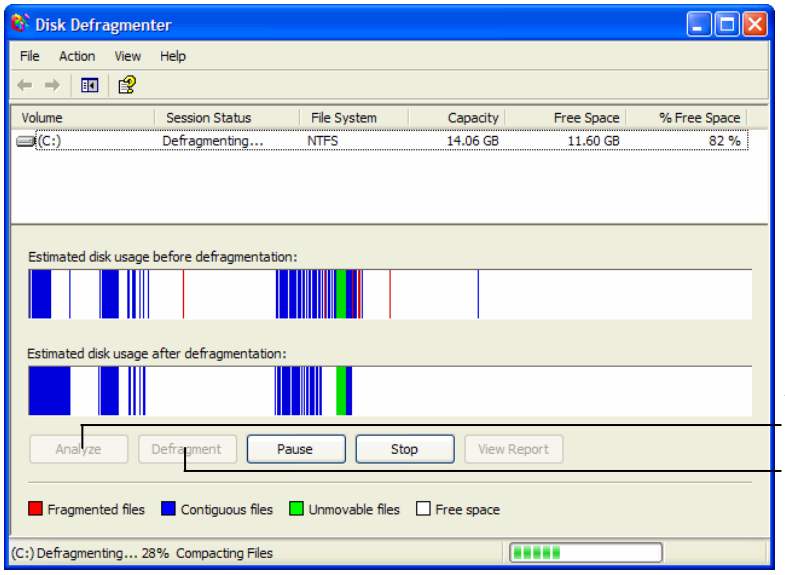


Figure 1-7

Normally, computers store each file in a single location on their hard drive, just like a song is recorded on a continuous area on a cassette tape. Over time, however, a hard drive can become *fragmented*, and instead of storing a file in one, single location, it begins storing files in pieces, or fragments, in several locations all over the hard drive. When the computer reads a fragmented file, it must read the file from several different areas of the hard drive instead of just one. Defragmenting a hard drive using a special utility program can improve its performance by putting fragmented files back together in one place. Windows XP comes with a disk defragmentation program called, what else? Disk Defragmenter. (In case you haven't

noticed by now, Microsoft doesn't give its products very flashy names). You should defragment your computer hard drive about once a month.

Here's how to defragment your hard drive:

1. **Open My Computer from the Start menu.**

   Next, you need to right-click the drive you want to defragment.

   NOTE: In theory, you could defragment a floppy drive, but there is absolutely no reason why you would ever need to. Hard drives are the only type of drive that benefit from running Disk Defragmenter.

2. **Right-click the (C:) hard disk icon and select Properties from the shortcut menu.**

   The Properties for the selected drive appear in the General Properties dialog box. Defragmentation, and several other maintenance tools, are located on the Tools tab of the Properties dialog box.

3. **Click the Tools tab.**

   The Tools tab appears, as shown in Figure 1-5.

4. **Click the Defragment Now button.**

   The Disk Defragmenter window pops up, as shown in Figure 1-7, and the (C:) hard drive is highlighted. Near the bottom of the window is a row of buttons you will use to defragment your computer.

5. **Click the Analyze button.**

   The Defragment program analyzes the selected hard drive and displays the status of the hard drive in the "Estimated disk usage before defragmentation" color bar. A dialog box appears and tells you whether you should or should not defragment your drive, as shown in Figure 1-6.

6. **Click Start to begin defragmenting the selected drive.**

   The Defragmenting Drive window displays the progress of the defragmentation. Defragmenting a hard drive can take a long time—up to several hours!

   NOTE: Don't touch Windows while the hard drive is being defragmented. Just like the Error-checking program, it won't hurt anything, but any changes you make to your hard disk causes Disk Defragmentor to start over.

   When the defragmentation process is finally complete, a dialog box appears, asking you if you want to quit Disk Defragmenter.

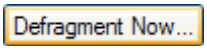
7. **Click Yes to close the Disk Defragmenter program.**

   A couple last notes on defragmentation: First, you can't defragment a hard disk that contains errors, so it's usually a good idea to run Error-checking to find and repair any errors on your hard drive before you defragment it. Second, the Disk Defragmenter program has been optimized in Windows XP. Not only does it defragment your computer's hard drive, but it also places the programs you use most often at the beginning of the hard drive, so they start faster.

Disk Defragmenter

Other Ways to Start Disk Defragmenter:

- Click the Start button and select All Programs → Accessories → System Tools → Disk Defragmenter.



Defragment Now button

Quick Reference

To Defragment your Hard Disk:

1. Open My Computer or Windows Explorer.
2. Right-click the disk you want to scan, select Properties from the shortcut menu and click the Tools tab.
3. Click the Defragment Now button.
4. Click the Analyze button, and click Defragment.

Lesson 1-5: Freeing Up Space on your Hard Disk

Figure 1-8

The General tab of the Drive Properties dialog box

Figure 1-9

The Disk Cleanup dialog box

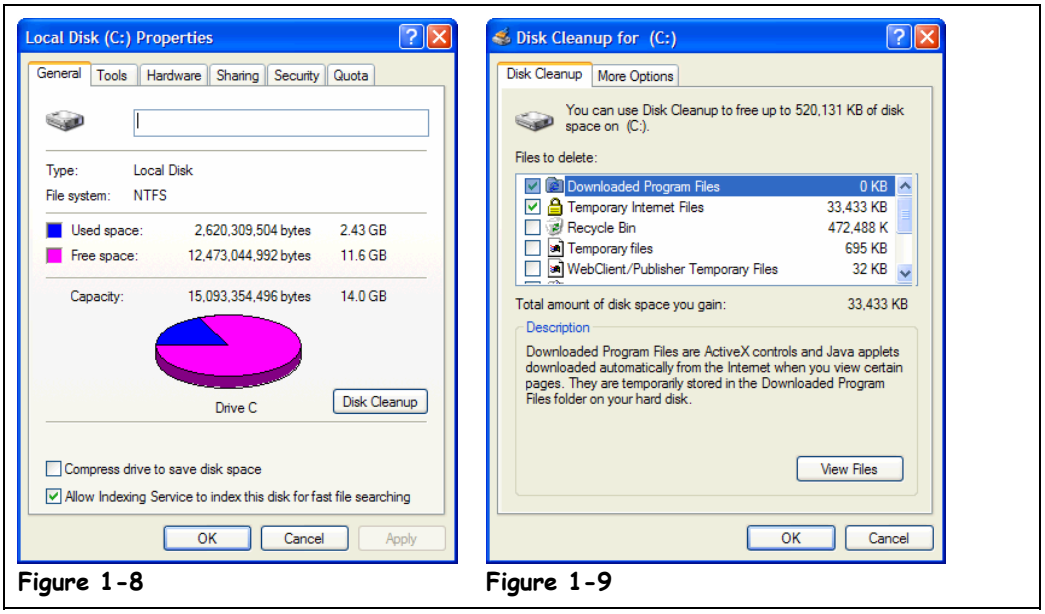


Figure 1-8 **Figure 1-9**

After working at your desk for several days, you create unnecessary paperwork that you throw away to free your desk from clutter. Windows does the same thing as time passes, except instead of paper it creates unnecessary files that don't do anything except waste valuable space on your hard disk. The Disk Cleanup utility program erases these garbage files for you. This lesson explains how to use the Disk Cleanup utility to clear these unnecessary files from your computer.

1. **Open My Computer, right-click the (C:) hard drive icon, select Properties from the shortcut menu, and click the General tab if necessary.**

   The Properties for the selected drive appear, as shown in Figure 1-8.

2. **Click the Disk Cleanup button.**

   Windows looks at the hard disk and determines how many unnecessary files you can delete and how much space will be freed by deleting these files. After several seconds, the Disk Cleanup dialog box appears and displays this information, as shown in Figure 1-9.

   The files you can safely delete fall into several categories—see Table 1-1: *Types of Files you can Safely Delete to Save Hard Disk Space* for descriptions of them.

3. **Click OK.**

   Disk Cleanup deletes the selected types of unnecessary files.

That's all there is to using Disk Cleanup to free space on your hard drive. If you find you still need more room on your hard disk, you have several more options to free up some space. Here are some things you can do to reclaim space on your hard disk:

- **Remove Unnecessary Programs:** One of the best methods of reclaiming space on your hard disk is removing old programs you don't use anymore. Open Add/Remove Programs in the Control Panel to have Windows delete these programs for you.

- **Remove Unnecessary Windows Components:** Although this won't free up a lot of space, you can remove optional Windows components by opening Add/Remove Programs in the Control Panel, clicking the Windows Setup tab, and removing the checkmarks from the Windows components you want to remove.
- **Use the DriveSpace 3 Compression Program:** Please, please, please don't use this method to increase space on your hard drive. Yes, disk compression can double the amount of space on your hard disk, but not without a price. Many people who compress their drives have had nothing but problems. You're better off living with less room on your hard disk or buying a new hard disk than you are if you compress your hard drive. DriveSpace 3 doesn't even work on hard disks using the new FAT32 file system. If you still want to compress you hard drive, open the DriveSpace program, located in the Accessories menu, under System Tools.

Table 1-1: Types of Files you can Safely Delete to Save Hard Disk Space

File Type	*Description*
Temporary Internet Files	The Internet saves Web pages on your hard disk for quick viewing—so when you return to a Web page, it can fetch it much faster from your hard disk than it can from the Internet. This collection of files used to speed up the Internet is known as a cache. You can safely remove these temporary Internet files from your computer without deleting your Web settings and bookmarks or favorite locations. Disk Cleanup does not normally delete these files, since they help speed up the Internet.
Downloaded Program Files	Similar to Temporary Internet Files, Downloaded Program Files are small programs (ActiveX controls and Java applets if you want to be technical) that have been downloaded from the Internet when you view certain pages.
Offline Web Pages	Offline pages are Web pages that are stored on your computer so you can view them without being connected to the Internet. If you delete these pages now, you can still view your favorites offline later by synchronizing them. You can safely remove offline Web pages from your computer without deleting your Web settings and bookmarks or favorite locations
Recycle Bin	The Recycle Bin contains files you have deleted from your computer. These files are not permanently removed until you empty the Recycle Bin.
Temporary Files	Programs sometimes store temporary information in a TEMP folder, usually located in the Windows folder. Before a program closes, it usually deletes this information. Turning your computer off without following the Windows shutdown procedure doesn't give the program or Windows time to cleanup after themselves, and these TMP files are leftover. You can almost always safely remove .TMP files.
Offline Files	Office files are local copies of network files that you specifically made available
Compress Old Files	

Quick Reference

To Free Space on Your Hard Drive:

1. Open My Computer or Windows Explorer.
2. Right-click the hard disk and select Properties from the shortcut menu.
3. Click the Disk Cleanup button.
4. Click OK.

Lesson 1-6: Scheduling Tasks

Figure 1-10

The Scheduled Tasks folder

Figure 1-11

The Scheduled Task Wizard lists all the programs on your computer—select the one you want to schedule.

Figure 1-12

Specify when you want the selected program to run.

Figure 1-13

Specify when you want the selected program to run.

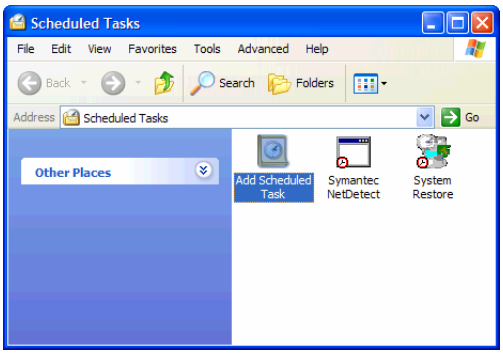


Figure 1-10

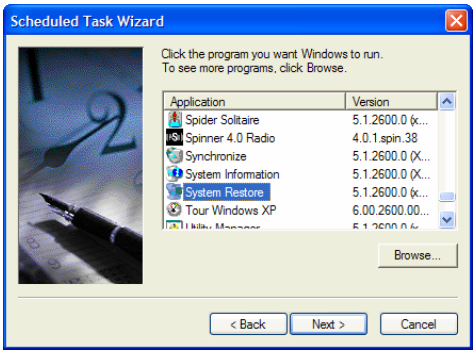


Figure 1-11

Figure 1-12

Figure 1-13

Scheduled Tasks folder

To keep your computer in peak condition, you should run Error-checking, Disk Defragmenter, and Disk Cleanup programs once every couple of weeks. You can have Windows automatically perform these and other tasks on a regular basis for you with the *Task Scheduler*. The Task Scheduler works a lot like VCR, except instead of recording your favorite television shows while you're away, Task Scheduler automatically runs specified programs. This lesson explains how to use the Task Scheduler to run your programs automatically on a regular basis.

1. **Click the Start button and select All Programs → Accessories → System Tools → Scheduled Tasks.**

   The Scheduled Tasks window appears, as shown in Figure 1-10.

2. **Double-click the Add Scheduled Task icon to schedule a new program.**

   The first screen of the Schedule Tasks Wizard appears.

3. **Click Next.**

   The Scheduled Task Wizard lists all the programs that are installed on your computer. You must select the program you want to schedule. Error-checking, Microsoft Backup, Disk Defragmenter, and Disk Cleanup are all excellent candidates for adding to the Scheduled Tasks.

4. **Select the program you want to schedule from the list and click Next.**

   The next step in the Schedule Task Wizard is specifying how often you want the selected program to run, as shown in Figure 1-12.

5. **Select how often you want to run the selected program from the listed options and click Next.**

   The next screen in the Schedule Tasks Wizard appears, as shown in Figure 1-13. Here you must specify when Task Scheduler should run the selected program. You should always try to schedule a time when the computer won't be in use, such as late at night.

   Of course, the computer still has to be on for Task Scheduler to work.

6. **Specify when you want the program to run and click Next.**

   The last screen of the Scheduled Task Wizard appears, reporting that you have successfully added a new scheduled task.

7. **Click Finish.**

   The Scheduled Task Wizard closes and the selected program appears in the Scheduled Tasks window.

When you no longer want a program to be scheduled, just delete it from the Scheduled Tasks window, just like you would delete a file.

Quick Reference

To Schedule a Task:

1. Click the Start button and select All Programs → Accessories → System Tools → Scheduled Tasks.
2. Double-click the Add Scheduled Task icon and click Next.
3. Select the program you want to schedule from the list and click Next.
4. Specify when you want the program to run and click Next.
5. Select an interval when you want to run the selected program from the listed options and click Next.
6. Specify when you want the program to run, click Next, and then click Finish.

To Remove a Task from the Task Scheduler:

- Open the Task Scheduler and delete the task, just as you would a file or folder.

Lesson 1-7: Installing New Software

Figure 1-14

The Add or Remove Programs window

Figure 1-15

Windows searches your floppy drive and CD-ROM drive for the program you want to install.

Figure 1-16

The installation program for every software program is different-—but most of them work the same way.

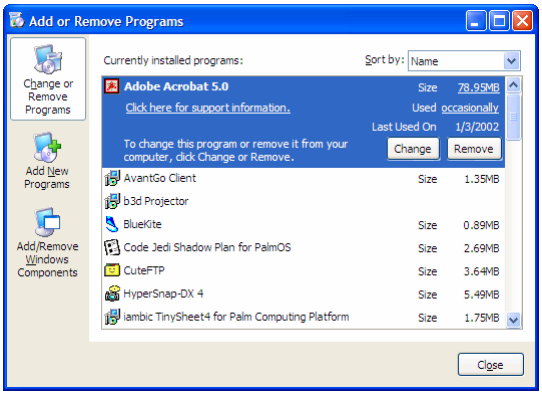


Figure 1-14

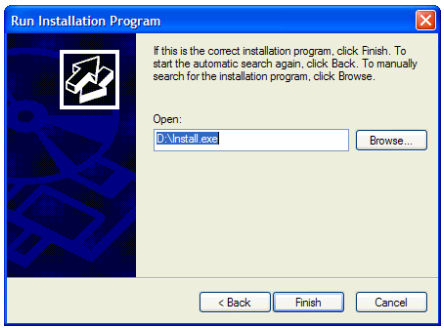


Figure 1-15

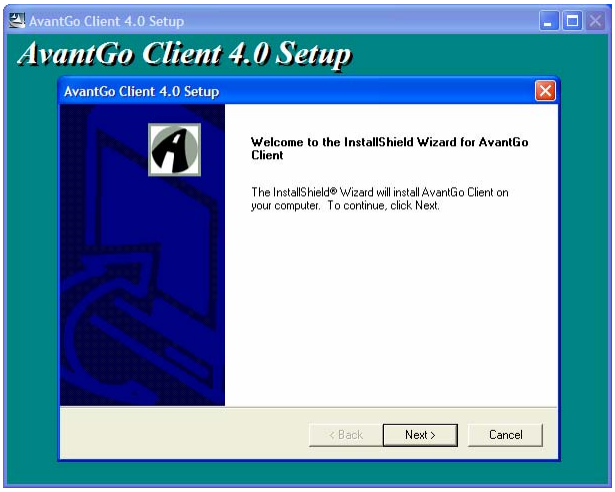


Figure 1-16

Most programs come with specific instructions that explain their own installation better than this lesson ever could. Still, if you've misplaced the instructions or never had them to begin with (for example, if you've downloaded a program off the Internet), this lesson will help you install most programs.

1. **Find the Program's disk (or disks) and insert it (or the first disk) into the disk drive.**

   If your software comes on more than one disk, dig through the box until you find a disk labeled Disk 1, Installation, or Setup.

   If you're installing a newer program from a CD-ROM, you might not have to do much more—most CD-ROM's will automatically start the installation program when the CD is inserted. You can move on to Step 8 if this is the case.

2. **Click the Start button and select Control Panel → Add or Remove Programs, and click the Add New Programs button on the left side of the window.**

   The Add or Remove Programs window appears, as shown in Figure 1-14. Here you must select where the program you want to install is located.

3. **Click the CD or Floppy button, and click Next in the Install Program dialog box.**

   Windows searches your floppy drive and CD-ROM for the program you want to install. Most programs come with a special program called SETUP or INSTALL, which installs the main program onto your computer. If Add New Programs has found this on your CD or floppy disk, go ahead and skip ahead to Step 8. If Windows can't find the installation program, move on to Step 5.

4. **Click Cancel to close the Install window and close the Control Panel.**

   If you're installing a finicky program, a program that you've downloaded from the Internet, or a program located on a network, you're probably going to have to install the program yourself.

5. **Open My Computer.**

   You have to open the disk drive or folder where the setup program is. For example, double-click the CD-ROM icon if you're installing from a CD-ROM. If you're installing a file you've downloaded from the Internet, find and open the folder where you saved the file.

6. **Find and double-click any files called Setup or similarly named files.**

7. **Follow the on-screen instructions to install the program.**

Every program and its installation process is different from another program's, although most set-ups have more similarities than differences. Most programs use a step-by-step Wizard to guide you through the installation process, let you specify where you want to install the program (although they have their own default folder in mind), and let you specify which program components you want to install.

Many installation programs create their own folder and icons in the Start menu, which can be both a blessing and a curse—a blessing because you don't have to manually add an icon to the Programs menu, and a curse because if you've installed a lot of software onto your computer, your Programs menu will be cluttered with dozens of folders and programs. You can always reorganize the Programs menu and reduce the amount of folders and clutter.

Add New Programs

Setup

Most programs have a special installation program used to install them onto your computer. These programs are usually named Setup, Install, or something similar.

Quick Reference

To Install Software:

1. Find the Program's disk (or disks) and insert it (or the first disk) into the disk drive.
2. Click the Start button, click Control Panel→ Add or Remove Programs.
3. Click the Add New Programs icon.
4. Click the button where the program you want to install is.

   If this doesn't work, click Cancel, close the Control Panel, open My Computer, find the disk drive or folder where the program you want to install is located, and double-click the installation program (usually called SETUP).
5. Follow the on-screen instructions to install the program.

Lesson 1-8: Removing Software

Figure 1-17

The Add or Remove Programs window lists all the Windows programs that are installed on your computer.

Figure 1-18

The Confirm File Deletion dialog box

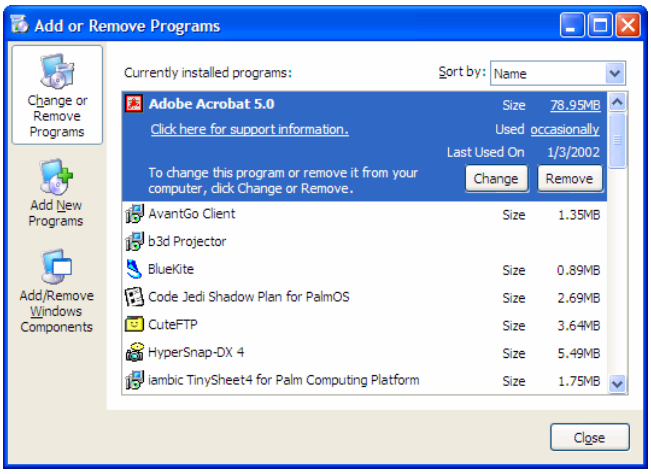


Figure 1-17

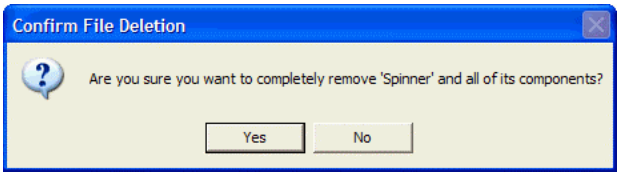


Figure 1-18

You've finally finished that adventure game you've spent 100 hours on, and since you no longer need the game, you decide to reclaim the 200 megabytes it occupies on your hard drive. So how do you remove, or erase, a program that you no longer need from Windows? You'll learn how in this lesson.

Before Windows 95, removing programs from the computer was a very messy process—so messy in fact, that most people never removed programs they no longer needed. The unused programs just sat there, taking up valuable space on the hard drive. Times have changed, and removing *most* programs is a breeze with Windows XP. The following steps should remove all but the most belligerent, obsolete programs from your computer.

Change or Remove Programs

1. **Open the Control Panel by clicking the Start button and selecting Control Panel → Add or Remove Programs.**

   The Add or Remove Programs window appears with the Change or Remove Programs window automatically selected, as shown in Figure 1-17. Hopefully, most of the programs installed on your computer should appear somewhere on this list, in alphabetical order.

2. **Find and select the program you want to remove from your computer, and click the Remove button.**

   Be absolutely sure you want to remove the program, as it will be completely erased from your hard disk. If you created any files or documents with the program you want to remove, it's probably a good idea to back them up, but removing a program usually doesn't affect any files it created.

3. Click Yes to confirm the program's removal, and finish removing the selected program by following the on-screen instructions.

Since every program is different, the steps for removing the programs may differ slightly as well. They usually involve nothing more than confirming that you want to really want to delete the program and possibly having to select which components of a program you want to delete. You may also have to restart your computer.

After following the prompts and instructions, the selected program is deleted from your computer. Of course, you can always reinstall the program should you ever decide you need it again.

What if the program I want to remove doesn't appear in the list? Sorry, but then there is no easy way to remove the program. The program was probably written for an older version of Windows, or even MS-DOS, and cannot be automatically removed by Windows. There are still several things you can try to remove the program:

First, check the menu group where the program is located in the Start menu. Usually there are several additional programs or icons. If one of the options says something like "Uninstall Brand X Software," you're in luck—you can click that option and remove the program.

Second, you can purchase and install an Uninstall program to remove the obtrusive program. Uninstall programs are great for removing older Windows programs, and they're usually safe to use, too. The only disadvantage is that you have to buy them. How many older Windows programs do you need to remove from your computer? If it is only one or two, then the prospect of paying $30 to $50 for an Uninstall program isn't very appealing.

Third, you can try erasing the program the old-fashioned way—by opening My Computer or Windows Explorer and finding and deleting the folder where the program is located. Be very careful and make sure you know what you're doing when you remove or erase the program yourself—you don't want to inadvertently delete something that shouldn't be deleted!

Quick Reference

To Remove a Program:

1. Click the Start button, click Control Panel → Add or Remove Programs.
2. Find and select the program you want to remove from your computer, and click the Remove button.
4. Click Yes to confirm the program's removal, and finish removing the selected program by following the on-screen instructions.

Lesson 1-9: Adding and Removing Windows Components

Figure 1-19

The Windows Setup tab of the Add/Remove Programs Properties dialog box

Figure 1-20

Details of the Desktop Themes component category

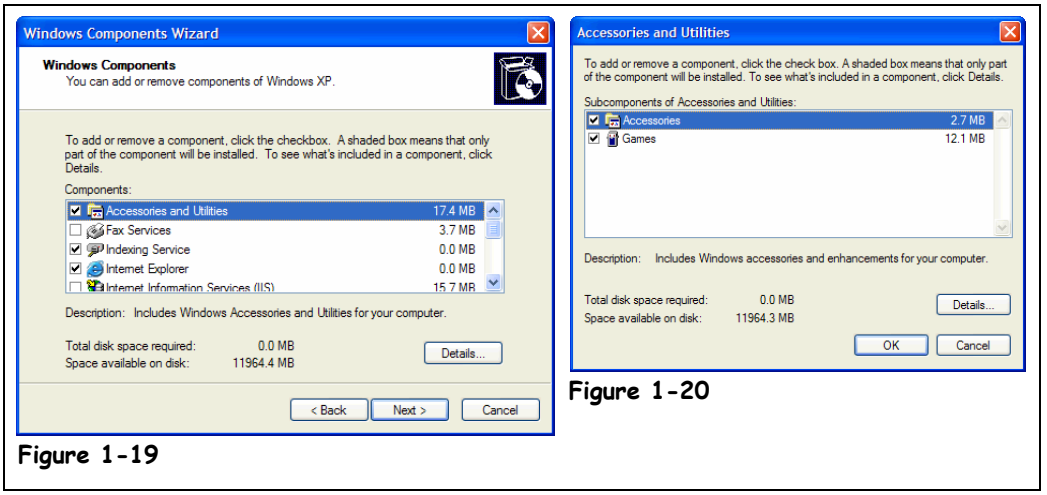


Figure 1-19

Figure 1-20

Windows XP is normally not installed with all the components that come on the Windows XP CD. This prevents programs you don't need from taking up hard disk space on the computer. For example, if your computer doesn't have a modem, it doesn't make much sense to install any communication components. So what are these optional Windows components? Take a look at Table 1-2: Windows Components. This lesson will show you how you can add and remove these optional Windows components to and from your computer.

Add/Remove Windows Components

1. **Open the Control Panel by clicking the Start button and selecting Control Panel → Add or Remove Programs, and click the Add/Remove Windows Components button on the left side of the window.**

   The Windows Components Wizard window appears, as shown in Figure 1-19. You can view which components have been installed and which haven't by looking at the Components list.

   The Windows components are grouped by category. An unchecked box (☐) by a category indicates *none* of its components have been installed. A checked box (☑) by a category means *all* of its compoents have been installed. A grayed checked box (☑) by a category means *some* of its components have been installed. To view which components are in a category, select the category and click the Details button.

2. **Scroll down the Components list to view all the components to choose from. Click the Accessories and Utilities category (the word, not the checkbox) to select it, and then click the Details button.**

   The details of the Accessories and Utilities category appear in their own dialog box, as shown in Figure 1-20.

3. **Select the Games category.**

   You can select any of the games you want to install on your computer by adding a check to the check box (☑). To remove a Windows component, simply remove the check mark from a check box (☐).

4. **Click OK in the Games dialog box, and click OK in the Accessories and Utilities dialog box.**

   You have returned to the Windows Components Wizard window.

5. **Click the (☑) Internet Explorer category from the component list to remove the checkmark.**

   This will remove all the Internet Explorer components from your system. Since you really don't want to do this, click the Cancel button.

6. **Click the Cancel button to close the Windows Components Wizard window without saving your changes.**

   Since you clicked Cancel, you didn't actually add or remove any Windows components in this lesson. Had you clicked OK, Windows would have removed and added the components you selected. One more thing—if you're adding components, make sure you have the Windows XP CD-ROM handy.

Table 1-2: Windows Components

Components	*Description*
Accessories and Utilities	Install a variety of accessories, including games, small applications, and wallpaper.
Fax Services	Allows faxes to be sent and received.
Indexing Service	Locates, indexes, and updates documents to provide fast full-text searching.
Internet Explorer	Adds or removes access to Internet Explorer from the Start menu and Desktop
Internet Information Services (IIS)	Includes Web and FTP support, along with support for FrontPage, transactions, Active Server Pages, and database connections.
Management and Monitoring Tools	Includes tools for monitoring and improving network performance.
Message Queuing	Programs for playing sounds, animation, and video on your computer. Also adds additional sound effects.
Online Services	Provides guaranteed message delivery, efficient routing, security, and transactional support.
MSN Explorer	Explore the web, read your e-mail, talk to your online buddies, enjoy online music and video, and more.
Networking Services	Contains a variety of specialized, network-related services and protocols.
Other Network File and Print Services	Shares files and printers on this computer with others on the network.
Update Root Certificates	Automatically downloads the most current root certificates for secure email, WEB browsing, and software delivery.

Quick Reference

To Add or Remove Windows Components:

1. Click the Start button, click Control Panel → Add or Remove Programs.
2. Click Add/Remove Windows Components.
3. Click the box beside the component category you want to add (☑) or remove (☐).

   You can also add or remove specific components in a category. Select the category, click Details, and then click the box beside the component category you want to add (☑) or remove (☐).
4. Click OK.

Lesson 1-10: Installing a Printer

Figure 1-21

The Printers and Other Hardware window.

Figure 1-22

Selecting a printer driver by manufacturer

Figure 1-23

Selecting a printer driver by manufacturer

Figure 1-24

Assigning a name to the printer, and deciding if it should be used as the default printer.

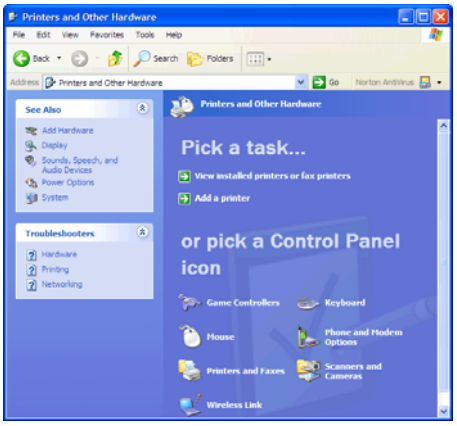


Figure 1-21

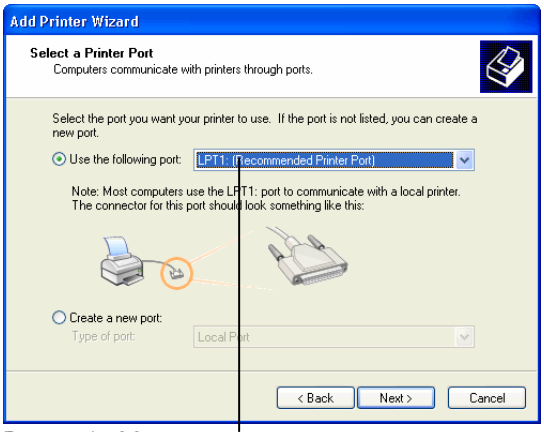
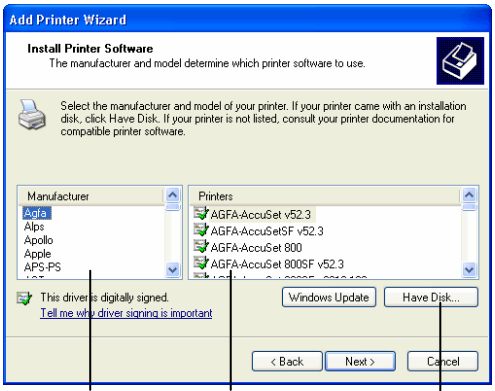


Figure 1-22

Select the port you want to use with your printer (LPT1 and USB are the most commonly used ports)



Select the printer manufacturer

Select the printer model

If your printer isn't in the list, insert the installation disks that came with the printer and click **Have Disk**

Figure 1-23

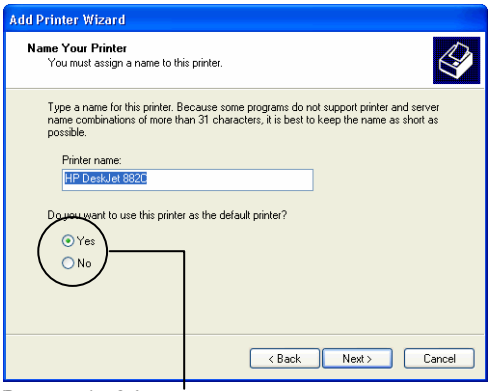
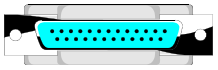


Figure 1-24

Yes: Files will always print to this printer

No: Files will printer to the printer only when you select it



Parallel Port

Adding a new printer to your computer? Before you can use your new printer, you need to install it on your computer. This lesson will show you how to do just that.

1. **Place the printer near your computer, plug the printer cable into your computer's parallel port. Turn both your computer and the printer on.**

   You can find the parallel port in the back of your computer. It's probably the biggest port back there, and has 25 little holes.

   Generally, the computer detects the new printer, and will automatically begin installing the printer. If for some reason this doesn't happen, however, read on.

2. **Open the Printers folder by clicking the Start button and selecting Control Panel → Printers and Other Hardware.**

   The Printers and Other Hardware window appears, as shown in Figure 1-21.

3. **Click the Add a printer task.**

   The first page of the Add Printer Wizard springs onto your screen. The Add Printer Wizard will help you setup your printer by walking you step-by-step through the entire installation process.

4. **Click Next.**

   The Add Printer Wizard may ask how the printer is connected to the computer: if it's a local printer or a network printer. A local printer plugs directly into your computer; a network printer is located on the network.

5. **Select either the Local printer or Network printer option and click Next to continue.**

   The next step of the Add Printer Wizard appears, as shown in Figure 1-22. Here you need to specify the port you want to use.

6. **If you're installing a local printer, select the port you want to use with your printer (usually LPT1: Printer Port or USB) and click Next.**

   If you don't want to use the LPT1:Printer Port, click the arrow on the combo box to view more port options.

7. **Click on the manufacturer of your printer from the manufacturer list.**

   You may have to scroll down the list of printer manufacturers. When you click on the manufacturer's name, a list of printer models from that manufacturer appears in the model list to the right.

8. **Click on the model of your printer from the model list, and click Next.**

   If you can't find your printer in the list, insert the floppy disk or CD-ROM that came with your computer and click the Have Disk button. You may have to refer to the instructions that came with your printer to install it.

9. **Assign a name to your printer, specify if you want it to be the default printer and click Next.**

   The Add Printer Wizard assigns a name to your new printer, as shown in Figure 1-24. You can assign your own name to the printer by typing it in the Printer Name box. The other important choice you have to make on this screen is whether or not you want to use the new printer as the default printer. The default printer is where Windows prints all of its files, unless you specify otherwise.

   Windows asks if you would like to print a test page to make sure your new printer works. Usually it's a good way to verify that your printer is installed and working properly. If you print a test page, make sure there is paper and a good ink or toner cartridge in your printer!

10. **Specify if you want Windows to print a test page and click Finish.**

    Windows may ask you to insert the Windows XP CD-ROM.

11. **If prompted, insert the Windows XP CD-ROM and click OK.**

    Windows copies the necessary files on to your computer. If you told Windows you wanted a test page printed, it would be sent to the new printer at this point.

12. **If you printed a test page, verify that the test page printed correctly and click Yes.**

    That's it—your printer is installed and should appear as a new icon in the Printers folder.

Printers folder

Other Ways to Add a Printer:

- Open the Printers folder, and click Add a printer under Printer Tasks in the side panel.

Quick Reference

To Install a New Printer:

1. Open the Printers folder by clicking the Start button and selecting Control Panel → Printers and Other Hardware.
2. Click the Add a printer task.
3. Click Next.
4. Specify how the printer is connected (local or network) and click Next.
5. Select a port to use with the printer (usually LPT1:) and click Next.
6. Select the printer's manufacturer and model. If your printer doesn't appear in the list, insert the disk that came with the printer and click the Have Disk button. Click Next.
7. (Optional) Specify whether you want to use the printer as the default printer and assign a name to the printer if you want. Click Next.
8. Specify if you want a test page printed and click Finish.

Lesson 1-11: Changing Printer Settings and the Default Printer

Figure 1-25

Right-click any printer in the Printers folder to change its settings.

Figure 1-26

The printer Properties dialog box will be different for every printer, depending on the printer's features.

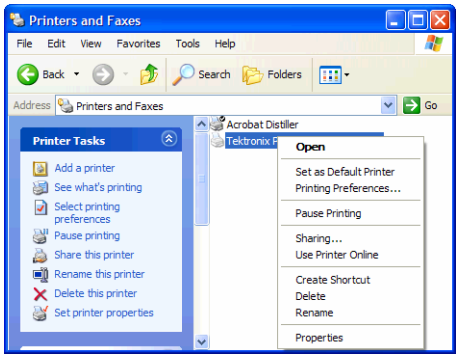


Figure 1-25

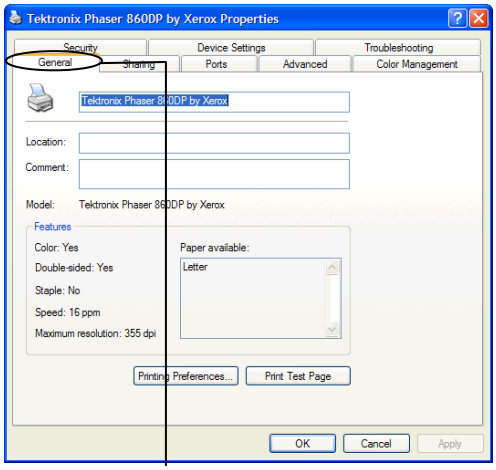


Figure 1-26 Clicking a tab lets you view and change those settings for your printer

Default Printer

Sometimes you may want to tweak the settings on your printer. For example, perhaps you have more than one printer connected to your computer and want to change the default printer. Maybe you want to take advantage of some of your printer's more advanced features or are having trouble printing and want to look at your printer's settings to find out what's wrong. This lesson will show you how to change which printer your computer uses as the default printer (where your computer prints everything unless you specify otherwise) and how to view and change the default settings for your printer.

1. Click the Start button and select Control Panel → Printers and Other Hardware → Printers and Faxes.

The Printers window appears.

2. Right-click the printer you want to set as your new default printer and select Set as Default Printer from the shortcut menu.

The default printer displays a black checkmark (✔). Any documents you print will now be sent to the default printer.

You can also view the properties for all your printers from the Printers folder. Here's how:

3. Right-click the printer whose properties you want to view and select Properties from the shortcut menu.

The Properties dialog box for your particular printer appears, as shown in Figure 1-26. Keep in mind that every printer is different, so the Properties dialog box for your particular printer may look a lot different from the one shown in Figure 1-26. All Printer Properties dialog boxes let you change the default options for your particular printer—what port it uses, its print quality, etc.

4. Click Cancel to close the Properties dialog box, then close the Printers folder.

Quick Reference

To Change the Default Printer:

1. Open the Printers folder by clicking the Start button and select Control Panel → Printers and Other Hardware → Printers and Faxes.
2. Right-click the desired printer and select Set as Default Printer.

To View/Change a Printer's Properties:

- Open the Printers folder, right-click the appropriate printer and select Properties.

Lesson 1-12: Shutting Down a Frozen Program

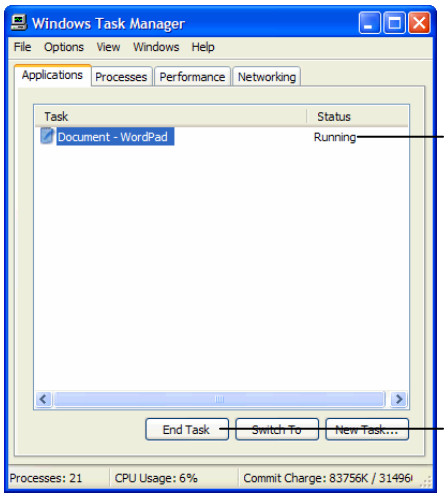


Figure 1-27

Figure 1-27

The Windows Task Manager window

If you haven't already, sooner or later you're going to discover that computers don't always work the way they're supposed to. Nothing is more frustrating than when a program, for no apparent reason, decides to take a quick nap, locks up, and stops responding to your commands. There's usually no way to restore a frozen application, but you can usually shut down the misbehaving program without having to restart your computer.

1. Start the WordPad program.

The WordPad program appears on the screen. There is not a "Crash Program" command anywhere in WordPad, so you'll have to use your imagination. Imagine that you've just finished writing a letter in WordPad. Like a good Windows user, you save your file, and then click the Print button to send the document to the printer. Nothing. Not only does the document fail to print, WordPad decides to go on strike and stops responding to your commands.

When a program freezes, there's nothing you can do except dump the misbehaving program from your computer's memory (hopefully you've been periodically saving whatever you've been working on so you won't lose too much of your work). The next step will show you how to forcefully close a program.

2. Press <Ctrl> + <Alt> + <Delete>.

The Windows Task Manager window appears, as shown in Figure 1-27. All the programs that are running are listed. Any programs that are frozen or locked up will have a "(Not responding)" message after them. WordPad hasn't stopped responding, but for the sake of this lesson we'll pretend it has.

3. Select WordPad and click End Task.

Windows forcibly closes the WordPad program.

Sometimes a program may cause your entire computer to lock-up, and even pressing <Ctrl> + <Alt> + <Delete> won't do anything. What should you do when this happens? There is only one thing you can do—turn your computer off, and restart it.

Quick Reference

To Shut Down a Frozen Program:

- Press <Ctrl> + <Alt> + <Delete>. Select the program and click the End Task button.

Lesson 1-13: Installing New Hardware

Figure 1-28

The Found New Hardware Wizard

Figure 1-29

The Add Hardware Wizard searches for new hardware.

Figure 1-30

Windows displays the hardware it found.

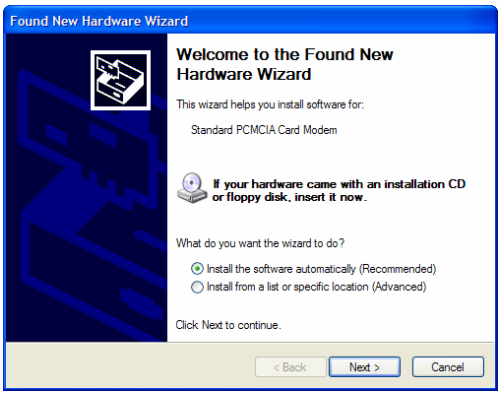


Figure 1-28

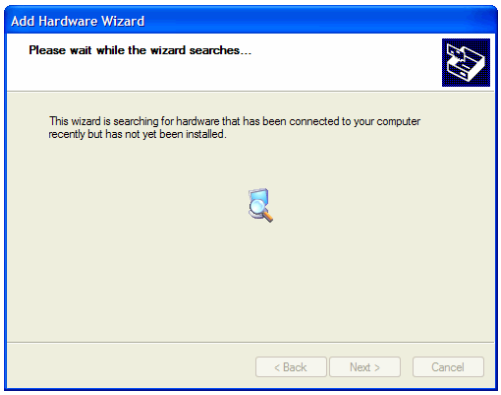


Figure 1-29

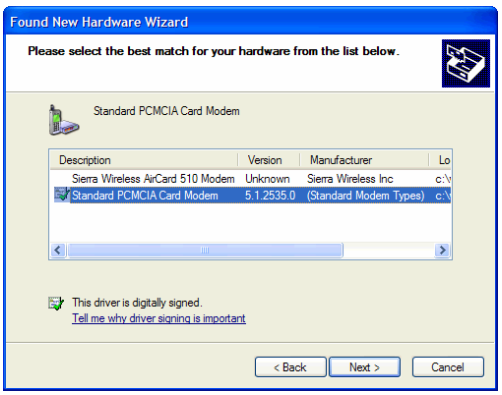


Figure 1-30

Anytime you add a new hardware gadget to your computer, you need to make sure Windows XP can talk with and operate it. Windows communicates to your computer's hardware components using a small piece of software called a *driver*. A driver is like a computerized operating manual that tells Windows how to communicate and operate all the hardware devices in your computer.

Whenever you install a new piece of hardware to your computer, such as a modem or network card, you need to install the driver for that particular piece of hardware. If you're lucky, the piece of hardware is a *Plug and Play* device, and Windows XP will automatically notice that you've installed a new component to your computer, and step you through the installation process. Plug and Play devices are specially designed devices that Windows can automatically detect and setup to work with your computer, making them a breeze to install. When you're purchasing a new toy for your computer, try to purchase a Plug and Play device.

If you're not so lucky, Windows won't automatically detect the new hardware device and you'll have to install the driver yourself. This lesson will help you install a hardware device either way.

Found New Hardware icon

If Windows XP automatically detects a new device, the Found New Hardware icon will appear in the notification area of the taskbar.

1. **Install the hardware device.**

   Make sure the computer is turned off when you install the device!

2. **Turn on your computer. If Windows XP automatically detects the device, the Found New Hardware icon will appear in the notification area, followed by the Found New Hardware Wizard window, as shown in Figure 1-28. Follow the on-screen instructions.**

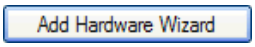
   Make sure you have the disk or CD-ROM that came with your new hardware device and Windows XP CD-ROM handy—Windows will probably ask you for them. If Windows XP doesn't automatically detect your new hardware, move on to Step 3.

3. **Open the Control Panel by clicking the Start button and selecting Control Panel → Performance and Maintenance.**

   The Performance and Maintenance category of the Control Panel appears.

4. **Click System and click the Hardware tab in the System Properties dialog box. Click the Add Hardware Wizard button.**

   The first page of the Add Hardware Wizard appears.



Add Hardware button

5. **Click Next and follow the on-screen instructions to have Windows search for your new hardware.**

   First, Windows looks for any new Plug and Play devices on your computer. If it finds any, you will probably be asked to insert the disk or CD-ROM that came with your new hardware device or the Windows XP CD-ROM.

   Next, Windows searches for hardware that is not Plug and Play compatible, as shown in Figure 1-29. Your computer's hard drive will growl as Windows searches for new hardware. A dialog box appears to display the progress of the hardware search, because it will take a *long* time. After a while, Windows will report if it found any hardware that is not Plug and Play compatible (also known as *legacy hardware*).

   If Windows finds any hardware that is not Plug and Play compatible, you will probably be asked to insert the disk or CD-ROM that came with your new hardware device or the Windows XP CD-ROM.

A lot of hardware devices come with their own installation programs that install the appropriate device drivers and software without Windows having to do a thing. If yours does, follow the instructions that came with your hardware to install the device.

If you've followed the above steps and Windows still can't find your new device, or if the device doesn't work after you've installed it, bad news—you might have a *hardware conflict*. You see, some hardware devices require resources on your computer. These resources are as technical as they sound—IRQs, DMA channels, and I/O ports. All you need to know about them is that there is only a limited number of them on your computer (for example, most computers have fewer than two available IRQs) and, for the most part, several hardware components can't share the same resource. For example, if you were trying to install a modem that uses IRQ 3 and your network card is already using IRQ 3, the modem isn't going to work.

So what's the solution? You can change the resource settings for most devices—either through Windows or by moving some pins or switches on the hardware device itself (refer to the hardware's user manual for how to do this).

We'll talk about viewing and changing the resource settings of your computer later on in the chapter.

Quick Reference

To Add New Hardware to Your Computer:

1. Install the hardware and turn on your computer. Follow the on-screen instructions if Windows automatically recognizes the new hardware.
2. If Windows doesn't recognize the new hardware, click the Start button, then click Control Panel → Performance and Maintenance → System.
3. Click the Hardware tab, and click the Add Hardware Wizard button.
4. Click Next and follow the on-screen instructions to have Windows search for your new hardware.

Lesson 1-14: Using the Windows Internet Update Feature

Figure 1-31

The Microsoft Windows Update Web page. Select the software you want to install, and then click Download.

Figure 1-32

The Microsoft Windows Update Web page. Select the software you want to install, and then click Download.

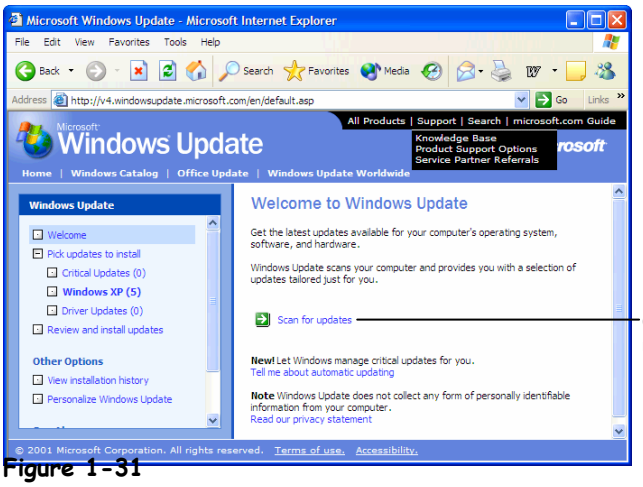


Figure 1-31

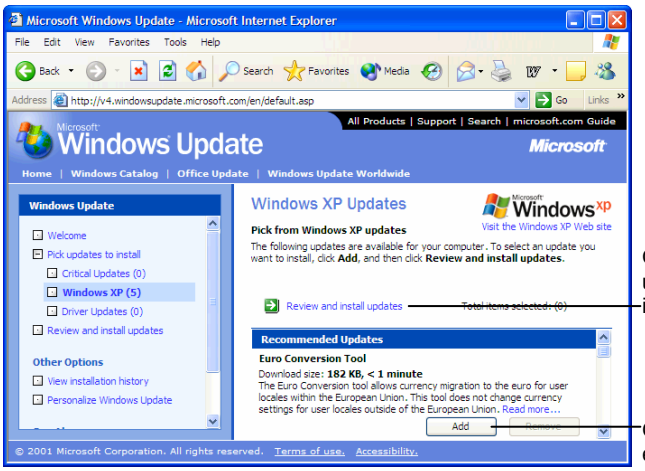


Figure 1-32

If you have a connection to the Internet, you can find and install product enhancements and updated system files, device drivers, and service packs. Keeping Windows up-to-date with the latest files helps your computer work and run better. This is especially important with Windows XP because it was released with so many glitches; patches for XP have come out since the first day it was available for purchase. If your computer doesn't have a connection to the Internet, you can't use the Windows Update feature.

1. **Establish a connection to the Internet.**

   Depending on how you connect to the Internet, this may be an unnecessary step, as Windows Update usually connects to the Internet for you. If you use America Online, however, you will need to establish an Internet connection before starting Windows Update.

2. **Click the Start button and select All Programs → Windows Update.**

   The Windows Update page appears in your Web browser, as shown in Figure 1-31.

3. **Follow any on-screen instructions.**

   Windows XP may need to update the update program—simply follow the on-screen instructions to do this.

4. **Click the Scan for Updates area of the Web page and follow the on-screen instructions.**

   The Windows Update program will search and inventory the software and drivers that are installed on your computer, and based on that information, will retrieve any updated files. The updated files are categorized—some files are critical updates, which you should probably download and install, and other files are there just for fun, such as additional desktop themes.

5. **Click Add to download an available update.**

   The update is added to the list of downloads to your computer.

   Remember, since you're on the Internet, all these files are going to take a while to download. Try not to download too many updates at once—you can always use the Windows Update service again later to download more files.

6. **Click Review and install updates, and click Install Now.**

   The Windows Update service downloads the files you selected. Since you're on the Internet, this can take some time, depending on how many files you selected and how fast your connection to the Internet is.

   Windows XP automatically installs the updated files after it has downloaded them. You may have to restart your computer, depending on what types of changes have been made to your computer.

Quick Reference

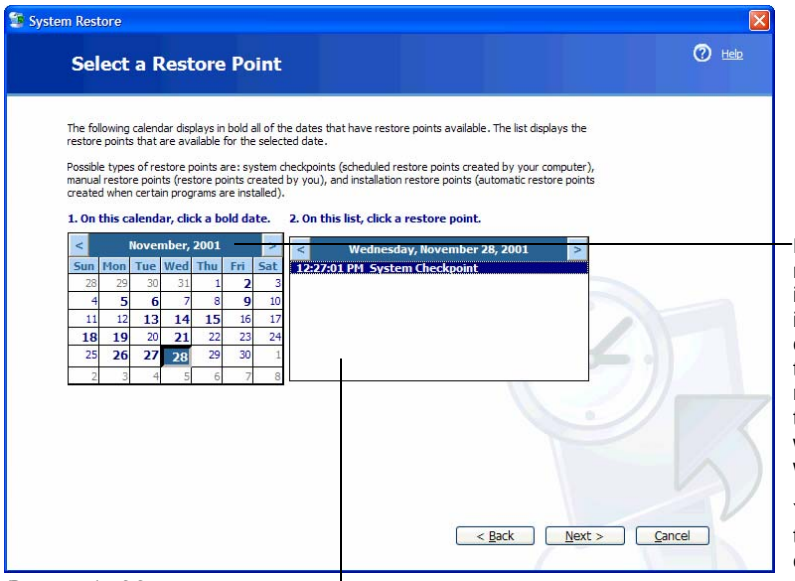
To Use the Windows Update Service:

1. Establish a connection to the Internet.
2. Click the Start button and select All Programs → Windows Update.
3. Click Scan for updates to view the available updates for your computer.
4. Click Add to select the updates you want to install on your computer.
5. Click Review and install updates to view the updates you want to download.
6. Click Install Now to download the updates onto your computer.

Lesson 1-15: Restoring Your Computer

Figure 1-33

The new System Restore program can return your computer configuration to a time before the problems occurred.



Each day that has a restore point appears in **bold**. A restore point is a snapshot of your computer at an earlier time that you can restore. Click the day that has a restore point when your computer was working properly.

You can click < or > to move to the previous or next month.

Displays the restores points available for the selected day

Figure 1-33

If you are experiencing problems with your computer, you can use Windows XP's *System Restore* utility to return your computer configuration to a time before the problems occurred. For example, perhaps your computer doesn't work properly after you installed a junky discount software program. You can use System Restore to return your computer configuration back to the way it was before you installed that junky program, without losing recent work, such as e-mail, documents, or history and favorites lists.

System Restore keeps track of the changes you make to your computer at specific intervals and when you install new hardware and software programs. You can also create your own restore points to record your computer settings at any given time, in case you want to return your computer to that state later.

In this lesson you will learn how to use System Restore.

1. Click the Start button and select All Programs → Accessories → System Tools → System Restore.

The Welcome to System Restore window appears. You can select one of two options:

- **Restore my computer to an earlier time:** This option lets you undo the changes made to your computer by selecting a restore point on a calendar.
- **Create a restore point:** Windows XP automatically creates restore points, but you can also create your own restore points manually by selecting this option. This is useful if you are about to make a major change to your computer, such as installing a new program or new hardware.

Since Windows XP automatically creates restore points for you, most of the time you will select the first option.

2. **Make sure the Restore my computer to an earlier time option is selected and click Next.**

   The Choose a Restore Point window appears, as shown in Figure 1-33. The calendar displays the current month and the days for which there are restore points available. Each day that has a restore point appears in **bold**.

3. **Select the most recent day that has a restore point when your computer was working properly.**

   The right side of the window displays the restore points that are available for the day you selected (if you were making a lot of system changes to your computer, there may be more than one).

4. **Select the restore point you want to use and click Next.**

   A dialog box appears, asking you to close all open files and programs before restoring your computer.

5. **Close any open programs, and then click OK.**

   The System Restore window display information about the restore point you selected. If you change your mind, you can click the Back button at any time to return to the previous screen and change your selections.

6. **Click Next to restore your computer to the restore point you selected.**

   System Restore returns your computer to the selected restore point configuration. When its it's finished, your comptuer will automatically restart.

   After your computer restarts, you will be greeted by the System Restore window and a message indicating that your computer has been restored to a previous state.

7. **Click OK to close the System Restore window.**

You can also use System Restore to reverse the changes made when you restored your computer. To undo any restoration, simply repeat Step 1, select the "Undo my last restoration" in Step 2, and follow the on-screen instructions.

Please note that System Restore does not replace the process of uninstalling a program. To completely remove the files installed by a program, you must remove the program using Add/Remove Programs in Control Panel or the program's own uninstall program.

Quick Reference

To Restore your Computer:

1. Click the Start button and select All Programs → Accessories → System Tools → System Restore.
2. Make sure the Restore my computer to an earlier time option is selected, and click Next.
3. Select the most recent day that has a restore point when your computer was working properly.
4. Close any open programs, and then click OK.
5. Click Next to restore your computer to the restore point you selected.
6. Click OK to close the System Restore window.

To Create a Restore Point:

1. Click the Start button, and select All Programs → Accessories → System Tools → System Restore.
2. Select the Create a restore point option, and click Next.
3. Enter a name for your restore point, and click Next.
4. Click OK to close the System Restore window.

Lesson 1-16: Using the Device Manager

Figure 1-34

The Hardware tab of the System Properties dialog box

Figure 1-35

The Device Manager lists all the hardware devices that are installed on your computer, and if any devices are disables, or have hardware conflicts.

Figure 1-36

The Resource tab lets you change the resources a particular device uses.

Figure 1-37

The Device Manager toolbar shows the different tasks and options available for a selected item.

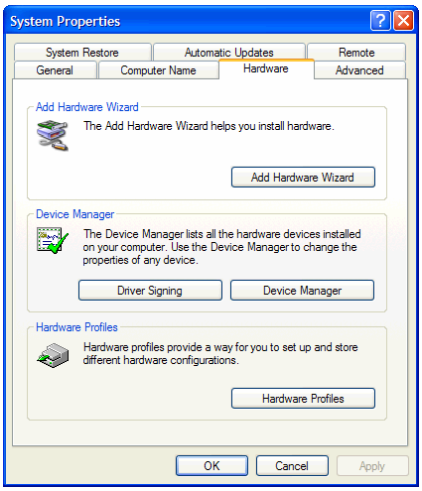


Figure 1-34

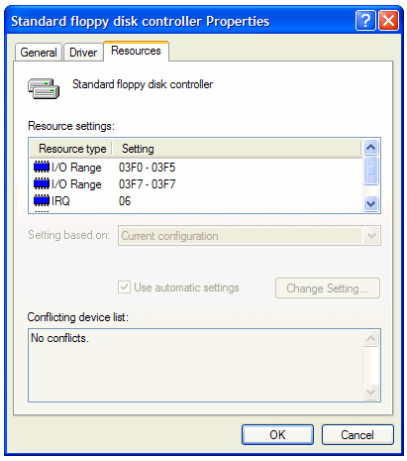


Figure 1-36

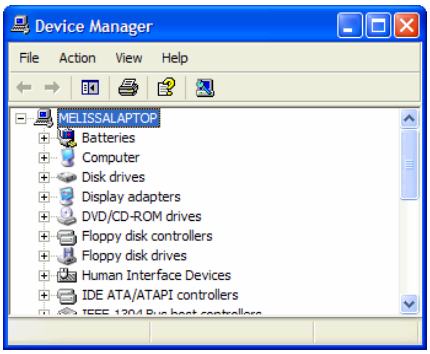


Figure 1-35

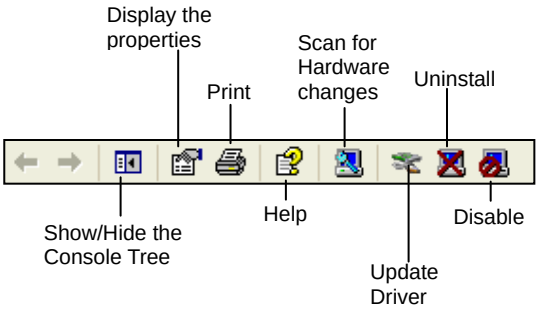


Figure 1-37

Warning!

Be extra careful when you use the Device Manager. You can cause serious problems with your computer if you accidentally remove or incorrectly configure a device.

The Device Manager lets you:

- View information about your computer's hardware
- Remove hardware device drivers
- Change which of your computer's resources a device uses

If you're trying to install a new hardware device, have carefully followed the instructions that come with device, and the device still doesn't function, it means one of two things: (1) the device is defective and you'll need to get another one, or (2) you have a *resource conflict*. Most hardware devices require resources on your computer. These resources include Interrupt Requests (IRQs), Direct Memory Access (DMA) channels, and Input/Outputs (I/O's). You don't have to know what these resources mean from a technical standpoint, but it is important that you realize that there are only a limited number of these resources on your computer, and that many hardware components can't share the same resource.

The most common type of resource conflict is an Interrupt Request (IRQ) conflict, which occurs because many hardware devices need an IRQ to operate, and most computers have fewer than two IRQs available. For example, if you were trying to install a modem that uses IRQ 3 and your network card is already using IRQ 3, the modem isn't going to work.

So what's the solution? You can change the resource settings for many devices, either by using the Device Manager or by moving some pins or switches on the hardware device itself (refer to the hardware's user manual for how to do this).

This lesson will introduce you to the Device Manager so you can see the hardware devices that are installed on your computer, and how to configure them, or even remove them.

The Device Manager lists the hardware devices on your computer in an outline view.

1. **Open the Control Panel by clicking the Start button, then select Control Panel → Performance and Maintenance.**

2. **Click the System icon, and click the Hardware tab.**

   The Hardware tab appears on top of the System Properties dialog box, as shown in Figure 1-34.

3. **Click the Device Manager button.**

   The Device Manager displays your computer's hardware in an outline. Right-click a hardware device to display its properties.

4. **Click the Computer icon to expand the hardware category (at the top of the Device list). Right-click Advanced Configuration and Power Interface (ACPI) PC, and select Properties from the shortcut menu.**

   Here you can see which hardware devices are using which resources.

5. **Close the ACPI Properties dialog box.**

   Let's look at another hardware device.

6. **Find and right-click any hardware device (you will have to expand a hardware category first) and click the device's Resource tab.**

   The Device Properties dialog box appears, as shown in Figure 1-36. Most hardware devices have two or three tabs. They are:

   - **General:** Displays the status of the hardware and allows you to disable it.
   - **Driver:** Displays details about the device driver and allows you update the driver (provided you have a newer driver).
   - **Resources:** Displays the resource currently used by the hardware. It's almost always best to let Windows manage a device's resources automatically. Only manually change a device's resources if instructed by the hardware manual or technical support.

7. **Close all open your open windows to end the lesson.**

Click the ⊞ symbol next to a hardware category to display its hardware devices.

Table 1-3: Symbols You'll See in the Device Manager

Symbol	*Description*
Unknown Device	The device doesn't have any drivers installed, and therefore your computer can't use it. You'll have to install drivers for the device—see the lesson on installing hardware.
Device Problem	The device has a problem. This can be caused by a resource conflict (the device is trying to use a resource on your computer that's already in use), an incorrect driver, or a hardware failure. The type of problem will be displayed in the properties for the hardware.

Quick Reference

To Open the Device Manager:

- Click the Start button, select Control Panel → Performance and Maintenance → System. Click the Hardware tab and click the Device Manager button.

To View/Change a Device's Properties:

- Right-click the device and select Properties from the shortcut menu.

To Remove a Device Driver:

- Select the device and click the Uninstall button.

Be VERY CAREFUL when using the Device Manager! Don't remove a hardware device or change its settings unless you know what you're doing.

Chapter One Review

Lesson Summary

Formatting a Floppy Disk

- Formatting a floppy disk erases any previous files stored on it and prepares the disk so that you can save information on it.
- To Format a Floppy Disk: Insert the floppy you want to format into the floppy drive, open My Computer or Windows Explorer, right-click the floppy drive, and select Format from the shortcut menu. Select the formatting options you want to use, and click Start.

Copying a Floppy Disk

- To Copy a Floppy Disk: Insert the source floppy you want to copy into the floppy drive, open My Computer or Windows Explorer, right-click the floppy drive and select Copy Disk from the shortcut menu and click Start. Follow the on-screen instructions and insert the source and destination disks as prompted.

Using Error-checking to Repair Disk Errors

- To Use Error-checking: Open My Computer, right-click the disk you want to scan, select Properties from the shortcut menu and click the Tools tab. Click the Check Now button, specify whether you want to do a Standard or Thorough scan, and click Start.

Defragmenting your Hard Disk

- To Defragment your Hard Disk: Open My Computer, right-click the disk you want to defragment, select Properties from the shortcut menu and click the Tools tab. Click the Defragment Now button and click Start.

Freeing Up Space on your Hard Disk

- To Use Disk Cleanup to Free Space on Your Hard Drive: Open the Start menu, select All Programs → Accessories → System Tools → Disk Cleanup. Check the files you want to delete and click OK.
- You can also free up hard disk space by removing programs and Windows components that you don't use.

Scheduling Tasks

- The Task Scheduler automatically runs specified programs when you tell it to.
- To Schedule a Task: Click the Start button and select Program Files → Accessories → System Tools → Scheduled Tasks or open My Computer and double-click the Scheduled Tasks folder. Double-click the Add Scheduled Task icon, select the program you want to schedule from the list, click Next, select an interval when you want to run the selected program from the listed options, and click Next. Specify when you want the program to run, click Next and then Finish.

- You can delete tasks from the Task Scheduler just like you would a file or folder.

Installing New Software

- To Install Software: Find the Program's disk (or disks) and insert it (or the first disk) into the disk drive. Click the Start button and select Control Panel → Add or Remove Programs. Click the Add New Programs button, click the button where the program is located, and then click Next. Windows should automatically install your software. Follow the on-screen instructions to install the program.
- If Windows can't find the setup file, click Cancel, close the Control Panel, open My Computer, find the disk drive or folder where the program you want to install is located, and find and double-click the installation program (usually called SETUP).

Removing Software

- To Remove a Program: Click the Start button and select Control Panel → Add or Remove Programs. Click the Change or Remove Programs button, find and select the program you want to remove from your computer, and click the Remove button. Finish removing the selected program by following the on-screen instructions.

Adding and Removing Windows Components

- Windows XP is normally not installed with all the components that come with the software. You can add or remove optional Windows components with Add or Remove Programs in the Control Panel.
- To Add or Remove Windows Components: Open Add or Remove Programs by clicking the Start button and selecting Control Panel → Add or Remove Programs. Click the Add/Remove Windows Components button, and click the box beside the component category you want to add or remove. You can also add or remove specific components within a category. Select the category, click Details, and then click the box beside the component category you want to add or remove. Click OK when you're finished.

Installing a Printer

- To Install a New Printer: Open the Printers folder by clicking the Start button and selecting Control Panel → Printers and Other Hardware → Add a printer. Click Next, and follow the on-screen instructions. Specify how the printer is connected (local or network) and click Next. Select a port to use with the printer (usually LPT1:) and click Next. Select the printer's manufacturer and model. If your printer doesn't appear in the list, insert the disk that came with the printer and click the Have Disk button. Click Next. Specify whether you want to use the printer as the default printer and assign a name to the printer. Click Next. Specify if you want a test page printed and click Finish.

Changing Printer Settings and the Default Printer

- Change the default printer (where your computer prints everything, unless otherwise specified) by opening the Printers folder, right-clicking the desired printer, and selecting Set as Default from the shortcut menu.
- To View/Change a Printer's Default Properties: Open the Printers folder, right-click the appropriate printer, and select Properties from the shortcut menu.

Shutting Down a Frozen Program

- When a program freezes or locks-up, you can forcefully close the program by pressing <Ctrl> + <Alt> + <Delete>, selecting the program, and clicking End Task.

Installing New Hardware

- Any time you add a new hardware device to your computer, you must install a device driver so that Windows can communicate with the device.
- Some hardware devices are Plug and Play compliant, meaning Windows will automatically recognize and install them when you add them to your computer system.
- To Add New Hardware to Your Computer: Install the hardware and turn on your computer. Follow the on-screen instructions if Windows automatically recognizes the new hardware. If Windows doesn't recognize the new hardware, click the Start button and select Control Panel → Performance and Maintenance → System. Click the Hardware tab, and click the Add Hardware Wizard button. Click Next and follow the on-screen instructions to have Windows search for your new hardware.

Using the Windows Internet Update Feature

- If you have a connection to the Internet, you can use the Windows Internet Update feature to find and install updated system files, hardware drivers, and product enhancements.
- To Use the Windows Update Service: Establish a connection to the Internet, click the Start button and select All Programs → Windows Update. Click Scan for updates to view the updates available for your computer. Click Add to select the updates you want to download, click Review and install updates, and click the Install Now button when you're finished.

Restoring Your Computer

- To Restore your Computer: Click the Start button and select All Programs → Accessories → System Tools → System Restore. Make sure the Restore my computer to an earlier time option is selected and click Next. Select the most recent day that has a restore point when your computer was working properly. Close any open programs, and then click OK. Click Next to restore your computer to the restore point you selected. Click OK to close the System Restore window.
- To Create a Restore Point: Click the Start button and select All Programs → Accessories → System Tools → System Restore. Select the Create a restore point option, and click Next. Enter a name for your restore point, and click Next.

Using the Device Manager:

- The Device Manager lets you view information about your computer's hardware, remove device drivers, and change which resources a device uses.
- To Open the Device Manager: Click the Start button, select Control Panel → Performance and Maintenance, and click the System icon. Click the Hardware tab in the System Properties dialog box, and click the Device Manager button.
- To View/Change a Device's Properties: Right-click the device and select Properties.
- To Remove a Device Driver: Select the device and click the Uninstall button.

Quiz

1. Which statement is NOT true about formatting a floppy disk?

A. You must often format new floppy disks in order to save information on them.
B. You can copy the system files to a floppy disk, enabling you to start your computer using the floppy disk.
C. Formatting a floppy disk erases all its information.
D. If you format a floppy disk and Windows XP reports it found bad sectors on the disk, don't worry about it. Most floppy disks have bad sectors.

2. You can copy a floppy disk by inserting the disk, right-clicking the floppy drive icon, and selecting Copy Disk from the shortcut menu. (True or False?)

3. Which statement is NOT true about Error-checking?

A. You can do a standard or thorough disk scan with Error-checking.
B. Error-checking can automatically repair most disk errors it finds.
C. Error-checking will find and remove any computer viruses it finds on your disk.
D. A thorough scan of a hard drive takes a long time—up to several hours.

4. By right-clicking your hard drive and selecting Properties, you can access all of these programs EXCEPT?

A. Error-checking.
B. Drive Converter (FAT32).
C. Disk Defragmenter.
D. Disk Cleanup.

5. You're a busy person and have better things to do than perform routine maintenance on your computer. What can you do to get out of having to manually run Error-checking, Disk CleanUp, and Disk Defragmenter every week?

A. Pay someone else to run these programs for you.
B. Don't use your computer.
C. Add these programs to the StartUp folder in the Programs menu.
D. Add these programs to the Task Scheduler.

6. You've finally bought the "Bird Watcher's Encyclopedia" CD-ROM you've been wanting for months. How do you install it on your computer? (Select all that apply.)

A. Insert the CD-ROM into the drive—Windows XP may automatically install it.
B. Insert the CD-ROM, open My Computer, look for a program file named "Setup," "Install", or something similar, and double-click that file.
C. Right-click the taskbar, select Properties from the shortcut menu, click the Start Menu Programs tab, and click the Add button.
D. Open the Control Panel, double-click Add/Remove Programs, and click Install.

7. Which of the following statements is NOT true?

A. You can remove most programs on your computer by opening the Control Panel, double-clicking Add/Remove Programs, selecting the program you want to remove, and clicking the Add/Remove button.
B. Everything included on the Windows XP CD-ROM is installed when you install Windows.
C. Pressing <Ctrl> + <Alt> + <Delete> opens the Close Program window, which you can use to forcefully end a program that has stopped responding.
D. The default printer is the printer Windows always prints to unless you specify otherwise.

8. The most common printer port is COM1. (True or False?)

9. Which of the following statements is NOT true?

A. Computers have a limited amount of resources, which are used by hardware devices. If two hardware devices try to use the same resource, you have a *hardware conflict.*
B. Windows XP should automatically recognize and install any Plug and Play hardware devices that you've added when you first turn on the computer.
C. You can use the Add Hardware Wizard in the Control Panel to install your hardware if Windows XP fails to recognize it.
D. Plug and Play devices get their name because you spend a lot of time playing around with them to get them to work.

Homework

1. Use Disk Cleanup to clear unnecessary files from your hard disk.
2. Start Error-checking, run a standard scan of your hard disk, and have Windows automatically fix any errors it finds.
3. Open the Task Scheduler. Would you know how to add a task to the Task Scheduler?
4. See which Windows components are currently installed on your computer.
5. Defragment your hard disk.

Quiz Answers

1. D. A floppy disk with bad sectors is unreliable—don't use it.
2. True.
3. C. Error-checking will find and repair most disk errors it finds, but it's oblivious to computer viruses. You will need a virus-scanning program for that.
4. B. Since you don't use the Drive Converter (FAT32) program much (if ever), it's not located under the Disk Properties dialog box.
5. D. Adding programs to the task scheduler runs them on the days and times you specify.
6. A, B, and D. All of these are methods to install software.
7. B. There are many Windows components that are often not installed when you install Windows XP—to save space and because most people would not use them.
8. False. The most common printer port is LPT1:
9. D. Although this statement certainly seems to be true, Plug and Play devices actually get their name because you supposedly can plug them in and start using them.