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Microsoft Official Curriculum

Module 2: Administration of a Windows 2000 Network

Contents

Microsoft

Project Lead: Red Johnston
Instructional Designers: Meera Krishna (NIIT (USA) Inc.), Bhaskar Sengupta (NIIT (USA) Inc.)
Instructional Design Contributors: Aneetinder Chowdhry (NIIT (USA) Inc.), Jay Johnson (The Write Stuff)**,** Sonia Pande (NIIT (USA) Inc.)
Lead Program Manager: Jim Cochran (Volt)
Program Manager: Jamie Mikami (Volt)
Technical Contributors: Rodney Miller, Gregory Weber (Volt)
Testing Leads: Sid Benavente, Keith Cotton
Testing Developer: Greg Stemp (S&T OnSite)
Simulation Developer: Wai Chan (Meridian Partners Ltd.)
Courseware Test Engineers: Jeff Clark, Jim Toland (ComputerPREP, Inc.)
Graphic Artist: Julie Stone (Independent Contractor)
Editing Manager: Lynette Skinner
Editor: Patricia Rytkonen (The Write Stuff)
Copy Editor: Kaarin Dolliver (S&T Consulting)
Online Program Manager: Debbi Conger
Online Publications Manager: Arlo Emerson (Aditi)
Online Support: Eric Brandt (S&T Consulting)
Multimedia Development: Kelly Renner (Entex)
Courseware Testing: Data Dimensions, Inc.
Production Support: Ed Casper (S&T Consulting)
Manufacturing Manager: Rick Terek (S&T OnSite)
Manufacturing Support: Laura King (S&T OnSite)
Lead Product Manager, Development Services: Bo Galford
Lead Product Manager: Gerry Lang
Group Product Manager: Robert Stewart
Simulations and interactive exercises were made with Macromedia Authorware

Instructor Notes

Presentation:
75 Minutes

Labs:
30 Minutes

This module informs students about the tasks associated with the administration of a Microsoft® Windows® 2000 network. Students learn the skills required to open Windows 2000 Help and locate information in it. The students will perform a lab exercise in which they open Windows 2000 Help, use the **Contents** and **Search** tabs to locate information, and add items to a list on the **Favorites** tab.

The module next introduces the routine administrative tasks performed by a network administrator. Then the module explains the set of common administrative tools provided by Windows 2000 to perform administrative tasks. This section is followed by a lab in which students identify the common administrative tools and their locations. The purpose of the module is to describe the functions performed by the tools and the procedure to access them from Control Panel. The module does not attempt to explain how to use the tools.

At the end of this module, students will be able to:

- Use Windows 2000 Help to locate specific information.
- Describe routine administrative tasks required for network maintenance.
- Associate the Windows 2000 administrative tools with the tasks they perform.

Materials and Preparation

This section provides you with the required materials and preparation tasks that are needed to teach this module.

Required Materials

To teach this module, you need the following materials:

- Microsoft PowerPoint® file 2151A_02.ppt
- Module 2, "Administration of a Windows 2000 Network"

Preparation Tasks

To prepare for this module, you should:

- Read all of the materials for this module.
- Complete the two labs.
- Practice demonstrating the administrative tools listed in the module.
- Review the Delivery Tips and Key Points for each section and topic.
- Study the review questions and prepare alternative answers for discussion.
- Anticipate the questions that students may ask and prepare answers to them.

Module Strategy

Use the following strategy to present this module:

- Windows 2000 Help

  Provide an overview of Windows 2000 Help as a source of information for performing administrative tasks. Then demonstrate the procedure to open Windows 2000 Help and explain the four tabs in the window. Explain and demonstrate the procedure for using the Search feature and Search options. Practice the procedure before demonstrating it to the class. In the last topic in the section, explain and demonstrate the procedure for creating a list of favorites.

- Administrative Tasks

  Introduce the various administrative tasks and the activities they involve. Then explain how to schedule a task to run automatically. Have the students perform the inline exercise provided in the module.

- Administrative Tools

  In this section, introduce the students to Control Panel and its functions. Then demonstrate how to open Control Panel and explain how changes made to the system by the administrative tools are reflected in the registry. It is important to caution the students to make no changes to the registry until they gain further experience. Then explain the function of each of the common tools listed in the module and demonstrate how to access them. Be sure to demonstrate only the procedure that is taught in the course material. Even though there is more than one procedure to access a tool, the course material teaches how to access the tools from Control Panel.

Customization Information

This section identifies the lab setup requirements for a module and the configuration changes that occur on student computers during the labs. This information is provided to assist you in replicating or customizing Microsoft Official Curriculum (MOC) courseware.

Important The labs in this module are also dependent on the classroom configuration that is specified in the Customization Information section at the end of the Classroom Setup Guide for course 2151A, *Microsoft Windows* 2000 *Network and Operating System Essentials*.

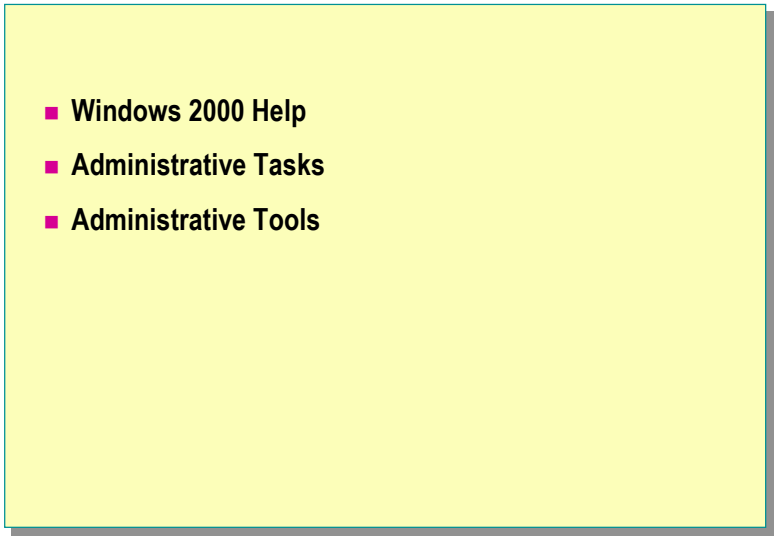
Lab Results

There are no configuration changes on student computers that affect replication or customization.

Overview

Slide Objective
To provide an overview of the module topics and objectives.

Lead-in
In this module, you will learn about the routine administrative tasks that must be performed to maintain a network and the administrative tools provided by Windows 2000 to perform them.



Delivery Tip
The goal of this module is to provide information about the tools used to maintain a network, not how to use them. The students need to be familiar with each tool's function and how to use Windows 2000 Help to obtain any required information.

As an administrator, you perform a number of tasks to maintain an efficiently functioning network. These tasks include maintaining user accounts and printers, backing up and restoring data, and monitoring network activities.

For information about performing these administrative tasks, you can use Microsoft® Windows® 2000 Help, a database of information on every aspect of Windows 2000.

To assist you in performing routine administrative tasks, Windows 2000 provides a set of administrative tools that simplifies the tasks by providing a user-friendly interface.

At the end of this module, you will be able to:

- Use Windows 2000 Help to locate specific information.
- Describe routine administrative tasks required for network maintenance.
- Associate the Windows 2000 administrative tools with the tasks they perform.

Windows 2000 Help

Slide Objective
To introduce the features and functions of Windows 2000 Help.

Lead-in
Windows 2000 Help provides a quick reference for information about performing most routine administrative tasks.

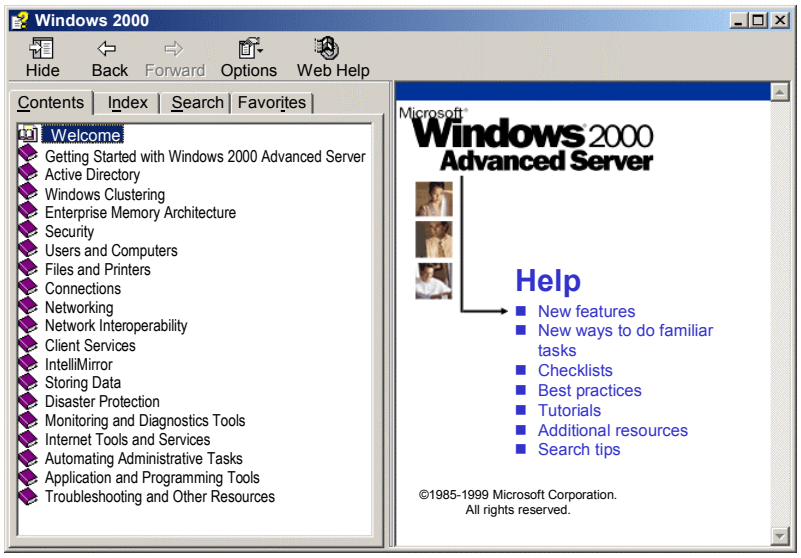
- Accessing Windows 2000 Help
- Using the Search Feature
- Creating a List of Favorites

Windows 2000 Help is a database containing information about a variety of topics. This database is especially useful for locating information about performing specific administrative tasks in a Windows 2000 network. Windows 2000 Help is always available and can be used in such activities as searching for information and bookmarking topics for later retrieval.

Accessing Windows 2000 Help

Slide Objective
To provide an overview of Windows 2000 Help.

Lead-in
You can use the Windows 2000 Help feature to locate information about administrative tasks.



Delivery Tip
Demonstrate how to access Help and guide the students through the four tabs.

Windows 2000 Help provides information about a variety of administrative tasks. In addition to providing detailed instructions for performing the tasks, the topics also provide links for navigating through the Help topics.

To access Windows 2000 Help

- On the **Start** menu, click **Help.**

The Windows 2000 Help window displays two panes. The left pane contains four tabs, each of which provides a different method for locating information. The following table describes how to use these tabs.

Use this tab	To
Contents	Display a listing of all topics in Windows 2000 Help in an organized manner. Use this tab if you are unfamiliar with the terminology.
Index	Locate information by using an index of all the keywords in the Help file. Use the index if you know a specific keyword.
Search	Search for a keyword or a set of keywords and locate all topics that contain the keywords. Use this tab if you are looking for specific information about a general phrase or word.
Favorites	Add topics to a list of favorites. Use this tab to revisit specific topics without having to search for them again.

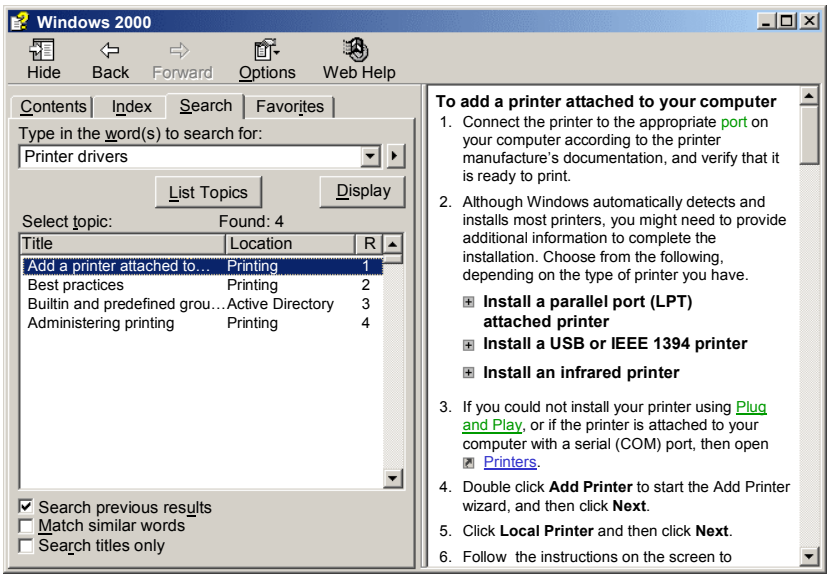
Windows 2000 Help is context-sensitive and provides information about the particular feature that you are using. For example, if you access Help when using Microsoft Internet Explorer, it displays Internet Explorer topics.

Note Window 2000 Help also includes a Web feature that you can use to view Help information available on the Internet. This feature provides access to the latest information on Windows 2000, including additional support information.

Using the Search Feature

Slide Objective
To explain the use of the Search feature in Windows 2000 Help.

Lead-in
Windows 2000 Help enables you to search for information by specifying a keyword.



Delivery Tip
Use the animation slides to demonstrate how to use the Search feature and refine the search using the options available with the Search feature. Make sure to practice using the Search feature before demonstrating it to the class.

Sometimes you may not know which Help category contains information about a specific topic. To assist in such a situation, Help provides the Search feature. Using this feature, you can search for information by providing one or several keywords that define it. For example, to find information about administering a printer, you can specify **how to administer a printer** as the search keywords.

Also, you can use Windows 2000 Help to review previous searches. Help stores information about the last 20 words and phrases searched for in a drop-down list box on the **Search** tab.

To search using a keyword

1. In the Help window, click the **Search** tab.
2. In the **Type in the word(s) to search for** box, type the keyword or phrase, and then click **List Topics**.

   A list of topics appears.
3. In the displayed list, click the topic of your choice, and then click **Display**.

Refining a Search

Usually a search produces a long list of topics. To generate a manageable list of search results, you can refine your search by using one or more of the three check boxes located at the bottom of the **Search** tab:

- **Search previous results**

  After the first search, select this check box and specify another keyword to search against the results of the earlier search. This narrows the scope of the search. You can continue to refine your search in this manner until the results suit your requirements.

- **Match similar words**

  The **Match similar words** check box is selected by default. Use this option to search for all words that match the keywords as well as words similar to them. For example, if you search for the keyword Administer, you will find topics with the keywords Administering and Administrator, too.

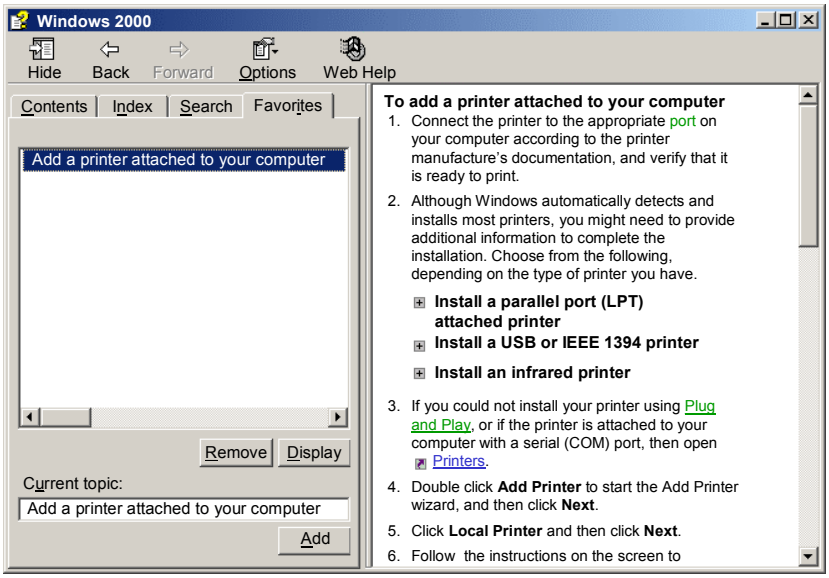
- **Search titles only**

  The **Search titles only** option allows you to search for a keyword in topic titles only, not in topic content.

Creating a List of Favorites

Slide Objective
To explain how to create a list of favorites.

Lead-in
In Windows 2000 Help, you can bookmark the entries you often search for.



Delivery Tip
Demonstrate how to create a list of favorites. Make sure to practice the procedure before demonstrating it to the class.

You can use the Windows 2000 Help database to bookmark information that you regularly access. You can create a list of favorites and add or remove entries from it. Bookmarking favorite topics reduces the time required to find information that you have located previously.

To create a list of favorites

1. Use the **Search** tab and a keyword to search Windows 2000 Help to display a list of topics.
2. To save a specific topic, select the topic, click the **Favorites** tab, and then click **Add**.

You can place new bookmarked topics on your list of favorites according to their original names, or you can rename the entries to be more meaningful for you. You should specify a different name before adding the entry to the list of favorites. After you click the **Favorites** tab, the original name appears selected. Type a new name for the topic in the **Current topic** box, and then click **Add**.

Note You can rename a topic after adding it to the list of favorites by right-clicking the topic and clicking **Rename**.

Lab A: Using Windows 2000 Help

Slide Objective
To introduce the lab.

Lead-in
In this lab, you will use Windows 2000 Help to locate information.

Objectives

After completing this lab, you will be able to:

- Use the **Contents** tab in Help to find a topic.
- Use the **Search** tab to find a topic in Help.
- Refine a search using the **Search** options.
- Activate a Windows 2000 utility by using links in Help.
- Add a bookmark to the **Favorites** tab.

Prerequisites

Before working on this lab, you must have:

- Basic knowledge of the Windows 2000 interface.
- Ability to log on Windows 2000.

Estimated time to complete this lab: 15 minutes

Exercise 1
Using the Contents Tab of Windows 2000 Help

Scenario

You are an administrator of a Windows 2000 network and need to perform an unfamiliar administrative task. Before beginning this task, you decide to gain more knowledge about it by using Windows 2000 Help. Because of the large amount of information contained in Windows 2000 Help, you use various methods to search for relevant information. You search for information on administrative tools. When you find the relevant topics, you configure Help so that you can return to these topics more quickly in the future.

Goal

In this exercise, you will use the **Contents** tab to locate information on some of the administrative tools that you use in your job. You will locate information on how to use the Windows 2000 Server Help from a computer that is not running Windows 2000 Server. You will use the search capabilities built in to the Help system and then save the results so that you can quickly find a particular topic the next time you need the information.

Tasks	Detailed Steps
1. Log on as Administrator with a password of **password**.	**a.** Log on to Windows 2000 as Administrator with a password of **password**.
2. Start Windows 2000 Help and display the **Contents** tab.	**a.** Click **Start**, and then click **Help**. **b.** Maximize the Help window. If it is not selected, click the **Contents** tab. **c.** In the left pane of the Help window, click **Getting Started with Windows 2000 Advanced Server**. *The right pane shows the additional topics for Getting Started with Windows 2000 Advanced Server.* **d.** In the left pane of the Help window, click **Active Directory**. *The right pane shows the additional topics for Active Directory.* **e.** In the left pane of the Help window, click **Security**. *The right pane shows the additional topics for Security.* **f.** In the left pane of the Help window, click **Users and Computers**.

(*continued*)

Tasks	Detailed Steps
If you are currently running Windows 2000 Professional and need access to the Windows 2000 Server Help files, which topic from the right pane would provide you with additional information on accessing the server Help files? **Accessing Windows 2000 Server Help remotely.**	
3. Activate the Help topic: **Accessing Windows 2000 Server Help remotely**.	**a.** In the right pane of the window, click the **Accessing Windows 2000 Server Help remotely** topic.
How many different ways are there to access the Help files remotely? List them. **There are 6 different ways to access the Help files remotely. They are:** **Allow read-only access to the Help folder on a server.** **Copy all Help files to a shared folder on your network.** **Copy all Help files to your local computer.** **Install Windows 2000 Administration Tools on your local computer.** **Print Help topics from a server.** **View the Help files on the Microsoft Web site.**	
Looking for a specific topic this way could be time-consuming. Is there a faster way to find information in Windows 2000 Help? If so, what is it? **Yes. Use the Search function of Windows 2000 Help**.	

(*continued*)

Tasks	Detailed Steps
4. Use the **Search** tab to search for **administrative tools** and take into account variations in the words.	**a.** Click the **Search** tab. **b.** Type **administrative tools** in the **Type in the word(s) to search for** box. **c.** At the bottom of the Help window, see if the **Match similar words** check box is selected. If it isn't checked, select it. **d.** Click **List Topics**.
How many results were found? **500**	
5. Display the Help topic **Managing servers remotely** (the first topic in the list).	**a.** In the left pane of the window, double-click **Managing servers remotely** (the first topic in the list).
Note: You will notice that the selected item in the text is **administration tools** and not **administrative tools**.	
Why did Help find the words **administration tools** instead of **administrative tools** in this Help topic? **Because match similar words is selected so Windows 2000 Help finds variations of the words.**	
6. Open the Help topic: **Common problems and their solutions** (the eleventh topic in the list).	**a.** Double-click the topic **Common problems and their solutions** (the eleventh topic in the list).

(*continued*)

Tasks	Detailed Steps
Why did Help find this topic if **tools** is not mentioned? **Because Help searched for either word—administration or tools—you will get results that are not exact matches.**	
How could you modify the search criteria to return results that contained only the phrase **administrative tools**? **By putting quotation marks around the words, Windows 2000 Help will treat it as a single phrase and only return results with administrative tools in the topic.**	
7. Refine the search to look for **administrative tools** as a phrase.	**a.** In the **Type in the word(s) to search for** box, type **"administrative tools"** (including the quotation marks). **b.** Click **List Topics**.
How many results were found? **500**	
8. Configure Help so that it will not return results that contain variations of the words.	**a.** Clear the Match similar words check box. **b.** Click **List Topics**.

(*continued*)

Tasks	Detailed Steps
How many results were found? **500**	
9. Configure Help so that it will only search in titles.	**a.** Select the **Search titles only** check box. **b.** Click **List Topics**.
How many results were found? **4**	
10. Open the Help topic **Administrative Tools**.	**a.** In the left pane, double-click **Administrative Tools**.
Note: This lists the common administrative tools in Windows 2000.	
If you want to find this topic more easily in the future, what could you do? **Add it to your list on the Favorites tab**.	
11. Add the topic **Administrative Tools** to your list on the **Favorites** tab.	**a.** Click the **Favorites** tab, and then click **Add**.

(*continued*)

Tasks	Detailed Steps
12. Activate Event Viewer using Windows 2000 Help.	**a.** In the right pane, click **Event Viewer**. **b.** In the list of additional information that appears below Event Viewer, click the **Using Event Viewer** link. *__Using Event Viewer__ Help topic opens.* **c.** Click the **Event Viewer** link. *The Event Viewer administrative tool opens and shows you the event logs.*
13. Close Event Viewer and add the Using Event Viewer Help topic to your list on the **Favorites** tab.	**a.** Close the Event Viewer window. **b.** Click **Add** to add **Using Event Viewer** to your favorites. **c.** Click the **Related Topics** link.
What kinds of information are found in the Related Topics link? **Additional Help topics that are related to the current Help topic.**	
14. Return to the Administrative Tools topic using the Related Topics link.	**a.** Click **Administrative Tools** from the menu. *You are returned to the previous topic Administrative Tools.*
15. Close Windows 2000 Help and log off from Windows 2000.	**a.** Close Windows 2000 Help, and then log off from Windows 2000.

Administrative Tasks

Slide Objective
To introduce the administrative tasks required for network maintenance.

Lead-in
There are a number of administrative tasks that must be performed on a regular basis.

- **Routine Administrative Tasks**
- **Scheduling Administrative Tasks**

As a network administrator, you provide users with access to the network, control the kind of access that each user has to network resources, and perform maintenance tasks. You create user accounts and assign permissions for users to access such resources as printers, applications, and data files.

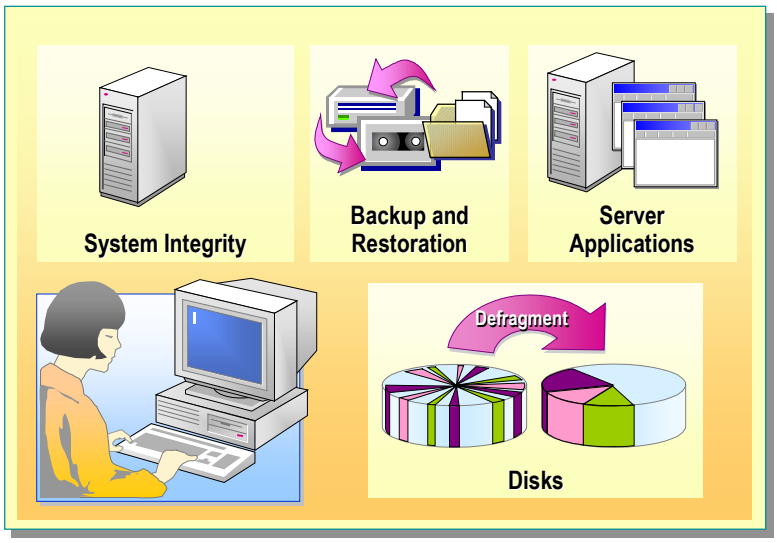
You also manage the hardware and software installed on the computers as well as perform such tasks as creating printer shares and administering database and mail servers. Some of these routine tasks, such as backing up data on the servers, can be scheduled to run on a recurring basis automatically.

In this section, you will learn about the various routine tasks and the procedure for scheduling a task to run at a preset time.

Routine Administrative Tasks

Slide Objective
To introduce the major areas in which routine tasks need to be performed.

Lead-in
Let us go over the routine tasks that a network administrator performs.



Delivery Tip
This topic has two slides; each slide illustrates four administrative tasks.

A network administrator performs administrative tasks in the following areas: users and groups, printers, security, network events and resources, system integrity, backup and restoration, server applications, and disks.

Users and Groups

As an administrator, you assign and maintain user names and passwords for each user account. A user account enables the user to log on to a server to access network resources or to log on to an individual computer to access resources on that computer. You also create and maintain groups and define their membership. Organizing users into groups simplifies assigning permissions.

Printers

Administering printers includes setting up local and network printers and troubleshooting common printing problems, thereby ensuring that users can connect to and use printer resources easily.

Security

Maintaining network security involves planning, implementing, and enforcing a security policy for protecting data and shared network resources, including folders, files, and printers. By assigning user permissions, you can control access to resources. You determine *who* has access to specific resources and specify the *kind* of access that each user has.

Network Events and Resources

Monitoring network functioning is a very important task. Regular monitoring of the network can help detect a problem and resolve it before it causes the network to fail. Network monitoring includes evaluating resource usage and planning and implementing a policy for tracking security breaches.

System Integrity

Maintaining system integrity is critical to the network. The network administrator must regularly check the computers for the presence of computer *viruses*. A virus is a program that runs without your knowledge and may damage data. The administrator must safeguard the network by installing and updating anti-virus software regularly. In the event of the network being infected by a virus, the network administrator must take necessary steps to delete the virus from the network.

Backup and Restoration

One of the most important recurring tasks is backing up the data in the system. This task includes planning, scheduling, and performing regular backups to protect important data. Having a good backup system ensures that you can quickly locate and restore critical data that has been lost or damaged.

Server Applications

A system may run numerous server applications that require administration. For this purpose, there are specific tools that you use to administer application-based services, such as mail servers and database servers.

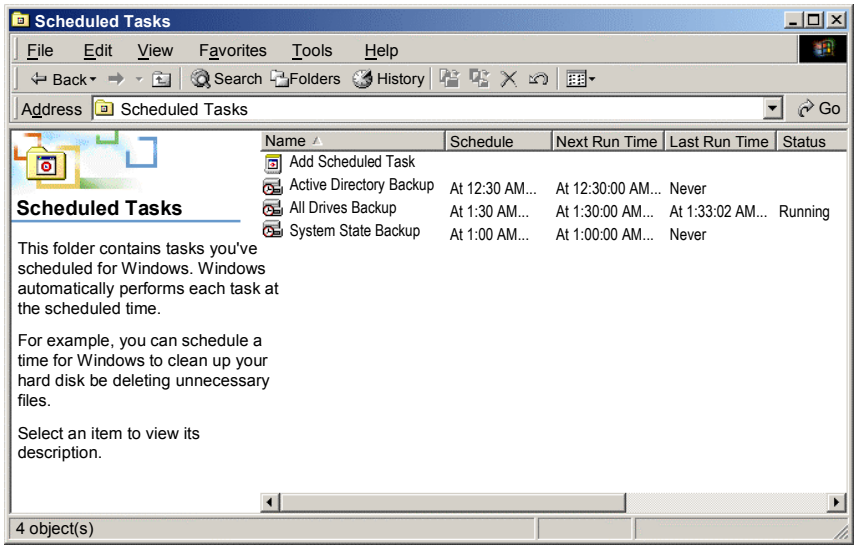
Disks

A computer's hard drive, or hard disk, is responsible for data storage. It is important to maintain these disks to ensure optimum performance and minimize the chances of data loss, while at the same time maintaining the data access speed. You verify the integrity of hard drives in terms of their reliability and configure them as part of your routine administrative tasks.

Scheduling Administrative Tasks

Slide Objective
To describe tasks that can be scheduled.

Lead-in
To ensure that recurring administrative tasks are performed, you can schedule them to run independently of your involvement.



Delivery Tip
Use the animation slides to demonstrate the procedure for accessing this tool and have the students perform the steps provided. After they complete the exercise successfully, ask questions about the parameters governing the task, such as the date and time when the task is scheduled to run.

Some administrative tasks are performed on a recurring basis and can be scheduled to run automatically. For example, you can schedule backups to run at a specific time daily and weekly. This ensures that a regular backup schedule is maintained and that the data in the system is safe. Other tasks, such as creating a user account, cannot be made automatic because they take place as needed.

Scheduled Tasks

To schedule recurring tasks, you can use Scheduled Tasks, a tool that helps you to schedule any application to run at a preset time. Using the options available in Scheduled Tasks, you can:

- Schedule a task to run daily, weekly, monthly, or at other specified times.
- Change the schedule for a task.
- Stop a scheduled task after it has started or before it starts.
- Run a scheduled task immediately.
- Customize how a task runs at a scheduled time. For example, you can specify that a task be postponed if the computer is running on batteries or delay the task until the computer has been idle for a certain time.

To run a scheduled task

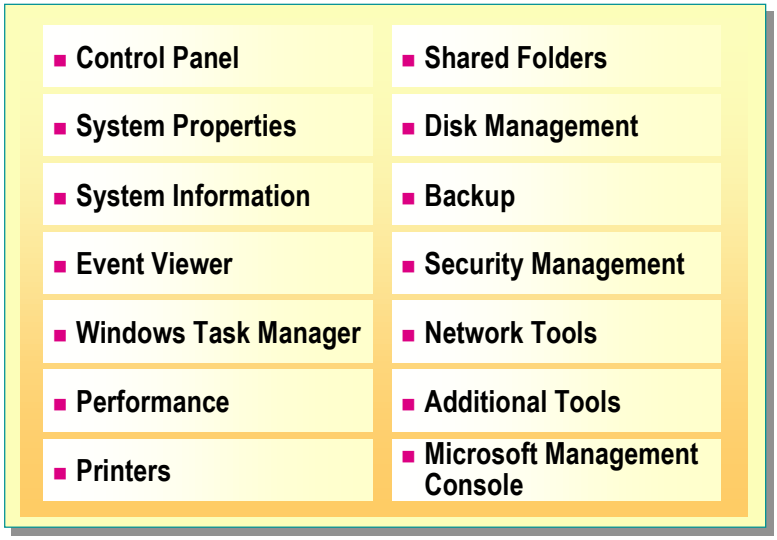
1. From the **Start** menu, point to **Programs**, **Accessories**, and **System Tools**, and then click **Scheduled Tasks**.
2. Right-click the task and click **Run**.

As an exercise, right-click the **Weekly Backup** task and click **Run** from the menu.

Administrative Tools

Slide Objective
To introduce the administrative tools provided by Windows 2000.

Lead-in
Windows 2000 provides tools to perform a wide range of tasks.



Delivery Tip
All tools except the Backup tool can be accessed from Control Panel. Demonstrate the procedure as listed in the course material. The focus of this section is to provide only a high-level introduction to the administrative tools available, not an explanation of how to use them.

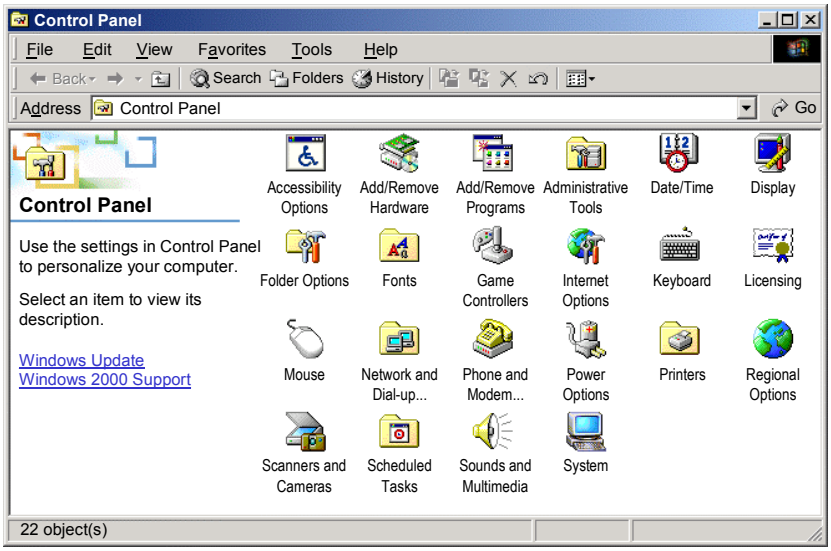
From managing user accounts and printers to monitoring resources for security purposes, the administrative tools provided by Windows 2000 help you perform a wide range of routine administrative tasks. You can access most of these tools from Control Panel.

This section discusses the most common tools used in administering a network. It does not discuss all of the available tools.

Control Panel

Slide Objective
To describe the role of Control Panel.

Lead-in
Most of the common administrative tools are available at one location, Control Panel.



Delivery Tip
Demonstrate how to access Control Panel.
Instruct the students to make no changes to the registry until they gain further experience and are sure of what they are doing.

Mention here that not all of the tools available in Control Panel are always required. Tell the students that they can assemble a customized collection of frequently used tools by using the Microsoft Management Console (MMC), which is discussed later in the module.

Most of the administrative tools provided by Windows 2000 are available in Control Panel. Control Panel serves as a repository of tools that you can use to configure and monitor system settings. For example, using the tools in Control Panel, you can change the display on your monitor and modify security settings for a specific user.

To access Control Panel

- From the **Start** menu, point to **Settings**, and click **Control Panel**.

Registry

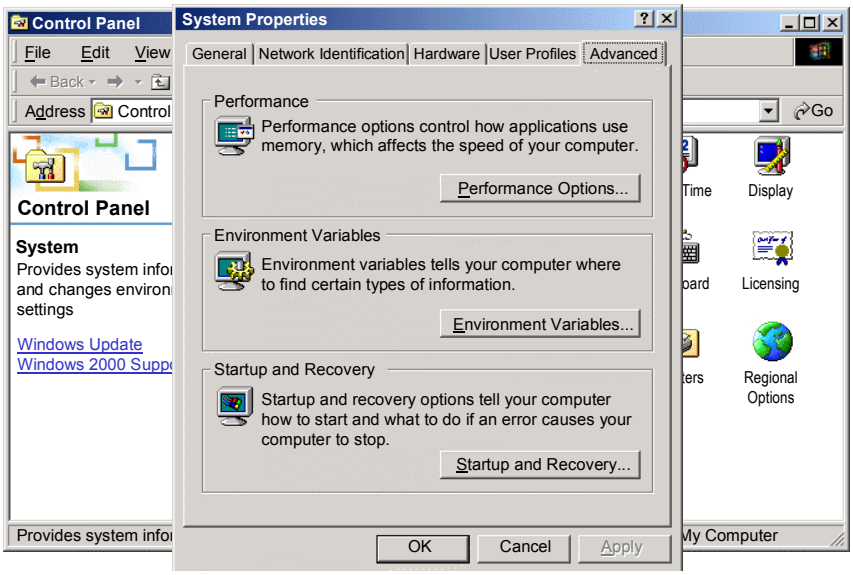
The registry reflects the changes that you make to the system when you use the tools in Control Panel. The registry is a database in which Windows 2000 stores configuration information pertaining to the system hardware and applications installed on the computer. Windows 2000 continually refers to this information during its operation.

Caution Do not make changes to the registry until you gain further knowledge and experience working with the registry.

System Properties

Slide Objective
To describe the System Properties tool.

Lead-in
You can view and modify the system properties using the System Properties tool.



Delivery Tip
Use the animation slides to demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

System Properties is a tool you can use to view and change system properties on a local computer or on a remote computer.

Note To change certain system properties on a computer, you must have administrator privileges on the computer you are administering.

To access the System Properties tool

- From Control Panel, open **System**.

Organization of Information

The System Properties tool organizes information in five areas that can be accessed from the following tabs:

- General

  The **General** tab provides such information as the type of operating system running on the computer, the amount of memory installed, and to whom the computer is registered.

- Network Identification

  The **Network Identification** tab provides information about the name of the computer and the domain or workgroup to which it belongs. You can click **Properties** on the **Network Identification** tab to join a domain or to change the name of the computer and the domain or workgroup to which it belongs.

- Hardware

  The **Hardware** tab provides the Add/Remove Hardware wizard for installing, uninstalling, and managing computer hardware. It also provides Device Manager, a tool that you use to change the properties of any device, and Driver Signing, an option that allows you to set security levels for new software installation. Finally, Hardware Profiles enables you to set up and store different hardware configurations from which you can choose when starting the computer.

- User Profiles

  The **User Profiles** tab contains information about the different user *profiles* that exist on the computer. A profile contains information about a specific user's logon settings, such as desktop settings. Profiles are of two types: local and roaming. A local user profile is automatically created on each computer to which a user logs on. If the user has a roaming user profile, the same profile can be used on any other computer to which the user logs on.

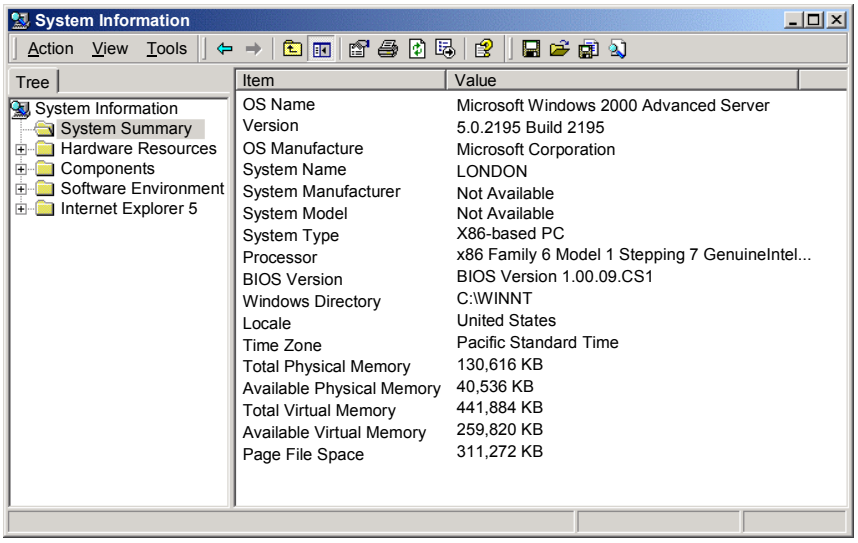
- Advanced

  The **Advanced** tab provides three sets of options. Performance options control how the microprocessor is utilized when running applications, which affects the computer's speed. Environment variables assist in locating such information as the Windows system files. Startup and recovery options tell the computer how long to delay startup and what to do if an error causes the computer to stop running unexpectedly.

System Information

Slide Objective
To describe the functions of System Information.

Lead-in
Use the System Information tool to monitor the state of the system.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

System Information displays a comprehensive view of the hardware, system components, and software environment.

To access System Information

- From Control Panel, open **Administrative Tools**, **Computer Management**, **System Tools**, and then **System Information**.

Organization of Information

The displayed system information is organized into four top-level categories:

- System Summary

  The System Summary folder includes such information as the computer name, the processor name, and the version of the operating system and amount of memory installed on the computer.

- Hardware Resources

  The Hardware Resources folder includes subfolders that contain information about hardware settings and memory.

- Components

  The Components folder includes subfolders that contain information about display settings, network and modem settings, and printer settings.

- Software Environment

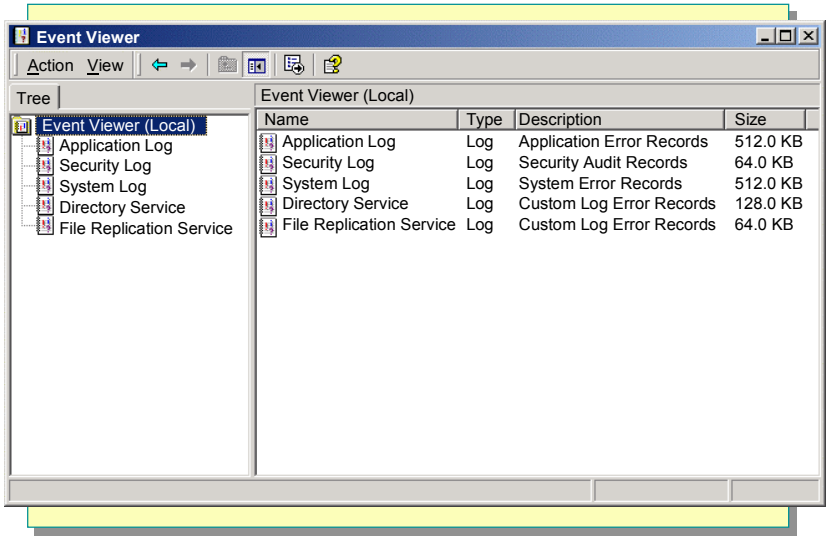
  The Software Environment folder includes subfolders that contain information about currently running tasks, network connections, startup applications, and the drivers loaded in the system.

When additional applications, such as Internet Explorer, are installed, the System Summary includes sections on versions and such application-specific settings as security settings for Internet Explorer.

Event Viewer

Slide Objective
To explain the use of Event Viewer.

Lead-in
Event Viewer displays information about system events.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Event Viewer is a tool that gathers information about hardware, software, system problems, and security events. An *event* is any notable occurrence that happens in an application or within the operating system itself. Each time an event occurs, Windows 2000 records its occurrence in a log. Therefore, by using the event logs in Event Viewer, you can monitor the status of the system.

To access Event Viewer

- From Control Panel, open **Administrative Tools**, and then **Event Viewer**.

Types of Events

Event Viewer displays one of four types of events:

- Error

  Indicates a significant problem, such as loss of data or functionality.
- Warning

  May indicate a possible future problem.
- Information

  Describes the successful operation of an application, driver, or service.
- Auditing

  Indicates whether an attempt to access an audited resource was a success or a failure.

Event Viewer then records the occurrences of these types of events in event logs. Different types of event logs are created depending on the additional components installed on the system. Some common event logs are the application log, the system log, and the security log.

Application Log

The application log contains events logged by applications. For example, a database application might record a file error in the application log. The application log records Error, Warning, and Information events.

System Log

The system log contains events logged by Windows 2000 system components. For example, the system log records the failure of a system component to load during startup. The system log records Error, Warning, and Information events.

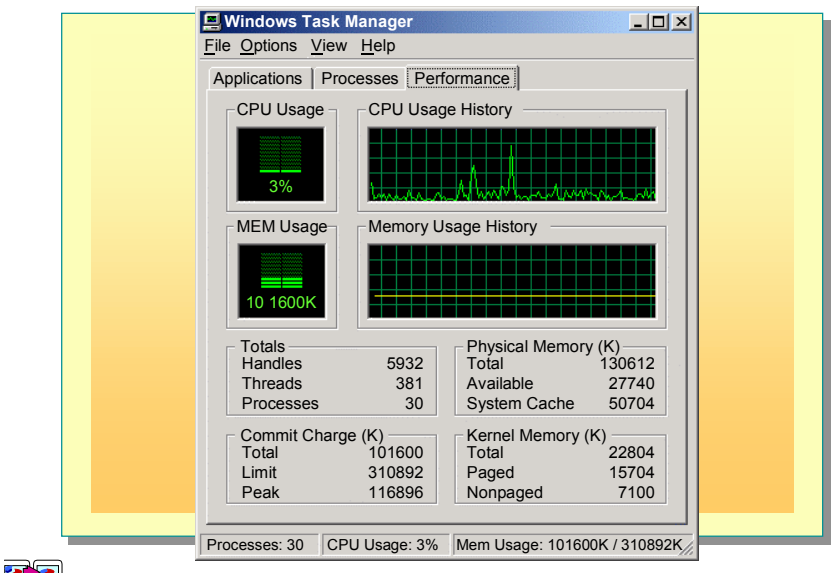
Security Log

The security log records Auditing events, including valid and invalid logon attempts, as well as events related to resource use, such as creating, opening, or deleting files.

Windows Task Manager

Slide Objective
To explain the use of Windows Task Manager.

Lead-in
You can determine the current processes and applications running on your computer by using Windows Task Manager.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Windows Task Manager provides information about computer performance and the applications and processes running on the computer. Using Windows Task Manager, you can start applications, end applications or processes, and view a dynamic display of your computer's performance.

To access Windows Task Manager

- Right-click an empty space on the taskbar, and then click **Task Manager**.

The information displayed by Windows Task Manager is organized into three tabs: **Applications**, **Processes**, and **Performance**.

- Applications

  The **Applications** tab displays the status of the applications that are running on your computer. From this tab, you can end, switch to, or start an application.

- Processes

  The **Processes** tab displays information about the processes running on your computer. A process can be an application, such as Microsoft Windows Explorer, or a service, such as Event Log.

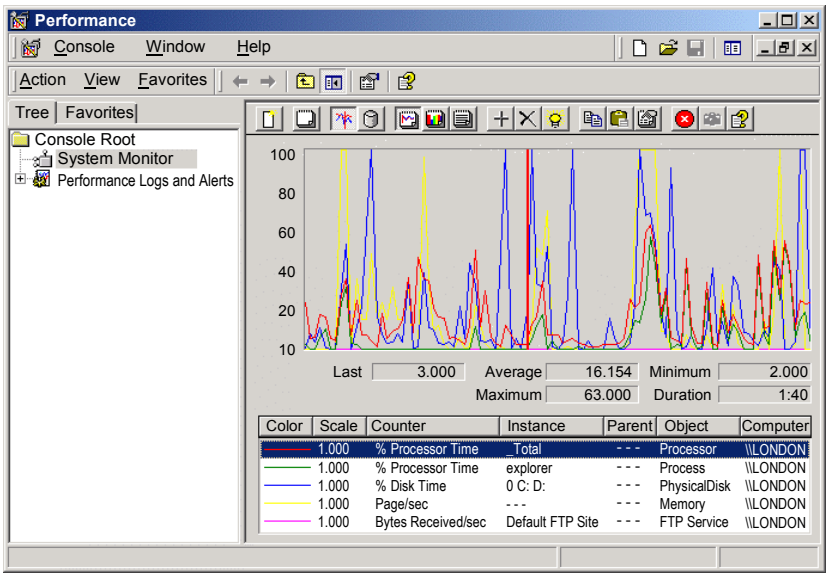
- Performance

  The **Performance** tab displays a dynamic overview of your computer's performance, including the CPU and memory usage.

Performance

Slide Objective
To describe the Performance tool.

Lead-in
You can monitor system performance by using the Performance tool.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options. While explaining the Performance tool, do not attempt to generate data during the class.

Monitoring system performance is an important part of maintaining and administering your Windows 2000-based installation. Windows Task Manager is a simple tool you use to monitor the performance of your computer and view general system information.

A more detailed version of Windows Task Manager is the Performance tool. This tool provides data that you use to monitor the performance of your computer or the performance of other computers on the network.

Performance Data

The data provided by the Performance tool is used to:

- Analyze changes in your workload and evaluate its corresponding effect on system resources.
- Observe changes and trends in workloads and resource usage so that you can plan for future system upgrades.
- Evaluate changes to system configuration by monitoring the results.
- Diagnose problems and target components or processes for improvement.

To access the Performance tool

- From Control Panel, open **Administrative Tools**, and then **Performance**.

The Performance tool comprises two utilities: System Monitor and Performance Logs and Alerts. These utilities provide detailed data about the resources used by specific components of the operating system and by other applications and services running on the system.

System Monitor

With System Monitor, you can:

- Collect performance information on your computer and compare it with the performance of other computers on a network.
- Collect and view performance data being generated on a local computer or from several remote computers on the network.
- View data collected either currently or previously in a log file.
- Present data in a printable graph, histogram, or report view. The graph view is the default view and offers the widest variety of optional settings.
- Create a Web document from performance views.
- Create reusable monitoring configurations that can be installed on other computers.

Performance Logs and Alerts

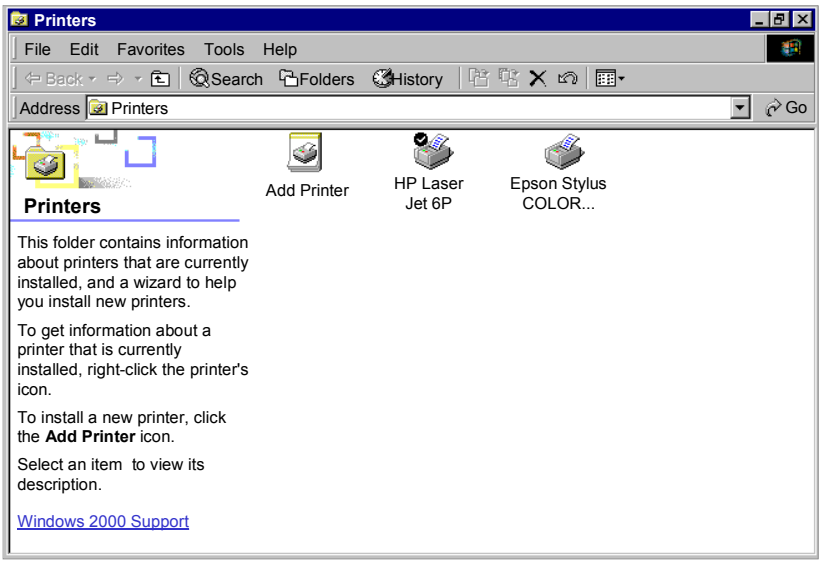
The Performance Logs and Alerts utility:

- Supports the definition of performance objects, performance counters, and object instances.
- Sets sampling intervals for monitoring data about hardware resources and system services.
- Collects information over a period of time and archives data.
- Supports the configuration of alerts that notify you when a certain threshold is reached.

Printers

Slide Objective
To describe the tool to administer printers.

Lead-in
To administer printers, use the Printers tool in Control Panel.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

With Windows 2000, you can access printing resources across your entire network. Clients can use printers that are attached locally to a print server or they can access printers across the Internet. The printers may be connected to the network using internal or external network adapters or another server.

To access Printers

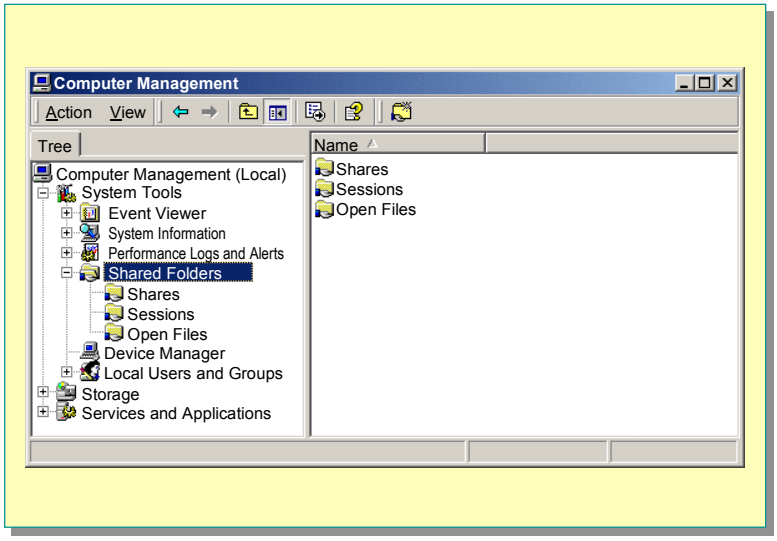
- From Control Panel, open **Printers**.

Windows 2000 supports several advanced features that aid in printer administration. For example, you can manage a print server that exists anywhere on your network without having to leave your office. In addition, you do not have to personally install a printer driver on a client computer to enable it to use a printer. Windows 2000 automatically downloads a driver when the client connects to a print server.

Shared Folders

Slide Objective
To introduce the Shared Folders utility.

Lead-in
The Shared Folders utility displays information about the files and folders shared across the network.



Delivery Tip
Demonstrate the procedure to access this utility. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Using Shared Folders, you can view the connections and resource use for local and remote computers. With Shared Folders, you can perform the following tasks:

- Create, view, and set permissions for *shares*. A share is a location on a computer that provides other computers with access to the information stored in it. The computer that needs to access the information on the share must have appropriate permissions to do so.
- View a list of all users who are connected to a computer network and disconnect one or all of them.
- View a list of files opened by remote users and close one or all of the open files.

To access Shared Folders

- From Control Panel, open **Administrative Tools**, **Computer Management**, **System Tools**, and then **Shared Folders**.

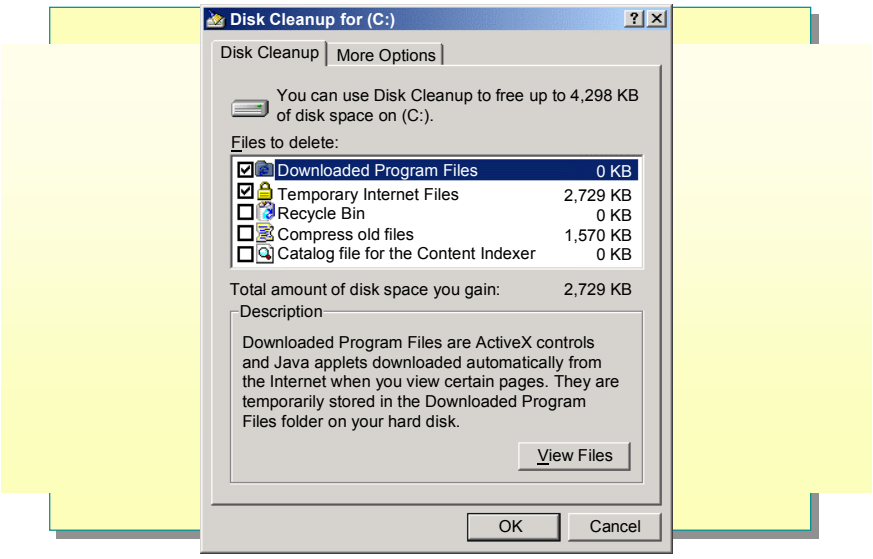
Shared Folders provides information, arranged in columns, about all the shares, sessions, and open files on the local computer.

- The Shares subfolder provides information about the shared resources available on the computer.
- The Sessions subfolder provides information about all network users connected to the computer.
- The Open Files subfolder provides information about all the open files on the computer.

Disk Management

Slide Objective
To describe Disk Management.

Lead-in
You can manage the disk space on the system using the Disk Management utility.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Disk Management is a system utility for managing hard disks and the volumes, or partitions, they contain. With Disk Management, you can create volumes, format volumes with file systems, initialize disks, and create fault-tolerant disk systems.

When you right-click an object, the shortcut menu shows you which tasks you can perform on that object. Also, Disk Management has wizards, such as the Create Partition wizard, that guide you through the steps for creating volumes and initializing or upgrading disks.

To access Disk Management

- From Control Panel, open **Administrative Tools**, **Computer Management**, **Storage**, and then **Disk Management**.

Disk Defragmenter

Over a period of time, the files on the hard disk become fragmented. When fragmentation happens, pieces of a single file become located on different spots of the hard drive, much like a shredded document. Before the system can read the file, it must reassemble it, making the process much longer than when the file is intact. Disk Defragmenter reorganizes the files on your hard drive so that they are all contiguous pieces. As a result, the system can gain access to files and folders more rapidly and save new ones more efficiently.

To access Disk Defragmenter

- From Control Panel, open **Administrative Tools**, **Computer Management**, **Storage**, and then **Disk Defragmenter**.

Disk Cleanup

After a period of time, the hard disk may contain unnecessary files, which use up all the space on the hard disk. To free space occupied by unwanted files on the hard disk, you use the Disk Cleanup utility. Disk Cleanup searches your hard disk and then displays a list of temporary files, Internet cache files, and optional Windows components and applications that you do not use often that can be safely removed or deleted. You can direct Disk Cleanup to delete some or all of these files.

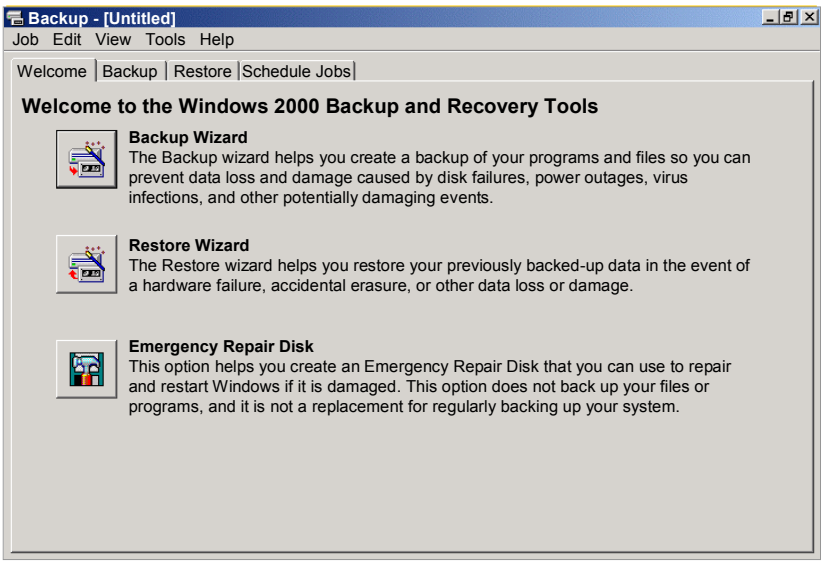
To access Disk Cleanup

- From **Start**, point to **Programs**, **Accessories**, and **System Tools**, and then click **Disk Cleanup**.

Backup

Slide Objective
To describe the functions of the Backup utility.

Lead-in
You can archive all system data using the Backup utility.



Delivery Tip
Explain that the Backup utility cannot be accessed from Control Panel, but all other tools can be. Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

The Backup utility helps you protect data from accidental loss if your system experiences hardware or storage media failure. You use the Backup utility to create a duplicate copy of the data that is stored on your hard disk, and then you store the data on another device, such as a hard disk or a tape. In the event that the original data on your hard disk is accidentally erased or overwritten, or becomes inaccessible because of hard disk malfunction, you can use the copy to restore your lost or damaged data.

The Backup utility provides wizards that prompt you through the steps to perform the backup and restore procedures. Using Backup, you can:

- Archive selected files and folders on your hard disk.
- Restore the archived files and folders to your hard disk or any other disk you have access to on the network.
- Create a disk that contains information about your current system settings. This disk is called the Emergency Repair Disk. You can use this disk to repair your computer if it will not start or if your system files are damaged or erased.
- Make a copy of important system-specific data, which includes the registry. Depending on the type of server and its role in the network, you can make a copy of the Microsoft Active Directory™ database and Certificate Services database.
- Schedule regular backups to update your stored data.

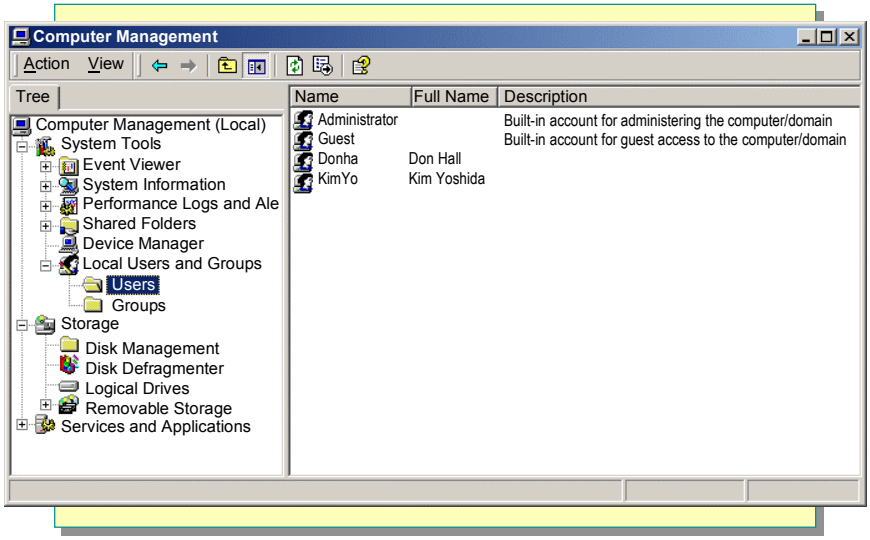
To access Backup

- From the **Start** menu, point to **Programs**, **Accessories**, and **System Tools**, and then click **Backup**.

Security Management

Slide Objective
To describe the Security Management strategies.

Lead-in
Ensuring network security is one of the most important tasks of an administrator.



Delivery Tip
Mention that administrators can manage permissions to an object by using the **Security** tab in the **Properties** dialog box of each object that can be assigned permissions. Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Windows 2000 provides a number of utilities for monitoring and maintaining network security. These utilities include: the Local Users and Groups utility, the Active Directory Users and Computers utility, the Local Security Policy utility, and the Domain Security Policy utility.

Local Users and Groups

The Local Users and Groups utility allows administrators to manage the user and computer accounts on a local computer. Using this utility, you can add, disable, reset, and delete these accounts. You can use this utility only on Windows 2000-based computers that are not domain controllers.

To access Local Users and Groups

- On a local computer that is not part of a domain, from Control Panel, open **Administrative Tools**, **Computer Management**, and then **Local Users and Groups**.

Active Directory Users and Computers

Active Directory Users and Computers is a utility for managing user and computer accounts in a domain. Using this utility, the administrator can manage accounts from a central location. You can use this utility on Windows 2000-based computers that are domain controllers or on computers that have the administrative tools installed on them.

To access Active Directory Users and Computers

- From Control Panel, open **Administrative Tools**, and then **Active Directory Users and Computers**.

Local Security Policy

Local Security Policy is a utility used on individual computers that allows administrators to control how users interact with a computer. For example, you can create a policy to restrict the length of passwords, track access to areas of the system, and restrict the rights of users to log on to a computer or to gain access to computer resources.

To access Local Security Policy

- From Control Panel, open **Administrative Tools**, and then **Local Security Policy**.

Domain Security Policy

Domain Security Policy is a utility that allows administrators to control how users in the entire domain interact with the computers in the network and the domain. For example, you can control the length of passwords, track access to areas of the system, and restrict the rights of users to log on to a computer or to gain access to computer resources.

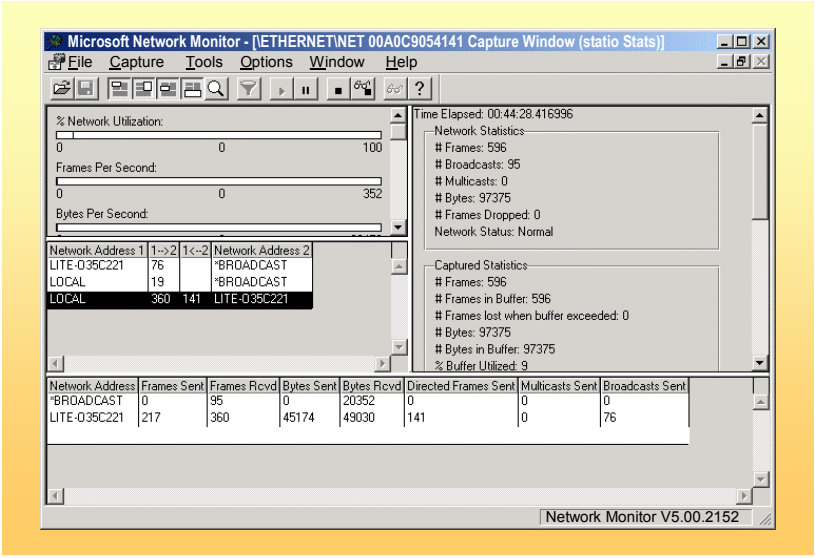
To access Domain Security Policy

- From Control Panel, open **Administrative Tools**, and then **Domain Security Policy**.

Network Tools

Slide Objective
To introduce the tools used to manage and monitor network activity.

Lead-in
You can monitor local and remote network connections by using the Network and Dial-up Connections feature.



Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Windows 2000 provides two tools—Network and Dial-up Connections and Network Monitor—for managing local and remote network connectivity and monitoring network activity.

Network and Dial-up Connections

Network and Dial-up Connections provides status or configuration information about connectivity between your computer and the Internet, a network, or another computer. You create, configure, store, and monitor all connections from within the Network and Dial-up Connections folder. With Network and Dial-up Connections, you can view the network connectivity configuration, whether you are physically located at the network or at a remote location.

To access Network and Dial-up Connections

- From Control Panel, open **Network and Dial-up Connections**.

Network Monitor

Network Monitor captures and displays the network traffic that a computer running Windows 2000 Server receives from a local area network (LAN). It enables you to monitor and, if desired, to save the information for later analysis. Network administrators use the information provided by Network Monitor to detect and troubleshoot networking problems experienced by the local computer. For example, you can use Network Monitor to diagnose problems that prevent a computer from communicating with other computers and to detect the reasons for delays in receiving data by portions of the network.

To access Network Monitor

- From **Start**, point to **Programs**, and **Administrative Tools**, and then click **Network Monitor**.

Additional Tools

Slide Objective
To describe the additional tools used by a network administrator.

Lead-in
In addition to the major administrative tools, you use specific tools to perform some useful tasks.

Delivery Tip
Demonstrate the procedure to access this tool. Explain the text but do not go into detail. Provide only a high-level overview of the different options.

Some additional tools that perform useful tasks are the Configure Your Server and Add/Remove Programs utilities. You may also use non-Microsoft, third-party tools, such as virus-checking software.

Configure Your Server

This utility allows you to configure basic system information, including:

- Registering your copy of Windows 2000 so that you receive product updates.
- Upgrading to a domain controller by installing Active Directory.
- Running wizards that guide you in modifying and installing various services.

To access the Configure Your Server utility

- From Control Panel, open **Administrative Tools**, and then **Configure Your Server**.

Add/Remove Programs

This is a utility found on a client computer that helps you manage applications installed on the computer. It prompts you through the steps necessary to add a new application from a compact disc, floppy disk, or the network, or to change or remove an existing application.

Application-Specific Utilities

As a network administrator, you may occasionally need to use applications other than those available in Windows 2000 to meet specific server needs. Applications, such as Microsoft SQL Server™ and Microsoft Exchange, have their own utilities for managing the specific functions of these applications.

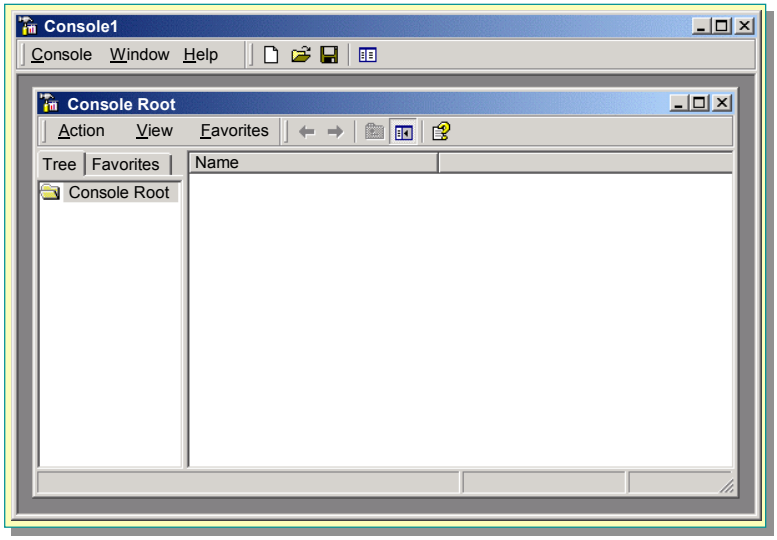
Third-Party Tools

Depending on the configuration and needs of your network, you may have third-party tools installed to provide additional functionality, such as protection from viruses. You use virus-checking applications to maintain the integrity of the data in the network.

Microsoft Management Console

Slide Objective
To illustrate the Microsoft Management Console.

Lead-in
Windows 2000 provides the capability to customize a set of tools that meet your specific needs.



Most of the tools that a network administrator needs to perform day-to-day tasks are available individually. Because all of the tools are not available in one location, Windows 2000 provides the capability to create a customized tool that contains all the required utilities. In this manner, the regularly accessed tools are all available at one location.

Another benefit of creating a customized tool is that an administrator can save the customized tool for later use and share the tool with other administrators and users. Also, administrators can create multiple tools of varying levels of complexity, which is useful for delegating tasks. To create a customized tool, you use the Microsoft Management Console (MMC). The customized tool that you create is called an MMC console and the primary tools that you add to it are called snap-ins. You can also add links to Web pages, folders, taskpad views, and tasks to an MMC console.

To create a customized console

1. In the **Run** dialog box, type **mmc**
2. On the **Console** menu, click **Add/Remove Snap-in**.

An MMC console consists of a window divided into two panes. The left pane is called the console tree and contains two tabs: **Tree** and **Favorites**. The console tree shows the items that are available in a given console. The right pane is called the details pane. The details pane shows information about the items in the console tree. The details pane can also display other types of information, including Web pages, graphics, charts, and tables.

Each console has its own set of menus and toolbars, separate from those of the main MMC window, that helps a user perform various tasks.

The Windows 2000 operating system has preconfigured and saved consoles available in the Administrative Tools folder in Control Panel. One such example is the Computer Management console.

Lab B: Identifying Administrative Tools

Slide Objective
To introduce the lab.

Lead-in
In this lab, you will identify various tools to perform administrative tasks.

Objectives

After completing this lab, you will be able to:

- Identify the common administrative tools in Windows 2000 and where they are located.

Estimated time to complete this lab: 15 minutes

Exercise 1
Identifying Administrative Tools

Scenario

As a new administrator, you need to familiarize yourself with the available administrative tools and their location in the interface.

Goal

In this exercise, you will open the various administrative tools and answer questions about them.

Tasks	Detailed Steps
1. Log on as Administrator with a password of **password**, and then open Control Panel.	**a.** Log on to Windows 2000 as Administrator with a password of **password**. **b.** Click **Start**, point to **Settings**, and then click **Control Panel**.
Which tool in Control Panel enables you to install additional printers or adjust the properties of existing ones? **Printers.**	
Which tool in Control Panel enables you to determine your computer name and enables you to adjust how applications use memory? **System.**	
2. Open **System** in Control Panel.	**a.** In Control Panel, double-click the **System** icon.
Which tab would you use to determine the domain to which the computer belongs? **The Network Identification tab.**	

(*continued*)

Tasks	Detailed Steps
3. Display the **Network Identification** tab.	**a.** Click the Network Identification tab.

What domain is the computer a member of?

Answers will vary.

Which tab in the **System Properties** dialog box enables you to install additional hardware?

Hardware.

Tasks	Detailed Steps
4. Display the **Hardware** tab.	**a.** Click the **Hardware** tab.

Which button do you click to install hardware?

Hardware wizard.

Which button do you click to see the current status of devices installed on the system?

Device Manager.

(*continued*)

Tasks	Detailed Steps
5. Display the **User Profiles** tab.	**a.** Click the **User Profiles** tab.
How can you determine the number of users who have logged on to this computer? **Because everyone who logs on to the computer has a profile, you can count the number of profiles stored on this computer.**	
6. Display the **Advanced** tab.	**a.** Click the **Advanced** tab.
If you needed to adjust how the processor is utilized when running applications, which button on the **Advanced** tab would you click? **The Performance Options button.**	
7. Close the **System Properties** dialog box to return to Control Panel.	**a.** Click **Cancel**.
Which tool in Control Panel lets you modify or run tasks that have been set to run at a scheduled time? **Scheduled Tasks.**	
Which tool in Control Panel is actually a folder that contains additional administrative tools? **Administrative Tools.**	

(*continued*)

Tasks	Detailed Steps
8. Open the Administrative Tools folder**.**	**a.** Double-click the **Administrative Tools** folder.
Which tool in the Administrative Tools folder (found on domain controllers) enables an administrator to manage domain user accounts? **Active Directory Users and Computers.**	
9. Open Active Directory Users and Computers.	**a.** Double-click Active Directory Users and Computers.
Which tool in the Administrative Tools folder enables you to manage shared folders on the server and administer the hard drive? **Computer Management.**	
10. Open Computer Management.	**a.** Close Active Directory Users and Computers. **b.** Double-click **Computer Management** to open it. **c.** Maximize the **Computer Management** window.
Which tool in Computer Management provides information about hardware, software, and system problems? **Event Viewer.**	
11. Expand Event Viewer.	**a.** In the left pane, expand **Event Viewer**. *The Event Viewer expands to show the various logs that it maintains.*

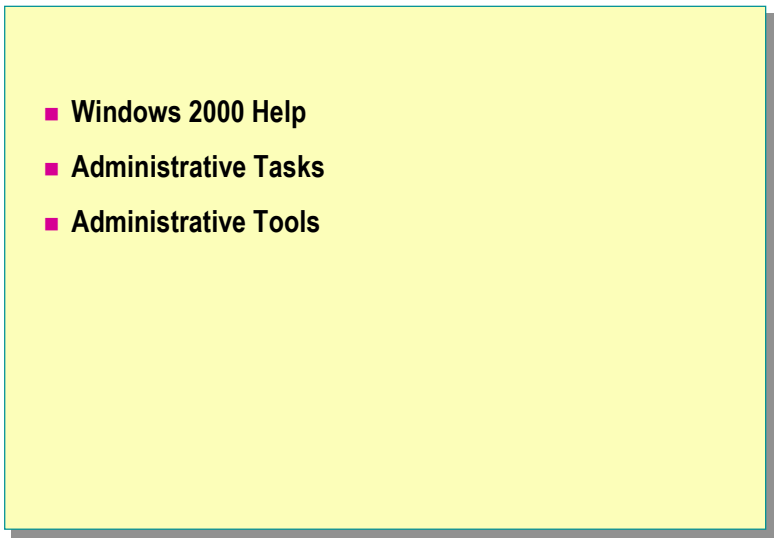
(*continued*)

Tasks	Detailed Steps
	Which log contains events logged by Windows 2000 system components? **System log.**
	Which tool in Computer Management enables you to create, view, and set permissions for shares on computers? **Shared Folders.**
	Which tool in Computer Management enables you to manage partitions on your computer? **Disk Management.**
	Which tool in Computer Management enables you to defragment your hard drive? **Disk Defragmenter.**
12. Close Computer Management, and log off from Windows 2000.	**a.** Close Computer Management, and log off from Windows 2000.

Review

Slide Objective
To reinforce module objectives by reviewing key points.

Lead-in
The review questions cover some of the key concepts taught in the module.



1. Mary wants to install some additional hardware in her computer but does not know the exact procedure to do so. How can she easily access information on installing additional hardware on her computer?

   Mary can access information on installing a hardware device from Windows 2000 Help.

2. Which feature of Windows 2000 Help would you use to locate information on a specific topic?

   The Search feature.

3. What is the purpose of user accounts?

   User accounts enable users to log on to a server to access network resources or to log on to an individual computer to access resources on that computer.

4. You do not want to give all users on the network full access to resources. How can you ensure that users are able to access specific network resources depending on their job profile?

   Assign user permissions so that you can control access to resources. This is done by determining the specific resources that each user can access and then specifying the kind of access that each user can have.

5. As an administrator, you perform some tasks that occur at frequent intervals. Which tool in Windows 2000 can you use to specify that these recurring tasks occur automatically?

   Scheduled Tasks.

6. The System Information utility displays a comprehensive view of the hardware, system components, and software environment. What are the four top-level categories into which this information is organized?

   System Summary.

   Hardware Resources.

   Components.

   Software Environment.

7. While working with an application running on Windows 2000, the computer displays an Error event. By mistake, instead of reading the Error event, you close the application. How can you recover the Error event?

   You use Event Viewer to locate the Error event. Information about the error is stored in the application log.

8. You are setting up a computer for a new employee. You need to create volumes, format volumes with file systems, and initialize disks. Which tool in Windows 2000 enables you to perform all of these tasks?

   The Disk Management utility.

9. How can you protect crucial data from accidental loss if your system experiences hardware or storage media failure?

   You can use the Backup utility to create a duplicate copy of data on a hard disk and store the data on another device, such as a different hard disk or a tape.