



Lesson Plans

Microsoft's Managing and Maintaining a Microsoft Windows Server 2003 Environment

(Exam 70-290)

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Course Overview

Introduction

This module introduces Windows Server 2003, Active Directory, and basic server administration.

Module 1

Module 1 explains installation procedures, including automated and remote installations.

Module 2

Module 2 discusses resource management with user accounts, profiles, and groups.

Module 3

Module 3 introduces Group Policy. The students should leave with a basic understanding of the function Group Policy fills.

Module 4

Module 4 covers hardware installation, configuration, and troubleshooting. You should have various pieces of hardware you can work with for this module.

Module 5

Module 5 covers volumes, performance, and fault tolerance. It also covers basic principles of disk maintenance, including defragmenting and disk recovery.

Module 6

Module 6 explains methods for ensuring the availability of data on your network. This includes setting up backups and recovering data in the event of a computer failure.

Module 7

Module 7 covers file systems, permissions, rights, shared folders, share permissions, disk quotas, encryption, compression, and offline files for remote access.

Module 8

Module 8 covers installing and configuring a Web site, IIS security, and IIS management.

Module 9

Module 9 covers printer configuration, customization, management, and troubleshooting. If possible, get a printer you can work with.

Module 10

Module 10 introduces software updates and deployment.

Module 11

Module 11 introduces the concepts related to securing a network environment.

Module 12

Module 12 explains methods for monitoring and optimizing your system.

Section 0-1: Introduction

Preparation

Review the prerequisites so that you can make sure the students are prepared to take the course. Review Active Directory concepts.

Lecture Focus Questions:

- What are the primary container and objects used in Active Directory?
- What is the hierarchy in a forest?
- What is a trust relationship?
- What are the functions of domain controllers?
- What are the advantages of using organizational units?

Time

About 45 minutes

Section 0-2: Server Administration

Preparation

This section introduces Terminal Services. Install Terminal Services on the instructor computer. Be aware that the Offline Files tab on the Folder Options dialog box will disappear when you install Terminal Services. You don't want to be running this service when you are teaching about offline files.

Windows Server 2003 Objectives

302. Troubleshoot Terminal Services.

- Diagnose and resolve issues related to Terminal Services security.
- Diagnose and resolve issues related to client access to Terminal Services.

404. Manage servers remotely.

- Manage a server by using Remote Assistance.
- Manage a server by using Terminal Services remote administration mode.

Lecture Focus Questions:

- What are the steps to configure Terminal Services?
- What are the limitations of the evaluation period for Terminal Services?
- What are the methods used to remotely configure clients servers?
- What computer operating systems are required for both the novice and the expert workstations when using Remote Assistance?

Time

About 45 minutes

Lab/Activity

- Enable remote desktop

Section 1-1: Installing Windows 2003 Server

Preparation

This section introduces Windows 2003 installation. Ideally, students will practice a few installations of their own. This may not be practical during lab as it typically takes well over 30 minutes to complete an installation.

Windows Server 2003 Objectives

403. Manage software site licensing.

Lecture Focus Questions:

- Why would you select one method over another to install Microsoft Windows 2003 operating system?
- How do you determine when to use Winnt.exe or Winnt32.exe?
- What is the function of the answer file during a Windows 2003 installation?
- What factors would you consider when choosing per seat vs. per server licensing?

Time

About 45 minutes

Section 1-2: Automated Installs

Preparation

Be familiar with the different types of remote installations and their requirements.

Lecture Focus Questions:

- What are the methods used to perform unattended installations of Windows 2003?
- What is the process of installing RIS for Remote Installation Services?
- What operating systems are supported for Remote Installation Services?
- What are the components that must be installed on a RIS server for Remote Installation Services?

Time

About 45 minutes

Lab/Activity

- Create an Unattend.txt file

Section 2-1: Users

Preparation

This section introduces user accounts. Familiarize yourself with the creation of user accounts and user properties prior to discussing these concepts in the lecture.

Windows Server 2003 Objectives

204. Create and manage user accounts.

- Create and modify user accounts by using the Active Directory Users and Computers MMC snap-in.

206. Troubleshoot user accounts.

- Diagnose and resolve account lockouts.
- Diagnose and resolve issues related to user account properties.

Lecture Focus Questions:

- What are the advantages of using groups when setting permissions?
- What are the differences between local users and groups and global users and groups?
- What is the best way to handle a user's account when an employee quits the company and will be replaced by a new employee in the near future?

Time

About 45 minutes

Lab/Activity

- Create a Domain User Account
- Modify User Account Properties
- Change the Logon Name
- Modify Password Settings
- Set Account Expiration
- Reset the Password
- Enable an Account

Section 2-2: Groups

Preparation

This section introduces groups on the local computer and in the domain environment.

Windows Server 2003 Objectives

203. Create and manage groups.

- Identify and modify the scope of a group.
- Manage group membership.
- Create and modify groups by using the Active Directory Users and Computers Microsoft Management Console (MMC) snap-in.

Lecture Focus Questions:

- What is the difference between a security group and a distribution group?
- What is the purpose of each group scope?
- What built-in groups are automatically available after installation?

Time

About 45 minutes

Lab/Activity

- Create a Global Group
- Create a Domain Local Group
- Create a Universal Group
- Create a Distribution Group
- Change the Group Scope

Section 2-3: Group Strategy

Preparation

This section introduces the different ways to use groups to manage access to system resources.

Windows Server 2003 Objectives

203. Create and manage groups.

Lecture Focus Questions:

- What are the circumstances that warrant using a universal group over a global group?
- When you add a user to a group, when will the permissions be granted that apply to that group?
- How is the technique of nesting used when assigning permissions to groups?

Time

About 45 minutes

Lab/Activity

- Implement a group strategy

Section 2-4: User Profiles

Preparation

Familiarize yourself with the different types of profiles and their uses. Create mandatory and roaming profiles to show the students. Be prepared to discuss the best practices for using profiles.

Windows Server 2003 Objectives

201. Manage local, roaming, and mandatory user profiles.

Lecture Focus Questions:

- What is the name of the default user profile created when a user is created and where is it stored?
- What parameters does the user profile allow the user to modify?
- How do you alter the default user profile to create a mandatory user profile?
- Since both mandatory and personal user profiles can be modified, what are the differences between the two types of profiles?

Time

About 45 minutes

Lab/Activity

- Create a mandatory profile
- Create a roaming profile
- Delete user profiles

Section 2-5: Computer Accounts

Preparation

Familiarize yourself with the difference between user and computer accounts.

Windows Server 2003 Objectives

202. Create and manage computer accounts in an Active Directory environment.

205. Troubleshoot computer accounts.

- Diagnose and resolve issues related to computer accounts by using the Active Directory Users and Computers MMC snap-in.
- Reset computer accounts.

207. Troubleshoot user authentication issues.

Lecture Focus Questions:

- What are the steps required to join a domain manually?
- What can the administrator do to allow a user to join a computer to a domain during installation?
- What are the things to consider if a computer account has been created on a domain but doesn't seem to be able to join the domain?

Time

About 45 minutes

Lab/Activity

- Create computer accounts
- Disable a computer account
- Reset a computer account

Section 2-6: AD Command Prompt Tools

Preparation

Many of the Active Directory administrative tasks can be accomplished from a command line. This facilitates the remote management of server systems. Learn the command prompt tools and their functions.

Windows Server 2003 Objectives

203. Create and manage groups.

- Find domain groups in which a user is a member.
- Create and modify groups by using automation.

204. Create and manage user accounts.

- Create and modify user accounts by using automation.
- Import user accounts.

Lecture Focus Questions:

- What objects can be imported and exported in Active Directory?
- How do you move objects from one Active Directory to another Active Directory?
- When would you choose Csvde over Ldifde when moving objects?
- What are the advantages of the new Directory Services command line tools?

Time

About 45 minutes

Lab/Activity

- Use command prompt tools

Section 3-1: Group Policy

Preparation

This section introduces Group Policy. If your computer environment permits, create a couple example policies to show students during class.

Lecture Focus Questions:

- What is the difference between Computer and User settings in a GPO?
- To which objects can group policy objects be linked?
- What principles are used to control the application of group policies?
- What are the rules to keep in mind when determining the effective permissions of multiple GPOs created at different locations on the domain?

Time

About 45 minutes

Lab/Activity

- Create and link a GPO
- Configure GPO settings
- Control GPO application

Section 4-1: Installing Hardware Devices

Preparation

This section introduces device installation. If possible have a variety of devices available to attach to the printer (try to have one that requires manual installation of the drivers for demonstration purposes), especially a printer.

Windows Server 2003 Objectives

104. Install and configure server hardware devices.

- Configure resource settings for a device.
- Configure device properties and settings.

Lecture Focus Questions:

- How do Plug and Play devices simplify installation?
- What key steps are necessary to install legacy devices?
- What are the major groupings of different devices?
- What user rights are required to install devices?

Time

About 45 minutes

Lab/Activity

- Autodetect a Plug and Play device
- Install a legacy device

Section 4-2: Managing Devices and Drivers

Preparation

This section discusses the concept of drivers and driver signing. If possible, have a device available to install. Update the driver using the device's Properties dialog box. If not, be familiar enough to show the students the device's properties.

Windows Server 2003 Objectives

102. Monitor server hardware. Tools might include Device Manager, the Hardware Troubleshooting Wizard, and appropriate Control Panel items.

104. Install and configure server hardware devices.

- Configure driver signing options.
- Configure resource settings for a device.
- Configure device properties and settings.

Lecture Focus Questions:

- How does driver signing ensure driver integrity?
- What options are available when setting up driver signing options?
- How do you ensure that the driver signing options you have selected will be imposed upon all users that log on to the system?
- What file verification tools are available to verify driver signatures and file integrity?

Time

About 45 minutes

Lab/Activity

- Enable and disable devices
- Remove a device
- Upgrade a driver
- Configure driver signing

Section 5-1: File Systems

Preparation

Familiarize yourself with the different file systems. If possible, create three partitions on a volume. Format each with a different file system. Examine the differences in Computer Management or in Disk Management. Show the compression, quota, and permissions settings in the Local Disk Properties dialog box of the NTFS volume.

Windows Server 2003 Objectives

303. Configure file permissions.

Lecture Focus Questions:

- Which file systems does Windows 2003 support?
- How do you convert a FAT file system to NTFS?
- What additional capabilities are added to a FAT32 file system when it is converted to NTFS?

Time

About 45 minutes

Lab/Activity

- Convert a drive to NTFS
- Format a drive

Section 5-2: Disks and Volumes

Preparation

Familiarize yourself with the volume characteristics.

Windows Server 2003 Objectives

101. Manage basic disks and dynamic disks.

Lecture Focus Questions:

- What are the differences between basic and dynamic disks?
- What new feature is allowed on Server 2003 with dynamic disks not available previously?
- What is an extended volume?
- What are the advantages and disadvantages of spanned volumes?

Time

About 45 minutes

Lab/Activity

- Upgrade a disk
- Revert a disk to basic
- Create a volume
- Span an existing volume
- Create a spanned volume

Section 5-3: Performance and Fault Tolerance

Preparation

Familiarize yourself with the different methods for fault tolerance and redundancy. Learn the different RAID configurations to be able to discuss them during lecture.

Windows Server 2003 Objectives

101. Manage basic disks and dynamic disks.

103. Optimize server disk performance.

- Implement a RAID solution.
- Defragment volumes and partitions.

Lecture Focus Questions:

- What RAID levels are supported by Windows 2003?
- Which RAID levels provide fault tolerance?
- What method is used to recover data from a RAID0 disk failure on striped volumes?
- What are the advantages of RAID5 over RAID0 and RAID1?
- How does parity protect data using Raid-5 in the event of a single disk failure?

Time

About 45 minutes

Lab/Activity

- Create a striped volume
- Create a mirrored volume
- Mirror an existing drive
- Mirror the system partition
- Create a RAID volume

Section 5-4: Maintaining Disks and Volumes

Preparation

Familiarize yourself with the methods for defragmenting and recovering disks.

Windows Server 2003 Objectives

102. Monitor server hardware. Tools might include Device Manager, the Hardware Troubleshooting Wizard, and appropriate Control Panel items.

503. Recover from server hardware failure.

Lecture Focus Questions:

- What volume types lose all data in the absence of parity and data backup?
- What are the steps to recovering from a drive failure?
- What are the functions of the ARC path components?

Time

About 45 minutes

Lab/Activity

- Break a mirrored volume
- Recover a failed mirrored volume
- Repair a RAID volume

Section 6-1: Backup and Restore

Preparation

Create some backup, disaster, and restore scenarios for class discussion.

Windows Server 2003 Objectives

501. Perform system recovery for a server.
 - Configure security for backup operations.
502. Manage backup procedures.
 - Verify the successful completion of backup jobs.
 - Manage backup storage media.
503. Recover from server hardware failure.
 - Restore backup data.
 - Schedule backup jobs.

Lecture Focus Questions:

- If you are using mirrored or RAID disks, do you need to back up your system?
- What file components make up the system state data for Windows 2003 Server?
- What are the advantages of the different backup types?
- Which backup strategy would you choose if fast restore times were important? Which strategy would you choose to minimize the number of tapes used?
- What is the function of the authoritative restore option?

Time

About 45 minutes

Lab/Activity

- Manage backup media and devices
- Back up data
- Restore data

Section 7-1: NTFS Permissions

Preparation

Prepare some NTFS permissions examples to present on the board. Using your instructor account, create a file, place it in a shared folder on your computer, and give Everyone Read access to the file.

Windows Server 2003 Objectives

303. Configure file system permissions.

- Verify effective permissions when granting permissions.
- Change ownership of files and folders.

Lecture Focus Questions:

- When do NTFS permissions apply?
- What are the differences between the NTFS full control permission and the modify permission?
- Which permission assignment overrides all other permission assignments?

Time

About 45 minutes

Lab/Activity

- Configure NTFS permissions
- Copy and modify inherited permissions
- Remove inherited permissions

Section 7-2: Shared Folders

Preparation

This section introduces shared folders.

Windows Server 2003 Objectives

301. Configure access to shared folders.

Lecture Focus Questions:

- What are the differences and similarities between NTFS permissions and share permissions?
- What is the difference between modify and change permissions?
- How does the access funnel theory help to explain the effective permission when combining NTFS permissions and share permissions?
- What tools can you use to share folders?

Time

About 45 minutes

Lab/Activity

- Share a folder with a second name
- Unshare a folder
- Remove a shared folder

Section 7-3: Share Access

Preparation

This section covers the methods for managing access to shared resources.

Windows Server 2003 Objectives

301. Configure access to shared folders.

- Manage shared folder permissions.

Lecture Focus Questions:

- What strategy can be used to secure network resources by combining both NTFS permissions and share permissions?
- What is the process for hiding a share?
- How are administrative shares accessed?

Time

About 45 minutes

Lab/Activity

- Configure share permissions
- Create a share and set permissions
- Configure share limits
- Configure NTFS and share permissions

Section 7-4: Disk Quotas

Preparation

Familiarize yourself with the use of disk quotas. If possible, set various disk quotas on several folders. Have the students save files to them to test the quotas.

Windows Server 2003 Objectives

407. Monitor file and print servers. Tools might include Task Manager, Event Viewer, and System Monitor.

- Monitor disk quotas.

Lecture Focus Questions:

- Are disk quotas configured on disks, volumes, folders, or files?
- What effect does compressing files have on the disk quota limit?
- What actions can be taken when a user exceeds the disk quota limit?
- How can you have a disk quota configured, but still allow users to exceed the quota limits?
- What conditions must be met before you can delete a disk quota entry?
- Which user is exempt from disk quotas?

Time

About 45 minutes

Lab/Activity

- Enable quota restrictions
- Create a quota entry
- Modify quota limits
- Delete a quota limit

Section 7-5: Encryption and Compression

Preparation

This section covers the encryption and compression features of the NTFS file system. Encrypt and compress various folders and files for use during the lecture.

Windows Server 2003 Objectives

301. Configure access to shared folders.

Lecture Focus Questions:

- What are different methods for encrypting a file?
- Under what circumstances can an encrypted file under EFS lose its encryption?
- Who can open an encrypted file?
- What files are not allowed to be encrypted?
- Where are the advantages and disadvantages of compression?

Time

About 45 minutes

Lab/Activity

- Encrypt a folder
- Decrypt a file
- Compress a drive
- Compress a folder

Section 7-6: Offline Files

Preparation

This section covers information relevant to mobile computers. Set up a share on the instructor's server that will be available for offline files.

Windows Server 2003 Objectives

301. Configure access to shared folders.

Lecture Focus Questions:

- What are the different settings available for offline file caching?
- How does offline file support provide access to shared files?

Time

About 45 minutes

Lab/Activity

- Optimize program caching
- Enable automatic caching
- Disable share caching

Section 8-1: Installing and Configuring a Web Site

Preparation

This section introduces the Internet Information Server. While IIS was installed by default in Windows 2000 Server, it is not in Windows Server 2003. Install IIS through the Add/Remove Programs Control Panel applet.

Windows Server 2003 Objectives

409. Manage a Web server.

- Manage Internet Information Services (IIS).

Lecture Focus Questions:

- What is IIS?
- What is the default home page path?
- What is a *virtual directory*?

Time

About 45 minutes

Lab/Activity

- Install IIS
- Change the default home page
- Change the home directory path
- Create a virtual directory
- Set the virtual directory home page

Section 8-2: Securing IIS

Preparation

This section covers the methods for securing IIS. This is a complex section. Be familiar with authentication methods.

Windows Server 2003 Objectives

409. Manage a Web server.

- Manage Internet Information Services (IIS).
- Manage security for IIS.

Lecture Focus Questions:

- What are the features of the Basic Authentication?
- What is the disadvantage of Integrated Windows Authentication?
- What effects would the different Web permissions allow?
- What happens when Web site, directory, and NTFS permissions are all set on Web content?

Time

About 45 minutes

Lab/Activity

- Configure Web site authentication
- Configure virtual directory authentication
- Configure virtual directory permissions

Section 8-3: Managing IIS

Preparation

This section introduces the different management tasks associated with IIS. If possible, set up a small Web site for the students to work with.

Windows Server 2003 Objectives

409. Manage a Web server.

- Manage Internet Information Services (IIS).
- Manage security for IIS.

Lecture Focus Questions:

- Where is a default Web site assigned when using IIS Manager?
- What are the steps to creating a virtual directory?
- How can you get a Web site to respond to different Web site names?
- What is included in the default home page display?

Time

About 45 minutes

Lab/Activity

- Limit Web site access
- Stop the Web site
- Create a new Web site

Section 9-1: Configuring Printing

Preparation

This section introduces printing concepts and tasks.

Windows Server 2003 Objectives

407. Monitor file and print servers. Tools might include Task Manager, Event Viewer, and System Monitor.

- Monitor print queues.

Lecture Focus Questions:

- How can printer terminology be confusing in a Windows 2003 environment?
- What are the advantages of network printing?
- To what locations are local print devices connected?
- For which physical printing configurations would you choose a local printer when adding a printer? When would you choose a network printer?

Time

About 45 minutes

Lab/Activity

- Install a local printer
- Share a printer
- Create and share a printer
- Unpublish a printer in Active Directory
- Configure printer permissions

Section 9-2: Customizing Printing

Preparation

This section looks at some advanced printer configurations.

Windows Server 2003 Objectives

405. Troubleshoot print queues.

407. Monitor file and print servers. Tools might include Task Manager, Event Viewer, and System Monitor.

- Monitor print queues.

Lecture Focus Questions:

- Under which circumstances would you configure a printer to use multiple print devices? When would you configure multiple printers for a single print device?
- What are the advantages of print pooling?
- How can you ensure important print jobs will automatically be printed before any other print jobs?

Time

About 45 minutes

Lab/Activity

- Configure printer pooling
- Restrict printing times
- Configure printer priority

Section 9-3: Managing Printing

Preparation

This section introduces the various management tasks administrators may have to deal with.

Windows Server 2003 Objectives

405. Troubleshoot print queues.

407. Monitor file and print servers. Tools might include Task Manager, Event Viewer, and System Monitor.

- Monitor print queues.

Lecture Focus Questions:

- Where would you go to perform the following tasks?
 - View the port used by each printer.
 - Change the driver used by a printer.
 - Add drivers for download by clients.
 - Move, pause, or delete print jobs.
 - Configure notification for print jobs.
- How do clients obtain the correct driver for shared printers?
- Where are documents saved prior to printing?

Time

About 45 minutes

Lab/Activity

- Add printer drivers
- Delete a print job
- Disable printer notification
- Disable printer notification (non-2000 clients)
- Change the spool location

Section 9-4: Troubleshooting Printing

Preparation

This section introduces print troubleshooting techniques.

Windows Server 2003 Objectives

405. Troubleshoot print queues.

Lecture Focus Questions:

- How does a print job get from the sending computer to the printer?
- How do you recover print jobs when a print device needs to be taken off line?
- Where is a print job stored once a user has sent it to the printer?

Time

About 45 minutes

Lab/Activity

- Redirect print jobs

Section 9-5: IPP

Preparation

This section introduces the Internet Printing Protocol.

Windows Server 2003 Objectives

407. Monitor file and print servers. Tools might include Task Manager, Event Viewer, and System Monitor.

409. Manage a Web server.

- Manage Internet Information Services (IIS).

Lecture Focus Questions:

- What is the functionality of IPP?
- What are the system requirements for Internet printing?
- How do users access printers across the Internet?
- How do you provide intranet printing on client machines?

Time

About 45 minutes

Lab/Activity

- Configure IPP

Section 10-1: Deploying and Updating Software

Preparation

This section introduces the concepts of software distribution.

Windows Server 2003 Objectives

402. Manage software update infrastructure.

Lecture Focus Questions:

- What options are available to deploy applications and programs out to the client machines?
- What are the differences between assigning an application or publishing an application when using group policy objects to deploy applications out to client machines?
- What is the process to troubleshoot software deployment?
- How are patches and service packs handled differently?

Time

About 45 minutes

Lab/Activity

- Create a software distribution package

Section 10-2: Software Update Services

Preparation

This section covers the Software Update Services component of Windows Server 2003.

Windows Server 2003 Objectives

402. Manage software update infrastructure.

Lecture Focus Questions:

- What is the function of Software Update Services (SUS)?
- From what location is the SUS available to install on your server?
- What are the functions of the major components of SUS?
- What types of files cannot be updated with SUS?

Time

About 45 minutes

Lab/Activity

- Configure SUS
- Manage SUS clients

Section 11-1: Account Policies

Preparation

This section introduces the use of account policies to direct user account administration.

Windows Server 2003 Objectives

206. Troubleshoot user accounts.

- Diagnose and resolve account lockouts.
- Diagnose and resolve issues related to user account properties.

207. Troubleshoot user authentication issues.

Lecture Focus Questions:

- How does an overly restrictive password requirement compromise the network?
- What password settings are available to tighten up network security?
- How do account lockout settings protect the network?
- Where must account and password policies be configured?

Time

About 45 minutes

Lab/Activity

- Configure account settings
- Configure password settings

Section 11-2: Auditing

Preparation

This section introduces the concept of auditing as an element of administration.

Windows Server 2003 Objectives

206. Troubleshoot user accounts.

207. Troubleshoot user authentication issues.

Lecture Focus Questions:

- What are the types of functions you can audit?
- What measures should be taken to protect excessive system resources from being consumed by auditing?
- How does auditing file access differ from auditing other items?
- Where do you view audit entries?

Time

About 45 minutes

Lab/Activity

- Configure auditing

Section 11-3: Security Templates

Preparation

This section introduces the use of security templates to help enforce network security.

Windows Server 2003 Objectives

406. Monitor system performance.

Lecture Focus Questions:

- What are the advantages of security templates?
- What program is available to access the predefined security templates?
- What command allows you to analyze and apply templates?
- Why is it important to clear current settings before importing a new template?

Time

About 45 minutes

Lab/Activity

- Analyze security settings
- Configure and apply security templates

Section 12-1: Event Viewer

Preparation

This section introduces Event Viewer. Try to have several different events and statuses for the students to view.

Windows Server 2003 Objectives

401. Monitor and analyze events. Tools might include Event Viewer and System Monitor.

407. Monitor file and print servers. Tools might include Task Manager, Event Viewer, and System Monitor.

- Monitor server hardware for bottlenecks.

Lecture Focus Questions:

- What three default log files are available in event viewer?
- When are additional log files made available in event viewer?
- What events do the System Log and Application Log monitor?
- What events does the Security Log monitor?

Time

About 45 minutes

Lab/Activity

- Configure log properties
- Clear the System Log

Section 12-2: Monitoring Performance

Preparation

Set up some scenarios in which systems exceed the recommended operating parameters. Have the students isolate, diagnose, and suggest fixes for the problems.

Windows Server 2003 Objectives

406. Monitor system performance.

408. Monitor and optimize a server environment for application performance.

- Monitor memory performance objects.
- Monitor network performance objects.
- Monitor process performance objects.
- Monitor disk performance objects.

Lecture Focus Questions:

- What built-in monitor utilities are available with Windows 2003?
- What steps must you complete to setup Network Monitor on the network?
- What functions does Task Manager provide?
- What monitor utility could be used to troubleshoot a connectivity problem with a server?

Time

About 45 minutes

Lab/Activity

- Monitor system performance

Section 12-3: System Recovery

Preparation

This section introduces the methods available for recovering from system failures.

Windows Server 2003 Objectives

501. Perform system recovery for a server.

- Implement Automated System Recovery (ASR).
- Restore data from shadow copy volumes.
- Back up files and System State data to media.
- Configure security for backup operations.

Lecture Focus Questions:

- What are the key differences between Driver Rollback and Automatic System Recovery (ASR)?
- When troubleshooting the network, in what circumstances would you use Safe Mode over Last Known Good?

Time

About 45 minutes

Lab/Activity

- Use driver rollback
- Set up and use ASR
- Use Volume Shadow Copy