



Preliminary Course Syllabus

Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure: Network Services

Elements of this syllabus are subject to change.

This five-day instructor-led course provides students with the knowledge and skills to implement and manage a Microsoft® Windows® Server 2003 network infrastructure. The course is intended for systems administrator and systems engineer candidates who are responsible for implementing and managing server networking technologies. These tasks include implementing routing; implementing and managing Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; configuring a network access infrastructure by configuring the connections for remote access clients, and managing and monitoring network access.

This is the fourth course in the Systems Administrator and Systems Engineer track for Windows Server 2003, and it is the final course in the Systems Administrator track.

Audience

This course is intended for individuals who are employed as or seeking employment as a systems administrator or systems engineer.

At Course Completion

After completing this course, students will be able to:

- Install and configure routing by using the Routing and Remote Access service.
- Install and configure the DHCP Server service.
- Manage and monitor DHCP.
- Configure host and network basic input/output system (NetBIOS) name resolution.
- Install and configure the DNS Server service.
- Manage and monitor DNS.
- Install, configure, and manage WINS.
- Secure IP traffic by using IPSec and certificates.
- Implement a network access infrastructure by configuring the connections for virtual, dial-up, and wireless clients.
- Manage and monitor remote connections in a network access infrastructure.

Prerequisites

Before attending this course, students must have:

- Completed Course 2276, *Implementing a Microsoft Windows Server 2003 Network Infrastructure: Network Hosts*, or have equivalent knowledge and skills.

Student Materials

The student kit includes a comprehensive workbook and other necessary materials for this class.

Key Data

Course #: 2277

Number of Days: 5

Format: Instructor-Led

Certification Exams:

This course—together with course 2276, *Implementing a Microsoft Windows Server 2003 Network Infrastructure: Network Hosts*—helps you prepare for the following Microsoft Certified Professional exam:

- 70-291: *Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure*

Certification Track: MCSA, MCSE

This course is based on the Release Candidate 2 version of Microsoft® Windows® Server 2003.

All labs in the course are to be completed with the Release Candidate 2 version of Windows Server 2003.

The components of this course are still in development. Content in the final release of the course may be different from the content included in this prerelease version.

This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs.

Course content, prices, and availability are subject to change without notice.

For a referral to a Microsoft Certified Technical Education Center in your area, see the Microsoft Training and Certification Web site at <http://www.microsoft.com/traincert>. Call your local Microsoft Certified Technical Education Center for more information and to register for classes.

Module 1: Configuring Routing by Using Routing and Remote Access

This module explains how to effectively configure a routing solution for your network environment.

Lessons
<ul style="list-style-type: none">▪ Installing and Configuring the Routing and Remote Access Service▪ Configuring Packet Filters
Lab A: Configuring Routing by Using Routing and Remote Access

After completing this module, students will be able to:

- Install and configure routing.
- Configure packet filters.

Module 2: Allocating IP Addressing by Using Dynamic Host Configuration Protocol

This module explains how to allocate IP addressing in a network environment.

Lessons
<ul style="list-style-type: none">▪ Adding and Authorizing a DHCP Server Service▪ Configuring a DHCP Scope▪ Configuring a DHCP Reservation▪ Configuring DHCP Options▪ Configuring a DHCP Relay Agent
Lab A: Allocating IP Addressing by Using Dynamic Host Configuration Protocol
<ul style="list-style-type: none">▪ Allocating IP Addressing by Using DHCP

After completing this module, students will be able to:

- Describe the role of DHCP in the network infrastructure.
- Add and authorize a DHCP Server service.
- Configure a DHCP scope.
- Configure DHCP options.
- Configure a DHCP reservation.
- Configure a DHCP relay agent.

Module 3: Managing and Monitoring Dynamic Host Configuration Protocol (DHCP)

This module explains how to manage the Dynamic Host Configuration Protocol (DHCP) service to reflect changing client Internet Protocol (IP) addressing needs. It also shows how the administrator monitors DHCP server performance because the DHCP environment is dynamic.

Lessons

- Overview of Managing and Monitoring DHCP
- Managing a DHCP Database
- Viewing DHCP Statistics
- Monitoring DHCP Server Performance by Using the DHCP Audit Log
- Monitoring DHCP Server Performance by Using the Performance Console

Lab A: Managing and Monitoring DHCP

After completing this module, students will be able to:

- Explain the purpose of managing and monitoring DHCP.
- Manage a DHCP database.
- View DHCP statistics.
- Monitor DHCP server performance by using the DHCP audit log.
- Monitor DHCP server performance by using the Performance console.
- Manage and monitor DHCP.

Module 4: Resolving Names

This module explains how assign computer names to the IP addresses of the source and destination hosts, and then use the computer name to contact the hosts

Lessons

- Configuring Names on a Client
- Configuring Host Name Resolution
- Configuring NetBIOS Name Resolution

Lab A: Resolving Names

After completing this module, students will be able to:

- Describe the name resolution process.
- Configure a name on a client.
- Configure host name resolution.
- Configure NetBIOS name resolution.
- Resolve names.

Module 5: Resolving Host Names by Using Domain Name System (DNS)

This module explains how to resolve host names by using Domain Name System.

Lessons

- Installing the DNS Server Service
- Configuring the Properties for the DNS Server Service
- Configuring the DNS Zones
- Configuring a DNS Client
- Configuring DNS Dynamic Updates
- Configuring DNS Zone Transfers
- Delegating Authority for Zones

Lab A: Configuring DNS for Host Name Resolution

After completing this module, students will be able to:

- Install the DNS Server service.
- Configure the properties for the DNS Server service.
- Configure the DNS zones.
- Configure a DNS client.
- Configure dynamic updates.
- Configure DNS zone transfers.
- Delegate authority for zones.

Module 6: Managing and Monitoring Domain Name System

This module explains how to manage and monitor the DNS Servers to ensure that they are functioning properly and to optimize network performance.

Lessons
<ul style="list-style-type: none">▪ Configuring the Time to Live Interval▪ Configuring Aging and Scavenging▪ Integrating DNS and WINS▪ Verifying that a Resource Record Exists by Using Nslookup, DNSCMD, and DNSLint▪ Testing the DNS Server Configuration▪ Monitoring DNS Server Performance by Using the Performance Console▪ Monitoring DNS Server Performance by Using the DNS Logging▪
Lab A: Managing and Monitoring DNS

After completing this module, students will be able to:

- Describe the role of DNS in the network infrastructure.
- Explain the purpose of DNS.
- Describe how DNS works.

Module 7: Resolving NetBIOS Names by Using Windows Internet Naming Service

This module introduces you to WINS and explains how to use WINS to register NetBIOS names and resolve them to IP addresses.

Lessons
<ul style="list-style-type: none">▪ Installing and Configuring a WINS Server▪ Configuring the WINS Server▪ Managing Records in WINS▪ Configuring WINS Replication▪ Managing the WINS database
Lab A: Identifying and Resolving Common Issues With NetBIOS Name Resolution by Using WINS
<ul style="list-style-type: none">▪ Resolving WINS Server Configuration Issues

After completing this module, students will be able to:

- Explain the role of WINS in the network infrastructure.
- Install and configure a WINS server.

- Configure WINS replication.
- Manage records in WINS.
- Manage a WINS database.

Module 8: Securing Network Traffic by Using IPSec and Certificates

This module explains how to secure network traffic and how to use certificates with IPSec for increased security.

Lessons
<ul style="list-style-type: none">▪ Implementing IPSec▪ Implementing IPSec with Certificates▪ Monitoring IPSec
Lab A: Securing Network Traffic
<ul style="list-style-type: none">▪ Identifying and Resolving Configuration Issues with IPSec Policy

After completing this module, students will be able to:

- Implement IPSec.
- Implement IPSec with certificates.
- Monitor IPSec.

Module 9: Configuring Network Access

This module explains how to configure a server with Routing and Remote Access Service, create appropriate remote access connections on a network access server, and configure users' access rights.

Lessons
<ul style="list-style-type: none">▪ Introduction to a Network Access Infrastructure▪ Configuring a VPN Connection▪ Configuring a Dial-up Connection▪ Configuring a Wireless Connection▪ Controlling User Access to a Network▪ Centralizing Network Access Authentication and Policy Management by Using IAS
Lab A: Configuring Network Access
<ul style="list-style-type: none">▪ Identifying and Resolving Common Issues with VPN Configuration Settings

After completing this module, students will be able to:

- Explain the purpose of a network access infrastructure.
- Describe the components of a network access infrastructure.
- Explain what a network access server is.
- Explain what types of clients access a network.
- Explain what types of authentication methods are used in a network access infrastructure.

Module 10: Managing and Monitoring Network Access

This module explains how to manage and monitor network access.

Lessons
<ul style="list-style-type: none">▪ Managing the Network Access Services▪ Configuring Logging on a Network Access Server▪ Collecting and Monitoring Network Access Data
Lab A: Managing and Monitoring Remote Access

After completing this module, students will be able to:

- Manage the network access services.
- Configure logging on the network access server.
- Collect and monitor network access data.