

# Microsoft Windows Server 2003 Network Infrastructure

*Course 2278—Five days—Instructor-Led*

## **Introduction**

The goal of this five-day course is to provide students with the knowledge and skills necessary to plan and maintain a Windows® Server 2003 network infrastructure.

This is the fifth course in the Windows Server 2003 Systems Engineer curriculum.

## **Audience**

This course is appropriate for individuals employed as or seeking a position as a systems engineer. This course is also appropriate for individuals currently supporting a competitive platform who want to enhance their job skills on Microsoft Windows Server 2003 networking.

The entry criteria for this course include individuals who are:

- IT professionals and new to Windows Server 2003 network implementation.
- Preparing for the Microsoft Certified Systems Engineer (MCSE) certification.

## **At Course Completion**

After completing this course, students will be able to:

- Plan a TCP/IP physical and logical network.
- Plan and troubleshoot a routing strategy.
- Plan a Dynamic Host Configuration Protocol (DHCP) strategy.
- Optimize and troubleshoot DHCP.
- Plan a Domain Name System (DNS) strategy.
- Optimize and troubleshoot DNS.
- Plan and optimize Windows Internet Naming Service (WINS).
- Plan, optimize, and troubleshoot IPsec network access.
- Troubleshoot network access.

## **Prerequisites**

Before attending this course, students must have completed:

- [Course 2277](#): Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure: Network Services, or have equivalent knowledge and skills.

## **Microsoft Certified Professional Exams**

- [Exam 70-293](#): Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure

## **Course Materials**

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

## **Course Outline**

### **Module 1: Introducing Windows Server 2003 Network Infrastructure Planning, Tools, and Documentation**

This module explains the process of planning a network, and the tools and documentation you need to do so.

#### **Lessons**

- Introducing the Network Design
- Planning a Windows Server 2003 Network Infrastructure Project

After completing this module, students will be able to:

- Explain the concepts of a network design process.
- Explain the components of a network planning project.

### **Module 2: Planning and Optimizing a TCP/IP Physical and Logical Network**

This module explains how to plan a TCP/IP physical and logical network.

#### **Lessons**

- Planning a Functional TCP/IP Solution
- Evaluating Network Performance

#### **Lab A: Planning and Optimizing a TCP/IP Physical and Logical Network**

After completing this module, students will be able to:

- Plan a TCP/IP addressing scheme.
- Optimize network performance.

### **Module 3: Planning and Troubleshooting Routing and Switching**

This module explains how to plan a routing and switching strategy, and how to troubleshoot routing and switching.

#### **Lessons**

- Selecting Intermediate Devices
- Planning an Internet Connectivity Strategy
- Planning Routing Communications
- Troubleshooting TCP/IP Routing

#### **Lab A: Planning and Troubleshooting Routing**

After completing this module, students will be able to:

- Create a secure routing and switching plan.
- Identify TCP/IP routing troubleshooting tools.
- Troubleshoot TCP/IP routing and switching.

## **Module 4: Planning, Optimizing, and Troubleshooting DHCP**

This module explains how to plan a DHCP strategy.

### **Lessons**

- Planning a DHCP Strategy
- Securing a DHCP Solution
- Optimizing DHCP
- Troubleshooting DHCP

### **Lab A: Planning a DHCP Strategy**

### **Lab B: Troubleshooting DHCP Issues**

After completing this module, students will be able to:

- Plan a secure DHCP strategy.
- Optimize DHCP.
- Troubleshoot DHCP.

## **Module 5: Planning a DNS Strategy**

This module explains how to plan a DNS strategy for your enterprise.

### **Lessons**

- Planning DNS Servers
- Planning a Namespace
- Planning Zones
- Planning Zone Replication and Delegation
- Integrating DNS and WINS

### **Lab A: Planning a DNS Strategy**

After completing this module, students will be able to:

- Plan a DNS server implementation.
- Plan a namespace strategy.
- Plan zones.
- Plan zone replication and deletion.
- Integrate DNS and WINS.

## **Module 6: Optimizing and Troubleshooting DNS**

This module provides guidelines and strategies for optimizing a DNS server, and details steps for troubleshooting a DNS server.

## **Lessons**

- Optimizing DNS Servers
- Troubleshooting Host Name Resolution

### **Lab A: Troubleshooting DNS**

After completing this module, students will be able to:

- Optimize a DNS server.
- Optimize DNS server-to-server communications.
- Optimize DNS client support traffic.
- Troubleshoot host name resolution.

### **Module 7: Planning and Optimizing WINS**

This module covers planning and optimization of WINS, including information on optimizing servers and detailed explanations of optimization tasks.

## **Lessons**

- Planning a WINS Solution
- Identifying WINS Optimization Requirements
- Optimizing WINS Traffic

### **Lab A: Planning and Optimizing WINS**

After completing this module, students will be able to:

- Plan a WINS solution.
- Identify WINS optimization requirements.
- Optimize WINS traffic.

### **Module 8: Planning and Troubleshooting IPSec**

This module explains how to plan an Internet Protocol Security (IPSec) deployment, and covers the necessary tools and skills for troubleshooting IPSec.

## **Lessons**

- Understanding Default Policy Rules
- Planning an IPSec Deployment
- Troubleshooting IPSec Communications

### **Lab A: Troubleshooting IPSec**

After completing this module, students will be able to:

- Discuss IPSec.
- Understand IPSec default policies, rules, and settings.

- Plan IPSec deployment.
- Troubleshoot IPSec.

## **Module 9: Planning Network Access**

This module explains how to plan network access.

### **Lessons**

- Introducing Network Access
- Selecting Network Access Connection Methods
- Selecting a Remote Access Policy Strategy
- Selecting a Network Access Authentication Method
- Planning a Network Access Strategy

### **Lab A: Planning Network Access**

After completing this module, students will be able to:

- Explain the requirements and authentication protocols for a network access strategy.
- Apply the guidelines for selecting a network access connection strategy.
- Apply the guidelines for selecting a remote access policy strategy.
- Select a network access authentication method.
- Plan a network access strategy.

## **Module 10: Troubleshooting Network Access**

This module explains how to troubleshoot network access.

### **Lessons**

- Troubleshooting Network Access Resources
- Troubleshooting LAN Authentication
- Troubleshooting Remote Access

### **Lab A: Troubleshooting Network Access**

After completing this module, students will be able to:

- Identify network access troubleshooting resources.
- Explain how to troubleshoot local area network (LAN) authentication.
- Explain how to troubleshoot remote access.

## **Module 11: Planning a Windows Server 2003 Network Infrastructure**

This module explains the course capstone lab. The capstone lab provides students with the opportunity to plan, implement, and troubleshoot the network infrastructure for a branch office.

## **Lessons**

- Introducing Planning Documentation
- Preparing Development and Test Environments
- Managing and Maintaining the Environment

### **Lab A: Planning a Windows Server 2003 Network**

### **Lab B: Planning and Maintaining a Windows Server 2003 Network**

After completing this module, students will be able to:

- Identify the components of the master project plan.
- Explain the process for preparing development and test environments.
- Explain how to manage and maintain the network infrastructure.