Implementing a Microsoft Windows 2000 Network Infrastructure

Course 2153 is a five-day course for new-to-product support professionals who will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows 2000 server family of products. (Course 2152 is a prerequisite for course 2153.)

Topics:

- Automating Internet Protocol (IP) Address Assignment Using DHCP
- Implementing Name Resolution Using DNS and WINS
- Configuring and Supporting Remote Access to a Network
- Configuring Network Security Using Public Key Infrastructure
- Integrating Network Services of Windows 2000
- Deploying Windows 2000 Professional Using Remote Installation Services

Course Outline

Module 1: Introduction to Microsoft Windows 2000 Networking Infrastructure

Topics

Overview of the Windows 2000 Network Infrastructure
Introduction to Intranets
Identifying Remote Access Methods
Communicating with Remote Offices
Providing Internet Access
Introduction to Extranets

Skills

*Students will be able to:*

- Define the components of a Windows 2000 network infrastructure.
- Describe the role of an intranet in a Windows 2000 network.
- Identify remote access methods.
- Describe how a remote office can be connected to an intranet.
- Identify the methods that are used to establish Internet access.
- Describe the purpose of an extranet.

Module 2: Automating Internet Protocol (IP) Address Assignment

Topics
Overview of DHCP
Installing the DHCP Service
Authorizing the DHCP Service
Creating and Configuring a Scope
Customizing DHCP Functionality
Configuring DHCP in a Routed Network
Supporting DHCP

Labs
Creating and Authorizing a DHCP Server
Configuring a DHCP Scope

Skills
Students will be able to:

• Define DHCP (Dynamic Host Configuration Protocol) and describe how to use it on a network.
• Install the DHCP service.
• Authorize the DHCP service.
• Create and configure a scope.
• Customize DHCP functionality.
• Configure DHCP in a routed network.
• Support DHCP on a network.

Module 3: Implementing Name Resolution Using DNS

Topics
Overview of the DNS Query Process
Installing the DNS Server Service
Configuring Name Resolution for Client Computers
Creating Zones
Configuring Zones
Configuring DNS for Internal Use
Integrating DNS and DHCP
Maintaining and Troubleshooting DNS Servers

Labs
Installing and Configuring the DNS Server Service
Maintaining and Troubleshooting a DNS Server
Skills

Students will be able to:

- Describe the DNS (Domain Name System) query process.
- Install the DNS Server service.
- Configure name resolution for client computers.
- Create zones.
- Configure zones.
- Configure DNS for internal use by configuring a root zone.
- Configure DHCP for DNS integration.
- Maintain and troubleshoot DNS servers.

Module 4: Implementing Name Resolution by Using WINS

Topics

Connecting to NetBIOS-Based Networks
WINS Overview
Configuring WINS Servers and Clients
Configuring Support for Non-WINS Clients
Enabling WINS Database Replication
Maintaining the WINS Server Database

Lab

Installing and Configuring WINS

Skills

Students will be able to:

- Explain how to connect to NetBIOS-based networks.
- Explain the Windows Internet Name Service (WINS) name resolution process.
- Configure computers as WINS servers and clients.
- Configure support for non-WINS clients.
- Enable WINS database replication
- Maintain the WINS database.

Module 5: Configuring Network Security by Using Public Key Infrastructure
**Topics**

Introduction to Public Key Infrastructure (PKI)
Deploying Certificate Services
Using Certificates
Managing Certificates
Configuring Active Directory for Certificates
Troubleshooting Certificate Services

**Lab**

Installing and Configuring Certificate Services

**Skills**

*Students will be able to:*

- Define PKI concepts.
- Deploy Certificate Services.
- Use certificates.
- Manage certificates.
- Configure the Active Directory™ directory service for certificates.
- Troubleshoot Certificate Services.

**Module 6: Configuring Network Security by Using IPSec**

**Topics**

Introduction to IPSec
Implementing IPSec
Configuring TCP/IP for Server Security
Troubleshooting Network Protocol Security

**Lab**

Configuring TCP/IP for Secure Connections by Using IPSec

**Skills**

*Students will be able to:*

- Describe the use of IPSec in a network.
- Implement IPSec.
• Configure IPSec for server security.
• Troubleshoot network protocol security.

Module 7: Configuring Remote Access

Topics

Examining Remote Access in Windows 2000
Configuring Inbound Connections
Configuring Outbound Connections
Configuring Multilink Connections
Configuring Authentication Protocols
Configuring Encryption Protocols
Configuring Routing and Remote Access for DHCP Integration

Lab

Configuring a VPN Connection

Skills

Students will be able to:

• Describe the remote access process and protocols.
• Configure inbound connections on a remote access server.
• Configure outbound connections on a remote access client.
• Configure Multilink connections.
• Configure authentication protocols for remote access sessions.
• Configure encryption protocols for remote access sessions.
• Configure Routing and Remote Access for DHCP integration.

Module 8: Supporting Remote Access to a Network

Topics

Examining Remote Access Policies
Examining Remote Access Policy Evaluation
Creating a Remote Access Policy
Troubleshooting Remote Access

Labs
Creating a Remote Access Policy and Profile
Troubleshooting Remote Access

Skills

Students will be able to:

- Explain remote access policy and profile concepts.
- Describe the process of remote access policy evaluation.
- Create a remote access policy and configure a remote access profile.
- Maintain and troubleshoot remote access.

Module 9: Extending Remote Access Capabilities by Using IAS

Topics

Introduction to IAS
Installing and Configuring IAS

Lab

Configuring Internet Authentication Service

Skills

Students will be able to:

- Describe the use of IAS in a network.
- Install and configure IAS.

Module 10: Configuring a Windows 2000-Based Server As a Router

Topics

Overview of Routers and Routing Tables
Configuring Network Connections
Enabling Routing by Using Routing and Remote Access
Configuring Static Routes
Configuring a Routing Interface
Implementing Demand-Dial Routing
Configuring the Routing Information Protocol
Labs

Configuring Windows 2000 As a Static Router
Configuring a Windows 2000–Based Router

Skills

_Students will be able to:_

- Explain the function and purpose of routing.
- Configure network connections.
- Enable routing by using Routing and Remote Access.
- Configure static routes.
- Configure a routing interface.
- Implement demand-dial connections.
- Configure the Routing Information Protocol (RIP).

Module 11: Configuring Internet Access for a Network

Topics

Options for Connecting a Network to the Internet
Configuring Internet Access by Using a Router
Configuring Internet Access by Using NAT

Lab

Configuring Internet Access by Using NAT

Skills

_Students will be able to:_

- Describe the options that are available for connecting a network to the Internet.
- Configure Internet access by using a router.
- Configure Internet access by using network address translation (NAT).

Module 12: Configuring a Web Server

Topics

Overview of Microsoft Internet Information Services (IIS)
Preparing for an IIS Installation
Installing IIS
Configuring a Web Site
Administering IIS
Troubleshooting IIS

Lab

Configuring a Web Server

Skills

*Students will be able to:*

- Describe the uses of IIS.
- Prepare for an IIS installation.
- Install IIS.
- Configure a Web site.
- Administer IIS.
- Troubleshoot IIS.

**Module 13: Deploying Windows 2000 Professional by Using RIS**

Topics

RIS Overview
Installing and Configuring RIS
Configuring Remote Installation Options
Deploying Images by Using RIS
Creating an RIPrep Image
Comparing CD-Based Images and RIPrep Images
Identifying Solutions to RIS Problems

Lab

Deploying Windows 2000 Professional by Using Remote Installation Services

Skills

*Students will be able to:*

- Describe the purpose and benefits of Remote Installation Services (RIS).
- Install and configure a RIS server by using the Remote Installation Services Setup wizard.
• Modify RIS configurations, including changing default options for client names and account locations, installation options, and diagnostic utilities.
• Deploy CD-based RIS images.
• Create Remote Installation Preparation (RI Prep) images.
• Compare CD-based images and RI Prep images.
• Provide solutions to potential RIS problems.

Module 14: Managing a Windows 2000 Network

Topics

Windows 2000 Administrative Strategies
Performing Administrative Tasks Remotely by Using Terminal Services
Simple Network Management Protocol (SNMP) Operation
Implementing the Windows 2000 SNMP Service

Lab

Managing a Windows 2000 Network

Skills

Students will be able to:

• Identify Windows 2000 administrative strategies.
• Perform administrative tasks remotely by using Terminal Services.
• Explain how the SNMP protocol works.
• Implement the Windows 2000 SNMP Service.

Module 15: Troubleshooting Windows 2000 Network Services

Topics

Troubleshooting Network Problems
Identifying the Symptoms and Causes of Network Problems
Resolving TCP/IP Problems
Resolving Name Resolution Problems
Troubleshooting Network Services
Monitoring the Network

Labs
Troubleshooting Routing
Troubleshooting Network Problems by Using Network Monitor

Skills

Students will be able to:

- Troubleshoot network connectivity problems.
- Identify the symptoms and causes of network problems.
- Resolve TCP/IP problems.
- Resolve name resolution problems.
- Troubleshoot network services.
- Monitor the network data stream.

Module 16: Configuring Network Connectivity Between Operating Systems

Topics

Configuring Access to NetWare Resources
Providing Macintosh Users Access to Windows 2000 Resources
Connecting to Systems Network Architecture (SNA) Hosts by Using Host Integration Server 2000
Connecting to UNIX Resources

Labs

Configuring Gateway Service for NetWare
Configuring File Services and Print Services for Macintosh

Skills

Students will be able to:

- Configure access to NetWare resources.
- Provide Macintosh users with access to Windows 2000 resources.
- Connect to SNA hosts by using Microsoft Host Integration Server 2000.
- Connect to UNIX resources.