

Course Specifications

Implementing a Microsoft Windows 2000 Network Infrastructure

Course number: 2153

Course length: 5 days

Registration:

CAD & Facilities Services, Inc.
(315) 686.6110
(315) 686.0091 (Fax)
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www.cadfs.com

Implementing a Microsoft Windows 2000 Network Infrastructure

This course is for support professionals who are new to Microsoft® Windows® 2000 and will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows 2000 Server products. It also provides students with the prerequisite knowledge and skills required for course 2154, *Implementing and Administering Microsoft Windows 2000 Directory Services*.

At Course Completion

At the end of the course, students will be able to configure the DHCP Server service, configure the DNS Server service, configure WINS, configure network security protocols, configure network security by using Public Key Infrastructure (PKI), configure network security by using Internet Protocol Security (IPSec), configure remote access to a network, support remote access to a network, extend remote access capabilities by using Internet Authentication Service (IAS), configure Windows 2000 as a network router, configure Internet access for a network, configure a Web server, deploy Windows 2000 Professional by using Remote Installation Services (RIS), manage a Windows 2000 network, identify and resolve network connectivity problems by using Windows 2000 troubleshooting tools and utilities, and enable network connectivity between NetWare, Macintosh, and UNIX networks.

Microsoft Certified Professional Exams

This course helps you prepare for the following Microsoft Certified Professional exam:

- Exam 20-216, *Implementing and Administering a Microsoft Windows 2000 Network Infrastructure*

Prerequisites

This course requires that students meet the following prerequisites:

- Successful completion of course 2152, *Supporting Windows 2000 Professional and Server*, or equivalent skills and knowledge, including the ability to:
 - Install or upgrade to Windows 2000
 - Configure the Windows 2000 environment
 - Connect Windows 2000–based client computers to networks
 - Create and manage user accounts
 - Manage access to resources by using groups
 - Manage data by configuring the NTFS file system
 - Provide network access to file resources



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- Configure and manage disks and partitions
- Monitor and optimize Windows 2000
- Implement Windows 2000 security
- Configure printing
- Configure Windows 2000 for mobile computing
- Implement disaster protection
- Install and configure Terminal Services
- Implement Windows 2000–based client computers
- Implement Windows 2000–based servers
- An understanding of Transmission Control Protocol/Internet Protocol (TCP/IP)

The course materials, lectures, and lab exercises are in English. To benefit fully from our instruction, students need an understanding of the English language.

Day 1

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:

After completing this module, 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:

After completing this module, students will be able to:

- Define DHCP (Dynamic Host Configuration Protocol) and describe how to use it on a network.

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- 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:

After completing this module, 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.

Day 2

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:

After completing this module, 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.



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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:

After completing this module, 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:

After completing this module, students will be able to:

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

Day 3

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:



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After completing this module, 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:

After completing this module, 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:

After completing this module, students will be able to:

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

Day 4

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

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Skills:

After completing this module, 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:

After completing this module, 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:

After completing this module, 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.

Day 5

Module 13: Deploying Windows 2000 Professional by Using RIS

Topics:

RIS Overview
Installing and Configuring RIS
Configuring Remote Installation Options

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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:

After completing this module, 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 (RIPrep) images.
- Compare CD-based images and RIPrep 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:

After completing this module, 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:

After completing this module, 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.



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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:

After completing this module, 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.



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