



Fundamentals of Windows Server 2008 Network and Applications Infrastructure

Days: 5
Format: Instructor-Led
Class Code: 6420
Certification Exams: None
Certification Track: 70-642

Recommended Course Sequence

Knowledge of prerequisites noted below.

Course content is subject to change without notice.

Course Description:

This five-day instructor-led course introduces students to network and applications infrastructure concepts and configurations provided by Windows Server 2008. Students will be able to acquire a fundamental understanding in order to pursue advanced topics available for certification in the network and applications infrastructure areas.

Target Student:

This course is intended for IT Professionals experienced on the technologies included in Windows Server 2000 and Windows Server 2003, and who hold an MCSE or MCSA certification and/or equivalent knowledge.

Certification Track:

- 70-642 - TS: Windows Server 2008 Network Infrastructure, Configuring.
- Also requires course 6421 - Configuring and Troubleshooting a Windows Server 2008 Network Infrastructure.

Prerequisites:

Before attending this course, the student must have:

- A+, Server+, hardware portion of Net+, and familiarity with Windows (client side).
- Working knowledge of networking technologies.

Delivery Method:

Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

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At Course Completion:

After completing this course, students will be able to:

- Describe the fundamentals of an enterprise networking environment.
- Describe the typical roles of IT Professionals in an enterprise environment.
- Describe TCP/IPv4 configurations, protocols, and tools.
- Describe the fundamentals of communication technologies.
- Create an IPv4 address range and subnet.
- Configure IPv6 addresses.
- Administer a Windows 2008 server.
- Describe basic security concepts for server roles.
- Describe how to secure network traffic by using certificates.
- Configure Windows Firewall.
- Configure and troubleshoot remote access.
- Describe routing concepts, protocols, and quality of service.
- Configure and test network load balancing.
- Configure network print resources and printing pools.
- Describe the functions included with Windows Server Virtualization (WSV).

Course Outline

Module 1: Fundamentals of Network Infrastructure

This module describes the fundamentals of an enterprise networking environment, which consists of Windows Infrastructure Services, Windows Application Platform Services, and Active Directory.

Lessons
<ul style="list-style-type: none">■ Network Communication Standards.■ Physical Network Infrastructure.■ Logical Network Organization.■ Overview of Active Directory.■ Server Roles.
Lab: Identifying Network Components
<ul style="list-style-type: none">■ Exercise 1: Creating a Network Diagram.■ Exercise 2: Expanding the Network Diagram.

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Module 2: IT Professionals in the Enterprise

This module describes the IT Professional roles (and their respective responsibilities) that may exist in a typical enterprise environment.

Lessons
<ul style="list-style-type: none">IT Professional RolesIT Management and Processes.Professional Development for IT Professionals.
Lab: Developing a Training Plan
<ul style="list-style-type: none">Exercise 1: Reviewing Information about Microsoft Learning Resources.Exercise 2: Creating a Training Plan.

Module 3: Configuring Basic TCP/IPv4

This module describes the TCP/IPv4 configuration, protocols and the tools used to validate configurations.

Lessons
<ul style="list-style-type: none">Overview of the TCP/IP Protocol Suite.Overview of TCP/IP Addressing.Name Resolution.Dynamic IP Addressing.TCP/IPv4 Tools.
Lab: Configuring Basic TCP/IPv4 Settings and Validating TCP/IPv4 Connectivity
<ul style="list-style-type: none">Exercise 1: Configuring a Dynamic IP Address.Exercise 2: Configuring a Static IP Address.Exercise 3: Testing DNS Configuration.Exercise 4: Connecting to a Web Application.

Module 4: Managing Fundamentals of Communication Technologies

This module describes static and dynamic HTTP content, how to differentiate between the two, and the various mechanisms used by TCP/IPv4 to send and receive data traffic.

Lessons
<ul style="list-style-type: none">Network Content Types,Packet Delivery Methods

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Module 5: Creating IPv4 Address Spaces

This module describes static and dynamic HTTP content, how to differentiate between the two, and the various mechanisms used by TCP/IPv4 to send and receive data traffic.

Lessons
<ul style="list-style-type: none">■ Overview of IP Communication.■ Subnetting Overview.■ Subnetting for Complex Networks.
Lab: Creating IPv4 Address Spaces
<ul style="list-style-type: none">■ Exercise 1: Defining the Subnet Mask for a WAN.■ Exercise 2: Defining the Hosts for a Network.

Module 6: IPv6 Fundamentals

This module introduces IPv6, describes the differences between IPV4 and IPv6, and explains how to configure IPv6 addresses.

Lessons
<ul style="list-style-type: none">■ Introduction to IPv6.■ Unicast IPv6 Addresses.■ Configuring IPv6.

Module 7: Fundamentals of Administering Windows Server

This module explains how to use the administrative tools available in Windows 2008 server to monitor system performance, monitor system status, and manage a server from a remote computer rather than the server console.

Lessons
<ul style="list-style-type: none">■ Using Windows Server 2008 Administrative Tools.■ Monitoring Performance.■ Monitoring Events.■ Using Remote Desktop for Administration.■ Configuring Security for Server Administration.
Lab: Administering Windows Server 2008
<ul style="list-style-type: none">■ Exercise 1: Joining a Server to the Domain.■ Exercise 2: Configuring Remote Desktop for Administration.■ Exercise 3: Centralizing Event Logging.■ Exercise 4: Resolving a Performance Issue by Using Reliability and Performance Monitor.

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Module 8: Security Fundamentals

This module introduces basic industry standard security concepts for server roles.

Lessons
<ul style="list-style-type: none">■ Defense-in-Depth.■ Securing Access to Web Content.■ Securing Access to Files.

Module 9: Fundamentals of Securing Network Communication

This module describes how to secure network traffic by using certificates.

Lessons
<ul style="list-style-type: none">■ Public Key Infrastructure.■ Using Certificates.
Lab: Securing a Web Site by using SSL
<ul style="list-style-type: none">■ Exercise 1: Verifying the Trusted Root CA.■ Exercise 2: Securing a Web site by using SSL.

Module 10: Windows Firewall and Caching Fundamentals

This module introduces basic industry standard security concepts for server roles.

Lessons
<ul style="list-style-type: none">■ Overview of Perimeter Security.■ Windows Firewall Overview.■ Creating Windows Firewall Rules.■ Monitoring and Troubleshooting Windows Firewall.
Lab: Using Windows Firewall
<ul style="list-style-type: none">■ Exercise 1: Limiting Access to a Web Application.■ Exercise 2: Distributing Windows Firewall Rules by Using Group Policy.

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Module 11: Remote Access Fundamentals

This module explains how to configure network policies, configure a radius proxy, and how to troubleshoot NPS as a radius proxy.

Lessons
<ul style="list-style-type: none">Remote Access Overview.RADIUS Overview.Network Policy ServerTroubleshooting Remote Access.
Lab: Implementing Remote Access
<ul style="list-style-type: none">Exercise 1: Implementing a VPN server.Exercise 2: Implementing a RADIUS server.Exercise 3: Implementing a RADIUS proxy.

Module 12: Routing Fundamentals

This module describes routing concepts and protocols, and explains how quality of service can be used within a network environment.

Lessons
<ul style="list-style-type: none">Routing Overview.Configuring Routing and Remote Access as a Router.Quality of Service.
Lab: Configuring Routing
<ul style="list-style-type: none">Exercise 1: Configuring a LAN Router.Exercise 2: Implementing RIPv2.Exercise 3: Configuring a Demand-dial Router.Exercise 4: Configuring QoS

Module 13: Network Load Balancing Fundamentals

This module explains how to configure and test network load balancing.

Lessons
<ul style="list-style-type: none">Server Availability and Scalability Overview.Network Load Balancing.Configuring Windows NLB.
Lab: Implementing Network Load Balancing
<ul style="list-style-type: none">Exercise 1: Preparing Web Servers for NLB.Exercise 2: Creating an NLB Cluster for FailoverExercise 3: Configuring an NLB Cluster for Load Balancing.

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Module 14: Configuring Print Resources and Printing Pools

This module explains how to configure network print resources and printing pools.

Lessons
<ul style="list-style-type: none">■ Printing Overview.■ Configuring Network Printers.■ Using Print Management.■ Managing Printers.■ Troubleshooting Network Printing.
Lab: Implementing Printing
<ul style="list-style-type: none">■ Exercise 1: Creating an XPS document.■ Exercise 2: Adding a Printer by Using Control Panel.■ Exercise 3: Using Print Management.■ Exercise 4: Deploying Printers by Using Group Policy.■ Exercise 5: Migrating a Printer to a New Server

Module 15: Server Virtualization Overview

This module describes the fundamental functions included with Windows Server Virtualization (WSV).

Lessons
<ul style="list-style-type: none">■ Overview of Server Virtualization.■ Overview of Windows Server Virtualization.■ Creating a Virtual Environment.