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Course 6420A:

Fundamentals of Windows Server 2008 Network and Applications Infrastructure

Length:	5 Days
Published:	June 09, 2008
Language(s):	English
Audience(s):	IT Professionals
Level:	100
Technology:	Windows Server 2008
Type:	Course
Delivery Method:	Instructor-led (classroom)

Course OutlineModule 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

- › Network Communication Standards
- › Physical Network Infrastructure
- › Logical Network Organization
- › Overview of Active Directory
- › Server Roles

Lab : Identifying Network Components

- › Creating a Network Diagram
- › Expanding the Network Diagram

After completing this module, students will be able to:



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- › Describe the purpose of network communication standards and the OSI model.
- › Describe the components of physical network infrastructure.
- › Describe the logical organization of networks.
- › Describe the characteristics of Active Directory components.
- › Describe server roles and how they are categorized.

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

- › IT Professional Roles
- › IT Management and Processes
- › Professional Development for IT Professionals

Lab : Developing a Training Plan

- › Reviewing Information about Microsoft Learning Resources
- › Creating a Training Plan

After completing this module, students will be able to:

- › Describe the IT professional roles.
- › Describe IT management and processes.
- › Describe options for the professional development of IT professionals.

Module 3: Configuring Basic TCP/IPv4

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

Lessons

- › Overview of the TCP/IP Protocol Suite
- › Overview of TCP/IP Addressing
- › Name Resolution
- › Dynamic IP Addressing



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- › TCP/IPv4 Tools

Lab : Configuring Basic TCP/IPv4 Settings and Validating TCP/IPv4 Connectivity

- › Configuring a Dynamic IP Address
- › Configuring a Static IP Address
- › Testing DNS Configuration
- › Connecting to a Web Application

After completing this module, students will be able to:

- › Describe the TCP/IP protocol suite and the individual protocols that are part of it.
- › Describe the components of IPv4 addressing.
- › Describe NetBIOS and DNS name resolution.
- › Describe how IPv4 addresses can be assigned dynamically.
- › Describe tools that can be used to manage and monitor IPv4.

Module 4: 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

- › Network Content Types
- › Packet Delivery Methods

Module 5: Creating IPv4 Address Spaces

This module explains how to define and create an IPv4 address range and subnetting for a network.

Lessons

- › Overview of IP Communication
- › Subnetting Overview
- › Subnetting for Complex Networks

Lab : Creating IPv4 Address Spaces



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- › Defining the Subnet Mask for a WAN
- › Defining the Hosts for a Network

After completing this module, students will be able to:

- › Describe the IPv4 communication process between computers.
- › Describe the concept of subnetting.
- › Create IPv4 networks by performing subnetting.

Module 6: IPv6 Fundamentals

This module introduces IPv6, describes the differences between IPv4 and IPv6, and explains how to configure IPv6 addresses.

Lessons

- › Introduction to IPv6
- › Unicast IPv6 Addresses
- › Configuring IPv6

Lab : Configuring IPv6

- › Defining IPv6 Networks for Internal Use
- › Configuring a Static IPv6 Address on a Server

After completing this module, students will be able to:

- › Describe the characteristics of IPv6.
- › Describe the characteristics of IPv6 unicast addresses.
- › Describe how IPv6 can be configured automatically and statically.

Module 7: Fundamentals of Administering Windows Server 2008

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



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- › 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

- › Joining a Server to the Domain
- › Configuring Remote Desktop for Administration
- › Centralizing Event Logging
- › Resolving a Performance Issue by Using Reliability and Performance Monitor

After completing this module, students will be able to:

- › Describe common Windows Server 2008 Administrative Tools.
- › Describe how to monitor performance.
- › Describe how to monitor events.
- › Describe how to use Remote Desktop for administration.
- › Describe how to configure security for server administration.

Module 8: Security Fundamentals

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

Lessons

- › Defense-in-Depth
- › Securing Access to Web Content
- › Securing Access to Files
- › Data Encryption

Lab : Configuring Data Security

- › Creating a Simple Share
- › Creating an Advanced Share
- › Configuring Web Content for Anonymous Access



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- › Securing Web Content

After completing this module, students will be able to:

- › Describe how Defense in Depth is used to secure computers.
- › Describe how to secure access to Web content.
- › Describe how to secure access to files.
- › Describe data encryption and how it is used to protect data on disk.

Module 9: Fundamentals of Securing Network Communication

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

Lessons

- › Public Key Infrastructure
- › Using Certificates

Lab : Securing a Web Site by using SSL

- › Verifying the Trusted Root CA
- › Securing a Web site by using SSL

After completing this module, students will be able to:

- › Describe public key infrastructure components and certificates.
- › Describe methods for securing network communication by using certificates.

Module 10: Windows Firewall and Caching Fundamentals

This module describes proxy and caching services; how to configure Windows Firewall by creating exceptions and modifying firewall rules; how to configure auditing and monitoring; and how to troubleshoot Windows Firewall.

Lessons

- › Overview of Perimeter Security
- › Windows Firewall Overview
- › Creating Windows Firewall Rules



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- › Monitoring and Troubleshooting Windows Firewall

Lab : Using Windows Firewall

- › Limiting Access to a Web Application
- › Distributing Windows Firewall Rules by Using Group Policy

After completing this module, students will be able to:

- › Describe firewall and proxy server characteristics.
- › Describe Windows Firewall and how to perform basic administration.
- › Describe how to create Windows Firewall rules.
- › Describe how to monitor and troubleshoot Windows Firewall.

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

- › Remote Access Overview
- › RADIUS Overview
- › Network Policy Server
- › Troubleshooting Remote Access

Lab : Implementing Remote Access

- › Implementing a VPN server
- › Implementing a RADIUS server
- › Implementing a RADIUS proxy

After completing this module, students will be able to:

- › Describe the characteristics of remote access methods.
- › Describe how RADIUS is used.
- › Describe how to implement network policies on a Network Policy Server.



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- › Describe how to troubleshoot remote access.

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

- › Routing Overview
- › Configuring Routing and Remote Access as a Router
- › Quality of Service

Lab : Configuring Routing

- › Configuring a LAN Router
- › Implementing RIPv2
- › Configuring a Demand-dial Router
- › Configuring QoS

After completing this module, students will be able to:

- › Describe routing protocols and routing tables.
- › Describe how to configure RRAS as a LAN router.
- › Describe Quality of Service (QoS) and how to implement it.

Module 13: Network Load Balancing Fundamentals

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

Lessons

- › Server Availability and Scalability Overview
- › Network Load Balancing
- › Configuring Windows NLB

Lab : Implementing Network Load Balancing

- › Preparing Web Servers for NLB
- › Creating an NLB Cluster for Failover



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- › Configuring an NLB Cluster for Load Balancing

After completing this module, students will be able to:

- › Describe server availability and scalability options.
- › Describe Windows Network Load Balancing.
- › Describe how to configure Windows Network Load Balancing.

Module 14: Configuring Print Resources and Printing Pools

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

Lessons

- › Printing Overview
- › Configuring Network Printers
- › Using Print Management
- › Managing Printers
- › Troubleshooting Network Printing

Lab : Implementing Printing

- › Creating an XPS document
- › Adding a Printer by Using Control Panel
- › Using Print Management
- › Deploying Printers by Using Group Policy
- › Migrating a Printer to a New Server

After completing this module, students will be able to:

- › Describe the printing process.
- › Describe how to configure network printers.
- › Describe how to manage servers by using Print Management.
- › Describe how to manage printers by using Print Management.
- › Describe how to troubleshoot network printing.

Module 15: Server Virtualization Overview

This module describes the fundamental functions included with Windows Server



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Virtualization (WSV).

Lessons

- › Overview of Server Virtualization
- › Overview of Windows Server Virtualization
- › Creating a Virtual Environment

Before attending this course, students must have:

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