Micro Market training centre

Course Specifications

Designing a Windows Server 2008 Network Infrastructure

Course number: 6435A

Course length: 5 days

Designing a Windows Server 2008 Network Infrastructure

About this Course

This five-day course will provide students with an understanding of how to design a Windows Server 2008 Network Infrastructure that meets business and technical requirements for network services.

Audience Profile

The primary audience for this course is IT professionals, including Windows 2000 Server and Windows Server 2003 enterprise administrators interested in becoming a Windows Server 2008 Enterprise Administrator who focuses on network solutions.

Before attending this course, students must have:

- Active Directory Technology Specialist level knowledge and concepts.
- Network Infrastructure Technology Specialist level knowledge and experience.
- Applications Infrastructure Technology Specialist level knowledge and experience.
- Windows Vista TS level of knowledge and experience.
- Intermediate understanding of networking concepts such as TCP/IP, name resolution, and connection methods.
- Intermediate understanding of security best practices for authentication and file permissions.
- Intermediate understanding of server and network hardware.

At Course Completion

After completing this course, students will be able to:

- Describe key components of network infrastructure design.
- Describe how to design a secure network.
- Design a plan for allocating IP addresses to workstations and servers.
- Design a network topology.
- Describe the internal considerations for network security and how they can be addressed.
- Design an appropriate name resolution system that incorporates Domain Name System (DNS).
- Optimize a name resolution system that incorporates DNS and Windows Internet Name Service (WINS).
- Design a solution for network access.
- Design a Network Access Protection (NAP) solution.
- Design a solution for operating system deployment and maintenance.
- Design the deployment of file services.
- Design print services in Windows Server 2008.
- Design high availability for applications and services.

Registration:

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Course Outline

Module 1: Overview of Network Infrastructure Design

This module describes the key components of network infrastructure design.

Lessons

- Preparing for Network Infrastructure Design
- Designing the Network Topology
- Designing Network Infrastructure for Virtualization
- Designing a Change Management Structure for a Network

Lab : Designing Network Infrastructure in Windows Server 2008

- Preparing for the Network Infrastructure Design
- Designing the Network Topology
- Designing Network Infrastructure for Virtualization
- Designing a Change Management plan
- Lab Discussion

After completing this module, students will be able to:

- Describe the network infrastructure design.
- Design the network topology.
- Design network infrastructure for virtualization.
- Design a change management structure for a network.

Module 2: Designing Network Security

This module explains how to design a secure network.

Lessons

- Overview of Network Security Design
- Creating a Network Security Plan
- Identifying Threats to Network Security
- Analyzing Security Risks
- Defense-in-Depth Model Overview

Lab : Designing a Network Security Plan

- Identifying a Team for the Security Plan Scenario
- Identifying Threats
- Analyzing Risk
- Discussion of Designing a Network Security Plan

After completing this module, students will be able to:

- Describe the security design process.
- Describe the components of a security plan.
- Describe how to identify threats.
- Describe how to assess risk.

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- Describe the defense-in-depth model.

Module 3: Designing IP Addressing

This module describes how to design a plan for allocating IP addresses to workstations and servers.

Lessons

- Designing an IPv4 Addressing Scheme
- Designing an IPv6 Addressing Scheme
- Designing DHCP Implementation
- Designing DHCP Configuration Options

Lab : Designing IP Addressing in Windows Server 2008

- Designing an IPv4 Addressing Scheme
- Designing an IPv6 Addressing Scheme
- Designing a DHCP Implementation
- Discussion of IP Address Allocation

After completing this module, students will be able to:

- Describe how to integrate IPv4 and IPv6.
- Describe how to allocate IPv4 and IPv6 addresses.
- Describe how to implement DHCP placement.
- Describe how to determine DHCP options

Module 4: Designing Routing and Switching

This module explains how to design a network topology.

Lessons

- Preparing for Designing a Network Routing Topology
- Selecting Network Devices
- Designing Internet Connectivity and Perimeter Networks
- Designing Routing Communications
- Evaluating Network Performance

Lab : Designing a Network Routing Topology

- Designing the Placement of Routers
- Designing a Perimeter Network
- Evaluating Network Performance
- Discussion of Designing a Network Routing Topology

After completing this module, students will be able to:

- Prepare for designing a network routing topology.
- Design the placement of routers.
- Design a perimeter network.
- Design routing communications.

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- Evaluate network performance.

Module 5: Designing Security for Internal Networks

This module explains the internal considerations for network security and how they can be addressed.

Lessons

- Designing Windows Firewall Implementation
- Overview of IPSec
- Designing IPSec Implementation

Lab : Designing a Secure Internal Network

- Designing a Windows Firewall Implementation
- Designing an IPSec Implementation

After completing this module, students will be able to:

- Describe how Windows Firewall can be used to secure networks
- Describe how IPSec can be used to secure networks.
- Design an IPSEc implementation.

Module 6: Designing Name Resolution

This module explains how to design an appropriate name resolution system that incorporates DNS.

Lessons

- Collecting Information for a Name Resolution Design
- Designing a DNS Server Strategy
- Designing a DNS Namespace
- Designing DNS Zone Implementation
- Designing Zone Replication and Delegation

Lab : Designing a Name Resolution Strategy in Windows Server 2008

- Designing a DNS Server Strategy
- Designing a DNS Namespace
- Designing a DNS Zone and Replication Strategy
- Discuss the Design of Name Resolution
- Implement a DNS Zone and Replication Strategy

After completing this module, students will be able to:

- Determine the information required to plan name resolution.
- Describe how to design a DNS server strategy.
- Describe how to design a DNS namespace
- Describe how to design a DNS zone strategy.
- Describe how to design a DNS zone replication strategy.

Module 7: Designing Advanced Name Resolution

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This module explains an appropriate name resolution system that incorporates DNS and WINS.

Lessons

- Optimizing DNS Queries
- Designing DNS for High Availability
- Designing a WINS Name Resolution Strategy

Lab : Designing a Name Resolution Strategy in Windows Server 2008

- Optimize DNS Resolution
- Designing and Configuring WINS Name Resolution
- Integrating DNS and WINS Name Resolution

After completing this module, students will be able to:

- Optimize DNS resolution.
- Design DNS for high availability.
- Design a WINS Name resolution strategy.

Module 8: Planning and Deploying the Application Virtualization Management System

This module explains how to design a solution for network access.

Lessons

- Gathering Data for Designing Network Access Solutions
- Securing and Controlling Network Access
- Designing Remote Access Services
- Designing RADIUS Authentication with Network Policy Services
- Designing Wireless Access

Lab : Designing a Network Access Solution

- Designing a Remote Access Solution
- Designing Network Policy Services
- Designing a Wireless Connection Solution
- Discuss the Design of Network Access
- Deploying an SSTP VPN Solution

After completing this module, students will be able to:

- Describe how to gather data for designing network access solutions.
- Describe how to secure and control network access.
- Describe how to design remote access services.
- Describe how to design a RADIUS solution.
- Describe how to design wireless access.

Module 9: Designing Network Access Protection

This module explains how to design a NAP solution.

Lessons

- Designing the NAP Platform Architecture

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- NAP Architecture
- NAP Enforcement
- Designing NAP Policy
- Designing NAP Enforcement and Remediation

Lab : Designing Network Access Protection

- Analyzing Enforcement Methods
- Designing DHCP Enforcement
- Designing IPSec Enforcement
- Implementing DHCP Enforcement

After completing this module, students will be able to:

- Describe how to design the NAP platform architecture.
- Describe NPS design for NAP.
- Describe how to design NAP enforcement point and client component requirements.
- Describe IPSec based NAP.

Module 10: Designing Operating System Deployment and Maintenance

This module explains how to design a solution for operating system deployment and maintenance.

Lessons

- Determining Operating System Deployment Requirements
- Deploying an Operating System by Using WDS
- Planning for the Creation and Modification of Images
- Designing Multicast Transmission of Images

Lab : Designing Operating System Deployment and Maintenance

- Designing an Operating System Deployment Solution
- Designing WDS Deployment
- Designing WDS Images
- Designing a WSUS Deployment
- Discussing Operating System Deployment and Maintenance

After completing this module, students will be able to:

- Determine operating system deployment requirements
- Describe operating system deployment using Windows Deployment Services.
- Plan the creation and modification of images.
- Design multicast transmission of images.

Module 11: Designing File Services and DFS in Windows Server 2008

This module explains how to design the deployment of file services and DFS.

Lessons

- Designing File Services
- Designing DFS

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- Designing the FSRM Configuration

Lab : Designing File Services and DFS in Windows Server 2008

- Selecting File Services Components
- Designing DFS
- Designing FSRM
- Implementing DFS
- Implementing FSRM

After completing this module, students will be able to:

- Describe the design of file services.
- Describe the design of Distributed File System (DFS).
- Describe the design of File Server Resource Manager (FSRM).

Module 12: Designing High Availability in Windows Server 2008

This module explains how to design high availability for applications and services.

Lessons

- Overview of High Availability
- Designing Network Load Balancing for High Availability
- Designing Failover Clustering for High Availability
- Designing Geographically Dispersed Failover Clusters

Lab : Designing High Availability in Windows Server 2008

- Designing High Availability
- Implementing an NLB Design
- Implementing a Failover Cluster Design

After completing this module, students will be able to:

- Describe the need for high availability.
- Describe how to design Network Load Balancing for high availability
- Describe how to design Failover Clustering for high availability
- Describe how to design geographically dispersed failover clustering.

Module 13: Designing Print Services in Windows Server 2008

This module explains how to design print services in Windows Server 2008.

Lessons

- Overview of a Print Services Design
- Windows Server 2008 Printing Features
- Designing Print Services

Lab : Designing Shared Resources in Windows Server 2008

- Analyzing the Components of a Print Services Design

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- Designing a Shared Printer Deployment

After completing this module, students will be able to:

- Describe the print services design.
- Describe Windows Server 2008 printing features.
- Design print services.

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