

# Course 6421AL: Configuring and Troubleshooting a Windows Server 2008 Network Infrastructure

Course 6421AL: Five days; Microsoft Official Preliminary Course Syllabus

## Introduction

Elements of this syllabus are subject to change.

This Distance Learning version of the course consists of five weeks of instructor-led training, broken out into ten 2-hour online live sessions. It is intended to be used with additional self-paced eLearning content, scenario-based labs and assessments.

This course provides students with the knowledge and skills to configure and troubleshoot a Windows Server 2008 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2008 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

## Audience

The primary audience for this course includes Active Directory technology specialists aspiring to be Enterprise Administrators (Tier 4 day-to-day network operations) or Network Administrators (Tier 2). Experienced Server Administrators aspiring to be Enterprise Administrators would also benefit from this course.

The secondary audience for this course includes Storage Area Network Administrators who need to understand this information to deploy or extend their current storage infrastructure. Operations Managers who need this information to support troubleshooting efforts and business decisions would also benefit from this course.

## At Course Completion

After completing this course, students will be able to:

- Install and configure servers.
- Configure name resolution.
- Configure and troubleshoot DHCP.
- Configure and troubleshoot IPv6 TCP/IP.
- Configure and troubleshoot Routing and Remote Access.
- Configure and troubleshoot Network Policy servers.
- Configure Network Access Protection.
- Configure and manage Distributed File System.
- Manage network data and services.
- Configure server security compliance.

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## Prerequisites

Before attending this course, students must have:

- Working experience with Windows Server 2003.
- Basic knowledge of Active Directory.
- An understanding of security concepts and methodologies (for example, corporate policies).
- Basic knowledge of DHCP.
- Basic knowledge of IPsec.

## Module 1-1: Installing and Configuring Servers

This module explains how to identify the appropriate usage scenario and installation type for a server and then install and configure appropriate server roles and features.

Lessons

- Installing Windows Server 2008
- Managing Server Roles and Features
- Overview of the Server Core Installation Option

Lab: Installing and Configuring Servers

After completing this module, students will be able to:

- Identify the system requirements and process for installing Windows Server 2008.
- Describe the difference between server roles and features.
- Describe the benefits of and roles supported by a Server Core installation.

## Module 1-2: Configuring Name Resolution

This module explains how to configure, manage and troubleshoot DNS server and zone properties to be used in a secure environment.

Lessons

- Overview of DNS
- Configuring the DNS Server Role
- Configuring DNS Zones
- Managing and Troubleshooting DNS
- Configuring WINS (Optional)

Lab: Configuring and Troubleshooting DNS

After completing this module, students will be able to:

- Describe DNS and its components.
- Configure the DNS Server role to support various query types.
- Configure DNS zones.
- Manage and troubleshoot DNS.
- Configure WINS (optional).

## **Module 2-1: Configuring and Troubleshooting DHCP**

This module explains how to configure, manage and troubleshoot a DHCP environment supporting an IPV4 infrastructure.

Lessons

- Overview of the DHCP Server Role
- Configuring DHCP Scopes and Options
- Managing and Troubleshooting DHCP
- Securing DHCP

Lab: Configuring and Troubleshooting DHCP

After completing this module, students will be able to:

- Describe how DHCP works.
- Configure DHCP scopes and options.
- Manage and troubleshoot DHCP.
- Secure DHCP.

## **Module 2-2: Configuring and Troubleshooting IPv6 TCP/IP**

This module explains how to configure and troubleshoot static and dynamic IPv6 addresses, including subnet prefix lengths, gateways and DNS servers.

Lessons

- Overview of IPv6
- Configuring IPv4 and IPv6 Coexistence
- Transitioning from IPv4 to IPv6
- Troubleshooting IPv6

Lab: Configuring and Troubleshooting IPv6 TCP/IP

After completing this module, students will be able to:

- Describe the benefits and considerations of IPv6.
- Describe how IPv6 can coexist with IPv4 environments.
- Describe the process used to migrate from IPv4 to IPv6.
- Troubleshoot IPv6 connectivity.

## **Module 3-1: Configuring and Troubleshooting Routing and Remote Access**

This module explains how to configure and troubleshoot Routing and Remote Access Services.

Lessons

- Configuring Network Access
- Configuring VPN Access
- Overview of Network Policies
- Overview of the Connection Manager Administration Kit
- Troubleshooting Routing and Remote Access

Lab: Configuring Routing and Remote Access

After completing this module, students will be able to:

- Install and configure the Routing and Remote Access service.
- Configure VPN access.
- Configure network policies.
- Configure a connection profile using the Connection Manager Administration Kit.
- Troubleshoot Routing and Remote Access.

### **Module 3-2: Configuring and Troubleshooting Network Policy Servers**

This module explains how to install, configure and troubleshoot the Network Policy Server Role service.

Lessons

- Installing and Configuring a Network Policy Server
- Configuring RADIUS Clients and Servers
- NPS Authentication Methods
- Monitoring and Troubleshooting a Network Policy Server

Lab: Installing, Configuring and Troubleshooting the Network Policy Server Role Service

After completing this module, students will be able to:

- Install and configure the Network Policy Server role.
- Configure a RADIUS client and server.
- Describe NPS authentication methods.
- Monitor and troubleshoot a Network Policy server.

### **Module 4-1: Configuring Network Access Protection**

This module explains how to configure and manage NAP for DHCP, VPN, and 802.1X.

Lessons

- Overview of Network Access Protection
- How NAP Works
- Configuring NAP
- Configuring IPSec NAP Enforcement

Lab: Configuring NAP

After completing this module, students will be able to:

- Describe the benefits and uses of NAP.
- Describe how NAP works in various access scenarios.
- Configure NAP.
- Configure IPSec NAP Enforcement.

### **Module 4-2A: Network Access Protection Review**

This module provides a review of how to configure and manage NAP for DHCP, VPN, and 802.1X.

Lessons

- Review of Network Access Protection

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After completing this module, students will be able to:

- Describe NAP enforcement methods and the process for configuring a NAP server infrastructure.

Module 4-2B: Configuring and Managing Distributed File System

This module explains how to configure and manage Distributed File System.

Lessons

- DFS Overview
- Configuring DFS Namespaces
- Configuring DFS Replication

Lab: Configuring and Managing Distributed File System

After completing this module, students will be able to:

- Describe the Distributed File System.
- Manage DFS namespaces.
- Configure DFS replication.

### **Module 5-1: Managing Network Data and Services**

This module explains how to manage network data and services in Windows Server 2008.

Lessons

- Overview of File Server Resource Manager
- Managing Data Storage with File Server Resource Manager
- Configuring Data Backup and Recovery
- Configuring Shadow Copies
- Configuring Server and Service Availability

Lab: Configuring Availability of Network Resources and Content

After completing this module, students will be able to:

- Describe File Server Resource Manager (FSRM) in Windows Server 2008.
- Manage storage using FSRM.
- Configure data backup and recovery.
- Configure shadow copies.
- Configure server and service availability.

### **Module 5-2: Configuring Server Security Compliance**

This module explains how to configure and analyze server security and security update compliance.

Lessons

- Securing a Windows Infrastructure
- Using Security Templates to Secure Servers
- Configuring an Audit Policy
- Configuring Windows Server Update Services

Lab: Configuring Server Security Compliance

After completing this module, students will be able to:

- Secure a server role within a windows infrastructure.
- Secure servers using security templates.
- Configure an audit policy.
- Configure Windows Server Update Services.

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