Course 10970B:

Networking with Windows Server

Course Details

Course Outline

Module 1: Implementing IPv4 Services

This module explains how to plan and troubleshoot IPv4-based networks to ensure a properly functioning network environment.

Lessons

- Planning IPv4 Addressing

- Managing and Troubleshooting IPv4 Connectivity

- Deploying Dynamic Host Configuration Protocol

- Managing and Troubleshooting DHCP

Lab : Planning IPv4 Addressing

- Planning IPv4 Address Assignments

Lab : Implementing IPv4 Services

- Planning the DHCP Server Implementation

- Implementing the DHCP Configuration

- Validate the DHCP Deployment

After completing this module, students will be able to:
- Plan IPv4 addressing.

- Manage and troubleshoot IPv4 connectivity.

- Deploy DHCP and configure DHCP scopes.

- Manage and troubleshoot DHCP.

Module 2: Implementing Name Resolution by Using DNS

This module explains how to deploy, configure, manage, and troubleshoot Domain Name System (DNS).

Lessons

- Implementing DNS Servers

- Configuring Zones in DNS

- Configuring DNS Integration with AD DS

- Configuring Advanced DNS Settings

- Configuring DNS Resolution Between Zones

Lab : Planning and Implementing Name Resolution by Using DNS

- Planning DNS Name Resolution

- Implementing DNS Servers and Zones

- Integrating DNS with Active Directory

After completing this module, students will be able to:
- Implement DNS servers.

- Configure zones in DNS.

- Configure DNS integration with AD DS.

- Configure advanced DNS settings.

Module 3: Implementing IPv6

This module explains how to implement coexistence between IPv4 and IPv6 networks and transition from an IPv4 network to an IPv6 network.

Lessons
- Overview of IPv6 Addressing

- Implementing IPv6 and IPv4 Coexistence

- Transitioning from IPv4 to IPv6

Lab : Configuring and Evaluating IPv6 Transition Technologies

- Reviewing the Default IPv6 Configuration

- Configuring Network Integration by Using ISATAP

- Configuring Native IPv6 Connectivity

- Configuring 6to4 Connectivity

After completing this module, students will be able to:
- Describe the features and benefits of IPv6.

- Implement coexistence between IPv4 and IPv6 networks.

- Transition from an IPv4 network to an IPv6 network.

Module 4: Implementing IPAM

This module explains how to implement and manage the IP Address Management (IPAM) feature in Windows Server 2012 and Windows Server 2012 R2.

Lessons

- IPAM Overview

- Deploying IPAM

- Managing IP Address Spaces by Using IPAM

Lab : Implementing IPAM

- Installing the IPAM Server Feature

- Provisioning the IPAM Server

- Managing IP Address Spaces by Using IPAM

After completing this module, students will be able to:

- Describe how IPAM works.

- Deploy IPAM and add servers to be managed.

- Manage address spaces and DHCP and DNS servers by using IPAM.

Module 5: Implementing Remote Access

This module explains how to implement remote access technologies such as DirectAccess, Virtual Private Networks (VPNs) and Web Application Proxy (WAP) in Windows Server 2012 and Windows Server 2012 R2. It also describes the different implementation scenarios for small or medium-sized organizations and enterprise organizations.

Lessons

- Remote Access Overview

- Implementing DirectAccess by Using the Getting Started Wizard

- Implementing and Managing an Advanced DirectAccess Infrastructure

- Implementing VPN

- Planning a Complex Remote Access Infrastructure

- Implementing Web Application Proxy

Lab : Implementing DirectAccess by Using the Getting Started Wizard

- Verifying Readiness for a DirectAccess Deployment

- Configuring DirectAccess

- Validating the DirectAccess Deployment

Lab : Deploying an Advanced DirectAccess Solution

- Preparing the Environment for DirectAccess

- Implementing the Advanced DirectAccess Infrastructure

- Validating the DirectAccess Deployment

Lab : Implementing VPN

- Implementing VPN

- Validating the VPN Deployment

Lab : Implementing Web Application Proxy

- Implementing Web Application Proxy

- Validating the Web Application Proxy Deployment

After completing this module, students will be able to:
- Install and manage the Remote Access role in Windows Server 2012.

- Implement DirectAccess by using the Getting Started Wizard.

- Implement and manage an advanced DirectAccess Infrastructure.

- Implement VPN access in Windows Server 2012.

- Plan a complex remote access infrastructure.

- Implement Web Application Proxy in Windows Server 2012 R2.

Module 6: Implementing Network Security

This module explores some of the technologies in Windows Server 2012 and Windows Server 2012 R2 that you can use to help to mitigate these network security threats such as Windows Firewall with Advanced Security, IPSec and connection security rules.

Lessons
- Managing Windows Firewall with Advanced Security

- Configuring IPsec and Connection Security Rules

- Implementing Isolation Zones

Lab : Implementing Network Security

- Planning the Windows Firewall and Isolation Solution

- Implementing the Proposed Windows Firewall and Isolation Solution

- Validating the Network Security Settings

After completing this module, students will be able to:
- Manage Windows Firewall with Advanced Security.

- Configure IPsec and connection security rules.

- Implement isolation zones with connection security rules.

Module 7: Implementing Network Access Protection

This module explains how to configure, monitor, and troubleshoot Network Policy Server(NPS) and Network Access protection (NAP).

Lessons

- Implementing NPS

- Network Access Protection Overview

- Configuring NAP

- Configuring IPsec Enforcement for NAP

- Monitoring and Troubleshooting NAP

Lab : Implementing NAP with VPN Enforcement

- Configuring NAP with VPN Enforcement

- Testing the Deployment

Lab : Implementing IPsec Enforcement for NAP

- Preparing the CA

- Configuring IPsec Enforcement

- Validating the Deployment of IPsec NAP

After completing this module, students will be able to:

- Implement the Network Policy Server (NPS) role service.

- Describe NAP.

- Configure NAP.

- Configure IPsec enforcement for NAP.

- Monitor and troubleshoot NAP.

Module 8: Implementing Networking for Branch Offices

This module explains the different ways that you can use Windows Server 2012 and Windows Server 2012 R2 to overcome the limitations of branch office scenarios using technologies such as Distributed File System (DFS) and BranchCache.

Lessons

- Networking Features and Considerations for Branch Offices

- Implementing DFS for Branch Offices

- Implementing BranchCache for Branch Offices

Lab : Implementing Networking for Branch Offices

- Implementing DFS

- Implementing BranchCache

- Validating the Deployment

After completing this module, students will be able to:
- Describe networking features and considerations for branch offices.

- Implement Distributed File System (DFS) for branch offices.

- Implement Windows BranchCache for branch offices.

Module 9: Implementing Networking Infrastructure for File and Data Services

This module explains the key network file and data services available in Windows Server 2012 and Windows Server 2012 R2. It also explains how to implement the network file and data services to address the network and remote storage needs of your organization.

Lessons
- Implementing iSCSI

- Implementing High Performance Networking Features

Lab : Implementing File and Data Networking Infrastructure

- Configuring iSCSI Storage Connectivity

- Testing iSCSI High Availability

After completing this module, students will be able to:
- Implement network file services in Windows Server 2012.

- Implement iSCSI.

- Implement high performance networking features in Windows Server 2012 and Windows Server 2012 R2.

Module 10: Implementing and Managing Networking in Hyper-V

This module describes the networking components available in Hyper-V and describes how to configure these components.

Lessons
- Creating and Using Hyper-V Virtual Switches

- Configuring Advanced Hyper-V Networking Features

Lab : Creating and Configuring Virtual Machine Networks

- Creating and Using Hyper-V Virtual Switches

- Configuring and Using the Advanced Features of a Virtual Switch

After completing this module, students will be able to:
- Create and use Hyper-V virtual switches.

- Configure advanced Hyper-V networking features.

Module 11: Virtualizing Your Network Infrastructure

This module explains the concepts and technologies related to virtualizing a physical network infrastructure in Windows Server 2012 and Windows Server 2012 R2. It also explains how to implement some core components of these technologies such as Hyper-V Network Virtualization(HNV) and the built in software gateway in Windows Server 2012 R2.

Lessons
- Implementing Hyper-V Network Virtualization

- Managing Your Virtualized Network Infrastructure

Lab : Creating and Configuring Virtual Machine Networks
- Configuring Hyper-V Network Virtualization

After completing this module, students will be able to:
- Describe Software-Defined Networking.

- Manage virtualized network infrastructure