

## **Course Outline**

### **Module 1: Planning and implementing an IPv4 network**

This module also explains how to use fundamental networking tools and techniques to configure and troubleshoot IPv4-based networks. Lessons

- Planning IPv4 addressing
- Configuring an IPv4 host
- Managing and troubleshooting IPv4 network connectivity

#### **Lab : Planning an IPv4 network**

- Planning the IPv4 address assignments

#### **Lab : Implementing and troubleshooting an IPv4 network**

- Verifying IPv4
- Troubleshooting IPv4

### **Module 2: Implementing DHCP**

This module explains how to plan and implement DHCP to support the IPv4 infrastructure.

#### **Lessons**

- Overview of the DHCP server role
- Deploying DHCP
- Managing and troubleshooting DHCP

#### **Lab : Implementing DHCP**

- Planning a DHCP server implementation
- Implementing the DHCP configuration
- Validating the DHCP implementation

### **Module 3: Implementing IPv6**

This module explains how to implement IPv6, and how to integrate IPv6 and IPv4 networks.

#### **Lessons**

- Overview of IPv6 addressing
- Configuring an IPv6 host
- Implementing IPv6 and IPv4 coexistence
- Transitioning from IPv4 to IPv6

## **Lab : Configuring and evaluating IPv6 transition technologies**

- Reviewing the default IPv6 configuration
- Implementing DHCPv6
- Configuring network integration by using ISATAP
- Configuring native IPv6 connectivity
- Configuring 6to4 connectivity

## **Module 4: Implementing DNS**

This module explains how to install, configure, and troubleshoot DNS within the organization's network.

### **Lessons**

- Implementing DNS servers
- Configuring zones in DNS
- Configuring name resolution between DNS zones
- Configuring DNS integration with Active Directory Domain Services (AD DS)
- Configuring advanced DNS settings

### **Lab : Planning and implementing name resolution by using DNS**

- Planning DNS name resolution
- Implementing DNS servers and zones

### **Lab : Integrating DNS with Active Directory**

- Integrating DNS with Active Directory

### **Lab : Configuring advanced DNS settings**

- Configuring DNS policies
- Validating the DNS implementation
- Troubleshooting DNS

## **Module 5: Implementing and managing IPAM**

This module explains how to implement and manage the IPAM feature in Windows Server 2016. This module also explains how to use IPAM to manage services such as DHCP and DNS.

### **Lessons**

- Overview of IPAM

- 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

### **Module 6: Remote access in Windows Server 2016**

This module explains how to plan for remote access in Windows Server 2016 and how to implement Web Application Proxy.

#### **Lessons**

- Overview of remote access
- Implementing the Web Application Proxy

### **Lab : Implementing Web Application Proxy**

- Implementing Web Application Proxy
- Validating the Web Application Proxy deployment

### **Module 7: Implementing DirectAccess**

This module explains how to implement and manage DirectAccess in Windows Server 2016.

#### **Lessons**

- Overview of DirectAccess
- Implementing DirectAccess by using the Getting Started Wizard
- Implementing and managing an advanced DirectAccess infrastructure

### **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

## **Module 8: Implementing VPNs**

This module explains how to implement and manage remote access in Windows Server 2016 by using VPNs.

### **Lessons**

- Planning VPNs
- Implementing VPNs

### **Lab : Implementing VPN**

- Implementing VPN
- Validating the VPN deployment
- Troubleshooting VPN access

## **Module 9: Implementing networking for branch offices**

This module explains how to implement network services for branch offices.

### **Lessons**

- Networking features and considerations for branch offices
- Implementing Distributed File System (DFS) for branch offices
- Implementing BranchCache for branch offices

### **Lab : Implementing DFS for branch offices**

- Implementing DFS
- Validating the deployment

### **Lab : Implementing BranchCache**

- Implementing BranchCache
- Validating the deployment

## **Module 10: Configuring advanced networking features**

This module explains how to implement an advanced networking infrastructure.

### **Lessons**

- Overview of high performance networking features
- Configuring advanced Microsoft Hyper-V networking features

### **Lab : Configuring advanced Hyper-V networking features**

- Creating and using Hyper-V virtual switches

- Configuring and using the advanced features of a virtual switch

## **Module 11: Implementing Software Defined Networking**

This module explains how to implement SDN.

### **Lessons**

- Overview of SDN.
- Implementing network virtualization
- Implementing Network Controller

### **Lab: Deploying Network Controller**

- Preparing to deploy Network Controller
- Deploying Network Controller