

## Course Outline 20743B

### Module 1: Installing and configuring Windows Server 2016

This module explains how to install and perform post-installation configuration of Windows Server 2016 servers.

#### Lessons

- Introducing Windows Server 2016
- Installing Windows Server 2016
- Configuring Windows Server 2016
- Preparing for upgrades and migrations
- Migrating server roles and workloads
- Windows Server activation models

#### Lab : Installing and configuring Nano Server

- Installing Nano Server
- Completing post-installation tasks on Nano Server

After completing this course, students will be able to:

- Explain Windows Server 2016.
- Install Windows Server 2016.
- Configure Windows Server 2016.
- Prepare for upgrades and migrations.
- Migrate server roles and workloads.
- Describe the Windows Server activation models.

### Module 2: Overview of storage in Windows Server 2016

This module explains how to configure storage in Windows Server 2016.

#### Lessons

- Overview of storage in Windows Server 2016
- Implementing Data Deduplication
- Configuring iSCSI storage
- Configuring the Storage Spaces feature in Windows Server 2016

#### Lab : Implementing and managing storage

- Implementing File Server Resource Manager (FSRM)
- Configuring iSCSI storage

#### Lab : Implementing and managing advanced storage solutions

- Configuring redundant storage spaces
- Implementing the Storage Spaces Direct feature

After completing this module, students will be able to:

- Explain storage in Windows Server 2016.
- Implement Data Deduplication.
- Configure iSCSI storage.
- Configure the Storage Spaces feature in Windows Server 2016

### Module 3: Implementing directory services

This module explains how to implement the Directory Services feature.

#### Lessons

- Deploying Active Directory domain controllers
- Implementing service accounts

- Azure AD

### **Lab : Implementing and Managing AD DS**

- Cloning a domain controller
- Implementing service accounts

After completing this module, students will be able to:

- Deploy AD DS domain controllers.
- Implement service accounts.
- Explain Azure AD.

## **Module 4: Implementing AD FS**

This module explains how to implement an AD FS deployment

### **.Lessons**

- Overview of AD FS
- Deploying AD FS
- Implementing AD FS for a single organization
- Implementing Web Application Proxy
- Implementing SSO with Microsoft Online Services

### **Lab : Implementing AD FS**

- Installing and configuring AD FS
- Configuring an internal application for AD FS

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

- Implementing Web Application Proxy

After completing this module, students will be able to:

- Describe of AD FS.
- Deploy AD FS.
- Implement AD FS for a single organization.
- Implement Web Application Proxy.
- Implement SSO with Microsoft Online Services.

## **Module 5: Implementing network services**

This module explains how to configure advanced features for Dynamic Host Configuration Protocol (DHCP) and configure IP Address Management (IPAM).

### **Lessons**

- Overview of networking enhancements
- Implementing IPAM
- Managing IP address spaces with IPAM

### **Lab : Implementing network services**

- Configuring DNS policies
- Configuring DHCP failover
- Configuring IPAM

After completing this module, students will be able to:

- Describe networking enhancements.
- Implement IP address management.
- Manage IP address spaces with IPAM.
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## **Module 6: Implementing Hyper-V**

This module explains how to install and configure Hyper-V virtual machines.

### **Lessons**

- Configuring the Hyper-V role in Windows Server 2016

- Configuring Hyper-V storage
- Configuring Hyper-V networking
- Configuring Hyper-V virtual machines

**Lab : Implementing server virtualization with Hyper-V**

- Installing the Hyper-V server role
- Configuring virtual networking
- Creating and configuring a virtual machine

After completing this module, students will be able to:

- Configure the Hyper-V role in Windows Server 2016.
- Configure Hyper-V storage.
- Configure Hyper-V networking.
- Configure Hyper-V virtual machines.

**Module 7: Configuring advanced networking features**

This module explains how to implement an advanced networking infrastructure.

**Lessons**

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

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

- Creating and using Microsoft Hyper-V virtual switches
- Configuring and using the advanced features of a virtual switch

After completing this module, students will be able to:

- Describe high-performance networking features.
- Configure advanced Hyper-V networking features.

**Module 8: Implementing Software Defined Networking**

This module explains how to implement software-defined networking.

**Lessons**

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

**Lab : Deploying Network Controller**

- Preparing to deploy Network Controller
- Deploying Network Controller

After completing this module, students will be able to:

- Describe Software Defined Networking.
- Implement network virtualization.
- Implement Network Controller.

**Module 9: Implementing remote access**

This module explains how to configure connectivity for remote users by using the DirectAccess feature.

**Lessons**

- Remote access overview
- Implementing DirectAccess
- Implementing VPN

**Lab : Implementing DirectAccess**

- Configure DirectAccess using the Getting Started Wizard
- Testing DirectAccess

After completing this module, students will be able to:

- Describe common remote-access solutions and technologies.
- Implement DirectAccess.
- Implement VPNs.

### **Module 10: Deploying and managing Windows and Hyper-V containers**

This module provides an overview of Windows Server 2016 containers. Additionally, it explains how to deploy, install, configure, and manage containers in Windows Server 2016.

#### **Lessons**

- Overview of containers in Windows Server 2016
- Preparing to deploy containers
- Installing, configuring, and managing containers by using Docker

#### **Lab : Installing and configuring containers**

- Installing Docker

After completing this module, students will be able to:

- Explain the purpose of Windows Server and Hyper-V containers.
- Deploy and manage containers.
- Install, configure, and manage containers by using Docker

### **Module 11: Implementing failover clustering**

This module explains how to implement failover clustering to provide high availability for network services and applications.

#### **Lessons**

- Overview of failover clustering
- Implementing a failover cluster
- Configuring highly-available applications and services on a failover cluster
- Maintaining a failover cluster
- Implementing a stretch cluster

#### **Lab : Implementing failover clustering**

- Configuring iSCSI storage
- Configuring a failover cluster
- Deploying and configuring a highly available file server
- Validating the deployment of a highly available file server
- Configuring CAU on the failover cluster

After completing this module, students will be able to:

- Describe the concept of failover clustering.
- Implement a failover cluster.
- Configure highly-available applications and services on a failover cluster.
- Maintain a failover cluster.
- Implement a stretch-failover cluster.

### **Module 12: Implementing failover clustering with Windows Server 2016 Hyper-V**

This module explains how to deploy and manage Hyper-V virtual machines in a failover cluster.

#### **Lessons**

- Overview of the integration of Hyper-V Server 2016 with failover clustering
- Implementing Hyper-V virtual machines on failover clusters
- Implementing Windows Server 2016 Hyper-V virtual machine migration
- Implementing Hyper-V Replica

**Lab : Implementing failover clustering with Windows Server 2016 Hyper-V**

- The Hyper-V Failover clustering testing environment
- Configuring Hyper-V Replica
- Configuring a failover cluster for Hyper-V
- Configuring a highly available virtual machine

After completing this module, students will be able to:

- Describe how Windows Server 2016 Hyper-V integrates with failover clustering.
- Implement Hyper-V virtual machines on failover clusters.
- Implement Hyper-V virtual machine migration.
- Implement Hyper-V Replica.