



Course 20740C

## Installation, Storage, and Compute with Windows Server 2016

Course Length : 40 Hours  
Professional Series : 5 Days  
Academic Series : 6 Weeks

### Module 1: Installing, upgrading, and migrating servers and workloads

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

### Module 2: Configuring local storage

- Managing disks in Windows Server
- Managing volumes in Windows Server

### Module 3: Implementing enterprise storage solutions

- Overview of DAS, NAS, and SANs
- Comparing Fibre Channel, iSCSI, and Fibre Channel over Ethernet
- Understanding iSNS, DCB, and MPIO
- Configuring sharing in Windows Server 2016

### Module 4: Implementing Storage Spaces and Data Deduplication

- Implementing Storage Spaces
- Managing Storage Spaces
- Implementing Data Deduplication

### Module 5: Installing and configuring Hyper-V and virtual machines

- Overview of Hyper-V
- Installing Hyper-V
- Configuring storage on Hyper-V host servers
- Configuring networking on Hyper-V host servers
- Configuring Hyper-V virtual machines
- Managing virtual machines

### Module 6: Deploying and managing Windows and Hyper-V containers

- Overview of containers in Windows Server 2016
- Deploying Windows Server and Hyper-V containers
- Installing, configuring, and managing containers by using Docker

### Module 7: Overview of high availability and disaster recovery

- Defining levels of availability
- Planning high availability and disaster recovery solutions with Hyper-V virtual machines
- Backing up and restoring by using Windows Server Backup
- High availability with failover clustering in Windows Server 2016

### Module 8: Implementing failover clustering

- Planning a failover cluster
- Creating and configuring a new failover cluster
- Maintaining a failover cluster
- Troubleshooting a failover cluster
- Implementing site high availability with stretch clustering

### Module 9: Implementing failover clustering with Windows Server 2016 Hyper-V

- Overview of the integration of Hyper-V Server 2016 with failover clustering
- Implementing Hyper-V VMs on failover clusters
- Key features for VMs in a clustered environment

### Module 10: Implementing Network Load Balancing

- Overview of NLB
- Configuring an NLB cluster
- Planning an NLB implementation

### Module 11: Creating and managing deployment images

- Introduction to deployment images
- Creating and managing deployment images by using MDT
- Virtual machine environments for different workloads

### Module 12: Managing, monitoring, and maintaining virtual machine installations

- WSUS overview and deployment options
- Update management process with WSUS
- Overview of Windows PowerShell DSC
- Overview of Windows Server 2016 monitoring tools
- Using Performance Monitor
- Monitoring event logs

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Course 20741B

## Networking with Windows Server 2016

Course Length : 40 Hours  
Professional Series : 5 Days  
Academic Series : 6 Weeks

### Module 1:

#### Planning and implementing an IPv4 network

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

### Module 2:

#### Implementing DHCP

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

### Module 3:

#### Implementing IPv6

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

### Module 4:

#### Implementing DNS

- 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

### Module 5:

#### Implementing and managing IPAM

- Overview of IPAM
- Deploying IPAM
- Managing IP address spaces by using IPAM

### Module 6:

#### Remote access in Windows Server 2016

- Overview of remote access
- Implementing Web Application Proxy

### Module 7:

#### Implementing DirectAccess

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

### Module 8:

#### Implementing VPNs

- Planning VPNs
- Implementing VPNs

### Module 9:

#### Implementing networking for branch offices

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

### Module 10:

#### Configuring advanced networking features

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

### Module 11:

#### Implementing Software Defined Networking

- Overview of Software Defined Networking
- Implementing network virtualization
- Implementing Network Controller



Course 20742B

## Identity with Windows Server 2016

Course Length : 40 Hours  
Professional Series : 5 Days  
Academic Series : 6 Weeks

### Module 1:

#### Installing and configuring domain controllers

- Overview of AD DS
- Overview of AD DS domain controllers
- Deploying a domain controller

### Module 2:

#### Managing objects in AD DS

- Managing user accounts
- Managing groups in AD DS
- Managing computer objects in AD DS
- Using Windows PowerShell for AD DS administration
- Implementing and managing OUs

### Module 3:

#### Advanced AD DS infrastructure management

- Overview of advanced AD DS deployments
- Deploying a distributed AD DS environment
- Configuring AD DS trusts

### Module 4:

#### Implementing and administering AD DS Sites and Replication

- Overview of AD DS replication
- Configuring AD DS sites
- Configuring and monitoring AD DS replication

### Module 5:

#### Implementing Group Policy

- Introducing Group Policy
- Implementing and administering GPOs
- Group Policy scope and Group Policy processing
- Troubleshooting the application of GPOs

### Module 6:

#### Managing user settings with Group Policy

- Implementing administrative templates
- Configuring Folder Redirection, Software Installation, and Scripts
- Configuring Group Policy preferences

### Module 7:

#### Securing Active Directory Domain Services

- Securing domain controllers
- Implementing account security
- Implementing audit authentication
- Configuring managed service accounts

### Module 8:

#### Deploying and managing AD CS

- Deploying CAs
- Administering CAs
- Troubleshooting and maintaining CAs

### Module 9:

#### Deploying and managing certificates

- Deploying and managing certificate templates
- Managing certificate deployment, revocation, and recovery
- Using certificates in a business environment
- Implementing and managing smart cards

### Module 10:

#### Implementing and administering AD FS

- Overview of AD FS
- AD FS requirements and planning
- Deploying and configuring AD FS
- Overview of Web Application Proxy

### Module 11:

#### Implementing and administering AD RMS

- Overview of AD RMS
- Deploying and managing an AD RMS infrastructure
- Configuring AD RMS content protection

### Module 12:

#### Implementing AD DS synchronization with Microsoft Azure AD

- Planning and preparing for directory synchronization
- Implementing directory synchronization by using Azure AD Connect
- Managing identities with directory synchronization

### Module 13:

#### Monitoring, managing, and recovering AD DS

- Monitoring AD DS
- Managing the Active Directory database
- Active Directory backup and recovery options for AD DS and other identity and access solutions



Course 20413C

## Designing and Implementing a Server Infrastructure

Course Length : 40 Hours  
Professional Series : 5 Days  
Academic Series : 6 Weeks

### Module 1:

#### Planning Server Upgrade and Migration

- Considerations for Upgrades and Migrations
- Creating a Server Upgrade and Migration Plan
- Planning for Virtualization

### Module 2:

#### Planning and Implementing a Server Deployment Strategy

- Selecting an Appropriate Server Deployment Strategy
- Implementing an Automated Deployment Strategy

### Module 3:

#### Planning and Deploying Servers Using Virtual Machine Manager

- System Center 2012 R2 Virtual Machine Manager Overview
- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

### Module 4:

#### Designing and Maintaining an IP Configuration and Address Management Solution

- Designing DHCP Servers
- Planning DHCP Scopes
- Designing an IPAM Provisioning Strategy
- Managing Servers and Address Spaces by Using IPAM

### Module 5:

#### Designing and Implementing Name Resolution

- Designing a DNS Server Implementation Strategy
- Designing the DNS Namespace
- Designing DNS Zones
- Designing DNS Zone Replication and Delegation
- Optimizing DNS Servers
- Designing DNS for High Availability and Security

### Module 6:

#### Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure

- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing Active Directory Integration with Windows Azure Active Directory
- Designing and Implementing Active Directory Domains

- Designing DNS Namespaces in Active Directory Environments
- Designing Active Directory Domain Trusts

### Module 7:

#### Designing and Implementing an AD DS Organizational Unit Infrastructure

- Planning the Active Directory Administrative Tasks Delegation Model
- Designing an OU Structure
- Designing and Implementing an AD DS Group Strategy

### Module 8:

#### Designing and Implementing a Group Policy Object Strategy

- Collecting the Information Required for a GPO Design
- Designing and Implementing GPOs
- Designing GPO Processing
- Planning Group Policy Management

### Module 9:

#### Designing and Implementing an AD DS Physical Topology

- Designing and Implementing Active Directory Sites
- Designing Active Directory Replication
- Designing the Placement of Domain Controllers
- Virtualization Considerations for Domain Controllers
- Designing Highly Available Domain Controllers

### Module 10:

#### Planning and Implementing Storage and File Services

- Planning and Implementing iSCSI SANs
- Planning and Implementing Storage Spaces
- Optimizing File Services for Branch Offices

### Module 11:

#### Designing and Implementing Network Protection

- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

### Module 12:

#### Designing and Implementing Remote Access Services

- Planning and Implementing DirectAccess
- Planning and Implementing VPN
- Planning and Implementing Web Application Proxy
- Planning a Complex Remote Access Infrastructure