



## Upgrading Your Skills to MCSA Windows Server 2016:

### COURSE OVERVIEW

This five-day, instructor-led course explains how to implement and configure new Windows Server 2016 features and functionality. This course is for information technology (IT) professionals who want to upgrade their technical skills from Windows Server 2008 or Windows Server 2012 to Windows Server 2016. This course presumes a high level of knowledge about previous Windows Server technologies and skills equivalent to the Microsoft Certified Solutions Associate (MCSA): Windows Server 2008 or Windows Server 2012 credential.

This course is not a product-upgrade course, detailing considerations for migrating and upgrading students' specific environment to Windows Server 2016. Rather, this course provides updates to students' existing Windows Server knowledge and skills, as they pertain to Windows Server 2016.

### TARGET AUDIENCE

This course is for IT professionals who are experienced Windows Server 2012 or Windows Server 2008 system administrators, with real-world experience working in a Windows Server 2008 R2 or Windows Server 2008 enterprise environment. Additionally, students should have obtained the MCSA credential for Windows Server 2008 or Windows Server 2012, or they should have equivalent knowledge.

Additionally, IT professionals who plan to take the Microsoft Certified Solutions Expert (MCSE) exams might be interested in this course, as preparation for the MCSA exams, which are a prerequisite for the MCSE specialties.

### COURSE OBJECTIVES

- Install and configure Windows Server 2016.
- Describe storage in Windows Server 2016.
- Implement directory services.
- Implement Active Directory Federation Services (AD FS).
- Describe networking.
- Implement Hyper-V.

- Configure advanced networking features.
- Implement software-defined networking.
- Implement remote access.
- Deploy and manage Windows and Hyper-V containers.
- Implement failover clustering.
- Implement failover clustering by using virtual machines

## **COURSE CONTENT**

- **Module 1: Installing and configuring Windows Server 2016**
- 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
- **Module 2: Overview of storage in Windows Server 2016**
- Overview of storage in Windows Server 2016
- Configuring Internet SCSI (iSCSI) storage
- Configuring the Storage Spaces feature in Windows Server 2016
- Implementing the Data Deduplication feature
- Lab : Implementing and managing storage
- Implementing File Server Resource Manager (FSRM)
- Configuring iSCSI storage
- Lab : Configuring storage spaces
- Configuring redundant storage spaces
- Implementing the Storage Spaces Direct feature
- **Module 3: Implementing the Directory Services feature**
- Deploying AD DS domain controllers
- Implementing service accounts
- What is Azure AD?
- Lab : Implementing and Managing AD DS
- Cloning an AD DS domain controller
- Implementing service accounts
- **Module 4: Implementing AD FS**

- Overview of AD FS
- Deploying AD FS
- Implementing AD FS for a single organization
- Implementing Web Application Proxy
- Implementing Azure AD FS 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
- **Module 5: Implementing network services**
- Overview of networking enhancements
- Implementing the IP address management
- Managing IP address spaces with IPAM
- Lab : Implementing network services
- Configuring DNS policies
- Configuring DHCP failover
- Configuring IPAM
- **Module 6: Implementing Hyper-V**
- 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 VM
- **Module 7: Configuring advanced networking features**
- 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
- **Module 8: Implementing software defined networking**
- Overview of software-defined networking
- Implementing network virtualization
- Implementing the Network Controller feature

- Lab : Implementing Network Controller
- Deploying Network Controller
- Configuring network services with Network Controller
- Managing and monitoring with Network Controller
- **Module 9: Implementing remote access**
- Remote access overview
- Implementing DirectAccess
- Implementing a virtual private network (VPN)
- Lab : Implementing DirectAccess
- Configuring DirectAccess by using the Getting Started Wizard
- Testing DirectAccess
- **Module 10: Deploying and managing Windows Server and Hyper-V containers**
- Overview of Windows Server 2016 containers
- Deploying Windows Server and Hyper-V containers
- Installing, configuring, and managing containers
- Lab : Installing and configuring containers
- Installing and configuring Windows Server containers by using Windows PowerShell
- Installing and configuring Windows Server containers by using the Docker engine
- **Module 11: Implementing failover clustering**
- 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 the Cluster-Aware Updating feature on the failover cluster
- **Module 12: Implementing failover clustering with Windows Server 2016 Hyper-V**
- 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 the Hyper-V Replica feature
- Lab : Implementing failover clustering with Windows Server 2016 Hyper-V
- Configuring Hyper-V Replica

- Configuring a failover cluster for Hyper-V
- Configuring a highly available virtual machine

### **COURSE PREREQUISITES**

- Two or more years of experience with deploying and managing Windows Server 2012 or Windows Server 2008 environments; NS experience with day-to-day Windows Server 2012 or Windows Server 2008 system-administration management and maintenance tasks.
- Experience with Windows networking technologies and implementation.
- Experience with Active Directory technologies and implementation.
- Experience with Windows Server virtualization technologies and implementation.
- Knowledge equivalent to the MCSA credentials of Windows Server 2008 or Windows Server 2012.