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## What is the Upgrading your Skills to MCSA Windows Server 2016 (M20743) Course?

This five-day, instructor-led training course explains how to implement and configure new Windows Server 2016 features and functionality. This training 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 training 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 microsoft certification is not a product-upgrade course, detailing considerations for migrating and upgrading students' specific environment to Windows Server 2016. Rather, this training course provides updates to students' existing Windows Server knowledge and skills, as they pertain to Windows Server 2016.

## Upgrading your Skills to MCSA Windows Server 2016 (M20743) Course Objectives

After completing this training course, students will be able to:

- Install and configure Windows Server 2016.
- Describe storage in Windows Server 2016.Upgrading your Skills to MCSA Windows Server 2016 (M20743)
- 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.

## Who is this Upgrading your Skills to MCSA Windows Server 2016 (M20743) Course for?

This training 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.

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

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

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

Module 3: Implementing directory servicesThis 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 FSThis 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 servicesThis module explains how to configure advanced features for Dynamic Host Configuration Protocol (DHCP) and configure IP Address Management (IPAM).Lessons

- Overview of networking enhancements

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- 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.

Module 6: Implementing Hyper-VThis 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 featuresThis 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 NetworkingThis module explains how to implement software-defined networking.Lessons

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

Lab : Deploying Network Controller

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After completing this module, students will be able to:

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

Module 9: Implementing remote accessThis 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 containersThis 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 clusteringThis 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

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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-VThis 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.

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