



REAL WORLD
TECHNOLOGY TRAINING & SOLUTIONS
"Training You Can Really Use"

55341: Installation, Storage, and Compute with Windows Server®

Duration: 5 Days

Method: Instructor-Led Training (ILT) | Live Online Training

Course Description

This course is for participants who need to understand the scenarios, requirements, and storage and computing options that are available and applicable to Windows Server. Although this course and the associated labs are written for Windows Server 2022, the skills taught will also be backwards compatible with Server 2016 and Server 2019.

NOTE: *This course is the Community Courseware equivalent of the retired MOC 20740C: Installation, Storage, and Compute with Windows Server.*

Target Audience

This course is intended for:

- Windows Server Administrators who are relatively new to Windows Server administration and related technologies, and who want to learn more about the storage and computing features of Windows Server.
- IT Professionals with general IT knowledge who are looking to gain knowledge about Windows Server, especially around storage and computing technologies in Windows Server.
- Professionals who will be responsible for managing storage and computing by using Windows Server.

Prerequisites

To attend this course, candidates must have:

- A basic understanding of networking fundamentals.
- An awareness and understanding of security best practices.
- An understanding of basic Active Directory® concepts.
- Basic knowledge of server hardware.
- Experience supporting and configuring Windows® client operating systems such as Windows 10 or 11.



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Course Objectives

Upon successful completion of this course, attendees will be able to:

- Prepare and install Windows Server and plan a server upgrade and migration strategy.
- Describe the various storage options, including partition table formats, basic and dynamic disks, file systems, virtual hard disks, and drive hardware, and explain how to manage disks and volumes.
- Describe enterprise storage solutions and select the appropriate solution for a given situation.
- Implement and manage Storage Spaces and Data Deduplication.
- Install and configure Microsoft® Hyper-V®, and configure virtual machines.
- Deploy, configure, and manage Windows and Hyper-V containers.
- Describe the high availability and disaster recovery technologies in Windows Server.
- Plan, create, and manage a failover cluster.
- Implement failover clustering for Hyper-V virtual machines.
- Configure a Network Load Balancing (NLB) cluster, and plan for an NLB implementation.
- Create and manage deployment images.
- Manage, monitor, and maintain virtual machine installations.

Course Topics

Module 1: Installing, Upgrading, and Migrating Servers and Workloads

- Introducing Windows Server
- 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





Course Topics *Continued*

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 (VMs)

- 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 Containers

- Overview of Containers in Windows Server
- Deploying Windows Server and Hyper-V Containers
- Installing, Configuring, and Managing Containers by using Docker

Module 7: 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

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 Hyper-V

- Overview of the Integration of Hyper-V with Failover Clustering
- Implementing Hyper-V VMs on Failover Clusters
- Key Features for VMs in a Clustered Environment





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Course Topics *Continued*

Module 10: Implementing Network Load Balancing (NLB)

- 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 Monitoring Tools
- Using Performance Monitor
- Monitoring Event Logs

LABS INCLUDED



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