INSTALLATION, STORAGE, AND COMPUTE WITH WINDOWS SERVER 2016 (M20740)

Course Code: 4698

Learn to implement enterprise storage solutions with Windows Server 2016.

This course is designed primarily for IT professionals who have some experience with Windows Server. It is designed for professionals who will be responsible for managing storage and compute by using Windows Server 2016, and who need to understand the scenarios, requirements, and storage and compute options that are available and applicable to Windows Server 2016.

This course is also available in the On-Demand delivery format with digital Microsoft Official Courseware (dMOC). Click here to purchase.

What You’ll Learn

• Prepare and install Nano Server, a Server Core installation, and plan a server upgrade and migration strategy
• 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
• 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
• Deploy, configure, and manage Windows and Hyper-V containers
• High availability and disaster recovery technologies in Windows Server 2016
• 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

Who Needs to Attend

• Windows Server administrators who are relatively new to Windows Server
administration and related technologies, and who want to learn more about the storage and compute features in Windows Server 2016

• IT professionals who are looking to gain knowledge about Windows Server, especially around storage and compute technologies in Windows Server 2016

Prerequisites

• A basic understanding of networking fundamentals
• An awareness and understanding of security best practices
• An understanding of basic AD DS concepts
• Basic knowledge of server hardware
• Experience supporting and configuring Windows client operating systems such as Windows 8 or Windows 10

Note: You will benefit from having some previous Windows Server operating system experience, such as experience as a Windows Server systems administrator.
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Classroom Live Outline

1. Installing, Upgrading, and Migrating Servers and Workloads
   • Introducing Windows Server 2016
   • Preparing and installing Nano Server and Server Core
   • Preparing for upgrades and migrations
   • Migrating server roles and workloads
   • Windows Server activation models

2. Configuring Local Storage
   • Managing disks in Windows Server
   • Managing volumes in Windows Server

3. Implementing Enterprise Storage Solutions
   • Overview of DAS, NAS, and SANs
   • Comparing Fibre Channel, iSCSI, and FCoE
   • Understanding iSNS, data centre bridging, and MPIO
   • Configuring sharing in Windows Server 2016

4. Implementing Storage Spaces and Data Deduplication
   • Implementing Storage Spaces
   • Managing Storage Spaces
   • Implementing Data Deduplication

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 Hyper-V virtual machines

6. Deploying and Managing Windows Server 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

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 the Windows Server 2016 operating system and data by using Windows Server B
• High availability with failover clustering in Windows Server 2016

8. Implementing and Managing 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

9. Implementing Failover Clustering for with Server 2016 Hyper-V
• Overview of integrating Hyper-V Server 2016 with failover clustering
• Implementing Hyper-V virtual machines on failover clusters
• Key features for virtual machines in a clustered environment

10. Implementing Network Load Balancing
• Overview of NLB clusters
• Configuring an NLB cluster
• Planning an NLB implementation

11. Creating and Managing Deployment Images
• Introduction to deployment images
• Creating and managing deployment images by using MDT
• Virtual machine environments for different workloads

12. Managing, Monitoring, and Maintaining Virtual Machine Installations
• WSUS overview and deployment options
• Update management process with WSUS
• Overview of PowerShell DSC
• Overview of Windows Server 2016 monitoring tools
• Using Performance Monitor
• Monitoring Event Logs

Classroom Live Labs
Lab 1: Installing and Configuring Server Core
Lab 2: Configuring Local Storage
Lab 3: Planning and Configuring Storage Technologies and Components
Lab 4: Implementing Storage Spaces
Lab 5: Implementing Data Deduplication
Lab 6: Installing and Configuring Hyper-V
Lab 7: Installing and Configuring Containers
Lab 8: Planning and Implementing a High Availability and Disaster Recovery Solution
Lab 9: Implementing a Failover Cluster
Lab 10: Managing a Failover Cluster
Lab 11: Implementing Failover Clustering with Hyper-V
Lab 12: Implementing an NLB
Lab 13: Using MDT to Deploy Windows Server 2016
Lab 14: Implementing WSUS and Deploying Updates
Lab 15: Monitoring and Troubleshooting Windows Server 2016

Sep 28 - Oct 2, 2020 | 8:30 AM - 4:30 PM | WASHINGTON, DC
Virtual Classroom Live Outline

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Jul 13 - 17, 2020 | 8:30 AM - 4:30 PM EST
Aug 24 - 28, 2020 | 11:30 AM - 7:30 PM EST
Sep 7 - 11, 2020 | 9:30 AM - 5:30 PM EST
Sep 28 - Oct 2, 2020 | 8:30 AM - 4:30 PM EST
Oct 5 - 9, 2020 | 11:30 AM - 7:30 PM EST
Oct 12 - 16, 2020 | 8:30 AM - 4:30 PM EST
Oct 19 - 23, 2020 | 8:30 AM - 4:30 PM EST
Oct 26 - 30, 2020 | 9:30 AM - 5:30 PM EST
Nov 2 - 6, 2020 | 8:30 AM - 4:30 PM EST
Dec 7 - 11, 2020 | 8:30 AM - 4:30 PM EST
Dec 14 - 18, 2020 | 8:30 AM - 4:30 PM EST
INSTALLATION, STORAGE, AND COMPUTE WITH WINDOWS SERVER 2016 (M20740)
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ON-DEMAND $895 USD 90 days

On-Demand Outline

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Lab 11: Implementing Failover Clustering with Hyper-V
Lab 12: Implementing an NLB
Lab 13: Using MDT to Deploy Windows Server 2016
Lab 14: Implementing WSUS and Deploying Updates
Lab 15: Monitoring and Troubleshooting Windows Server 2016
Blended Live Outline

This delivery format includes both instructor-led sessions and On-Demand sessions.

Week 1 – Kick-off and introduction to servers, workloads, and storage modules

Class session:
- Introduction to course, review course schedule, expectations, etc.
- Introduction to servers, workloads and storage modules

On-Demand modules to complete by next week’s class:
- 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, NBAS, and SANs
- Comparing Fibre Channel, iSCSI, and Fibre Channel over Ethernet
- Understanding iSNS, DCB, and MPIO
• Configuring sharing in Windows Server 2016

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.

Week 2 – Configure storage for Home folder and shared data challenge; and introduction to storage spaces and Hyper-V modules

Class session:
• Challenge lab: Configure storage for Home folders and shared data.
• Introduction to storages spaces and Hyper-V modules

On-Demand modules to complete by next week’s class:
• 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

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.

Week 3 – Configure storage for Hyper-V virtual machine challenge and introduction to Hyper-V containers and disaster recovery modules

Class session:
• Challenge lab: Configure storage for the creation of Hyper-V virtual machines.
• Introduction to Hyper-V containers and disaster recovery modules

On-Demand modules to complete by next week’s class:
• 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

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Week 4 - Implement a Web Server as a Windows Container challenge; configure a Scale Out File Server challenge; and introduction to failover clustering and load balancing modules

Class session:
• Challenge lab: Implement a Web Server as a Windows Container.
• Challenge lab: Configure a Scale Out File Server for use with a shared folder structure.
• Introduction to failover clustering and load balancing modules

On-Demand modules to complete by next week’s class:
• 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

Reminder: To maximize your time and participation in next week’s lab exercises, please complete the above modules prior to class.

Week 5 - Configure Hyper-V live migration challenge and introduction to deployment images and VM installation modules
Class session:

- Challenge lab: Configure a Hyper-V live migration challenge.
- Introduction to deployment images and VM installation modules

On-Demand modules to complete by next week's class:

- 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 Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.

Week 6 – Create a persistent Performance Monitor Data Collector challenge and final course review

Class session:

- Challenge lab: Create a persistent Performance Monitor Data Collector.
- Course review and wrap-up

Reminder: To maximize your time and participation in next week's lab exercises, please complete the above modules prior to class.
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PRIVATE GROUP TRAINING  5 days

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Date created: 6/30/2020 1:02:09 AM
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