Installation, Storage and Compute with Windows Server 2016

Duration: 5 Days   Course Code: M20740   Version: A

Overview:

This five-day 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.

Target Audience:

This course is intended for IT professionals who have some experiencing working with Windows Server, and who are looking for a single five-day course that covers storage and compute technologies in Windows Server 2016. This course will help them update their knowledge and skills related to storage and compute for Windows Server 2016.

Objectives:

- Prepare and install Nano Server, a Server Core installation, 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.

- Deploy, configure, and manage Windows and Hyper-V containers.

- Describe the 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.

Prerequisites:

Before attending this course, students must have:

- 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.

Additionally, students would benefit from having some previous Windows Server operating system experience, such as experience as a Windows Server systems administrator.

Content:

Module 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
- Lab : Installing and configuring Nano Server
- Implementing Nano Server
- Completing post-installation tasks on the Nano Server
- Performing remote management

Module 2: Configuring local storage

- Managing disks in Windows Server 2016
- Managing volumes in Windows Server 2016
- Lab : Managing disks and volumes in Windows Server 2016
- Creating and Managing virtual hard disks by using Windows PowerShell
- Converting virtual hard disks from .vhd to .vhdx
- Resizing a volume

Module 3: Implementing enterprise storage solutions

- Overview of direct-attached storage, network-attached storage, and storage area networks
- Comparing Fibre Channel, iSCSI, and FCoE
- Understanding iSNS, data centre bridging, and MPIO
- Configuring sharing in Windows Server 2016
- Lab : Planning and configuring storage technologies and components
- Planning storage requirements
- Configuring iSCSI storage
- Configuring and managing the share infrastructure

Module 4: Implementing Storage Spaces and Data Deduplication

- Implementing Storage Spaces
- Managing Storage Spaces
- Implementing Data Deduplication
- Lab : Implementing Storage Spaces
- Creating a storage space
- Enabling and configuring storage tiering
- Lab : Implementing Data Deduplication
- Installing Data Deduplication
- Configuring 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 Hyper-V virtual machines
- Lab : Installing and configuring Hyper-V
- Installing the Hyper-V server role
- Configuring Hyper-V settings
- Creating and configuring a virtual machine
- Managing a virtual machine by using PowerShell Direct

Module 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
- Lab : Installing and configuring containers
- Installing and configuring Windows Server containers by using Windows PowerShell
- Installing and configuring Windows Server 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 the Windows Server 2016 operating system and data by using Windows Server B
- High availability with failover clustering in Windows Server 2016
- Lab : Planning and implementing a high availability and disaster recovery solution
- Determining the appropriate high availability and disaster recovery solution
- Implementing storage migration
- Implementing Hyper-V Replica

Module 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

Module 9: Implementing failover clustering for Hyper-V virtual machines

- Overview of integrating Hyper-V in Windows Server 2016 with failover clustering
- Implementing and maintaining Hyper-V virtual machines on failover clusters
- Key features for virtual machines in a clustered environment
- Lab : Implementing failover clustering with Hyper-V
- Configuring a failover cluster for Hyper-V
- Configuring a highly available virtual machine

Module 10: Implementing Network Load Balancing

- Overview of NLB clusters
- Configuring an NLB cluster
- Planning an NLB implementation
- Lab : Implementing an NLB cluster
- Implementing an NLB cluster
- Configuring and managing the NLB cluster
- Validating high availability for the NLB cluster

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
- Lab : Using MDT to deploy Windows Server 2016
- Installing and configuring MDT
- Creating and deploying an image

Module 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
- Lab : Implementing WSUS and deploying updates
- Implementing WSUS
- Configuring update settings
- Approving and deploying an update by using WSUS
- Lab : Monitoring and troubleshooting Windows Server 2016
- Establishing a performance baseline
- Identifying the source of a performance problem
- Viewing and configuring centralized event logs

- Lab : Implementing a failover cluster
- Creating a failover cluster
- Verifying quorum settings and adding a node
- Lab : Managing a failover cluster
- Evicting a node and verifying quorum settings
- Changing the quorum from Disk Witness to File Share Witness, and defining node voting
- Adding and removing disks from the cluster

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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