Installation, Storage, and Compute with Windows Server 2016

Course Outline

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

Lab : Installing and configuring Server Core
•   Installing Server Core
•   Completing post-installation tasks on Windows Server 2016 Core
•   Performing remote management

Module 2: Configuring local storage
•   Managing disks in Windows Server
•   Managing volumes in Windows Server

Lab : Configuring local storage
•   Creating and managing volumes
•   Resizing volumes
•   Managing virtual hard disks

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 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
•   Creating a Storage Space

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 virtual machines

Lab : Installing and configuring Hyper-V
- Verify installation of the Hyper-V server role
- Configuring Hyper-V networks
- Creating and configuring virtual machines
- Enable nested virtualization for a virtual machine

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

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 by using Windows Server Backup
- 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
- Configuring Hyper-V replicas

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

Lab : Implementing failover clustering
- 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
- Verifying high availability

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

Lab : Implementing failover clustering with Windows Server 2016 Hyper-V
- Configure iSCSI storage
- Configuring a failover cluster for Hyper-V
- Configuring a highly available VM

Module 10: Implementing Network Load Balancing
- Overview of NLB
- Configuring an NLB cluster
- Planning an NLB implementation

Lab : Implementing NLB
- Implementing a Network Load Balancing (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
- 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 Windows 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