

Course 20740B: Installation, Storage, and Compute with Windows Server 2016 Exam Code: 70-740

Course Outline

Module 1: Installing, upgrading, and migrating servers and workloads

This module describes the new features of Windows Server 2016, and explains how to prepare for and install Nano Server and Server Core. This module also describes how to plan a server upgrade and migration strategy, and explains how to perform a migration of server roles and workloads within and across domains. Finally, this module explains how to choose an activation model based on your environment characteristics.

Lessons

- 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

- Installing Nano Server
- Completing post-installation tasks on Nano Server
- Performing remote management

Module 2: Configuring local storage

This module explains how to manage disks and volumes in Windows Server 2016.

Lessons

- 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

This module discusses direct-attached storage (DAS), network-attached storage (NAS), and storage area networks (SANs). It also explains the purpose of Microsoft Internet Storage Name Service (iSNS) Server, data center bridging (DCB), and Multipath I/O (MPIO). Additionally, this module compares Fibre Channel, Internet Small Computer System Interface (iSCSI), and Fibre Channel over Ethernet (FCoE), and describes how to configure sharing in Windows Server 2016.

Lessons

- 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

This module explains how to implement and manage Storage Spaces. This module also explains how to implement Data Deduplication.

Lessons

Implementing Storage Spaces
Managing Storage Spaces
Implementing Data Deduplication

Lab : Implementing Storage Spaces

Creating a Storage Space

Lab : Implementing Data Deduplication

Installing Data Deduplication
Configuring Data Deduplication

Module 5: Installing and configuring Hyper-V and virtual machines

This module provides an overview of Hyper-V and virtualization. It explains how to install Hyper-V, and how to configure storage and networking on Hyper-V host servers. Additionally, it explains how to configure and manage Hyper-V virtual machines.

Lessons

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 a virtual machines
Enable nested virtualization for a virtual machine

Module 6: Deploying and managing Windows and Hyper-V containers

This module provides an overview of containers in Windows Server 2016. Additionally, this module explains how to deploy Windows Server and Hyper-V containers. It also explains how to install, configure, and manage containers by using Docker.

Lessons

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

This module provides an overview of high availability and high availability with failover clustering in Windows Server 2016. It further explains how to plan high availability and disaster recovery solutions with Hyper-V virtual machines. Additionally, this module explains how to back up and restore the Windows Server 2016 operating system and data by using Windows Server Backup.

Lessons

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

This module explains how to plan for failover clustering. It also explains how to create, manage, and troubleshoot a failover cluster.

Lessons

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 a 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

This module describes how Hyper-V integrates with failover clustering. It also explains how to implement Hyper-V virtual machines (VMs) in failover clusters.

Lessons

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

This module provides an overview of NLB clusters. It also explains how to plan and configure an NLB cluster implementation.

Lessons

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

This module provides an overview of the Windows Server 2016 image deployment process. It also explains how to create and manage deployment images by using the Microsoft Deployment Toolkit (MDT). Additionally, it describes different workloads in the virtual machine environment.

Lessons

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

This module provides an overview on Windows Server Update Services (WSUS) and the requirements to implement WSUS. It explains how to manage the update process with WSUS. Additionally, this module provides an overview of Windows PowerShell Desired State Configuration (DSC) and Windows Server 2016 monitoring tools. Finally, this module describes how to use Performance Monitor, and how to manage event logs.

Lessons

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