

Course 10971B: Storage and High Availability with Windows Server

Course Outline

Module 1: Fundamental Storage Technologies and Components

This module introduces various storage hardware and communications technologies. It discusses changes in storage options and new technologies, including virtualization. Also covered in this module are enterprise storage hardware solutions such as storage area network (SAN) and network-attached storage (NAS), direct-attached storage (DAS), redundant array of independent disks (RAID), bus technologies, storage controllers, communications protocols, and data security.

Lessons

- Disk and File Systems Changes in Windows Server 2012
- Server Storage Topology
- Bus Technologies and Protocols
- Configuring Sharing in Windows Server
- Securing Volumes and Drives

Lab : Planning and Configuring Storage Technologies and Components

Module 2: Implementing Storage Spaces and Data Deduplication

This module discusses how to manage, maintain, and recover Storage Spaces, how to configure storage pools and virtual hard disks, and how to implement Data Deduplication, a feature used to find and remove duplicate data while maintaining the integrity of the data.

Lessons

- Implementing Storage Spaces
- Maintaining Storage Spaces
- Implementing Data Deduplication

Lab : Implementing Storage Spaces

Lab : Implementing Data Deduplication

Module 3: High Availability in Windows Server

In this module, students will learn about high availability and disaster recovery with Hyper-V virtual machines, and how to implement high availability in virtual environments by using failover clustering in Windows Server 2012.

Lessons

- Understanding High Availability
- High Availability and Disaster Recovery Solutions with Hyper-V Virtual Machines
- High Availability with Clustering in Windows Server 2012

Lab : Planning and Configuring High Availability and Disaster Recovery Solutions

Module 4: Implementing Failover Clustering

In this module, students will learn how to plan failover clustering implementation and how to create and configure new failover clusters.

Lessons

- Planning a Failover Cluster
- Creating a New Failover Cluster

Lab : Creating and Administering a Cluster

Module 5: Managing Server Roles and Clustering Resources

This module describes how to configure roles and services for high availability on a failover cluster. Students will learn about configuring, managing, maintaining, and troubleshooting failover clusters, in addition to implementing site high availability with multisite failover clustering.

Lessons

- Configuring Highly Available Applications and Services on a Failover Cluster
- Managing and Maintaining a Failover Cluster
- Troubleshooting a Failover Cluster
- Implementing Site High Availability with Multisite Failover Clusters

Lab : Implementing Server Roles and Clustering Resources

Lab : Managing Server Roles and Clustering Resources

Module 6: Implementing Failover Clustering with Hyper-V

In this module, students will learn how to implement failover clustering in a Hyper-V scenario to achieve high availability for a virtual environment.

Lessons

- Overview of Integrating Hyper-V with Failover Clustering
- Implementing Hyper-V with Failover Clustering
- Virtual Machine Storage Options
- Managing and Maintaining Hyper-V Virtual Machines on Failover Clusters

Lab : Implementing Failover Clustering by Using Hyper-V

Module 7: Storage Infrastructure Management with Virtual Machine Manager

This module provides an overview of System Center 2012 R2 Virtual Machine Manager, which is one of the Microsoft virtualization technologies, and explains how students can use it to manage both virtualization and traditional storage infrastructures.

Lessons

- Overview of Virtual Machine Manager
- Managing Storage Infrastructure with Virtual Machine Manager
- Provisioning Failover Clustering in Virtual Machine Manager

Lab : Managing Storage Infrastructure

Module 8: Cloud-Based Storage and High Availability

This module discusses cloud-based storage and high availability solutions including Azure, StorSimple, and disaster recovery with Azure Site Recovery.

Lessons

- Azure Storage Solutions and Infrastructure
- Cloud Integrated Storage with StorSimple
- Disaster Recovery with Azure Site Recovery

Lab : Managing Cloud-Based Storage and High Availability

Module 9: Implementing Network Load Balancing Clusters

This module introduces students to Network Load Balancing (NLB) and how this technology works. This module also covers the situations for which NLB is appropriate, how to configure and manage NLB clusters, how to perform maintenance tasks on NLB clusters, and how load balancing works in both Virtual Machine Manager and Microsoft Azure.

Lessons

- Overview of NLB
- Configuring an NLB Cluster
- Planning an NLB Implementation

Lab : Implementing Network Load Balancing Clusters