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Storage and High Availability with Windows Server

CODE:	DURÉE:	PRIX H.T.:
MCS_10971	32 Hours (4 Jours)	€2,350.00

Description

Get hands-on instruction and practice provisioning your storage requirements and meeting your high availability needs with Windows Server 2012 and Windows Server 2012 R2 in this four-day Microsoft Official Course.
In this course, you will learn about traditional storage topologies such as Direct Attached Storage (DAS), Network Attached Storage (NAS), Storage Area Networks (SANs), and bus technologies such as Fibre Channel and iSCSI. The course also covers newer Windows Server technologies such as Storage Spaces, tiering, thin provisioning and Data Deduplication, and enhanced functionality to the SMB sharing protocol in Windows Server 2012 R2.
The course also teaches high availability and disaster recovery technologies such as live migration, storage migration, and Hyper-V Replica. In addition, it provides in-depth coverage of Failover Clustering, including a detailed implementation of failover clustering of Hyper-V using Scale-Out File Server.
The course also covers System Center 2012 R2 Virtual Machine Manager. You will learn how to manage your storage infrastructure at scale by abstracting the physical storage fabric into manageable units that can be provisioned on-demand with minimal overhead using private clouds. The course describes Microsoft Azure storage solutions and integrating your on-premises storage with cloud-based storage and disaster recovery solutions including StorSimple and Azure Site Recovery. Implementing Network Load Balancing (NLB) and load balancing clusters are also covered.
The detailed hands-on labs and in-depth content will provide you with the knowledge and skills to meet and manage your continually-growing and evolving storage and high availability needs, with reduced overhead and cost.

Objectifs

After completing this course, students will be able to:

- Manage and secure disks and volumes in Windows Server.
- Describe storage technologies and components in Windows Server.
- Implement and manage Storage Spaces and Data Deduplication.
- Describe high availability and disaster recovery with Hyper-V virtual machines (VMs) and high availability with failover clustering in Windows Server 2012.
- Plan and implement a failover cluster.
- Describe managing server roles and clustering resources.
- Implement and manage VMs by using Hyper-V with failover clustering.
- Describe how to use Virtual Machine Manager to perform storage infrastructure management.
- Describe cloud-based storage and high availability solutions.
- Plan and implement a NLB cluster.

Audience

This course is intended for experienced IT Professionals who have the following experience and background:

- IT professionals with real world experience working in an enterprise environment who are involved in storage and high availability management and provisioning, and who want to acquire knowledge and training on the latest technologies in those areas with Windows Server 2012 and Windows Server 2012 R2.
- IT professionals with real-world experience who work in a Windows Server 2008 environment and want to assess the latest storage and technologies that are available in Windows Server 2012 and Windows Server 2012 R2.
- IT Professionals who work in small-to-medium enterprises who manage storage and high availability requirements for their organization.
- IT professionals who have skills in other areas, such as general system administration, who are looking for knowledge and

skills for career development in Windows Server storage and high availability.

Prérequis

Before Attending this course, students must have:

- Knowledge and real-world experience working day-to-day with Windows Servers in an Enterprise environment.
- Knowledge of and experience with basic local storage concepts and technologies, such as disk, volumes, and file systems.
- Experience working with Windows Server 2012 or Windows Server 2012 R2 (this is beneficial but not essential).

Programme

Course OutlineModule 1: Fundamental Storage Technologies and ComponentsThis 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 ComponentsAfter completing this module, students will be able to:

- Describe changes in storage technologies.
- Understand the advantages and disadvantages of using direct-attached storage (DAS), network-attached storage (NAS), storage area networks (SANs), and redundant array of independent disks (RAID).
- Understand and configure bus technologies and protocols.
- Describe Server Message Block (SMB) and network file system (NFS) storage protocols.
- Explain how to implement data security by using Encrypting File System (EFS), a Trusted Platform Module (TPM), and BitLocker Drive Encryption.

Module 2: Implementing Storage Spaces and Data DeduplicationThis 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 SpacesLab : Implementing Data DeduplicationAfter completing this module, students will be able to:

- Describe and implement the Storage Spaces feature in the context of enterprise storage needs.
- Manage and maintain Storage Spaces.
- Describe and implement Data Deduplication.

Module 3: High Availability in Windows ServerIn 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 SolutionsAfter completing this module, students will be able to:

- Understand and describe high availability.
- Describe high availability and disaster recovery solutions with Hyper-V in Windows Server 2012.
- Describe high availability with clustering in Windows Server 2012.

Module 4: Implementing Failover ClusteringIn 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 ClusterAfter completing this module, students will be able to:

- Plan a failover cluster.
- Create, configure, and manage a failover cluster.

Module 5: Managing Server Roles and Clustering ResourcesThis 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 ResourcesLab : Managing Server Roles and Clustering ResourcesAfter completing this module, students will be able to:

- Configure high availability applications and services on failover clusters.
- Manage and maintain failover clusters.
- Troubleshoot failover clusters.
- Implement multisite failover clusters.

Module 6: Implementing Failover Clustering with Hyper-VIn 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-VAfter completing this module, students will be able to:

- Describe how the Windows Server 2012 Hyper-V role integrates with the Windows Server 2012 Failover Clustering feature.
- Implement Hyper-V virtual machines on failover clusters.
- Describe various virtual machine storage options.
- Manage and maintain Hyper-V virtual machines on failover clusters.

Module 7: Storage Infrastructure Management with Virtual Machine ManagerThis 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 InfrastructureAfter completing this module, students will be able to:

- Navigate within Virtual Machine Manager.
- Manage storage infrastructure with Virtual Machine Manager.

- Provision a Scale-Out File Server cluster by using Virtual Machine Manager.

Module 8: Cloud-Based Storage and High AvailabilityThis 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 AvailabilityAfter completing this module, students will be able to:

- Describe Microsoft Azure Storage solutions and infrastructure.
- Describe cloud-integrated storage with Azure StorSimple.
- Describe disaster recovery with Azure Site Recovery.

Module 9: Implementing Network Load Balancing ClustersThis 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 ClustersAfter completing this module, students will be able to:

- Describe NLB.
- Configure an NLB cluster.
- Plan an NLB implementation.

Dates de session

Sur demande. Merci de nous contacter

Informations Complémentaires

Cette formation est également disponible sous forme de formation sur site. Veuillez nous contacter pour en savoir plus.