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Enterprise Computing Solutions - Education Services

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Installation, Storage, and Compute with Windows Server 2016

CODE:	DURÉE:	PRIX H.T.:
MCS_20740	40 Hours (5 Jours)	€2,850.00

Description

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

Objectifs

After completing this course, students will be able to:
    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.

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.
Candidates suitable for this course would be:
    Windows Server administrators who are relatively new to Windows Server administration and related technologies, and who want to learn more about the storage and compute features in Windows Server 2016.
    IT professionals with general IT knowledge, who are looking to gain knowledge about Windows Server, especially around storage and compute technologies in Windows Server 2016.
The secondary audience for this course are IT professionals looking to take the Microsoft 70-740 certification exam, Installation, Storage and Compute with Windows Server 2016.

Prérequis

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.

Programme

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.

Introducing Windows Server 2016
Preparing and installing Nano Server and Server Core
Preparing for upgrades and migrations
Migrating server roles and workloads

Lessons   Windows Server activation models   Lab : Installing and configuring Nano Server
Installing Nano Server
Completing post-installation tasks on Nano Server
Performing remote management   After completing this module, students will be able to:
Describe the new features of Windows Server 2016.
Prepare for and install Nano Server and Server Core.
Plan a server upgrade and migration strategy.
Perform a migration of server roles and workloads within a domain and across domains.
Choose an activation model.   **Module 2: Configuring local storage**
This module explains how to manage disks and volumes in Windows Server 2016. Lessons
Creating and managing volumes
Managing disks in Windows Server   Resizing volumes
Managing volumes in Windows Server Lab : Configuring local storage   Managing virtual hard disks
Manage disks in Windows Server.
After completing this module, students will be able to: Manage volumes in Windows Server.

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.

Overview of DAS, NAS, and SANs
Comparing Fibre Channel, iSCSI, and Fibre Channel over Ethernet
Understanding iSNS, DCB, and MPIO
Lessons   Configuring sharing in Windows Server 2016
Planning storage requirements
Configuring iSCSI storage
Lab : Planning and configuring storage technologies and components   Configuring and managing the share infrastructure
Describe DAS, NAS, and SANs.
Compare Fibre Channel iSCSI, and FCoE.
Explain the use of iSNS, DCB, and MPIO.
After completing this module, students will be able to: Configure sharing in Windows Server.

Module 4: Implementing Storage Spaces and Data Deduplication
This module explains how to implement and manage Storage Spaces.

Implementing Storage Spaces
Managing Storage Spaces
This module also explains how to implement Data Deduplication. Lessons   Implementing Data Deduplication
Lab : Implementing Storage Spaces   Creating a Storage Space Lab : Implementing Data Deduplication
Installing Data Deduplication
Configuring Data Deduplication After 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 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.

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
Lessons   Managing virtual machines   Lab : Installing and configuring Hyper-V
Verify installattion of the Hyper-V server role
Configuring Hyper-V networks
Creating and configuring a virtual machines
Enable nested virtualization for a virtual machine After completing this module, students will be able to:

Describe Hyper-V and virtualization.
Install Hyper-V.
Configure storage on Hyper-V host servers.
Configure networking on Hyper-V host servers.
Configure Hyper-V virtual machines.
Manage Hyper-V virtual machines.

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

This module provides and 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.

Overview of containers in Windows Server 2016
Deploying Windows Server and Hyper-V containers

Lessons   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 Installing

Describe containers in Windows Server 2016.
Explain how to deploy containers.

After completing this module, students will be able to: Explain how to install, configure, and manage containers 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.

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

Lessons   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   After completing this module, students will be able to:
Describe levels of availability.
Plan for high availability and disaster recovery solutions with Hyper-V virtual machines.
Back up and restore data by using Windows Server Backup.
Describe high availability with failover clustering in Window Server 2016.

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.

Planning a failover cluster
Creating and configuring a new failover cluster
Maintaining a failover cluster
Troubleshooting a failover cluster

Lessons   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

Plan for a failover-clustering implementation.
Create and configure a failover cluster.
Maintain a failover cluster.
Troubleshoot a failover cluster.

After completing this module, students will be able to: Implement high availability and stretch clustering for a site.

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.

Overview of the integration of Hyper-V Server 2016 with failover clustering
Implementing Hyper-V VMs on failover clusters

Lessons   Key features for VMs in a clustered environment

Configure iSCSI storage
Configuring a failover cluster for Hyper-V

Lab : Implementing failover clustering with Windows Server 2016 Hyper-V   Configuring a highly available VM
Describe how Hyper-V integrates with failover clustering.
Implement Hyper-V VMs on failover clusters.

After completing this module, students will be able to: Describe the key features for VMs in a clustered environment.

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.

Overview of NLB   Implementing a Network Load Balancing (NLB) cluster
Configuring an NLB cluster   Configuring and managing the NLB cluster

Lessons   Planning an NLB implementation Lab : Implementing NLB   Validating high availability for the NLB cluster

Describe NLB.

Configure an NLB cluster.

After completing this module, students will be able to: Explain how to plan an NLB implementation.

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.

Introduction to deployment images

Creating and managing deployment images by using MDT

Lessons   Virtual machine environments for different workloads   Lab : Using MDT to deploy Windows Server 2016

Configuring MDT

Creating and deploying an image After completing this module, students will be able to:

Describe the Windows Server 2016 image deployment process.

Create and manage deployment images by using MDT.

Describe the different workloads in the virtual machine environment.

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.

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

Lessons   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 After completing this module, students will be able to:

Describe the purpose of WSUS and the requirements to implement WSUS.

Manage the update process with WSUS.

Describe the purpose and benefits of Windows PowerShell DSC.

Describe the monitoring tools available in Windows Server 2016.

Use Performance Monitor.

Manage event logs.

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.