

Installation, Storage, and Compute with Windows Server («55341A»)

Grâce à ce cours de 5 jours, maîtrisez toutes les exigences et options de stockage et de calcul de Windows Server. Cette formation est également compatible avec Server 2016 ou 2019.

Durée: 5 jours

Prix : 3'950.- excl. 8.1% TVA

Documents : Support de cours numérique

Contenu

INFORMATION IMPORTANTE

Cette formation n'est pas une formation Microsoft officielle, mais est basée sur l'ancien MOC 20740C, aujourd'hui abandonné par Microsoft. Cette formation est développée par la communauté Microsoft.

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

This module describes the new features of Windows Server, and explains how to prepare for and install 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
- Preparing and installing Server Core
- Preparing for upgrades and migrations
- Migrating server roles and workloads
- Windows Server activation models

Lab: Installing and configuring Windows Server

Module 2: Configuring local storage

This module explains how to name, declare, assign values to, and use variables. It also describes how to store data in an array. (e.g. This module explains how to install, upgrade and migrate to Windows 7. It also describes the key features, editions, and hardware requirements of Windows 7)

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.

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

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 1: Implementing Storage Spaces

- Creating a Storage Space

Lab 2: 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 virtual machines
- Enable nested virtualization for a virtual machine

Module 6: Deploying and managing containers

This module provides an overview of containers in Windows Server. 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
- 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
- Deploying containers using Docker

Module 7: High availability and disaster recovery

This module provides an overview of high availability and high availability with failover clustering in Windows Server. 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 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

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 1: Implementing failover clustering

- Creating a failover cluster
- Verifying quorum settings and adding a node

Lab 2: 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 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 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 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 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

- 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 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 monitoring tools
- Using Performance Monitor
- Monitoring event logs

Lab 1: Implementing WSUS and deploying updates

- Implementing WSUS
- Configuring update settings
- Approving and deploying an update by using WSUS

Lab 2: Monitoring and troubleshooting Windows Server

- Establishing a performance baseline
- Identifying the source of a performance problem
- Viewing and configuring centralized event logs

Objectifs

- Préparer et installer Windows Server et planifier une mise à niveau du serveur et une stratégie de migration
- Décrire les différentes options de stockage, y compris les formats de partition de table, les disques de base et dynamiques, les systèmes de fichiers, les disques durs virtuels et matériels et d'expliquer comment gérer les disques et volumes
- Décrire les solutions de stockage d'entreprise et choisir la solution appropriée à une situation donnée
- Implémenter et gérer des espaces de stockage et la déduplication des données
- Installer et configurer Microsoft Hyper-V et configurer des machines virtuelles
- Déployer, configurer et gérer les conteneurs Windows et Hyper-V
- Décrire les technologies de haute disponibilité et de reprise après sinistre de Windows Server
- Planifier, créer et gérer un failover cluster
- Implémenter un failover clustering pour les machines virtuelles Hyper-V
- Configurer et implémenter un Network Load Balancing (NLB) Cluster
- Créer et gérer des images de déploiement
- Gérer, surveiller et entretenir les installations de machines virtuelles

Ce cours s'adresse aux professionnels de l'informatique qui ont déjà de l'expérience sur Windows Server et qui cherchent à maîtriser les technologies de stockage et de calcul de Windows Server. Cette formation permet de mettre à jour les connaissances et compétences dans le domaine des technologies de stockage et de calcul sur Windows Server.

Les participantes et participants à ce cours sont :

- Des administrateurs Windows Server qui débutent dans l'administration de Windows Server et les technologies associées et qui désirent en savoir plus sur les technologies de stockage et de calcul de Windows Server.
- Des professionnels de l'IT ayant des connaissances générales en IT et qui désirent maîtriser Windows Server, en particulier en ce qui concerne le stockage et le calcul sur Windows Server.

Prérequis

- Des connaissances fondamentales de mise en réseau
- Une connaissance et une sensibilité aux bonnes pratiques en matière de sécurité
- Comprendre les concepts fondamentaux d'Active Directory
- Avoir des connaissances fondamentales du matériel de serveur
- De l'expérience en support et configuration du système d'exploitation Windows de client comme Windows 10 ou Windows 11

Ces connaissances peuvent être acquises en suivant les cours suivants :

- [Windows 11 – Technical Fundamentals \(«WIN11P»\)](#)

Avez-vous une question ou souhaitez-vous organiser un cours en entreprise ?

Nous vous conseillons volontiers au +41 22 738 80 80 ou romandie@digicomp.ch. Retrouvez toutes les informations détaillées concernant les dates sur www.digicomp.ch/formations-microsoft-technology/microsoft-server/cours-installation-storage-and-compute-with-windows-server