training code: AA_20740 / ENG DL 5d / EN

Installation, Storage, and Compute with Windows Server 2016

Purpose of the training

This course is intended for:

- IT **professionals** who have some experience 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.
- Windows Server **administrator**s who are relatively new to Windows Server administration and related technologies
  - 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.
- IT professionals looking to take the Microsoft **70-740** certification **exam**, Installation, Storage and Compute with Windows Server 2016.

Benefits of completing the training

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**
  - drive hardware
  - 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, and configure virtual machines.
- 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

Expected Listener Preparation

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.

An ability to use English language materials.

Training Language

- **Training**: English
- **Materials**: English

Training Includes

- manual in electronic form available on the platform: https://www.altkomakademia.pl/
- access to Altkom Akademia's student portal

Duration

5 days / 35 hours

Training agenda

1. **Installing**, upgrading, and **migrating** servers and workloads
   - Introducing Windows Server 2016
   - Preparing and installing Server Core
   - Preparing for upgrades and migrations
   - Migrating server roles and workloads
   - Windows Server activation models
2. Configuring local storage
   - **Managing** disks in Windows Server
   - Managing volumes in **Windows Server**
3. Implementing enterprise storage solutions
   - 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
4. Implementing Storage Spaces and Data Deduplication
   - Implementing **Storage Spaces**
   - Managing Storage Spaces
   - **Implementing** Data Deduplication
5. Installing and configuring Hyper-V and 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
   - Managing virtual machines
6. Deploying and managing Windows and Hyper-V containers
   - Overview of containers in Windows Server 2016
   - Deploying Windows Server and Hyper-V containers

- Installing, configuring, and managing containers by using Docker

7. Overview of high availability and disaster recovery
   - 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
8. Implementing failover clustering
   - 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
9. Implementing failover clustering with Windows Server 2016 Hyper-V
   - 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
10. Implementing Network Load Balancing
    - Overview of **NLB**
    - Configuring an NLB cluster
    - Planning an NLB implementation
11. Creating and managing deployment images
    - Introduction to deployment images
    - Creating and managing deployment images by using MDT
    - Virtual machine environments for different workloads
12. Managing, monitoring, and maintaining virtual machine installations
    - 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