



55371AC

Windows Server Administration

Course ID #: 7000-744-ZZ-Z

Hours: 35

Course Content

Course Description:

In this course, you will cover the fundamental administration skills required to deploy and support Windows Server in most organizations. This course is a replacement for WS-011.

Course Objectives:

Upon successful completion of this course, students will be able to:

- Use administrative techniques and tools in Windows Server
- Implement identity Services
- Manage network infrastructure services
- Configure file servers and storage
- Manage virtual machines using Hyper-V virtualisation and containers
- Implement high availability and disaster recovery solutions
- Apply security features to protect critical resources
- Configure Remote Desktop Services
- Configure a virtual machine-based desktop infrastructure deployment
- Implement remote access and web services
- Implement service monitoring and performance monitoring and apply troubleshooting
- Perform upgrades and migration related to AD DS, and storage.

Prerequisites:

- Some exposure to and experience with Active Directory Domain Services (AD DS) concepts and technologies in Windows Server.
- Experience and an understanding of core networking technologies such as IP addressing, name resolution, and Dynamic Host Configuration Protocol (DHCP).
- Experience working with and an understanding of Microsoft Hyper-V and basic server virtualization concepts.
- An awareness of basic security best practices.
- Experience working hands-on with Windows client operating systems such as Windows 10 or Windows 11.
- Basic experience with Windows PowerShell.



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Target Audience:

This course is intended for Information Technology (IT) Professionals who have some experiencing working with Windows Server and are looking for a single five-day course that covers core administration components and technologies in Windows Server 2019. This course also helps server administrators from previous Windows Server versions to update their knowledge and skills related to Windows Server. The course is also to individuals from a service desk role who wish to transition into server maintenance.

Topics:

Lesson 1: Windows Server Administration

Overview

This module describes how to distinguish different Windows Server editions and techniques for deployment, servicing and activation. The module also introduces Windows Server Core and compares it with the Desktop Experience version. The module describes tools and concepts for administering Windows Server, such as Windows Admin Center, PowerShell, and delegation of privileges.

- Introducing Windows Server
- Windows Server Core Overview
- Windows Server administration principles and tools overview

Lab 1: Deploying and configuring Windows Server

- Deploying and configuring Server Core
- Implementing and using remote server administration

Lesson 2: Identity Services in Windows Server

This module introduces identity services and describes Active Directory Domain Services (AD DS) in a Windows Server environment. The module describes how to deploy domain controllers in AD DS, as well as the Azure Active Directory (AD) and the benefits of integrating Azure AD with AD DS. The module also covers Group Policy basics and how to configure group policy objects (GPOs) in a domain environment. Finally, the modules describes the role of Active Directory certificate services and certificate usage.

- AD DS Overview
- Deploying Windows Server domain controllers
- Azure AD overview
- Implementing Group Policy
- Active Directory Certificate Services overview

Lab 1: Implementing Identity Services and Group Policy

- Deploying and configuring Server Core
- Deploying new domain controller on Server Core
- Configuring Group Policy
- Deploying and using certificate services
- Explain Group Policy basics and configure GPOs in a domain environment
- Describe the role of Active Directory certificate services and certificate usage



Lesson 3: Network Infrastructure services in Windows Server

This module describes how to implement core network infrastructure services in Windows Server. The module covers how to deploy, configure and manage DNS and IPAM. The module also describes how to use Remote Access Services.

- Deploying and managing DHCP
- Deploying and managing DNS service
- Deploying and managing IPAM
- Remote Access Services in Windows Server

Lab 1: Implementing and configuring network infrastructure services in Windows Server

- Deploying and configuring DHCP
- Deploying and configuring DNS
- Implementing Web Application Proxy

Lesson 4: File Servers and Storage management in Windows Server

This module describes how to configure file servers and storage in Windows Server. The module covers file sharing and deployment of Storage Spaces technology. The module describes how to implement data deduplication, iSCSI based storage in Windows Server, and finally, how to deploy DFS.

- Volumes and File Systems in Windows Server
- Implementing sharing in Windows Server
- Implementing Storage Spaces in Windows Server
- Implementing Data Deduplication
- Implementing iSCSI
- Deploying Distributed File System

Lab 1: Implementing storage solutions in Windows Server

- Implementing Data Deduplication
- Configuring iSCSI storage
- Configuring redundant storage spaces
- Implementing Storage Spaces Direct

Lesson 5: Hyper-V virtualization and containers in Windows Server

This module describes how to implement and configure Hyper-V VMs and containers. The module covers key features of Hyper-V in Windows Server, describes VM settings, and how to configure VMs in Hyper-V. The module also covers security technologies used with virtualization, such as shielded VMs, Host Guardian Service, admin-trusted and TPM-trusted attestation, and KPS.

- Hyper-V in Windows Server
- Configuring VMs
- Securing virtualization in Windows Server
- Containers in Windows Server
- Overview of Kubernetes

Lab 1: Implementing and configuring virtualization in Windows Server

- Creating and configuring VMs
- Installing and configuring containers

Lesson 6: High Availability in Windows Server

This module describes current high availability technologies in Windows Server. The module describes failover clustering and considerations for implementing it, and how to create and configure failover clustering. The module also explains stretch clusters and options for achieving high availability with Hyper-V VMs.

- Planning for failover clustering implementation
- Creating and configuring failover cluster
- Overview of stretch clusters
- High availability and disaster recovery solutions with Hyper-V VMs

Lab 1: Implementing failover clustering

- Configuring storage and creating a cluster
- Deploying and configuring a highly available file server
- Validating the deployment of the highly available file server



Lesson 7: Disaster recovery in Windows Server

This module describes disaster recovery technologies in Windows Server and how to implement them. The module covers how to configure and use Hyper-V Replica and describes Azure Site Recovery. The module also covers how to implement Windows Server backup and describes the Azure Backup service.

- Hyper-V Replica
- Backup and restore infrastructure in Windows Server

Lab 1: Implementing Hyper-V Replica and Windows Server Backup

- Implementing Hyper-V Replica
- Implementing backup and restore with Windows Server Backup

Lesson 8: Windows Server security

This module describes Windows Server security features and how to implement them. The module covers credentials used in Windows Server and explains how to implement privileged access protection. In addition to describing methods and technologies for hardening Windows Server security, the module explains how to configure Just Enough Administration (JEA) and how to secure SMB traffic. Finally, the module covers Windows Update, its deployment and management options.

- Credentials and privileged access protection
- Hardening Windows Server
- JEA in Windows Server
- Securing and analyzing SMB traffic
- Windows Server update management

Lab 1: Configuring security in Windows Server

- Configuring Windows Defender Credential Guard
- Locating problematic accounts
- Implementing LAPS

Lesson 9: RDS in Windows Server

This module describes key Remote Desktop Protocol (RDP) and Virtual Desktop Infrastructure (VDI) features in Windows Server. The module covers how to deploy session-based desktops and describes personal and pooled virtual desktops.

- Overview of RDS
- Configuring a session-based desktop deployment
- Overview of personal and pooled virtual desktops

Lab 1: Implementing RDS in Windows Server

- Implementing RDS
- Configuring Session Collection Settings and using RDC
- Configuring a virtual desktop template

Lesson 10: Remote access and web services in Windows Server

This module describes how to implement virtual private networks (VPNs), Network Policy Server (NPS), and Microsoft Internet Information Services (IIS). The module describes Always On VPN functionality, as well as how to configure NPS and Web Server (IIS) in Windows Server.

- Implementing VPNs
- Implementing Always On VPN
- Implementing NPS
- Implementing Web Server in Windows Server

Lab 1: Deploying network workloads

- Implementing VPN in Windows Server
- Deploying and Configuring Web Server



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Lesson 11: Server and performance monitoring in Windows Server

This module describes how to implement service and performance monitoring, and apply troubleshooting in Windows Server. The module highlights monitoring tools and describes how to monitor performance, including event logging and how to perform event logging monitoring for troubleshooting purposes.

- Overview of Windows Server monitoring tools
- Using Performance Monitor
- Monitoring event logs for troubleshooting

Lab 1: Monitoring and troubleshooting Windows Server

- Establishing a performance baseline
- Identifying the source of a performance problem

Lesson 12: Upgrade and migration in Windows Server

This module describes how to perform upgrades and migrations for AD DS, Storage, and Windows Server. The module covers tools to use for AD DS migration. The module also covers the Storage Migration Service, and finally, Windows Server migration tools and usage scenarios.

- AD DS migration
- Storage Migration Service
- Windows Server migration tools

Lab 1: Migrating Server workloads

- Implementing Storage Migration Service

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