Configuring Windows Server Hybrid Advanced Services

Description

This course teaches IT Professionals to configure advanced Windows Server services using on-premises, hybrid, and cloud technologies. It also teaches them how to leverage the hybrid capabilities of Azure, how to migrate virtual and physical server workloads to Azure IaaS, and how to secure Azure VMs running Windows Server. The training also covers tasks related to high availability, troubleshooting, and disaster recovery. It highlights administrative tools and technologies including Windows Admin Center, PowerShell, Azure Arc, Azure Automation Update Management, Microsoft Defender for Identity, Azure Security Center, Azure Migrate, and Azure Monitor.

Course Content
Module 1: Secure Windows Server user accounts

- Configure user account rights
- Protect user accounts with the Protected Users group
- Describe Windows Defender Credential Guard
- Block NTLM authentication
- Locate problematic accounts

Module 2: Hardening Windows Server

- Describe Local Password Administrator Solution
- Configure Privileged Access Workstations
- Secure domain controllers
- Analyze security configuration with Security Compliance Toolkit
- Secure SMB traffic

Module 3: Windows Server update management

- Explore Windows Update
- Outline Windows Server Update Services server deployment options
- Define Windows Server Update Services update management process
- Describe the process of Update Management

Module 4: Secure Windows Server DNS

- Implement split-horizon DNS
- Create DNS policies
- Implement DNS policies
- Secure Windows Server DNS
- Implement DNSSEC

Module 5: Implement Windows Server IaaS VM network security

- Implement network security groups and Windows IaaS VMs
- Implement adaptive network hardening
- Implement Azure Firewall and Windows IaaS VMs
- Implement Windows firewall with Windows Server IaaS VMs
- Choose the appropriate filtering solution
- Deploy and configure Azure firewall using the Azure portal
- Capture network traffic with network watcher
- Log network traffic to and from a VM using the Azure portal

Module 6: Audit the security of Windows Server IaaS Virtual Machines

- Describe Azure Security Center
- Enable Azure Security Center in hybrid environments
- Implement and assess security policies
- Protect your resources with Azure Security Center
- Implement Azure Sentinel

Module 7: Manage Azure updates

- Describe update management
- Enable update management
- Deploy updates
- View update assessments
- Manage updates for your Azure Virtual Machines

Module 8: Create and implement application allowlists with adaptive application control

- Describe adaptive application control
- Implement adaptive application control policies

Module 9: Configure BitLocker disk encryption for Windows IaaS Virtual Machines

- Describe Azure Disk Encryption and server-side encryption
- Configure Key Vault for Azure Disk Encryption
- Encrypt Azure IaaS Virtual Machine hard disks
- Back up and recover data from encrypted disks
- Create and encrypt a Windows Virtual Machine

Module 10: Implement change tracking and file integrity monitoring for Windows IaaS VMs

- Implement Change Tracking and Inventory
- Manage Change Tracking and Inventory
- Manage tracked files
- Implement File Integrity Monitoring

- Select and monitor entities
- Use File Integrity Monitoring

Module 11: Introduction to Cluster Shared Volumes

- Determine the functionality of Cluster Shared Volumes
- Explore the architecture and components of Cluster Shared Volumes
- Implement Cluster Shared Volumes

Module 12: Implement Windows Server failover clustering

- Define Windows Server failover clustering
- Plan Windows Server failover clustering
- Implement Windows Server failover clustering
- Manage Windows Server failover clustering
- Implement stretch clusters
- Define cluster sets

Module 13: Implement high availability of Windows Server VMs

- Select high-availability options for Hyper-V
- Consider network load balancing for Hyper-V VMs
- Implement Hyper-V VM live migration and Hyper-V VMs storage migration

Module 14: Implement Windows Server File Server high availability

- Explore the Windows Server File Server high-availability options
- Define Cluster Shared Volumes
- Implement Scale-Out File Server and Storage Replica

Module 15: Implement scale and high availability with Windows Server VM

- Describe virtual machine scale sets
- Implement scaling and load-balancing VMs
- Create a virtual machine scale set in the Azure portal
- Describe Azure Site Recovery
- Implement Azure Site Recovery

Module 16: Implement Hyper-V Replica

- Define Hyper-V Replica
- Plan for Hyper-V Replica
- Configure and implement Hyper-V Replica
- Define extended replication and Azure Site Recovery
- Implement Site Recovery from on-premises site to Azure and to on-premises site

Module 17: Protect your on-premises infrastructure from disasters with Azure Site Recovery

- Azure Site Recovery overview
- Workloads supported for protection with Azure Site Recovery
- Run a disaster recovery drill
- Failover and failback

Module 18: Implement hybrid backup and recovery with Windows Server IaaS

- Describe Azure Backup
- Implement recovery vaults, Azure Backup policies
- Recover Windows IaaS Virtual Machines
- Perform file and folder recovery, backup and restore of on-premises workloads
- Manage Azure Virtual Machine backups with Azure Backup service

Module 19: Protect your Azure infrastructure with Azure Site Recovery

- What is Azure Site Recovery
- Prepare for disaster recovery with Azure Site Recovery
- Run a disaster recovery drill
- Failover and failback using Azure Site Recovery

Module 20: Protect your virtual machines by using Azure Backup

- Azure Backup features and scenarios
- Back up an Azure virtual machine by using Azure Backup
- Restore virtual machine data

Module 21: Active Directory Domain Services migration

- Examine upgrade vs. migration
- Upgrade a previous version of Active Directory Domain Services to Windows Server 2022
- Migrate to Active Directory Domain Services in Windows Server 2022 from a previous version
- Explore the Active Directory Migration Tool

Module 22: Migrate file server workloads using Storage Migration Service

- Storage Migration Service overview and usage scenarios and migration requirements
- Migrate a server with Storage migration
- Evaluate storage migration considerations

Module 23: Migrate Windows Server roles

- Describe the Windows Server Migration Tools
- Install the Migration Tools
- Migrate roles using the Migration Tools

Module 24: Migrate on-premises Windows Server instances to Azure IaaS virtual machines

- Plan your migration
- Describe Azure Migrate
- Perform server assessment
- Assess physical servers with Azure Migrate
- Migrate Windows Server workloads by using Azure Migrate

Module 25: Upgrade and migrate Windows Server IaaS virtual machines

- Describe Azure Migrate
- Migrate Windows Server workloads by using Azure Migrate
- Describe storage migration
- Migrate file servers by using Storage Migration Service

Module 26: Containerize and migrate ASP.NET applications to Azure App Service

- Azure Migrate App Containerization overview

Module 27: Monitor Windows Server performance

- Use Performance Monitor to identify performance problems
- Use Resource Monitor to review current resource usage
- Review reliability with Reliability Monitor
- Implement a performance monitoring methodology
- Use Data Collector Sets to analyze server performance
- Monitor network infrastructure services, virtual machines running Windows Server, performance with Windows Admin Center
- Use System Insights to help predict future capacity issues
- Optimize the performance of Windows Server

Module 28: Manage and monitor Windows Server event logs

- Describe Windows Server event logs
- Use Windows Admin Center to review logs, Server Manager to review logs and custom views
- Implement event log subscriptions

Module 29: Implement Windows Server auditing and diagnostics

- Describe basic auditing categories and advanced categories
- Log user access
- Enable setup and boot event collection

Module 30: Troubleshoot Active Directory

- Recover objects from the AD recycle bin, the AD DS database and SYSVOL
- Troubleshoot AD DS replication and hybrid authentication issues

Module 31: Monitor Windows Server IaaS Virtual Machines and hybrid instances

- Enable Azure Monitor for Virtual Machines
- Monitor an Azure Virtual Machine with Azure Monitor
- Enable Azure Monitor in hybrid scenarios
- Collect data from a Windows computer in a hybrid environment
- Integrate Azure Monitor with Microsoft Operations Manager

Module 32: Monitor the health of your Azure virtual machine by using Azure Metrics Explorer and metric alerts

- Monitor the health of the virtual machine
- View VM metrics
- Configure the Azure Diagnostics extension
- Diagnostic data case studies

Module 33: Monitor performance of virtual machines by using Azure Monitor VM Insights

- What are Azure Monitor Logs and Azure Monitor VM Insights?
- Build log queries by using the Kusto Query Language

Module 34: Troubleshoot on-premises and hybrid networking

- Diagnose DHCP problems, DNS problems, IP configuration issues and routing problems
- Use Packet Manager to help diagnose network problems
- Use Azure Network Watcher to help diagnose network problems

Module 35: Troubleshoot Windows Server Virtual Machines in Azure

- Troubleshoot VM deployment, VM startup, VM extensions, VM connectivity, VM performance and VM storage

Lab / Exercises

- Official Microsoft Labs

Documentation

- Access to Microsoft Learn (online learning content)

Exam

- This course prepares to the exam **AZ-801: Configuring Windows Server Hybrid Advanced Services**
- If you wish to take this exam, please select it when you add the course to your basket

Participant profiles

- Azure administrators
- Enterprise architects
- Microsoft 365 administrators
- System administrators
- Network engineers

Prerequisites

- Experience with managing Windows Server operating system and Windows Server workloads in on-premises scenarios, including AD DS, DNS, DFS, Hyper-V, and File and Storage Services
- Experience with common Windows Server management tools (implied in the first prerequisite).
- Basic knowledge of core Microsoft compute, storage, networking, and virtualization technologies (implied in the first prerequisite).
- 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
- Basic understanding of security-related technologies (firewalls, encryption, multi-factor authentication, SIEM/SOAR).
- Basic knowledge of on-premises resiliency Windows Server-based compute and storage technologies (Failover Clustering, Storage Spaces).
- Basic experience with implementing and managing IaaS services in Microsoft Azure
- Basic knowledge of Azure Active Directory
- Experience working hands-on with Windows client operating systems such as Windows 10 or Windows 11
- Basic experience with Windows PowerShell

Objectives

- Secure Windows Server on-premises and hybrid infrastructures
- Implement and manage Windows Server high availability
- Implement disaster recovery
- Migrate servers and workloads
- Monitor and troubleshoot Windows Server environments

Niveau
Intermédiaire
Classroom Registration Price (CHF)
3200
Virtual Classroom Registration Price (CHF)
3000
Duration (in Days)
4
Reference
AZ-801T00