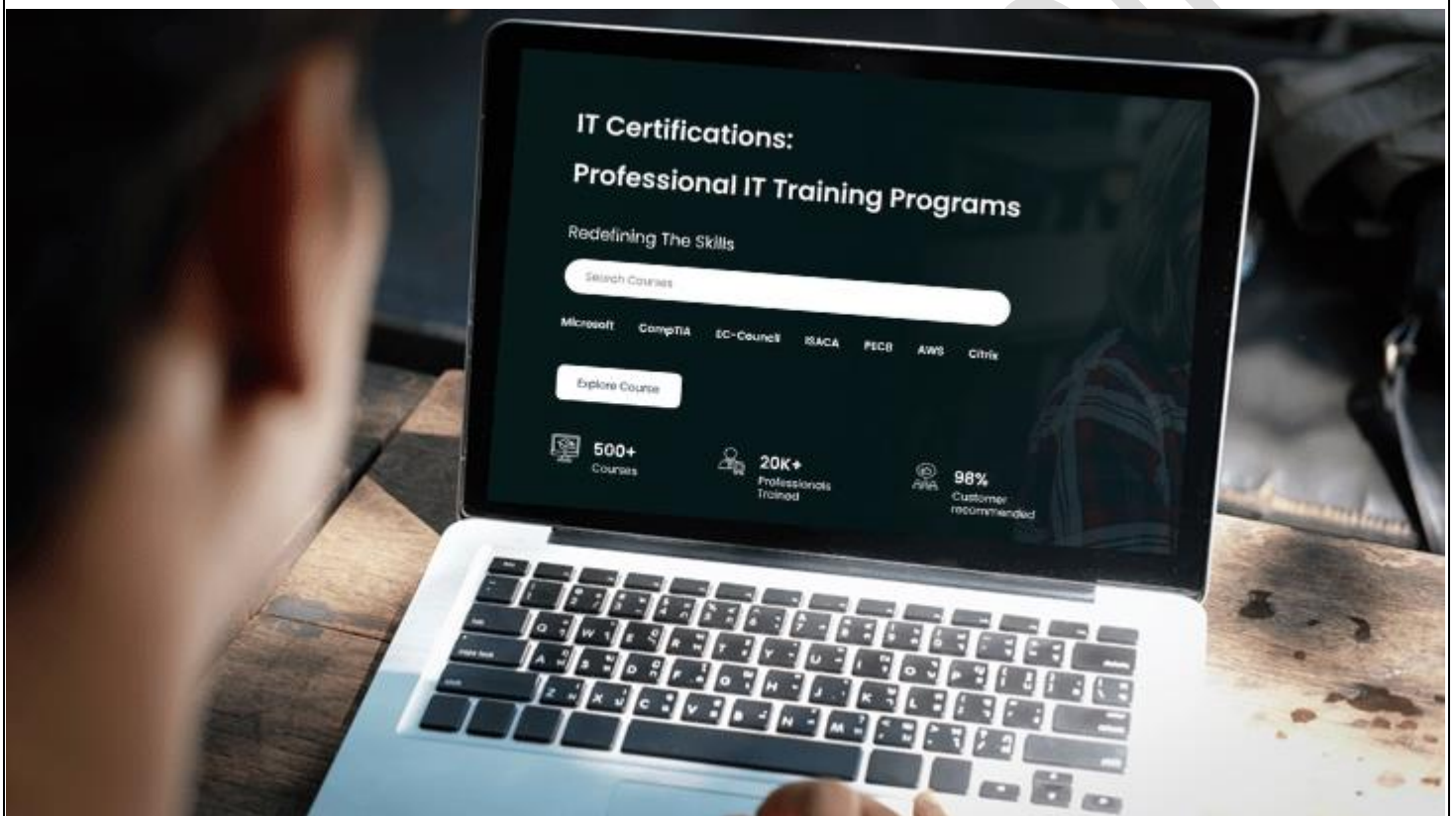# AZ-800T00: Administering Windows Server Hybrid Core Infrastructure Training

DURATION: 4 DAYS

Course Description

AZ-800T00: Administering Windows Server Hybrid Core Infrastructure Training helps professionals understand and manage services. This is done by utilizing Windows Server Workloads on-premises, and cloud.

This AZ-800T00 training will also teach professionals how to manage and implement hybrid and on-premises solutions that include management. Identity, networking, storage, and computing in a Windows Server hybrid environment.

Explore New Opportunities with Azure and Windows Server

Hybrid is most prevalent for many firms concentrating on building cloud-native applications and helping their current on-premises apps. This is precisely where Windows Server Administrators play a crucial role in managing both environments.

Every business has unique technical requirements, and they also need a well-structured infrastructure server to store and manage their apps and communication.

The AZ-800T00 Administering Windows Server Hybrid Core Infrastructure enables you to understand integrating Windows Server environments with Microsoft Azure services and deploy & manage apps in the hybrid feature.

Who should attend this course?

- This training is for Windows Server Hybrid Administrators.
- Given below are professionals who can use Administering Windows Server Hybrid Core Infrastructure Training to upskill their current positions:
  - IT System Administrators
  - Network Administrators
  - Cloud Administrators
  - Infrastructure Architects
  - Active Directory Administrators
  - Technical Support Engineers
  - IT Managers
  - System Engineers

What you will learn

- Utilize tools in Windows Server and administrative techniques.
- Execute identity services in Windows Server.
- Blend Azure AD DS with Azure AD.
- Operate network infrastructure services.
- Deploy configure networking and storage & Azure VMs running Windows Server.
- Assist & operate Windows Server IaaS Virtual Machine.
- Operate & support Azure VMs running Windows Server.
- Configure storage and file servers.
- Execute File Services in hybrid scenarios, utilizing Azure Files & Azure File Sync.
- Execute identity in hybrid methods, including Azure AD DS on Azure IaaS & managed AD DS.
- Determine tools utilized to implement hybrid solutions, including PowerShell and Windows Admin Center.

Prerequisites

- Fundamental knowledge of Azure Active Directory
- General experience with Windows PowerShell
- General experience with managing and implementing IaaS services in Azure
- Any professional pursuing shall have expertise in Windows Server management tools.
- The pursuing candidate should have a fundamental knowledge of Microsoft Storage, computing, virtualization, IP address, and DHCP – dynamic host configuring protocol.
- The pursuing candidate should have an understanding of basic server virtualization concepts and Microsoft Hyper-V.
- Expertise in handling Windows Server workloads and Windows Server operating systems in on-premises procedures, such as DNS, AD DS, Hyper-V, DFS, File, and Storage Services

Curriculum

Module 1: Deploy and manage identity infrastructure

Introduction to AD DS

- Describe AD DS.
- Describe users, groups, and computers.
- Identify and describe AD DS forests and domains.
- Describe OUs.
- Manage objects and their properties in AD DS.

Manage AD DS domain controllers and FSMO roles

- Deploy AD DS domain controllers.
- Maintain AD DS domain controllers.
- Describe the AD DS global catalog role and its placement considerations.
- Describe AD DS operations master roles, their placement considerations, and their management tasks.
- Describe AD DS schema and its management tasks.

Implement Group Policy Objects

- Describe GPOs.
- Describe GPO scope and inheritance.
- Describe domain-based GPOs.
- Create and configure GPOs.
- Explain GPO storage.
- Describe administrative templates and the Central Store.

Manage advanced features of AD DS

- Identify the purpose, types, and the process of creating trust relationships.
- Describe the purpose and the process of implementing ESAE forests.
- Monitor and troubleshoot AD DS replication.
- Identify the purpose and the process of creating custom AD DS partitions.

Implement hybrid identity with Windows Server

- Select a Microsoft Entra integration model.
- Plan for Microsoft Entra integration.
- Prepare on-premises AD DS for directory synchronization.
- Install and configure directory synchronization using Microsoft Entra Connect.

- Implement Seamless Single Sign-on (SSO).
- Enable Microsoft Entra login for an Azure Windows virtual machine (VM).
- Describe Microsoft Entra Domain Services.
- Implement and configure Microsoft Entra Domain Services.
- Manage Windows Server 2019 in a Microsoft Entra Domain Services instance.
- Join a Windows Server VM to a managed domain.

Deploy and manage Azure IaaS Active Directory domain controllers in Azure

- Select an option to implement directory and identity services by using Active Directory Domain Services (AD DS) in Azure.
- Deploy and configure AD DS domain controllers in Azure VMs.
- Install a replica AD DS domain controller in an Azure VM.
- Install a new AD DS forest on an Azure VNet.

Module 2: Manage Windows Servers and workloads in a hybrid environment

Perform Windows Server secure administration

- Explain least privilege administrative models.
- Implement delegated privilege.
- Describe privileged access workstations.
- Describe jump servers.

Describe Windows Server administration tools

- Describe Windows Admin Center.
- Describe how to use Remote Server Administration Tools (RSAT) to manage servers.
- Describe Server Manager.
- Describe how to use Windows PowerShell to manage servers.
- Explain how to use Windows PowerShell to remotely administer a server.

Perform post-installation configuration of Windows Server

- Explain post-installation configuration and describe the available post-installation configuration tools.
- Use Sconfig to configure Windows Server.
- Describe Desired State Configuration (DSC) and explain how to use it to configure Windows Server.
- Use Windows Admin Center to perform post-installation configuration.
- Implement answer files to complete the configuration.

Administer and manage Windows Server IaaS Virtual Machine remotely

- Select appropriate remote administration tools.
- Secure management connections to Windows Azure IaaS VMs with Azure Bastion.
- Configure JIT VM access.

Manage hybrid workloads with Azure Arc

- Describe Azure Arc.
- Explain how to onboard on-premises Windows Server instances in Azure Arc.
- Connect hybrid machines to Azure from the Azure portal.
- Use Azure Arc to manage devices.
- Restrict access using RBAC.

Optimizing IT operations and management with Azure Automanage

- Describe how Azure Automanage best practices can optimize the operations of Windows Server and Linux virtual machines.
- Explain the different services available through Azure Automanage.
- Create and assign a custom configuration profile for Azure Automanage machines.
- Describe how to extend Azure Automanage capabilities to non-Azure infrastructure using Azure Arc.

Just Enough Administration in Windows Server

- Explain the concept of Just Enough Administration (JEA)
- Define role group capabilities and session configurations for a JEA session
- Create and connect to a JEA endpoint

Module 3: Manage virtualization and containers in a hybrid environment

Configure and manage Hyper-V

- Describe the functionality and features of Hyper-V on Windows Server.
- Install Hyper-V on Windows Server.
- Describe the options for managing Hyper-V virtual machines (VMs) on Windows Server.
- Describe networking features and functionality in Hyper-V on Windows Server.
- Create virtual switches (vSwitches) for use with Hyper-V.
- Describe using nested virtualization in Hyper-V.

Configure and manage Hyper-V virtual machines

- Describe settings, configuration, and generation versions available for VMs in Windows Server.
- Identify virtual hard disk (VHD) formats and types.
- Create and configure a VM.
- Determine storage options for VMs.
- Describe shared VHDs and VHD Sets.
- Describe host and guest clustering with shared VHDs.

Secure Hyper-V workloads

- Describe the features and functionality of the HGS in Windows Server.
- Describe the attestation options available with the HGS.
- Describe shielded VMs, their creation, and their deployment.

Plan and deploy Windows Server IaaS Virtual Machines

- Describe Azure compute.
- Describe Azure storage.
- Deploy Azure VMs.
- Create a VM from the Azure portal.
- Create a VM from Azure Cloud Shell.
- Deploy Azure VMs by using templates.
- Describe additional management optimization options

Customize Windows Server IaaS Virtual Machine images

- Create a generalized image.
- Create a new VM from a generalized image.
- Create a managed image of a generalized VM in Azure.
- Create a VM from a managed image.
- Describe Azure Image Builder.
- Use Azure Image Builder to create a Windows image.

Automate the configuration of Windows Server IaaS Virtual Machines

- Describe Azure automation.
- Implement Azure automation with DSC.
- Remediate noncompliant servers.

- Describe custom script extension.
- Configure a VM by using DSC extensions.

Run containers on Windows Server

- Describe containers and how they work.
- Explain the difference between containers and virtual machines (VMs).
- Describe the difference between process isolation and Hyper-V isolation modes.
- Describe Docker and how it's used to manage Windows containers.
- Identify the container-based images available from the Microsoft Container Registry.
- Understand the process for running a Windows container.
- Explain how to manage containers using Windows Admin Center (WAC).

Orchestrate containers on Windows Server using Kubernetes

- Describe container orchestration.
- Describe Kubernetes.
- Describe how to create a Kubernetes cluster.
- Describe Azure Arc for Kubernetes.

Module 4: Implement and operate an on-premises and hybrid networking infrastructure

Implement DNS for Windows Server IaaS VMs

- Implement DNS in Azure
- Describe DNS options for Azure IaaS VMs
- Implement split-horizon DNS in Azure
- Troubleshoot DNS in Azure
- Create and configure an Azure DNS zone

Deploy and manage DHCP

- Describe the DHCP Server role.
- Install and configure the DHCP Server role.
- Configure DHCP options.
- Create and configure a DHCP scope.
- Describe high availability options for DHCP.
- Describe DHCP Failover and explain how to configure it.

Implement Windows Server DNS

- Describe Windows Server DNS.
- Describe DNS zones and records.
- Install and configure the DNS role and DNS zones.
- Describe how to implement DNS forwarding.

Implement IP Address Management

- Describe IPAM.
- Deploy IPAM.

Describe how to administer IPAM.

- Configure IPAM options.
- Manage DNS zones with IPAM.
- Manage DHCP servers with IPAM.
- Use IPAM to manage IP addressing.

Implement remote access

- Describe the remote access options available in Windows Server.
- Select VPN options and set up VPN servers.

- Describe the NPS server role.
- Plan and implement NPS.
- Determine when to deploy PKI for remote access.
- Identify the authentication options for Web Application Proxy and explain how to use it to publish applications.

Implement hybrid network infrastructure

- Describe Azure network topologies.
- Implement an Azure VPN.
- Explain how to create a route-based VPN gateway using the Azure portal.
- Implement Azure ExpressRoute.
- Implement an Azure WAN.
- Implement DNS resolution in hybrid environments.

Implement Windows Server IaaS VM IP addressing and routing

- Implement an Azure virtual network
- Implement IP Address Allocation in Azure
- Assign and manage IP addresses
- Configure a private IP address for an Azure virtual machine
- Create a virtual machine with a static IP address
- Implement IaaS VM IP routing
- Implement IPv6 for Windows IaaS Virtual Machines

Module 5: Configure storage and file services

Manage Windows Server file servers

- Describe the Windows Server file system.
- Describe the benefits and use of File Server Resource Manager.
- Describe SMB and its security considerations.
- Manage SMB configuration.
- Describe Volume Shadow Copy Service.

Implement Storage Spaces and Storage Spaces Direct

- Describe the architecture and components of Storage Spaces.
- Describe the functionality, benefits, and use cases of Storage Spaces.
- Implement Storage Spaces.
- Describe the functionality, components, and use cases of Storage Spaces Direct.
- Implement Storage Spaces Direct.

Implement Windows Server Data Deduplication

- Describe the architecture, components, and Data Deduplication functionality, components, and use cases of Data Deduplication.
- Describe the use cases and interoperability of Data Deduplication.
- Implement Data Deduplication.
- Manage and maintain Data Deduplication.

Implement Windows Server iSCSI

- Describe iSCSI functionality, components, and use cases.
- Describe the considerations for implementing iSCSI.
- Implement iSCSI.
- Describe implementing high-availability iSCSI configurations.

Implement Windows Server Storage Replica

- Describe the functionality and components of Storage Replica.

- Describe the prerequisites for implementing Storage Replica.
- Implement Storage Replica.

Implement a hybrid file server infrastructure

- Describe Azure Files.
- Configure Azure Files.
- Configure connectivity to Azure Files.
- Describe Azure File Sync.
- Implement Azure File Sync.
- Deploy Azure File Sync.
- Manage cloud tiering.
- Migrate from DFSR to Azure File Sync.

LAB Outline

- Implementing identity services and Group Policy
- Implementing integration between AD DS and Microsoft Entra ID
- Managing Windows Server
- Using Windows Admin Center in hybrid scenarios
- Implementing and configuring virtualization in Windows Server
- Deploying and configuring Windows Server on Azure VMs
- Implementing and configuring network infrastructure services in Windows Server
- Implementing hybrid networking infrastructure
- Implementing storage solutions in Windows Server
- Implementing Azure File Sync
- Implementing Windows Server IaaS VM networking

For any query Contact Us – Microtek Learning