AZ-800: Administering Windows Server Hybrid Core Infrastructure

Microsoft - Azure Apps & Infrastructure

Live Training (também disponível em presencial)

- **Localidade:** Lisboa
- **Data:** 06 Nov 2023
- **Preço:** 1200 € (Os valores apresentados não incluem IVA. Oferta de IVA a particulares e estudantes.)
- **Horário:** Laboral das 09h00 - 17h00
- **Nível:**
- **Duração:** 28h

Sobre o curso

This course teaches IT Professionals how to manage core Windows Server workloads and services using on-premises, hybrid, and cloud technologies. The course teaches IT Professionals how to implement and manage on-premises and hybrid solutions such as identity, management, compute, networking, and storage in a Windows Server hybrid environment.

Destinatários

This four-day course is intended for Windows Server Hybrid Administrators who have experience working with Windows Server and want to extend the capabilities of their on-premises environments by combining on-premises and hybrid technologies. Windows Server Hybrid Administrators implement and manage on-premises and hybrid solutions such as identity, management, compute, networking, and storage in a Windows Server hybrid environment.

Objetivos

- Use administrative techniques and tools in Windows Server.
- Identify tools used to implement hybrid solutions, including Windows Admin Center and PowerShell.
- Implement identity services in Windows Server.
- Implement identity in hybrid scenarios, including Azure AD DS on Azure IaaS and managed AD DS.
- Integrate Azure AD DS with Azure AD.

- Manage network infrastructure services.
- Deploy Azure VMs running Windows Server, and configure networking and storage.
- Administer and manage Windows Server IaaS Virtual Machine remotely.
- Manage and maintain Azure VMs running Windows Server.
- Configure file servers and storage.
- Implement File Services in hybrid scenarios, using Azure Files and Azure File Sync.

Condições

Ao concluir com aproveitamento esta formação, cumprindo a percentagem mínima de 70% de assiduidade e após avaliação ao curso, o formando poderá receber o seu Certificado Microsoft de conclusão e o badge digital para partilhar com a sua rede profissional online.

Pré-requisitos

Before attending this course, students must have:

- 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
- 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

Programa

- Introduction to AD DS
- Manage AD DS domain controllers and FSMO roles
- Implement Group Policy Objects

- Manage advanced features of AD DS
- Implement hybrid identity with Windows Server
- Deploy and manage Azure IaaS Active Directory domain controllers in Azure
- Perform Windows Server secure administration
- Describe Windows Server administration tools
- Perform post-installation configuration of Windows Server
- Just Enough Administration in Windows Server
- Administer and manage Windows Server IaaS Virtual Machine remotely
- Manage hybrid workloads with Azure Arc
- Configure and manage Hyper-V
- Configure and manage Hyper-V virtual machines
- Secure Hyper-V workloads
- Run containers on Windows Server
- Orchestrate containers on Windows Server using Kubernetes
- Plan and deploy Windows Server IaaS Virtual Machines
- Customize Windows Server IaaS Virtual Machine images
- Automate the configuration of Windows Server IaaS Virtual Machines
- Deploy and manage DHCP
- Implement Windows Server DNS
- Implement IP Address Management
- Implement remote access
- Implement hybrid network infrastructure
- Implement DNS for Windows Server IaaS VMs
- Implement Windows Server IaaS VM IP addressing and routing
- Manage Windows Server file servers
- Implement Storage Spaces and Storage Spaces Direct
- Implement Windows Server Data Deduplication
- Implement Windows Server iSCSI
- Implement Windows Server Storage Replica
- Implement a hybrid file server infrastructure

Introduction to AD DS

Learn about the fundamentals of Active Directory Domain Services (AD DS) in Windows Server 2019, including forests, domains, sites, domain controllers, organizational units (OUs), users, and groups.

After completing this module, you'll be able to:

- 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

Learn about essential AD DS domain controllers management and maintenance tasks, including their deployment, backup and recovery, and schema management. Find out about design considerations for optimal number, roles, and location of domain controllers.

After completing this module, you'll be able to:

- 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

Learn to implement Group Policy Objects (GPOs) in Active Directory Domain Services (AD DS) in Windows Server 2019.

After completing this module, you'll be able to:

- 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

Learn about advanced AD DS administration tasks, including creating trust relationships, implementing Enhanced Security Administrative Environment (ESAE) forests, monitoring and troubleshooting AD DS replication, and creating custom AD DS partitions.

After completing this module, you'll be able to:

- 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

In this module, you'll learn to configure an Azure environment so that Windows IaaS workloads requiring Active Directory are supported. You'll also learn to integrate on-premises Active Directory Domain Services (AD DS) environment into Azure.

After completing this module, you will be able to:

- 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

In this module, you'll learn how to extend an existing Active Directory environment into Azure by placing IaaS VMs configured as domain controllers onto a specially configured Azure virtual network (VNet) subnet.

After completing this module, you will be able to:

- 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.

Perform Windows Server secure administration

Understand the principle of least privilege, know when to use privileged access workstations, and be able to identify built-in privileged accounts.

After completing this module, you'll be able to:

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

Describe Windows Server administration tools

Select the most appropriate Windows Server administration tool for a given situation and learn how to use that tool.

After completing this module, you'll be able to:

- 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

Learn to perform post-installation configuration of Windows Server by using several methods and tools.

After completing this module, you'll be able to:

- 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.

Just Enough Administration in Windows Server

Streamline administration of Windows Server environments with Just Enough Administration (JEA). Limit privileged operations to a set of specified PowerShell cmdlets, parameters and variables, and limit which users can connect to JEA endpoints.

After completing this module, you will be able to:

- 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

Administer and manage Windows Server IaaS Virtual Machine remotely

You'll be able to use suitable tools and techniques to manage Windows IaaS VMs remotely. You'll also be able to restrict administrative connections to those VMs.

After completing this module, you'll be able to:

- 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

You'll learn to describe Azure Arc, implement Azure Arc with on-premises server instances, deploy Azure policies with Azure Arc, and use role-based access control (RBAC) to restrict access to Log Analytics data.

After completing this module, you'll be able to:

- 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.

Configure and manage Hyper-V

Learn about virtualization and the Microsoft Hyper-V role with Windows Server. Learn about best practices for preparing Hyper-V hosts, in addition to Hyper-V networking features and implementing nested virtualization.

After completing this module, you'll be able to:

- 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

Learn about configuring and managing Hyper-V virtual machines in Windows Server 2019.

After completing this module, you'll be able to:

- Describe settings, configuration, and generation versions available for VMs in Windows Server 2019.
- 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

Learn about securing Hyper-V workloads in Windows Server 2019, installing and configuring the Host Guardian Service (HGS), the attestation modes available with the HGS, and the creation and deployment of shielded virtual machines (VMs).

After completing this module, you'll be able to:

- 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.

Run containers on Windows Server

Learn about Windows Server and Hyper-V containers, associated isolation modes, running containers, and preparing the Windows Server host for running containerized workloads. Learn about Docker,

preparing Windows Server for running container workloads, and managing containers.

After completing this module, you'll be able to:

- 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

Learn about Kubernetes, containers, container orchestration, and Kubernetes orchestration in Windows Server 2019. Also learn the process for deploying a Kubernetes cluster on Windows and describe how to use Azure Arc for Kubernetes.

After completing this module, you'll be able to:

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

Plan and deploy Windows Server IaaS Virtual Machines

You'll be able to describe Azure compute and storage in relation to Azure VMs, and deploy Azure VMs by using the Azure portal, Azure CLI, or templates.

After completing this module, you'll be able to:

- 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

You'll be able to create new VMs from generalized images and use Azure Image Builder templates to create and manage images in Azure.

After completing this module, you'll be able to:

- 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

You'll be able to deploy Desired State Configuration (DSC) extensions, implement those extensions to remediate noncompliant servers, and use custom script extension.

After completing this module, you will be able to:

- Describe Azure automation.
- Implement Azure automation with DSC.
- Remediate noncompliant servers.
- Describe custom script extension.
- Configure a VM by using DSC extensions.

Deploy and manage DHCP

Learn to implement automatic IP configuration with Dynamic Host Configuration Protocol (DHCP) in Windows Server 2019.

After completing this module, you'll be able to:

- 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

Learn to deploy and configure name resolution with Windows Server DNS.

After completing this module, you'll be able to:

- 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

Learn to implement IPAM to help manage your organization's DHCP and DNS servers and to manage IP address space.

After completing this module, you'll be able to:

- 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

Learn to enable remote access within your organization, and to publish your organization's applications and websites by using Windows Server Web Application Proxy (WAP).

After completing this module, you'll be able to:

- 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

You'll learn to connect your on-premises environment to Azure, implement subnets and routing between your on-premises and cloud environments, and ensure that workloads in the cloud and on-premises perform DNS resolution to locate each other.

After completing this module, you will be able to:

- 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 DNS for Windows Server IaaS VMs

In this module, you'll learn to configure DNS for Windows Server IaaS VMs, choose the appropriate DNS solution for your organization's needs, and run a DNS server in a Windows Server Azure IaaS VM.

After completing this module, you will be able to:

- 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

Implement Windows Server IaaS VM IP addressing and routing

In this module, you'll learn how to manage Microsoft Azure virtual networks (VNets) and IP address configuration for Windows Server infrastructure as a service (IaaS) virtual machines (VM)s.

After completing this module, you will be able to:

- 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

Manage Windows Server file servers

Learn about the core functionality of the Windows Server File Server role, and how to configure and manage that core functionality.

After completing this module, you'll be able to:

- 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

Learn about the core functionality, benefits, use cases, and implementation of Storage Spaces and Storage Spaces Direct in Windows Server 2019.

After completing this module, you'll be able to:

- 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

Learn about the core functionality, benefits, use cases, and implementation of Data Deduplication in Windows Server 2019.

After completing this module, you'll be able to:

- 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

Learn about the core functionality, benefits, use cases, and implementation of Internet Small Computer Systems Interface (iSCSI) in Windows Server 2019.

After completing this module, you'll be able to:

- 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

Learn about the core functionality, benefits, use cases, and implementation of Storage Replica in Windows Server 2019.

After completing this module, you'll be able to:

- Describe the functionality and components of Storage Replica.
- Describe the prerequisites for implementing Storage Replica.
- Implement Storage Replica.

Implement a hybrid file server infrastructure

In this module, you'll learn to deploy Azure File Sync, migrate from DFS, and use Storage Migration Services to migrate file servers to Azure.

After completing this module, you will be able to:

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