

# MS-AZ800TOO: ADMINISTER WINDOWS SERVER HYBRID CORE INFRASTRUCTURE



DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
4 Days	Intermediate	Azure	Instructor-led	NA

## INTRODUCTION

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.

## AUDIENCE PROFILE

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.

## PREREQUISITES

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

## COURSE OBJECTIVES

After completing this course, students will be able to:

- 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.

## COURSE CONTENT

### Module 1: Introduction to AD DS

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

#### Lessons

- Introduction
- Define AD DS

- Define users, groups, and computers
- Define AD DS forests and domains
- Define OUs
- Manage objects and their properties in AD DS
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 2: 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.

### Lessons

- Introduction
- Deploy AD DS domain controllers
- Maintain AD DS domain controllers
- Manage the AD DS Global Catalog role
- Manage AD DS operations masters
- Manage AD DS schema
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 3: Implement Group Policy Objects

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

### Lessons

- Introduction
- Define GPOs
- Implement GPO scope and inheritance
- Define domain-based GPOs
- Create and configure a domain-based GPO
- Define GPO storage
- Define administrative templates
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 4: 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.

### Lessons

- Introduction
- Create trust relationships
- Implement ESAE forests
- Monitor and troubleshoot AD DS
- Create custom AD DS partitions
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 5: Implement hybrid identity with Windows Server

In this module, learn to configure an Azure environment so that Windows IaaS workloads requiring Active Directory are supported.

Also learn to integrate on-premises Active Directory Domain Services (AD DS) environment into Azure.

### Lessons

- Introduction
- Select a Microsoft Entra integration model
- Plan for Microsoft Entra integration
- Prepare on-premises Active Directory for directory synchronization
- Install and configure directory synchronization with Microsoft Entra Connect
- Implement Seamless Single Sign-On
- Enable Microsoft Entra login in for Windows VM in Azure
- Knowledge check 1
- Describe Microsoft Entra Domain Services
- Implement and configure Microsoft Entra Domain Services
- Manage Windows Server in a Microsoft Entra Domain Services environment
- Create and configure a Microsoft Entra Domain Services instance

- Join a Windows Server VM to a managed domain
- Knowledge check 2
- Summary

After completing this module, students 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 in a Microsoft Entra Domain Services instance.
- Join a Windows Server VM to a managed domain.

## Module 6: Deploy and manage Azure IaaS Active Directory domain controllers in Azure

In this module, you 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.

### Lessons

- Introduction
- Select an option to implement directory and identity services using Active Directory
- Domain Services in Azure
- Deploy and configure Active Directory Domain Services domain controllers in Azure VMs
- Install a replica Active Directory domain controller in an Azure VM
- Install a new Active Directory Forest on an Azure VNet
- Knowledge check
- Summary

After completing this course, students 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.

## Module 7: 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.

### Lessons

- Introduction
- Define least privilege administration
- Implement delegated privileges
- Use privileged access workstations
- Use jump servers
- Knowledge check
- Summary

After completing this module, students will be able to:

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

## Module 8: Describe Windows Server administration tools

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

### Lessons

- Introduction
- Explore Windows Admin Center
- Use Server Manager
- List Remote Server Administration Tools
- Use Windows PowerShell
- Use Windows PowerShell to remotely administer a server
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 9: Perform post-installation configuration of Windows Server

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

### Lessons

- Introduction
- List the available post-installation configuration tools
- Configure Server Core using Sconfig

- Use DSC to configure Windows Server
- Perform post-installation configuration with Windows Admin Center
- Configure a server with answer files
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 10: Administer and manage Windows Server IaaS Virtual Machine remotely

You're 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.

### Lessons

- Introduction
- Select the appropriate remote administration tool
- Manage Windows Virtual Machines with Azure Bastion
- Create an Azure Bastion host
- Configure just-in-time administration
- Knowledge check
- Summary

After completing this module, students will be able to:

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

## Module 11: Manage hybrid workloads with Azure Arc

You 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.

### Lessons

- Introduction
- Describe Azure Arc
- Onboard Windows Server instances
- Connect hybrid machines to Azure from the Azure portal

- Use Azure Arc to manage Windows Server instances
- Restrict access with RBAC
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 12: Optimizing IT operations and management with Azure Automanage

In this module, you discover how to optimize IT operations and management with Azure Automanage.

### Lessons

- Introduction
- Describe concepts around Azure Automanage best practices
- Enable Azure Automanage best practices
- Create and assign a custom configuration profile
- Extend Azure Automanage across non-Azure infrastructure with Azure Arc
- Knowledge check
- Summary

After completing this module, students will be able to:

- 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.

## Module 13: 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.

### Lessons

- Introduction
- Describe concepts around Azure Automanage best practices

- Enable Azure Automanage best practices
- Create and assign a custom configuration profile
- Extend Azure Automanage across non-Azure infrastructure with Azure Arc
- Knowledge check
- Summary

After completing this module, students 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

## Module 14: 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.

### Lessons

- Introduction
- Define Hyper-V
- Define Hyper-V Manager
- Configure Hyper-V hosts using best practices
- Configure Hyper-V networking
- Assess advanced Hyper-V networking features
- Define nested virtualization
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 15: Configure and manage Hyper-V virtual machines

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

### Lessons

- Introduction
- List the virtual machine configuration versions
- List the virtual machine generation versions

- List available VHD formats and types
- Create and configure VMs
- Determine storage options for VMs
- Define shared VHDs and VHD Sets
- Implement guest clusters using shared VHDX
- Knowledge check
- Summary

After completing this module, students will be able to:

- 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.

## Module 16: Secure Hyper-V workloads

Learn about securing Hyper-V workloads in Windows Server, 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).

### Lessons

- Introduction
- Define guarded fabric
- Define the Host Guardian Service
- Explore TPM-trusted attestation
- Define KPS
- Determine key features of shielded VMs
- Compare encryption-supported and shielded VMs in a guarded fabric
- Implement a shielded VM
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 17: Plan and deploy Windows Server IaaS Virtual Machines

You're 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.

### Lessons

- Introduction
- Describe Azure compute
- Describe Virtual Machine storage
- Deploy Azure Virtual Machines
- Create a windows Virtual Machine using the portal
- Create a windows Virtual Machine using Azure CLI
- Deploy Azure Virtual Machines using templates
- Describe additional management optimization options
- Knowledge check
- Summary

After completing this module, students will 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

## Module 18: Customize Windows Server IaaS Virtual Machine images

Learn to create new VMs from generalized images and use Azure Image Builder templates to create and manage images in Azure.

### Lessons

- Introduction
- Create a generalized image
- Create a new Virtual Machine from a managed image
- Create a managed image of a generalized virtual machine in Azure
- Create a Virtual Machine from a managed image
- Implement Azure Image Builder
- Create a windows Virtual Machine using Azure Image Builder template
- Create a Windows Virtual Machine with Azure Image Builder using PowerShell
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 19: Automate the configuration of Windows Server IaaS Virtual Machines

Learn how to deploy Desired State Configuration (DSC) extensions, implement those extensions to remediate non-compliant servers, and use custom script extension.

### Lessons

- Introduction
- Describe Azure Automation
- Implement Azure Automation with DSC
- Remediate noncompliant servers
- Describe Custom Script Extensions
- Configure a Virtual Machine by using DSC
- Knowledge check
- Summary

After completing this module, students 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.

## Module 20: 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.

### Lessons

- Introduction
- Define containers
- List the differences between containers and VMs
- Define Windows Server and Hyper-V containers and isolation modes
- Explore Docker
- Prepare a Windows Server 2019 host for container deployment
- Security, Storage, and Networking with Windows containers
- Knowledge check
- Summary

After completing this module, students will 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).

## Module 21: Orchestrate containers on Windows Server using Kubernetes

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

### Lessons

- Introduction
- Define orchestration
- Define Kubernetes
- Deploy Kubernetes resources
- Create a Kubernetes cluster on Windows
- Define Azure Arc
- Connect an Azure Arc-enabled Kubernetes cluster to Azure Arc
- Knowledge check
- Summary

After completing this module, students will be able to:

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

## Module 22: Implement DNS for Windows Server IaaS VMs

In this module, 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.

### Lessons

- Introduction
- Understand Azure DNS
- Implement Azure DNS
- Create an Azure DNS zone and record using the Azure portal
- Implement DNS with Azure IaaS virtual machines
- Implement split-horizon DNS in Azure
- Troubleshoot DNS
- Knowledge check
- Summary

After completing this module, students 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

## Module 23: Deploy and manage DHCP

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

### Lessons

- Introduction
- Use DHCP to simplify IP configuration
- Install and configure the DHCP role
- Configure DHCP options
- Configure DHCP scopes
- Select DHCP high availability options
- Implement DHCP Failover
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 24: Implement Windows Server DNS

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

### Lessons

- Introduction
- Explore the DNS architecture
- Work with DNS zones and records
- Install and configure the DNS role
- Implement DNS forwarding
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 25: Implement IP Address Management

Learn to implement IPAM to help manage your organization's DHCP

and DNS servers and to manage IP address space.

## Lessons

- Introduction
- Define IP Address Management
- Deploy IP Address Management
- Administer IP Address Management
- Configure IP Address Management options
- Manage DNS zones with IP Address Management
- Manage DHCP servers with IP Address Management
- Use IP Address Management to manage IP addressing
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 26: 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).

## Lessons

- Introduction
- Examine the remote access options in Windows Server
- Select and set up VPNs
- Use NPS to create and enforce network access policies
- Plan and implement NPS
- Deploy a PKI for remote access
- Use WAP as a reverse web proxy
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 27: Implement hybrid network infrastructure

You 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.

## Lessons

- Introduction
- Describe Azure network topologies
- Implement Azure VPN options
- Create a route-based VPN gateway using the Azure portal
- Implement Azure ExpressRoute
- Configure Azure Virtual WAN
- Implement DNS in hybrid environments
- Knowledge check
- Summary

After completing this module, students 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.

## Module 28: 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.

## Lessons

- Introduction
- Implement a virtual network
- Implement IaaS VM IP addressing
- Assign and manage IP addresses
- Configure a private IP address for a virtual machine using the Azure portal
- Create a virtual machine with a static public IP address using the Azure portal
- Implement IaaS virtual machine IP routing
- Implement IPv6 for Windows Server IaaS virtual machines
- Knowledge check
- Summary

After completing this module, students 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

## Module 29: 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.

## Lessons

- Introduction
- Define the Windows Server file system
- List the benefits and uses of File Server Resource Manager9 min
- Define SMB and its security considerations
- Configure SMB protocol
- Define Volume Shadow Copy Service
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 30: 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.

## Lessons

- Introduction
- Define the Storage Spaces architecture and its components
- List the functionalities, benefits, and use cases of Storage Spaces
- Implement Storage Spaces
- List the functionalities, components, benefits, and use cases of Storage Spaces Direct
- Implement Storage Spaces Direct
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 31: Implement Windows Server Data Deduplication

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

Lessons

- Introduction
- Define the architecture, components, and functionality of Data Deduplication
- Define the use cases and interoperability of Data Deduplication
- Implement Data Deduplication
- Manage and maintain Data Deduplication
- Knowledge check
- Summary

After completing this module, students will 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.

## Module 32: 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.

Lessons

- Introduction
- List the functionalities, components, and use cases of iSCSI
- List the considerations for implementing iSCSI
- Implement iSCSI
- Configure high availability for iSCSI
- Knowledge check
- Summary

After completing this module, students will be able to:

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

## Module 33: Implement Windows Server Storage Replica

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

Lessons

- Introduction
- List the functionalities and components of Storage Replica
- Examine the prerequisites for implementing Storage Replica
- Implement Storage Replica by using Windows Admin Center
- Implement Storage Replica by using Windows PowerShell

- Knowledge check
- Summary

After completing this module, students will be able to:

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

## Module 34: Implement a hybrid file server infrastructure

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

Lessons

- Introduction
- Describe Azure File services
- Configure Azure Files
- Configure connectivity to Azure Files
- Describe Azure File Sync
- Implement Azure File Sync
- Deploy Azure File Sync
- Deploy Azure File Sync 2
- Manage cloud tiering
- Migrate from DFSR to Azure File Sync
- Knowledge check
- Summary

After completing this module, students will be able to:

- 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.

## ASSOCIATED CERTIFICATION & EXAM

This course will prepare delegates to write the Microsoft AZ-800: Administer Windows Server Hybrid Core Infrastructure.