

# **Microsoft Certified: Windows Server Hybrid Administrator Associate – Skills Measured**

NOTE: The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. This list is NOT definitive or exhaustive.

NOTE: Most questions cover features that are General Availability (GA). The exam may contain questions on Preview features if those features are commonly used.

## **Exam AZ-800: Administering Windows Server Hybrid Core Infrastructure**

### **Deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments (30–35%)**

#### **Deploy and manage AD DS domain controllers**

- deploy and manage domain controllers on-premises
- deploy and manage domain controllers in Azure
- deploy Read-Only Domain Controllers (RODCs)
- troubleshoot flexible single master operations (FSMO) roles

#### **Configure and manage multi-site, multi-domain, and multi-forest environments**

- configure and manage forest and domain trusts
- configure and manage AD DS sites
- configure and manage AD DS replication

#### **Create and manage AD DS security principals**

- create and manage AD DS users and groups
- manage users and groups in multi-domain and multi-forest scenarios
- implement group managed service accounts (gMSAs)
- join Windows Servers to AD DS, Azure AD DS, and Azure AD

#### **Implement and manage hybrid identities**

- implement Azure AD Connect
- manage Azure AD Connect Synchronization

- implement Azure AD Connect cloud sync
- integrate Azure AD, AD DS, and Azure AD DS
- manage Azure AD DS
- manage Azure AD Connect Health
- manage authentication in on-premises and hybrid environments
- configure and manage AD DS passwords

### **Manage Windows Server by using domain-based Group Policies**

- implement Group Policy in AD DS
- implement Group Policy Preferences in AD DS
- implement Group Policy in Azure AD DS

## **Manage Windows Servers and workloads in a hybrid environment (10–15%)**

### **Manage Windows Servers in a hybrid environment**

- deploy a Windows Admin Center gateway server
- configure a target machine for Windows Admin Center
- configure PowerShell Remoting
- configure CredSSP or Kerberos delegation for second hop remoting
- configure JEA for PowerShell Remoting

### **Manage Windows Servers and workloads by using Azure services**

- manage Windows Servers by using Azure Arc
- assign Azure Policy Guest Configuration
- deploy Azure services using Azure Virtual Machine extensions on non-Azure machines
- manage updates for Windows machines
- integrate Windows Servers with Log Analytics
- integrate Windows Servers with Azure Security Center
- manage IaaS virtual machines (VMs) in Azure that run Windows Server
- implement Azure Automation for hybrid workloads
- create runbooks to automate tasks on target VMs
- implement DSC to prevent configuration drift in IaaS machines

## **Manage virtual machines and containers (15–20%)**

### **Manage Hyper-V and guest virtual machines**

- enable VM enhanced session mode
- manage VM using PowerShell Remoting, PowerShell Direct, and HVC.exe

- configure nested virtualization
- configure VM memory
- configure Integration Services
- configure Discrete Device Assignment
- configure VM Resource Groups
- configure VM CPU Groups
- configure hypervisor scheduling types
- manage VM Checkpoints
- implement high availability for virtual machines
- manage VHD and VHDX files
- configure Hyper-V network adapter
- configure NIC teaming
- configure Hyper-V switch

### **Create and manage containers**

- create Windows Server container images
- manage Windows Server container images
- configure Container networking
- manage container instances

### **Manage Azure Virtual Machines that run Windows Server**

- manage data disks
- resize Azure Virtual Machines
- configure continuous delivery for Azure Virtual Machines
- configure connections to VMs
- manage Azure Virtual Machines network configuration

## **Implement and manage an on-premises and hybrid networking infrastructure (15–20%)**

### **Implement on-premises and hybrid name resolution**

- integrate DNS with AD DS
- create and manage zones and records
- configure DNS forwarding/conditional forwarding
- integrate Windows Server DNS with Azure DNS private zones
- implement DNSSEC

### **Manage IP addressing in on-premises and hybrid scenarios**

- implement and manage IPAM

- implement and configure the DHCP server role (on-premises only)
- resolve IP address issues in hybrid environments
- create and manage scopes
- create and manage IP reservations
- implement DHCP high availability

### **Implement on-premises and hybrid network connectivity**

- implement and manage the Remote Access role
- implement and manage Azure Network Adapter
- implement and manage Azure Extended Network
- implement and manage Network Policy Server role
- implement Web Application Proxy
- implement Azure Relay
- implement site-to-site virtual private network (VPN)
- implement Azure Virtual WAN
- implement Azure AD Application Proxy

## **Manage storage and file services (15–20%)**

### **Configure and manage Azure File Sync**

- create Azure File Sync service
- create sync groups
- create cloud endpoints
- register servers
- create server endpoints
- configure cloud tiering
- monitor File Sync
- migrate DFS to Azure File Sync

### **Configure and manage Windows Server file shares**

- configure Windows Server file share access
- configure file screens
- configure File Server Resource Manager (FSRM) quotas
- configure BranchCache
- implement and configure Distributed File System (DFS)

### **Configure Windows Server storage**

- configure disks and volumes
- configure and manage Storage Spaces

- configure and manage Storage Replica
- configure Data Deduplication
- configure SMB direct
- configure Storage Quality of Service (QoS)
- configure file systems

## **Exam AZ-801: Configuring Windows Server Hybrid Advanced Services**

### **Secure Windows Server on-premises and hybrid infrastructures (25–30%)**

#### **Secure Windows Server operating system**

- configure and manage exploit protection
- configure and manage Windows Defender Application Control
- configure and manage Windows Defender for Endpoint
- configure and manage Windows Defender Credential Guard
- configure SmartScreen
- implement operating system security by using Group Policies

#### **Secure a hybrid Active Directory (AD) infrastructure**

- configure password policies
- enable password block lists
- manage protected users
- manage account security on a Read-Only Domain Controller (RODC)
- harden domain controllers
- configure authentication policies silos
- restrict access to domain controllers
- configure account security
- manage AD built-in administrative groups
- manage AD delegation
- implement and manage Microsoft Defender for Identity

#### **Identify and remediate Windows Server security issues by using Azure services**

- monitor on-premises servers and Azure IaaS virtual machines (VMs) by using Azure Sentinel
- identify and remediate security issues on-premises servers and Azure IaaS VMs by using Azure Security Center

## **Secure Windows Server networking**

- manage Windows Defender Firewall
- implement domain isolation
- implement connection security rules

## **Secure Windows Server storage**

- manage Windows BitLocker Drive Encryption (BitLocker)
- manage and recover encrypted volumes
- enable storage encryption by using Azure Disk Encryption
- manage disk encryption keys for IaaS virtual machines

## **Implement and manage Windows Server high availability (10–15%)**

### **Implement a Windows Server failover cluster**

- implement a failover cluster on-premises, hybrid, or cloud-only
- create a Windows failover cluster
- stretch cluster across datacenter or Azure regions
- configure storage for failover clustering
- modify quorum options
- configure network adapters for failover clustering
- configure cluster workload options
- configure cluster sets
- configure Scale-Out File Servers
- create an Azure witness
- configure a floating IP address for the cluster
- implement load balancing for the failover cluster

### **Manage failover clustering**

- implement cluster-aware updating
- recover a failed cluster node
- upgrade a node to Windows Server 2022
- failover workloads between nodes
- install Windows updates on cluster nodes
- manage failover clusters using Windows Admin Center

### **Implement and manage Storage Spaces Direct**

- create a failover cluster using Storage Spaces Direct
- upgrade a Storage Spaces Direct node

- implement networking for Storage Spaces Direct
- configure Storage Spaces Direct

## **Implement disaster recovery (10–15%)**

### **Manage backup and recovery for Windows Server**

- back up and restore files and folders to Azure Recovery Services vault
- install and manage Azure Backup Server
- back up and recover using Azure Backup Server
- manage backups in Azure Recovery Services vault
- create a backup policy
- configure backup for Azure Virtual Machines using the built-in backup agent
- recover a VM using temporary snapshots
- recover VMs to new Azure Virtual Machines
- restore a VM

### **Implement disaster recovery by using Azure Site Recovery**

- configure Azure Site Recovery networking
- configure Site Recovery for on-premises VMs
- configure a recovery plan
- configure Site Recovery for Azure Virtual Machines
- implement VM replication to secondary datacenter or Azure region
- configure Azure Site Recovery policies

### **Protect virtual machines by using Hyper-V replicas**

- configure Hyper-V hosts for replication
- manage Hyper-V replica servers
- configure VM replication
- perform a failover

## **Migrate servers and workloads (20–25%)**

### **Migrate on-premises storage to on-premises servers or Azure**

- transfer data and share
- cut over to a new server by using Storage Migration Service
- use Storage Migration Service to migrate to Azure Virtual Machines
- migrate to Azure file shares

### **Migrate on-premises servers to Azure**

- deploy and configure Azure Migrate appliance
- migrate VM workloads to Azure IaaS
- migrate physical workloads to Azure IaaS
- migrate by using Azure Migrate

### **Migrate workloads from previous versions to Windows Server 2022**

- migrate Internet Information Services (IIS)
- migrate Hyper-V hosts
- migrate Remote Desktop Services (RDS) host servers
- migrate Dynamic Host Configuration Protocol (DHCP)
- migrate print servers

### **Migrate IIS workloads to Azure**

- migrate IIS workloads to Azure Web Apps
- migrate IIS workloads to containers

### **Migrate an AD DS infrastructure to Windows Server 2022 AD DS**

- migrate AD DS objects, including users, groups and Group Policies, using Active Directory Migration Tool
- migrate to a new Active Directory forest
- upgrade an existing forest

## **Monitor and troubleshoot Windows Server environments (20–25%)**

### **Monitor Windows Server by using Windows Server tools and Azure services**

- monitor Windows Server by using Performance Monitor
- create and configure Data Collector Sets
- monitor servers and configure alerts by using Windows Admin Center
- monitor by using System Insights
- manage event logs
- deploy Log Analytics agents
- collect performance counters to Azure
- create alerts
- monitor Azure Virtual Machines by using Azure diagnostics extension
- monitor Azure Virtual Machines performance by using VM insights

### **Troubleshoot Windows Server on-premises and hybrid networking**

- troubleshoot hybrid network connectivity



- troubleshoot on-premises connectivity

### **Troubleshoot Windows Server virtual machines in Azure**

- troubleshoot deployment failures
- troubleshoot booting failures
- troubleshoot VM performance issues
- troubleshoot VM extension issues
- troubleshoot disk encryption issues
- troubleshoot storage
- troubleshoot VM connection issues

### **Troubleshoot Active Directory**

- restore objects from AD recycle bin
- recover Active Directory database using Directory Services Restore Mode
- recover SYSVOL
- troubleshoot Active Directory replication
- troubleshoot hybrid authentication issues
- troubleshoot on-premises Active Directory