

# Study guide for Exam AZ-801: Configuring Windows Server Hybrid Advanced Services

## Purpose of this document

This study guide should help you understand what to expect on the exam and includes a summary of the topics the exam might cover and links to additional resources. The information and materials in this document should help you focus your studies as you prepare for the exam.

Useful links	Description
<a href="#">Review the skills measured as of November 2, 2022</a>	This list represents the skills measured AFTER the date provided. Study this list if you plan to take the exam AFTER that date.
<a href="#">Review the skills measured prior to November 2, 2022</a>	Study this list of skills if you take your exam PRIOR to the date provided.
<a href="#">Change log</a>	You can go directly to the change log if you want to see the changes that will be made on the date provided.
<a href="#">How to earn the certification</a>	Some certifications only require passing one exam, while others require passing multiple exams.
<a href="#">Certification renewal</a>	Microsoft associate, expert, and specialty certifications expire annually. You can renew by passing a <b>free</b> online assessment on Microsoft Learn.
<a href="#">Your Microsoft Learn profile</a>	Connecting your certification profile to Microsoft Learn allows you to schedule and renew exams and share and print certificates.
<a href="#">Exam scoring and score reports</a>	A score of 700 or greater is required to pass.
<a href="#">Exam sandbox</a>	You can explore the exam environment by visiting our exam sandbox.

Useful links	Description
<a href="#">Request accommodations</a>	If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation.
<a href="#">Take a practice test</a>	Are you ready to take the exam or do you need to study a bit more?

## Updates to the exam

Our exams are updated periodically to reflect skills that are required to perform a role. We have included two versions of the Skills Measured objectives depending on when you are taking the exam.

We always update the English language version of the exam first. Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is updated. Other available languages are listed in the **Schedule Exam** section of the **Exam Details** webpage. If the exam isn't available in your preferred language, you can request an additional 30 minutes to complete the exam.

### Note

The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may be covered in the exam.

### Note

Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

## Skills measured as of November 2, 2022

### Audience Profile

Candidates for this exam are responsible for configuring and managing Windows Server on-premises, hybrid, and Infrastructure as a Service (IaaS) platform workloads. The Windows Server Hybrid Administrator is tasked with integrating Windows Server environments with Azure services and managing Windows Server in on-premises networks. This role manages and maintains Windows Server IaaS workloads in Azure as well as migrating and deploying workloads to Azure. This role typically collaborates with Azure Administrators, Enterprise Architects, Microsoft 365 administrators, and network engineers.

Candidates for this exam deploy, package, secure, update, and configure Windows Server workloads using on-premises, hybrid, and cloud technologies. This role implements and manages on-premises and hybrid solutions, such as identity, security, management, compute, networking, storage, monitoring, high availability, and disaster recovery. This role uses administrative tools and technologies such as Windows Admin Center, PowerShell, Azure Arc, Azure Policy, Azure Monitor, Azure Automation Update

Management, Microsoft Defender for Identity, Microsoft Defender for Cloud, and IaaS VM administration.

Candidates for this exam have several years of experience with Windows Server operating systems.

- Secure Windows Server on-premises and hybrid infrastructures (25–30%)
- Implement and manage Windows Server high availability (10–15%)
- Implement disaster recovery (10–15%)
- Migrate servers and workloads (20–25%)
- Monitor and troubleshoot Windows Server environments (20–25%)

## **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 Microsoft 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 infrastructure**

- Configure password policies
- Enable password block lists
- Manage protected users
- Manage account security on an 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 VMs by using Microsoft Sentinel
- Identify and remediate security issues on-premises servers and Azure IaaS VMs by using Microsoft Defender for Cloud

### **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 VM using the built-in backup agent
- Recover VM using temporary snapshots
- Recover VMs to new Azure VMs
- 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 VMs
- 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 (SMS)
- Use Storage Migration Service to migrate to Azure VMs
- 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 IIS
- Migrate Hyper-V hosts
- Migrate RDS host servers
- Migrate 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 AD 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 Azure Monitor agents
- Collect performance counters to Azure
- Create alerts
- Monitor Azure VMs by using Azure diagnostics extension
- Monitor Azure VMs 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

## Study resources

We recommend that you train and get hands-on experience before you take the exam. We offer self-study options and classroom training as well as links to documentation, community sites, and videos.

Study resources	Links to learning and documentation
<b>Get trained</b>	<a href="#">Choose from self-paced learning paths and modules or take an instructor-led course</a>
<b>Find documentation</b>	<a href="#">Windows Server documentation</a> <a href="#">Azure documentation</a> <a href="#">Windows Server Security documentation</a> <a href="#">Protect data and infrastructure documentation</a> <a href="#">Best Practices for Securing Active Directory</a> <a href="#">Microsoft Sentinel documentation</a> <a href="#">Failover Clustering</a> <a href="#">Storage Spaces Direct overview</a> <a href="#">Azure Site Recovery documentation</a> <a href="#">Azure Backup Documentation</a> <a href="#">Virtualization documentation</a> <a href="#">Windows Server Storage documentation</a> <a href="#">Azure Migrate documentation</a> <a href="#">Migrating apps to Azure Active Directory</a> <a href="#">Azure Monitor documentation</a> <a href="#">Identity and Access documentation</a>

Study resources	Links to learning and documentation
<b>Ask a question</b>	<a href="#">Microsoft Q&amp;A</a>
<b>Get community support</b>	<a href="#">Windows Server Community</a> <a href="#">Azure Community Support</a>
<b>Follow Microsoft Learn</b>	<a href="#">Microsoft Learn - Microsoft Tech Community</a>
<b>Find a video</b>	<a href="#">Exam Readiness Zone</a> <a href="#">Azure Fridays</a> <a href="#">Browse other Microsoft Learn shows</a>

## Change log

Key to understanding the table: The topic groups (also known as functional groups) are in bold typeface followed by the objectives within each group. The table is a comparison between the two versions of the exam skills measured and the third column describes the extent of the changes.

Skill area prior to November 2, 2022	Skill area as of November 2, 2022	Change
Audience profile		No change
<b>Secure Windows Server On-premises and Hybrid Infrastructures</b>	<b>Secure Windows Server On-premises and Hybrid Infrastructures</b>	No change
Secure Windows Server Operating System	Secure Windows Server Operating System	Minor
Secure a Hybrid Active Directory Infrastructure	Secure a Hybrid Active Directory Infrastructure	No change
Identify and Remediate Windows Server Security Issues by using Azure Services	Identify and Remediate Windows Server Security Issues by using Azure Services	No change
Secure Windows Server Networking	Secure Windows Server Networking	No change
Secure Windows Server Storage	Secure Windows Server Storage	No change



Skill area prior to November 2, 2022	Skill area as of November 2, 2022	Change
<b>Implement and Manage Windows Server High Availability</b>	<b>Implement and Manage Windows Server High Availability</b>	No change
Implement a Windows Server Failover Cluster	Implement a Windows Server Failover Cluster	No change
Manage Failover Clustering	Manage Failover Clustering	No change
Implement and Manage Storage Spaces Direct	Implement and Manage Storage Spaces Direct	No change
<b>Implement Disaster Recovery</b>	<b>Implement Disaster Recovery</b>	No change
Manage Backup and Recovery for Windows Server	Manage Backup and Recovery for Windows Server	No change
Implement Disaster Recovery by using Azure Site Recovery	Implement Disaster Recovery by using Azure Site Recovery	No change
Protect Virtual Machines by using Hyper-V Replicas	Protect Virtual Machines by using Hyper-V Replicas	No change
<b>Migrate Servers and Workloads</b>	<b>Migrate Servers and Workloads</b>	No change
Migrate On-premises Storage to On-premises Servers or Azure	Migrate On-premises Storage to On-premises Servers or Azure	No change
Migrate On-premises Servers to Azure	Migrate On-premises Servers to Azure	No change
Migrate Workloads from Previous Versions to Windows Server 2022	Migrate Workloads from Previous Versions to Windows Server 2022	No change
Migrate IIS Workloads to Azure	Migrate IIS Workloads to Azure	No change
Migrate an AD DS Infrastructure to Windows Server 2022 AD DS	Migrate an AD DS Infrastructure to Windows Server 2022 AD DS	No change
<b>Monitor and Troubleshoot Windows Server Environments</b>	<b>Monitor and Troubleshoot Windows Server Environments</b>	No change

Skill area prior to November 2, 2022	Skill area as of November 2, 2022	Change
Monitor Windows Server by using Windows Server Tools and Azure Services	Monitor Windows Server by using Windows Server Tools and Azure Services	No change
Troubleshoot Windows Server On-premises and Hybrid Networking	Troubleshoot Windows Server On-premises and Hybrid Networking	No change
Troubleshoot Windows Server Virtual Machines in Azure	Troubleshoot Windows Server Virtual Machines in Azure	No change
Troubleshoot Active Directory	Troubleshoot Active Directory	No change

## Skills measured prior to November 2, 2022

### Audience Profile

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Candidates for this exam have several years of experience with Windows Server operating systems.

- Secure Windows Server on-premises and hybrid infrastructures (25–30%)
- Implement and manage Windows Server high availability (10–15%)
- Implement disaster recovery (10–15%)
- Migrate servers and workloads (20–25%)
- Monitor and troubleshoot Windows Server environments (20–25%)

## 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 infrastructure

- Configure password policies
- Enable password block lists
- Manage protected users
- Manage account security on an 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 VMs by using Microsoft Sentinel
- Identify and remediate security issues on-premises servers and Azure IaaS VMs by using Microsoft Defender for Cloud

### 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 VM using the built-in backup agent
- Recover VM using temporary snapshots

- Recover VMs to new Azure VMs
- 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 VMs
- 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 (SMS)
- Use Storage Migration Service to migrate to Azure VMs
- Migrate to Azure file shares

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

- Deploy and configure Azure Migrate appliance
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- Migrate physical workloads to Azure IaaS
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### **Migrate workloads from previous versions to Windows Server 2022**

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

- Migrate AD DS objects, including users, groups and Group Policies using AD Migration Tool
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## **Monitor and Troubleshoot Windows Server Environments (20–25%)**

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### **Troubleshoot Active Directory**

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- Recover SYSVOL
- Troubleshoot Active Directory replication
- Troubleshoot Hybrid authentication issues
- Troubleshoot on-premises Active Directory