Study guide for Exam AZ-104: Microsoft Azure Administrator

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
Review the skills measured as of April 27, 2023	This list represents the skills measured AFTER the date provided. Study this list if you plan to take the exam AFTER that date.
Review the skills measured prior to April 27, 2023	Study this list of skills if you take your exam PRIOR to the date provided.
Change log	You can go directly to the change log if you want to see the changes that will be made on the date provided.
How to earn the certification	Some certifications only require passing one exam, while others require passing multiple exams.
Certification renewal	Microsoft associate, expert, and specialty certifications expire annually. You can renew by passing a **free** online assessment on Microsoft Learn.
Your Microsoft Learn profile	Connecting your certification profile to Microsoft Learn allows you to schedule and renew exams and share and print certificates.
Exam scoring and score reports	A score of 700 or greater is required to pass.
Exam sandbox	You can explore the exam environment by visiting our exam sandbox.
Request accommodations	If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation.

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Useful links	Description
Take a free Practice Assessment	Test your skills with practice questions to help you prepare for the exam.

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. While Microsoft makes every effort to update localized versions as noted, there may be times when localized versions of an exam are not updated on this schedule. 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 April 27, 2023

Audience profile

Candidates for this exam should have subject matter expertise in implementing, managing, and monitoring an organization's Microsoft Azure environment, including virtual networks, storage, compute, identity, security, and governance.

An Azure administrator often serves as part of a larger team dedicated to implementing an organization's cloud infrastructure. Azure administrators also coordinate with other roles to deliver Azure networking, security, database, application development, and DevOps solutions.

Candidates for this exam should be familiar with operating systems, networking, servers, and virtualization. In addition, professionals in this role should have experience using PowerShell, Azure CLI, the Azure portal, Azure Resource Manager templates (ARM templates), and Microsoft Azure Active Directory (Azure AD), part of Microsoft Entra.

- Manage Azure identities and governance (15–20%)
- Implement and manage storage (15–20%)

- Deploy and manage Azure compute resources (20–25%)
- Configure and manage virtual networking (20–25%)
- Monitor and maintain Azure resources (10–15%)

Manage Azure identities and governance (15–20%)

Manage Azure AD objects

- Create users and groups
- Manage licenses in Azure AD
- Create administrative units
- Manage user and group properties
- Manage device settings and device identity
- Perform bulk updates
- Manage guest accounts
- Configure self-service password reset

Manage access control

- Create custom role-based access control (RBAC) and Azure AD roles
- Provide access to Azure resources by assigning roles at different scopes
- Interpret access assignments

Manage Azure subscriptions and governance

- Configure and manage Azure Policy
- Configure resource locks
- Apply and manage tags on resources
- Manage resource groups
- Manage subscriptions
- Manage costs by using alerts, budgets, and recommendations
- Configure management groups

Implement and manage storage (15–20%)

Configure access to storage

- Configure network access to storage accounts
- Create and configure storage accounts
- Generate shared access signature tokens
- Configure stored access policies
- Manage access keys
- Configure Azure AD authentication for a storage account
- Configure storage encryption

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Manage data in Azure storage accounts

- Create import and export jobs
- Manage data by using Azure Storage Explorer and AzCopy
- Implement Azure Storage redundancy
- Configure object replication

Configure Azure Files and Azure Blob Storage

- Create an Azure file share
- Configure Azure Blob Storage
- Configure storage tiers
- Configure blob lifecycle management

Deploy and manage Azure compute resources (20–25%)

Automate deployment of resources by using templates

- Modify an ARM template
- Deploy a template
- Save a deployment as an ARM template
- Deploy virtual machine (VM) extensions

Create and configure VMs

- Create a VM
- Manage images by using the Azure Compute Gallery
- Configure Azure Disk Encryption
- Move VMs from one resource group to another
- Manage VM sizes
- Add data disks
- Configure VM network settings
- Configure VM availability options
- Deploy and configure VM scale sets

Create and configure containers

- Configure sizing and scaling for Azure Container Instances
- Configure container groups for Azure Container Instances
- Create and configure Azure Container Apps
- Configure storage for Azure Kubernetes Service (AKS)
- Configure scaling for AKS
- Configure network connections for AKS
- Upgrade an AKS cluster

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Create and configure an Azure App Service

- Create an App Service plan
- Configure scaling settings in an App Service plan
- Create an App Service
- Secure an App Service
- Configure custom domain names
- Configure backup for an App Service
- Configure networking settings
- Configure deployment settings

Configure and manage virtual networking (20–25%)

Configure virtual networks

- Create and configure virtual networks and subnets
- Create and configure virtual network peering
- Configure private and public IP addresses
- Configure user-defined network routes
- Configure Azure DNS

Configure secure access to virtual networks

- Create and configure network security groups (NSGs) and application security groups (ASGs)
- Evaluate effective security rules
- Implement Azure Bastion
- Configure service endpoints
- Configure private endpoints

Configure load balancing

- Configure Azure Application Gateway
- Configure an internal or public load balancer
- Troubleshoot load balancing

Monitor virtual networking

- Monitor on-premises connectivity
- Configure and use Azure Monitor for networks
- Use Azure Network Watcher
- Troubleshoot external networking
- Troubleshoot virtual network connectivity

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Monitor and maintain Azure resources (10–15%)

Monitor resources by using Azure Monitor

- Configure and interpret metrics
- Configure Azure Monitor Logs
- Query and analyze logs
- Set up alerts and actions
- Configure monitoring of VMs, storage accounts, and networks by using VM insights

Implement backup and recovery

- Create an Azure Recovery Services vault
- Create an Azure Backup vault
- Create and configure backup policy
- Perform backup and restore operations by using Azure Backup
- Configure Azure Site Recovery for Azure resources
- Perform failover to a secondary region by using Azure Site Recovery
- Configure and review backup reports

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
Get trained	[Choose from self-paced learning paths and modules or take an instructor-led course](#)
Find documentation	[Azure documentation](#)
	[Azure Active Directory (AD)](#)
	[Azure Policy](#)
	[Storage](#)
	[Storage Explorer](#)
	[Blob Storage](#)
	[ARM templates](#)
	[Container Instances](#)
	[Azure Kubernetes Service (AKS)](#)
	[App Service](#)

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Study resources	Links to learning and documentation
	Azure DNS
	Azure Bastion
	Application Gateway
	Azure Monitor
	Network Watcher
	Azure Site Recovery
	Azure Backup
Ask a question	Microsoft Q&A | Microsoft Docs
Get community support	Azure Community Support
Follow Microsoft Learn	Microsoft Learn - Microsoft Tech Community
Find a video	Exam Readiness Zone
	Azure Fridays
	Browse other Microsoft Learn shows

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 April 27, 2023	Skill area as of April 27, 2023	Change
Audience profile		No change
Manage Azure identities and governance	**Manage Azure identities and governance**	No change
Manage Azure Active Directory (Azure AD) objects	Manage Azure Active Directory (Azure AD) objects	No change
Manage access control	Manage access control	No change
Manage Azure subscriptions and governance	Manage Azure subscriptions and governance	No change

Skill area prior to April 27, 2023	Skill area as of April 27, 2023	Change
Implement and manage storage	**Implement and manage storage**	No change
Configure access to storage	Configure access to storage	No change
Manage data in Azure storage accounts	Manage data in Azure storage accounts	No change
Configure Azure Files and Azure Blob Storage	Configure Azure Files and Azure Blob Storage	No change
Deploy and manage Azure compute resources	**Deploy and manage Azure compute resources**	No change
Automate deployment of resources by using templates	Automate deployment of resources by using templates	No change
Create and configure VMs	Create and configure VMs	No change
Create and configure containers	Create and configure containers	No change
Create and configure an Azure App Service	Create and configure an Azure App Service	No change
Configure and manage virtual networking	**Configure and manage virtual networking**	No change
Configure virtual networks	Configure virtual networks	No change
Configure secure access to virtual networks	Configure secure access to virtual networks	Minor
Configure load balancing	Configure load balancing	No change
Monitor virtual networking	Monitor virtual networking	No change
Monitor and maintain Azure resources	**Monitor and maintain Azure resources**	No change
Monitor resources by using Azure Monitor	Monitor resources by using Azure Monitor	No change
Implement backup and recovery	Implement backup and recovery	No change

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