Study Guide

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
How to earn the certification	Some certifications only require one exam, while others require more. On the details page, you'll find information about what skills are measured and links to registration. Each exam also has its own details page covering exam specifics.
Certification renewal	Once you earn your certification, don't let it expire. When you have an active certification that's expiring within six months, you should renew it–at no cost–by passing a renewal assessment on Microsoft Learn. Remember to renew your certification annually if you want to retain it.
Your Microsoft Learn profile	Connecting your certification profile to Learn brings all your learning activities together. You'll be able to schedule and renew exams, share and print certificates, badges and transcripts, and review your learning statistics inside your Learn profile.
Passing score	All technical exam scores are reported on a scale of 1 to 1,000. A passing score is 700 or greater. As this is a scaled score, it may not equal 70% of the points. A passing score is based on the knowledge and skills needed to demonstrate competence as well as the difficulty of the questions.
Exam sandbox	Are you new to Microsoft certification exams? You can explore the exam environment by visiting our exam sandbox. We created the sandbox as an opportunity for you to experience an exam before you take it. In the sandbox, you can interact with different question types, such as build list, case studies,

Useful links	Description
	and others that you might encounter in the user interface when you take an exam. Additionally, it includes the introductory screens, instructions, and help topics related to the different types of questions that your exam might include. It also includes the non-disclosure agreement that you must accept before you can launch the exam.
Request accommodations	We're committed to ensuring all learners are set up for success. If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation.
Take a practice test	Taking a practice test is a great way to know whether you're ready to take the exam or if you need to study a bit more. Subject-matter experts write the Microsoft Official Practice Tests, which are designed to assess all exam objectives.

Objective domain: skills the exam measures

The English language version of this exam was updated on October 27, 2022.

Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is released. 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

- 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%)

Functional groups

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

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

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 on subnets
- 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

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