Exam AZ-900: Microsoft Azure Fundamentals – Skills Measured

The English language version of this exam was updated on May 5, 2022.

Following the current exam guide, we have included a table that compares the current study guide to the previous one by functional group, showing the changes that were made to the exam on that date. We have also included the previous study guide for reference purposes.

NOTE: Passing score: 700. Learn more about exam scores [here](#).

Audience Profile

Candidates for this exam are technology professionals who want to demonstrate foundational knowledge of cloud concepts and Microsoft Azure.

These professionals can describe Azure architectural components and Azure services, such as compute, networking, and storage. They can also describe features and tools to secure, govern, and administer Azure.

Candidates for this exam have skills and experience working with an area of information technology, such as infrastructure management, database management, or software development.

Skills Measured

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.

Describe cloud concepts (25–30%)

Describe cloud computing

- define cloud computing
- describe the shared responsibility model
- define cloud models, including public, private, and hybrid

- identify appropriate use cases for each cloud model
- describe the consumption-based model
- compare cloud pricing models

Describe the benefits of using cloud services

- describe the benefits of high availability and scalability in the cloud
- describe the benefits of reliability and predictability in the cloud
- describe the benefits of security and governance in the cloud
- describe the benefits of manageability in the cloud

Describe cloud service types

- describe infrastructure as a service (IaaS)
- describe platform as a service (PaaS)
- describe software as a service (SaaS)
- identify appropriate use cases for each cloud service (IaaS, PaaS, SaaS)

Describe Azure architecture and services (35–40%)

Describe the core architectural components of Azure

- describe Azure regional, regional pairs, and sovereign regions
- describe availability zones
- describe Azure datacenters
- describe Azure resources and resource groups
- describe subscriptions
- describe management groups
- describe the hierarchy of resource groups, subscriptions, and management groups

Describe Azure compute and networking services

- compare compute types, including container instances, virtual machines (VMs), and functions
- describe VM options, including Azure Virtual Machines, Azure Virtual Machine Scale Sets, availability sets, and Azure Virtual Desktop
- describe resources required for virtual machines
- describe application hosting options, including the Web Apps feature of Azure App Service, containers, and virtual machines
- describe virtual networking, including the purpose of Azure Virtual Networks, Azure virtual subnets, peering, Azure DNS, Azure VPN Gateway, and Azure ExpressRoute
- define public and private endpoints

Describe Azure storage services

- compare Azure storage services
- describe storage tiers
- describe redundancy options
- describe storage account options and storage types
- identify options for moving files, including AzCopy, Azure Storage Explorer, and Azure File Sync
- describe migration options, including Azure Migrate and Azure Data Box

Describe Azure identity, access, and security

- describe directory services in Azure, including Azure Active Directory (Azure AD) and Azure Active Directory Domain Services (Azure AD DS)
- describe authentication methods in Azure, including single sign-on (SSO), multifactor authentication, and passwordless
- describe external identities and guest access in Azure
- describe Azure AD Conditional Access
- describe Azure role-based access control (RBAC)
- describe the concept of Zero Trust
- describe the purpose of the defense in depth model
- Describe the purpose of Microsoft Defender for Cloud

Describe Azure management and governance (30–35%)

Describe cost management in Azure

- describe factors that can affect costs in Azure
- compare the Pricing calculator and the Total Cost of Ownership (TCO) calculator
- describe the Azure Cost Management and Billing tool
- describe the purpose of tags

Describe features and tools in Azure for governance and compliance

- describe the purpose of Azure Blueprints
- describe the purpose of Azure Policy
- describe the purpose of resource locks
- describe the purpose of the Service Trust Portal

Describe features and tools for managing and deploying Azure resources

- describe the Azure portal

- describe Azure Cloud Shell, including Azure CLI and Azure PowerShell
- describe the purpose of Azure Arc
- describe Azure Resource Manager and Azure Resource Manager templates (ARM templates)

Describe monitoring tools in Azure

- describe the purpose of Azure Advisor
- describe Azure Service Health
- describe Azure Monitor, including Log Analytics, Azure Monitor alerts, and Application Insights

---

The table below shows the changes that were implemented on May 5, 2022 to the English language version of this exam. Following the comparison table, the previous study guide is included for reference.

Old objective number	Subtask changes and new location
1.1 Identify the benefits and considerations of using cloud services	Revised title and subtasks; moved to 1.2
1.2 Describe the differences between categories of cloud services	Revised title and subtasks; moved to 1.3
1.3 Describe the differences between types of cloud computing	Revised title and subtasks; moved to 1.1
2.1 Describe the core Azure architectural components	Revised title and subtasks
2.2 Describe core resources available in Azure	Revised title and subtasks
3.1 Describe core solutions available in Azure	Deleted
3.2 Describe Azure management tools	Revised title and subtasks; split into 3.3 and 3.4
4.1 Describe Azure security features	Revised subtasks; combined old 4.1, 4.2, and 5.1 into new 2.4
4.2 Describe Azure network security	Revised subtasks; combined old 4.1, 4.2, and 5.1 into new 2.4

5.1 Describe core Azure identity services	Revised subtasks; combined old 4.1, 4.2, and 5.1 into new 2.4
5.2 Describe Azure governance features	Revised title and subtasks; moved to 3.2
5.3 Describe privacy and compliance resources	Deleted
6.1 Describe methods for planning and managing costs	Revised title and subtasks; moved to 3.1
6.2 Describe Azure Service Level Agreements (SLAs) and service lifecycles	Deleted

Audience Profile

Candidates for this exam are technology professionals who want to demonstrate foundational knowledge of cloud concepts and Microsoft Azure.

Candidates can describe Azure architectural components and Azure services such as compute, networking, and storage. Candidates can also describe features and tools to secure, govern, and administer Azure.

Candidates for this exam have skills and experience working with an information technology area, such as infrastructure management, database management, or software development.

Skills Measured

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.

Describe cloud concepts (20-25%)

Identify the benefits and considerations of using cloud services

- identify the benefits of cloud computing, such as High Availability, Scalability, Elasticity, Agility, and Disaster Recovery
- identify the differences between Capital Expenditure (CapEx) and Operational Expenditure (OpEx)

- describe the consumption-based model

Describe the differences between categories of cloud services

- describe the shared responsibility model
- describe Infrastructure-as-a-Service (IaaS),
- describe Platform-as-a-Service (PaaS)
- describe serverless computing
- describe Software-as-a-Service (SaaS)
- identify a service type based on a use case

Describe the differences between types of cloud computing

- define cloud computing
- describe Public cloud
- describe Private cloud
- describe Hybrid cloud
- compare and contrast the three types of cloud computing

Describe core Azure Services (15-20%)

Describe the core Azure architectural components

- describe the benefits and usage of Regions and Region Pairs
- describe the benefits and usage of Availability Zones
- describe the benefits and usage of Resource Groups
- describe the benefits and usage of Subscriptions
- describe the benefits and usage of Management Groups
- describe the benefits and usage of Azure Resource Manager
- explain Azure resources

Describe core resources available in Azure

- describe the benefits and usage of Virtual Machines, Azure App Services, Azure Container Instances (ACI), Azure Kubernetes Service (AKS), and Azure Virtual Desktop
- describe the benefits and usage of Virtual Networks, VPN Gateway, Virtual Network peering, and ExpressRoute
- describe the benefits and usage of Container (Blob) Storage, Disk Storage, File Storage, and storage tiers
- describe the benefits and usage of Cosmos DB, Azure SQL Database, Azure Database for MySQL, Azure Database for PostgreSQL, and Azure SQL Managed Instance
- describe the benefits and usage of Azure Marketplace

Describe core solutions and management tools on Azure (10-15%)

Describe core solutions available in Azure

- describe the benefits and usage of Internet of Things (IoT) Hub, IoT Central, and Azure Sphere
- describe the benefits and usage of Azure Synapse Analytics, HDInsight, and Azure Databricks
- describe the benefits and usage of Azure Machine Learning, Cognitive Services and Azure Bot Service
- describe the benefits and usage of serverless computing solutions that include Azure Functions and Logic Apps
- describe the benefits and usage of Azure DevOps, GitHub, GitHub Actions, and Azure DevTest Labs

Describe Azure management tools

- describe the functionality and usage of the Azure Portal, Azure PowerShell, Azure CLI, Cloud Shell, and Azure Mobile App
- describe the functionality and usage of Azure Advisor
- describe the functionality and usage of Azure Resource Manager (ARM) templates
- describe the functionality and usage of Azure Monitor
- describe the functionality and usage of Azure Service Health

Describe general security and network security features (10-15%)

Describe Azure security features

- describe basic features of Microsoft Defender for Cloud, including policy compliance, security alerts, secure score, and resource hygiene
- describe the functionality and usage of Azure Key Vault
- describe the functionality and usage of Microsoft Sentinel
- describe the functionality and usage of Azure Dedicated Hosts

Describe Azure network security

- describe the concept of defense in depth
- describe the functionality and usage of Network Security Groups (NSG)
- describe the functionality and usage of Azure Firewall
- describe the functionality and usage of Azure DDoS protection

Describe identity, governance, privacy, and compliance features (15-20%)

Describe core Azure identity services

- explain the difference between authentication and authorization
- define Azure Active Directory
- describe the functionality and usage of Azure Active Directory
- describe the functionality and usage of Conditional Access, Multi-Factor Authentication (MFA), and Single Sign-On (SSO)

Describe Azure governance features

- describe the functionality and usage of Role-Based Access Control (RBAC)
- describe the functionality and usage of resource locks
- describe the functionality and usage of tags
- describe the functionality and usage of Azure Policy
- describe the functionality and usage of Azure Blueprints
- describe the Cloud Adoption Framework for Azure

Describe privacy and compliance resources

- describe the Microsoft core tenets of Security, Privacy, and Compliance
- describe the purpose of the Microsoft Privacy Statement, Online Services Terms (OST) and Data Protection Amendment (DPA)
- describe the purpose of the Trust Center
- describe the purpose of the Azure compliance documentation
- describe the purpose of Azure Sovereign Regions (Azure Government cloud services and Azure China cloud services)

Describe Azure cost management and Service Level Agreements (10-15%)

Describe methods for planning and managing costs

- identify factors that can affect costs (resource types, services, locations, ingress and egress traffic)
- identify factors that can reduce costs (reserved instances, reserved capacity, hybrid use benefit, spot pricing) Describe the functionality and usage of the Pricing calculator and the Total Cost of Ownership (TCO) calculator
- describe the functionality and usage of Azure Cost Management

Describe Azure Service Level Agreements (SLAs) and service lifecycles

- describe the purpose of an Azure Service Level Agreement (SLA)
- identify actions that can impact an SLA (i.e. Availability Zones)
- describe the service lifecycle in Azure (Public Preview and General Availability)