Study guide for Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions

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 October 28, 2022	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 October 28, 2022	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	This list represents the skills measured AFTER the date provided. Study this list if you plan to take the exam AFTER that date.
Certification renewal	Study this list of skills if you take your exam PRIOR to the date provided.
Your Microsoft Learn profile	You can go directly to the change log if you want to see the changes that will be made on the date provided.
Passing score	Some certifications only require passing one exam, while others require passing multiple exams.
Exam sandbox	Microsoft associate, expert, and specialty certifications expire annually. You can renew by passing a **free** online assessment on Microsoft Learn.

Useful links	Description
Request accommodations	Connecting your certification profile to Learn allows you to schedule and renew exams and share and print certificates.
Take a practice test	A score of 700 or greater is required to pass.

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 October 28, 2022

Audience Profile

Candidates for the Azure Solutions Architect Expert certification should have subject matter expertise in designing cloud and hybrid solutions that run on Microsoft Azure, including compute, network, storage, monitoring, and security.

Responsibilities for this role include advising stakeholders and translating business requirements into designs for secure, scalable, and reliable Azure solutions.

An Azure Solutions Architect partners with developers, administrators, and other roles responsible for implementing solutions on Azure.

A candidate for this certification should have advanced experience and knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. A professional in this role should manage how decisions in each area affect

an overall solution. In addition, they should have experience in Azure administration, Azure development, and DevOps processes.

- Design identity, governance, and monitoring solutions (25–30%)
- Design data storage solutions (25–30%)
- Design business continuity solutions (10–15%)
- Design infrastructure solutions (25–30%)

Design identity, governance, and monitoring solutions (25–30%)

Design a solution for logging and monitoring

- Design a log routing solution
- Recommend an appropriate level of logging
- Recommend monitoring tools for a solution

Design authentication and authorization solutions

- Recommend a solution for securing resources with role-based access control
- Recommend an identity management solution
- Recommend a solution for securing identities

Design governance

- Recommend an organizational and hierarchical structure for Azure resources
- Recommend a solution for enforcing and auditing compliance

Design identities and access for applications

- Recommend solutions to allow applications to access Azure resources
- Recommend a solution that securely stores passwords and secrets
- Recommend a solution for integrating applications into Microsoft Azure Active Directory (Azure AD), part of Microsoft Entra
- Recommend a user consent solution for applications

Design data storage solutions (25–30%)

Design a data storage solution for relational data

- Recommend database service tier sizing
- Recommend a solution for database scalability
- Recommend a solution for encrypting data at rest, data in transmission, and data in use

Design data integration

- Recommend a solution for data integration
- Recommend a solution for data analysis

Recommend a data storage solution

- Recommend a solution for storing relational data

- Recommend a solution for storing semi-structured data
- Recommend a solution for storing non-relational data

Design a data storage solution for non-relational data

- Recommend access control solutions to data storage
- Recommend a data storage solution to balance features, performance, and cost
- Design a data solution for protection and durability

Design business continuity solutions (10–15%)

Design a solution for backup and disaster recovery

- Recommend a recovery solution for Azure, hybrid, and on-premises workloads that meets recovery objectives (Recovery Time Objective [RTO], Recovery Level Objective [RLO], Recovery Point Objective [RPO])
- Understand the recovery solutions for containers
- Recommend a backup and recovery solution for compute
- Recommend a backup and recovery solution for databases
- Recommend a backup and recovery solution for unstructured data

Design for high availability

- Identify the availability requirements of Azure resources
- Recommend a high availability solution for compute
- Recommend a high availability solution for non-relational data storage
- Recommend a high availability solution for relational data storage

Design infrastructure solutions (25–30%)

Design a compute solution

- Recommend a virtual machine–based compute solution
- Recommend an appropriately sized compute solution based on workload requirements
- Recommend a container-based compute solution
- Recommend a serverless-based compute solution

Design an application architecture

- Recommend a caching solution for applications
- Recommend a messaging architecture
- Recommend an event-driven architecture
- Recommend an automated deployment solution for your applications
- Recommend an application configuration management solution
- Recommend a solution for API integration

Design migrations

- Evaluate a migration solution that leverages the Cloud Adoption Framework for Azure
- Assess and interpret on-premises servers, data, and applications for migration
- Recommend a solution for migrating applications and virtual machines
- Recommend a solution for migrating databases
- Recommend a solution for migrating unstructured data

Design network solutions

- Recommend a network architecture solution based on workload requirements
- Recommend a connectivity solution that connects Azure resources to the internet
- Recommend a connectivity solution that connects Azure resources to on-premises networks
- Optimize network performance for applications
- Recommend a solution to optimize network security
- Recommend a load balancing and routing solution

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 Architect infrastructure operations in Azure Azure Architecture Center Browse Azure Architectures
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 October 28, 2022	Skill area as of October 28, 2022	Change
Audience profile		No change
Design Identity, Governance, and Monitoring Solutions	**Design Identity, Governance, and Monitoring Solutions**	No change
Design a Solution for Logging and Monitoring	Design a Solution for Logging and Monitoring	No change
Design Authentication and Authorization Solutions	Design Authentication and Authorization Solutions	No change
Design Governance	Design Governance	No change
Design Identities and Access for Applications	Design Identities and Access for Applications	Minor
Design Data Storage Solutions	**Design Data Storage Solutions**	No change
Design a Data Storage Solution for Relational Data	Design a Data Storage Solution for Relational Data	No change
Design Data Integration	Design Data Integration	No change
Recommend a Data Storage Solution	Recommend a Data Storage Solution	No change
Design a Data Storage Solution for Non-relational Data	Design a Data Storage Solution for Non-relational Data	No change
Design Business Continuity Solutions	**Design Business Continuity Solutions**	No change
Design a Solution for Backup and Disaster Recovery	Design a Solution for Backup and Disaster Recovery	No change
Design for High Availability	Design for High Availability	No change

Skill area prior to October 28, 2022	Skill area as of October 28, 2022	Change
Design Infrastructure Solutions	**Design Infrastructure Solutions**	No change
Design a Compute Solution	Design a Compute Solution	No change
Design an Application Architecture	Design an Application Architecture	No change
Design Migrations	Design Migrations	No change
Design Network Solutions	Design Network Solutions	No change

Skills measured prior to October 28, 2022

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