Study Guide

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
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 will be updated on October 28, 2022. If you're taking this exam's English version before this date, the following Skills Measured is what you should study. If you want to review changes to the future version, scroll to the end of this document.

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

- 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%)

Functional groups

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 Azure Active Directory (Azure AD)
- 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

Future exam skills measured

Our exams are updated periodically to reflect skills that are required to perform a role. The following skills measured list depicts the additions, deletions, and modifications to the exam.

Change log

Skill area	Change
Design identities and access for applications	Minor

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.

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- Recommend a solution for securing identities

Design governance

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- 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

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