Study Guide

Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions

Quick navigation

Purpose of this document

This study guide should help you understand what to expect on *Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions*, 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.

Certification

Certification journey

For an overview of attaining Microsoft Certification, including prerequisites (if any) and additional resources, explore The journey to Microsoft Certified: Azure Solutions Architect Expert.

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.

To identify which certifications are available for you to renew, visit your Certifications in your Microsoft Learn profile:

- Ensure your certification profile is connected to your Learn profile.
- Expect an email that directs you to the applicable assessment that you must pass on Microsoft Learn. You'll receive this email as soon as you have a certification that you're eligible to renew.
- When you pass an online assessment, your certification will extend by one year from the current expiration date.
- To help prepare for the assessment, explore the collection of free modules on the certification renewal page.

About the exam

Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions is required to earn the Azure Solutions Architect Expert certification.

This exam measures your ability to accomplish the following technical tasks: design identity, governance, and monitoring solutions; design data storage solutions; design business continuity solutions; and design infrastructure solutions.

As an exam candidate, you 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.

Passing score

A passing score is 700. Learn more about exam scoring and score reports.

What to expect on the exam

Are you new to Microsoft certification exams? You can explore the exam environment by visiting our exam sandbox. We created the sandbox so you have an opportunity to experience an exam before you take it. In the sandbox, you can interact with different question types, such as *build list*, *case studies*, 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.

Prepare to take the exam

There are several points to consider, or pursue, as you prepare for an exam. The following sections detail those points.

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. We encourage you to learn more about available accommodations and how to obtain them by visiting this page.

Take practice tests

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. Take the Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions Microsoft Official Practice Test

Objective domain: skills the exam measures

The English language version of this exam was released on February 28, 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

- 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

Corresponding learning paths and modules

The design of learning paths and modules should teach you how to perform a role and will help you study for the applicable exam. However, learning paths aren't always in the same order as an exam's "skills measured" list. Therefore, we've created a convenient table that links the skills measured to specific paths and modules.

Exam skills measured	Links to learning paths
Design identity, governance, and monitoring solutions (25–30%)	AZ-305: Design identity, governance, and monitor solutions • Design governance • Design authentication and authorization solutions • Design a solution to log and monitor Azure resources
Design data storage solutions (25–30%)	AZ-305: Design data storage solutions • Design a data storage solution for non-relational data • Design a data storage solution for relational data • Design data integration

Exam skills measured	Links to learning paths
Design business continuity solutions (10–15%)	AZ-305: Design business continuity solutions • Design for high availability • Design a solution for backup and disaster recovery
Design infrastructure solutions (25–30%)	AZ-305: Design infrastructure solutions • Design a compute solution • Design an application architecture

Additional study resources

We offer several resources to help you prepare for the exam and stay current and engaged with the Microsoft Azure community. These resources range from formal training to blogs and even interviews with Microsoft team members.

Study resource link	Resource description
Course AZ-305T00: Designing Microsoft Azure Infrastructure Solutions	Take a four-day, instructor-led course that teaches Azure Solution Architects how to design infrastructure solutions.
Exam Prep Videos	Visit our Exam Readiness Zone for helpful videos with strategies, tips, and sample questions and answers to prepare for this exam.
Azure documentation	Stay informed on the latest products, tools, and features, and get information on pricing, partners, support, solutions, and more.
Azure Community Support	Ask questions, get answers, and connect with Microsoft engineers and Azure community experts.
Microsoft Learn Community Blog	Get the latest information about certification tests and exam study groups.
Azure Fridays	Scott Hanselman, Partner Program Manager, speaks with Azure engineers as they demo capabilities and share insights.

Study resource link	Resource description
Microsoft Azure Blog	Keep current on what's happening in Azure, including what's in preview and what's generally available, along with Azure news, updates, and much more.