

AZ-305T00: Designing Microsoft Azure Infrastructure Solutions

Course Code: AZ-305T00

Duration: 4 days

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

OVERVIEW

Level up with Microsoft Certified: Azure Solutions Architect Expert.

How do organizations today balance risk, cost, and capabilities—while continuing to deliver business value? The cloud can address all of these issues, and it has transformed the way businesses solve their technology challenges. Microsoft Azure solutions architects are the key to implementing cloud architecture, using resources efficiently, and maintaining security—whether migrating an existing system to the cloud or building a new one.

This **AZ-305T00: Designing Microsoft Azure Infrastructure Solutions** course teaches Azure Solution Architects how to design infrastructure solutions. Course topics cover governance, compute, application architecture, storage, data integration, authentication, networks, business continuity, and migrations. The course combines lecture with case studies to demonstrate basic architect design principles

SKILLS COVERED

- Design a governance solution.
- Design a compute solution.
- Design an application architecture.
- Design storage, non-relational and relational.
- Design data integration solutions.
- Design authentication, authorization, and identity solutions.

- Design network solutions.
- Design backup and disaster recovery solutions.
- Design monitoring solutions.
- Design migration solutions.

WHO SHOULD ATTEND?

Successful students have experience and knowledge in IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. Students also have experience designing and architecting solutions.

PREREQUISITES

Before attending this course, students must have previous experience deploying or administering Azure resources and conceptual knowledge of:

- Azure Active Directory
- Azure compute technologies such as VMs, containers and serverless solutions
- Azure virtual networking to include load balancers
- Azure Storage technologies (unstructured and databases)
- General application design concepts such as messaging and high availability
- Have attended [AZ-900T00: Microsoft Azure Fundamentals](#) or have equivalent knowledge

MODULES

Module 1: Design governance

Azure Architects design and recommend governance solutions.

Learning objectives

In this module, you'll learn how to:

- Design for governance.
- Design for management groups.
- Design for Azure subscriptions.
- Design for resource groups.
- Design for resource tagging.
- Design for Azure policy.
- Design for Azure role-based access control.
- Design for Azure Blueprints.

Prerequisites

- Conceptual knowledge of governance policies, resource organization, and subscription management.
- Working experience with organizing resources, applying governance policies, and enforcing compliance requirements.

Module 2: Design a compute solution

Azure Architects design and recommend compute solutions.

Learning objectives

In this module, you'll learn how to:

- Choose a compute service.
- Design for Azure virtual machines solutions.
- Design for Azure Batch solutions.
- Design for Azure App Services solutions.
- Design for Azure Container Instances solutions.
- Design for Azure Kubernetes Service solutions.
- Design for Azure Function solutions.
- Design for Azure Logic App solutions.

Prerequisites

- Conceptual knowledge of Azure compute solutions.
- Working experience with virtual machines, containers, and app service.

Module 3: Design a data storage solution for non-relational data

Azure Architects design and recommend non-relational data storage solutions.

Learning objectives

In this module, you learn how to:

- Design for data storage.
- Design for Azure storage accounts.
- Design for Azure Blob Storage.
- Design for data redundancy.
- Design for Azure Files.
- Design for Azure managed disks.
- Design for storage security.

Prerequisites

- Conceptual knowledge of storage accounts, blobs, files, disks, and data protection.
- Working experience with creating and securing storage systems.

Module 4: Design a data storage solution for relational data

Azure Architects design and recommend relational data storage solutions.

Learning objectives

In this module, you learn how to:

- Design for Azure SQL Database.
- Design for Azure SQL Managed Instance.

- Design for SQL Server on Azure Virtual Machines.
- Recommend a solution for database scalability.
- Recommend a solution for database availability.
- Design protection for data at rest, data in transmission, and data in use.
- Design for Azure SQL Edge.
- Design for Azure Cosmos DB.
- Design for Azure Table Storage.

Prerequisites

- Working experience with database solutions.
- Conceptual knowledge of SQL Server.

Module 5: Design data integration

Azure Architects design and recommend data integration solutions.

Learning objectives

In this module, you'll learn how to:

- Design a data integration solution with Azure Data Factory.
- Design a data integration solution with Azure Data Lake.
- Design a data integration and analytics solution with Azure Databricks.
- Design a data integration and analytics solution with Azure Synapse Analytics.
- Design a strategy for hot/warm/cold data path.
- Design Azure Stream Analytics solution for Data Analysis.

Prerequisites

- Working experience with data integration solutions.

- Conceptual knowledge of data integration solutions.

Module 6: Design an application architecture

Azure Architects design and recommend application architectures.

Learning objectives

In this module, you'll learn how to:

- Describe message and event scenarios.
- Design a messaging solution.
- Design an Event Hub messaging solution.
- Design an event-driven solution.
- Design an automated app deployment solution.
- Design API integration.
- Design an application configuration management solution.
- Design a caching solution.

Prerequisites

- Working experience with developing cloud applications.
- Conceptual knowledge of messaging, events, deployments, configurations, API, and caching.

Module 7: Design authentication and authorization solutions

Azure Architects design and recommend authentication and authorization solutions.

Learning objectives

In this module, you learn how to:

- Design for identity and access management.
- Design for Azure Active Directory.

- Design for Azure Active Directory business-to-business (B2B).
- Design for Azure Active Directory B2C (business-to-customer).
- Design for conditional access.
- Design for identity protection.
- Design for access reviews.
- Design for managed identities.
- Design for service principals for applications.
- Design for Azure Key Vault.

Prerequisites

- Conceptual knowledge of identity assignment solutions, role-based access control, and identity protection methods.
- Working experience creating, assigning, and securing corporate identities.

Module 8: Design a solution to log and monitor Azure resources

Azure Architects design and recommend logging and monitoring solutions.

Learning objectives

In this module, you learn how to:

- Design for Azure Monitor data sources
- Design for Azure Monitor Logs (Log Analytics) workspaces
- Design for Azure Workbooks and Azure insights
- Design for Azure Data Explorer

Prerequisites

- Working experience with monitoring and logging cloud environments
- Conceptual knowledge of monitoring and logging

Module 9: Design network solutions

Azure Architects design and recommend network solutions.

Learning objectives

In this module, you'll learn how to:

- Recommend a network architecture solution based on workload requirements
- Design for on-premises connectivity to Azure Virtual Networks
- Design for Azure network connectivity services
- Design for application delivery services
- Design for application protection services

Prerequisites

- Working experience with enterprise networking.
- Conceptual knowledge of software defined networking and hybrid connectivity.

Module 10: Design a solution for backup and disaster recovery

Learn how to select appropriate backup solutions and disaster recovery solutions for Azure workloads.

Learning objectives

In this module, you'll learn how to:

- Design for backup and recovery.
- Design for Azure Backup.
- Design for Azure blob backup and recovery.

- Design for Azure Files backup and recovery.
- Design for Azure virtual machine backup and recovery.
- Design for Azure SQL backup and recovery.
- Design for Azure Site Recovery.

Prerequisites

- Conceptual knowledge of Business Continuity and Disaster Recovery solutions.
- Working experience with object replication, backup solution tools, and recovery options.

Module 11: Design migrations

Azure Architects design and recommend migration solutions.

Learning objectives

In this module, you'll learn how to:

- Evaluate migration with the Cloud Adoption Framework.
- Describe the Azure Migration Framework.
- Assess your on-premises workloads.
- Select a migration tool.
- Migrate your databases.
- Select an online storage migration tool.
- Migrate offline data.

Prerequisites

- Conceptual knowledge of migrating compute, database, and storage workloads.
- Working experience with planning migrations, assessing workloads, determining migration requirements, and deploying workloads.

Module 12: Build great solutions with the Microsoft Azure Well-Architected Framework

Learn how to design and build secure, scalable, high-performing solutions in Azure using the pillars of the Microsoft Azure Well-Architected Framework.

This learning path helps prepare you for [Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions](#).

Prerequisites

None

Module 13: Accelerate cloud adoption with the Microsoft Cloud Adoption Framework for Azure

Do you need a clear path forward for your cloud journey? This learning path includes best practice guidance to help you create a cloud strategy, define a cloud adoption plan, prepare your cloud environment with proper governance, and implement cloud operations in alignment with your organizational needs. Cloud architects and IT professionals will learn and engage with the proven best practices, tools, and documentation in the Cloud Adoption Framework for Azure to build the technical knowledge needed to help your organization successfully adopt the cloud and meet business goals.

For additional learning on how to manage organizational alignment, take this learning module: [Use the Cloud Adoption Framework to manage organizational alignment](#).

This learning path helps prepare you for [Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions](#).

Prerequisites

An understanding of cloud computing is helpful, but isn't necessary.

END OF PAGE