GALILEU

AZ-305: Designing Microsoft Azure Infrastructure Solutions

Microsoft

- **Nível:**
- **Duração:** 28h

Sobre o curso

This 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.

Destinatários

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.

Objetivos

- Knowledge to be successful as you begin studying for AZ-305: Designing Microsoft Azure Infrastructure Solutions
- Prepare for Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions
- Design identity, governance, and monitor solutions including authentication
- Design business continuity solutions including high availability, backup, and disaster recovery
- Design data storage solutions including non-relational storage, relational storage, and data integration
- Design Infrastructure Solutions including compute, applications, networking and migrations
- Design and build secure, scalable, high-performing solutions in Azure using the pillars of the Microsoft Azure Well-Architected Framework
- Create a cloud strategy, define a cloud adoption plan, prepare cloud environment with proper governance, and implement cloud operations in alignment with organizational needs

Pré-requisitos

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

Programa

- Design governance
- Design an Azure compute solution
- Design a data storage solution for non-relational data
- Design a data storage solution for relational data
- Design data integration
- Design an application architecture
- Design authentication and authorization solutions
- Design a solution to log and monitor Azure resources
- Design network solutions
- Design a solution for backup and disaster recovery
- Design migrations
- Build great solutions with the Microsoft Azure Well-Architected Framework
- Accelerate cloud adoption with the Microsoft Cloud Adoption Framework for Azure

Design governance

Azure Architects design and recommend governance solutions.

In this module, you 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 landing zones.

Design an Azure compute solution

Azure Architects design and recommend Azure compute solutions.

In this module, you learn how to:

- Choose an Azure compute service.
- Design for Azure Virtual Machines solutions.
- Design for Azure Batch solutions.
- Design for Azure App Service solutions.
- Design for Azure Container Instances solutions.
- Design for Azure Kubernetes Service solutions.
- Design for Azure Functions solutions.
- Design for Azure Logic Apps solutions.

Design a data storage solution for non-relational data

Azure Architects design and recommend non-relational data storage solutions

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 an Azure disk solution.
- Design for storage security.

Design a data storage solution for relational data

Azure Architects design and recommend relational data storage solutions.

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.

Design data integration

Azure Architects design and recommend data integration solutions.

In this module, you 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 strategies for hot, warm, and cold data paths.
- Design an Azure Stream Analytics solution for data analysis.

Design an application architecture

Azure Architects design and recommend application architectures.

In this module, you learn how to:

- Describe message and event scenarios.
- Design a messaging solution.
- Design an Azure Event Hubs 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.

Design authentication and authorization solutions

Azure Architects design and recommend authentication and authorization solutions.

In this module, you learn how to:

- Design for identity and access management.
- Design for Microsoft Entra ID.
- Design for Microsoft Entra 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.

Design a solution to log and monitor Azure resources

Azure Architects design and recommend logging and monitoring solutions.

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

Design network solutions

Azure Architects design and recommend network solutions.

In this module, you learn how to:

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

Design a solution for backup and disaster recovery

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

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.

Design migrations

Azure Architects design and recommend migration solutions.

In this module, you learn how to:

- Evaluate migration with the Microsoft Cloud Adoption Framework for Azure
- Describe the Azure Migration and Modernization Program (Azure Migration Framework)
- Assess your on-premises workloads
- Select a migration tool
- Migrate your databases
- Select an online storage migration tool
- Migrate offline data

LEARNING PATH: Build great solutions with the Microsoft Azure Well-Architected Framework

- Introduction to the Microsoft Azure Well-Architected Framework
- Microsoft Azure Well-Architected Framework – Cost optimization
- Microsoft Azure Well-Architected Framework – Operational excellence
- Microsoft Azure Well-Architected Framework – Performance efficiency
- Microsoft Azure Well-Architected Framework – Reliability
- Microsoft Azure Well-Architected Framework – Security

LEARNING PATH: Accelerate cloud adoption with the Microsoft Cloud Adoption Framework for Azure

- Getting started with the Microsoft Cloud Adoption Framework for Azure
- Prepare for successful cloud adoption with a well-defined strategy
- Prepare for cloud adoption with a data-driven plan
- Choose the best Azure landing zone to support your requirements for cloud operations
- Migrate to Azure through repeatable processes and common tools
- Address tangible risks with the Govern methodology of the Cloud Adoption Framework for Azure
- Ensure stable operations and optimization across all supported workloads deployed to the cloud
- Innovate applications by using Azure cloud technologies
- Prepare for cloud security by using the Microsoft Cloud Adoption Framework for Azure