AZ-304T00: Microsoft Azure Architect Design

Duration: 4 Days

Method: Instructor-Led Training (ILT) | Live Online Training

Certification: *Microsoft Certified: Azure Solutions Architect Expert —* ***Exam 2 of 2:*** *AZ-304: Microsoft Azure Architect Design*

Course Description

This course teaches Solutions Architects how to translate business requirements into secure, scalable, and reliable solutions. Lessons include design considerations related to logging, cost analysis, authentication and authorization, governance, security, storage, high availability, and migration. This role requires decisions in multiple areas that affect an overall design solution.

Target Audience

This course is intended for:

- IT Professionals with expertise in designing and implementing solutions running on Microsoft Azure.

Prerequisites

To attend this course, candidates must understand:

- On-premises virtualization technologies such as VMs, virtual networking, and virtual hard disks.
- Network configuration such as TCP/IP, Domain Name System (DNS), Virtual Private Networks (VPNs), firewalls, and encryption technologies.
- Active Directory concepts such as domains, forests, domain controllers, replication, Kerberos protocol, and Lightweight Directory Access Protocol (LDAP).
- Resilience and disaster recovery such as backup and restore operations.
- Applications development and APIs.
- Databases, both SQL such as MS SQL, MySQL or Postgres, and Non-SQL databases like MongoDB.
- Decoupling applications and services, for example, Queues, Tables, Cache.
- Security concepts to protect your environment, like encryption at rest, encryption in transit, SSL, TLS.
- Completed the following courses or have the equivalent knowledge:
    - *AZ-900T01: Azure Fundamentals (Instructor-Led)* ***OR*** *Azure Fundamentals (Microsoft Learn)*
    - *Prerequisites for Azure Administrators (Microsoft Learn)*

Course Objectives

Upon successful completion of this course, attendees will be able to:

- Recommend a solution(s):
  - For minimizing costs.
  - For Conditional Access, including multi-factor authentication.
  - For a hybrid identity including Azure AD Connect and Azure AD Connect.
  - For using Azure Policy.
  - That includes KeyVault.
  - That includes Azure AD Managed Identities.
  - For storage access.
  - For autoscaling.
  - For containers.
  - For network security.
  - For migrating applications and VMs.
  - For migration of databases.
- Design an Azure Site Recovery solution.

Course Topics

Module 1: Design a Compute Solution

- Recommend a Solution for Compute Provisioning
- Determine Appropriate Compute Technologies
- Recommend a Solution for Containers
- Recommend a Solution for Automating Computer Management

Module 2: Design a Network Solution

- Recommend a Solution for Network Addressing and Name Resolution
- Recommend a Solution for Network Provisioning
- Recommend a Solution for Network Security
- Recommend a Solution for Internet Connectivity and On-Premises Networks
- Recommend a Solution for Automating Network Management
- Recommend a Solution for Load Balancing and Traffic Routing

Module 3: Design for Migration

- Assess and On-Premises Servers and Applications for Migration
- Recommend a Solution for Migrating Applications and VMs
- Recommend a Solution for Migration of Databases

Module 4: Design Authentication and Authorization

- Tips for Identity and Access Management
- Recommend a Solution for Multi-Factor Authentication
- Five Steps for Securing Identity Infrastructure
- Recommend a Solution for Single-Sign On (SSO)
- Recommend a Solution for a Hybrid Identity
- Recommend a Solution for B2B Integration
- Recommend a Hierarchical Structure for Management Groups

Course Topics *Continued*

Module 5: Design Governance

- Recommend a Solution for using Azure Policy
- Recommend a Solution for using Azure Blueprint

Module 6: Design a Solution for Databases

- Select an Appropriate Data Platform Based on Requirements
- Overview of Azure Data Storage
- Recommend Database Service Tier Sizing
- Dynamically Scale Azure SQL Database and Azure SQL Managed Instances
- Recommend a Solution for Encrypting Data at Rest, Transmission, and In Use

Module 7: Select an Appropriate Storage Account

- Understanding Storage Tiers
- Recommend a Storage Access Solution
- Recommend Storage Management Tools

Module 8: Design Data Integration

- Recommend a Data Flow
- Recommend a Solution for Data Integration

Module 9: Design a Solution for Logging and Monitoring

- Azure Monitoring Services
- Azure Monitor

Module 10: Design a Solution for Backup and Recovery

- Recommend a Recovery Solution for Hybrid and On-Premises Workloads
- Design and Azure Site Recovery Solution
- Recommend a Solution for Recovery in Different Regions
- Recommend a Solution for Azure Backup Management
- Design a Solution for Data Archiving and Retention

Module 11: Design for High Availability

- Recommend a Solution for Application and Workload Redundancy
- Recommend a Solution for Autoscaling
- Identify Resources that Require High Availability
- Identify Storage Types for High Availability
- Recommend a Solution for Geo-Redundancy of Workloads

Module 12: Design for Cost Optimization

- Recommend Solutions for Cost Management
- Recommended Viewpoints for Minimizing Costs

Module 13: Design an Application Architecture

- Recommend a Microservices Architecture
- Recommend an Orchestration Solution for Deployment of Applications
- Recommend a Solution for API Integration

Module 14: Design Security for Applications

- Security for Applications and Services
- Recommend a Solution using Key Vault
- Recommend Solutions using Azure AD Managed Identities

LABS INCLUDED