Exam AZ-304: Microsoft Azure Architect Design

Introduction

Microsoft Azure: Microsoft Azure Architect Design (AZ-304) certification is developed for individuals who want to excel in the domain of Microsoft Azure. With Certbazar's certification program, the candidate's ability to design, implement, compute, prioritize network, manage storage and build highly secure systems with Microsoft Azure, is highly improved. Besides that, candidates gain intermediate-level skills for administering Azure and understand Azure development and DevOps processes extensively. During this training program, it is also ensured that candidates get prepared for the AZ-304 exam by achieving advanced knowledge and practical experience of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platform, budgeting, and governance.

Course Outline

MODULE 1: Design monitoring (10-15%)

- Design for cost optimization
- recommend a solution for cost management and cost reporting
- recommend solutions to minimize costs

- Design a solution for logging and monitoring
  - determine levels and storage locations for logs
  - plan for integration with monitoring tools including Azure Monitor and Azure Sentinel
  - recommend appropriate monitoring tool(s) for a solution
  - choose a mechanism for event routing and escalation
  - recommend a logging solution for compliance requirements

MODULE 2: Design identity and security (25-30%)

- Design authentication
  - recommend a solution for single-sign-on
  - recommend a solution for authentication
  - recommend a solution for Conditional Access, including multi-factor authentication
  - recommend a solution for network access authentication
  - recommend a solution for a hybrid identity including Azure AD Connect and Azure AD

- Connect Health
  - recommend a solution for user self-service
  - recommend and implement a solution for B2B integration
  - NOT: federation with ADFS or PingFederate

- Design authorization
  - choose an authorization approach
  - recommend a hierarchical structure that includes management groups, subscriptions, and resource groups
  - recommend an access management solution including RBAC policies, access reviews, role assignments, Privileged Identity Management (PIM), Azure AD Identity Protection, Just In Time (JIT) access

- Design governance
  - recommend a strategy for tagging
  - recommend a solution for using Azure Policy
  - recommend a solution for using Azure Blueprints
  - recommend a solution that leverages Azure Resource Graph

- Design security for applications
    - recommend a solution that includes Key Vault
    - recommend a solution that includes Managed Identities
    - recommend a solution for integrating applications into Azure AD

MODULE 3: Design data storage (15-20%)

- Design a solution for databases
    - select an appropriate data platform based on requirements
    - 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 data flow to meet business requirements
    - recommend a solution for data integration, including Azure Data Factory, Azure Data bricks, Azure Data Lake, Azure Synapse Analytics
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- Select an appropriate storage account
    - choose between storage tiers
    - recommend a storage access solution
    - recommend storage management tools

MODULE 4: Design business continuity (10-15%)

- Design a solution for backup and recovery
    - recommend a recovery solution for Azure hybrid and on-premises workloads that meet recovery objectives (RTO, RLO, RPO)
    - design and Azure Site Recovery solution
    - recommend a solution for recovery in different regions
    - recommend a solution for geo-redundancy of workloads
    - recommend a solution for Azure Backup management
    - design a solution for data archiving and retention

- Design for high availability
    - recommend a solution for application and workload redundancy, including compute, database, and storage
    - recommend a solution for autoscaling
    - identify resources that require high availability
    - identify storage types for high availability

MODULE 5: Design infrastructure (25-30%)

- Design a compute solution
    - recommend a solution for compute provisioning
    - determine appropriate compute technologies, including virtual machines, App Services, Service Fabric, Azure Functions, Windows Virtual Desktop, Batch, HPC, and containers
    - recommend a solution for containers
    - recommend a solution for automating compute management

- Design a network solution
    - recommend a network architecture (hub and spoke, Virtual WAN)
    - recommend a solution for network addressing and name resolution
    - recommend a solution for network provisioning
    - recommend a solution for network security including Private Link, firewalls, gateways, network segmentation (perimeter networks/DMZs/NVAs)
    - recommend a solution for network connectivity to the Internet, on-premises networks, and other Azure virtual networks
    - recommend a solution for automating network management
    - recommend a solution for load balancing and traffic routing

- Design an application architecture
    - recommend a microservices architecture including Event Grid, Event Hubs, Service Bus, Azure Queue Storage, Logic Apps, Azure Functions, Service Fabric, AKS, Azure App Configuration, and webhooks
    - recommend an orchestration solution for deployment and maintenance of applications including ARM templates, Azure Automation, Azure Pipelines, Logic Apps, or Azure Functions

    - recommend a solution for API integration

- Design migrations
    - assess and interpret on-premises servers, data, and applications for migration
    - recommend a solution for migrating applications and VMs
    - recommend a solution for migration of databases
    - determine migration scope, including redundant, related, trivial, and outdated data
    - recommend a solution for migrating data (Storage Migration Service, Azure Data Box, Azure File Sync-based migration to hybrid file server)

Prerequisites

Participants looking to take up Microsoft Azure Architect Design certification training need to have:

- A participant should have a basic understanding of IT architecture on cloud and hybrid solutions
- A participant should also have cleared their AZ-303 certification exam
- Knowledge of Azure administration along with DevOps skills will be beneficial

Target Audience

Candidates for this exam should have subject matter expertise in designing and implementing solutions that run on Microsoft Azure, including aspects like compute, network, storage, and security. Candidates should have intermediate-level skills for administering Azure. Candidates should understand Azure development and DevOps processes.

Responsibilities for an Azure Solution Architect include advising stakeholders and translating business requirements into secure, scalable, and reliable cloud solutions.

An Azure Solution Architect partners with cloud administrators, cloud DBAs, and clients to implement solutions.

A candidate for this exam should have advanced experience and knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platform, budgeting, and governance–this role should manage how decisions in each area affect an overall solution. In addition, this role should have expert-level skills in Azure administration and have experience with Azure development and DevOps processes.

Duration

32 Hours