

Microsoft Certified: Azure Solutions Architect Expert – Skills Measured

This document contains the skills measured on the exams associated with this certification. It does not include any upcoming or recent changes that have been made to those skills. For more information about upcoming or recent changes, see the associated exam details page(s).

NOTE: The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.

NOTE: Most questions cover features that are General Availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Exam AZ-303: Microsoft Azure Architect Technologies

Implement and Monitor an Azure Infrastructure (50-55%)

Implement cloud infrastructure monitoring

- monitor security
- monitor performance
- monitor health and availability
- monitor cost
- configure advanced logging
- initiate automated responses by using Action Groups
- configure and manage advanced alerts

Implement storage accounts

- select storage account options based on a use case
- configure Azure Files and Azure Blob storage
- configure network access to the storage account
- implement Shared Access Signatures and access policies
- implement Azure AD authentication for storage
- manage access keys
- implement Azure storage replication
- implement Azure storage account failover

Implement VMs for Windows and Linux

- configure high availability

- configure storage for VMs
- select virtual machine size
- implement Azure Dedicated Hosts
- deploy and configure Virtual Machine Scale Sets
- configure Azure Disk Encryption

Automate deployment and configuration of resources

- save a deployment as an Azure Resource Manager template
- modify Azure Resource Manager template (JSON and Bicep)
- evaluate location of new resources
- configure a VHD image
- deploy from an image
- manage an image library
- create and execute an Azure Automation runbook

Implement virtual networking

- implement VNet to VNet connections
- implement VNet peering

Implement Azure Active Directory

- add custom domains
- configure Azure AD Identity Protection
- implement self-service password reset
- implement Conditional Access including MFA
- configure fraud alerts
- configure verification methods
- implement and manage guest accounts
- manage multiple directories

Implement and manage hybrid identities

- install and configure Azure AD Connect
- identity synchronization options
- configure and manage password sync and password writeback
- configure single sign-on
- configure Azure AD Connect cloud sync
- use Azure AD Connect Health

Implement Management and Security Solutions (25-30%)

Manage workloads in Azure

- migrate workloads using Azure Migrate
- implement Azure Backup for Azure workloads
- implement disaster recovery
- implement Azure Automation_Update Management

Implement load balancing and network security

- implement Azure Load Balancer
- implement an Azure Application Gateway
- implement Web Application Firewall
- implement Azure Firewall
- implement Azure Firewall Manager
- implement Azure Front Door
- implement Azure Traffic Manager
- implement Network Security Groups and Application Security Groups
- implement Bastion

Implement and manage Azure governance solutions

- create and manage hierarchical structure that contains management groups, subscriptions and resource groups
- assign RBAC roles
- create a custom RBAC role
- configure access to Azure resources by assigning roles
- configure management access to Azure
- interpret effective permissions
- set up and perform an access review
- implement and configure Azure Policy
- implement and configure Azure Blueprints

Manage security for applications

- implement and configure Key Vault
- implement and configure Managed Identities
- register and manage applications in Azure AD

Implement Solutions for Apps (10-15%)

Implement an application infrastructure

- create and configure Azure App Service
- create an App Service Web App for Containers

- create and configure an App Service plan
- configure App Service
- configure networking for App Service
- create and manage deployment slots
- implement Logic Apps
- implement Azure Functions

Implement container-based applications

- create a container image
- configure Azure Kubernetes Service
- push container images
- deploy a solution on an Azure Container Instance

Implement and Manage Data Platforms (10-15%)

Implement NoSQL databases

- configure Azure Storage tables
- select appropriate Cosmos DB APIs
- set up replicas in Cosmos DB

Implement Azure SQL databases

- configure Azure SQL database settings
- implement Azure SQL managed instances
- configure HA for an Azure SQL database
- deploy an Azure SQL database

Exam AZ-304: Microsoft Azure Architect Design

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

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, Azure AD Connect cloud sync and Azure AD Connect Health
- recommend a solution for user self-service
- recommend and implement a solution for B2B integration

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

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 Databricks, Azure Data Lake, Azure Synapse Analytics

Select an appropriate storage account

- choose between storage tiers
- recommend a storage access solution
- recommend storage management tools

Design Business Continuity (10-15%)

Design a solution for backup and recovery

- recommend a recovery solution for Azure hybrid and on-premises workloads that meets 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

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, Azure 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)