

AZ-301

Microsoft Azure Architect Design

Exam number: AZ-301

Exam title: Microsoft Azure Architect Design

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GUID:

Language(s) this exam will be available in: English

Audience (IT professionals, Developers, Information workers, etc.): IT Professionals

Technology: Microsoft Azure

Credit type (example: MCSA): Microsoft Certified: Azure Solutions Architect Expert

Exam provider (VUE, Certiport, or both): **VUE**

Exam Design

Audience Profile

Candidates for this exam are Azure Solution Architects who advise stakeholders and translates business requirements into secure, scalable, and reliable solutions.

Candidates should have advanced experience and knowledge across various aspects of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data management, budgeting, and governance. This role requires managing how decisions in each area affects an overall solution.

Candidates must be proficient in Azure administration, Azure development, and DevOps, and have expert-level skills in at least one of those domains.

Skills Measured

Note: This document shows tracked changes that are effective as of May 22, 2019.

Determine Workload Requirements (10-15%)

Gather Information and Requirements

May include but not limited to: Identify compliance requirements, identity and access management infrastructure, and service-oriented architectures (e.g., integration patterns, service design, service discoverability); identify accessibility (e.g. Web Content Accessibility Guidelines), availability (e.g. Service Level Agreement), capacity planning and scalability, deploy-ability (e.g., repositories, failback, slot-based deployment), configurability, governance, maintainability (e.g. logging, debugging, troubleshooting, recovery, training), security (e.g. authentication, authorization, attacks), and sizing (e.g. support costs, optimization) requirements; recommend changes during project execution (ongoing); evaluate products and services to align with solution; create testing scenarios

Optimize Consumption Strategy

May include but not limited to: Optimize app service, compute, identity, network, and storage costs

Design an Auditing and Monitoring Strategy

May include but not limited to: Define logical groupings (tags) for resources to be monitored; determine levels and storage locations for logs; plan for integration with monitoring tools; recommend appropriate monitoring tool(s) for a solution; specify mechanism for event routing and escalation; design auditing for compliance requirements; design auditing policies and traceability requirements

Design for Identity and Security (20-25%)

Design Identity Management

May include but not limited to: Choose an identity management approach; design an identity delegation strategy, identity repository (including directory, application, systems, etc.); design self-service identity management and user and persona provisioning; define personas and roles; recommend appropriate access control strategy (e.g., attribute-based, discretionary access, history-based, identity-based, mandatory, organization-based, role-based, rule-based, responsibility-based)

Design Authentication

May include but not limited to: Choose an authentication approach; design a single-sign on approach; design for IPSec, logon, multi-factor, network access, and remote authentication

Design Authorization

May include but not limited to: Choose an authorization approach; define access permissions and privileges; design secure delegated access (e.g., OAuth, OpenID, etc.); recommend when and how to use API Keys.

Design for Risk Prevention for Identity

May include but not limited to: Design a risk assessment strategy (e.g., access reviews, RBAC policies, physical access); evaluate agreements involving services or products from vendors and contractors; update solution design to address and mitigate changes to existing security policies, standards, guidelines and procedures

Design a Monitoring Strategy for Identity and Security

May include but not limited to: Design for alert notifications; design an alert and metrics strategy; recommend authentication monitors

Design a Data Platform Solution (15-20%)

Design a Data Management Strategy

May include but not limited to: Choose between managed and unmanaged data store; choose between relational and non-relational databases; design data auditing and caching strategies; identify data attributes (e.g., relevancy, structure, frequency, size, durability, etc.); recommend Database Transaction Unit (DTU) sizing; design a data retention policy; design for data availability, consistency, and durability; design a data warehouse strategy

Design a Data Protection Strategy

May include but not limited to: Recommend geographic data storage; design an encryption strategy for data at rest, for data in transmission, and for data in use; design a scalability strategy for data; design secure access to data; design a data loss prevention (DLP) policy

Design and Document Data Flows

May include but not limited to: Identify data flow requirements; create a data flow diagram; design a data flow to meet business requirements; design a data import and export strategy

Design a Monitoring Strategy for the Data Platform

May include but not limited to: Design for alert notifications; design an alert and metrics strategy

Design a Business Continuity Strategy (15-20%)

Design a Site Recovery Strategy

May include but not limited to: Design a recovery solution; design a site recovery replication policy; design for site recovery capacity and for storage replication; design site failover and failback (planned/unplanned); design the site recovery network; recommend recovery objectives (e.g., Azure, on-prem, hybrid, Recovery Time Objective (RTO), Recovery Level Objective (RLO), Recovery Point Objective (RPO)); identify resources that require site recovery; identify supported and unsupported workloads; recommend a geographical distribution strategy

Design for High Availability

May include but not limited to: Design for application redundancy, autoscaling, data center and fault domain redundancy, and network redundancy; identify resources that require high availability; identify storage types for high availability

~~Design a disaster recovery strategy for individual workloads~~

~~May include but not limited to: Design failover/failback scenario(s); document recovery requirements; identify resources that require backup; recommend a geographic availability strategy~~

Design a Data Archiving Strategy

May include but not limited to: Recommend storage types and methodology for data archiving; identify requirements for data archiving and business compliance requirements for data archiving; identify SLA(s) for data archiving

Design for Deployment, Migration, and Integration (10-15%)

Design Deployments

May include but not limited to: Design a compute, container, data platform, messaging solution, storage, and web app and service deployment strategy

Design Migrations

May include but not limited to: Recommend a migration strategy; design data import/export strategies during migration; determine the appropriate application migration, data transfer, and network connectivity method; determine migration scope, including redundant, related, trivial, and outdated data; determine application and data compatibility

Design an API Integration Strategy

May include but not limited to: Design an API gateway strategy; determine policies for internal and external consumption of APIs; recommend a hosting structure for API management

Design an Infrastructure Strategy (15-20%)

Design a Storage Strategy

May include but not limited to: Design a storage provisioning strategy; design storage access strategy; identify storage requirements; recommend a storage solution and storage management tools

Design a Compute Strategy

May include but not limited to: Design compute provisioning and secure compute strategies; determine appropriate compute technologies (e.g., virtual machines, functions, service fabric, container instances, etc.); design an Azure HPC environment; identify compute requirements; recommend management tools for compute

Design a Networking Strategy

May include but not limited to: Design network provisioning and network security strategies; determine appropriate network connectivity technologies; identify networking requirements; recommend network management tools

Design a Monitoring Strategy for Infrastructure

May include but not limited to: Design for alert notifications; design an alert and metrics strategy