

Exam AZ-301: Microsoft Azure Architect Design – Skills Measured

The content of this exam was updated on December 4, 2019. Please continue scrolling to the red line section below to view the changes.

Determine workload requirements (10-15%)

Gather information and requirements

- identify compliance requirements
- identify identity and access management infrastructure
- identify service-oriented architectures
- identify accessibility requirements
- identify availability requirements
- identify capacity planning and scalability requirements
- identify deploy-ability requirements
- identify configurability
- identify governance requirements
- identify maintainability requirements
- identify security requirements
- identify sizing requirements
- recommend changes during project execution
- evaluate products and services to align with solution
- create testing scenarios

Optimize consumption strategy

- optimize app service costs
- optimize compute costs
- optimize identity costs
- optimize network costs
- optimize storage costs

Design an auditing and monitoring strategy

- 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

- choose an identity management approach
- design an identity delegation strategy
- design an identity repository
- design self-service identity management
- design user and persona provisioning
- define personas
- define roles
- recommend appropriate access control strategy

Design authentication

- choose an authentication approach
- design a single-sign on approach
- design for IPSec authentication
- design for logon authentication
- design for multi-factor authentication
- design for network access authentication
- design for remote authentication

Design authorization

- choose an authorization approach
- define access permissions and privileges
- design secure delegated access
- recommend when and how to use API Keys

Design for risk prevention for identity

- design a risk assessment strategy
- 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

- 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

- choose between managed and unmanaged data store
- choose between relational and non-relational databases
- design a data auditing strategy
- design a data caching strategy
- identify data attributes
- recommend database service tier sizing
- design a data retention policy
- design for data availability
- design for data consistency
- design for data durability
- design a data warehouse strategy

Design a data protection strategy

- recommend geographic data storage
- design an encryption strategy for data at rest
- design an encryption strategy for data in transmission
- design an encryption strategy 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

- identify data flow requirements
- create a data flow diagram
- design a data flow to meet business requirements
- design data flow solutions
- design a data import and export strategy

Design a monitoring strategy for the data platform

- design for alert notifications
- design an alert and metrics strategy
- monitor Azure Data Factory pipelines

Design a business continuity strategy (10-15%)

Design a site recovery strategy

- design a recovery solution
- design a site recovery replication policy
- design for site recovery capacity
- design for storage replication
- design site failover and failback
- design the site recovery network
- recommend recovery objectives (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

- design for application redundancy
- design for autoscaling
- design for data center and fault domain redundancy
- design for network redundancy
- identify resources that require high availability
- identify storage types for high availability
- design a disaster recovery strategy for individual workloads
- design failover/failback scenarios
- document recovery requirements
- identify resources that require backup
- recommend a geographic availability strategy

Design a data archiving strategy

- recommend storage types and methodology for data archiving
- identify business compliance requirements for data archiving
- identify requirements for data archiving
- identify SLA(s) for data archiving

Design for deployment, migration, and integration (10-15%)

Design deployments

- design a compute deployment strategy
- design a container deployment strategy
- design a data platform deployment strategy
- design a messaging solution deployment strategy
- design a storage deployment strategy
- design a web app and service deployment strategy

Design migrations

- recommend a migration strategy
- design data import/export strategies during migration
- determine the appropriate application migration method
- determine the appropriate data transfer method
- determine the appropriate network connectivity method
- determine migration scope, including redundant, related, trivial, and outdated data
- determine application and data compatibility

Design an API integration strategy

- 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

- design a storage provisioning strategy
- design storage access strategy
- identify storage requirements
- recommend a storage solution
- recommend storage management tools

Design a compute strategy

- design a compute provisioning strategy
- design a secure compute strategy
- determine appropriate compute technologies
- design an Azure HPC environment
- identify compute requirements
- recommend management tools for compute

Design a networking strategy

- design a network provisioning strategy
- design a network security strategy
- determine appropriate network connectivity technologies
- identify networking requirements
- recommend network management tools
- recommend network security solutions

Design a monitoring strategy for infrastructure

- design for alert notifications
- design an alert and metrics strategy

See below changes as of December 4, 2019

Determine workload requirements (10-15%)

Gather information ~~on Existing Enterprise Architecture and requirements~~

- identify compliance requirements
- ~~identify constraints and dependencies~~
- identify identity and access management infrastructure
- identify service-oriented architectures
- ~~gather Non-Functional Requirements~~
- identify accessibility requirements
- identify availability requirements
- identify capacity planning and scalability requirements
- identify deploy-ability requirements
- identify ~~extensibility requirements~~ configurability
- identify governance requirements
- identify maintainability requirements
- ~~identify minimum performance thresholds~~
- identify security requirements
- identify sizing requirements
- ~~determine Feasibility and Refine Requirements~~
- recommend changes during project execution
- ~~create proof of concept (PoC)~~
- ~~determine whether a pilot is needed~~
- evaluate products and services to align with solution
- create testing scenarios
- ~~refine user stories~~

Optimize consumption strategy

- optimize app service costs
- optimize compute costs
- optimize identity costs
- optimize network costs
- optimize storage costs

Design an auditing and monitoring strategy

- 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

- choose an identity management approach
- design an identity delegation strategy
- design an identity repository
- design self-service identity management
- design user and persona provisioning
- define personas
- define roles
- recommend appropriate access control strategy

Design authentication

- choose an authentication approach
- design a single-sign on approach
- design for IPSec authentication
- design for logon authentication
- design for multi-factor authentication
- design for network access authentication
- design for remote authentication

Design authorization

- choose an authorization approach
- define access permissions and privileges
- design secure delegated access
- recommend when and how to use API Keys

Design for risk prevention **for identity**

- design a risk assessment strategy
- 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

- 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

- choose between managed and unmanaged data store
- choose between relational and non-relational databases
- design a data auditing strategy
- design a data caching strategy
- identify data attributes
- recommend [database service tier sizing](#) ~~Database Transaction Unit (DTU) sizing~~
- design a data retention policy
- design for data availability
- design for data consistency
- design **for** data durability
- design a data warehouse **strategy**

Design a data protection strategy

- recommend geographic data storage
- design an encryption strategy for data at rest
- design an encryption strategy for data in transmission
- design an encryption strategy 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

- identify data flow requirements
- create a data flow diagram
- design a data flow to meet business requirements
- [design data flow solutions](#)
- [design Azure Data Factory](#)
- design a data import and export strategy

Design a monitoring strategy for the data platform

- design for alert notifications
- design an alert and metrics strategy
- [monitor Azure Data Factory pipelines](#)
- [monitor Azure Data Factory pipelines](#)

Design a business continuity strategy (10-15%)

Design a site recovery strategy

- design a recovery solution
- design a site recovery replication policy
- design for site recovery capacity
- design for storage replication
- design site failover and failback
- design the site recovery network
- recommend recovery objectives (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

- design for application redundancy
- design for autoscaling
- design for data center and fault domain redundancy
- design for network redundancy
- identify resources that require high availability
- identify storage types for high availability
- design a disaster recovery strategy for individual workloads
- design failover/failback scenarios
- document recovery requirements
- identify resources that require backup
- ~~plan for geo-replication to an alternate region~~
- [recommend a geographic availability strategy](#)

Design a data archiving strategy

- recommend storage types and methodology for data archiving
- identify business compliance requirements for data archiving
- identify requirements for data archiving

- identify SLA(s) for data archiving

Design for deployment, migration, and integration (10-15%)

Design deployments

- design a compute deployment strategy
- design a container deployment strategy
- design a data platform deployment strategy
- design a messaging solution deployment strategy
- design a storage deployment strategy
- design a web app and service deployment strategy

Design migrations

- recommend a migration strategy
- design data import/export strategies during migration
- determine the appropriate application migration method
- determine the appropriate data transfer method
- determine the appropriate network connectivity method
- determine migration scope, including redundant, related, trivial, and outdated data
- determine application and data compatibility

Design an API integration strategy

- 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

- design a storage provisioning strategy
- design storage access strategy
- identify storage requirements
- recommend a storage solution
- recommend storage management tools

Design a compute strategy

- design a compute provisioning strategy
- design a secure compute strategy
- determine appropriate compute technologies

- design an Azure HPC environment
- identify compute requirements
- recommend management tools for compute

Design a networking strategy

- design a network provisioning strategy
- design a network security strategy
- determine appropriate network connectivity technologies
- identify networking requirements
- recommend network management tools
- [recommend network security solutions](#)

Design a monitoring strategy for infrastructure

- design for alert notifications
- design an alert and metrics strategy