Exam AZ-300: Microsoft Azure Architect Technologies

Audience Profile

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.

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 across various aspects of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data management, budgeting, and governance–this role should manage how decisions in each area affect an overall solution. In addition, this role should be proficient in at least one of these Azure knowledge domains: administration, development, or DevOps.

Deploy and configure infrastructure (40-45%)

Analyze resource utilization and consumption

- configure diagnostic settings on resources
- create baseline for resources
- create and test alerts
- analyze alerts across subscription
- analyze metrics across subscription
- create action groups
- monitor for unused resources
- monitor spend
- report on spend
- utilize Log Search query functions
- view Alerts in Azure Monitor logs
- visualize diagnostics data using Azure Monitor Workbooks
- Create and configure storage accounts
- configure network access to the storage account
- create and configure storage account
- generate Shared access signature
- implement Azure AD authentication for storage
- install and use Azure Storage Explorer

- manage access keys
- monitor Activity log by using Azure Monitor logs
- implement Azure storage replication
- implement Azure storage account failover

Create and configure a VM for Windows and Linux

- configure High Availability
- configure Monitoring
- configure Networking
- configure Storage
- configure Virtual Machine Size
- implement dedicated hosts
- deploy and configure scale sets

Automate deployment of VMs

- modify Azure Resource Manager template
- configure Location of new VMs
- configure VHD template
- deploy from template
- save a deployment as an Azure Resource Manager template
- deploy Windows and Linux VMs

Create connectivity between virtual networks

- create and configure Vnet peering
- create and configure Vnet to Vnet connections
- verify virtual network connectivity
- create virtual network gateway

Implement and manage virtual networking

- configure private IP addressing
- configure public IP addresses
- create and configure network routes
- create and configure network interface
- create and configure subnets
- create and configure virtual network
- create and configure Network Security Groups and Application Security Groups

Manage Azure Active Directory

- add custom domains
- configure Azure AD Identity Protection
- configure Azure AD Join
- configure self-service password reset

- implement conditional access policies
- manage multiple directories
- perform an access review

Implement and manage hybrid identities

- install and configure Azure AD Connect
- configure federation
- configure single sign-on
- manage and troubleshoot Azure AD Connect
- troubleshoot password sync and writeback

Implement solutions that use virtual machines (VM)

- provision VMs
- create Azure Resource Manager templates
- configure Azure Disk Encryption for VMs
- implement Azure Backup for VMs

Implement workloads and security (25-30%)

Migrate servers to Azure

- migrate servers using Azure Migrate

Configure serverless computing

- create and manage objects
- manage a Logic App Resource
- manage Azure Function app settings
- manage Event Grid
- manage Service Bus

Implement application load balancing

- configure application gateway
- configure Azure Front Door service
- configure Azure Traffic Manager

Integrate on premises network with Azure virtual network

- create and configure Azure VPN Gateway
- create and configure site to site VPN
- configure ExpressRoute

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- configure Virtual WAN
- verify on premises connectivity
- troubleshoot on premises connectivity with Azure

Implement multi factor authentication

- configure user accounts for MFA
- configure fraud alerts
- configure bypass options
- configure Trusted IPs
- configure verification methods

Manage role-based access control

- create a custom role
- configure access to Azure resources by assigning roles
- configure management access to Azure
- troubleshoot RBAC
- implement Azure Policies
- assign RBAC Roles

Create and deploy apps (5-10%)

Create web apps by using PaaS

- create an Azure app service Web App
- create documentation for the API
- create an App Service Web App for Containers
- create an App Service background task by using WebJobs
- enable diagnostics logging

Design and develop apps that run in containers

- configure diagnostic settings on resources
- create a container image by using a Dockerfile
- create an Azure Kubernetes Service
- publish an image to the Azure Container Registry
- implement an application that runs on an Azure Container Instance
- manage container settings by using code

Implement authentication and secure data (5-10%)

Implement authentication

- implement authentication by using certificates, forms-based authentication, tokens, or

- Windows-integrated authentication
- implement multi-factor authentication by using Azure AD
- implement OAuth2 authentication
- implement Managed Identities for Azure resources Service Principal authentication

Implement secure data solutions

- encrypt and decrypt data at rest and in transit
- encrypt data with Always Encrypted
- implement Azure Confidential Compute
- implement SSL/TLS communications
- create, read, update, and delete keys, secrets, and certificates by using the KeyVault API

Develop for the cloud and for Azure storage (15-20%)

Configure a message-based integration architecture

- configure an app or service to send emails
- configure Event Grid
- configure the Azure Relay service
- create and configure a Notification Hub
- create and configure an Event Hub
- create and configure a Service Bus

Develop for autoscaling

- implement autoscaling rules and patterns (schedule, operational/system metrics)
- implement code that addresses singleton application instances
- implement code that addresses transient state

Develop solutions that use Cosmos DB storage

- create, read, update, and delete data by using appropriate APIs
- implement partitioning schemes
- set the appropriate consistency level for operations

Develop solutions that use a relational database

- provision and configure relational databases
- configure elastic pools for Azure SQL Database
- implement Azure SQL Database managed instances
- create, read, update, and delete data tables by using code