Microsoft Azure Administration and Architect
Duration : 30 hours
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Trainer: VP Kumar - MCT

➢ Introduction to Microsoft Certification Programs

Exam Preparation and Study Techniques
Preparation for the Azure 104 and 305
Resources and Study Aids
Passing the Exam, the First Time

➢ Cloud Computing Concepts

Cloud History
Cloud Deployment Models
Cloud Delivery Models
Cloud Computing Benefits and Limitations

➢ Deploy and Configure Infrastructure

Analyze resource utilization and consumption

- Configure diagnostic settings on resources; create baseline for resources; create and rest 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 Log Analytics

Create and configure storage accounts

- Configure network access to the storage account; create and configure storage account; generate shared access signature; install and use Azure Storage Explorer; manage access keys; monitor activity log by using Log Analytics; implement Azure storage replication

Create and configure a Virtual Machine (VM) for Windows and Linux

- Configure high availability; configure monitoring, networking, storage, and virtual machine size; deploy and configure scale sets

Automate deployment of Virtual Machines (VMs)

- Modify Azure Resource Manager (ARM) template; configure location of new VMs; configure VHD template; deploy from template; save a deployment as an ARM template; deploy Windows and Linux VMs

Implement solutions that use virtual machines (VM)

- Provision VMs; create ARM templates; configure Azure Disk Encryption for VMs

Create connectivity between virtual networks

- Create and configure VNET peering; create and configure VNET to VNET; verifyvirtual network connectivity; create virtual network gateway

Implement and manage virtual networking

- Configure private and public IP addresses, network routes, network interface, subnets, and virtual network

Manage Azure Active Directory (AD)

- Add custom domains; configure Azure AD Identity Protection, Azure AD Join, and Enterprise State Roaming; 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 and single sign-on; manage Azure AD Connect; manage password sync and writeback

➢ Implement Workloads and Security

Migrate servers to Azure

- Migrate by using Azure Site Recovery (ASR); migrate using P2V; configure storage; create a backup vault; prepare source and target environments; backup and restore data; deploy Azure Site Recovery (ASR) agent; prepare virtual network

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 and load balancing rules; implement front end IP configurations; manage application load balancing

Integrate on premises network with Azure virtual network

- Create and configure Azure VPN Gateway; create and configure site to site VPN; configure Express Route; verify on premises connectivity; manage on-premise connectivity with Azure

Manage role-based access control (RBAC)

- Create a custom role; configure access to Azure resources by assigning roles; configure management access to Azure; troubleshoot RBAC; implement RBAC policies; assign RBAC roles

Implement Multi-Factor Authentication (MFA)

- Enable MFA for an Azure tenant; configure user accounts for MFA; configure fraud alerts; configure bypass options; configure trusted IPs; configure verification methods; manage role-based access control (RBAC); implement RBAC policies; assign RBAC Roles; create a custom role; configure access to Azure resources by assigning roles; configure management access to Azure

➢ Create and Deploy Apps

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 Docker file; create an Azure Container Service (ACS/AKS); 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

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 Service Identity (MSI) 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 and 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

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; create, read, update, and delete data tables by using code

Configure a message-based integration architecture

- Configure an app or service to send emails, Event Grid, and the Azure Relay Service; create and configure

- Notification Hub, Event Hub, and Service Bus; configure queries across multiple products

Develop for autoscaling

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

- **Real time use cases**