Exam 70-533: Implementing Microsoft Azure Infrastructure Solutions

Objective Domain

Note: This document shows tracked changes that are effective as of January 18, 2018.

Design and Implement Azure App Service Apps (10-15%)

Deploy Web Apps
Define deployment slots; roll back deployments; implement pre- and post-deployment actions; create, configure, and deploy packages; create App Service plans; migrate Web Apps between App Service plans; create a Web App within an App Service plan; determine when to use App Service Environment (ASE); select and use appropriate deployment methods including Git, FTP, and cloud ~~services~~sync

Configure Web Apps
Define and use app settings, connection strings, handlers, and virtual directories; configure certificates and custom domains; configure SSL bindings and runtime configurations; manage Web Apps by using Azure PowerShell and Azure-CLI; manage App Service backups; configure authentication and authorization for Web Apps; configure Web App notifications

Configure diagnostics, monitoring, and analytics
Retrieve diagnostics data; view streaming logs; configure endpoint monitoring; configure alerts; configure diagnostics; use remote debugging; monitor Web App resources

Configure Web Apps for scale and resilience
Configure auto-scale using built-in and custom schedules; configure by metric; change the size of an instance; configure Traffic Manager

Create and Manage Compute Resources (20-25%)

Deploy workloads on Azure Resource Manager (ARM) virtual machines (VMs)

Identify workloads that can and cannot be deployed; run workloads including Microsoft, run workloads including Linux; create VMs; connect to a Windows/Linux VM; deploy workloads; deploy Bring Your Own License (BYOL) images

Perform configuration management
Automate configuration management by using PowerShell Desired State Configuration (DSC) and VM Agent (custom script extensions); enable remote debugging

Design and implement VM storage
Configure disk caching; plan storage capacity; configure operating system disk redundancy; configure shared storage using Azure File service; configure Azure File Share snapshots; configure geo-replication; encrypt disks; implement ARM VMs with Standard and Premium Storage

Monitor ARM VMs
Configure ARM VM monitoring; configure alerts; configure diagnostic and monitoring storage location

Manage ARM VM availability
Configure multiple ARM VMs in an availability set for redundancy; configure each application tier into separate availability sets; combine the Load Balancer with availability sets; configure fault domains and update domains

Scale ARM VMs
Scale up and scale down VM sizes; deploy ARM VM Scale Sets (VMSS); configure ARM VMSS auto-scale

Manage Containers with Azure Container Services (ACS)
Deploy a Kubernetes cluster in ACS; create and manage container images; scale applications using Docker, DC/OS, Swarm, or Kubernetes; configure for open-source tooling; migrate container workloads to and from Azure; monitor Kubernetes by using Microsoft Operations Management Suite (OMS); implement Azure Container Registry

Design and Implement a Storage Strategy (10-15%)
Implement Azure Storage blobs and Azure Files

Identify appropriate blob type for specific storage requirements; read data; change data; set metadata on a container; store data using block and page blobs; stream data using blobs; access blobs securely; implement async blob copy; configure Content Delivery Network (CDN); design blob hierarchies; configure custom domains; scale blob storage; manage SMB file storage; implement Azure StorSimple

Manage access

Create and manage shared access signatures; use stored access policies; regenerate keys; encrypt keys by using Azure Key Vault integration

Configure diagnostics, monitoring, and analytics

Set retention policies and logging levels; analyze logs

Implement storage encryption

Encrypt data as written to Azure Storage by using Azure Storage Service Encryption (SSE); implement encrypted and role-based security for data managed by Azure Data Lake Store

Implement Virtual Networks (15-20%)

Configure virtual networks

Deploy a VM into a virtual network; configure external and internal load balancing; implement Application Gateway; design subnets; configure static, public, and private IP addresses; set up Network Security Groups (NSGs), DNS at the virtual network level, HTTP and TCP health probes, public IPs, User Defined Routes (UDRs), firewall rules, and direct server return; connect VNets by virtual network peering; configure VMs using a configuration management tool such as Puppet or Chef

Design and implement multi-site or hybrid network connectivity

Choose the appropriate solution between ExpressRoute, site-to-site, and point-to-site; choose the appropriate gateway; identify supported devices and software VPN solutions; identify networking prerequisites; configure virtual networks and multi-site virtual networks; implement virtual network peering and service chaining; implement hybrid connections to access on-premises

data sources, leverage S2S VPNs to connect to on-premises infrastructure

Configure ARM VM networking
Configure static IP addresses, Network Security Groups (NSGs), DNS, User Defined Routes (UDRs), external and internal load balancing with HTTP and TCP health probes, public IPs, firewall rules, and direct server return; design and implement Application Gateway

Design and implement a connection strategy
Implement Hybrid Connections to access data sources on-premises; leverage S2S VPN to connect to an on-premises infrastructure

Design and Deploy ARM Templates (10-15%)

Implement ARM templates
Author ARM templates; create ARM templates to deploy multiple ARM Resource Providers resources of different types with count loops and Marketplace items; deploy templates with PowerShell, Azure CLI, Azure Portal and REST API

Control access
Leverage service principals with ARM authentication; use Azure Active Directory Authentication with ARM; set management policies; lock resources

Design role-based access control (RBAC)
Secure resource scopes such as the ability to create VMs and Azure Web Apps; implement Azure RBAC standard roles; design Azure RBAC custom roles

Manage Azure Security and Recovery Services (25-30%)

Manage data protection and security compliance
Create and import encryption keys with Key Vault; automate tasks for SSL/TLS certificates; prevent and respond to security threats with Azure Security Center; Configure single sign-on with SaaS applications using federation and password based; add users and groups to applications; revoke access to SaaS applications; configure access; configure federation with public consumer identity providers such as Facebook and Google

Implement recovery services

Create a backup vault; deploy a backup agent; backup and restore data, using of snapshots and Geo-replication for recovery; Implement DR as service~~, ;~~ Deploy <u>Azure Site Recovery (</u>ASR<u>)</u> agent, ~~ASR Configuration & best practices~~<u>configure ASR; configure ASR one-click failover</u>

Manage Azure Operations

Enhance cloud management with automation
Implement PowerShell runbooks; integrate Azure Automation with Web Apps; create and manage PowerShell Desired State Configurations (DSC); import DSC resources; generate DSC node configurations; monitor and automatically update machine configurations with Azure Automation DSC

Collect and analyze data generated by resources in cloud and on-premises environments.
Collect and search across data sources from multiple systems; build custom visualizations; visualize Azure resources across multiple subscriptions; transform Azure activity data and managed resource data into an insight with flexible search queries; monitor system updates and malware status; track server configuration changes by using Azure Log Analytics

Manage Azure Identities

Monitor on-premises identity infrastructure and synchronization services with Azure AD Connect Health
Monitor AD FS proxy and web application proxy servers; setup email notifications for critical alerts; generate utilization reports; monitor Sync Engine; monitor domain controllers; monitor replication

Manage domains with Azure Active Directory Domain Services
Join Azure virtual machines to a domain, securely administer domain-joined virtual machines by using Group Policy; migrate on-premises apps to Azure; handle traditional directory-aware apps along with SaaS apps

Integrate with Azure Active Directory (Azure AD)
Implement Azure AD Connect and single sign-on with on-premises Windows Server ~~2012 R2~~<u>2016</u>; add custom domains; monitor Azure AD, MFA, config<u>ure</u> Windows 10 with Azure AD ~~domain ~~join; Implement Azure AD integration in web and desktop applications; leverage Microsoft Graph API

Implement Azure AD B2C and Azure AD B2B

Create an Azure AD B2C Directory; register an application; implement social identity provider authentication; enable multi-factor authentication; set up self-service password reset; implement B2B collaboration; configure partner users; integrate with applications