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| **Implement and Monitor an Azure Infrastructure (50-55%)** | | | | |
| **Week 1**  **23/08** | **Implement cloud infrastructure monitoring** | monitor security |  | |
|  |  | monitor performance | configure diagnostic settings on resources | |
|  |  |  | create a performance baseline for resources | |
|  |  |  | monitor for unused resources | |
|  |  |  | monitor performance capacity | |
|  |  |  | visualize diagnostics data using Azure Monitor | |
|  |  | monitor health and availability | monitor networking | |
|  |  |  | monitor service health | |
|  |  | monitor cost | monitor spend | |
|  |  |  | report on spend | |
|  |  |  |  | |
|  |  | * + Design for cost optimization | recommend a solution for cost management and cost reporting | |
|  |  |  | recommend solutions to minimize costs | |
|  |  |  |  | |
|  |  | configure advanced logging | implement and configure Azure Monitor insights, including App Insights, Networks, Containers | |
|  |  |  | configure a Log Analytics workspace | |
|  |  | configure logging for workloads | initiate automated responses by using Action Groups | |
|  |  | configure and manage advanced alerts | collect alerts and metrics across multiple subscriptions | |
|  |  |  | view Alerts in Azure Monitor logs | |
|  |  | * + Design a solution for logging and monitoring | determine levels and storage locations for logs | |
|  |  |  | plan for integration with monitoring tools including Azure Monitor and Azure Sentinel | |
|  |  |  | recommend appropriate monitoring tool(s) for a solution | |
|  |  |  | choose a mechanism for event routing and escalation | |
|  |  |  | recommend a logging solution for compliance requirements | |
|  |  |  |  | |
| **Week 2**  **30/08** | **Implement storage accounts** | * + select storage account options based on a use case |  | |
|  |  | * + configure Azure Files and blob storage |  | |
|  |  | * + configure network access to the storage account |  | |
|  |  | * + implement Shared Access Signatures and access policies |  | |
|  |  | * + implement Azure AD authentication for storage |  | |
|  |  | * + manage access keys |  | |
|  |  | * + implement Azure storage replication |  | |
|  |  | * + implement Azure storage account failover |  | |
|  |  |  |  | |
|  |  | * + Select an appropriate Storage account | choose between storage tiers | |
|  |  |  | recommend a storage access solution | |
|  |  |  | recommend storage management tools | |
|  |  |  |  | |
| **Week 3**  **06/09** | **Implement VMs for Windows and Linux** | * + configure High Availability |  | |
|  |  | * + configure storage for VMs |  | |
|  |  | * + select virtual machine size |  | |
|  |  | * + implement Azure Dedicated Hosts |  | |
|  |  | * + deploy and configure scale sets |  | |
|  |  | * + configure Azure Disk Encryption |  | |
|  |  |  |  | |
|  |  | * + Design a compute solution | recommend a solution for compute provisioning | |
|  |  |  | determine appropriate compute technologies, including virtual machines, App Services,  Service Fabric, Azure Functions, Windows Virtual Desktop, and containers | |
|  |  |  | recommend a solution for containers   * AKS versus ACI and the configuration of each one | |
|  |  |  | recommend a solution for automating compute management | |
|  |  |  |  | |
|  | **Automate deployment and configuration of resources** | * + save a deployment as an Azure Resource Manager template |  | |
|  |  | * + modify Azure Resource Manager template |  | |
|  |  | * + evaluate location of new resources |  | |
|  |  | * + configure a virtual disk template |  | |
|  |  | * + deploy from a template |  | |
|  |  | * + manage a template library |  | |
|  |  | * + create and execute an automation runbook |  | |
|  |  |  |  | |
|  | **Implement virtual networking** | * + implement VNet to VNet connections |  | |
|  |  | * + implement VNet peering |  | |
|  |  |  |  | |
|  |  | * + Design a network solution | recommend a solution for network addressing and name resolution | |
|  |  |  | recommend a solution for network provisioning | |
|  |  |  | recommend a solution for network security   * private endpoints * Firewalls * Gateways | |
|  |  |  | recommend a solution for network connectivity to the Internet, on-premises networks, and other Azure virtual networks | |
|  |  |  | recommend a solution for automating network management | |
|  |  |  | recommend a solution for load balancing and traffic routing | |
|  |  |  |  | |
| **Week 4**  **13/09** | **Implement Azure Active Directory** | * + add custom domains |  | |
|  |  | * + configure Azure AD Identity Protection |  | |
|  |  | * + implement self-service password reset |  | |
|  |  | * + implement Conditional Access including MFA |  | |
|  |  | * + configure user accounts for MFA |  | |
|  |  | * + configure fraud alerts |  | |
|  |  | * + configure bypass options |  | |
|  |  | * + configure Trusted IPs |  | |
|  |  | * + configure verification methods |  | |
|  |  | * + implement and manage guest accounts |  | |
|  |  | * + manage multiple directories |  | |
|  |  |  |  | |
|  | **Implement and manage hybrid identities** |  install and configure Azure AD Connect |  | |
|  |  |  identity synchronization options |  | |
|  |  |  configure and manage password sync and password writeback |  | |
|  |  |  configure single sign-on |  | |
|  |  |  use Azure AD Connect Health |  | |

**Implement Management and Security Solutions (25-30%)**

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| **Week 5**  **20/09** | **Manage workloads in Azure** | migrate workloads using Azure Migrate | assess infrastructure |
|  |  |  | select a migration method |
|  |  |  | prepare the on-premises for migration |
|  |  |  | recommend target infrastructure |
|  |  |  implement Azure Backup for VMs |  |
|  |  |  implement disaster recovery |  |
|  |  |  implement Azure Update Management |  |
|  |  |  |  |
|  |  | * + Design migrations | assess and interpret on-premises servers, data, and applications for migration |
|  |  |  | recommend a solution for migrating applications and VMs |
|  |  |  | recommend a solution for migration of databases   * determine migration scope, including redundant, related, trivial, and outdated data |
|  |  | * + Design a solution for backup and recovery | recommend a recovery solution for Azure hybrid and on-premises workloads that meets recovery objectives (RTO, RLO, RPO) |
|  |  |  | design and Azure Site Recovery solution   * recommend a site recovery replication policy * recommend a solution for site recovery capacity * recommend a solution for site failover and failback (planned/unplanned) * recommend a solution for the site recovery network |
|  |  |  | recommend a solution for recovery in different regions |
|  |  |  | recommend a solution for Azure Backup management |
|  |  |  | design a solution for data archiving and retention   * recommend storage types and methodology for data archiving o identify business compliance requirements for data archiving * identify requirements for data archiving * identify SLA(s) for data archiving * recommend a data retention policy |
|  |  |  |  |
|  |  | * + Design for high availability | recommend a solution for application and workload redundancy, including compute, database, and storage |
|  |  |  | recommend a solution for autoscaling |
|  |  |  | identify resources that require high availability |
|  |  |  | identify storage types for high availability |
|  |  |  | recommend a solution for geo-redundancy of workloads |
|  |  |  |  |
| **Week 6**  **27/09** | **Implement load balancing and network security** |  implement Azure Load Balancer |  |
|  |  |  implement an application gateway |  |
|  |  |  implement a Web Application Firewall |  |
|  |  |  implement Azure Firewall |  |
|  |  |  implement the Azure Front Door Service |  |
|  |  |  implement Azure Traffic Manager |  |
|  |  |  implement Network Security Groups and Application Security Groups |  |
|  |  |  implement Bastion |  |
|  |  |  |  |
|  | **Implement and manage Azure governance solutions** | * + create and manage hierarchical structure that contains management groups, subscriptions and resource groups |  |
|  |  | * + assign RBAC roles |  |
|  |  | * + create a custom RBAC role |  |
|  |  | * + configure access to Azure resources by assigning roles |  |
|  |  | * + configure management access to Azure |  |
|  |  | * + interpret effective permissions |  |
|  |  | * + set up and perform an access review |  |
|  |  | * + implement and configure an Azure Policy |  |
|  |  | * + implement and configure an Azure Blueprint |  |
|  |  |  |  |
| **Week 7**  **04/10** | **Manage security for applications** |  implement and configure KeyVault |  |
|  |  |  implement and configure Azure AD Managed Identities |  |
|  |  |  register and manage applications in Azure AD |  |
|  |  |  |  |
|  |  | * + Design Authentication | recommend a solution for single-sign on |
|  |  |  | recommend a solution for authentication |
|  |  |  | recommend a solution for Conditional Access, including multi-factor authentication |
|  |  |  | recommend a solution for network access authentication |
|  |  |  | recommend a solution for a hybrid identity including Azure AD Connect and Azure AD  Connect Health |
|  |  |  | recommend a solution for user self-service |
|  |  |  | recommend and implement a solution for B2B integration |
|  |  |  |  |
|  |  | * + Design authorization | choose an authorization approach |
|  |  |  | recommend a hierarchical structure that includes management groups, subscriptions and  resource groups |
|  |  |  | recommend an access management solution including RBAC policies, access reviews,  role assignments, physical access, Privileged Identity Management (PIM), Azure AD Identity Protection, Just In Time (JIT) access |
|  |  |  |  |
|  |  | * + Design governance | recommend a strategy for tagging |
|  |  |  | recommend a solution for using Azure Policy |
|  |  |  | recommend a solution for using Azure Blueprint |
|  |  |  |  |
|  |  | * + Design security for applications | recommend a solution that includes KeyVault   * What can be stored in KeyVault * KeyVault operations * KeyVault regions |
|  |  |  | recommend a solution that includes Azure AD Managed Identities |
|  |  |  | recommend a solution for integrating applications into Azure AD |

**Implement Solutions for Apps (10-15%)**

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| **Week 8**  **11/10** | **Implement an application infrastructure** |  create and configure Azure App Service |  |
|  |  |  create an App Service Web App for Containers |  |
|  |  |  create and configure an App Service plan |  |
|  |  |  configure an App Service |  |
|  |  |  |  |
|  |  | * + Design an application architecture | recommend a microservices architecture including Event Grid, Event Hubs, Service Bus, Storage Queues, Logic Apps, Azure Functions, and webhooks |
|  |  |  | recommend an orchestration solution for deployment of applications including ARM templates, Logic Apps, or Azure Functions   * select an automation method * choose which resources or lifecycle steps will be automated * design integration with other sources such as an ITSM solution * recommend a solution for monitoring automation |
|  |  |  | recommend a solution for API integration   * design an API gateway strategy * determine policies for internal and external consumption of APIs * recommend a hosting structure for API management * recommend when and how to use API Keys |
|  |  |  |  |
|  | **Implement container-based applications** |  create a container image |  |
|  |  |  configure Azure Kubernetes Service |  |
|  |  |  publish and automate image deployment to the Azure Container Registry |  |
|  |  |  publish a solution on an Azure Container Instance |  |

**Implement and Manage Data Platforms (10-15%)**

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| **Week 9**  **17/10** | **Implement NoSQL databases** |  configure storage account tables |  |
|  |  |  select appropriate CosmosDB APIs |  |
|  |  |  set up replicas in CosmosDB |  |
|  |  |  |  |
|  | **Implement Azure SQL databases** |  configure Azure SQL database settings |  |
|  |  |  implement Azure SQL Database managed instances |  |
|  |  |  configure HA for an Azure SQL database |  |
|  |  |  publish an Azure SQL database |  |
|  |  |  |  |
|  |  | * + Design a solution for databases | select an appropriate data platform based on requirements |
|  |  |  | recommend database service tier sizing |
|  |  |  | recommend a solution for database scalability |
|  |  |  | recommend a solution for encrypting data at rest, data in transmission, and data in use |
|  |  |  |  |
|  |  | * + Design data integration | recommend a data flow to meet business requirements |
|  |  |  | recommend a solution for data integration, including Azure Data Factory, Azure Data  Bricks, Azure Data Lake, Azure Synapse Analytics |