

## **Microsoft Azure AZ-303 Curriculum**

### **Microsoft Azure and Services Introduction**

- Azure Subscription
- Azure Resources groups
- Azure Free Tier Account
- Azure Resource Management
- Azure Resource Manager Templates
- Storage types in Azure

#### **Hands-On:**

- Free tier Azure account creation
- Creating a web app service using Azure Portal
- Create and Deploy ARM templates
- Managing Azure Storage account using Storage Explorer
- Azure Cost and Billing Service

### **Azure Virtual Machines and Networking**

- Azure Resource Manager Virtual Machine
- Virtual Machines in ARM Template
- Azure Virtual Machine overview
- Azure Managed Disks
- Azure Blob Storage
- Networking in Azure
- Subnets, NIC, NSG, IP Addresses, DNS

#### **Hands-On:**

- Creating Windows and LINUX Virtual Machines
- Create BLOB Storage using Azure Portal
- Create VM with Storage Account and Managed Disks
- Configuring Azure Virtual Network

### **Azure Availability Zones & VMSS**

- Resiliency
- Azure Availability Sets
- Azure Availability Zone
- Autoscaling
- Scale test in Virtual Machine
- Fault Domain
- Update Domain



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+1 332-600-8899



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- Load Balancer
- Application Gateway
- Azure Disk Encryption

### **Hands-On:**

- Creating a Virtual Machine Scale Set
- Configuring VMSS and add custom usage alerts
- Configuring of VM for Redundancy
- Creating Application Gateway

### **Azure App Services with Features**

- Azure App Service Web Apps
- App Service Security
- Serverless Computing Concepts
- Functioning of Apps
- Azure Event Grid
- Azure Service Bus
- Azure App Service Logic App
- Using Shell Commands to create Web App
- Background Tasks
- Swagger tool

### **Hands-On:**

- Creating App Service Plan
- Creating Web App Instance
- Shell commands to create an App Service Web App
- Creating a Continuous WebJob

### **Advanced Azure Hybrid Connectivity and Site Recovery**

- Hybrid Connectivity
- VNet S2S VPN
- VNet Peering
- Service Chaining
- Azure VPN Gateway
- Policy Based Gateway
- Route Based Gateway
- Swagger tool
- Gateway Connections
- Express Route
- VNet Routing
- User Defined Route
- Border Gateway Protocol



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### **Hands-On:**

- Creating Virtual Network Gateways
- Designing User Defined Routes
- Migrating On-Premise Machines to Azure using Azure Site Recovery method

### **Azure Storage Solutions and Designing Patterns**

- Azure Architecture Center
- Cloud design patterns
- Cache-aside pattern
- Sharding Pattern
- Azure SQL DB
- Azure Elastic Pool
- Azure Data Lakes
- Azure Data Factory
- Azure Cosmos DB

### **Hands-On:**

- Create and Deploy Azure Data Lake
- Create and Deploy Azure Cosmos DB

### **Azure Kubernetes Service:**

- Application Environment Components
- Docker
- DockerFile
- Docker Image
- Azure Container Registry
- Azure Container Instance
- Orchestration
- Azure Kubernetes Service
- Diagnostics Logs

### **Hands-On:**

- Create and Deploy Docker Image from DockerFile
- Deploy an Application in ACI
- Deploy an Application in AKS

### **Azure Active Directory and Role Based Access Control:**

- Access Control
- Role Based Access Controlling
- Authentication in applications (certificates, Azure AD, Azure AD Connect, token-based)
- Multi-Factor Authentication (MFA)
- Claims-based authorization



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- Role-based access control (RBAC) authorization
- End-to-end encryption
- Azure confidential computing
- SSL and TLS communications
- Azure Key Vault
- Configure Fraud alerts
- Bypass option, trusted IPs
- Managed Service Identity
- Service Principal authentication

### **Hands-On:**

- Implementing an authentication using certificates, Azure AD, Azure AD Connect, and tokens
- Implementing Multi-Factor Authentication (MFA)
- Implementing Claims-based authorization
- Implementing RBAC authorization
- Implementing secure data for end-to-end encryption
- Implementing secure data for implementing SSL and TLS communications.
- Using Azure Key Vault to manage cryptographic keys

### **Azure Messaging Service (Events, Hubs, Queue and Bus):**

- Azure Messaging Service
- Azure Service Bus
- Azure Events Hub
- Azure Events Grid
- Azure Notifications Hub
- Auto Scale Ruling in Azure
- Transient Fault Handling

### **Hands-On:**

- Creating a Service Bus Queue
- Deploy Service Bus Topics and Subscriptions
- Design and Implement Azure Service Bus
- Enable Auto Scale based on CPU Metrics Or Schedule
- Implement Multi-Factor Authentication (MFA)



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## Azure Monitoring and Insights Service:

- Azure Monitoring
- Azure Analytics
- Azure Alerts
- Azure Resource Metrics
- Azure Activity Log
- Service Health
- Azure Log Analytics
- Azure App Insights

## Hands-On:

- Create and Deploy Alert Rules for Azure Resources
- Analyze the data in your metric database
- Create and Configure Azure Log Analytics
- Deploy Azure App Insights Service

### KEY FEATURES



## For More Info:

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