

## MS Azure

**Mode of Training:** Online, Classroom, Corporate

**Faculty:** Mr. KHAJA

**Course Duration:** 45 Days

## Course Curriculum



## ARCHITECTURE & ADMINISTRATION:

### 1. Working with Azure Virtual Machines

- Designing solutions for virtual machines
- Virtual machine series and sizes
- Available VM series and sizes
- Availability Sets
- Fault domains and update domains
- Managed Disks
- Creating highly available virtual machines
  - Creating highly available virtual machines from the Azure Portal
  - Creating highly available virtual machines from PowerShell& Azure CLI
- VM Scale Sets
  - Creating a VM Scale Set from the Azure Portal
  - Creating a VM Scale Set from the Azure PowerShell& Azure CLI
- Accessing your VM Scale Sets
- VM Scale Set templates
- Disaster recovery
  - Backup and recovery
  - Replication
- Administration:
  - Identify Workloads That Can And Cannot Be Deployed
  - Create VMs
  - Connect to a Windows/Linux VM
  - PowerShell Basics - Create a Virtual Machine
  - "VM Workloads" Resources
  - ARM Templates and Automation

### 2. Working with ARM Templates

- What is Resource Manager?

- Resource Provider & Types
- Resource Manager & Classic Deployment
- Subscription Governance
- Organizing resources with management groups
- Create & deploy ARM Template
- IDE: using VS Code to Create the ARM Template
- Deploy Templates using
  - Portal
  - PowerShell
  - Azure CLI
- 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

### **3. Configuring Compute-Intensive Applications**

- High-performance compute virtual machines
- Microsoft HPC Pack
  - Cloud-native HPC solutions
  - Hybrid HPC architecture
- Azure Batch
  - Creating an Azure Batch service
  - Stateless components
  - Containers on Azure Batch

### **4. Robust Networking Implementations**

- Azure Virtual Network
  - IP addresses
  - Public IP address

- Private IP address
- Creating a public IP address
- DNS
- Creating a VNet with two subnets
- Azure Load Balancer
  - Probes
- Azure Traffic Manager
- Azure Application Gateway
- External connectivity for Azure Virtual Networks
  - Azure VPN
  - Site-to-site VPN
  - VNet-to-VNet VPN
  - Point-to-site VPN
  - ExpressRoute
- Network security strategies
  - DMZ
  - Network Security Groups
  - User Defined Routes
  - Virtual network service tunneling
  - Web Application Firewall
- Administration:
  - 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



- User Defined Routes (UDRs)
- Firewall Rules
- Modify Network Configuration
- Modify a Subnet
- Import and Export a Network Configuration
- Multi-Site or Hybrid Network
- Choose the Between ExpressRoute, Site-to-site, and Point-to-site
- Choose the Appropriate Gateway
- Identify Supported Devices and Software VPN Solutions

## 5. Using Storage Solutions

- Azure Storage and replication types
- Storage account types
  - General-purpose v1 (GPv1)
  - Blob storage
  - General-purpose v2 (GPv2)
- Storage replication types
  - Locally Redundant Storage
  - Zone Redundant Storage
  - Geo-redundant Storage
- Azure Blob Storage
  - Access tiers
    1. Hot
    2. Cool
    3. Archive
- Azure Table Storage
  - i. Creating a storage account



- ii. Uploading data to Azure Table Storage
- Azure Queue Storage
- Azure File Storage
- Azure Disk Storage
  - i. Standard Disk Storage
  - ii. Premium Disk Storage
  - iii. Unmanaged versus Managed Disks
- STORSIMPLE
  - i. STORSIMPLE Virtual Array
  - ii. STORSIMPLE 8000 Series
- Cosmos DB Storage
- Azure Search
- Azure SQL Database
  - i. SQL Server Stretch Database
  - ii. High availability
  - iii. Active geo-replication
  - iv. Failover groups
  - v. Configuring active geo-replication and failover groups
  - vi. Backup and recovery
- Azure Database for MySQL
- Azure Database for PostgreSQL
- Administration:
  - i. VM storage
  - ii. Configure Disk Caching
  - iii. Plan Storage Capacity
  - iv. Configure Operating System Disk Redundancy
  - v. Configure Shared Storage Using Azure File Service
  - vi. Encrypt Disks



vii. Azure Storage Blobs and Azure Files

1. Read Data, Change Data, Set Metadata On A Container
2. Store Data Using Block And Page Blobs
3. Stream Data Using Blobs
4. Access Blobs Securely
5. Implement A sync Blob Copy
6. Configure a Content Delivery Network (CDN)
7. Design Blob Hierarchies
8. Configure Custom Domains
9. Scale Blob Storage

viii. Azure SQL Databases

1. Choose the Appropriate Database Tier and Performance Level
2. Configure Point-in-time Recovery, Geo-replication, and Data Sync
3. Import and Export Data and Schema
4. Design a Scaling Strategy

## 6. Securing Your Resources

- Azure Active Directory
- Microsoft Graph
- Azure AD Connect
  - i. Azure Active Directory password hash synchronization
  - ii. Azure Active Directory pass-through authentication
- Active Directory Federation Services
- Multi-Factor Authentication
  - i. Enabling MFA in the Azure Portal
- Azure Active Directory Business to Business
- Azure Active Directory Business to Consumer
- Administration:

- i. Manage access
- ii. Create and Manage Shared Access Signatures
- iii. Use Stored Access Policies
- iv. Regenerate Keys
- v. Azure Active Directory (Azure AD) with Existing Directories
  1. Implement Azure AD Connect and Single Sign-on
  2. Setup Azure Active Directory
  3. Add Custom Domains
  4. Implement Azure AD Connect
  5. Monitor Azure AD
- vi. Azure AD B2C and Azure B2B
  1. Create an Azure AD B2C Directory
  2. Link a Subscription to a B2C Tenant
  3. Register an Application
  4. Implement Social Identity Provider Authentication
  5. Enable Multi-Factor Authentication
  6. Set Up Self-Service Password Reset
  7. Implement B2B Collaboration

## 7. Securing Your Data

- Azure Key Vault
- Azure Storage Service Encryption
- Azure Disk Encryption
- Azure SQL Database Security
- Azure Active Directory Managed Service Identity

## 8. Governance and Policies

- Azure Role-Based Access Control



- i. Built-in Roles
  - ii. Custom Roles
  - iii. Creating a Custom Role
- Azure Resource Policies
- Azure AD Privileged Identity Management
- Azure AD Identity Protection
- Azure Security Center
  - i. Advanced Threat Detection
  - ii. Azure Endpoint Protection

## 9. Implementing Messaging Solutions

- Azure Queue Storage
- Azure Service Bus
- Azure Event Grid
  - i. Routing Events with Azure Event Grid
- Notification Hubs
- Designing an effective messaging architecture

## 10. Application Monitoring and Alerting Strategies

- Azure Log Analytics
  - i. Creating a Log Analytics Workspace
- Azure Monitor
- Application Insights
- Azure Service Health
- Azure Advisor
  - i. Address Recommendation from Azure Advisor
- Azure Network Watcher

## 11. Designing an Operations Automation Strategy

- Azure PowerShell
- Desired State Configuration
- Azure Automation

## 12. Deploy Azure Web Apps

- Overview of Azure Web Apps
- Deployment Slots
- Roll Back Deployments
- Pre- and Post-Deployment Actions
- Implement Packages
- App Service Plans
- Migrating to Another App Service Plan
- Create an App Under an App Service Plan
- Configure Web Apps
  - i. Configure Azure Web Apps
  - ii. General Settings
  - iii. Auto Swap and Debugging Settings
  - iv. App Settings and Connection Strings
  - v. Handlers and Virtual Directories
  - vi. Custom Domains
  - vii. Binding the SSL and Runtime Configuration
- Scaling Web Apps
  - i. Web App Scaling - Changing the Size of an Instance
  - ii. Web App Scaling - Enable Auto scaling
  - iii. Configure Traffic Manager

## Course Goals:

This course will help gaining

1. Architectural understanding of the Azure Services which helps you demonstrate the skills to help your customers migrating to the cloud
2. Implement the Administrative activities in your day to day jobs @ work
3. Ability to implement the following use cases on your own
  - a. Deploying a Highly Available Virtual Machine
  - b. Exploring Azure Governance Policy
  - c. Assessing on-premises VMware environments with Azure Migrate
  - d. VM Disk Encryption from build & encrypting existing VM Disks
  - e. Deploying VMs in an ARM Template
  - f. SQL Migration Using Azure Data Migration Services (DMS)
  - g. Protect Your Cloud Resources with Azure Backup and Site Recovery
  - h. Configuration Management and Disaster Recovery with Azure
  - i. Migrating assessed workloads with Azure Site Recovery
  - j. Configure your network for security
  - k. Availability Zones: Zone Redundant Virtual Machine Scale Sets and SQL DB
  - l. Reviewing Service and Resource Health And many more real time scenarios

## CLOUD DEVOPS

1. DevOps on AZURE
  - Visual studio Team Services
  - Terraform (D)
  - Packer (D)

- PowerShell DSC
- Continuous Integration Using Jenkins(D)
- AZURE Automation
- ARM Templating

## 2. Windows Server Administration

- Active Directory
- PowerShell scripting
- Configuring IIS Server

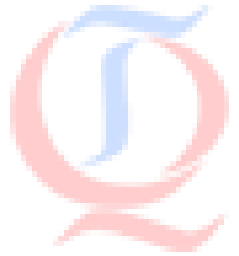
## 3. OFFICE 365 Basics

## 4. Monitoring Solutions

- Nagios (D)
- ELK (D)

## 5. Containers

- Docker (D)
- Kubernetes (D)



# Supporting Enterprises around the Globe



# Our Other Courses

## DevOps & Cloud Computing

- [AWS Admin Training](#)
- [Devops Training](#)
- [Azure Admin Training](#)

## Artificial Intelligence & IOT

- [Artificial Intelligence Training](#)
- [IOT Training](#)

## Big data

- [Hadoop Development Training](#)
- [Spark And Scala Training](#)

## Data Science & Blockchain

- [Data Science Training](#)
- [Blockchain Training](#)

## QA and Testing

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- [Big data Testing Training](#)
- [Selenium Training](#)
- [Appium Training](#)
- [Web services Testing Training](#)
- [Security Testing Training](#)
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## Programming & Framework

- Core Python
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## Others courses

- [Digital Marketing Training](#)
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