

Microsoft Azure Administrator(Architect) Training Syllabus

Module 1:- Azure Cloud Computing Basics

Learning Objective: In this Module you will learn about Azure Cloud Computing Basics, Creation of a Free Azure Account, Understanding of Azure Architecture, Protecting your resource group using locks and Accessing Azure Services through Azure Portal

- What is Cloud Computing
- Overview of Azure Cloud
- Azure Free Tier Account Creation
- Azure Support Plan
- Azure Help & Support Request
- Azure Resource Group
- Azure Locks
- Azure Tags
- Azure Subscriptions

Module 2:- Identity and Access Management (IAM)

Learning Objective: In this Module you will learn about Identity and Access Management (IAM), Azure AD & Roles and How to give access of your azure account to other users

- What is Identity and Access Management (IAM)
- Azure Role Based Access Control (RBAC)
- What is Azure Active Directory(AD)
- Azure AD User and Group Creation
- Azure AD Multi Factor Authentication(MFA)
- Azure AD Self Service Password Reset
- Azure AD Company Branding
- Azure AD Custom Domain
- Azure AD Editions
- Azure AD Deleted Users Recovery
- Azure AD Sign-in & Audit Logs
- Azure AD Administrative Roles
- Azure RBAC Role versus Azure AD Administrative Role

Module 3:- Azure Virtual Machine and Networking

Learning Objective: In this Module you will learn about Azure Region, creation of Availability Set, Availability Zone, Azure Networking and Azure Virtual Machine

- **Azure Region**
- **Azure Location**
- **Azure Geography**
- **Availability Set in Azure**
- **Azure Fault Domain and Update Domain**
- **Azure Proximity Placement**
- **Planned Maintenance and Self-Maintenance activity on Azure VM**
- **Availability Zone in Azure**
- **Azure VNET and Subnet**
- **Azure VM and there SLA**
- **Size and Family Type of Azure VM**
- **Stopped versus De allocate in Azure VM**
- **Azure VM Boot Diagnostic**
- **Auto-shutdown Azure VM**
- **Resizing Azure VM**
- **Redeploy Azure VM**
- **Reset User Password in Azure VM**
- **Serial Console Access of Azure VM**
- **Azure VM Best Practices and Pricing**

Module 4:- Azure Virtual Machine Components

Learning Objective: In this Module you will learn about Azure VM Components like NIC, NSG and Public IP Address

- **Azure VM NIC**
- **Moving Azure VM to Different Subnet**
- **Changing Azure VM Private IP**
- **Setting Custom DNS in Azure VM**
- **Azure VM Public IP (Dynamic and Static)**
- **Azure DNS Label Name**
- **Dissociating Azure VM Public IP**
- **Azure VM Network Security Group (NSG)**
- **Attaching NSG to Azure VM**
- **Attaching NSG to Subnet**
- **NSG Default Rule and Custom Rule**
- **NSG Inbound and Outbound Rule**
- **NSG Priority Number in Rule**
- **NSG Allow and Deny Rule**

Module 5:- Azure VM Routing and VNET Peering

Learning Objective: In this Module you will learn how Routing happen in Azure and Create Peering between different VNET like Local Peering/Global Peering and troubleshoot common issues related to VM and learn how to perform encryption on VM

- **What is Routing**
- **Routing in Azure**
- **Route Table**
- **Default Route Table and Custom Route Table**
- **Create Public and Private Subnet**
- **Need of VNET Peering**
- **Create Local Peering**
- **Create Global Peering**
- **VNET Peering Charges**
- **Troubleshooting common issue related to VM Access**
- **What is Encryption**
- **Azure Key Vault and Encryption Keys**
- **Storage Service Encryption (SSE)**
- **Azure Disk Encryption(ADE)**
- **Encrypting a Windows VM using Bit-locker**

Module 6:- Azure Managed Disk, Image and Snapshot

Learning Objective: In this Module you will learn about Azure Disk and Disk Type, Host Cache and how to create snapshot and Image from Disk

- What is Azure Managed Disk
- Disk Type Premium/Standard SSD & Standard HDD
- Disk IOPS and Throughput
- Operating System Disk, Temporary Disk & Data Disk
- Attach Data Disk to Azure VM
- Increase Size of OS and Data Disk
- Understanding Host Cache
- Host Cache Type
- What is Snapshot
- Azure Snapshot Type
- Creating Snapshot from Disk
- What is Image
- Creating Image from Disk
- Managed Disk, Image, Snapshot Best Practice and Pricing

Module 7:- Azure Cost Management

Learning Objective: In this Module you will learn about multiple ways to save cost in Azure

- How to Use Azure Cloud in a cost saving way
- Reservation of VM and Disk in Azure
- Reservation Scope
- Azure Hybrid Benefits
- Low Priority and Spot VM
- Azure Budget Setting
- Azure Cost Management
- Azure Calculator
- Azure Invoice/Bill understanding in depth
- Requesting SLA Credit in Azure
- How to calculate cost of multiple Azure Service
- Azure Best Practices which saves Cost

Module 8:- Azure Backup and Site Recovery

Learning Objective: In this Module you will learn how to create Backup of Azure VM and Restore using Azure Backup and how to setup a DR (Disaster Recovery) Plan using Azure Site Recovery

- **Create Recovery Service Vault**
- **How Azure Backup Works**
- **Take Backup of Azure VM**
- **Understanding Backup Redundancy options**
- **Azure Backup Instance Restore**
- **Restore VM from Backup**
- **Restore File from Backup**
- **Soft Delete in Azure Backup**
- **How Azure Site Recovery Works**
- **Create a Disaster Recovery Plan**
- **Select the Primary & Secondary Region**
- **Initiate Replication from Primary to Secondary Region**
- **Perform Failover in Azure Site Recovery**
- **Best Practice for Azure Backup and Site Recovery**

Module 9:- Azure Load Balancer, Traffic Manger and DNS

Learning Objective: In this Module you will learn how to create Load Balancer in Azure and Perform Traffic Management using Azure Traffic Manager and use of Azure Global DNS

- How Load Balancer Works
- Public and Private Load Balancer
- Basic and Standard Load Balancer
- Installing IIS Role in VM
- Create Backend Pool, Health Probe and Load Balancing Rule
- Importance of NAT & Create NAT Rule
- How Azure DNS and Traffic Manager Works
- Perform Traffic Management using Traffic Manager
- Implement Different Routing Methods in Traffic Manager
- Priority, Performance, Weighted, Geography, Multi value & Subnet
- Best Practice for Azure Load Balancer , Traffic Manager, DNS

Module 10:- Azure Virtual Machine Scale Set

Learning Objective: In this Module you will learn how to create Azure Virtual Machine Scale Set and see the VM scale in and out in action when the traffic increases or decreases on VM

- How Azure Virtual Machine Scale Set Works
- Create Virtual Machine Scale Set
- Create a Scale in and Scale out policy
- See in action VM scale in and Scale out operation

Module 11:- Azure Storage Account

Learning Objective: In this Module you will learn how to create Azure Storage Account, How to access Storage Account, how to put data in Azure storage Account, how to use CDN (Content Delivery Network), further we will have a look on File share

- **What is Azure Storage Account**
- **Soft Delete & Versioning in Storage Account**
- **Premium and Standard Storage Options**
- **Hot/Cool and Archive Tier in Storage Account**
- **Type of Replication in Storage Account**
- **LRS/GRS/RA-GRS/ZRS/GZRS/RA-GZRS**
- **Azure Blob and Type of Blob Container**
- **Azure Storage Endpoints**
- **Access keys and Shared Access Signature of Azure Storage Account**
- **Access Azure Storage Account using Storage Explorer**
- **Azure CDN(Content Delivery Network)**
- **Azure File Share**
- **Import/Export in Azure Storage Account**
- **Transfer data to Azure Storage Account using AZCOPY Tool**

Module 12:- Azure VPN/Express Route, Azure AD Connect

Learning Objective: In this Module you will learn how to connect your office with Azure Cloud using Azure VPN Gateway and Express Route and then you will learn about connecting on-premises Domain Controller with Azure AD using AD Connect, so that the user have single sign on experience

- **What is VPN**
- **How to connect On-Premises Office with Azure Cloud**
- **Azure VPN Gateway**
- **Create Fortigate Firewall**
- **Create Site to Site VPN Tunnel**
- **Azure Express Route**
- **Azure AD Connect**
- **How to achieve Single-Sign-On using Azure AD Connect**
- **Azure AD Connect Password Hash Authentication**
- **Azure AD Connect Pass-Through Authentication**
- **Azure AD Synchronization with On-Premises Domain Controller**
- **How to buy Custom Domain from Domain Registrar**

Module 13:- Migration from On Premises to Azure Clouds

Learning Objective: In this Module you will learn how to perform successful On Premises Server /AWS EC2 to Azure Cloud Migration

- On Premises Server/AWS EC2 to Azure Cloud Migration
- Create Azure Migrate Project
- Create Process/Configuration Server
- Create a Recovery Service Vault
- Perform Discovery of On Premises Server/AWS EC2
- Start Replication & Initiate Migration of On Premises Server/AWS EC2
- Check Replication Logs
- Check the VM Performance after Migration

Module 14:- Azure Bastion, Azure Automation, Azure Monitor

Learning Objective: In this Module you will learn how to secure your VM by not exposing RDP ports to the outside world, you will learn on how to automate task in azure and you will learn about Azure Monitor service which is used to send Alert

- Need of Azure Automation
- Create Azure Automation Account
- Auto Start VM using Azure Automation
- Need of Azure Bastion
- Secure VM Access using Azure Bastion
- Need of Azure Monitor
- Create Alert from Log and Metric
- Perform Monitoring on Azure VM