

Microsoft Azure



AZURE



Introduction to Cloud Computing

Legacy Datacentres and Software Defined Datacentres. IaaS PaaS & SaaS.

Introduction to Microsoft Azure

Account Setup, Adding Subscription, Free and Paid Subscriptions
Introduction to Console, General Settings.

Manage Resource Groups

1. Concept and Regions of Resource Group,
2. Creation and Deletion of Resource Group
3. Use Azure policies for resource group
4. Configure resource locks
5. Configure resource policies
6. Implement and set tagging on resource groups
7. Network Watcher Resource Group

Virtual Networks (VNET)

1. Introduction to Networking and IP Addressing.
2. Concepts, Limits, Pricing and Features of VNET.
3. Concepts of Private and Public IP Address, CIDR,
4. Azure Regions and Availability Zones.
5. Create and Configure VNET, Subnets.
6. Routing theory, design and implementation for VNET.
7. Create and Configure VNET Peering - Local & Global
8. Design and Implementation of network security with Network Security Groups.
9. Create and Configure VPN Gateway in Gateway Subnet.
10. Create and Configure On-Prem to Cloud-Prem connectivity with Site to Site VPN



Virtual Machines (VM)

1. Introduction to VM.
2. VM purchase options in Azure.
3. VM types and pricing in Azure.
4. KeyPair concepts, creation on non-Azure tools, .ppk and .pem format.
5. Diploy Windows and Linux VMs.

A. Manage Azure VM:

1. Manage VM Sizes.
2. Add Data Disk.
3. Add Network Interface.
4. Opening Ports.
5. Configuring Static IP to Instance.
6. Configure Boot Scripts.
7. Configure Monitoring VM
8. Move VMs from one Resource Group to another.

B. VM Storage:

1. Introduction to Managed Disks.
2. Types of Disks.
3. Creating Managed Disks.
4. Attaching Managed Disks to Instances.
5. Managed Disk Snapshots.
6. Migration of Managed Disk Snapshots.
7. Restoring Managed Disk Snapshots.

C. Automate Deployment of VMs:

1. Introduction to Load Balancer(LB).
2. Public facing and Internal LB.
3. Concepts of Availability Set, Fault Domains Update Domains.
4. Configure and Implement LB.
5. Backend Pool, Health Probe and Load balancing Rules Concepts.
6. Adding VMs to Backend Pool.
7. Test Load Balancing and High availability.



D. VM Load Balancing:

1. Introduction to Load Balancer(LB).
2. Public facing and Internal LB.
3. Concepts of Availability Set, Fault Domains and Update Domains.
4. Configure and Implement LB.
5. Backend Pool, Health Probe and Load balancing Rules Concepts.
6. Adding VMs to Backend Pool.
7. Test Load Balancing and High availability.

E. VM Scale Sets:

1. Introduction and concepts of Auto Scaling.
2. Configure and deploy Scale Sets.
3. Scale Out and Scale In
4. Auto Scaling Policies.
5. Testing Auto Scaling

Configuration F. Manage VM backups:

1. Configure VM backup
2. Define and Implement backup policies
3. Perform VM restore

G. Migrating On-Prem VM to Azure:

1. Migration concepts and Prerequisite.
2. Migrate by using Azure Site Recovery (ASR).
3. Migrate using P2V.
4. Create a recovery services vault.
5. Prepare source and target environments.
6. Deploy Azure Site Recovery (ASR) agent, prepare virtual network.
7. Set up a Replication Policy.
8. Enable Replication.

Azure Storage

A. Azure Storage Account:

1. Introduction to Storage Accounts.
2. Create and configure Storage Account.
3. Storage Performance types.
4. Types of Storage Accounts.
5. Storage redundancy options.
6. Storage Access Tiers.
7. Azure Storage Services - Blobs, Files, Disks, Queues and Tables.
8. Storage Secure Transfer, Allow Access and Data Protection
9. Manage Access Keys.
10. Storage account scale

limits B. Azure Blob Storage:

1. Create and Configure Blob Container.
2. Blob Container Access level.
3. Upload data in container.
4. Access data from container.
5. Manage snapshots of Blob Objects.
6. Azure Storage Explorer
7. Cloudberry Storage Explorer
8. Configure Access Policy.

C. Azure Files Storage:

1. Introduction to File shares.
2. Configure File Share Quota.
3. Mounting File Share on multiple Instances Simultaneously.
4. Configure Access Policy.

D. Azure Backup:

1. Backup Concepts.
2. Pricing of Azure Backup vs On-Prem Backup Technologies.
3. Configure Recovery Service Vault.
4. Perform backup operation
5. Create and configure backup policy
6. Perform a restore operation



Azure Database

A. Azure SQL Databases:

1. Introduction to MSSQL.
2. Create SQL Database.
3. Configure Compute and Storage tiers.
4. Disaster recovery - DB Backup.
5. Configure and use SQL Server Management Studio.
6. Configure and Manage SQL Database.

B. Azure Databases for MySQL:

1. Introduction to MySQL.
2. Create MySQL Database.
3. Configure Pricing Tiers.
4. Disaster recovery - DB Backup.
5. Configure and use MySQL Workbench.
6. Configure and Manage SQL Database.

Azure App Services (VApp)

1. Introduction to On-Prem Application Hosting Technologies.
2. Introduction to VAPP.
3. App Service Pricing Tiers.
4. Application Insights.
5. Build and Deploy VApp using GitHub Repository.
6. Build and Deploy VApp using Local Git Repository.
7. Configuration of Application Environment.
8. Deploy a Custom Application.
9. Creating Application Clone.
10. Swapping Application URL's
11. Configure Azure content delivery network (CDN) integration

Manage Identities

1. Introduction to AD, Adding custom Domain to Azure.
2. Creating AD Users and Groups.
3. Manage User and Group properties.
4. Synchronizing AD tenants to Azure AD.
5. Configure Azure AD Connect.
6. Managing Azure AD with PowerShell.

Access Control (IAM)

1. Introduction to Access Control (IAM)
2. Manage role-based access control (RBAC)
3. Adding Role Assignments.
4. Implement Multi-Factor Authentication (MFA) for an Azure AD tenant.

DNS Zones

1. Introduction to Name Resolution.
2. Domain Name Registration and Domain Name Registrars.
3. Hosting Zones in Azure DNS zones.
4. Public and Private Zones.
5. Creating Records and testing them.
6. Record Types, Load Balancing.

Azure Automation

1. Introduction to Automated Provisioning.
2. Azure Cloud Formation concepts.
3. Introduction to Runbooks, Runbooks Library.
4. Runbook Types - PowerShell, Python, Graphical
5. Configure and Publish Runbooks templates from Library.
6. Import and Export Runbooks.
7. Configure and Publish Customized Runbooks.
8. Link a schedule to Runbook..

Application Gateway

1. Introduction to Application Layer Load Balancing.
2. A web traffic load balancer.
3. Application Gateway Profile, prepare web servers.
4. Application Gateway backend pool.
5. Prepare testing Environment.
6. Application Gateway Pricing.

Traffic Manager

1. Introduction to DNS-based traffic load balancer.
2. Traffic Manager Profile, Routing Methods.
3. Prepare web servers, Traffic Manager endpoints.
4. Prepare testing virtual machines.
5. Check DNS based load balancing.
6. Traffic Manager Pricing.