

Microsoft Azure

Module-1: Cloud Computing & Microsoft Azure Fundamentals

- Introduction to Azure
- Different segments **SaaS, PaaS, and IaaS**
- Azure Regions and Data Centres
- Understanding of Microsoft Azure portal
- Introduction to all Azure services
- Windows Azure Subscription
- Setting Up a Trial Subscription

Lab:

- Installation of Azure cmdlets on Windows PowerShell.

Module-2: Azure Virtual Machines – Microsoft Azure Syllabus

- Operating System Images Supported
- Virtual Machine instances
- Azure VM types and Pricing
- Types of Provisioning
- Disks & Images
- **Virtual Machine management**, automation, and scripting
- Cloud Service and Resource Model Deployment
- Setting up VM in Availability set using Load Balanced Endpoint
- VM Availability using Availability Sets

Lab:

- Creation of VMs with the portal, ARM Templates, and PowerShell
- Deploying two VMs in Availability Set and load balancing it.

Module-3: Introduction to Azure Virtual Network and Services – Microsoft Azure Syllabus

- Types of Azure Virtual Network VNET to VNET, point-to-site and site-to-site, Express Route

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- Creating Virtual Networks in Azure
- Azure Subnet and IP ranges
- Endpoints
- Load Balancing Endpoints
- Understanding Network ACL and Network Security Group Setting up Private and Public IP
- Introduction to **Azure Traffic Manager**
- Available options in Azure Traffic Manager
- Understanding of Deployment Traffic Manager

Lab:

- Create a VET-to-VNET virtual networks
- Create a point-to-site virtual network.
- Create a site-to-site virtual network.
- Load Balancing using Azure Traffic Manager.

Module-4: Microsoft Azure Storage – Microsoft Azure Syllabus

- Overview of Microsoft Azure Storage
- Storage Account
- Storage Account Replication Techniques
- Protocols and Consistency Model
- Type of **Azure Storage Account**
- Storage Services Blob, Table, Queue, File
- Azure CDN Services, Managed and Unmanaged Disk

Lab:

- Provisioning Azure Storage services
- Create an Azure Storage Account
- Deploying Blob Storage
- Deploying Table Storage
- Deploying Queue Storage
- Deploying File Storage

Module-5: Manage AzureActive Directory (AD)

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- Azure Active Directory Overview
- Self-Service Password Reset
- Azure AD Identity Protection
- Integrating SaaS Applications with Azure AD
- Azure Domains and Tenants
- Azure Users and Groups
- Azure Roles
- Managing Devices

Lab:

- Implement **Azure Active Directory.**
- Configure Self-Service Password Reset
- Implement Azure AD Identity Protection
- Configure integrated SaaS applications
- Configure domains and tenants, users, and groups
- Manage roles and devices
- Migration of OnPrem AD Users to Azure AD
- Configure MFA

Module 6: Manage App Service Plans – Microsoft Azure Syllabus

- App Service Overview
- App Service monitoring overview
- Web Role and Worker Role

Lab:

- **App Service Plan**
- Deploy Web App
- App Service Diagnostics

Module 7: Azure SQL Database – Microsoft Azure Syllabus

- Understanding Database as a service
- Difference between SQL server and Azure SQL
- Advantages and Benefits of SQL database Scaling SQL database

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- Backup and Performance Options Security in Azure
- SQL Pricing Model
- **Azure SQL Database** Warehouse

Lab:

- Migrate a database from on premise to SQL Azure

Module-8: Azure Backup and Site Recovery

- Azure Vaults
- Configuring backups
- Data Protection Manager
- **Azure Site Recovery** and Disaster Recovery
- On-Premise Migration using Recovery Services

Lab:

- Configure a Recovery Service Vault and backup files from on premise to cloud
- Site Recovery of a VM
- Backup of a VM

BELOW Content is for Developing Solutions for **Microsoft Azure – AZ -203 Exam** [Will be conducted extra]

Module-9: Azure ARM Template – Microsoft Azure Syllabus

- Introduction to **Azure ARM Templates** and its content

Lab:

- Deploying ARM Template with PowerShell

Module 10: Configure Serverless Computing

- **Serverless Computing**, Functions, and Logic Apps

Lab:

- Logic Apps
- Creating a Function App

Module 11: Manage App Services

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- App Settings
- Deployment Slots

Lab:

- App Settings
- Deployment Slots

Module 12: Data Factory – Microsoft Azure Syllabus

- Introduction to **Azure Data Factory**
- Core Concepts – Data sets, Pipelines, and activities, Scheduling, and execution
- Run Samples – Customer Profiling
- Moving Data, Transformation, and Analysis
- Monitoring and managing the Pipelines
- Common Use Cases and Samples

Lab:

- Orchestrating the On-Prem data from SQL DB to Azure DB by creating a data pipeline using Blob storage.

Module-13: Azure Container Service

- Introduction to Azure Container Service
- Overview of Containers
- Introduction to Azure Container Registry
- Azure Kubernetes Services
- Introduction

Lab:

- Deploy an Azure container registry
- Build a container image using **Azure Container Registry Tasks**
- Deploy the container to an Azure container instance
- Replicate the container image to multiple Azure datacenters
- Run Docker containers with Azure Container Instance
- Run Azure Container Instances
- Deploying AKS in Azure

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Module-14: Azure Cosmos DB – Microsoft Azure Syllabus

- Introduction
- What is a request unit?
- What is Partition Strategy and Key?
- Query types

Lab:

- Create an Azure [Cosmos DB account](#) in the Azure portal
- Create a database and collection in Azure Cosmos DB
- Run queries in the Azure portal

Projects:

- Deploying VM in an Availability set and load balancing the traffic through External Load Balancer.
- Deploying WebApps in two different regions and managing it through a traffic manager