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AZURE

ADMINISTRATOR (AZ-104)

Course Syllabus

This Microsoft Azure Administrator course provides a comprehensive overview of managing Azure resources, focusing on key administrative tasks such as configuring and monitoring virtual networks, managing Azure identities and governance, and implementing storage solutions. Participants will gain hands-on experience with Azure services, learning to automate and streamline administrative processes to enhance operational efficiency.

By the end of the course, you'll be equipped with the skills and knowledge to effectively manage and optimize your organization's Azure infrastructure



40h

Total Course Duration

12

Course Modules

100%

Hands-on Experience

Module 1 - Cloud Computing & Azure Fundamentals

- Introduction to Azure
- Different segments SaaS, PaaS, and IaaS
- Azure Regions and Datacenters
- Understanding of Microsoft Azure Portal
- Introduction to all Azure Services
- Windows Azure Subscriptions
- Installation of Azure cmdlets on Windows PowerShell

Module 2 - Azure Virtual Machines

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

Module 3 - Introduction to Azure Virtual Network Services

- Types of Azure Virtual Network - VNET to VNET, point-to-site and site-to-site, Express Route
- 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
- Understanding of Deployment Traffic Manager
- Create a VNET-to-VNET virtual network
- 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

- Overview of Microsoft Azure Storage
- Storage Account
- Storage Account Replication Techniques
- Protocols and Consistency Model
- Storage Services - Blob, Table, Queue and File
- Azure CDN Services
- Managed and Unmanaged Disks
- Provisioning Azure Storage Account
- Deploying Blob Storage
- Deploying Table Storage
- Deploying Queue Storage
- Deploying File Storage

Module 5 - Manage Microsoft Entra ID

- Microsoft Entra ID Overview
- Self- Service Password Reset
- Azure AD Identity Protection
- Integrating SaaS Applications with Azure AD
- Azure Domains and Tenants
- Azure Users and Groups
- Managing Devices
- Implement Microsoft Entra ID
- Configure Self-Service Password Reset
- Configure Integrated SaaS applications
- Configure domains and tenants, users and groups
- Manage Roles and devices
- Migration of OnPrem AD Users to Microsoft Entra ID
- Configure MFA

Module 6 - Azure Dns

- Overview of Azure DNS
- DNS Basics: Domain Names, DNS Zones, and Records
- Benefits of Using Azure DNS
- Setting Up Public and Private DNS Zones
- Registering and Managing Custom Domains
- Delegating Zones in Azure DNS and Records
- Creating and Managing DNS Records (A, CNAME, MX, TXT, etc.)
- Alias Records and Integration with Azure Services
- Record Set Management
- Importing and Exporting DNS Zone Files
- Setting Up and Configuring Azure DNS for a Web Application
- Implementing DNSSEC for a Domain
- Monitoring and Troubleshooting DNS with Azure Monitor

Module 7 - Azure SQL Database

- Understanding Database as a Service
- Difference between SQL Server and Azure SQL
- Advantages and Benefits of SQL database
- Scaling SQL Database
- Backup and Performance Options
- Security in Azure
- SQL Pricing Model
- Azure SQL Data Warehouse
- Migrate a database from OnPrem to SQL Azure

Module 8 - Azure Application Load Balancer

- Overview of Azure Load Balancer
- Types of Load Balancers: Basic vs. Standard
- Key Concepts: Backend Pools, Health Probes, Load Balancing Rules
- Load Balancing Algorithms
- Session Persistence (Sticky Sessions)
- High Availability and Scalability
- Load Balancer vs. Application Gateway vs. Traffic Manager
- Setting Up Backend Pools
- Configuring Health Probes
- Creating and Managing Load Balancing Rules
- Integrating with Virtual Networks (VNETs) and Network Security Groups
- Azure Monitor Integration for Load Balancer
- Analyzing Health Probe Logs
- Setting Up and Configuring an Azure Load Balancer
- Deploying a Multiregion Load Balanced Application
- Implementing URLbased Routing with Application Gateway
- Monitoring and Optimizing Load Balancer Performance

Module 9 - Azure Cosmos DB

- Overview of Azure Cosmos DB
- Multi-model database service
- Creating and Configuring a Cosmos DB Account
- Designing a Multi-region Cosmos DB Solution
- Implementing Partitioning and Query Optimization
- Building Applications using Cosmos DB SDKs

Module 10 - Azure Virtual Desktop (AVD)

- Introduction to Azure Virtual Desktop (AVD)
- Overview of Azure Virtual Desktop
- Planning AVD Deployments
- Designing Virtual Desktop Infrastructure (VDI)
- Sizing and Scaling Considerations
- Choosing between Personal and Pooled Desktops
- Networking and Security
- Configuring Virtual Networks (VNETs)
- Network Security Groups (NSGs) and Firewalls
- Secure Access and Identity Management
- Multi-factor Authentication (MFA) and Conditional Access
- Implementing Azure Virtual Desktop
- Setting Up Host Pools and Configuring Session Hosts
- Creating and Managing Application Groups
- Deploying Virtual Desktops and Applications
- User Profiles and Data Storage
- Profile Container Configuration and Storage
- Managing and Monitoring AVD

Module 11 - Manage App Service Plans

- Overview of Azure App Service
- Understanding App Service Plans and Pricing Tiers
- Deployment Methods (Git, FTP, Azure DevOps, GitHub Actions)
- Setting Up Continuous Integration and Continuous Deployment (CI/CD)
- Deploying Web Apps, APIs, and Mobile Apps
- Managing Deployment Slots and Staging Environments
- Vertical and Horizontal Scaling
- Auto-scaling Based on Metrics
- Configuring Virtual Network Integration
- Access Restrictions and IP Restrictions
- Securing Applications with Authentication and Authorization
- Application Gateway Integration and Web Application Firewall (WAF)
- Deploying and Configuring a Web Application in Azure App Service
- Setting Up Continuous Deployment with GitHub Actions
- Implementing Auto-scaling and Performance Monitoring
- Configuring Custom Domains and SSL for an Application

Module 12 - Azure Monitor

- Overview of Azure Monitor
- Core Capabilities and Use Cases
- Architecture and Components
- Creating and Managing Alerts
- Setting Up Action Groups
- Multi-resource and Multi-condition Alerts
- Integrating Alerts with External Systems (e.g., ITSM, Logic Apps)
- Monitoring Virtual Machines with Azure Monitor
- Network Performance Monitoring (NPM)
- Network Watcher Integration
- Analyzing Network Traffic and Connectivity
- VM Insights and Dependency Mapping
- Configuring Health Monitoring for VMs
- Setting Up Azure Monitor for a Web Application
- Creating and Querying Log Analytics Workspaces
- Implementing Alerts and Notifications for a Multi-tier Application
- Performance Monitoring and Troubleshooting

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CONTACT US

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