

Microsoft Azure Cloud Administration – Basics (3 Months)

Duration: 3 Months (~120 Hours)

Mode: Live Online / Classroom

Tools & Technologies: Azure Portal, Azure CLI, ARM Templates, Azure AD, Azure VNet, Azure Storage, Azure Key Vault, Azure Monitor

Certifications Prepared: AZ-900: Microsoft Azure Fundamentals, AZ-104: Microsoft Azure Administrator

Syllabus

Week 1: Introduction to Azure & Cloud Concepts

- Cloud computing models (IaaS, PaaS, SaaS) and use cases
- Azure global infrastructure: regions, zones, data centers
- Navigating Azure Portal and Cloud Shell
- Azure CLI & PowerShell basics
- Subscription & Resource Groups overview
- Hands-on: Create Resource Group & VM using Portal + CLI
- Assignment

Week 2: Identity & Governance

- Azure Active Directory: users, groups, licenses
- Role-Based Access Control (RBAC) – roles, assignments
- Multi-Factor Authentication (MFA), Conditional Access policies
- Azure Policies & Governance basics
- Hands-on: Implement RBAC for Storage Access
- Assignment

Week 3: Networking in Azure

- Virtual Networks (VNETs), Subnets, IP Addressing
- VNet Peering, Service Endpoints, Private Endpoints
- Network Security Groups (NSG), Application Security Groups
- VPN Gateway & ExpressRoute overview
- Hands-on: Create VNet with public + private subnets
- Assignment

Week 4: Compute Resources

- Azure Virtual Machines: images, sizes, extensions

- VM Scale Sets & Autoscaling policies
- Load Balancers (internal & external), Azure Bastion
- Availability Sets vs Availability Zones
- Hands-on: Deploy Highly Available VM architecture
- Assignment
- Mock Interview 1

Week 5: Storage Accounts

- Blob Storage: hot, cool, archive tiers
- Azure Files, Azure Queues, Tables overview
- Storage security, SAS tokens, lifecycle policies
- Azure Backup and Azure Site Recovery basics
- Hands-on: Configure Blob Storage lifecycle management
- Assignment

Week 6: Monitoring & Security Tools

- Azure Monitor: metrics, logs, alerts
- Azure Log Analytics: workspaces & queries
- Application Insights basics
- Azure Security Center overview
- Hands-on: Configure monitoring for VMs + Storage
- Assignment

Week 7: Databases & Key Vault

- Azure SQL Database: DTU vs vCore models
- Elastic Pools, Backup & Restore
- Cosmos DB introduction (NoSQL, Global Distribution)
- Azure Key Vault: secrets, keys, certificates
- Hands-on: Secure DB connection with Key Vault
- Assignment

Week 8: Capstone Project & Interview Prep

- Project: Multi-tier Application Deployment (VM + SQL + Storage + Monitoring)
- Best practices for cost optimization & governance
- Assignment
- Mock Interview 2

Learning Outcomes

- Understand Azure core infrastructure services (VMs, Storage, Networking, SQL)
- Secure identities with Azure Active Directory & RBAC
- Implement governance with Policies & Resource Groups
- Monitor and optimize environments using Azure Monitor & Security Center
- Prepare for AZ-900 and AZ-104 certification exams