

MICROSOFT AZURE – COMPLETE CONTENT

1. INTRODUCTION TO CLOUD & AZURE

- What is Cloud Computing
 - Cloud Service Models
 - IaaS
 - PaaS
 - SaaS
 - Cloud Deployment Models
 - Public
 - Private
 - Hybrid
 - What is Microsoft Azure
 - Azure global infrastructure
 - Azure regions & availability zones
 - Azure subscriptions & accounts
 - Azure portal, CLI, PowerShell
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2. AZURE CORE SERVICES (FOUNDATION)

2.1 Azure Compute Services

- Virtual Machines (VM)
 - VM Scale Sets
 - Azure App Service
 - Azure Functions (Serverless)
 - Azure Container Instances (ACI)
 - Azure Kubernetes Service (AKS)
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2.2 Azure Storage Services

- Azure Storage Account
- Blob Storage
- File Storage
- Queue Storage
- Table Storage
- Storage redundancy (LRS, GRS, ZRS)
- Azure Data Lake (overview)

2.3 Azure Networking

- Virtual Network (VNet)
- Subnets
- Network Security Groups (NSG)
- Application Gateway
- Azure Load Balancer
- Azure DNS
- Azure VPN Gateway
- Azure ExpressRoute

3. AZURE DATABASE & DATA SERVICES

3.1 Relational Databases

- Azure SQL Database
- Azure SQL Managed Instance
- SQL Server on Azure VM
- Azure Database for MySQL
- Azure Database for PostgreSQL

3.2 NoSQL & Big Data

- Azure Cosmos DB
 - Core (SQL) API
 - MongoDB API
 - Cassandra API
- Azure Table Storage
- Azure Synapse Analytics
- Azure Data Factory
- Azure Databricks

4. AZURE IDENTITY & SECURITY ★

4.1 Azure Active Directory (Entra ID)

- Azure AD overview
- Users, Groups
- Roles & RBAC
- Conditional Access

- Multi-Factor Authentication (MFA)
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4.2 Azure Security Services

- Azure Key Vault
 - Azure Defender (Defender for Cloud)
 - Azure Sentinel (SIEM)
 - Azure Policy
 - Azure Blueprints
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5. AZURE DEVOPS ★ ★ ★

5.1 Azure DevOps Overview

- Azure Boards
 - Azure Repos (Git)
 - Azure Pipelines
 - Azure Artifacts
 - Azure Test Plans
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5.2 CI/CD in Azure

- Build Pipelines
 - Release Pipelines
 - YAML pipelines
 - Deploying applications to:
 - Azure App Service
 - Azure VM
 - AKS
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6. AZURE CONTAINERS & KUBERNETES

- Docker basics
- Azure Container Registry (ACR)
- Azure Kubernetes Service (AKS)
- Pods, Services, Deployments
- Scaling & Auto-scaling
- Rolling updates
- Helm (overview)

7. AZURE MONITORING & MANAGEMENT

- Azure Monitor
- Log Analytics
- Application Insights
- Alerts
- Azure Automation
- Azure Backup
- Azure Site Recovery

8. AZURE INTEGRATION SERVICES

- Azure Service Bus
- Azure Event Grid
- Azure Event Hubs
- Azure Logic Apps
- Azure API Management

9. AZURE AI & DATA (OVERVIEW)

- Azure Cognitive Services
- Azure Machine Learning
- Azure OpenAI (overview)
- Azure Bot Service

10. AZURE GOVERNANCE & COST MANAGEMENT

- Azure Resource Manager (ARM)
- ARM Templates
- Bicep (overview)
- Azure Cost Management
- Budgets & alerts
- Resource tagging

11. AZURE MIGRATION & HYBRID

- Azure Migrate

- Lift & Shift strategy
 - Hybrid cloud
 - Azure Arc
 - On-premise to Azure migration
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12. AZURE ARCHITECTURE & BEST PRACTICES

- Well-Architected Framework
 - High Availability
 - Disaster Recovery
 - Scalability & Performance
 - Security best practices
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13. AZURE CERTIFICATION PATH

- AZ-900 (Azure Fundamentals)
- AZ-104 (Azure Administrator)
- AZ-204 (Azure Developer)
- AZ-305 (Azure Architect)
- AZ-400 (DevOps Engineer)