



To discuss this course and customizations:  
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## Microsoft Azure Fundamentals

### Class Duration

35 hours of live training delivered over 5 days.

### Student Prerequisites

- General understanding of software development concepts
- Basic knowledge of networking concepts (TCP/IP, DNS)
- Familiarity with command-line interfaces
- Understanding of web applications and APIs
- No prior Azure or cloud computing experience required

### Target Audience

This course is designed for software engineers who are new to Microsoft Azure and cloud computing. It's ideal for developers transitioning to cloud-native development, engineers preparing for Azure certifications, and technical professionals seeking to understand Azure's core services and capabilities. The course provides a solid foundation for those planning to build, deploy, and manage applications in the Azure cloud environment.

### Description

Microsoft Azure Fundamentals is a comprehensive 5-day course that introduces software engineers to Microsoft Azure's core cloud services and concepts. Participants will gain hands-on experience with Azure's global infrastructure, compute services, storage solutions, networking capabilities, and security features. The course covers essential topics from basic cloud concepts to advanced services like AI and machine learning, providing a thorough foundation for working with Azure in professional environments.

Students will learn to navigate Azure through multiple interfaces including the Azure Portal, CLI, and PowerShell, while understanding key concepts like resource management, identity and access control, and cost optimization. The course emphasizes practical, hands-on learning with real-world scenarios and best practices for implementing Azure solutions. By completion, participants will be well-prepared to design, implement, and manage Azure-based solutions and will have the foundational knowledge needed for Azure certification paths.



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## Learning Outcomes

- Understand cloud computing models (IaaS, PaaS, SaaS) and their applications in Azure
- Navigate and manage Azure resources using Portal, CLI, and PowerShell interfaces
- Design and implement secure identity and access management solutions using Microsoft Entra ID
- Deploy and configure core compute services including VMs, App Service, and Azure Functions
- Implement storage solutions using Azure Storage accounts, databases, and data services
- Configure virtual networks, security groups, and load balancing for application connectivity
- Monitor applications and infrastructure using Azure Monitor and Log Analytics
- Manage costs and optimize spending using Microsoft Cost Management tools
- Implement infrastructure as code using Azure Bicep templates
- Evaluate and integrate Azure AI services into applications

## Training Materials

Comprehensive courseware is distributed online at the start of class. All students receive a downloadable MP4 recording of the training.

## Software Requirements

- Web browser with access to Azure Portal
- Azure CLI installed locally
- Azure PowerShell module
- Visual Studio Code or preferred code editor
- Git for version control
- Azure account (free tier provided)
- Bicep extension for VS Code

## Training Topics

### Cloud Computing Fundamentals

- Cloud service models (IaaS, PaaS, SaaS)
- Public, private, and hybrid cloud concepts



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- Azure global infrastructure overview
- Regions, availability zones, and geography
- Sovereign and government clouds

#### Azure Infrastructure and Management

- Azure Portal navigation and customization
- Azure CLI commands and scripting
- Azure PowerShell modules and cmdlets
- Resource groups and organization strategies
- Subscriptions and management groups
- Azure Resource Manager (ARM) concepts

#### Identity and Access Management

- Microsoft Entra ID fundamentals
- Users, groups, and administrative units
- Role-based access control (RBAC)
- Conditional access policies
- Multi-factor authentication setup
- Privileged Identity Management basics

#### Security and Compliance

- Microsoft Defender for Cloud overview and recommendations
- Azure Key Vault for secrets management
- Network security groups and rules
- Compliance frameworks in Azure
- Security best practices and governance

#### Core Compute Services

- Azure Virtual Machines and VM Scale Sets
- VM sizes, pricing, and optimization
- Azure App Service for web applications
- Azure Functions serverless computing
- Azure Container Apps for microservices
- Azure Kubernetes Service overview

#### Storage and Data Services

- Azure Storage accounts and types
- Blob storage tiers and lifecycle management



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- Azure Files and file sync
- Azure Disk Storage options
- Azure SQL Database and managed instances
- Azure Cosmos DB multi-model database
- Data migration tools and Azure Migrate

### Networking Services

- Virtual Networks (VNets) and subnets
- Network Security Groups (NSGs)
- Azure Load Balancer configuration
- Application Gateway and WAF
- Azure DNS and custom domains
- VPN Gateway and ExpressRoute basics

### Monitoring and Management

- Azure Monitor and metrics collection
- Log Analytics workspace setup
- Application Insights for applications
- Azure Advisor recommendations
- Alerts and automated responses
- Diagnostic settings and log retention

### Cost Management and Optimization

- Azure pricing models and calculators
- Microsoft Cost Management + Billing
- Cost analysis and budgets
- Resource tagging strategies
- Azure Advisor cost recommendations
- Reserved instances and savings plans

### Infrastructure as Code and AI Services

- Introduction to Azure Bicep
- Template structure and deployment
- Microsoft Foundry overview
- Azure OpenAI Service capabilities
- Azure AI Services integration
- AI model deployment and management