



20535 Architecting Microsoft Azure Solutions

This course is intended for architects who have experience building infrastructure and applications on the Microsoft Azure platform. Students should have a thorough understanding of most services offered on the Azure platform. The students typically work for organizations that have an active solution on Azure and are planning to enhance existing solutions or deploy more solutions to the Azure platform.

Length Days: 5 / Length Hours: 40

TARGET AUDIENCE

This course is intended for students who have experience building infrastructure and applications on the Microsoft Azure platform. Students should have a thorough understanding of most services offered on the Azure platform.

For the interactive component, this course offers students the opportunity to deploy Azure solutions using built-in DevOps tools such as Azure Resource Manager templates, deployments, resource groups, tags and Role-Based Access Control.

This course does not require any direct experience writing application code or configuring server machines. This course focuses on the architectural comparisons between services and technical decision making needed to deploy well-designed solutions on the Azure platform.

COURSE OBJECTIVES

After completing this course, students will be able to:

- Describe Azure architecture components, including infrastructure, tools, and portals.
- Create and deploy Azure Resource Manager (ARM) templates for various all-up solutions.
- Compare and contrast various infrastructure, serverless, database and communication services; such as App Services, Virtual Machine Scale Sets, Azure Cosmos DB, SQL Database, and Container Service in Azure.

- Incorporate various Azure platform services, such as Cognitive Services and Media Services into an overall Azure solution.
- Secure, monitor and backup solutions deployed to Azure.
- Create automated DevOps solutions using a combination of ARM templates, configuration management utilities, Azure CLI, and the Cloud Shell.
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COURSE OUTLINE

1 - APPLICATION ARCHITECTURE PATTERNS IN AZURE

- Pattern Resources
- Performance Patterns
- Resiliency Patterns
- Scalability Patterns
- Data Patterns

2 - DEPLOYING RESOURCES WITH AZURE RESOURCE MANAGER

- ARM Templates
- Role-Based Access Control (RBAC)
- Resource Policies
- Security
- Building Blocks
- Lab : Getting Started with Azure Resource Manager

3 - BUILDING AZURE IAAS-BASED SERVER APPLICATIONS

- High Availability
- Templated Infrastructure
- Domain-Connected Machines
- Lab : Deploying Infrastructure Workloads to Azure

4 - CREATING MANAGED SERVER APPLICATIONS IN AZURE

- Infrastructure-Backed Platform-as-a-Service (PaaS)
- High-Performance Compute (HPC)
- Migration
- Lab : Deploying Managed Server Workloads to Azure

5 - AUTHORIZING SERVERLESS APPLICATIONS IN AZURE

- Azure Web App
- Azure Functions
- Integration
- High Performance
- Lab : Deploying Serverless Workloads to Azure

6 - BACKING AZURE SOLUTIONS WITH AZURE STORAGE

- Pricing
- Blob Storage
- Files
- StorSimple
- Lab : Deploying Azure Storage to Support Other Workloads in Azure

7 - COMPARING DATABASE OPTIONS IN AZURE

- Relational
- NoSQL Services
- Azure Cosmos DB
- Data Storage
- Data Analysis
- Lab : Deploying Database Instances in Azure

8 - NETWORKING AZURE APPLICATION COMPONENTS

- VNETs
- Load Balancing
- External Connectivity
- Hybrid Connectivity
- Lab : Deploying Network Components for Use in Azure Solutions

9 - MANAGING SECURITY AND IDENTITY FOR AZURE SOLUTIONS

- Security Monitoring
- Data Security
- Application Security Azure Active Directory (Azure AD)
- Hybrid Identity
- Azure AD Application Integration
- Lab : Deploying Services to Secure Secrets in Azure

10 - INTEGRATING SAAS SERVICES AVAILABLE ON THE AZURE PLATFORM

- Cognitive Services
- Bot Services
- Machine Learning
- Media Services
- Lab : Deploying Service Instances as Components of Overall Azure Solutions

11 - INTEGRATING AZURE SOLUTION COMPONENTS USING MESSAGING SERVICES

- Event Messaging
- Integration
- IoT
- Lab : Deploying Messaging Components to Facilitate Communication Between Azure Resources

12 - MONITORING AND AUTOMATING AZURE SOLUTIONS

- Application Monitoring
- Platform Monitoring
- Network Monitoring
- Alerting
- Backup
- Azure Automation
- Config Management
- Auto-Scale
- Lab : Deploying Configuration Management Solutions to Azure