

# A Revolutionary Learning in IT

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# **Microsoft Azure Developer AZ-204 Curriculum**

## **Introduction to Azure Iaas Compute Solutions**

- Overview of Microsoft Azure
- Azure Virtual Machines
- Configure Azure VMs for remote access
- Using Azure SDKs

## Hands-On:

• Provision VMs by using the Azure Portal, Power Shell, and code

# **Implementing Azure Batch Service and Disk Encryption**

- ARM templates for Azure Virtual Machines
- Azure Disk Encryption
- Azure Batch Services

#### Hands-On:

- Deploy ARM templates for VM
- Run a batch job by using Azure CLI, Azure portal and Code

#### **Designing and Developing Applications that use Containers**

- Overview of Azure Kubernetes Service (AKS)
- AKS clusters
- Azure Container Registry

#### Hands-On:

- Create an Azure Managed Kubernetes Service (AKS) cluster
- Create container images for solutions
- Publish an image to the Azure Container Registry
- Run containers by using Azure Container Instance or AKS

## **Implementing Azure App Service Web Apps & Mobile Apps**

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- Azure App Service core concepts
- Azure App Service Web Apps
- WebJobs
- Azure App Service Mobile Apps
- Register

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# Hands-On:

- Creating App Service web apps by using Azure CLI, Azure Portal, and PowerShell
- Creating continuous and triggered WebJobs
- Pushing an app on to the Mobile App service
- Registering apps for push notificationsring apps for Push notifications

# **Implementing Azure App Service API Apps & Azure Functions**

- Azure App Service API Apps
- API documentation
- Azure Functions overview
- Durable functions

## Hands-On:

- Creating an APIM instance and a new API
- Use Swashbuckle to create Swagger objects in ASP.NET Core
- Creating functions, bindings, and triggers
- Creating Durable functions

# **Developing Solutions** that use Azure Table Storage and Cosmos DB

- Azure Table storage overview
- Authorization in Table storage
- Table service REST API
- Azure Cosmos DB overview
- Managing containers and items
- Handle documents
- Scaling
- Implement server-side programming

## Hands-On:

- Perform Shared Key Authorization
- Use the Azure Table storage REST service to manage data
- Create, read, update, and delete data by using appropriate APIs
- Creating and updating documents by using code

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# Developing Solutions that use Relational Database and Azure Blob Storage

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- Azure SQL overview
- Database operations (CRUD)
- Azure Blob storage overview
- Working with Azure Blob storage
- Blob Leasing in Azure

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• Hot Storage





- Cool Storage
- Archive Storage •

#### Hands-On:

- Create, read, update, and delete database tables by using code
- Set and retrieve Blob storage properties and metadata
- Replicate and copy Blobs
- Implement Blob Leasing on Portal

## **Implementing Authentication and Access Control in Azure**

- Microsoft identity platform •
- OAuth2 authentication
- Managed Identities
- Azure Key Vault
- Claims-based authorization
- Role-based access control (RBAC) authorization •

## Hands-On:

- Implementing OAuth2 authentication in the solutions
- Using Azure Key Vault to store and retrieve authentication information
- Implementing multi-factor authentication
- Implementing Claims-based authorization
- Manage access to resources using RBAC through the REST API

## **Implementing Secure Data Solutions and Integrating Caching and CDN**

- Encryption options
- End-to-end encryption
- Azure confidential computing
- Managing cryptographic keys in Azure Key Vault
- Azure Cache for Redis
- Develop for storage on CDNs

#### Hands-On:

- Encrypting data with Transparent Data Encryption
- Managing and utilizing encryption keys by using the Azure key Vault
- Configuring and interacting with Azure Redis Cache
- Managing Azure CDN

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# Instrument Monitoring, Logging and Scalability of Apps and Services

- Overview of Azure Monitor
- Application Insights
- Autoscale patterns and best practices
- Handling transient faults

#### Hands-On:

- Adding default code to web pages, console apps, and Windows desktop apps to support
- Telemetry
- Using dashboards and other tools to monitor and troubleshoot their app
- Implementing Autoscale
- Implementing code that addresses singleton application instances
- Implementing code that handles transient faults

#### **Connecting to and Consuming Azure and Third-party Services**

- Azure Logic Apps overview
- Custom connectors for Logic Apps
- Custom templates for Logic Apps
- Azure Search service
- Introduction to the API Management service
- Secure APIs
- Define API policies

## Hands-On:

- Creating Logic Apps by using Visual Studio
- Creating an Azure Search index
- Importing searchable data
- Querying the Azure Search index
- Secure APIs

## **Developing Event-based and Message-based Solutions in Azure**

- Azure Event Grid
- Azure Event Hubs
- Azure Notification Hubs
- Azure Service Bus

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• Azure Queue Storage queues

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#### Hands-On:

- Create and integrate Event Grid, Event Hubs and Notification Hubs
- Create and integrate Azure Service Bus



# For More Info:

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