Developing solutions for Microsoft Azure

Course code: MOC AZ-204

This course teaches developers how to create end-to-end solutions in Microsoft Azure. Students will learn how to implement Azure compute solutions, create Azure Functions, implement and manage web apps, develop solutions utilizing Azure storage, implement authentication and authorization, and secure their solutions by using KeyVault and Managed Identities. Students will also learn how to connect to and consume Azure services and third-party services, and include event- and message-based models in their solutions. The course also covers monitoring, troubleshooting, and optimizing Azure solutions.

Who the course is for:

- Students in this course are interested in Azure development or in passing the Microsoft Azure Developer Associate certification exam

Required skills:

- Students should have 1-2 years professional development experience and experience with Microsoft Azure. They must be able to program in an Azure Supported Language.

Teaching methods:

- Professional explanation with practical samples and examples.

Teaching materials:

- Original Microsoft Student Guide, price is not included.

Course syllabus:

Module 1: Creating Azure App Service Web Apps

- Azure App Service core concepts
- Creating an Azure App Service Web App
- Configuring and Monitoring App Service apps
- Scaling App Service apps
- Azure App Service staging environments

Module 2: Implement Azure functions

- Azure Functions overview
- Developing Azure Functions
- Implement Durable Functions

Module 3: Develop solutions that use blob storage

- Azure Blob storage core concepts
- Managing the Azure Blob storage lifecycle
- Working with Azure Blob storage

Module 4: Develop solutions that use Cosmos DB storage

- Azure Cosmos DB overview
- Azure Cosmos DB data structure
- Working with Azure Cosmos DB resources and data

Module 5: Implement IaaS solutions

- Provisioning VMs in Azure
- Create and deploy ARM templates
- Create container images for solutions
- Publish a container image to Azure Container Registry
- Create and run container images in Azure Container Instances

Module 6: Implement user authentication and authorization

- Microsoft Identity Platform v2.0

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- Authentication using the Microsoft Authentication Library
- Using Microsoft Graph
- Authorizing data operations in Azure Storage

Module 7: Implement secure cloud solutions
- Manage keys, secrets, and certificates by using the KeyVault API
- Implement Managed Identities for Azure resources
- Secure app configuration data by using Azure App Configuration

Module 8: Implement API Management
- API Management overview
- Defining policies for APIs
- Securing your APIs

Module 9: Develop App Service Logic Apps
- Azure Logic Apps overview
- Creating custom connectors for Logic Apps

Module 10: Develop event-based solutions
- Implement solutions that use Azure Event Grid
- Implement solutions that use Azure Event Hubs
- Implement solutions that use Azure Notification Hubs

Module 11: Develop message-based solutions
- Implement solutions that use Azure Service Bus
- Implement solutions that use Azure Queue Storage queues

Module 12: Monitor and optimize Azure solutions
- Overview of monitoring in Azure
- Instrument an app for monitoring
- Analyzing and troubleshooting apps
- Implement code that handles transient faults

Module 13: Integrate caching and content delivery within solutions
- Develop for Azure Cache for Redis
- Develop for storage on CDNs

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