Developing Solutions for Microsoft Azure

Course AZ-204 5 Days Instructor-led, Hands on

Course Information

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 Should Attend?

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

At Course Completion

After completing this course, students will be able to:

- Implement Azure compute solutions and create Azure Functions
- Implement and manage web apps
- Develop solutions utilizing Azure storage
- Implement authentication and authorization
- Secure their solutions by using KeyVault and Managed Identities
- How to connect to and consume Azure services and third-party services, and include event- and message-based models in their solutions.
- Monitoring, troubleshooting, and optimizing Azure solutions

Prerequisites

Before attending this course, students should have the following experience:

- Intermediate experience with C#, JavaScript, Python, or Java
- Hands-on experience with Azure IaaS and PaaS services via the Azure Portal
- Experience working with SQL or NoSQL databases
- Understanding of authentication and authorization concepts
- Familiarity with HTML, HTTP protocol, and REST APIs

Contact ISInc for more information at 916.920.1700 or by visiting our website at http://www.isinc.com

Course Outline

Module 1: Explore Azure App Service

- Examine Azure App Service
- Examine Azure App Service plans
- Deploy to App Service
- Explore authentication and authorization in App Service
- Discover App Service networking features
- Module assessment

Module 2: Configure web app settings

- Configure application settings
- Configure general settings
- Configure path mappings
- Enable diagnostic logging
- Configure security certificates
- Module assessment

Module 3: Scale apps in Azure App Service

- Examine scale out options
- Identify autoscale factors
- Enable autoscale in App Service
- Explore autoscale best practices
- Module assessment

Module 4: Explore Azure App Service deployment slots

- Explore staging environments
- Examine slot swapping
- Swap deployment slots
- Route traffic in App Service
- Module assessment

Module 5: Explore Azure Functions

- Discover Azure Functions
- Compare Azure Functions hosting options
- Scale Azure Functions
- Module assessment

Module 6: Develop Azure Functions

- Explore Azure Functions development
- Create triggers and bindings
- Connect functions to Azure services

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- Module assessment

Module 7: Explore Azure Blob storage

- Explore Azure Blob storage
- Discover Azure Blob storage resource types
- Explore Azure Storage security features
- Module assessment

Module 8: Manage the Azure Blob storage lifecycle

- Explore the Azure Blob storage lifecycle
- Discover Blob storage lifecycle policies
- Implement Blob storage lifecycle policies
- Rehydrate blob data from the archive tier
- Module assessment

Module 9: Work with Azure Blob storage

- Explore Azure Blob storage client library
- Create a client object
- Manage container properties and metadata by using .NET
- Set and retrieve properties and metadata for blob resources by using REST
- Module assessment

Module 10: Explore Azure Cosmos DB

- Identify key benefits of Azure Cosmos DB
- Explore the resource hierarchy
- Explore consistency levels
- Choose the right consistency level
- Explore supported APIs
- Discover request units
- Module assessment

Module 11: Work with Azure Cosmos DB

- Explore Microsoft .NET SDK v3 for Azure Cosmos DB
- Create stored procedures
- Create triggers and user-defined functions
- Explore change feed in Azure Cosmos DB
- Module assessment

Module 12: Manage container images in Azure Container Registry

- Discover the Azure Container Registry
- Explore storage capabilities

- Build and manage containers with tasks
- Explore elements of a Dockerfile
- Module assessment

Module 13: Run container images in Azure Container Instances

- Explore Azure Container Instances
- Run containerized tasks with restart policies
- Set environment variables in container instances
- Mount an Azure file share in Azure Container Instances
- Module assessment

Module 14: Implement Azure Container Apps

- Explore Azure Container Apps
- Explore containers in Azure Container Apps
- Implement authentication and authorization in Azure Container Apps
- Manage revisions and secrets in Azure Container Apps
- Explore Dapr integration with Azure Container Apps
- Module assessment

Module 15: Explore the Microsoft identity platform

- Explore the Microsoft identity platform
- Explore service principals
- Discover permissions and consent
- Discover conditional access
- Module assessment

Module 16: Implement authentication by using the Microsoft Authentication Library

- Explore the Microsoft Authentication Library
- Initialize client applications
- Module assessment

Module 17: Implement shared access signatures

- Discover shared access signatures
- Choose when to use shared access signatures
- Explore stored access policies
- Module assessment

Module 18: Explore Microsoft Graph

- Discover Microsoft Graph
- Query Microsoft Graph by using REST
- Query Microsoft Graph by using SDKs

- Apply best practices to Microsoft Graph
- Module assessment

Module 19: Implement Azure Key Vault

- Explore Azure Key Vault
- Discover Azure Key Vault best practices
- Authenticate to Azure Key Vault
- Module assessment

Module 20: Implement managed identities

- Explore managed identities
- Discover the managed identities authentication flow
- Configure managed identities
- Acquire an access token
- Module assessment

Module 21: Implement Azure App Configuration

- Explore the Azure App Configuration service
- Create paired keys and values
- Manage application features
- Secure app configuration data
- Module assessment

Module 22: Explore API Management

- Discover the API Management service
- Explore API gateways
- Explore API Management policies
- Create advanced policies
- Secure APIs by using subscriptions
- Secure APIs by using certificates
- Module assessment

Module 23: Explore Azure Event Grid

- Explore Azure Event Grid
- Discover event schemas
- Explore event delivery durability
- Control access to events
- Receive events by using webhooks
- Filter events
- Module assessment

Module 24: Explore Azure Event Hubs

- Discover Azure Event Hubs
- Explore Event Hubs Capture
- Scale your processing application
- Control access to events
- Perform common operations with the Event Hubs client library
- Module assessment

Module 25: Discover Azure message queues

- Choose a message queue solution
- Explore Azure Service Bus
- Discover Service Bus queues, topics, and subscriptions
- Explore Service Bus message payloads and serialization
- Explore Azure Queue Storage
- Create and manage Azure Queue Storage and messages by using .NET
- Module assessment

Module 26: Monitor app performance

- Explore Application Insights
- Discover log-based metrics
- Instrument an app for monitoring
- Select an availability test
- Troubleshoot app performance by using Application Map
- Module assessment