

AZ-201: Develop Advanced Microsoft Azure Cloud Solutions

Course Summary

Description

The coursework covers how to ensure your solution meets performance expectations in Azure. It covers asynchronous processing, autoscaling, long-running tasks, and distributed transactions. Additionally, you'll learn how to leverage Azure Search for textual content, and how to implement instrumentation and logging in your development solution. The class covers how to integrate and manage APIs by using the API Management service, configure message-based integration architecture, and develop an application message model.

Students will also learn how to integrate Azure Cognitive Services, like Computer Vision, QnA Maker, and natural language processing in your solution. You'll also learn how to create and manage bots using the Bot Framework and Azure portal. The course also covers leveraging Azure Time Series Insights, Stream Analytics and the IoT Hub for your IoT solution.

Topics

- Develop for asynchronous processing
- Develop for autoscaling
- Develop long-running tasks
- Implement distributed transactions
- Enable the search of textual content
- Module 6: Instrument an app or service and implement logging
- Manage APIs by using API Management
- Configure a message-based integration architecture
- Develop an application message model
- Develop Azure Cognitive Services solutions
- Create and integrate bots
- Create and implement IoT solutions

Audience

This course is designed for experienced programmers who want to develop and host solutions in Azure

Prerequisites

Before taking this course, students should have some experience with Azure and must be able to program in at least one Azure-supported language. This course focuses on C#, Node.js, Azure CLI, Azure PowerShell, and JavaScript

Duration

Four days

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Course Outline

- I. Develop for asynchronous processing*
 - A. Implement parallelism multithreading and processing
 - B. Implement Azure Functions and Azure Logic Apps
 - C. Implement interfaces for storage or data access•Implement appropriate asynchronous computing models
- II. Develop for autoscaling*
 - A. Implement autoscaling rules and patterns
 - B. Implement code that addresses singleton application instances
 - C. Implement code that addresses a transient state
- III. Develop long-running tasks*
 - A. Implement large scale parallel and high-performance apps by using batches
 - B. Implement resilient apps by using queues
 - C. Implement code to address application events by using webhooks
 - D. Address continuous processing tasks by using Azure WebJobs
- IV. Implement distributed transactions*
 - A. Identify tools to implement distributed transactions
 - B. Manage the transaction scope
 - C. Manage transactions across multiple databases and servers
- V. Enable the search of textual content*
 - A. Create an Azure Search index
 - B. Import searchable data
 - C. Query the Azure Search index by using code
- VI. Instrument an app or service and implement logging*
 - A. Configure instrumentation in an app or service
 - B. Configure the logging service
- VII. Manage APIs by using API Management*
 - A. Analyze recommendations in Security Center
 - B. Create an API Management instance
 - C. Configure authentication for APIs
 - D. Create an API gateway
 - E. Define policies for APIs
- VIII. Configure a message-based integration architecture*
 - A. Configure an app or service to send emails
 - B. Configure an event publish and subscribe model
 - C. Configure the Azure Relay service
 - D. Create and configure a notification hub
 - E. Create and configure an event hub
 - F. Create and configure a service bus
 - G. G. Configure an app or service with Microsoft Graph
- IX. Develop an application message model*
 - A. Create an event model
 - B. Create topics and subscriptions
- X. Develop Azure Cognitive Services solutions*
 - A. Cognitive Services overview
 - B. Develop solutions using Computer Vision
 - C. Develop solutions using Bing Web Search
 - D. Develop solutions using Custom Speech Service
 - E. Develop solutions using QnA Maker
- XI. Create and integrate bots*
 - A. Azure Bot Service overview
 - B. Create a bot using the Bot Builder SDK for .NET
 - C. Using Language Understanding in your bot
 - D. Register a bot with Bot Service
 - E. Managing a bot using the Azure Portal
- XII. Create and implement IoT solutions*
 - A. Working with the Azure IoT Hub
 - B. Working with Azure Time Series Insights
 - C. Working with Azure Stream Analytics