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Sign Up

AI Cloud Developer Associate (AI-200) Certification Training

formerly AZ-204

5 days (35 hours)

Overview

The Microsoft Certified: Azure AI Cloud Developer Associate certification validates the skills needed to develop, connect, secure, and monitor cloud applications that integrate artificial intelligence services on Azure.

Our AI Cloud Developer Associate (AI-200) Certification Training prepares you to develop modern back-end solutions that combine containers, data services, vector search, and event-driven architectures on Azure.

You'll learn how to develop and deploy containerized applications, leverage Azure Blob Storage and Cosmos DB, and implement vector search and caching to meet the needs of AI applications.

You'll also be able to connect your applications to Azure services using Service Bus, Event Grid, and Azure Functions, and then secure access, secrets, and configurations with Azure Identity, Key Vault, and App Configuration.

Finally, you'll learn how to instrument, monitor, and troubleshoot your solutions using OpenTelemetry and KQL. The workshops and practice exercises will help you reinforce the skills assessed on the AI-200 exam.

Upon completion of this course, you will be able to develop an end-to-end Azure AI Cloud solution and will have the knowledge necessary to prepare for the AI-200 exam: Developing AI Cloud Solutions on Azure.

Like all our training courses, this one will introduce you to **the latest stable version** of the

technology and its new features.

Objectives

- Develop and deploy containerized solutions on Azure
- Integrate Azure data services with AI applications
- Implement vector search and caching mechanisms
- Build event-driven architectures with Service Bus, Event Grid, and Azure Functions
- Secure identities, secrets, and configurations for Azure applications
- Monitor and troubleshoot solutions with OpenTelemetry and KQL
- Prepare for the AI-200 certification exam

Target Audience

- Azure developers
- Cloud developers
- Python developers
- Software Engineers
- AI Engineers developing applications on Azure
- Professionals preparing for the Azure AI Cloud Developer Associate certification

Prerequisites

- Experience developing applications with Python
- General knowledge of Microsoft Azure services and resources
- Understanding of APIs, back-end applications, and cloud architectures
- Basic understanding of containerization, databases, and messaging services is recommended
- Basic knowledge of identity, security, and monitoring for cloud applications

Note: Ambient IT does not own Microsoft Certifications™; this certification belongs to Microsoft

Curriculum for our AI Cloud Developer Associate (AI-200) Certification Training

[Day 1 - Morning]

Developing containerized solutions on Azure

- Understand the architecture of a cloud AI application and select the appropriate Azure services
- Create and manage container images with Azure Container Registry
- Develop and configure containerized applications for Azure
- Deploy workloads with Azure Container Apps and configure their runtime settings

- Manage configuration, environment variables, scalability, and the application lifecycle
- Hands-on workshop: Containerize a Python application, publish its image to Azure Container Registry, and deploy it to Azure.

[Day 1 - Afternoon]

Leverage Azure compute and runtime services

- Choose between the main runtime services based on application constraints
- Deploy and configure applications with Azure App Service
- Understand scenarios requiring orchestration with Azure Kubernetes Service (AKS)
- Configure the scalability, resources, and settings required for workloads
- Use the Azure SDKs and development tools to interact with cloud services
- Hands-on workshop: Deploy a back-end application and adapt its hosting model to meet availability and scalability requirements.

[Day 2 - Morning]

Develop AI solutions with Azure data services

- Store and manipulate application data with Azure Blob Storage
- Develop operations for reading, writing, and managing objects from an application
- Use Azure Cosmos DB to store and query distributed data
- Configure access and use Azure SDKs to manipulate data
- Choose a storage strategy tailored to the needs of an AI application
- Hands-on workshop: Connect a Python application to Blob Storage and Cosmos DB, then manipulate the data required for an AI service.

[Day 2 - Afternoon]

Implement vector search and caching

- Understand the role of embeddings and vector data in AI applications
- Create and use indexes that enable vector search
- Query data and retrieve relevant information from an application
- Use Azure Managed Redis to cache data and reduce response times
- Optimize data access, latency, and the performance of AI applications
- Hands-on workshop: Integrating vector search into an application and caching results to improve performance.

[Day 3 - Morning]

Building event-driven architectures with Azure services

- Understanding event-driven architectures and selecting the right messaging service
- Send and receive messages with Azure Service Bus
- Publish and process events with Azure Event Grid
- Develop serverless, event-driven processing with Azure Functions
- Managing errors, retries, and the reliability of asynchronous processing
- Hands-on workshop: Build an event-driven workflow combining Service Bus or Event Grid with an Azure Function.

[Day 3 - Afternoon]

Connect to and consume Azure services

- Use the Azure SDKs to integrate cloud services into an application
- Configure the clients, endpoints, and settings required for connections between services
- Implement the appropriate authentication mechanisms for application communications
- Manage asynchronous calls, errors, timeouts, and retry strategies
- Design reliable integrations between data, events, and application services
- Hands-on workshop: Connect an application to multiple Azure services and implement error handling and retry logic.

[Day 4 - Morning]

Securing Azure applications and services

- Understand Azure identity and authentication mechanisms as they apply to applications
- Use managed identities to avoid storing credentials in code
- Store and retrieve secrets, keys, and certificates with Azure Key Vault
- Centralize application configuration with Azure App Configuration
- Apply the principle of least privilege and secure communications between services
- Hands-on workshop: Securing an application with a managed identity, Key Vault, and externalized configuration.

[Day 4 - Afternoon]

Monitor and troubleshoot Azure solutions

- Instrument an application to collect logs, metrics, and traces
- Implement distributed observability with OpenTelemetry
- Analyze telemetry data and diagnose application errors
- Query logs using Kusto Query Language (KQL)
- Identify performance, connectivity, and service availability issues
- Hands-on lab: Instrument an application, analyze its telemetry, and diagnose multiple incidents using Azure tools and KQL.

[Day 5 - Morning]

Design an end-to-end Azure AI Cloud solution

- Combine containers, data, events, and Azure services into a cohesive application architecture
- Select the appropriate services based on scalability, availability, and performance constraints
- Integrate vector search and caching mechanisms into AI applications
- Secure identities, secrets, configurations, and communications between components
- Set up observability and the mechanisms needed for diagnostics in production
- Hands-on workshop: Build the architecture and key components of an AI Cloud application that integrates computing, data, events, security, and monitoring.

[Day 5 - Afternoon]

Preparation for the AI-200 certification

- Review the official AI-200 exam topics and their weightings
- Reinforce skills in containerized solutions and Azure data services
- Review Azure messaging and eventing services and integration mechanisms
- Review the principles of security, monitoring, and troubleshooting
- Identify areas of weakness and develop a tailored study strategy for the exam
- Hands-on workshop: Analyze sample questions and scenarios representative of the skills assessed on the AI-200 exam.

Target Audience

This training is intended for both individuals and companies—large or small—that wish to train their teams in new, advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

Entry-Level Assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Hands-On Training: 60% hands-on, 40% theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor, supported by examples and

reflection sessions and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.