AI-200T00: Develop AI cloud solutions on Azure

Course Description

This course teaches developers how to create, monitor, and troubleshoot AI solutions on Microsoft Azure. Students will learn how to implement Azure compute and containerization patterns to host applications, build serverless APIs with Azure Functions, and integrate services using event-driven and message-based architectures such as Azure Service Bus and Event Grid. The course also covers working with Azure data services that support AI workloads, including designing and querying solutions with Cosmos DB for NoSQL, Azure Database for PostgreSQL with pgvector, and Azure Managed Redis for caching, streaming, and vector search. By the end of the course, developers will be able to connect services, orchestrate AI workflows, and build secure, scalable, and observable AI-driven applications on Azure.

Course Duration

5 days

Prerequisites

- Basic experience with Azure development
- Familiarity with software development and programming concepts
- Understanding of cloud application development
- Basic knowledge of Azure services, APIs, and application architecture.

Course Outline

- Store and manage containers in Azure Container Registry
- Deploy containers to Azure App Service
- Run sidecar-enabled AI applications on Azure App Service
- Deploy containers to Azure Container Apps
- Manage containers in Azure Container Apps
- Scale containers in Azure Container Apps
- Run AI-generated code securely in Azure Container Apps dynamic sessions
- Deploy applications to Azure Kubernetes Service
- Configure applications on Azure Kubernetes Service
- Monitor and troubleshoot applications on Azure Kubernetes Service
- Build queries for Azure Cosmos DB for NoSQL
- Implement vector search on Azure Cosmos DB for NoSQL
- Optimize query performance for Azure Cosmos DB for NoSQL
- Build and query with Azure Database for PostgreSQL
- Implement vector search with Azure Database for PostgreSQL
- Optimize vector search in Azure Database for PostgreSQL
- Implement data operations in Azure Managed Redis
- Implement event messaging with Azure Managed Redis
- Implement vector storage in Azure Managed Redis

- Queue and process AI operations with Azure Service Bus
- Develop event-driven AI workflows with Azure Event Grid
- Build serverless AI backends with Azure Functions
- Orchestrate durable AI workflows with Azure Durable Functions
- Manage application secrets with Azure Key Vault
- Manage application settings with Azure App Configuration
- Instrument an app with OpenTelemetry
- Analyze app telemetry with logs and metrics

Who Should Attend

This course is designed for developers who build backend and AI-driven applications on Azure and need practical skills in containerized compute, data services for AI, event-driven workflows, and application security and monitoring.