

AI-103T00-A-Develop AI apps and agents on Azure

Overview

Course Duration: 4 Days

About This Course

This course is intended for software developers wanting to build AI infused applications that leverage Microsoft Foundry. Topics in this course include developing generative AI apps, building AI agents, and solutions that implement knowledge connections or tools in your agentic applications. This course also covers multimodal capabilities and understanding of complex content.

Audience Profile

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.

Course Outline

Module 1: Develop generative AI apps in Azure

Generative artificial intelligence (AI) is becoming more accessible through comprehensive development platforms like Microsoft Foundry. Learn how to build generative AI applications that use language models to interact with your users.

- Plan and prepare to develop AI solutions on Azure
- Select, deploy, and evaluate Microsoft Foundry models
- Develop a generative AI chat app with Microsoft Foundry
- Develop generative AI apps that use tools
- Optimize generative AI model performance with Microsoft Foundry
- Implement a responsible generative AI solution in Microsoft Foundry

Module 2: Develop AI agents on Azure

Generative Artificial Intelligence (AI) is becoming more functional and accessible, and AI agents are a key component of this evolution. This learning path will help you understand the AI agents, including when to use them and how to build them, using Microsoft Foundry Agent Service and Microsoft Agent Framework. By the end of this learning path, you will have the skills needed to develop AI agents on Azure.

- Develop AI agents with Microsoft Foundry and Visual Studio Code
- Integrate custom tools into your agent
- Integrate MCP Tools with Azure AI Agents
- Build knowledge-enhanced AI agents with Foundry IQ
- Integrate your agent with Microsoft 365
- Build agent-driven workflows using Microsoft Foundry
- Develop an AI agent with Microsoft Agent Framework
- Orchestrate a multi-agent solution using the Microsoft Agent Framework
- Discover Azure AI Agents with A2A

Module 3: Deploy and monitor applications on Azure Kubernetes Service

Natural language solutions use language models to interpret the semantic meaning of written or spoken language, and in some cases respond based on that meaning. You can use Microsoft Foundry to develop AI apps and agents that can analyze text, transcribe and synthesize speech, and translate languages.

- Analyze text with Azure Language in Foundry Tools
- Develop a text analysis agent with the Azure Language MCP server
- Develop a speech-capable generative AI application
- Create speech-enabled apps with Azure Speech in Microsoft Foundry Tools
- Develop a speech agent with the Azure Speech MCP server
- Develop an Azure Speech Voice Live Agent in Microsoft Foundry
- Translate text and speech with Microsoft Foundry Tools

Module 4: Extract insights from visual data on Azure

Use generative AI, computer vision, and Content Understanding capabilities in Azure to extract insights from visual data, supporting scenarios like:

- Image analysis
- Image and video generation
- Content Understanding and Enrichment
- Visual search and classification
- Digital asset management (DAM)
- Multimodal AI solutions
- 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

Modules in this learning path

- Develop a vision-enabled generative AI application
- Generate images with AI
- Generate videos with Microsoft Foundry
- Analyze images with Content Understanding
- Create a multimodal analysis solution with Azure Content Understanding
- Create an Azure Content Understanding client application
- Extract data with Azure Document Intelligence
- Create a knowledge mining solution with Azure AI Search

Prerequisites

- Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. You should also have programming experience.
- Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. Consider completing the Get started with artificial intelligence learning path first.
- Familiarity with Azure and the Azure portal.
- Programming experience.
- Familiarity with Azure and Microsoft Foundry.