

AI-102T00: Develop AI solutions in Azure

Course Duration: 40 Hours (5 Days)

Overview:

AI-102: Develop AI solutions in Azure is intended for software developers wanting to build AI infused applications that leverage Azure AI Foundry and other Azure AI services. Topics in this course include developing generative AI apps, building AI agents, and solutions that implement computer vision and information extraction.

Audience Profile

This course was designed for software engineers concerned with building, managing and deploying AI solutions that leverage Azure AI Foundry and other Azure AI services. They are familiar with C# or Python and have knowledge on using REST-based APIs and SDKs to build generative AI, computer vision, language analysis, and information extraction solutions on Azure.

Course Syllabus:

Module 1: Develop generative AI apps in Azure

- Plan and prepare to develop AI solutions on Azure
- Choose and deploy models from the model catalog in Azure AI Foundry portal
- Develop an AI app with the Azure AI Foundry SDK
- Develop a RAG-based solution with your own data using Azure AI Foundry
- Fine-tune a language model with Azure AI Foundry
- Implement a responsible generative AI solution in Azure AI Foundry
- **Labs:**
 1. Choose and deploy a language model
 2. Create a generative AI chat app
 3. Create a generative AI app that uses your own data
 4. Apply content filters to prevent the output of harmful content
 5. Evaluate generative AI model performance

Module 2: Develop AI agents on Azure

- Get started with AI agent development on Azure

- Develop an AI agent with Azure AI Foundry Agent Service
- Integrate custom tools into your agent
- Develop a multi-agent solution with Azure AI Foundry Agent Service
- Integrate MCP Tools with Azure AI Agents
- Develop an AI agent with Microsoft Agent Framework
- Orchestrate a multi-agent solution using the Microsoft Agent Framework
- **Labs:**
 1. Explore AI Agent development
 2. Develop an AI agent
 3. Develop a multi-agent solution with Azure AI Foundry
 4. Connect AI Agents to a remote MCP server
 5. Develop an Azure AI agent with the Semantic Kernel SDK

Module 3: Develop natural language solutions in Azure

- Analyze text with Azure AI Language
- Create question answering solutions with Azure AI Language
- Build a conversational language understanding model
- Create custom text classification solutions
- Custom named entity recognition
- Translate text with Azure AI Translator service
- Create speech-enabled apps with Azure AI services
- Translate speech with the Azure AI Speech service
- Develop an audio-enabled generative AI application
- Develop an Azure AI Voice Live agent
- **Labs:**
 1. Analyze text
 2. Create a question answering solution
 3. Custom text classification
 4. Recognize and synthesize speech
 5. Develop an audio-enabled chat app

Module 4: Develop computer vision solutions in Azure

- Analyze images
- Read text in images

- Detect, analyze, and recognize faces
- Classify images
- Detect objects in images
- Analyze video
- Develop a vision-enabled generative AI application
- **Labs:**
 1. Analyze images
 2. Read text in images
 3. Detect and analyze faces
 4. Classify images
 5. Develop a vision-enabled chat app
 6. Generate images with AI

Module 5: Develop AI information extraction solutions in Azure

- Create a multimodal analysis solution with Azure AI Content Understanding
- Create an Azure AI Content Understanding client application
- Use prebuilt Document intelligence models
- Extract data from forms with Azure Document intelligence
- Create a knowledge mining solution with Azure AI Search
- **Labs:**
 1. Extract information from multimodal content
 2. Develop a Content Understanding client application
 3. Analyze forms with prebuilt Azure AI Document Intelligence models
 4. Analyze forms with custom Azure AI Document Intelligence models
 5. Create a knowledge mining solution