

AI-102: Develop AI solutions in Azure

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. The course will use C# or Python as the programming language.

Course Objectives

By the end of this course, participants will:

- **Introduce Azure AI Foundry Ecosystem.** To provide foundational knowledge of Azure AI Foundry and its tools for building and managing generative AI applications.
- **Explore Multimodal AI Capabilities.** To demonstrate how to create AI solutions across modalities—text, speech, vision, and documents—using Azure AI services.
- **Develop Ethical and Responsible AI.** To guide participants in implementing responsible and performance-evaluated AI applications using Azure’s compliance and evaluation tools.
- **Enable Practical Hands-On Implementation.** To equip participants with practical skills through guided development of AI agents, RAG systems, classification models, and information extraction solutions.

Duration

5 Days

Who Should Attend

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.

AI-102: Develop AI solutions in Azure

Learning outcomes:

By the end of this course, participants will be able to:

- Build and Deploy AI Applications. Participants will be able to build, fine-tune, and deploy generative AI applications using Azure AI Foundry and its SDKs.
- Develop Functional AI Agents. Participants will be able to develop AI agents using Azure AI Foundry Agent Service and the Semantic Kernel, including integration of tools and orchestration of multi-agent solutions.
- Implement Natural Language & Speech Solution. Participants will be able to analyze, classify, and translate text and speech using Azure Language and Speech services to create natural language applications.
- Leverage Vision and Document Intelligence. Participants will be able to implement computer vision and information extraction solutions using Azure AI services for real-time image, video, and document analysis.

AI-102: Develop AI solutions in Azure

Outline

Day 1

9:00AM - 10:30AM	Module 1: Develop Generative AI Apps in Azure 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. Content: 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.
10.30AM - 10:45AM	Morning Break
10.45AM – 12.30PM	Continuation Module 1: Develop Generative AI Apps in Azure - Choose and deploy models from the model catalog in Azure AI Foundry portal - Develop an AI app with the Azure AI Foundry SDK
12.30PM – 1.30PM	Lunch
1.30PM – 3.30PM	Continuation Module 1: Develop Generative AI Apps in Azure - Get started with prompt flow to develop language model apps in the Azure AI Foundry - Develop a RAG-based solution with your own data using Azure AI Foundry - Fine-tune a language model with Azure AI Foundry
3.30PM – 3.45PM	Afternoon Break
3.45PM – 5.00PM	Continuation Module 1: Develop Generative AI Apps in Azure - Implement a responsible generative AI solution in Azure AI Foundry - Evaluate generative AI performance in Azure AI Foundry portal

AI-102: Develop AI solutions in Azure

Day 2

9:00AM - 10:30AM	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 Azure AI Foundry Agent Service and Semantic Kernel Agent Framework. By the end of this learning path, you will have the skills needed to develop AI agents on Azure. Content: • Get started with AI agent development on Azure
10.30AM - 10:45AM	Morning Break
10.45AM – 12.30PM	Continuation Module 2: Develop AI Agents on Azure • Develop an AI agent with Azure AI Foundry Agent Service
12.30PM – 1.30PM	Lunch
1.30PM – 3.30PM	Continuation Module 2: Develop AI Agents on Azure • Integrate custom tools into your agent
3.45PM – 5.00PM	Continuation Module 2: Develop AI Agents on Azure • Develop an AI agent with Semantic Kernel • Orchestrate a multi-agent solution using Semantic Kernel

AI-102: Develop AI solutions in Azure

Day 3

9:00AM - 10:30AM	Module 3: Develop Natural Language Solutions in Azure 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 the Language service to build language models for your applications, and explore Azure AI Foundry to use generative models for speech. Content: Analyze text with Azure AI Language
10.30AM - 10:45AM	Morning Break
10.45AM – 12.30PM	Continuation Module 3: Develop Natural Language Solutions in Azure - Create question answering solutions with Azure AI Language - Build a conversational language understanding model
12.30PM – 1.30PM	Lunch
1.30PM – 3.30PM	Continuation Module 3: Develop Natural Language Solutions in Azure - Create a custom text classification solution - Custom named entity recognition - Translate text with Azure AI Translator service
3.45PM – 5.00PM	Continuation Module 3: Develop Natural Language Solutions in Azure - Create speech-enabled apps with Azure AI services - Translate speech with the Azure AI Speech service - Develop an audio-enabled generative AI application

AI-102: Develop AI solutions in Azure

Day 4

9:00AM - 10:30AM	Module 4: Develop Computer Vision Solutions in Azure Computer vision is an area of artificial intelligence that deals with visual perception. Azure AI includes multiple services that support common computer vision scenarios. Content: Analyze images
10.30AM - 10:45AM	Morning Break
10.45AM – 12.30PM	Continuation Module 4: Develop Computer Vision Solutions in Azure - Read text in images - Detect, analyze, and recognize faces
12.30PM – 1.30PM	Lunch
1.30PM – 3.30PM	Continuation Module 4: Develop Computer Vision Solutions in Azure - Classify images - Detect objects in images
3.45PM – 5.00PM	Continuation Module 4: Develop Computer Vision Solutions in Azure - Analyze video - Develop a vision-enabled generative AI application - Generate images with AI

AI-102: Develop AI solutions in Azure

Day 5

9:00AM - 10:30AM	Module 5: Develop AI Information Extraction Solutions in Azure Use Azure AI to extract information from content to support scenarios like: • Data capture • Business process automation • Meeting summarization and analysis • Digital asset management (DAM) • Knowledge Mining Content: • Create a multimodal analysis solution with Azure AI Content Understanding
10.30AM - 10:45AM	Morning Break
10.45AM – 12.30PM	Continuation Module 5: Develop AI Information Extraction Solutions in Azure • Create an Azure AI Content Understanding client application
12.30PM – 1.30PM	Lunch
1.30PM – 3.30PM	Continuation Module 5: Develop AI Information Extraction Solutions in Azure • Use prebuilt Document intelligence models • Extract data from forms with Azure Document intelligence
3.45PM – 5.00PM	Continuation Module 5: Develop AI Information Extraction Solutions in Azure • Create a knowledge mining solution with Azure AI Search