

Develop AI apps and agents on Azure (AI-103T00)

Duration: 4 Days

Audience: Professionnel TI

Who is this training for?

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. This course was designed for software engineers concerned with building, managing and deploying AI solutions that leverage Microsoft Foundry. They are familiar with Python and have knowledge on using APIs and SDKs to build agents and generative AI solutions on Azure.

Training objectives

After completing this course, students will be able to:

- Build generative AI applications using Microsoft Foundry, including RAG pipelines, prompt optimization, and responsible AI practices.
- Develop AI agents that integrate tools, memory, MCP, and multi agent orchestration using Azure AI Agent Service and the Microsoft Agent Framework.
- Implement multimodal solutions that process and generate images, video, speech, and complex documents.
- Apply text analysis and natural language solutions using Azure AI Language services and generative AI capabilities in Foundry.

Summary

AI-103: Developing Azure AI Apps and Agents is designed for software developers building production ready AI solutions on Microsoft Azure. This course covers the full spectrum of development with Microsoft

Foundry—from deploying and optimizing generative AI models and implementing RAG pipelines, to building autonomous agents with tool integration, multi-agent orchestration, and responsible AI safeguards. Students also explore multimodal capabilities including vision, speech, natural language analysis, and document/content extraction, learning to connect knowledge sources and external services

into intelligent agentic workflows.

Course outline

Learning Path 1 — Develop generative AI apps with Microsoft Foundry

- Module 1 — Plan and prepare to develop AI solutions on Azure
- Module 2 — Evaluate models with the Azure AI Foundry model catalog
- Module 3 — Develop an AI app with the Microsoft Foundry SDK
- Module 4 — Optimize generative AI model performance
- Module 5 — Implement a responsible generative AI solution in Microsoft Foundry

Learning Path 2 — Develop AI agents with Azure

- Module 1 — Develop AI agents with Microsoft Foundry and Visual Studio Code
- Module 2 — Build an agent with custom tools
- Module 3 — Connect an agent to MCP tools
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Module 4 — Build knowledge enhanced AI agents with Foundry IQ

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Module 5 — Integrate your agent with M365

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Module 6 — Build agent driven workflows using Microsoft Foundry

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Module 7 — Develop an AI agent with the Microsoft Agent Framework

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Module 8 — Orchestrate a multi agent solution using the Microsoft Agent Framework

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Module 9 — Discover Azure AI Agents with A2A

Learning Path 3 — Develop language solutions with Azure AI

- Module 1 — Analyze text with Azure AI Language

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Module 2 — Develop a text analysis agent with Language MCP

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Module 3 — Develop generative AI audio apps

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Module 4 — Create speech enabled apps with Microsoft Foundry

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Module 5 — Develop a speech agent with Azure AI Speech MCP

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Module 6 — Develop a voice live agent

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Module 7 — Translate text and speech

Learning Path 4 — Extract insights from visual data on Azure

- Module 1 — Generate images with AI
- Module 2 — Generate and edit video with AI
- Module 2 — Generate and edit video with AI
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- Module 3 — Analyze media with Azure Content Understanding
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- Module 4 — Develop a vision enabled generative AI application
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- Module 5 — Create a multimodal analysis solution with Azure Content Understanding
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- Module 6 — Create an Azure Content Understanding client application
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- Module 7 — Create a knowledge mining solution with Azure AI Search

Approach and methodology

Practical and structured approach combining focused theory with guided hands on labs. Participants progressively build generative AI applications, intelligent agents, and multimodal solutions using Microsoft Foundry, Azure AI Agent Service, and Azure AI Studio through real world, scenario based exercises that promote immediate application of learning.

They learn how to design RAG pipelines, optimize prompts, integrate tools and memory into agents, orchestrate multi agent solutions, analyze text, generate audio, process images and video, and build knowledge grounded solutions using Azure AI Search and Content Understanding. The course emphasizes responsible AI practices, data quality, agent governance, and the development of AI first solutions on Azure.

Led by a Microsoft certified trainer (MCT), the course encourages interactivity and the development of directly transferable technical skills that enable participants to confidently design, build, and deploy modern AI applications and agents within the Azure ecosystem.

Prerequisites

A basic knowledge is recommended before starting this course:

- Familiarity with Python programming
- Experience
using REST APIs and SDKs to build cloud-connected applications;
- Foundational knowledge of Azure services
and the Azure portal
- An understanding of basic AI/ML concepts such as machine learning models and
inferencing.
- Prior experience with Azure AI services is helpful but not required.

Certifications

[Microsoft Certified: Azure AI Apps and Agents Developer Associate](#)

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