

Develop AI apps and agents on Azure

Courses Code: AI-103T00

Duration: 4 Days

Delivery Mode: Instructor-led Training (ILT) | Virtual Instructor led Training (VILT)

Overview

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.

Skills Covered

- Understand the fundamentals of AI application development on Microsoft Azure
- Build and deploy AI-powered applications using Azure AI services
- Design and develop intelligent agents using Azure OpenAI and related tools
- Work with prompt engineering techniques to improve AI responses
- Integrate AI models into real-world applications and workflows
- Use Azure SDKs and APIs to develop scalable AI solutions
- Implement security, compliance, and responsible AI practices
- Monitor, optimize, and manage AI applications in production
- Automate workflows using AI agents and orchestration tools
- Deploy and manage AI solutions using Azure cloud infrastructure

Who Should Attend

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.

Prerequisites

Before starting this learning path, you should already have:

- Familiarity with Azure and the Azure portal.
- Programming experience.

Course Modules

Module 1: Plan and prepare to develop AI solutions on Azure

Microsoft Azure offers multiple services that enable developers to build amazing AI-powered solutions. Proper planning and preparation involves identifying the services you'll use and creating an optimal working environment for your development team.



Module 2: Select, deploy, and evaluate Microsoft Foundry models

Explore how to select appropriate models from the model catalog using benchmarks, deploy them to endpoints, and evaluate their performance using manual and automated approaches in Microsoft Foundry portal.

Module 3: Develop a generative AI chat app with Microsoft Foundry

Use Microsoft Foundry to develop generative AI chat applications with projects and the Responses API.

Module 4: Develop generative AI apps that use tools

Tools enable models to perform tasks and interact with external systems, enabling them to extend their capabilities beyond basic chat interactions.

Module 5: Optimize generative AI model performance with Microsoft Foundry

Explore complementary strategies to optimize generative AI model performance. Learn how to apply prompt engineering, ground your model with RAG, and fine-tune for consistent behavior—and when to combine these approaches.

Module 6: Implement a responsible generative AI solution in Microsoft Foundry

Generative AI enables amazing creative solutions, but must be implemented responsibly to minimize the risk of harmful content generation.

Module 7: Develop AI agents with Microsoft Foundry and Visual Studio Code

Learn how to build, test, and deploy AI agents using Microsoft Foundry Agent Service through both the Azure portal and Visual Studio Code extension.

Module 8: Integrate custom tools into your agent

Built-in tools are useful, but they may not meet all your needs. In this module, learn how to extend the capabilities of your agent by integrating custom tools for your agent to use.

Module 9: Integrate MCP Tools with Azure AI Agents

Enable dynamic tool access for your Azure AI agents. Learn how to connect MCP-hosted tools and integrate them seamlessly into agent workflows.

Module 10: Build knowledge-enhanced AI agents with Foundry IQ

Learn how to connect AI agents with enterprise knowledge using Foundry IQ. You'll explore how Retrieval Augmented Generation (RAG) solves the knowledge problem for AI agents, discover how Foundry IQ provides a shared knowledge platform that multiple agents can access, improve retrieval quality through data optimization, and configure agent instructions for consistent, cited responses.



Module 11: Integrate your agent with Microsoft 365

Learn how to publish Microsoft Foundry agents to Microsoft Teams and Microsoft 365 Copilot, access workplace data with Work IQ, and test your integrated agents.

Module 12: Build agent-driven workflows using Microsoft Foundry

Workflows enable you to orchestrate AI agents and other components to create intelligent applications. Learn how to build and manage workflows using Microsoft Foundry.

Module 13: Develop an AI agent with Microsoft Agent Framework

This module provides engineers with the skills to begin building Microsoft Foundry Agent Service agents with Microsoft Agent Framework.

Module 14: Orchestrate a multi-agent solution using the Microsoft Agent Framework

Learn how to use the Microsoft Agent Framework SDK to develop your own AI agents that can collaborate for a multi-agent solution.

Module 15: Discover Azure AI Agents with A2A

Learn how to implement the A2A protocol to enable agent discovery, direct communication, and coordinated task execution across remote agents.

Module 16: 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 Microsoft Foundry to develop AI apps and agents that can analyze text, transcribe and synthesize speech, and translate languages.

Module 17: 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:

Ref: <https://trainocate.com/courses/microsoft/ai-103t00-develop-ai-apps-and-agents-on-azure-training>

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