Build AI apps and agents at scale with Azure AI Foundry

Course Overview

Duration - 16 Hours | Level - Advanced

This course is designed for professionals who want to deepen their expertise in leveraging Azure AI Foundry to build, deploy, and manage sophisticated Generative AI apps and agents. Participants will explore advanced concepts, best practices, securing and governing the AI Solutions and real-world applications of GenAI Apps and agents, gaining hands-on experience with the platform's powerful tools and capabilities.

Course Modules

Day 1

Module 1: Understand Azure AI Foundry - The AI app and agent factory

Generative AI revisited

What are Agents

Ways to build apps and agents

A deep dive into Azure AI Foundry

Design your apps with the best models from Azure AI Foundry

Model router in Foundry Models

Understand Foundry Local

Build agents using Azure AI Foundry Agent Service

Introduction to Azure AI Foundry SDK

Hands on labs

Developing Multimodal AI Applications for Image Classification Using Azure OpenAI GPT-4o

Developing Intelligent Chat Applications with Azure RAG(Using Python

Day 2

Module 2: Customize Gen AI Apps and agents at scale

Master the Prompt engineering methods

Understand prompt flow

Analyze Azure AI Search concepts

Understand Retrieval Augmented Generation

Module 3: Fine-tune models with Azure AI Foundry

Tailor your models using fine tuning

Fine-tune Azure AI Foundry models

Understand Retrieval-Augmented Fine-Tuning

Fine-tuning Techniques

Reinforcement fine-tuning

Understand distillation and Synthetic data generation

Hands on labs

Fine-Tune End-to-End Distillation Models with Azure AI Foundry Models

Deploying and Testing a Custom Chat Application with PostgreSQL and OpenAI on Azure

Q&A with Semantic Answering with Azure OpenAI Service

Day 3

Module 4 – Develop agents with Azure OpenAI

Azure OpenAI – Revisited

Azure OpenAI models in the Azure AI Foundry catalog

Introduction to the Sora API (Preview)

Bring in your own data to Azure OpenAI

Implement Retrieval Augmented Generation (RAG) and Fine-tuning with Azure OpenAI models

Introduction to Responses API (Preview) and Computer Use Agent (Preview)

Optimize your AI deployments with provisioned AOAI Service(PTUs)

Module 5 - Build multi agent apps with Semantic Kernel or AutoGen

Multi-agent orchestration

Understand Semantic Kernel Frameworks

Understand AutoGen Framework

Hands on labs

Building AI Agents with Azure AI Agent Service SDK and Semantic Kernel

Build a custom chat app with Azure AI Foundry SDK

Day 3

Module 6: Monitor, secure and govern your AI solutions with Azure AI Foundry

Build generative AI workloads with Well-Architected Framework

Mitigation layers in Azure AI Foundry

Azure AI Content Safety

Azure AI Foundry Observability

Continuous monitoring in production

Risk and Safety Evaluations

AI Red Teaming Agent

Entra IDs for agents

Azure AI Foundry and Microsoft Purview integration

Responsible AI principles and practices for Azure generative AI services

Microsoft Trustworthy AI (Security, Privacy and Safety)

Hands on labs

Creating a web app and your own copilot with custom data using Azure OpenAI Service

Build and deploy a question and answer copilot with prompt flow in Azure AI Foundry

Moderate text and images with content safety in Azure AI Foundry

Azure OpenAI GPT-4o-mini fine-tuning