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AI-3016: Develop generative AI apps in Azure

Course Code: AI-3016
Duration: 1 day
Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

OVERVIEW

Generative Artificial Intelligence (AI) is becoming more accessible through comprehensive development platforms like Azure AI Foundry. Learn how to build generative AI applications that use language models to chat with your users.

SKILLS COVERED

Upon completing this course, the learner will be able to meet these overall objectives:

- 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
- 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
- Implement a responsible generative AI solution in Azure AI Foundry
- Evaluate generative AI performance in Azure AI Foundry portal
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WHO SHOULD ATTEND?

- Anyone who are interested

PREREQUISITES

- Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. You should also be proficient in programming with Python or Microsoft C#.

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.

Learning objectives

By the end of this module, you'll be able to:

- Identify common AI capabilities that you can implement in applications
- Describe Azure AI Services and considerations for using them
- Describe Azure AI Foundry and considerations for using it
- Identify appropriate developer tools and SDKs for an AI project
- Describe considerations for responsible AI

Prerequisites

Before starting this module, you should be familiar with:

- Basic software development concepts

- Basic AI concepts
- Basic Azure concepts

Module 2: Choose and deploy models from the model catalog in Azure AI Foundry portal

Choose the various language models that are available through the Azure AI Foundry's model catalog. Understand how to select, deploy, and test a model, and to improve its performance.

Learning objectives

By the end of this module, you'll be able to:

- Select a language model from the model catalog.
- Deploy a model to an endpoint.
- Test a model and improve the performance of the model.

Prerequisites

Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. Consider completing the Get started with artificial intelligence learning path first.

Module 3: Develop an AI app with the Azure AI Foundry SDK

Use the Azure AI Foundry SDK to develop AI applications with Azure AI Foundry projects.

Learning objectives

After completing this module, you'll be able to:

- Describe capabilities of the Azure AI Foundry SDK.
- Use the Azure AI Foundry SDK to work with connections in projects.
- Use the Azure AI Foundry SDK to develop an AI chat app.

Prerequisites

Before starting this module, you should:

- Be familiar with Azure services and the Azure portal.
- Have some programming experience with Python or C#.

Module 4: Get started with prompt flow to develop language model apps in the Azure AI Foundry

Learn about how to use prompt flow to develop applications that leverage language models in the Azure AI Foundry.

Learning objectives

By the end of this module, you'll be able to:

- Understand the development lifecycle when creating language model applications.
- Understand what a flow is in prompt flow.
- Explore the core components when working with prompt flow.

Prerequisites

Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. Consider completing the Get started with artificial intelligence learning path first.

Module 5: Develop a RAG-based solution with your own data using Azure AI Foundry

Retrieval Augmented Generation (RAG) is a common pattern used in generative AI solutions

to *ground* prompts with your data. Azure AI Foundry provides support for adding data, creating indexes, and integrating them with generative AI models to help you build RAG-based solutions.

Learning objectives

By the end of this module, you'll be able to:

- Identify the need to ground your language model with Retrieval Augmented Generation (RAG)
- Index your data with Azure AI Search to make it searchable for language models
- Build an agent using RAG on your own data in the Azure AI Foundry portal

Prerequisites

Before starting this module, you should be familiar with fundamental AI concepts and services in Azure.

Module 6: Fine-tune a language model with Azure AI Foundry

Train a base language model on a chat-completion task. The model catalog in Azure AI Foundry offers many open-source models that can be fine-tuned for your specific model behavior needs.

Learning objectives

By the end of this module, you'll be able to:

- Understand when to fine-tune a model.
- Prepare your data to fine-tune a chat completion model.
- Fine-tune a base model in the Azure AI Foundry portal.

Prerequisites

Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. Consider completing the Get started with artificial intelligence learning path first.

Module 7: Implement a responsible generative AI solution in Azure AI Foundry

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

Learning objectives

By the end of this module, you'll be able to:

- Describe an overall process for responsible generative AI solution development
- Identify and prioritize potential harms relevant to a generative AI solution
- Measure the presence of harms in a generative AI solution
- Mitigate harms in a generative AI solution
- Prepare to deploy and operate a generative AI solution responsibly

Prerequisites

Before starting this module, you should be familiar with Azure AI Foundry. Consider completing the Introduction to Azure AI Foundry module before starting this one.

Module 8: Evaluate generative AI performance in Azure AI Foundry portal

Evaluating copilots is essential to ensure your generative AI applications meet user needs, provide accurate responses, and continuously

improve over time. Discover how to assess and optimize the performance of your generative AI applications using the tools and features available in the Azure AI Studio.

Learning objectives

By the end of this module, you'll be able to:

- Understand model benchmarks.
- Perform manual evaluations.
- Assess your generative AI apps with AI-assisted metrics.
- Configure evaluation flows in the Azure AI Foundry portal.

Prerequisites

Before starting this module, you should be familiar with fundamental AI concepts and services in Azure. Consider completing the Get started with artificial intelligence learning path first.

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