

AZ-2005: Develop AI agents using Azure OpenAI and the Semantic Kernel SDK

Course Code: AZ-2005

Duration: 1 day

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

OVERVIEW

Learn how to use the Semantic Kernel SDK to build intelligent applications that automate tasks and perform natural language processing.

SKILLS COVERED

- Build your kernel
- Create plugins for semantic kernel
- Give your AI agent skills
- Combine Prompts and Functions
- Use intelligent planners
- Guided project – Create an AI travel agent

WHO SHOULD ATTEND?

- Developer

PREREQUISITES

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI Services.

MODULES

Module 1: Build your kernel

This module introduces the Semantic Kernel SDK. Learn how the kernel connects code to large language models to extend functionality with generative artificial intelligence.

Learning objectives

- Understand the purpose of Semantic Kernel.
- Understand prompting basics.
- Learn techniques for more effective prompts.

Prerequisites

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI services.

Module 2: Create plugins for semantic kernel

This module explores Semantic Kernel SDK plugins. Learn how plugins to the SDK are used to accomplish customized tasks and create intelligent applications.

Learning objectives

- Understand the purpose of Semantic Kernel plugins
- Learn how to use premade plugins
- Learn how to create your own plugins

Prerequisites

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI Services.

Module 3: Give your AI agent skills

This module explores native functions in the Semantic Kernel SDK. Learn how native functions can accomplish customized tasks, effectively giving your AI agent a “skill.”

Learning objectives

- Understand native functions in the Semantic Kernel SDK.
- Learn how to create native function plugins.
- Learn how to combine prompts with native functions.

Prerequisites

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI services.

Module 4: Combine Prompts and Functions

This module demonstrates how to combine functions and prompts with the Semantic Kernel SDK. Nesting functions within prompts can allow your code to complete tasks large language models can't typically complete on their own.

Learning objectives

- Practice creating plugins with the Semantic Kernel SDK.
- Learn how to combine prompts with native functions.

Prerequisites

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI Services.
- Experience using the Semantic Kernel SDK to create prompts.

Module 5: Use intelligent planners

This module introduces different ways to automatically invoke functions using the Semantic Kernel SDK. Learn how planners can generate plans to accomplish tasks and how to fine-tune planners to optimize performance.

Learning objectives

- Understand planners in the Semantic Kernel SDK.
- Learn how to use planners to automate function calls.
- Learn how to optimize planners.
- Learn how to use Semantic Kernel SDK to automatically invoke functions.

Prerequisites

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI services.

Module 6: Guided project - Create an AI travel agent

This module guides you through the steps required to develop a proof-of-concept AI Travel assistant with the Semantic Kernel SDK. By the end of this module, you complete a small chatbot application.

Learning objectives

- Create plugins for the Semantic Kernel.
- Create prompts to elicit the best responses from the large language model (LLM).
- Manipulate LLM responses to guide the execution of code.
- Automatically invoke the correct plugins to complete tasks.

Prerequisites

- Experience programming in C#.
- Visual Studio Code IDE installed.
- Familiarity with Azure and the Azure portal.
- Access to Azure OpenAI services.

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