

Building .NET AI Agents and Apps

Audience Course Building .NET Agents and Apps

This course is intended for .NET developers, architects, and AI enthusiasts who want to integrate intelligent features and agents into modern .NET applications.

Prerequisites Course Building .NET Agents and Apps

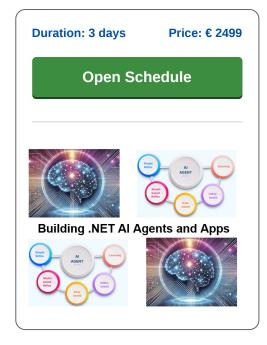
Participants should have a basic knowledge of C# and .NET development. Familiarity with APIs, Visual Studio, and basic AI concepts will be helpful.

Realization Training Building .NET Agents and Apps

The course combines theoretical sessions with hands-on labs guided by an expert trainer. Practical exercises and real-world applications are central to the training experience.

Building .NET Agents and Apps Certificate

After completion, participants receive a certificate of participation in Building .NET Agents and Apps.



Content Course Building .NET AI Agents and Apps

The course Building .NET Agents and Apps teaches you how to develop AI-powered applications and agents using modern .NET tools and platforms. You will explore AI integration in .NET 8, work with ML.NET, Azure AI, and OpenAI, and create smart agents using Microsoft's Semantic Kernel. By the end, you'll be ready to build intelligent, full-stack .NET apps infused with machine learning and natural language capabilities.

Intro to AI and .NET

Covers the AI landscape within .NET: ML.NET, ONNX, Azure AI, LLMs, Copilot, and .NET 8 features. Learn core terms like inference, agents, and prompts and explore practical use cases.

Smart .NET Apps with ML.NET

Walks through creating ML.NET pipelines, training models, and deploying them via web APIs. Learn evaluation, feature engineering, and how to integrate models into real .NET apps.

OpenAI & Azure AI in .NET

Connect to OpenAl and Azure Cognitive Services via C#. Create intelligent agents, chat assistants, and analyze costs and streaming responses. Learn secure integration practices.

Al Agents & Semantic Kernel

Learn to create AI agents using Microsoft's Semantic Kernel. Understand plugins, memory, skills, planning, and integrate external APIs like calendar/weather into goal-driven agents.

Prompt Engineering & NL Interfaces

Focus on prompt crafting and templating, vector search, embeddings, and building RAG-based solutions in .NET. Learn how to handle hallucinations and design interactive NL interfaces.

Deploying .NET AI Applications

Build and deploy full AI solutions with Blazor or ASP.NET Core. Use SignalR for real-time feedback, manage long tasks, and deploy with Azure. Final project ties it all together.



Modules Course Building .NET AI Agents and Apps

Module 1: Intro to AI and .NET	Module 2: Smart .NET Apps with ML.NET	Module 3: OpenAl & Azure Al
Overview of AI/ML in .NET	Intro to ML.NET	OpenAl API in .NET
Key concepts: Models, Inference, Agents	Building a sentiment model	Azure OpenAI differences
ML.NET, Azure AI, ONNX	Data processing & features	API key setup & auth
LLMs and modern app development	Using Model Builder	First GPT request in C#
Cognitive services and APIs	Saving/loading models	Creating chat assistant
Cloud vs local AI models	Evaluation & tuning	Token cost management
.NET 8 AI features	ML in ASP.NET	Streaming responses
Setting up environmentCopilot in .NET productivity	Deploying prediction APIs	Vision/Speech/Language APIs
Use cases in .NET AI	Production model usage	Azure Translator in apps
	Model integration patterns	Building Azure + OpenAl bots
Module 4: Al Agents & Tooling in .NET	Module 5: Prompt Engineering & NL Interfaces	Module 6: Deploying .NET AI App
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What is an Al Agent?	Prompt engineering basics	bulluling full-stack At apps
What is an Al Agent? LangChain vs Semantic Kernel	Templated prompts in SK	Blazor vs ASP.NET Al UIs
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LangChain vs Semantic Kernel Semantic Kernel SDK intro	Templated prompts in SK	Blazor vs ASP.NET AI UIs
LangChain vs Semantic Kernel Semantic Kernel SDK intro First AI agent in .NET	Templated prompts in SK Chaining prompts	Blazor vs ASP.NET AI UIS Secure HTTP APIs
LangChain vs Semantic Kernel	Templated prompts in SK Chaining prompts Managing conversation history	Blazor vs ASP.NET AI UIS Secure HTTP APIs SignalR for live AI updates
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LangChain vs Semantic Kernel Semantic Kernel SDK intro First AI agent in .NET Plugins & skills in SK	Templated prompts in SK Chaining prompts Managing conversation history Prompt tips for .NET devs Vector search with embeddings Using Pinecone, Redis, AI Search	Blazor vs ASP.NET AI UIS Secure HTTP APIS SignalR for live AI updates Caching/throttling responses Long-running workflow handling Azure App Service & Containers