Implementing Agents and Copilots using Semantic Kernel and Azure AI Foundry Agent Service (AZAGENTS)

ID AZAGENTS **Prix** sur demande **Durée** 4 jours

A qui s'adresse cette formation

Microsoft 365 & AI Pro-Code Developers

Pré-requis

- Basic Microsoft 365 Platform Development Skills
- Basic Azure Development Skills
- Python, C#, Typescript

Contenu

Module 1: Copilot, Agents & Azure AI Foundry Essentials

Introduction to Azure AI Foundry (Theory / Lab: 2 / 1.25)

- Overview Copilots and Agent Frameworks in the Microsoft Ecosystem
- Azure AI Foundry: Hubs, Projects and Resources
- Hub based projects vs AI Foundry Projects
- Deploy and use Large Language Models (LLM) in Azure AI Foundry
- Visual Studio Code AI Toolkit Extension
- Introduction to Azure AI Foundry SDK
- Deploy AI Apps using Azure Developer CLI

Agent Essentials (Theory / Lab: 1.25 / 1.25)

- Introduction Effective Prompt Engineering
- Introduction to GitHub Models
- Comparing and Prototyping Prompts using GitHub Models
- Retrieval Augmented Generation (RAG) & Agentic Retrieval in Azure AI Search
- Function Calling

Developing & Consuming Model Context Servers (Theory / Lab: 1 / 1.5)

- Model Context Protocol (MCP) Overview
- MCP Core Concepts
- Transports STDIO vs Http Streaming
- Develop MCP Servers
- Testing & Debugging using MCP Inspector
- Publishing MCP's to Azure

Module 2: Develop AI Agents using Azure OpenAI and Semantic Kernel

Semantic Kernel Basics & Concepts (Theory / Lab: 1 / 1)

- Understand the purpose of Semantic Kernel
- Semantic Kernel Components
- Chat History & AI Services Integration
- Chat Completion and Multi-modal capabilities

Optimizing Prompts (Theory / Lab: 0.5 / 0.75)

- Prompt Engineering with Semantic Kernel
- YAML Prompt Templates and Template Formats
- Handlebar Prompt Templates
- Liquid Prompt Templates
- Using Prompty Visual Studio Code Extension

Implement Plugins for Semantic Kernel (Theory / Lab: 1.5 / 1.5)

- Understand the purpose of Semantic Kernel plugins
- Learn how to use pre-made plugins
- Planners, Function Calling and Choice Behaviors
- Implement Native Functions using Prompts
- Integrate existing API's using OpenApi Plugins
- Using MCP Servers in Semantic Kernel
- Invocation-, Prompt Render & Invocation Filters

Kernel Memory & Vector Store Connectors (Theory / Lab: 1 / 1)

- Understand the purpose of Kernel Memory
- Semantic Kernel Memory: In-process & Out-of-the-box-Connectors
- Data Model And Embedding Generation
- Kernel Memory & Retrieval Augmented Generation (RAG)

Semantic Kernel Agent Framework (Theory / Lab: 2 / 1.5)

- Agents Overview
- Completing multi-step tasks with Agents
- Using Personas with Agents
- Implementing Multi Agent Solutions
- Sematic Kernel A2A Integration

- Using .NET Aspire in multi-agent scenarios

Semantic Kernel Process Framework (Theory / Lab: 1.5 / 1)

- Process Framework Overview
- Core Components and Patterns
- Runtimes: Orleans vs Dapr
- Implementing Human in the Loop

Module 3: Develop Agents using Azure AI Foundry Agent Service (Theory / Lab: 2 / 1.5)

- Introduction to Azure AI Foundry Agent Service
- Using Action Tools: Code Interpreter, Function Calling, Azure Functions and OpenAPI Tools
- Using Knowledge Tools: File Search, Azure AI Search and Bing Grounding
- Connect MCP tools to Azure AI Agent Service
- Automating UI Tasks using Computer Use Agent
- Designing and implementing connected Agents
- Orchestrate Multi-Agent-Solutions using Semantic Kernel

Module 4: Securing, Monitoring and Evaluating Agents (Theory / Lab: 1 / 1)

- Agent Guardrails and Data Controls
- Ensuring App Behaviour using Evaluations
- Monitoring Risk and Alerts
- Azure AI Foundry Agent Governance and Observability
- Ensuring App Behaviour using Evaluations

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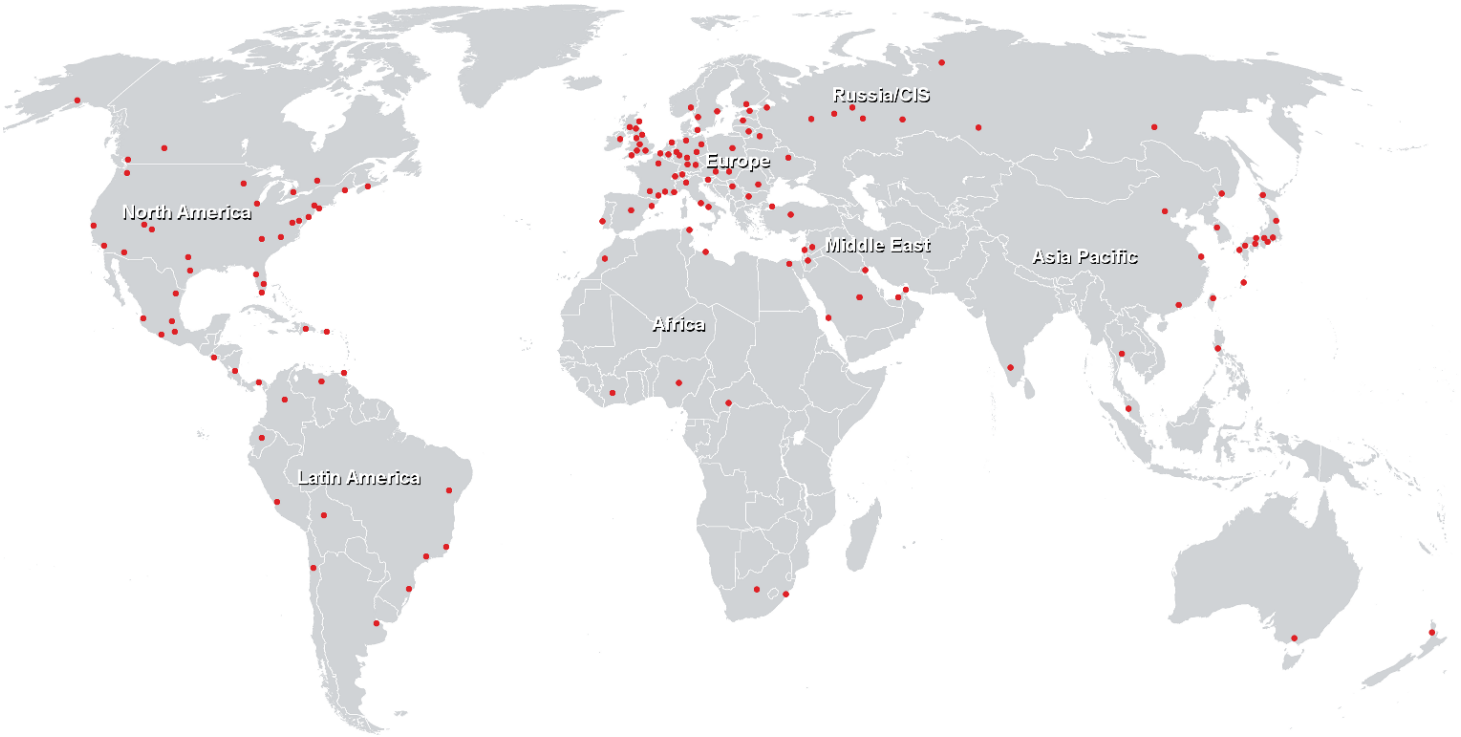
Centres de formation dans le monde entier



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