KOENIG
step forward

Advanced Azure AI Foundry

Duration: 32 Hours [4 days]

Day 1 – Azure AI Foundry Introduction, Capabilities & Gen AI Foundations

1. Introduction to Azure AI Foundry and evolution from AI Studio
2. Deep Dive in the architecture and workspace components
3. Explore the model catalogue and deploy foundation models
4. Cost optimization & Performance Tuning
5. Build and deploy a Generative AI application
6. Prompt engineering techniques and best practices
7. Manage endpoints and optimize model usage

Lab 1: Explore Azure AI Studio workspace and deploy a model

Lab 2: Perform prompt engineering experiments

Lab 3: Build a Generative AI chat application with Azure OpenAI

Day 2 – RAG, Prompt Flow and Evaluation

1. Understand Retrieval Augmented Generation (RAG)
2. Configure Cognitive Search and index enterprise data
3. Implement RAG in Azure AI Foundry using prompt flows
4. Create and manage prompt flows (graph view, Python SDK)
5. Evaluate and improve Generative AI apps – metrics & tracing

Lab 4: Create a RAG solution using own data in AI Foundry

Lab 5: Design and test prompt flows for document chat

Lab 6: Evaluate and optimize prompt flows with built-in tools

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Day 3 – Introduction to Agentic AI & Single-Agent Development

1. Introduction to Agentic AI concepts and use cases
2. AI Agents vs Azure AI Agents

3. Overview of Azure AI Agents and Agent Service
4. Develop an AI Agent with Azure AI Foundry Agent Service
5. Tool Calling and Function Calling mechanisms
6. Use Azure AI Foundry extension in Visual Studio Code
7. Integrate custom tools and functions into your agent
8. Deploy and test agents with Azure AI Foundry SDK

Lab 7: Create a single agent with built-in tools

Lab 8: Extend agent capabilities with custom tool integration

Lab 9: Build Multi Agent Solution with Semantic Kernel

Day 4 – Multi-Agent Solutions, SDK Framework & Management

1. Develop multi-agent solutions with Azure AI Foundry Agent Service
2. Implement multi-agent collaboration and orchestration patterns
3. Develop agents using the Microsoft Agent Framework SDK
4. Orchestrate multi-agent solutions with the Agent Framework
5. Integrate MCP (Model Context Protocol) Tools with Azure AI Agents
6. Discover agents and enable A2A communication (AI-to-AI)
7. Manage and administer agents via Management Centre
8. Security, Governance & Responsible AI

Lab 10: Connect and test MCP tools integration

Lab 11: Implement Agent Framework SDK for multi-agent orchestration

Lab 12: Explore A2A communication and agent discovery

Lab 13: Build a multi-agent solution using Foundry Agent Service