Training: Microsoft

AI-500T00: Design and implement multi-agent AI solutions

Microsoft Partner

TRAINING GOALS:

This course focuses on the practical skills needed to architect and develop multi-agent AI solutions using Microsoft Foundry and Azure, validating your ability to design logical architecture for multi-agent solutions, build and integrate tool ecosystems, implement multi-agent orchestration and integration of monitoring, security and governance.

Audience Profile

Candidates for this course, are expert-level practitioners who have subject matter expertise in designing, building, and optimizing scalable, production-ready, multi-agent AI systems, solutions and workflows. Out of your job role, you work closely with developers, machine learning engineers, platform engineers, data scientists, and business stakeholders to translate complex requirements into production-ready, multi-agent solutions.

CONSPECT:

- Architect production-grade multi-agent AI solutions in Azure
  - Module 1: Design stateful agentic loops with Microsoft Foundry agent service
  - Module 2: Implement advanced multi-agent orchestration patterns in Microsoft Foundry
  - Module 3: Apply task decomposition and agent collaboration strategies in Microsoft Foundry
  - Module 4: Design enterprise-scale agent communication with A2A in Azure
- Build production-grade multi-agent capabilities with Microsoft Foundry
  - Module 1: Design advanced prompting strategies for production AI agents
  - Module 2: Build enterprise-grade tool ecosystems with MCP and Microsoft Foundry
  - Module 3: Implement advanced RAG pipelines with Azure AI Search and Microsoft Foundry
  - Module 4: Design multi-agent memory architectures with Azure Cosmos DB
- Deploy and govern enterprise agentic AI solutions on Azure
  - Module 1: Implement CI/CD pipelines for multi-agent systems with GitHub Actions
  - Module 2: Secure multi-agent systems with Azure zero-trust architecture
  - Module 3: Scale responsible AI governance with Azure AI Content Safety and Microsoft

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Foundry
    - Module 4: Govern the enterprise agent lifecycle in Microsoft Foundry
- Monitor, evaluate, and operate multi-agent AI solutions in Azure
    - Module 1: Implement distributed observability for multi-agent solutions with OpenTelemetry
    - Module 2: Design evaluation frameworks for multi-agent solutions with Microsoft Foundry
    - Module 3: Optimize multi-agent performance and cost in Microsoft Foundry
    - Module 4: Design human-in-the-loop approval workflows with Power Automate and Microsoft Teams
    - Module 5: Debug and respond to production multi-agent incidents in Azure

REQUIREMENTS:

- Completion of AI-103: Develop AI agents on Azure and AI-300: Operationalize generative AI applications (or equivalent)
- Experience with OpenTelemetry instrumentation and Azure Monitor / Log Analytics workspaces
- Familiarity with Microsoft Foundry agent evaluation runs and the portal evaluation workflow
- Working experience with GitHub Actions for CI/CD pipelines
- Basic familiarity with Power Automate workflow design
- Python programming proficiency

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Microsoft (course completion).

TRAINER:

Microsoft Certified Trainer (MCT)

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