

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

Course Description

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.

Course Duration

4 days

Prerequisites

Experience with AI/ML, Python, Azure services, Microsoft Foundry, and designing or developing production-ready AI/agent solutions is recommended.

Course Outline

- Design stateful agentic loops with Microsoft Foundry agent service
- Implement advanced multi-agent orchestration patterns in Microsoft Foundry
- Apply task decomposition and agent collaboration strategies in Microsoft Foundry
- Design enterprise-scale agent communication with A2A in Azure
- Design advanced prompting strategies for production AI agents
- Build enterprise-grade tool ecosystems with MCP and Microsoft Foundry
- Implement advanced RAG pipelines with Azure AI Search and Microsoft Foundry
- Design multi-agent memory architectures with Azure Cosmos DB
- Implement CI/CD pipelines for multi-agent systems with GitHub Actions
- Secure multi-agent systems with Azure zero-trust architecture
- Scale responsible AI governance with Azure AI Content Safety and Microsoft Foundry
- Govern the enterprise agent lifecycle in Microsoft Foundry
- Implement distributed observability for multi-agent solutions with OpenTelemetry
- Design evaluation frameworks for multi-agent solutions with Microsoft Foundry
- Optimize multi-agent performance and cost in Microsoft Foundry
- Design human-in-the-loop approval workflows with Power Automate and Microsoft Teams
- Debug and respond to production multi-agent incidents in Azure

Who Should Attend

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.