GH-600T00 : Developing in Agentic AI Systems Training

Duration: **1 Day**

BILGINÇ IT Academy
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The **GH-600T00: Developing in Agentic AI Systems** course provides participants with the practical skills required to develop, deploy, and manage agentic AI systems within GitHub-based software development workflows.

The course examines how AI agents can be integrated into the**software development lifecycle (SDLC)**, covering agent architecture design, tool and environment configuration, and the management of agent memory, state, and execution.

Participants will also learn how to assess and optimize agent performance, establish governance mechanisms and operational guardrails, and coordinate **multi-agent systems** to achieve secure, reliable, and efficient results.

Through hands-on learning, participants develop the capabilities needed to operate, supervise, and govern AI agents in production environments, using GitHub as the control plane.

Prerequisites

- An active GitHub account
- A foundational understanding of artificial intelligence concepts
- Basic familiarity with repositories, branches, and pull requests
- General knowledge of **continuous integration (CI) and continuous delivery (CD)** concepts

What You Will Learn

- Integrate AI agents into the **software development lifecycle (SDLC)** by establishing agent responsibilities, inputs, outputs, and execution boundaries
- Design and configure agent architectures that distinguish planning, reasoning, and execution processes to enhance reliability and control
- Enable tool usage and environment interactions by configuring agent tools, permissions, and **Model Context Protocol (MCP)** servers within development environments
- Build reliable multi-agent systems in GitHub through observable workflows, coordinated artifacts, and secure recovery mechanisms
- Manage agent memory and state, maintain progress across different environments, and assess agent behavior against clearly defined success indicators
- Establish secure and compliant agent governance through GitHub-native controls,**human-in-the-loop approvals**, and least-privilege access

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Training Outline

Module 1: Foundations of Agentic AI in GitHub

Discover how AI-powered coding agents are reshaping software development by planning, performing tasks, and improving their work within GitHub workflows.

Module 2: Agent Architecture Design and SDLC Integration

Explore how agentic AI systems leverage GitHub workflows to support secure software development. Learn how agent architectures can be integrated into the software development lifecycle.

Module 3: Tooling, MCP, and Agent Execution Environments

Understand how AI agents leverage tools, **MCP**, and GitHub workflows to carry out tasks safely. Explore defined execution boundaries, security controls, and scalable automation capabilities.

Module 4: Multi-Agent Systems and Orchestration

Learn how to architect reliable **multi-agent systems** within GitHub by implementing observable workflows, coordinating artifacts, and establishing safe recovery mechanisms.

Module 5: Memory, State Management, and Evaluation

Explore techniques for managing agent memory and state, maintaining progress across different execution environments, and evaluating agent behavior using clearly defined success criteria.

Module 6: Governance, Guardrails, and Operations

Learn to establish secure and compliant **agent governance** using GitHub-native controls, human-in-the-loop approval processes, and least-privilege access. Explore operational safeguards designed to strengthen system reliability, accountability, and recovery capabilities.