

Course description

GH-600T00, Developing in Agentic AI Systems, is an intermediate course for developers, DevOps engineers, platform engineers and technical product managers who run, integrate, supervise and govern AI agents within production software development lifecycle (SDLC) workflows. It prepares you for GitHub's first agentic AI credential, **GitHub Certified: Agentic AI Developer**, which is currently in beta.

The curriculum follows the six official exam domains: Prepare Agent Architecture & SDLC Processes; Implement Tool Use & MCP Integration; Manage Memory, State & Execution; Perform Evaluation, Error Analysis & Tuning; Orchestrate Multi-Agent Coordination; and Implement Guardrails & Accountability. The focus is operational judgment at production scale, from agent architecture and MCP configuration to evaluation, orchestration and guardrails, so you can run dependable agentic systems on GitHub and pass the GH-600 exam.

Course details

Level: Intermediate
Duration: 1 Day

Activities

This course includes presentations, demonstrations, and labs. Roughly 70% of the course is hands-on, with scenario-based configuration and operations labs, domain-weighted practice questions and a mock exam.

Course objectives

In this course, you will learn to:

- Integrate AI agents into the software development lifecycle (SDLC).
- Define clear boundaries between agent planning, reasoning and action.
- Select, configure and set permissions for agent tools, including MCP servers.
- Configure GitHub remote MCP servers, registries and allow lists.
- Integrate agents within development environments and CI workflows.
- Implement agent memory strategies and manage state across tools and environments.
- Define success criteria and evaluation signals for agent tasks.
- Analyze agent failures and tune agent behavior based on evaluation results.
- Orchestrate multi-agent workflows and detect and resolve agent conflicts.
- Implement guardrails, autonomy levels and human-in-the-loop accountability.

Intended audience

This course is intended for developers, DevOps engineers, platform engineers and technical product managers who operate, integrate, supervise and govern AI agents inside production software development lifecycle (SDLC) workflows. It is especially relevant for:

- AI engineers, developers and app makers building agent-integrated workflows.
- DevOps engineers and solution architects who operate and design agents in the SDLC.
- Data engineers working on agent memory, state and data-integration concerns.
- Platform engineers, security engineers and technical product managers who help govern autonomous agent behavior.

Prerequisites for the GH-600 Exam Course

Learners should have:

- Experience with the software development lifecycle (SDLC).
- Working knowledge of GitHub workflows and repository controls.
- Understanding of code quality, security and review practices.
- Hands-on experience with coding agents such as GitHub Copilot.
- Familiarity with MCP servers and agent customization (custom instructions, custom agents, tools, Copilot setup).

Course outline

Module 1 Prepare Agent Architecture & SDLC Processes (15–20%)

- Integrating agents into the software development lifecycle (SDLC)
- Boundaries between agent planning, reasoning and action
- Observability and control for autonomous agents
- Human intervention for autonomous agents without slowing delivery

Lab – Define inputs, outputs and success criteria for an agent task

Module 2 Implement Tool Use & MCP Integration (20–25%)

- Selecting, configuring and permissioning agent tools
- Configuring MCP servers, registries and allow lists
- Integrating agents within development environments and CI workflows
- Safe execution paths: error handling, retries, rollbacks and escalation

Lab – Add and configure a GitHub remote MCP server

Lab – Scope an agent to a repository and invoke it in a CI workflow

Module 3 Manage Memory, State & Execution (10–15%)

- Short-term, long-term and external agent memory strategies
- Persisting agent state and managing context drift
- Ensuring continuity of memory and state across tools and environments

Lab – Resume agent work from durable state without repeating steps

Module 4 Perform Evaluation, Error Analysis & Tuning (15–20%)

- Defining success criteria and evaluation signals for agent tasks
- Analyzing agent failures using logs, plans, traces and artifacts
- Tuning instructions, memory usage and tool access based on results

Lab – Diagnose a failed agent run and tune its instructions and tools

Module 5 Orchestrate Multi-Agent Coordination (15–20%)

- Orchestration patterns and agent isolation for parallel execution
- Detecting and resolving agent conflicts and overlapping changes
- Observability, audit artifacts and post-hoc analysis for multi-agent workflows
- Managing the agent lifecycle within multi-agent workflows

Lab – Configure a multi-agent workflow and resolve a coordination conflict

Module 6 Implement Guardrails & Accountability (10–15%)

- Classifying agent actions by operational, security and compliance risk
- Assigning autonomy levels and human-in-the-loop checkpoints
- Scoping permissions and execution contexts to least privilege

Lab – Add guardrails and an approval gate to an autonomous agent workflow

Key features of the GH-600 course

- Mapped one-to-one to the six official GH-600 exam domains.
- Scenario-based labs that mirror the operational style of the exam questions.
- Deep coverage of MCP, GitHub Copilot and agentic orchestration.
- Guardrails, autonomy levels and production-readiness patterns.
- Memory, state management and context-drift mitigation.
- Domain-weighted practice questions and a full mock exam.
- Roughly 70% hands-on configuration and operations labs.

Learning objectives of the GH-600 training course

- Integrate AI agents into the SDLC with clear planning, reasoning and action boundaries.
- Select, configure and secure agent tools and MCP integrations.
- Implement memory and state management that persists context and prevents drift.
- Define evaluation criteria and analyze failures to tune agent behavior.
- Orchestrate multi-agent workflows, detect conflicts and manage the agent lifecycle safely.
- Apply guardrails, autonomy levels and human-in-the-loop controls at production scale.
- Prepare thoroughly for the GitHub Certified: Agentic AI Developer (GH-600) exam.

Why choose CloudThat as your training partner?

- Certified trainers with real-world GitHub Copilot and agentic AI experience.
- Curriculum mapped directly to the official GH-600 exam blueprint.
- Hands-on labs built around real production SDLC scenarios.
- Post-training resources: practice questions, templates and best practices.
- Proven record of preparing professionals for global certifications.

Certification details

- Passing **Exam GH-600** earns the GitHub Certified: Agentic AI Developer credential. The exam is currently in beta, is provided by Microsoft, and the certification is maintained by GitHub.
- **Format:** 120 minutes, proctored, and may include interactive components alongside standard question types. An exact question count and a GH-600-specific passing score have not been published.

- **Fee:** priced by the country or region where the exam is proctored; there is no flat global fee. Exams are scheduled through Pearson VUE.
- **Beta results:** scores are not released immediately; they arrive roughly 8 weeks after the beta period concludes.
- **Retakes:** you can retake the exam 24 hours after your first attempt; waiting times for later retakes vary.
- All participants also receive a **CloudThat Certificate of Completion**.

Frequently asked questions

What does the GH-600 exam validate?

Your ability to operate, supervise and govern agentic AI systems within production-grade GitHub SDLC workflows.

What topics does the exam cover?

Agent Architecture & SDLC, Tool Use & MCP Integration, Memory & State, Evaluation & Tuning, Multi-Agent Coordination, and Guardrails & Accountability.

What is the exam format?

120 minutes, proctored, with possible interactive components. GitHub and Microsoft have not published an exact question count or a GH-600-specific passing score.

How much does the exam cost?

The fee depends on the country or region where you take the exam; no flat global fee is published. Exams are scheduled through Pearson VUE.

What experience is recommended before the training?

Hands-on experience with the SDLC, GitHub workflows and coding agents such as GitHub Copilot.

Is the exam coding-focused?

It centers on operations and configuration, but assumes solid hands-on experience with GitHub, Copilot and MCP.

Is the GH-600 certification available yet?

Exam GH-600 is in beta. Results are not immediate; scores are released about 8 weeks after the beta period concludes.

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About CloudThat

Established in 2012, CloudThat is an award-winning company and the first in India to offer cloud training and consulting services for individuals and enterprises worldwide. Recently, it won Google Cloud's New Training Partner of the Year Award for 2025, becoming the first company in the world in 2025 to hold awards from all three major cloud giants: AWS, Microsoft, and Google. CloudThat notably won consecutive AWS Training Partner of the Year (APJ) awards in 2023 and 2024 and the Microsoft Training Services Partner of the Year Award in 2024, bringing its total award count to an impressive 12 awards in the last 8 years.

CloudThat specializes in Cloud Migration, Data Platforms, DevOps, IoT, and cutting-edge technologies like Gen AI & AI/ML. As a Microsoft Solutions Partner, AWS Premier Tier Training Partner, Google Cloud Platform Partner, and collaborator with leading organizations like HPE, Oracle, Nvidia and Databricks, CloudThat has trained over 850,000 professionals across 600+ cloud certifications, empowering students and professionals worldwide to advance their skills and careers.

To know more about our cloud certification training, email at sales@cloudthat.com or call us at +91-8880002200 or +1-8555588830 for those from outside India.