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Call: 434-509-5680 or Email: sales@cloudcontraptions.com

Agentic Coding with GitHub Copilot: Agent Mode, the CLI, and the Cloud Coding Agent

Class Duration

14 hours of live training delivered over 2-3 days to accommodate your scheduling needs.

Student Prerequisites

- Professional software development experience in at least one language
- Working knowledge of Git and GitHub (issues, pull requests, branches, reviews)
- Active GitHub Copilot subscription (Individual, Business, or Enterprise) with agent features enabled
- Comfort with the command line; a supported host editor (VS Code, Visual Studio, or a JetBrains IDE) installed
- Familiarity with GitHub Copilot's core features is helpful (see *GitHub Copilot in 2026* for the feature tour)

Target Audience

Software engineers, tech leads, and platform/DevEx teams who want to move beyond AI autocomplete and *delegate* engineering work to Copilot agents. Ideal for teams adopting agentic workflows across the IDE, the terminal, and github.com—assigning issues to the cloud coding agent, driving the Copilot CLI for multi-step tasks, and standardizing how agents are supervised, reviewed, and governed. This is a practitioner course focused on agentic development with GitHub Copilot rather than a survey of every Copilot feature.

Description

GitHub Copilot is now three agents in one ecosystem: the in-IDE agent mode, the terminal-native Copilot CLI, and the cloud coding agent that runs on GitHub's infrastructure. This course teaches developers how to put all three to work on real tasks—planning multi-step changes, editing across many files, running tests, and iterating until the job is done. You will learn to launch work directly from github.com by assigning issues to Copilot and using the Agents panel, then track and steer the agent as it pushes commits to a draft



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pull request from an ephemeral GitHub Actions environment. We cover how to write agent-ready issues, ground agents in your codebase with custom instructions, prompt files, MCP servers, and Spaces, run multiple agents in parallel, and close the loop with agentic code review that can hand fixes straight back to the coding agent. Throughout, we emphasize supervision, security, governance, and cost so teams can adopt agentic coding responsibly.

Learning Outcomes

- Explain the agentic spectrum across Copilot's three surfaces—IDE agent mode, the Copilot CLI, and the cloud coding agent—and choose the right one per task.
- Drive IDE agent mode for multi-step, multi-file tasks: planning, tool use, review, and iteration.
- Use the Copilot CLI as an autonomous agent with Plan mode, Autopilot, specialized agents, and concurrent tasks.
- Launch work from github.com by assigning issues to the cloud coding agent and using the Agents panel.
- Understand how the cloud agent executes in an ephemeral GitHub Actions environment and produces a draft pull request.
- Write agent-ready issues with clear scope and acceptance criteria, and iterate with the agent through PR review.
- Ground agents in project context using custom instructions, prompt files, MCP servers, and Copilot Spaces.
- Run and coordinate multiple agents in parallel, including remote control of CLI sessions from github.com or GitHub Mobile.
- Apply agentic code review and route suggested fixes back to the coding agent as follow-up PRs.
- Establish security, governance, and cost controls for agentic development at team and enterprise scale.

Training Materials

Comprehensive courseware is distributed online at the start of class. All students receive a downloadable MP4 recording of the training.

Software Requirements

Active GitHub Copilot subscription with agent features enabled, a GitHub account with a repository the student can use for hands-on labs, the GitHub



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Copilot CLI installed, a supported host editor with the GitHub Copilot extension, the GitHub CLI (gh), and Git.

Training Topics

Foundations of Agentic Coding

- What “agentic” means: plan, act, observe, iterate
- Copilot’s three agentic surfaces: IDE agent mode, the CLI, and the cloud coding agent
- The supervision spectrum: suggestions → assisted edits → autonomous tasks
- Where agents excel (well-tested, low-to-medium-complexity work) and where to keep a human in the loop
- Designing tasks that agents can complete reliably

Agent Mode in the IDE

- Initiating an agent task and reading its plan
- Tool calls, multi-file edits, and running commands/tests
- Reviewing, accepting, and rolling back agent changes
- Steering and correcting mid-task; iteration loops
- When to escalate from Ask/Edit to Agent mode

The Copilot CLI as an Agent

- Named, resumable terminal agent sessions
- Plan mode (/plan) to agree on an approach before code changes
- Autopilot (/autopilot) for lower-supervision execution
- Specialized agents: Explore, Critic, Research, and Rubber Duck (/rubber-duck)
- Concurrent agents and task management with /tasks
- Context hygiene with /compact; history and standups via /chronicle
- Model selection, including auto

Planning and Decomposition

- Turning a goal into agent-sized tasks
- Plan-first workflows and reviewing agent plans
- Spec-driven handoff with GitHub Spec Kit (covered in depth in the dedicated course)
- Acceptance criteria the agent can verify against



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Grounding Agents in Context

- Repository custom instructions (.github/copilot-instructions.md)
- Prompt files for repeatable agentic workflows
- MCP servers to connect internal tools, APIs, and data
- Copilot Spaces for shared, context-rich agent sessions

Launching Work from GitHub.com

- Assigning one or more issues to Copilot on github.com
- The Agents panel: launching coding-agent tasks from anywhere on GitHub
- Kicking off work from GitHub Mobile and the gh CLI
- Tracking progress through agent session logs

How the Cloud Coding Agent Works

- The ephemeral GitHub Actions development environment
- Commits pushed to a draft pull request as the agent works
- Customizing the agent's setup steps and dependencies
- Network firewall, allowlists, and environment configuration

From Issue to Pull Request

- Writing agent-ready issues: scope, context, and constraints
- Reviewing the draft PR and reading the agent's reasoning
- Iterating with the agent through PR comments and change requests
- Knowing when to take over versus re-prompt

Agentic Code Review and Fix PRs

- Copilot code review gathering full project context
- Routing suggested changes to the coding agent as fix PRs
- Combining human review with agent-generated follow-ups
- Quality gates before merge

Remote and Multi-Agent Workflows

- /remote: driving a CLI session from github.com or GitHub Mobile
- Coordinating local, terminal, and cloud agents on one effort
- Parallelizing independent tasks across multiple agents
- Avoiding conflicts and merging parallel agent work

Security, Governance, and Cost

- Permissions, branch protections, and required reviews for agent PRs



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- Secrets handling and the agent's network boundary
- Enterprise policy and model-availability controls
- Reviewing agent output for correctness and security
- Cost attribution and usage controls for agentic workloads

Workshop

- Assign an issue and ship the cloud agent's draft PR to merge
- CLI lab: Plan mode → Autopilot to build and test a feature
- Agentic code review → agent-generated fix PR
- Multi-agent parallel task exercise
- Q&A session