



To discuss this course and customizations:
Call: 434-509-5680 or Email: sales@cloudcontraptions.com

Multi-Agent GitHub Copilot

Class Duration

7 hours of live training delivered over 1-2 days to accommodate your scheduling needs

Student Prerequisites

- Basic understanding of programming concepts
- Experience with a programming language such as Java, Python, JavaScript/TypeScript, or C#
- Experience with GitHub Copilot or similar AI programming tools

Target Audience

Software engineers, tech leads, and architect/DevEx teams building with GitHub Copilot and agent workflows who need predictable delivery at scale. Ideal for organizations bootstrapping new services or modernizing large legacy estates, and for managers driving secure SDLC, CI/CD quality gates, and measurable cycle-time improvements. Participants should be comfortable with code review, unit testing, and PR workflows; the course meets advanced practitioners where they are and focuses on repeatable patterns that reduce risk, improve throughput, and align agent output with architecture and compliance standards.

Description

This live, practitioner-level course shows teams how to ship features faster and safer by treating Copilot and coding agents as a governed multi-agent system. You'll learn to design role-specific agents, orchestrate scoped context with Copilot Spaces, and drive large, multi-file Copilot Edits through preview-refine-apply loops with rollback hygiene. We cover greenfield bootstrapping and legacy modernization, translating issues into executable plans with tests and enforceable guardrails for architecture and style. You'll operationalize automated reviews, security checks, and concise PR summaries, and strengthen reliability with robust unit/integration patterns and flaky test diagnosis. We close with extensibility via Copilot Extensions and MCP, plus patterns, troubleshooting, and when to adopt Agent HQ.



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Learning Outcomes

1. Apply multi-agent mental models to separate coding, review, and quality roles with clear handoffs and chains.
2. Orchestrate scoped project context using Copilot Spaces to prevent drift and keep agents aligned to goals.
3. Plan and execute multi-file Copilot Edits with preview → refine → apply loops, commits, and safe rollbacks.
4. Bootstrap greenfield repos with scaffolds, linting, tests, and CI policies that enable fast, agent-driven PRs.
5. Modernize legacy codebases via risk mapping, dependency cleanup, progressive refactors, and inline docs.
6. Turn issues into executable implementation plans with unit tests and architecture/style guardrails.
7. Automate review and quality: generate targeted comments, run security prompts/checks, and ship high-signal PR summaries.
8. Build reliable testing workflows—unit/integration patterns, mocks/fixtures/data builders—and diagnose flaky tests.

Training Materials

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

Software Requirements

Student may choose to simply watch the instructor or follow along with the instructor. If students choose to follow along, they will need a GitHub Copilot Business or Enterprise subscription, Visual Studio Code Insiders, and the GitHub Copilot extension.

Training Topics

Multi-Agent Mental Models

- Agent Mode vs coding agent
- Roles: coding, review, quality
- Handoffs and chaining

Context Orchestration with Copilot Spaces

- Spaces for project knowledge
- Scoped context and selections



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- Preventing context drift

Copilot Edits at Scale

- Multi-file change plans
- Preview → refine → apply
- Safe rollbacks and commit hygiene

Greenfield Bootstrapping

- Project scaffolds and configs
- Linting, tests, CI policies
- Fast PRs with agent handoffs

Legacy Modernization

- Risk mapping and dependency cleanup
- Progressive refactors via Edits
- Inline documentation updates

Feature Delivery with Agents

- Turn issues into executable plans
- Implement with unit tests
- Guardrails for architecture and style

Agent-Assisted Review & Quality

- Automated review comments and fixes
- Security prompts and checks
- High-signal PR summaries

Testing Workflows

- Unit/integration patterns
- Mocks, fixtures, data builders
- Flaky test diagnosis

Extensibility: Copilot Extensions & MCP

- When to use Extensions vs MCP
- Permissions and governance
- Connecting tools and services

Patterns, Troubleshooting & Agent HQ

- Break large work into sub-agents
- Recover from bad edits quickly



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- Performance tips: scoped context, focused prompts
- Agent HQ overview and when to adopt