



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

Agentic Coding with Claude Code: Plan Mode, Subagents, and the Cloud 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)
- Comfort with the command line and terminal workflows
- Anthropic Claude API access or a Claude Code subscription
- Familiarity with Claude Code's core features is helpful (see *Claude Code in Practice* for the feature deep-dive)

Target Audience

Software engineers, tech leads, and platform/DevEx teams who want to move beyond AI autocomplete and *delegate* engineering work to Claude Code agents. Ideal for teams adopting agentic workflows across the terminal, the IDE, and github.com—assigning issues to Claude in the cloud, driving plan-then-execute sessions locally, and standardizing how agents are supervised, reviewed, and governed. This is a practitioner course focused on agentic development with Claude Code rather than a survey of every feature.

Description

Claude Code is Anthropic's terminal-native coding agent, now reachable from the IDE, the web, and directly inside GitHub. This course teaches developers how to put it 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 Claude (via Agent HQ) and through @claude mentions powered by the Claude Code GitHub Action, then track and steer the agent as it pushes commits to a draft pull request. We cover plan mode and the permission/auto-mode supervision spectrum, subagents and worktree-isolated parallel work, grounding agents



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with CLAUDE.md, skills, slash commands, hooks, and MCP servers, remote control that lets a session move from your machine to your phone, and closing the loop with `/code-review`. Throughout, we emphasize supervision, security, and cost so teams can adopt agentic coding responsibly.

Learning Outcomes

- Explain Claude Code's agentic surfaces—terminal, IDE extensions, the web, and the GitHub-hosted agent—and choose the right one per task.
- Drive plan-then-execute sessions: plan mode, accept-edits, and classifier-screened auto mode.
- Orchestrate subagents and worktree-isolated background work for parallel tasks.
- Launch work from github.com by assigning issues to Claude and using @claude mentions.
- Understand how the Claude Code GitHub Action runs and produces a draft pull request.
- Write agent-ready issues with clear scope and acceptance criteria, and iterate through PR review.
- Ground agents in project context with CLAUDE.md, skills, slash commands, hooks, and MCP servers.
- Run and coordinate multiple agents, including remote control across machine and phone.
- Apply `/code-review` and route findings back into follow-up fixes.
- Establish security, governance, and cost controls for agentic development at team 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

Claude Code CLI installed, an Anthropic API key or Claude Code subscription, a GitHub account with a repository for hands-on labs, the GitHub CLI (gh), a supported IDE with the Claude Code extension (VS Code, JetBrains, or Zed), and Git.



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Training Topics

Foundations of Agentic Coding

- What “agentic” means: plan, act, observe, iterate
- Claude Code’s agentic surfaces: terminal, IDE extensions, the web, and the GitHub-hosted agent
- The supervision spectrum: permission prompts → accept-edits → auto mode (destructive-action and prompt-injection screening)
- Where agents excel (well-tested, low-to-medium-complexity work) and where to keep a human in the loop

Claude Code in the Terminal and IDE

- Interactive sessions in the terminal and via IDE extensions (VS Code, JetBrains, Zed)
- Multi-step execution: reading, editing, running commands and tests
- Reviewing diffs, inline diff comments, and checkpoints/rewind
- Steering and interrupting mid-task

Subagents and Background Work

- When to spawn a subagent vs. stay in the main session
- Subagent scope, isolation, and output collection
- Background subagents for long-running tasks
- Worktree isolation to run parallel work without conflicts

Planning and Decomposition

- Plan mode: agree on an approach before code changes
- Turning a goal into agent-sized tasks and todos
- Coordinating with a GitHub Spec Kit constitution for spec-driven work
- Acceptance criteria the agent can verify against

Grounding Agents in Context

- CLAUDE.md for persistent project context and conventions
- Skills and custom slash commands for repeatable workflows
- Hooks for lifecycle automation and guardrails
- MCP servers to connect internal tools, APIs, and data

Launching Work from GitHub and the Web

- Assigning issues to Claude on github.com (Agent HQ, public preview)
- @claude mentions in issues and PRs via the Claude Code GitHub Action



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- Claude Code on the web for browser-based async sessions
- Starting work from GitHub Mobile and VS Code

How the GitHub-Hosted Agent Works

- Running in GitHub Actions via the `claude-code-action`
- Authentication options: Anthropic API, Amazon Bedrock, Google Vertex AI, Microsoft Foundry
- Commits pushed to a branch and a draft pull request; session logs
- Sandboxed execution, checkpointing, and credential scoping

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 `@claude` follow-ups and PR comments
- Knowing when to take over versus re-prompt

Agentic Code Review

- `/code-review` on the working tree and on pull requests
- `@claude` review in pull requests
- Routing review findings into follow-up fix commits
- Quality gates before merge

Remote and Multi-Agent Workflows

- Remote control: start a session on one machine, continue on your phone
- Running multiple subagents in parallel with worktree isolation
- Coordinating terminal, web, and GitHub-hosted agents
- Headless (non-interactive) execution for scripted automation

Security, Governance, and Cost

- Permission modes and allow/deny tool policies
- Hooks as safety guardrails (blocking dangerous commands)
- Prompt-injection risks in GitHub-triggered runs and mitigations
- Secrets and credential scoping in CI
- Token usage, cost attribution, and rate-limit management

Workshop

- Assign a GitHub issue to Claude and ship the resulting PR to merge
- Terminal lab: plan mode → auto mode to build and test a feature



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- Subagent + worktree parallel task exercise
- `/code-review` → `fix-commit` exercise
- Q&A session