



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

Professional GitHub Copilot

Class Duration

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

Student Prerequisites

- Experience with a programming language such as Java, Python, or JavaScript
- Experience with GitHub Copilot or similar AI tool

Target Audience

This course is designed for experienced software developers, DevOps engineers, and technical leads who are looking to maximize the value of GitHub Copilot through customization, automation, and integration. It is also highly relevant for engineering managers and developer productivity teams focused on streamlining workflows, improving code quality, and scaling AI-assisted development practices across teams.

Course Description

This advanced course equips software professionals with the skills to fully leverage GitHub Copilot as a programmable AI assistant tailored to professional environments. Through detailed coverage of instruction configuration, prompt engineering, tool orchestration, and custom chat mode creation, developers will learn how to transform Copilot into a scalable, integrated part of their software development lifecycle. The course also covers strategic integration with GitHub.com and MCP servers, ensuring alignment with modern DevOps and code collaboration practices. By the end, teams will be empowered to deploy Copilot as a high-impact tool for automation, consistency, and code quality improvement across their organizations.

Learning Outcomes

- Configure and manage GitHub Copilot instructions to enforce consistent coding patterns across individuals, repositories, and file types, improving codebase standardization.



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- Automate commit messages and streamline code reviews using Copilot, reducing manual effort and accelerating the software delivery pipeline.
- Create and deploy prompt files to enable reusable, context-aware interactions with Copilot, increasing developer efficiency and minimizing repetitive tasks.
- Leverage and combine Copilot tools effectively to support advanced development workflows, boosting team productivity and code quality.
- Design and implement Custom Chat Modes tailored to specific team roles and use cases, enhancing collaboration and decision-making with AI-assisted guidance.
- Configure and utilize Copilot Spaces to centralize and scale knowledge sharing across teams, improving onboarding and cross-project alignment.
- Discover and connect to MCP servers to enhance the prompting experience.
- Integrate GitHub Copilot with GitHub.com features to unify AI assistance across code reviews, chat, and coding agents, increasing developer throughput and reducing context switching.

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 subscription (some features require a GitHub Copilot Enterprise subscription), Visual Studio Code and the GitHub Copilot extension.

Training Topics

Copilot Instructions

- What are Instructions?
- Personal Instructions
- Repository Instructions
- General Copilot Instructions
- Instructions Per File Type



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- Git Source Control Instructions

Git Source Control Integration

- Generate Commit Messages with Copilot
- Run Code Reviews with Copilot
- Pull Request Descriptions

Copilot Prompt Files

- What are Prompt Files?
- When to use Prompt Files
- Prompts and Slash Commands
- Prompt Metadata
- Configure Mode, Tools, and Model
- Passing Variables

Copilot Tools

- What are Tools?
- How to use tools?
- Review built-in tools
- Common tool combinations

Custom Chat Modes

- What is a Custom Chat Mode?
- When to use a Custom Chat Mode?
- Built-in Modes: Ask, Edit, & Agent
- Saved Personas for Copilot Chat
- Custom Chat Mode Metadata
- Configure Name & Description
- Configure Tools & Default Model

Copilot Spaces

- What are Spaces?
- Compared to Knowledge Bases
- Configuration
- Usage

MCP Servers

- What is Model Context Protocol?
- What do MCP servers provide?



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- Discover and add MCP servers
- Use existing MCP servers

Copilot & GitHub.com

- GitHub Copilot and GitHub.com Integration
- GitHub.com Copilot Immersive Chat
- GitHub.com Copilot Help Chat
- GitHub.com Copilot Code Review Agent
- GitHub.com Copilot Coding Agent

Advanced Prompt Engineering for Programmers

- Software Engineer vs Programmer
- Think and prompt like a software engineer
- Use GitHub Copilot to plan and organize work
- Organize work into tasks with GitHub Copilot
- Leverage Instructions, Prompts, and Chat Modes correctly
- Utilize tools, MCPs, and context
- Explore examples for new language/framework features
- Review of prompt elements and general tips
- Software Engineer Prompting Techniques
 - Review Zero-Shot and Few-Shot
 - Review Chain-of-Thought
 - Review Prompt Chaining
 - Meta-Prompting
 - Self-Consistency
 - Generate Knowledge Prompting
 - Tree-of-Thought