

KOENIG SOLUTIONS • COURSE OUTLINE

GH-300: GitHub Copilot Fundamentals

Learn to configure, prompt and apply GitHub Copilot for responsible, AI-assisted coding across languages, environments and business plans.

1 Day

DURATION

12

MODULES

69

TOPICS

10

HANDS-ON EXERCISES

COURSE OVERVIEW

This course covers responsible AI usage with GitHub Copilot, followed by an introduction to Copilot as an AI pair programmer, its setup, configuration and troubleshooting. It then examines prompt engineering foundations, advanced Copilot features, and usage across IDE, chat and command line environments, along with management and customization options such as content exclusions. Later modules look at developer use cases across the software development lifecycle, writing unit tests with Copilot, and Copilot for Business and Enterprise plans, before applying Copilot to JavaScript and Python development.

WHO THIS COURSE IS FOR

Audience profile for this course is the following:

Developers looking to enhance their coding efficiency with AI-powered tools

Programmers interested in learning about responsible AI usage and ethical standards

Software engineers seeking to integrate GitHub Copilot into their development workflows

Coders wanting to improve their prompt engineering skills for better AI-generated code suggestions

PREREQUISITES

Candidates should have the following:

- Basic understanding of programming concepts and experience with at least one programming language.
- Familiarity with integrated development environments (IDEs) and version control systems like GitHub.
- Foundational knowledge of AI and machine learning principles.

LEARNING OBJECTIVES

What You Will Learn

After completing this course, students will be able to:

- Understand and apply the principles of responsible AI usage
- Configure and troubleshoot GitHub Copilot in various development environments
- Utilize GitHub Copilot's features for code suggestions and completions
- Craft effective prompts to optimize GitHub Copilot's performance
- Integrate GitHub Copilot into different programming languages and workflows
- Enhance coding efficiency and productivity with advanced GitHub Copilot techniques

TRAINING APPROACH

This course is designed to be delivered in one full day. The activities are approximately 70% instructional led and 30% student interactive exercises and/or instructor demos.

COURSE SYLLABUS

12 Modules, 69 Topics

GitHub Copilot Fundamentals Part 1 of 2

01

Responsible AI with GitHub Copilot

TOPICS

- Introduction
- Mitigate AI risks
- Microsoft and GitHub's six principles of responsible AI
- Knowledge check
- Summary

02

Introduction to GitHub Copilot

TOPICS

- Introduction
- GitHub Copilot, your AI pair programmer
- Interact with Copilot
- Set up, configure, and troubleshoot GitHub Copilot
- Knowledge check
- Summary

Exercise

03

Introduction to Prompt Engineering with GitHub Copilot

TOPICS

- Introduction
- Prompt engineering foundations and best practices
- GitHub Copilot user prompt process flow
- GitHub Copilot data
- GitHub Copilot Large Language Models (LLMs)
- Knowledge check
- Summary

04**2 Exercises**

Using Advanced GitHub Copilot Features

TOPICS

Introduction · Advanced GitHub Copilot features · Applied GitHub Copilot techniques · Knowledge check · Summary

05

GitHub Copilot Across Environments: IDE, Chat, and Command Line Techniques

TOPICS

Introduction · Code completion with GitHub Copilot · GitHub Copilot Chat · GitHub Copilot for the Command Line · Knowledge check · Summary

06

Management and Customization Considerations with GitHub Copilot

TOPICS

- Introduction
- Explore GitHub Copilot plans and their associated management and customization features
- Explore contractual protections in GitHub Copilot and disabling matching public code
- Manage content exclusions
- Troubleshoot common problems with GitHub Copilot
- Knowledge check
- Summary

07

Developer Use Cases for AI with GitHub Copilot

TOPICS

- Introduction
- Boost developer productivity with AI
- Align with developer preferences
- AI in the Software Development Lifecycle (SDLC)
- Understand limitations and measure impact
- Knowledge check
- Summary

08

3 Exercises

Develop Unit Tests Using GitHub Copilot Tools

TOPICS

- Introduction
- Examine the unit testing tools and environment
- Review the “create unit tests” solution
- Knowledge check
- Summary

09

Introduction to GitHub Copilot Business

TOPICS

- Introduction
- About GitHub Copilot for Business
- GitHub Copilot for Business use cases and customer stories
- How to get started with GitHub Copilot for Business
- Knowledge check
- Summary

10

Introduction to GitHub Copilot Enterprise

TOPICS

Introduction · About GitHub Copilot Enterprise · How to get started · Knowledge check · Summary

11

2 Exercises

Using GitHub Copilot with JavaScript

TOPICS

Introduction · What is GitHub Copilot · Use GitHub Copilot with JavaScript · Knowledge check · Summary

Using GitHub Copilot with Python

TOPICS

Introduction · What is GitHub Copilot? · Use GitHub Copilot with Python · Knowledge check · Summary

NOTES

- The audience for this 1-day course consists of developers, programmers, software engineers, and coders who want to enhance their coding efficiency, learn about responsible AI usage, and integrate GitHub Copilot into their development workflows.
- The exercise activities in this 1-day class are Advanced and require intermediate knowledge of Git and GitHub functions and features.
- The student training content for this course is in Microsoft Learn and the exercises (hands-on or demonstrations) are included within the Learn modules.
- Exercises are to be used as hands-on activities for individual students which are led by the instructor, or demonstrations led by the instructor. The decision to lead hands-on activities or perform demonstrations is the instructor's responsibility.

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
02	Introduction to GitHub Copilot	Develop with AI-powered code suggestions by using GitHub Copilot and VS Code
04	Using Advanced GitHub Copilot Features	■ Set up GitHub Copilot to work with Visual Studio Code ■ Update a web API with GitHub Copilot
08	Develop Unit Tests Using GitHub Copilot Tools	■ Create unit tests by using GitHub Copilot Chat ■ Create unit tests for specific conditions by using GitHub Copilot ■ Complete the “create unit tests” challenge
11	Using GitHub Copilot with JavaScript	■ Set up GitHub Copilot to work with Visual Studio Code ■ Update a JavaScript portfolio with GitHub Copilot
12	Using GitHub Copilot with Python	■ Set up GitHub Copilot to work with Visual Studio Code ■ Update a Python web API with GitHub Copilot

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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