

Introduction to GitHub Copilot in a Web Development Environment Bootcamp

Two-Day Bootcamp

Short Overview

GitHub Copilot uses generative AI models developed by GitHub, OpenAI, and Microsoft. Copilot recognizes the programming language and the context in which you are developing and offer suggestions on that basis. It offers suggestions based on historical data and within the environment that the developer is in. It is even able to splice in code explanations and answers to users questions on the various GitHub forums. Specifically, Copilot is good for code completion, building unit tests, refactoring code, code translation and software documentation.

Audience

Newer JavaScript programmers with at least 1 year of working experience. Any other programmer with more than 2 years' experience but have never worked with Angular or JavaScript will also benefit. GitHub Copilot is universal.

Objectives:

After completing this course participants will be able to use GitHub Copilot for tasks such as:

- Code completion
- Starting a project
- Refactoring code

Please Note: This is NOT a typical bootcamp with a structural start and finish, this bootcamp will go in the direction of the AI tool. The coding shown will NEVER finish and that is by design. The code itself is not important, the most valuable part of this bootcamp is awareness of the prompts. It is the craftiness of prompts that direct the code suggestions. The tool will be used in a variety of web development situations. Pay attention to each environment being shown and the prompts being used.

The tool is constantly changing, and new features are being added almost on a weekly basis. This bootcamp is NOT about that, it is about using the tool directly inside of a web development environment to get a quick start using the tool.

You do not need to know or install the specific open-source tools that the instructor uses, however all tools are free to download.

Topics

Day01

- Part 1: Create a plain HTML based website using GH Copilot
- Part2: Make a GET request from a public API server and display the data
- Part 3. Use the existing website created so far and turn it into a TypeScript project (Time permitting)
- Part 4: Create a TypeScript project as it's own stand alone project
- Part 5: Add a simple HTTP-Server to handle the TS project from #4

Day02

- Part 01 – angular project setup
- Part 02 – terminal window operations
- Part 03 – adding a file to the project
- Part 04 – form support
- Part 05 – adding tailwind css
- Part 06 – api support
- Part 07 – mongodb interaction (Time permitting)
- Part 08 – posting a new resource
- Part 09 – testing with jest and supertest

Environment

We will be using the NodeJS environment to run all the examples and code in this bootcamp. The instructor will be using a Linux VM along with VS Code.

To follow along with the instructor's demonstrations presented throughout the bootcamp, we have provided Percipio users with a dedicated sandbox on the Practice tab in the "Introduction to GitHub Copilot in a Web Development Environment Bootcamp" Channel. This sandbox is fully configured with the required software and the files used by the instructor have been added.

If applicable, please check with your IT department if you intend to install software locally. The software required to recreate the sandbox experience is below:

Any OS will work if you are able to install NodeJS on it.

You will also need the MongoDB database and Postman, which is a free download from <https://www.postman.com/downloads/>

OS - Ubuntu **22.04.2 LTS**

Node: **22.13.0**

Node Package Manager: npm **11.0.0**

Angular CLI: **19.1.1**