

KOENIG SOLUTIONS · COURSE OUTLINE

GitHub Copilot for .NET Developers (Microsoft)

Learn to use GitHub Copilot to write, document, refactor and test .NET applications from setup to deployment.

2 Days

16 HOURS

5

MODULES

33

TOPICS

COURSE OVERVIEW

This course covers GitHub Copilot fundamentals, including how it works, prompt crafting, plans, IDE integrations, setup in Visual Studio and VS Code, and associated risks. It then moves into writing code with Copilot, covering autocompletion, working across languages and frameworks, documenting and explaining code, customising suggestions, and using Copilot from the command line. Learners then apply these skills to real-world projects, first building an HTML and JavaScript application, then a C# project involving unit testing, refactoring and debugging with Copilot. The course concludes with an end-to-end .NET Core MVC project using Entity Framework, covering database schema design, models, views, controllers, business logic, dependency injection, and Bootstrap styling.

WHO THIS COURSE IS FOR

.NET Developers: Developers who work with .NET technologies and are looking to enhance their productivity with AI-powered coding assistance

Software Engineers: Engineers who want to learn how to integrate AI tools into their development workflow

Project Managers: Managers who oversee .NET projects and want to understand how GitHub Copilot can improve team efficiency

PREREQUISITES

- **Basic Coding Experience:** At least one year of coding experience is recommended.
- **Familiarity with .NET and C#:** Some experience with developing C# applications, especially in Visual Studio Code with the C# Dev Kit extension, would be beneficial.
- **Basic Understanding of GitHub:** Familiarity with GitHub basics, such as repositories, commits, and pull requests.

What You Will Learn

- Explain how GitHub Copilot works as an AI pair programmer
- Apply prompt crafting best practices to guide Copilot suggestions
- Configure GitHub Copilot in Visual Studio and VS Code
- Identify risks and vulnerabilities when using AI-assisted coding
- Use Copilot to document and explain existing code
- Build a real-world application using HTML and JavaScript with Copilot
- Develop a C# project including unit tests and refactoring with Copilot
- Implement an end-to-end .NET Core MVC project with Entity Framework

COURSE SYLLABUS

5 Modules, 33 Topics

01

Understanding GitHub Copilot

TOPICS

- GitHub Copilot, Your AI Pair Programmer
- How Copilot works
- Prompt Crafting Best Practices
- GitHub Copilot Features and Plans
- GitHub Copilot IDE Integrations
- Installation and Set Up of GitHub Copilot with VS and VS Code
- Risks/Vulnerabilities and how to avoid them

02

Writing Code with GitHub Copilot

TOPICS

- Autocompletion features and capabilities
- Working with different languages and frameworks
- Use GitHub Copilot to Document Your Code
- Use GitHub Copilot to Explain Existing Code
- Customizing suggestions and feedback loops
- Time-saving Development Tips, Tricks, and Shortcuts
- Using copilot in command line
- Best practices to follow when coding with an AI assistant

03

Real-world Project Using Html and JavaScript

TOPICS

Learn about the project requirements · Basic project setup · Thinking about the components · Writing the app

04

Real-world Project Using C#

TOPICS

Use GitHub Copilot with C# · Building a .NET Core application · Writing unit tests using Copilot · Refactoring C# code with Copilot · Debugging with Copilot

05

End to End .NET Core MVC Project with Entity Framework

TOPICS

- Designing the database schema with Entity Framework Core
- Creating models, views, and controllers using Copilot
- Writing business logic with Copilot
- Implementing services and repositories
- Writing unit tests for controllers, services, repositories
- Dependency injection and service registration
- Generating views with Copilot
- Using Razor syntax and partial views
- Styling the application with Bootstrap and custom CSS

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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