KOENIG SOLUTIONS · COURSE OUTLINE

AI Driven Development Using GitHub Copilot

Learn how to accelerate app development by using GitHub Copilot and GitHub Copilot Chat in a Visual Studio Code environment.

2 Days	7	24	22
DURATION	MODULES	TOPICS	HANDS-ON EXERCISES

COURSE OVERVIEW

This course covers the fundamentals of GitHub Copilot, including its capabilities, data pipeline, governance, seat management, and billing, before moving into working with GitHub Copilot and GitHub Copilot Chat inside Visual Studio Code. It then addresses generating code explanations and documentation, developing new code features, and creating unit tests using GitHub Copilot tools. It also covers implementing code improvements for quality, reliability, performance, and security. A guided project brings these tasks together to accelerate development of an end-to-end application using GitHub Copilot.

WHO THIS COURSE IS FOR

- **Software Developers**
- **Application Developers**
- **DevOps Engineers**
- **Engineering Managers**
- **IT Administrators**

PREREQUISITES

- An active subscription for GitHub Copilot is required for either a personal GitHub account or a GitHub account managed by an organization or enterprise.
- One or more years of code develop experience is recommended.
- Some experience developing C# applications in Visual Studio Code with the C# Dev Kit extension is recommended.

LEARNING OBJECTIVES

- Explain what GitHub Copilot offers to organisations and developers
- Describe GitHub Copilot governance, seat management, and billing
- Identify features of GitHub Copilot and Copilot Chat extensions
- Generate code explanations and documentation using Copilot Chat
- Develop new code features using Copilot autocompletion and Inline Chat
- Create unit tests using GitHub Copilot and GitHub Copilot Chat
- Implement code improvements for quality, reliability, and security
- Apply GitHub Copilot tools across an end-to-end guided project

COURSE SYLLABUS

7 Modules, 24 Topics

01

GitHub Copilot Essentials

In this module, we'll cover the most common questions about GitHub Copilot, and we will see how we can use GitHub Copilot to accelerate the pace of software development and deliver more value to our customers.

TOPICS

- What GitHub Copilot can do for your organization
- Establishing trust in using GitHub Copilot
- Understanding the GitHub Copilot data pipeline
- Measuring the impact of GitHub Copilot
- Empower developers with AI Policy and Governance
- Tips for a successful rollout of GitHub Copilot
- GitHub Copilot seat management and provisioning
- Understanding billing for GitHub Copilot

02

2 Exercises

Get Started with GitHub Copilot

This module introduces developers to the GitHub Copilot products, the benefits that GitHub Copilot provides to developers, the GitHub Copilot and GitHub Copilot Chat product features, and the GitHub Copilot extensions for Visual Studio Code.

TOPICS

- Introduction
- Examine AI tools from GitHub, OpenAI, and Microsoft
- Examine GitHub Copilot tools, benefits, and limitations
- Examine the autocomplete features of the GitHub Copilot extension
- Examine the AI assistance features of the GitHub Copilot Chat extension

03

4 Exercises

Generate Documentation Using GitHub Copilot Tools

This module explores the generation of code explanations, project documentation, and inline code comment documentation using the GitHub Copilot Chat extension for Visual Studio Code.

TOPICS

- Introduction
- Examine the "document" and "explain" features of GitHub Copilot Chat

04

5 Exercises

Develop Code Features Using GitHub Copilot Tools

This module explores using GitHub Copilot and GitHub Copilot Chat suggestions to create new code. Autocompletion and code update suggestions are generated, managed, and implemented using the GitHub Copilot extensions for Visual Studio Code.

TOPICS

- Introduction
- Examine the code development features of GitHub Copilot
- Examine GitHub Copilot best practices

05

3 Exercises

Develop Unit Tests Using GitHub Copilot Tools

This module explores using GitHub Copilot and GitHub Copilot Chat to create unit tests. Exercises provide practical experience creating unit test projects and running unit tests in Visual Studio Code.

TOPICS

- Introduction
- Examine the unit testing tools and environment

06

4 Exercises

Implement Code Improvements Using GitHub Copilot Tools

This module explores using GitHub Copilot Chat to develop improvements for an existing codebase. Exercises provide practical experience implementing GitHub Copilot suggestions that improve code quality, reliability, performance, and security.

TOPICS

- Introduction
- Examine GitHub Copilot support for code improvements

07

4 Exercises

Guided Project - Accelerate App Development Using GitHub Copilot Tools

This module explores using GitHub Copilot to accelerate development of an end-to-end project. GitHub Copilot is used to explain unfamiliar code, generate project documentation, develop a new app feature, develop unit tests, and implement improvements.

TOPICS

Introduction · Prepare the development environment

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
02	**Get Started with GitHub Copilot**	■ Install GitHub Copilot extensions for Visual Studio Code ■ Configure GitHub Copilot extensions for Visual Studio Code
03	**Generate Documentation Using GitHub Copilot Tools**	■ Generate code explanations using GitHub Copilot Chat ■ Generate project documentation by using GitHub Copilot Chat ■ Generate inline code documentation by using GitHub Copilot Chat ■ Complete the “code documentation” challenge
04	**Develop Code Features Using GitHub Copilot Tools**	■ Create code by using code line completions ■ Create code by using GitHub Copilot Inline Chat ■ Complete the create new code challenge ■ Complete the code logic challenge ■ Convert code from one programming language to another
05	**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
06	**Implement Code Improvements Using GitHub Copilot Tools**	■ Improve code quality by using GitHub Copilot Chat ■ Improve code reliability and performance by using GitHub Copilot Chat ■ Improve code security by using GitHub Copilot Chat ■ Complete the “app improvement” challenge
07	**Guided Project - Accelerate App Development Using GitHub Copilot Tools**	■ Analyse and document code using GitHub Copilot tools ■ Develop code features using GitHub Copilot tools ■ Develop unit tests using GitHub Copilot tools ■ Refactor and improve code sections using GitHub Copilot tools

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

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