



GITHUB COPILOT FOR DEVELOPER

Course ID : COPILOT-DEV



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Duration: 2 Days

(12 Hours) 09:00 AM – 04:00 PM



Price: 12,900 THB

* (excluding VAT 7%)

* Eligible for 200% tax deduction



Training Schedule

www.9experttraining.com

Category: AI, Developer

AI is not replacing developers; rather, developers who leverage AI will outperform those who do not. This course empowers participants to master GitHub Copilot through intensive workshops that cover precise prompt engineering, API and web application development, automated unit testing, debugging, refactoring, and the creation of AI-powered applications. Participants will also learn techniques to accelerate full-stack development and elevate their software engineering skills with GitHub Copilot.

Objectives

1. Gain a comprehensive understanding of GitHub Copilot and its professional setup for development.
2. Master prompt engineering to enable efficient code generation.
3. Build and deploy web applications using GitHub Copilot, including React, Vue.js, Node.js, and APIs.
4. Utilize Copilot for automated unit, integration, and end-to-end testing.

Objectives

5. Apply Copilot to creating DevOps scripts, CI/CD pipelines, and infrastructure as code.

Target Audience

1. Full Stack Developers seeking to accelerate development workflows.
2. Frontend Developers aiming to design modern UI/UX.
3. Backend Developers specializing in API and database development.
4. Mobile App Developers interested in AI-assisted development.
5. DevOps Engineers focused on building automation scripts.
6. Tech Leads adopting new technologies to enhance team leadership.
7. Individuals interested in developing and enhancing AI-driven coding skills for future readiness.

Prerequisites

1. At least one year of programming experience in any language (e.g., JavaScript, Python, Java, C#, PHP).
2. A basic understanding of Git and GitHub.
3. A foundational understanding of web development concepts (HTML, CSS, JavaScript).
4. Basic knowledge of databases and SQL.

System Requirements

- Windows 10 or 11
- IDE/Editor: Visual Studio Code
- GitHub Copilot Subscription (Individual or Business)

- Development Tools: Node.js 16+, Python 3.8+, Git 2.20+
- The latest version of Google Chrome or Microsoft Edge (recommended)
- A stable internet connection

TRAINING TOPICS



DAY 1 Morning Session

9:00 AM – 12:00 PM

1. Introduction to GitHub Copilot and AI-Assisted Development

- Understanding the fundamentals of AI code generation and its role in modern software development
- An overview and comparison of current AI development tools
- Exploring the benefits of AI in coding and its impact on the software development lifecycle
- Introducing GitHub Copilot, Codex, and Large Language Models for coding
- Installing and configuring GitHub Copilot in various IDEs
- Managing licensing and applying best practices for organizational use

2. Prompt Engineering for Code Generation

- Defining prompts and their context in coding
- Understanding the principles and importance of prompt engineering for developers
- Writing code comments to enhance Copilot's accuracy
- Specifying clear and detailed function requirements
- Using type hints and documentation effectively
- Addressing edge cases and implementing error handling

- Creating advanced coding contexts and strategies
- Workshop: Writing effective prompts for high-quality code generation

DAY 1 Afternoon Session

1:00 PM – 4:00 PM

3. Frontend Development with GitHub Copilot

- Automatically generating React components and hooks
- Developing Vue.js applications with the Composition API
- Building responsive UIs with Tailwind CSS and CSS-in-JS
- Implementing state management using Redux, Vuex, or Zustand
- Creating custom hooks and composables
- Validating forms and binding data
- Integrating frontend applications with REST APIs and GraphQL
- Workshop: Building a complete frontend application

4. Backend Development and API Creation

- Building REST APIs with Node.js/Express and Python/FastAPI
- Implementing authentication and authorization with JWT and OAuth2
- Creating database models and defining relationships
- Writing SQL queries and managing database migrations
- Using ORMs/ODMs such as Prisma, Sequelize and SQLAlchemy
- Implementing caching strategies with Redis and Memcached
- Generating API documentation automatically
- Workshop: Developing a complete backend API

DAY 2 Morning Session

9:00 AM – 12:00 PM

5. Testing Automation with GitHub Copilot

- Automating unit tests with Jest, PyTest, or JUnit
- Writing integration and API tests
- Creating end-to-end tests using Playwright or Cypress
- Implementing Test-Driven Development (TDD) with AI
- Generating mock data and test fixtures
- Conducting performance and load testing
- Workshop: Building a comprehensive test suite for web applications

DAY 2 Afternoon Session

1:00 PM – 4:00 PM

6. DevOps and Deployment Automation

- Creating CI/CD pipelines with GitHub Actions
- Writing Docker and Kubernetes configuration files
- Implementing infrastructure as code using Terraform and Ansible
- Setting up monitoring and logging systems
- Conducting security scans and compliance checks
- Optimizing deployment strategies
- Workshop: Building a complete DevOps pipeline for production deployment



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Published Date : 20 Apr 2026 | **Page: 3**