

GitHub Copilot with Java for Advanced Users Training

Course Duration: 04 Hours

Course Code: GHC-JAVA-ADV-01

1. Course Overview

This advanced course focuses on leveraging GitHub Copilot to enhance Java development productivity. Participants will learn how to use AI-assisted coding for complex applications, improve code quality, automate repetitive tasks, and integrate Copilot effectively into real-world Java development workflows.

2. What You'll Learn

- Advanced usage of GitHub Copilot in Java projects
- Writing optimized and scalable Java code with AI assistance
- Automating code generation, testing, and debugging
- Integrating Copilot with IDEs like VS Code and IntelliJ
- Secure coding practices using AI suggestions
- Improving development speed and efficiency

3. Target Audience

- Experienced Java Developers
- Software Engineers & Backend Developers
- Technical Leads & Architects
- DevOps Engineers working with Java applications
- Professionals looking to enhance productivity using AI tools

4. Pre-Requisites

- Strong knowledge of Java programming
- Experience with OOP concepts and frameworks (Spring/Spring Boot)
- Familiarity with Git and GitHub
- Basic understanding of IDEs like IntelliJ IDEA or VS Code
- Prior exposure to AI coding tools (optional but beneficial)

5. Course Content

Module 1: Introduction to GitHub Copilot

- Overview of AI-powered coding
- Setting up Copilot for Java development

Module 2: Advanced Code Generation

- Writing complex methods and classes
- Generating boilerplate and reusable code

Module 3: Copilot for Frameworks

- Using Copilot with Spring Boot
- REST API development with AI assistance

Module 4: Testing & Debugging

- Writing unit tests using Copilot
- Debugging and error handling strategies

Module 5: Code Optimization & Best Practices

- Performance optimization using AI suggestions
- Clean code and maintainability

Module 6: Security & Compliance

- Identifying insecure code suggestions

- Secure coding practices with Copilot

Module 7: Real-World Projects

- Building enterprise-level Java applications
- Automation of repetitive tasks

