



AI Tools for Java Developers

- 4 Hours Course
- Hands-on Labs and Lecture

Course Overview

This 4-hour hands-on course introduces Java developers to Large Language Models (LLMs) and equips them with practical skills to integrate AI coding tools directly into their development workflow. Participants will explore three leading AI assistants—Claude Code, Cursor, and GitHub Copilot—gaining a clear understanding of when and how to use each effectively within VSCode. Through practical exercises, students will master prompting techniques, learn strategies for reviewing and testing AI-generated output, and navigate the legal, ethical, and regulatory landscape (including the EU AI Act) to ensure responsible, high-quality software development.

Who Should Attend

- Developers new to AI-assisted coding
- Java developers seeking to enhance productivity with AI tools
- Engineering teams evaluating AI coding assistants
- Software professionals seeking to adopt responsible AI practices in development

What You'll Learn

- Understand core LLM concepts, operational mechanics, and fundamental limitations.
- Install, configure, and integrate Claude Code, Cursor, and GitHub Copilot in VSCode.
- Formulate clear, context-aware prompts with constraints to generate high-quality Java code.
- Conduct comparative analyses to select the right AI assistant for specific development tasks.
- Navigate legal, copyright, liability, and regulatory standards such as the EU AI Act.
- Perform rigorous code reviews, pattern checks, and testing to validate AI-generated output.

Outline

1. Introduction to Large Language Models

- What are Large Language Models?
- How LLMs Work: Core Concepts and Capabilities
- Limitations and What LLMs Cannot Do

2. Setting Up AI Tools in Your IDE

- IDE Integration Fundamentals
- Installing and Configuring Claude Code in VSCode
- Installing and Configuring Cursor in VSCode
- Installing and Configuring GitHub Copilot in VSCode

3. Prompting for Code Generation

- Fundamentals of Effective Prompts
- Providing Context and Constraints
- Writing Clear Prompts for Java Code Generation
- Iterating with AI to Refine Output

4. The Three AI Coding Tools

- Claude Code: Architecture, Capabilities, and Use Cases
- Cursor: Features, Strengths, and When to Use It
- GitHub Copilot: Accessibility, Pricing, and Integration
- Comparative Analysis: Choosing the Right Tool for Your Workflow

5. Legal, Ethical, and Responsible AI Practices

- Copyright and Intellectual Property Considerations
- Liability and Responsibility in AI-Assisted Development
- Company Policies and Responsible Use
- EU AI Act and Emerging Regulations
- Ethical Development with AI Tools

6. Reviewing and Validating AI Output

- When to Trust AI-Generated Code
- Common Patterns and Potential Issues
- Code Review Techniques for AI-Generated Code
- Testing Strategies for Validation

Prerequisites

- Practical experience with Java development
- Familiarity with VSCode or standard modern IDE workflows

Next Courses

- Building Enterprise AI Applications with Java and LangChain4j
- Advanced Test-Driven Development & Unit Testing with AI