

Full Stack Java Development

Month 1: Introduction to Java and Front-End Development

Week 1: Introduction to Programming and Java

- Overview of programming concepts
- Installing Java and an IDE
- First Java program

Week 2-3: Java Basics and Object-Oriented Programming

- Variables, data types, operators
- Control flow (if statements, loops)
- Functions, classes, and inheritance

Week 4-5: Front-End Development with HTML, CSS, and JavaScript

- HTML5 and CSS3 basics
- Introduction to JavaScript and the Document Object Model (DOM)
- Basic front-end project

Week 6: Introduction to Front-End Frameworks

- Overview of front-end frameworks (e.g., React, Angular, Vue)
- Setting up a simple project with a front-end framework

Month 2: Back-End Development with Java and Spring Boot

Week 1-2: Introduction to Back-End Development

- Basics of server-side programming
- Setting up a Java project for back-end development

Week 3-4: Introduction to Spring Boot

- Overview of the Spring framework
- Building a basic RESTful API with Spring Boot

Week 5-6: Database Connectivity and Persistence

- Introduction to databases (e.g., MySQL, PostgreSQL)
- Connecting a Spring Boot application to a database
- Implementing CRUD operations

Month 3: Full Stack Development Integration

Week 1-2: Connecting Front-End and Back-End

- Integrating the front-end framework with the Spring Boot back-end
- Handling data exchange between the client and server

Week 3-4: Security and Authentication

- Introduction to security best practices
- Implementing user authentication and authorization

Week 5-6: RESTful API Design Best Practices

- Advanced topics in RESTful API design
- Documenting APIs and using Swagger

Month 4: Advanced Topics and Final Project

Week 1-2: Advanced Spring Boot Features

- Spring Boot data repositories
- Handling exceptions and error responses
- Introduction to Spring Boot testing

Week 3-4: Deploying Full Stack Applications

- Deployment strategies for Java applications
- Deploying the full-stack application to a cloud platform (e.g., Heroku, AWS)

Week 5-6: Final Project and Project Presentations

- Guided work on a full-stack project
- Final project presentations and feedback