

Java Developer Roadmap

1. Fundamentals of Programming (Optional)

- Understanding Variables, Data Types, and Operators
- Conditional Statements (if-else, switch)
- Loops (for, while, do-while)
- Functions & Methods

2. Core Java

- Java Syntax and Basics (Hello World, Comments)
- OOP Concepts (Encapsulation, Abstraction, Inheritance, Polymorphism)
- Java Collections (Lists, Sets, Maps)
- Exception Handling (try-catch, throw, throws, finally)
- File Handling (Reading/Writing Files)
- Multithreading & Concurrency

3. Advanced Java

- JDBC (Java Database Connectivity)
- Java Streams and Functional Programming
- Java Memory Management & Garbage Collection
- Java 8+ Features (Lambdas, Streams, Optional, Functional Interfaces)

4. Database Management

- SQL (CRUD operations, Joins, Indexing, Transactions)
- NoSQL (MongoDB Basics)

5. Java Frameworks

- Spring Boot (Dependency Injection, MVC, REST APIs)
- Hibernate (ORM for Database Management)
- Spring Security (Authentication & Authorization)

6. Build Tools & Version Control

- Maven/Gradle (Dependency Management)
- Git & GitHub (Version Control)

7. Web Development Basics (Optional for Full-Stack Java Developer)

- HTML, CSS, JavaScript Basics
- REST APIs (Designing and Consuming APIs)
- Frontend Frameworks (React.js/Angular - Optional)

8. Testing

- JUnit & Mockito (Unit Testing & Mocking)
- Integration Testing

9. Deployment & DevOps Basics

- Docker & Kubernetes (Optional, for Microservices)
- CI/CD Pipelines (Jenkins, GitHub Actions)

10. Projects & Practice

- Mini Projects (To-Do List, Simple REST API, Library Management System)
- Major Projects (E-Commerce Website, Blogging Platform)
- Participate in Open Source Contributions