Java Full Stack Development

Course Content

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1. Introduction to Java Full Stack

- What is Full Stack Development?
- Frontend, Backend & Database overview
- Role of Java in Full Stack applications
- Client–Server architecture & request flow
- Tools & technologies used in Java Full Stack

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2. Core Java Essentials

- JVM, JRE & JDK
- Data types, variables & control statements
- OOP concepts (Class, Object, Inheritance, Polymorphism, Abstraction)
- Hands-on:
- Write basic Java programs
- Simple OOP-based example

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3. Backend Development with Spring Boot

- Introduction to Spring & Spring Boot
- Creating a Spring Boot application
- REST APIs & HTTP methods (GET, POST, PUT, DELETE)
- Controllers & Dependency Injection
- Hands-on mini-demo:
- Build a simple REST API
- Test APIs using Postman

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4. Database & Backend Integration

- Introduction to SQL & relational databases
- CRUD operations overview
- Connecting Spring Boot with database (JPA intro)
- Entity & Repository basics
- Hands-on:
- Store & retrieve data from database

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5. Frontend Basics

- HTML5 structure & forms
- CSS basics & responsive design
- JavaScript fundamentals
- DOM manipulation & event handling
- Hands-on:
- Create a simple UI for backend APIs

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6. Full Stack Mini Project

- Integrate Frontend + Backend + Database
- Build a simple application (Example:
- Student Management System / Todo App)
- End-to-end request flow demonstration

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7. Career Guidance & Wrap-Up

- Java Full Stack career roadmap
- Skills required for internships & jobs
- Project discussion & Q&A

Workshop Outcomes

- Clear understanding of Full Stack architecture
- Hands-on experience with Java & Spring Boot
- Ability to build a basic end-to-end web application