

JAVA FULL STACK DEVELOPMENT

Course Syllabus



Duration: 70 Day Program (10 Weeks)

Chapter	Topic	
Week-1	Core Java Basics	
	1: Java Introduction, Installation, and Setup 2: Data Types, Variables, and Operators 3: Control Structures (if, switch, loops) 4: Methods in Java (Method Overloading) 5: OOP Concepts: Introduction to Classes and Objects 6: Practical Lab: Writing Basic Java Programs	
Week-2	Object-Oriented Programming (OOP)	
	7: Inheritance and its Types 8: Polymorphism (Overloading and Overriding) 9: Encapsulation and Abstraction 10: Abstract Classes and Interfaces 11: Exception Handling in Java 12: Practical Lab: Building a Java Program Using OOP	
Week-3	Collections Framework and Advanced Java	
	13: Introduction to Collections (List, Set, Map) 14: Working with List, Set, and Map Interfaces 15: Generics in Java 16: Java I/O (File Handling) 17: Java 8 Features (Lambdas, Stream API) 18: Practical Lab: Working with Collections	
Week-4	Front-end Development (HTML, CSS, JavaScript) - Introduction	
	19: HTML5 Basics: Structure of Web Pages 20: CSS3: Styling Web Pages 21: JavaScript Basics: Variables, Functions, and Events 22: DOM Manipulation using JavaScript 23: Introduction to Responsive Design (CSS Flexbox) 24: Practical Lab: Creating a Responsive Web Page	

Chapter	Topic	
Week-5	Multithreading and Concurrency	
	<p>25: Introduction to Threads</p> <p>26: Synchronizing methods and blocks</p> <p>27: Managing threads using Executors</p> <p>28: Using ConcurrentHashMap and CopyOnWriteArrayList</p> <p>29: Using Future and Callable interfaces</p> <p>30: Practical Lab: Implementing a multithreaded application</p>	
Week-6	Backend Development (Java & Spring Boot)	
	<p>31: Introduction to Spring Boot and REST APIs</p> <p>32: Spring Boot Setup and Configuration</p> <p>33: Building RESTful Web Services with Spring Boot</p> <p>34: Handling HTTP Requests and Responses in Spring Boot</p> <p>35: Error Handling and Validation in REST APIs</p> <p>36: Practical Lab: Create a REST API using Spring Boot</p>	
Week-7	Database Connectivity (MySQL/PostgreSQL & Hibernate)	
	<p>37: Introduction to Databases and JDBC</p> <p>38: SQL Basics: CRUD Operations</p> <p>39: Working with Hibernate for ORM</p> <p>40: Hibernate Annotations and Mapping</p> <p>41: Connecting Spring Boot with MySQL/PostgreSQL</p> <p>42: Practical Lab: Create a Database-Connected Application</p>	
Week-8	DevOps & Project Work	
	<p>43: Introduction to Docker and Containers</p> <p>44: Building and Running Java Apps in Docker</p> <p>45: CI/CD Basics: Introduction to Jenkins</p> <p>46: Project Work: Full Stack Application Development (Frontend + Backend + Database)</p> <p>47: Project Work Continues (Complete CRUD Operations)</p> <p>48: Practical Lab: Deploy Your Application Using Docker</p>	
Week-9	Employability Facilitation & Testing	
	<p>49: JUnit and Mockito for Unit Testing</p> <p>50: Writing Test Cases for Java Applications</p> <p>51: Soft Skills Training: Resume Building</p> <p>52: Interview Preparation: Mock Interviews</p> <p>53: Technical Test: Coding Challenges</p> <p>54: Practical Lab: Debugging and Testing Applications</p>	

Chapter	Topic	
Week-10	Final Project & Career Support	
	55: Final Project Work (Submission and Review) 56: Project Presentation and Feedback 57: Career Counselling: Job Opportunities, Networking 58: Final Mock Interviews and Job Readiness 59: Certification and Course Wrap-Up 60: Graduation Day and Job Placement Support	

Course Overview:

The Java Full Stack Development course is designed to equip participants with the skills and knowledge required to master **Core Java** and **Advanced Java** concepts, along with integration with front-end interfaces. Through a combination of theoretical concepts, practical exercises, and hands-on projects, participants will learn how to design, develop, deploy, and maintain full-stack web applications. This includes **REST API development**, seamless **database connectivity**, and effective communication between the front-end and back-end systems using Java-based technologies.

This schedule offers a balanced mix of **theory**, **practical sessions**, and **career support**, ensuring students gain technical expertise and job readiness by the end of the course.

Hands-on Learning:

- Daily **2 Hours of Theory + 1 Hour of Practical Lab** sessions.
- Real-world **project-based training** to apply theoretical concepts.

Employability Facilitation:

- **Soft Skills Training:** Interview preparation, resume building, and mock interviews.
- **Job Readiness:** Guidance on cracking coding tests and technical interviews.
- **Industry Connections:** Networking with professionals and job placement support.

Experienced Trainers:

- Learn from industry experts with **20+ years of experience** in Full Stack Development.

Certification:

- **Industry-recognized certification** upon successful completion of the course.
- Add value to your resume with **Java Full Stack Developer** certification.

Post-Course Support:

- **Career counselling, job placement assistance, and mentorship** even after the course ends.