

JAVA FULL STACK

COURSE CURRICULUM



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Core Java

- Introduction to Java
- Data Types and Variables
- Classes and Objects
- Object Oriented Programming
- Constructors
- Control Statements
- Abstract Classes
- Interfaces
- Packages
- Exception Handling
- Multi-threading
- Collection Framework
- Generics
- Input Output Streams
- Java 8 Features

JDBC & SQL

- Introduction to SQL
- Introduction to JDBC
- Architecture of JDBC
- Types of JDBC Drivers:
 - JDBC-ODBC Bridge Driver
 - Native-API Driver
 - Network Protocol Driver
 - Thin Driver
- CRUD Operations using JDBC
- Batch Processing
- Transaction Management



Java

Servlets

- Introduction to Web Technologies
- Ways to create a Servlet:
 - Implementing Servlet Interface
 - Extending GenericServlet
 - Extending HttpServlet
- HTML with Servlet Communication
- HTML + Servlet + Database Communication
- Servlet with Servlet Communication
- ServletConfig & ServletContext
- Session Tracking

JSP (Java Server Pages)

- Introduction & Architecture
- JSP Scripting Elements:
 - Scriptlet Tag
 - Expression Tag
 - Declaration Tag
- JSP Directive Elements:
 - Page, include, taglib
- JSP Action Elements:
 - Forward, include, bean, setProperty, getProperty
- JSP Implicit Objects:
 - Request, response, config, application, session, pageContext, page, exception
- JSP and JDBC Integration

Hibernate

- Introduction and Architecture
- CRUD Operations
- Inheritance:
 - Table per Hierarchy
 - Table per Sub Class
 - Table per Concrete Class
- Relationships:
 - One-to-One, One-to-Many, Many-to-One, Many-to-Many
- HQL and Restrictions
 - Criteria Queries

Spring Framework

- Spring Core (Basic + Advanced + Annotations)
- Spring MVC
- Spring AOP
- Spring ORM
- Spring Transaction
- Spring JDBC
- Creating Views with Spring MVC

Spring Boot & REST API

- Introduction to Spring Boot
- Hello World using Spring Boot + Maven
- RESTful Web Service Example
- Common App Properties
- Customizing Tomcat Port & Context Path
- Hot Reload with Dev Tools
- Data Source Configuration (Single & Multiple)
- Spring Boot + Spring Security (Basic & DB Authentication)
- Spring Boot + MVC + JSP Integration
- REST API POST Request (JSON Example)

Microservices

- Introduction to Microservices Architecture
- Fundamentals of RESTful Services
- Building & Deploying Microservices
- Communication Between Microservices
- Data Management
- API Gateway & Service Discovery
- Security, Monitoring & Logging
- Testing & Scaling Microservices
- CI/CD & DevOps for Microservices

Agile Methodology

- Introduction, Manifesto, Characteristics
- Agile SDLC
- Agile Scrum
- Daily Stand-Ups
- Product Management

Tools

- Maven
- JUnit
- Log4J
- GitHub
- Jira

UI Technologies

- HTML
- JavaScript
- TypeScript
- ReactJS

Software Required

- JDK 1.8
- Eclipse
- Apache Tomcat
- MySQL

ReactJS (Advanced)

- Introduction to ReactJS
- JSX
- Components, State, Props
- React Hooks
- Forms & Routing
- Redux
- API Integration
- Performance Optimisation
- Testing React Apps

AI for Java

- Why Java for AI?
- Machine Learning Basics
- Data Handling & Preprocessing
- ML Models in Java
- Neural Networks
- NLP with Java
- Image Recognition
- Real-Time AI Applications

AWS Cloud Fundamentals

- Cloud Practitioner Essentials
- Compute, Networking, Storage
- Security & Reliability
- Global Infrastructure

DevOps Fundamentals

- DevOps Lifecycle
- Architecture & Pipeline
- CI/CD Concepts
- Jenkins Integration

Thank you



Thank You for Going Through Java Full Stack Curriculum
We hope this guide has provided a clear and structured learning path
to strengthen your skills in Java Full Stack.

📌 **NEXT STEPS**

- Start practicing with real-world use cases and hands-on exercises
- Build personal or client-based projects for your portfolio
- Keep exploring updates and best practices in the industry
- Join discussions and stay connected with the community

📞 **Need Help or Guidance?**

Feel free to contact our course support team:

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