

Java Full Stack Internship Curriculum (6 Months + Major Project)

Month 1: Programming Foundations (Core Java)

Week 1–2: Java Basics

- Introduction to Programming & Java
- JDK, JRE, JVM
- Variables & Data Types
- Operators
- Control Statements (if, switch, loops)

Week 3–4: Core Java Advanced

- Arrays & Strings
- Methods
- OOP Concepts
 - Class & Object
 - Encapsulation
 - Inheritance
 - Polymorphism
 - Abstraction
- Exception Handling

Mini Task: Console-based Student Management System

Month 2: Advanced Java & Database

Week 5–6: Java Advanced Concepts

- Packages
- Access Modifiers
- Interfaces & Abstract Classes
- Collections Framework
- Multithreading

- File Handling

Week 7–8: Database & JDBC

- Database Concepts
- MySQL / PostgreSQL
- SQL Queries (CRUD)
- Joins, Constraints, Indexes
- JDBC Connectivity

Mini Project: Employee Management System (Java + DB)

Month 3: Frontend Development

Week 9–10: HTML & CSS

- HTML5 Structure
- Forms & Tables
- CSS3 Styling
- Flexbox & Grid
- Responsive Web Design

Week 11–12: JavaScript

- JavaScript Basics
- DOM Manipulation
- Events
- ES6 Features
- Form Validation

Mini Project: Responsive Website with Validation

Month 4: Frontend Framework & Backend Basics

Week 13–14: Frontend Framework

- Bootstrap
- Introduction to React JS

- Components & Props
- State & Hooks
- Routing

Week 15–16: Java Backend Framework

- Servlet & JSP
- MVC Architecture
- Introduction to Spring Framework
- Spring Core & Dependency Injection

Mini Project: Frontend + Java Backend CRUD Application

Month 5: Spring Boot & REST APIs

Week 17–18: Spring Boot

- Spring Boot Architecture
- Spring MVC
- Spring Data JPA
- Hibernate ORM
- CRUD Operations

Week 19–20: REST APIs & Security

- RESTful Web Services
- Spring Boot REST APIs
- JWT Authentication
- Role-Based Access Control
- API Testing using Postman

Mini Project: REST API Based Application

Month 6: Major Project & Deployment

Week 21–22: Major Project Development

Major Project Options:

- Job Portal System
- Online Learning Management System
- E-commerce Application
- College ERP System
- Banking Management System

Features:

- User Roles (Admin, User)
- Authentication & Authorization
- CRUD Operations
- REST APIs
- Database Integration
- Frontend + Backend Integration

Week 23–24: Deployment & Career Skills

- Git & GitHub
- Application Deployment (AWS / Render)
- Resume Building
- Interview Preparation
- Mock Interviews

Tools & Technologies

- Core Java, Advanced Java
- Spring, Spring Boot, Hibernate
- HTML, CSS, JavaScript, React
- MySQL / PostgreSQL
- Git & GitHub
- Postman
- VS Code / IntelliJ IDEA

Internship Deliverables

- Weekly Assignments
- Mini Projects
- Major Project (Live)
- Internship Certificate
- Project Documentation

Final Outcome

- Strong Java Full Stack Skills
- Real-time Project Experience
- Job-ready Profile
- Confidence for Interviews