

Kodewala Academy – Java Backend Curriculum

Core Java Foundations

- ✓ Java Basics, Syntax, Data Types, Strings, Arrays, Operators
- ✓ OOPs – Inheritance, Polymorphism, Abstraction, Encapsulation
- ✓ Constructors & Object Lifecycle, Exception Handling, Java 8 and 17 features
- ✓ Collections Framework (List, Set, Map) and Generics, Stream API
- ✓ Multithreading & Concurrency
- ✓ JVM Internals, Class Loader, Memory Model
- ✓ 2 Minor Projects

Backend Development (Advanced Java + Spring Boot)

- ✓ JDBC, MVC Architecture, REST API Development, Spring Framework
- ✓ Spring Boot – Controllers, Services, Repositories, DI, IoC, Profiles, Actuator
- ✓ Microservices – Feign Client, RestTemplate, Config Server, API Gateway, Service Discovery
- ✓ Spring Security + JWT, Logging (LOG4J/SLF4J)

Database & ORM Mastery

SQL and NoSQL:

- ✓ Joins, Indexing, ACID, Transactions
- ✓ Query Optimization, Stored Procedures
- ✓ Database Design, MySQL and Mongo DB Hands-on

Hibernate / JPA:

- ✓ Entities, Mappings, One-to-One, One-to-Many
- ✓ HQL, JPQL, Caching, Fetch Types, Repository Patterns

Real-World Project Development (30 real world Use case Implementations)

- ✓ Requirement Analysis, HLD + LLD Creation
- ✓ Backend Implementation, Database Schema + Integration
- ✓ Frontend Integration, Testing & Debugging

Tools & Development Environment

- ✓ Eclipse, Maven, Git & GitHub, Junit and EasyMock
- ✓ Postman, Swagger API Documentation, SonarQube, Linux Basics + Shell Scripting

Messaging and Caching System

- ✓ Kafka, Redis

System Design (LLD + HLD)

Low-Level Design:

- ✓ SOLID Principles
- ✓ Design Patterns – Singleton, Factory, Builder, Strategy, Observer

High-Level Design:

- ✓ Scalable Architecture, Caching, Load Balancing
- ✓ Real-world design examples

Data Structures & Algorithms

- ✓ Arrays, Strings, LinkedList, Stack, Queue
- ✓ HashMap & Hashing, Recursion, Backtracking
- ✓ Searching, Sorting, Sliding Window, Two Pointer
- ✓ DSA Interview Practice

Code Review Sessions

- ✓ Peer code review.
- ✓ Static code review.

Cloud CI CD (Dev OPS)

- ✓ Aws cloud, CI CD process
- ✓ Jenkin, Docker and Kubernetes, Deployment process

Agile and SCRUM

- ✓ Way of working in industry, JIRA and Agile Process

Best Practice

- ✓ How to write production grade code.
- ✓ How to debug the code.
- ✓ Performance optimization.

Interview Preparation

- ✓ Core Java Q&A
- ✓ Spring Boot & Microservices Q&A
- ✓ SQL Interview Questions
- ✓ System Design Interview Questions and Personalized Feedback

Career & Placement Support

- ✓ Resume Building
- ✓ LinkedIn Optimization, Naukri Profile Optimization
- ✓ Placement Assistance
- ✓ Company-specific guidance
- ✓ Referrals