

Java Full-Stack Development

Build enterprise-grade Java applications with Spring Boot, databases, security, frontend integration, testing and cloud-ready deployment.

**8 weeks**

DURATION

86 hours

GUIDED LEARNING

2 projects

PORTFOLIO

ABOUT THE ACADEMY

Practical learning. Work you can demonstrate.

Brightnest AI Academy brings live instruction, guided practice and career preparation together for individuals and teams.

23

FOCUSED COURSES

6

FLAGSHIP PROGRAMMES

Noida

ACADEMY LOCATION

Our approach

1

Learn

Understand concepts through live instruction and current examples.

2

Build

Apply learning through labs, assignments and guided projects.

3

Explain

Document decisions, results, trade-offs and limitations.

4

Prepare

Connect completed work with CVs, interviews and workplace conversations.

PEOPLE BEHIND THE ACADEMY

Meet Ranjeet Kumar



ACADEMY ADVISER

Ranjeet Kumar

Innovation & Growth Leader

15+ years

Experience in data, artificial intelligence and machine learning leadership.

Areas of expertise

- Data science and machine learning solution leadership
- AI product strategy and scalable data platforms
- Technology team leadership and mentorship
- Practical AI and data adoption for business transformation

Education

Master of Information Systems, Anna University, Chennai
Bachelor of Computer Science Engineering



COURSE OVERVIEW

Build your next set of skills

Develop enterprise-grade full-stack applications using Java and modern web technologies. Progress from Java Foundations and Developer Tooling to Containers, CI/CD and Java Full-Stack Capstone through guided labs, assessed projects, and portfolio evidence.

Who this is for

Java learners and developers targeting enterprise full-stack application roles.

Before you begin

Learners should understand basic programming logic. Prior Java exposure is helpful but not mandatory when foundation preparation is available.

Enterprise Java work requires more than language syntax; learners must connect Spring Boot, persistence, APIs, frontend integration, testing, security, containers, and CI/CD.



LEARNING OUTCOMES

What you will be able to do

01

Build and package a command-line Java application using a modern build tool.

02

Model a business domain and implement collection/stream-based processing.

03

Build a versioned REST API with validation, error handling and documentation.

04

Connect the API to PostgreSQL and implement reliable transactional CRUD workflows.

05

Secure endpoints with role-based authorisation and token-based authentication.

06

Add unit/integration tests and extract one domain capability into a service boundary.

07

Deploy a complete Java full-stack business application with CI/CD, tests and production documentation.

CURRICULUM

Course curriculum

8 modules · 8 weeks · 86 hours of guided learning

01 Java Foundations and Developer Tooling

6 hours

TOPICS

JDK · JVM · Syntax · Types · Control flow · Methods · Packages · Maven/Gradle concepts · IDE · Git · Debugging

PRACTICAL WORK

Build and package a command-line Java application using a modern build tool.

Tools: Java, IntelliJ/VS Code, Maven/Gradle, Git

Assessment: Coding checkpoint

Portfolio evidence: Java starter project

02 Object-Oriented Java and Collections

10 hours

TOPICS

Classes · Interfaces · Inheritance · Composition · Generics · Collections · Exceptions · Streams/lambdas · Immutability · Clean code · Testing mindset

PRACTICAL WORK

Model a business domain and implement collection/stream-based processing.

Tools: Java, JUnit concepts

Assessment: Code review

Portfolio evidence: Object-oriented Java module



CURRICULUM

Course curriculum

8 modules · 8 weeks · 86 hours of guided learning

03 Spring Boot and REST API Development

12 hours

TOPICS

Spring Boot · Dependency injection · Configuration · Controllers · DTOs · Validation · Exception handling · OpenAPI · Layered architecture

PRACTICAL WORK

Build a versioned REST API with validation, error handling and documentation.

Tools: Spring Boot, Spring Web, OpenAPI

Assessment: API lab

Portfolio evidence: Spring Boot REST service

04 Persistence with Spring Data JPA

10 hours

TOPICS

Relational design · Entities · Repositories · Transactions · Relationships · Pagination · Query methods · Migrations · Performance pitfalls

PRACTICAL WORK

Connect the API to PostgreSQL and implement reliable transactional CRUD workflows.

Tools: Spring Data JPA, Hibernate, PostgreSQL, Flyway/Liquibase concepts

Assessment: Persistence lab

Portfolio evidence: Database-backed Spring service



CURRICULUM

Course curriculum

8 modules · 8 weeks · 86 hours of guided learning

05 Spring Security and Application Security

10 hours

TOPICS

Authentication/authorisation · Password storage · JWT/OAuth2 concepts · Method security · CORS/CSRF · Secrets · OWASP awareness · Secure defaults

PRACTICAL WORK

Secure endpoints with role-based authorisation and token-based authentication.

Tools: Spring Security

Assessment: Security practical

Portfolio evidence: Secured Java API

06 Frontend Integration for Java Full Stack

10 hours

TOPICS

React/modern frontend integration · API clients · Forms · Auth state · Error handling · CORS · Build/deploy separation · Contracts

PRACTICAL WORK

Build a web frontend that consumes the Spring API and implements login and CRUD flows.

Tools: React or equivalent, TypeScript, Spring Boot

Assessment: Integration checkpoint

Portfolio evidence: Java full-stack application



CURRICULUM

Course curriculum

8 modules · 8 weeks · 86 hours of guided learning

07 Testing, Microservices and Integration Patterns

10 hours

TOPICS

JUnit · Mockito · Integration tests · Testcontainers concepts · Service decomposition · Messaging · Resiliency · API contracts · Observability basics

PRACTICAL WORK

Add unit/integration tests and extract one domain capability into a service boundary.

Tools: JUnit, Mockito, Testcontainers concepts, Messaging concepts

Assessment: Testing review

Portfolio evidence: Tested service architecture

08 Containers, CI/CD and Java Full-Stack Capstone

18 hours

TOPICS

Docker · Image optimization · Config · CI/CD · Cloud runtime · Database migration · Logs/metrics · Performance · Release strategy

PRACTICAL WORK

Deploy a complete Java full-stack business application with CI/CD, tests and production documentation.

Tools: Spring Boot, React, PostgreSQL, Docker, GitHub Actions/cloud

Assessment: Capstone demo

Portfolio evidence: Deployed Java full-stack project

APPLIED PORTFOLIO

Projects you will build

Two portfolio projects supported by guided module work.

PORTFOLIO PROJECT 1

Enterprise Java Business Application

Build a Spring Boot API with PostgreSQL persistence, Spring Security, a frontend and automated tests.

DELIVERABLES

Source · OpenAPI · Database · Security · Tests · Deployed app

PORTFOLIO PROJECT 2

Java Microservice Starter Platform

Split a business capability into services with messaging/contract and observability concepts.

DELIVERABLES

Service repos · Integration tests · Container setup · Architecture

LEARNING EXPERIENCE

Learn, practise and present

- Live instructor-led sessions that connect concepts to real workplace decisions.
- Guided labs and workshops in every module.
- Assignments, checkpoints and practical feedback.
- Portfolio documentation, demonstrations and capstone review.
- Access to recordings and LMS resources according to the published batch policy.
- Career preparation based on completed work and target roles.

Tools you will work with

Java · IntelliJ · VS Code · Maven · Gradle · Git · JUnit concepts · Spring Boot · Spring Web · OpenAPI · Spring Data JPA · Hibernate · PostgreSQL · Flyway · Liquibase concepts · Spring Security

CAREER PREPARATION

Build confidence for interviews

A structured process to connect your learning with your next career step.

01**Role clarity**

Identify roles that fit your background, interests and current skills.

02**Profile readiness**

Review your CV, LinkedIn, GitHub and project summaries.

03**Project proof**

Prepare to demonstrate completed work and explain your decisions.

04**Interview practice**

Practise technical questions, project walkthroughs and interviews.

05**Opportunity updates**

Receive relevant job openings and employer requirements, subject to availability and learner readiness.

Career support helps you prepare. Employment outcomes depend on experience, project quality, interview readiness and market conditions.

LEARNER JOURNEYS

Companies where our learners have been hired

Across the Brightnest AI Academy learner community



Learner employment history across the academy; not a placement guarantee for this course. Names and logos identify employers; they do not imply endorsement or a hiring partnership.

BEFORE YOU ENROL

Your questions, answered

Is the Java Full-Stack Development course suitable for beginners?

This course progresses from intermediate to advanced level. Learners should understand basic programming logic. Prior Java exposure is helpful but not mandatory when foundation preparation is available.

What will I build during the course?

You will complete guided labs in every module and build two portfolio projects: Enterprise Java Business Application and Java Microservice Starter Platform. Deliverables include working files or code, documentation, testing or evaluation evidence, and a final presentation.

Which tools and platforms are covered?

Key tools include Java, IntelliJ, VS Code, Maven, Gradle, Git, JUnit concepts, and Spring Boot. Additional platforms are introduced in relevant modules through practical tasks, and the toolset may evolve as industry practice changes.

How long does the course take?

The course includes approximately 86 guided learning hours across 8 modules, delivered over 8 weeks.

Which career paths can this course support?

The curriculum supports the development of skills relevant to roles such as Java Full-Stack Developer, Spring Boot Developer, and Backend Engineer. Career outcomes depend on prior experience, project quality, interview readiness and market conditions; employment is not guaranteed.

BEFORE YOU ENROL

Your questions, continued

Will I receive mentor and career support?

The course includes live instruction, lab support, assignment feedback, project reviews and career preparation covering portfolio development, CV writing, LinkedIn profile improvement, and interview guidance.

FEES & ADMISSIONS

Plan your next step

COURSE FEE

INR 35,000 + GST

EMI and easy instalments available

Duration	8 weeks
Level	Intermediate-Advanced
Learning format	Live mentor-led learning
Batch starts	Expected Saturday / Sunday starts

Check the live Batches page for the next expected weekend. Confirm the exact date, class times and availability with admissions.

Book a free demo class >

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brightnestaiacademy.com/batches

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