



A Unit of Ascent NextGen Technologies

Java Full Stack

Master's Program

Java Full Stack

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Program Overview

Build a strong career in the fast-growing field of **Java Full Stack Development** with this industry-focused training program. The program is designed to help students and professionals develop practical skills in designing, developing and deploying modern web applications using Java technologies.

The course covers essential tools and technologies including **Core Java, Advanced Java, Spring Boot, Hibernate, REST APIs, HTML, CSS, JavaScript, React / Angular, and database management (MySQL and MongoDB)**, enabling learners to build scalable and dynamic full stack applications.

Through **real-time projects, case studies and hands-on training**, students gain practical experience working with real-world scenarios. The program focuses on developing strong problem-solving skills, backend and frontend integration, and application deployment techniques used in modern software development.

By the end of the program, learners will be able to **build complete full stack applications**, develop **RESTful services**, **manage databases**, **create responsive user interfaces**, and **deploy applications** in real-world environments.

Program Features



120+ Hours of Instructor-Led Training

Comprehensive training sessions that take you from Core Java basics to complete full stack applications, with practical examples.



Industry-Oriented Curriculum

Curriculum designed around current industry requirements and real-world application development.



Tools & Technologies Training

Hands-on training in Java, Spring Boot, Hibernate, MySQL, MongoDB, Kafka, React, Git and Maven.



Placement Assistance

Support with resume preparation, mock interviews, interview guidance and job opportunities.



Hands-on Practical Learning

Practical sessions with coding assignments for every topic, so you write code in every class.



Real-Time Projects

Work on real-time Java full stack projects and a capstone built with React and Spring Boot.



Certification Program

Receive the Java Full Stack Master's Program certificate from Ascent Software Training Institute after successful completion.



Classroom & Live Online

Classroom training at BTM 1st Stage, Bangalore, or live instructor-led online classes.

About Ascent Software Training Institute

Ascent Software Training Institute is a leading training institute that provides industry-focused IT courses designed to help students and professionals build successful careers in technology.

Our training programs focus on practical learning, real-time projects and industry-relevant skills. With experienced trainers and a structured curriculum, we help learners gain the knowledge and confidence required to succeed in today's competitive IT industry.

Career Opportunities

in Java Full Stack Development



High-Demand Career Paths

Java Full Stack Developer

- Backend Developer (Java / Spring Boot)
- Frontend Developer (React / Angular)
- Web Application Developer
- Software Engineer



Opportunities Across Industries

Java full stack development is widely used in:

- IT services and product companies
- Banking & finance
- Healthcare
- Retail & e-commerce
- Telecommunications
- Government & public sector



Career Growth & Advancement

Start as a junior developer and grow into roles like:

- Senior Full Stack Developer
- Tech Lead
- Software Architect
- Engineering Manager



Entrepreneurial Opportunities

Use your full stack skills to build your own web applications, SaaS products or a tech-based startup.



Freelancing & Remote Work

Many companies offer remote roles and freelance opportunities, allowing flexibility and global exposure.

Why choose a career in Java full stack development?

- Organisations rely on scalable web applications, which makes skilled developers valuable.
- With the right training, hands-on experience and industry-relevant skills, you can build a rewarding career in this field.

Career progression depends on each person's skills, experience and the roles available.

Learning Path

Java Full Stack

1

Learn Programming Fundamentals

Start with Core Java basics

2

Master Core Java Development

Classes, OOPs, Collections

3

Work with Databases (SQL)

SQL Queries & CRUD

4

Build Backend with Java Technologies

JDBC, Servlets, JSP

5

Learn Spring Framework

Spring Boot, REST APIs

6

Frontend Development Skills

HTML, CSS, React / Angular

7

Work on Real-Time Projects

Java Full Stack Projects

8

Build Portfolio & Prepare for Interviews

Create Projects & Portfolio

Electives

Advanced Spring Boot

REST API Development

Microservices Architecture

Docker & Deployment Basics

Full Stack Project Development

Program Outcomes

At the end of this Java Full Stack Developer program, you will be able to:

- ✓ **Understand** core Java programming concepts including OOP, classes, objects, inheritance and exception handling.
- ✓ **Develop** backend applications using Java technologies such as JDBC, Servlets and JSP.
- ✓ **Design and manage** relational databases using SQL for efficient data storage and retrieval.
- ✓ **Build RESTful APIs** using Spring Boot for modern web applications.
- ✓ **Create responsive frontend applications** using HTML, CSS, JavaScript and React or Angular.
- ✓ **Integrate frontend and backend** systems to build complete full stack web applications.
- ✓ **Gain hands-on experience** by working on real-time industry projects.
- ✓ **Build a professional developer portfolio** with full stack applications.
- ✓ **Prepare for technical interviews**, coding tests and job opportunities in full stack development.



Who Should Attend

This training program is designed for individuals who want to build or advance their skills in **software and technology**. The following roles and backgrounds are ideal for this program:

- ✓ **Fresh graduates** looking to start a career in **software and technology**.
- ✓ **Professionals** from non-technical backgrounds who want to **transition** into software and tech-related roles.
- ✓ **Junior to mid-level professionals** aiming to **upskill** in the latest **software tools** and **programming** languages.
- ✓ **IT professionals** looking to specialise in full stack development and modern development practices.
- ✓ **Working professionals** who want to enhance their productivity and technical skills.
- ✓ Individuals passionate about **technology**, problem-solving and innovation.

No prior programming knowledge is required: the course starts with Java fundamentals.

Program Curriculum

Java with Spring Boot, React & Redux, Spring RESTful Web Services, MongoDB and Kafka. The course teaches Java in a practical, hands-on way using industry-standard methods, tools and technologies, and builds algorithmic thinking and real-time problem-solving skills so you can write code that works.

MODULE 01 **Java Programming (Core Java)**

Java is a high-level, class-based, object-oriented programming language designed to have as few implementation dependencies as possible.

- Language Fundamentals
- Operators and Assignments
- Flow Control
- Declarations & Access Modifiers
- OOPs Concepts
- Exceptions and Assertions
- java.lang Package
- Enum
- Generics
- Multithreading
- Garbage Collection
- Annotations
- Reflections
- Collections
- Java 8 New Features Overview
- Functional Programming in Java
- Functional Interfaces & Predefined Functional Interfaces
- Default Methods in Functional Interfaces
- Lambda Expressions
- Method References / Double Colon Operator (::)
- Stream API (Bulk Operations on Collections)
- Date & Time API in Java 8
- Java 9 to Java 17 New Features Overview

MODULE 02 **Advanced Java**

How a browser request reaches a Java application on a server.

- Introduction to the Web
- Client/Server Model
- HTTP Protocol
- Spring Tool Suite IDE
- Tomcat / JBoss / WildFly Server
- Servlets
- JSP

PROGRAM CURRICULUM

MODULE 03 **HTML5**

The Hypertext Markup Language is the standard markup language for documents displayed in a web browser.

- Introduction to HTML
- HTML Structure
- URL Reference Techniques
- Semantic Elements of HTML5
- HTML Tags, Sections, Divisions, Buttons & Attributes
- Lists, Tables and Forms
- Form Control Elements

MODULE 04 **CSS3**

Cascading Style Sheets describe the presentation of a document written in HTML.

- Introduction to CSS
- CSS Box Model
- Levels of Stylesheets
- Selectors in CSS
- Chrome Developer Tools
- Colors, Padding, Margin etc.
- CSS Stylings
- Positioning Elements
- Visibility and Z-index
- Flex & Grid Properties
- Media Queries
- Pseudo Selectors
- Transitions
- Animations

MODULE 05 **TypeScript / Advanced JavaScript**

JavaScript is one of the core technologies of the web, alongside HTML and CSS.

- Introduction to JavaScript
- Variables & Datatypes
- Type Conversions and Type Coercion
- Conditional Statements: If/Else & Switch
- For, While and Do-While Loops
- Functions
- Document Object Model
- Element Selectors
- Traversing the DOM
- Events and Event Objects in JS
- Local and Session Storage
- CRUD Operations
- Math Objects
- Prototype Inheritance
- Callback Functions
- Arrow Functions
- Error Handling
- Regular Expressions
- Form Validations
- Generators and Sets
- For...of and For...in Loops & Maps

PROGRAM CURRICULUM

MODULE 06

Spring Boot: Web Development

Spring Boot is an open-source Java framework, built on the Spring Framework, for creating stand-alone, production-ready applications quickly.

- Introduction to Spring Framework
- Spring Core
- Spring Context
- Understanding Autowiring
- Different Bean Scopes
- Understanding Spring AOP
- Spring MVC
- Dynamic Content: Thymeleaf
- Understanding the Lombok Library
- Query Params and Path Variables in Spring
- Validating Input Data using Java Beans, Hibernate Validators
- Spring Security using OAuth 2
- Setting up a MySQL Database
- Spring Data & JPA
- Web Services Introduction
- RESTful Web Services
- Implementing RESTful Services using Spring
- Logging using Spring Boot
- Properties Configuration & Profiles in Spring Boot

MODULE 07

Building RESTful Web Services using Spring

RESTful web services are the standard way to build APIs that are easy to create, consume and scale.

- REST API Introduction
- Understanding REST APIs
- Creating REST APIs with the Spring RESTful Framework
- Postman: REST API Testing
- REST API: Implementing CRUD Operations
- REST API Security
- Authentication
- Authorization
- Securing REST Services
- Token-based Authentication
- JWT Authentication

PROGRAM CURRICULUM

MODULE 08 **Databases: SQL, JDBC & Spring Data JPA with Hibernate**

Store, query and manage application data in relational databases.

- SQL Queries & CRUD Operations (MySQL)
- Connecting Java to MySQL with JDBC
- What is ORM?
- What is JPA?
- What is Hibernate?
- JPA vs Hibernate
- What is Spring Data JPA?
- Basic Flow of Spring Data JPA
- Hibernate vs Spring Data JPA
- Creating a Spring Boot Project with Spring Data JPA
- Connecting a Spring Boot Application with MongoDB
- JPA Annotations
- Lombok Library
- Spring Data JPA Repository Interfaces
- Spring Data JPA Methods
- JPQL & Native SQL Queries
- Creating Named Queries
- One-to-One Mapping
- One-to-Many Mapping
- Many-to-Many Mapping
- Transaction Management with Spring Data JPA

MODULE 09 **MongoDB: NoSQL Database**

MongoDB is a popular open-source NoSQL database that is flexible, scalable and fast.

- Introduction to NoSQL Databases
- Understanding the Need for NoSQL
- RDBMS vs NoSQL
- MongoDB Introduction
- Why MongoDB is Important
- Key Features of MongoDB
- Installing and Configuring MongoDB
- Creating a Database
- Creating a Collection
- MongoDB Operations
- Inserting a Document
- Inserting Multiple Documents
- Updating Documents
- Reading a Document (Querying)
- Deleting a Database
- Deleting a Collection
- Deleting a Document
- MongoDB and Spring Boot Integration
- Spring Boot, MongoDB CRUD Operations Implementation

PROGRAM CURRICULUM

MODULE 10

Kafka: Distributed Messaging System

Apache Kafka is a distributed publish-subscribe messaging and streaming platform for real-time data.

- Introduction to Messaging Systems
- Types of Messaging Models (Queue, Topic)
- Why We Need a Messaging System
- What is Kafka
- Kafka Architecture
- Kafka Components: Producer, Consumer, Broker, Cluster
- Topics, Partitions, Offsets, Consumer Groups
- Message Retention in Kafka
- Kafka Commit Log
- Kafka Installation
- Starting ZooKeeper
- Starting the Kafka Server
- Starting a Producer
- Starting a Consumer
- Topic Operations: Create, List, Delete, Describe
- Publishing Data with the Console Producer
- Consuming Data with the Console Consumer
- Publishing and Consuming Messages using Java
- Spring Boot, Kafka and MongoDB Integration

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MODULE 11

ReactJS & Redux

React is an open-source JavaScript library for building user interfaces from components. Redux is a predictable state container for JavaScript applications.

React tools	npm (dependencies & tasks), Babel (ES6 to ES5), Webpack (bundling), build process for DEV & PROD
Advanced JavaScript & ES6	Functional programming, execution context & this, bind/call/apply, template strings, default arguments, rest & spread, arrow functions, destructuring, modules, classes, promises, fetch, let & const, for...of
First React application	Creating a React app, project structure, debugging, component-based design, one-way data flow, the virtual DOM vs the actual DOM, JSX overview
Components	Class components, functional components, parent and child components
State & props	What state is, setState, props in class and functional components
Event handling	Events in class components and functional components
CSS in React	Inline CSS, local CSS, manipulating CSS using events
Lifecycle & Hooks	Class component lifecycle methods, useState, useEffect, manipulating CSS using hooks
Forms & routing	React forms and form submission, React Router, maps in React, conditional rendering
Local storage & Context API	Local storage with arrays and objects, implementing the Context API
HTTP methods	Fetch and Axios, returning HTML content using HTTP methods
Redux	Redux vs Flux, action creators, pure functions, reducers, store, binding reducers to components, container and presentational components, combineReducers, react-redux

PROGRAM CURRICULUM

MODULE 12 JUnit, Mockito & SonarQube

JUnit is the unit testing framework for Java, Mockito creates test doubles for automated tests, and SonarQube inspects code quality with static analysis.

- What is Unit Testing
- What is JUnit
- JUnit Rules
- JUnit Arithmetic Application Example
- Mockito Introduction
- Mockito Annotations
- Mockito Setup
- What is Mocking
- Need for Mocking
- Methods of Mockito
- Mockito mock() Method
- Mockito when() Method
- Mockito verify() Method
- Mockito doNothing() Method
- Mockito times() Method
- PowerMock
- JUnit & Mockito for JPA CRUD

MODULE 13 Spring Security with OAuth 2.0

Spring Security provides authentication, authorization and other security features for enterprise Java applications.

- Spring Security Basics
- Spring Security Features
- Spring Security Authentication
- Spring Security Encryption
- Password Encryption using Spring Security
- Spring Security Login Form
- Spring Security Maven Dependency
- Signup and Login Application (CRUD)
- OAuth 2.0 Real-time Implementation
- Securing Spring Boot Endpoints
- Securing RESTful Web Services
- Spring Security using OAuth 2.0

MODULE 14 Common Tools Used in Real-Time Projects

The everyday tools and team practices used in software projects.

- Git: Code Repository
- Maven: Build Tool
- Agile, Scrum: Development Process
- JIRA: Project Management Tool
- SLF4J Logging: Auditing
- IntelliJ IDEA: IDE
- Postman: API Testing
- JSON: Common Data Format

PROGRAM CURRICULUM

MODULE 15 Real-Time Project using ReactJS & Spring Boot

Develop a real-time project using Java, ReactJS, Redux, Spring Boot, the Spring RESTful framework, MongoDB and Kafka, using the same tools and process as a development team.

React + Redux → REST APIs → Spring Boot → MongoDB + Kafka

OUTCOMES Course Outcomes

By the end of this program, you will:

- ✓ Learn Java programming in depth
- ✓ Master Java object-oriented programming
- ✓ Handle exceptions and errors
- ✓ Understand web development with Spring Boot and ReactJS
- ✓ Work with Spring Core, MVC and Spring Data (ORM)
- ✓ Build Spring RESTful web services
- ✓ Gain good knowledge of MongoDB (NoSQL)
- ✓ Develop a project using React & Redux, Spring Boot, Spring REST API, MongoDB & Kafka
- ✓ Gain expertise in the Java Collections Framework
- ✓ Become proficient in functional programming, lambda expressions and streams
- ✓ Get comfortable with new features from Java 8 onwards
- ✓ Develop single-page applications using React & Redux
- ✓ Write unit tests using JUnit, Mockito and SonarQube
- ✓ Secure web services using OAuth 2.0
- ✓ Work with Kafka (distributed messaging)

Tools & Technologies Covered

Backend Technologies

Java Spring Boot Spring MVC
Spring Security Hibernate / JPA
Servlets & JSP Tomcat

Frontend Technologies

HTML5 CSS3 JavaScript
TypeScript React Redux
Angular

Databases & Messaging

MySQL MongoDB JDBC
Kafka

APIs

REST APIs JSON JWT
OAuth 2.0 Postman

Testing & Code Quality

JUnit Mockito SonarQube

Development Tools

Git GitHub Maven
IntelliJ IDEA Spring Tool Suite
JIRA SLF4J Agile / Scrum

Tool names are used to describe the training content only.

Certification



On successful completion of the program, you receive the **Java Full Stack Master's Program** certificate from Ascent Software Training Institute.

Placement Assistance Program



Resume Building

Crafting standout resumes tailored to Java and full stack developer roles.



Career Counselling

Personalised career guidance and a roadmap for job success.



Job Alerts

Regular job alerts and listings for the latest openings.



Job Referrals

Connecting with hiring partners for referrals to companies.



Mock Interviews

Simulating real interview scenarios with expert feedback.



Interview Preparation

Key tips, common questions and best answers for technical interviews.



Soft Skills Training

Developing communication, teamwork and presentation abilities.



Placement Support

Guidance through the hiring process until you land a job.

Placement assistance supports your job search. Final hiring decisions are made by employers, based on each candidate's skills and interview performance.

Student Reviews



Kiran

Java Developer



I'm Kiran, and I recently completed my Java Full Stack course at Ascent. The training was practical and helped me understand both frontend and backend clearly. Grateful to the trainers for their support—highly recommended!



Sneha

Java Developer



I'm Sneha, and my Java Full Stack training at Ascent was a great experience. The hands-on sessions made real-time project learning easy and effective. Thanks to the team for their guidance and continuous support!



Rahul

Java Developer



I'm Rahul, and I completed my Java Full Stack course at Ascent. The course was well-structured with strong focus on practical learning. Thankful to the trainers for their guidance and support!

Talk to an Admission Counsellor

We have a dedicated team to counsel and guide you to choose the right course for your career goals. Book a free demo class, in the classroom or online.



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