

```
import logo from './logo.svg';
import './App.css';
```

```
function App() {
```

```
  return (
```

```
    <div className="App">
```

```
      <header className="App-header">
```

```
        <img src={logo} className="App-logo" alt="logo" />
```

```
        <p>
```

```
          Edit <code>src/App.js</code> to learn more
```

```
        </p>
```

```
        <a
```

```
          href="https://reactjs.org" import React, { useState } from 'react';
```

```
          target="_blank"
```

```
          rel="noopener noreferrer" >
```

```
            Learn React
```

```
        </a>
```

```
      </header>
```

```
    </div>
```

```
  );
```

```
}
```

```
);
```

```
export default App;
```

```
import './App.css';
```

```
import logo from './logo.svg';
```

```
import './App.css';
```

```
import './App.css';
```

```
import './App.css';
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```

```
import './App.css';
```

# Java Full Stack Specialization Program

## About The Program:

At Regex Software, we don't just teach you how to code — we train you to think like a developer. Our Fullstack development training follows an industry-relevant curriculum that includes hands-on projects, expert mentorship, and real-time code labs.

You will master front-end technologies like HTML, CSS, JavaScript, React, and TypeScript, NextJS along with back-end expertise in Core Java, Spring Boot, Hibernate, and REST APIs.

From database management using MySQL and MongoDB to deployment with cloud platforms like AWS, our training covers the complete stack required by leading tech companies.

### Mode:

Physical (Jaipur) or Online (Google Meet)

### Duration:

10 Months + 6 Months Support

### Participants:

18 – 20 per Batch

## What you will Learn ?



Core Java



DSA



Advance Java



Database



JDBC



HTML



CSS



JavaScript



TypeScript



JSP



Servlets



Maven



Hibernate



Tailwind CSS



Reactjs



AWS



Spring



Spring Boot

Full Stack  
JAVA Developer Program





## ➔ Study Material

- E-Notes
- Assignments per day
- Poll test every week
- Weekly Tests
- 400+ hours on demand Sessions
- 1000+ Interview Based Questions for Practice
- Access of Lecture Recordings & Notes
- Interview Questions of Product Based Companies
- Mentorship Support

## ➔ Output

- Good Programmer.
- Able to think out of the box.
- Expertise in different Domain like Core Java, Data Structures & Algorithms, Advance Java, Problem Solving, Database etc.
- Able to solve many Interview Questions of Top MNCs
- Create your own personal portfolio site to showcase your projects to potential employers
- Get Prepare for Technical Interview Questions of Amazon, IBM, Paypal, Cisco Infosys, TCS, HCL, Dell, Wipro, HP, Honeywell, Intel, Capgemini and many more
- Get Package of Software Developer Role in Product Based Companies upto 40 LPA.



## Package Offered So Far

### IT Candidates

#### ● Minimum Package

4 LPA

#### ● Average Package

4 – 6 LPA

#### ● Overall Highest Package

39 LPA

### Non-IT Candidates

#### ● Minimum Package

3 LPA

#### ● Average Package

3.5 – 5 LPA

#### ● Overall Highest Package

14.5 LPA



### Extra Sessions:

Additional Session on GIT, Linux, Docker, AWS Basics, Jenkins and many more for all students.

### Our Students Placed // Partnership



# PLACEMENT PROCESS:

At REGex Software, we are committed to providing a structured and results-driven training approach to ensure your career success.

- ◆ **Training & Performance Analysis:**

- Your training will begin from day 1 of your joining, focusing on hands-on learning and practical implementation.
- Our team will analyze your performance based on assignments, projects and weekly assessments from the **second week onwards** and we will provide **weekly feedback** to help you improve.

- ◆ **Mandatory Criteria for Placement Opportunities:**

To be eligible for placement opportunities, you must meet the following criteria:

- ✓ **80% attendance** in live training sessions.
- ✓ **80% completion and timely submission** of assignments & projects.
- ✓ **80% attendance** in assessments, including **tests, mock interviews, HR interviews and group discussions**.

- ◆ **Resume Preparation & Placement Process:**

- Between **5.5 to 6 months**, our team will provide guidance on **resume building** and evaluate your resumes accordingly.
- After completing **75-80% of the program**, you will receive details about the placement opportunities based on your **performance and company requirements**.
- Placement opportunities will be provided **continuously** via **email, calls and WhatsApp groups**, depending on your performance.

- ◆ **Placement Assurance & Refund Policy (Applicable only for Indian Students Only):**

- This is a **Placement Assured Program**, with an additional **6-month post-program assistance**.
- IT Graduates who passed out in 2025 or later (Regular B.tech, BCA, M.tech, MCA programs) are assured a minimum salary package of 4LPA upon placement. However, for IT Graduates who passed out in 2024 or earlier, having gaps in their academics, as well as for Non-IT Graduates (graduates other than regular B.tech, BCA, M.tech, MCA programs), the minimum guaranteed package will be 3LPA.
- In the event that you have attended & completed at least 80% of the program, submitted and finished at least 80% of the assignments, Tests, Mock Interviews & HR Interview and still do not secure a placement then REGEX will refund your fees with a 9% Annual interest rate. Furthermore, Refunds are applicable only within the first 3 days of the demo period and solely in cases where a specific concern is raised regarding the quality of the learning experience provided. You will receive an official notification email from our team on the third day at 7:30 PM, confirming the completion of your demo period. Requests for a refund of the registration amount must be submitted prior to the issuance of this email. No refund requests will be entertained after this time and Even if you discontinue the program prematurely, you are still obligated to pay the full fee to REGex.

- ◆ **Our Commitment to Your Success:**

At REGex Software, Placement Assurance = Skills + Opportunities

We equip you with **industry-relevant skills** and provide continuous **job opportunities** based on your performance. However, it is the **student's responsibility to crack interviews** and enhance their skills based on feedback.

For additional support, we offer the flexibility to **rejoin previous batches** to reinforce concepts and improve understanding.

**We are dedicated to your career success!** 🚀





# COURSE CONTENT:

## Week 1 – 4

### C Logical Programming

- Data Types
- Variables
- Variable Scope – Local, Global
- Constants
- Operators
- Decision Making Statements
  - if Statement
  - if...else
  - switch
- Loops
  - while Loop
  - do...while Loop
  - for Loop
- Basic I/O Functions
  - scanf() and printf() usage

## Week 6

### Java Programming Basics

#### Topics Covered

- Introduction to Java
  - What is Java?
  - History of Java
  - Features of Java
  - C++ vs Java
- First Program in Java
  - Hello Java Program
  - Program Internal
- Setup and Environment
  - How to set path
  - JDK, JRE, and JVM
  - JVM (Java Virtual Machine)
- Core Java Concepts
  - Java Variables
  - Java Data Types
  - Unicode System
  - Operators
  - Keywords
- Control Statements in Java
  - If-else
  - Switch
  - For Loop
  - While Loop
  - Do While Loop
  - Break and Continue
  - Comments in Java
- Java Practice Programs

## Week 5

### Linux

- Introduction to Linux
- Basic Linux Commands
- Using the Vi Editor
- Tar Archives (Compression & Extraction)
- User Management and Permissions

### GitHub

- Difference Between Git and GitHub
- Common Git Commands
- Git Branches
- Branching and Merging
- Git Push vs Pull

## Week 7

### Java Programming Basics

#### Topics Covered

#### Object and Class

- Java Object Class
- Naming Conventions
- Object and Class in detail
- Method
- Constructor
- static keyword
- this keyword

#### OOP Concepts

- Introduction to OOPs in Java

#### Inheritance and Relationships

- Java Inheritance
- Inheritance (IS-A)
- Aggregation (HAS-A)

## Week 8

### Java – Polymorphism

- Method Overloading & Overriding
- Covariant Return Type
- super Keyword
- Instance Initializer Block
- final Keyword
- Runtime Polymorphism
- Dynamic Binding
- instanceof Operator

## Week 9

### Java – Abstraction & Encapsulation

- Abstract Class vs Interface
- Java Interfaces
- Java Encapsulation
- Packages
- Access Modifiers

## Week 10

### Java – Arrays & Practice

- 1D & 2D Arrays
- Practice Platforms: HackerRank, LeetCode, CodeChef

## Week 11

### Java – Exception Handling

- Java Exceptions
- try-catch Block, Multiple Catch, Nested try
- finally Block
- throw & throws Keywords
- Exception Propagation
- throw vs throws vs final vs finally vs finalize
- Method Overriding with Exceptions
- Custom Exceptions

## Week 12

### Java – Multithreading

- What is Multithreading?
- Thread Lifecycle & Creation
- Thread Scheduler, Sleeping, Joining
- Starting Thread Twice, Calling run() Directly
- Naming Threads, Thread Priority
- Daemon Thread, Thread Pool, Thread Group
- Shutdown Hook
- Performing Multiple Tasks
- Garbage Collection & Runtime Class
- Synchronization: synchronized, Static Sync, Blocks
- Deadlock in Java

### SQL – Fundamentals & E-R Diagrams

- E-R Diagram: Entities, Relationships, Symbols, Relationship Types, Data Models
- Introduction to Databases
- Types of Databases
- DBMS vs RDBMS
- Installing MySQL
- SQL Statement Types
- SELECT Statement Basics



## Week 13

### Java – Collections (Part 1)

- Collection Framework Overview
- ArrayList vs LinkedList
- Java List Interface
- HashSet, LinkedHashSet, TreeSet
- Queue, PriorityQueue
- Deque, ArrayDeque
- Java Map Interface
- HashMap

### SQL – Querying & Functions

- SQL Operators
- Querying Statements
- String, Date, and Number Functions
- Aggregation Functions (SUM, AVG, COUNT, etc.)
- GROUP BY Clause
- WHERE vs HAVING
- Sorting Data
- Advanced Sorting & Aggregates

## Week 14

### Java – Collections (Part 2)

- Working of HashMap
- LinkedHashMap, TreeMap, Hashtable
- HashMap vs Hashtable
- EnumSet, EnumMap
- Collections Class
- Sorting Collections: Comparable, Comparator, and their differences
- Properties Class
- ArrayList vs Vector
- Vector, Stack
- Collection Interface, Iterator, Deque, ConcurrentHashMap

### SQL – Subqueries, Joins & Set Operations

- Subqueries: Types and Advanced Usage
- Joins:
  - Inner Join
  - Outer Join (Left, Right, Full)
  - Self Join
  - Cross Join
  - Natural Join
- Set Operations in SQL: UNION, INTERSECT, EXCEPT

## Week 15

### Java – DateTime, Recursion & File Handling

- Java 8 Date & Time API
  - LocalDate, LocalTime, LocalDateTime
  - MonthDay, OffsetTime, OffsetDateTime, Clock
- Method Recursion
- File Handling
- Regex (Regular Expressions)

### SQL – Constraints & Normalization

- SQL Constraints and Key Types
- Applying Constraints to Tables
- Normalization: 1NF, 2NF, 3NF, BCNF
- Functional Dependencies & Anomalies
- Conversion from 1NF to BCNF
- DDL Statements: CREATE, DROP, ALTER

## Week 16

### Java – Sorting Algorithms

- Bubble Sort
- Merge Sort
- Quick Sort
- Heap Sort
- Count Sort
- Problem Solving with Sorting Algorithms

### SQL – DML, TCL & DCL

- DML: INSERT, UPDATE, DELETE
- TCL: COMMIT, ROLLBACK, SAVEPOINT
- DCL: GRANT, REVOKE

Milestone: HackerRank SQL Certificate

## Week 17

### Java – String Handling

- String, StringBuilder, StringBuffer
- String Methods
- Problem Solving on Strings

### SQL – Analytical & Window Functions

- Analytical Functions
- Window Functions: PARTITION BY, GROUP BY

Target: HackerRank Gold Badge (5 Star)

## Week 18

### Java – LinkedList

- Insertion
- Deletion
- Updation
- Problem Solving with LinkedList
- Practice: LeetCode, HackerRank, CodeChef

### SQL – Indexing & Revision

- Indexes: Clustered vs Non-Clustered
- Composite vs Column Index
- SQL Revision

Milestone 2: HackerRank SQL Intermediate Certificate

## Week 19

### Java – LinkedList (Node-Based Implementation)

- Insertion, Deletion, Updation
- Find Middle Element, Get Element, Size
- Problem Solving Practice
  - LeetCode, HackerRank, CodeChef

### SQL – Advanced + Project

- Views: Types, Complex Views & Use Cases
- Stored Procedures: Creation, Conditionals, Loops, Error Handling, Cursors
- Project: Library Management System
- Wrap-up: Advanced SQL Topics



## Week 20

### Java – Stack

- Insertion, Deletion, Updation
- Problem Solving Practice
  - LeetCode

### Frontend – HTML & Basic CSS

- HTML Elements, Attributes, Formatting
- Lists, Links, Tables
- Forms, Form Attributes, Validation
- Including CSS in HTML
- CSS Syntax and Selectors

## Week 21

### Java – Queue

- Insertion, Deletion, Updation
- Problem Solving Practice
  - LeetCode, HackerRank, CodeChef

### Frontend – CSS Styling

- Color, Background
- Text Styling
- Box Model
- Display & Visibility
- Positioning
- Flexbox

## Week 22

### Java – HashMap

- Insertion, Deletion, Updation
- Problem Solving Practice
  - LeetCode, HackerRank, CodeChef

### Frontend – Responsive CSS

- Responsive Design
- CSS Transitions & Animations
- Pseudo-classes & Pseudo-elements
- CSS Grid

## Week 23

### Java – Problem-Solving Platforms

- Practice coding questions on competitive platforms
- (HackerRank, LeetCode, CodeChef, etc.)

### JavaScript Basics

- Introduction to JavaScript
- Variables and Data Types
- let, const, and Block Scope
- Operators
- Control Structures (if, switch)
- Loops (for, while)
- String and String Methods

## Week 24

### Java – Trees

- Creating a Tree
- Node Insertion & Deletion
- Finding a Node
- Tree Traversals: Preorder, Inorder, Postorder

### JavaScript Intermediate

- Functions and Scope
- Arrays and Objects
- DOM Manipulation
- Events and Event Handling
- Destructuring
- Spread and Rest Operators

## Week 25

### Java – Backtracking

- Solving problems using backtracking techniques
- (e.g., N-Queens, Maze, Subsets, etc.)

### JavaScript Advanced

- Callbacks
- Promises
- Async/Await
- JSON and Fetch API
- Error Handling

## Week 26

### Java – Dynamic Programming

- Practice DP problems:
  - Memoization
  - Tabulation
  - Classic problems (Fibonacci, Knapsack, etc.)

### React Basics

- React Router
- Context API
- Two-way Data Binding

## Week 27

### Java – Servlet

- Servlet Life Cycle
- Types of Servlets

### React Basics

- Introduction to React.js
- Components
- Props & State
- Handling Events

## Week 28

### Java – Servlet Project

- Project: Library Management System

### Routing & State Management

- React Router
- Context API
- Two-way Data Binding



## Week 29

### Java – JDBC

- JDBC Architecture
- Types of JDBC Drivers
- Project: Facebook Clone

### Advanced React

- React Hooks
- Lifecycle Methods
- Styling Techniques

## Week 30

### Java – JSP

- JSP Life Cycle
- JSP Tags
- Project: Hospital Management (CRUD operations + advanced SQL queries)

### Project

- GitHub API Fetching Project
- Product App Development

## Week 31

### Java – JSP Project

- Project: Car Rental System using JSP

### React Project

- Weather Data API Model
- Context API Implementation
- Callback in Data Binding

## Week 32

### Java – JSP Revision

- Final practice and polishing of JSP concepts
- Project enhancement and cleanup

### React Project

- To-do List App
- Dashboard using Higher-Order Components (HOC)

## Week 33

### Advanced Java (Spring Core – Part 1)

- Introduction to Spring
- Tight vs Loose Coupling
- Spring Beans & Configuration
- Auto-wiring and Spring IoC Container
- Primary and Qualifier Annotations
- Mini Project on the above concepts

## Week 34

### Advanced Java (Spring Core – Part 2)

- Primary & Qualifier Deep Dive
- @Component vs @Bean
- Lazy vs Eager Initialization
- Prototype vs Singleton Scope
- PostConstruct & PreDestroy
- Jakarta CDI Integration
- Java Annotations vs XML Configuration

## Week 35

### Advanced Java (Spring Boot)

- Spring Boot Basics
- Spring Boot with JPA & Hibernate
- Spring JDBC
- Spring Data JPA and its Features
- EntityManager

## Week 36

### Advanced Java – Spring Boot MVC

- Building Web Applications with Spring Boot
- Spring MVC Controller
- @ResponseBody and @Controller Annotations
- Redirecting to JSP using Spring Boot
- Capturing Query Parameters using @RequestParam

## Week 37

### Advanced Java – Full-Stack CRUD App

- Web Application Development with Spring Boot
- Creating a CRUD Application
- Input Verification and Validation
- Connecting the Application to MySQL Database

## Week 38

### Project – REST API Basics

- Introduction to REST API
- Spring Boot Starters & Auto-configuration
- @PathVariable Usage
- Designing REST APIs
- Creating User Bean and UserDaoService
- Implementing GET, POST, and Exception Handling



## Week 39

### Project – Advanced REST API

- Generic Exception Handling for All Resources
- Implementing DELETE Method
- Input Validations
- Overview of Advanced REST API Features
- OpenAPI Specification & Swagger
- Configuring Auto-Generation of Swagger Documentation

## Week 40

### Advance Project – REST API Enhancements

- Internationalization in REST API
- REST API Versioning Techniques
- Static Filtering
- Dynamic Filtering
- JPA and Hibernate Queries for REST API

## Week 41

### Full-Stack Integration – Spring Boot + React

- Building Web Applications with Spring Boot
- Connecting Spring Boot REST API with React

## Week 42

### Full-Stack Advanced Project

- Full Stack Development using React + Spring Boot
- Integrating JPA and Hibernate for Backend Persistence

## Final Projects:

### Final Capstone Projects: Choose Any

1. Social Media Platform
2. E-Commerce Application
3. E-Wallet App (Like Paytm)
4. Movie Ticket Booking System

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