

Java Full Stack Development

(100% Unlimited Placement Call & Support)

Course Syllabus & Counseling Video

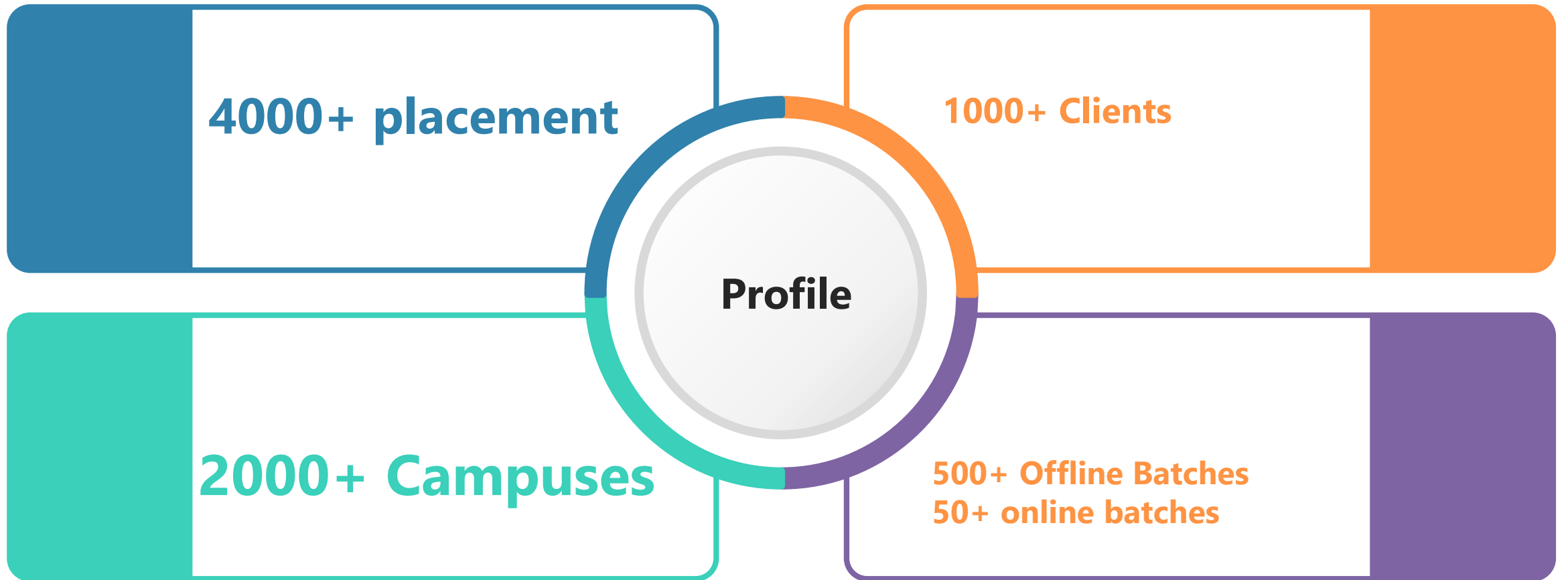
Java Full Stack Development

(100% Unlimited Placement Call & Support)

Purpose of Course

1. Building programming logics
2. To make student industry ready as Java developer
3. Change student behaviour and thought process by soft skill
4. To nurture hardworking & smart working skill by regular practice & live Projects
5. Improve logical thinking by aptitude & logical reasoning

About GIRI'S TECH HUH



Contact: 9175444433/ 9049361265 Placement Record: <https://techhubindia.org/placement>

Java Full Stack Development

(100% Unlimited Placement Call & Support)

Admission Process

- 1. Entrance exam on following Dates:**
20th & 30th of every month (**online & offline mode**)
- 2. Preferred Qualification:**
 - a. Engineering with any stream
 - b. MCA/MSC /BCA/BCS
- 3. Batch Start Date 5th of every month**

Java Full Stack Development

(100% Unlimited Placement Call & Support)

Test & Mock Schedule & Policy

1. Every Month has 1 mock interview

Process of Mock

- a) aptitude test
- b) programming test
- c) face to face technical interview
- d) HR Interview

Java Full Stack Development

(100% Unlimited Placement Call & Support)

Placement Policy

1. 80% attendance mandatory
2. 50% marks must be last mock interview
3. Placement start after 4.5 month from admission date.

Backend Course Overview

1

**Core JAVA+DS &
SQL /PLSQL**

2

ADVANCE JAVA

1. JDBC
2. Servlet
3. JSP

3

Java Framework

1. Spring Framework
2. Hibernate
3. Spring Boot
4. Micro Services

4

IDE/Editor & Dev tools

1. Notepad++
2. Eclipse
3. Spring tool Suite
4. IntelliJ IDEA

Build Tools

Maven & Gradle

Version Control tool

GIT & Bitbucket

CI/CD Tools

Jenkins & Travis CI

Testing tools

JUnit & Mockito

Code Analysis tool

SonarQube

Containerization Tools

Docker & Kubernetes

Front End Course Overview

1

HTML

4

JavaScript

2

CSS

5

React JS

3

Boot Strap

6

**Soft Skill +
Quantitative
Aptitude**

Project Overview

1

Console Base Project

2

Web Application using Spring MVC

3

**Web application with REST API
Using React & Spring Boot**

Core Java In Depth Syllabus

1

Basic of Java

1. Introduction of JAVA
2. Creating Program using notepad
3. Creating Project using Eclipse
4. Data Type
5. Operator
6. Command Line Argument
7. Scanner class
8. Operator Priority
9. Decision Making
 - a. if b) if else c) nested if
 - d. else if ladder e. switch
10. Looping:
 - a) while b) for loop
 - c) do while loop
 - d) nested loop & patterns

Note:

1. 35 assignment covered by trainer in class room
2. 40 assignment practice for student in lab and as home work

2

Array And Data Structure

1. **Array:** single dimension and multi dimension array + Jagged Array
25 program in class room + 40 program for practice ask by previous campus

2. **Data structure Related with Array:**

- a) Stack
- b) Queue + Circular Queue
- c) Searching algorithm like as linear search and binary search
- d) Sorting algorithm like as bubble sort, selection, insertion, heap etc

Note: 30 problem we will discuss on searching algorithm for coding round.

Core Java In Depth Syllabus

3

OOP Concept Using Java

Classes and object: class, object, array of object, this, array
As parameter in function, enhance for loop, method with variable
Argument & much more (20 assignments on classes object)

Constructor: def constructor , overloaded constructor,
Parameterized constructor , this constructor and chaining

Polymorphism : compile time polymorphism and
run time polymorphism.

Core Java In Depth Syllabus

4

OOP Concept Using Java

Inheritance : Introduction, Type of inheritance, super constructor, Super keyword ,final keyword, method overriding, abstract keyword ,dynamic polymorphism ,loose coupling implementation, Difference between compile time polymorphism and run time Polymorphism and much more

30+ assignments on inheritance for practice and + 20 assignments
In class room

5

Exception Handling

Exception Handling:

Introduction

Types of exception

Exception class Hierarchy

Keywords and clauses: try ,catch, finally,throw and throws

Note: JDK 1.7 enhancement in Exception Handling

20+ assignment for practice and + 10 assignments in class room

6

Wrapper classes

Wrapper classes:

1. Introduction of Wrapper classes & why java develop it
2. Types of conversion like as primitive and referential
3. Implicit and explicit conversion and problem in explicit conversion
4. Wrapper class Hierarchy
5. AutoBoxing and AutoUnboxing concept
6. Number class and its method , parseXXX method,valueOf etc
7. String,StringBuffer and StringBuilder

Note: 30+ assignment for practice and 15 assignment in class room
On string

7

Collection Framework

1. Introduction of Collection + need of collection
 2. Collection Hierarchy diagram and with detail method explanation
 3. Types of Collection : List, Set, Queue & Its implementer classes
Like as Vector, ArrayList, LinkedList, Stack, HashSet, LinkedHashSet, TreeSet, PriorityQueue, Dqueue etc
 4. Collections class with Comparable, Comparator interface
 5. Map : HashMap, LinkedHashMap, TreeMap etc
 6. Object class and its methods
- Note: 30+ assignments on Collection for practice and 20+ Assignments in class room covered by trainer

8

MultiThreading

1. Introduction of multi threading
2. Creating thread using thread class and Runnable interface
3. Methods of Thread class in depth like as start(),stop()
Boolean isAlive(),join(),sleep() etc
4. Synchronization and ASynchronization with real time senario
5. Thread Pooling and Concurrency API
6. Executer Services

Note: 20+ Assignments on threading + 10 assignment cover by Trainer in class room

Core Java In Depth Syllabus

9

File Handling/IOStream

Introduction of FileHandling

Hierarchy of Stream and Writer classes

Detail explanation on : Writer,FileWriter,BufferedWriter,PrintWriter,FileOutputStream,FileInputStream,FileReader,BufferedReader,ObjectOutputStream,ObjectInputStream etc

Serialization and DeSerialization using JAVA

Note: 20+ assignment for practice and 10+ assignment covered by Trainer in class room.

Core Java In Depth Syllabus

10

JDK 1.8

1. Functional interface
2. Lambda expression
3. Functional interfaces
 - a) Consumer
 - b) Supplier
 - c) Predicate & Function etc
4. Date and Time API
5. Stream API
6. Concurrency API Improvement
7. Collection API Improvement
8. Optional class
9. Static method in interface
10. Default method in interface
11. Method Reference

Core Java In Depth Syllabus

11

JDK 1.9

1. Improved Javadoc
2. Factory methods for collections(like List, Map, Set and Map.Entry)
3. JShell: The Interactive Java REPL
4. Stream API Improvements
5. Private Methods in Interfaces
6. Multi-Resolution Image API
7. The Java(9) Platform Module System

Advance Java In Depth Syllabus

12

JDBC

1. Introduction About JDBC
2. Connect Java Application with Database using Connection interface
3. Driver and its type
4. Statement interface, PreparedStatement interface, CallableStatement
5. ResultSetMetaData, DatabaseMetaData etc
6. CSV file uploading in Database
7. properties file reading using java code
8. CRUD Application
9. Working with image and text file using JDBC

Note: 15+ assignment for practice and 15+ assignment covered
By Trainer in Batch

First Project

13

Console Base Project

Project Tools & Technology:

Language: Core Java + JDK 1.8 and JDK 1.9

API : JDBC , Lombok

IDE : Eclipse

Build Tools: Maven

Logging Tool: Log4j

Database Language: SQL/PLSQL

Database Tool: MYSQL

Note: Project based on IEEE paper

Duration of Project: 3 week

14

Servlet Technology

1. Introduction of Servlet & Web application
2. Servlet and its type like as web server ,application server et
3. Managing Request and Response I
4. Form submission
5. Session handling ,cookie handling
6. Application object handling like as ServletContext and ServletConfig
7. Connecting Servlet with database using JDBC
8. CRUD Application Handling using Servlet and JDBC

Advance Java In Depth Syllabus

15

JSP

1. Introduction of JSP & Need of JSP
2. Difference between Servlet and JSP
3. Managing Request and Response Using JSP
4. Basic Tags and Action tag of JSP with JSTL Tag library
5. Session handling ,cookie handling
6. Application object handling like as application object
7. Connecting JSP with database using JDBC
8. CRUD Application Handling using Servlet and JDBC

Spring Framework In Depth Syllabus

16

Module-1 – Spring Core

1. What is Spring & Why use it
2. Dependency injection & Loose coupling concept
 - a) setter injection
 - b) constructor injection
 - c) object dependency
 - d) collection dependency
 - e) map dependency
 - f) property dependency
3. Spring application Using XML Configuration + Annotation Configuration
4. Annotation Covered in Spring core:
@Autowired @Qualifier @Primary @Bean @Lazy @Required @Value
@Scope @Lookup, etc.
5. Bean life cycle and its practical implementation
6. Spring core application using annotations.

Note: 20+ assignment for practical + 20 assignment covered by trainer
In class room.

1. **Introduction of Spring Jdbc**
2. **Advantages of Spring Jdbc & Data Source.**
3. **Centralized Classes of Spring Jdbc**
JdbcTemplate ,NamedparameterJdbcTemplate,StoredProcedure
SimpleJdbcTemplate
4. **Calling Procedure Using JDBC Template**
5. **Configure JDBC Application using XML + annotation**

Note: Mini CRUD Application using Spring JDBC Template.
10+ Assignment for practice using Spring JDBC + 10 assignment
Covered by trainer in class room

1. Introduction of Spring Jdbc
2. Advantages of Spring Jdbc & Data Source.
3. Centralized Classes of Spring Jdbc
JdbcTemplate ,NamedparameterJdbcTemplate,StoredProcedure
SimpleJdbcTemplate
4. Calling Procedure Using JDBC Template
5. Configure JDBC Application using XML + annotation

Note: Mini CRUD Application using Spring JDBC Template.
10+ Assignment for practice using Spring JDBC + 10 assignment
Covered by trainer in class room

Spring Framework In Depth Syllabus

19

Module-3 – Spring MVC

- | | |
|-----------------------------------|-----------------------------|
| 1) Introduction MVC Designpattern | 7)ValidationFramework |
| 2)FrontControllerDesignPattern | 8)HandlerInterceptors |
| 3)Spring 3.X Features | 9)Spring MVC TilesFramework |
| 4)Spring MVC Architecture | 10)Spring MVC Themes |
| 5)DispatcherServlet | |
| 6)HanderMappings | |

Note: 10+ assignments on Spring MVC for practice and
Mini Project Teach by Trainer in class room duration of project is 40 hours

Second Project

20

Web Application

Language: Core JAVA+JDK1.8

Database Language: SQL/PLSQL

IDE: Eclipse/Spring tool Suite

Database Tool: MYSQL

Front End Technologies: HTML/CSS/Bootstrap/JS

Build Tool: Maven

Framework: Spring MVC ,Spring Core, Spring JDBC

Deployment Architecture: Monolithic

Testing Library/Tool: Junit &Mocketo

Code Quality Analysis tool: SonarQube

Duration: 3 week

Second Project

21

Hibernate

1. Introduction of hibernate and ORM
2. HQL and HCQL Query
3. Hibernate application using XML and annotation
4. Project and ProjectList
5. Association: a) one to many b) many to one c) many to many d) one to one etc
6. Joins using hibernate
7. First level cache and second level cache implementation
Using hibernate

Spring Boot & Micro Services Syllabus

22

Spring Boot & Micro Services

1. Introduction to spring boot
2. Building Spring Boot Application
3. Rest Annotation with In Memory Database & CRUD Operations
4. Rest Annotation with Relation DB
5. JPA Repository Concepts
6. Actuator Concepts
7. Spring Boot Custom Logging
8. Spring Boot Profile Components
9. Auto Configuration
10. Thymleaf Concepts
11. Integration with Spring Web

Spring Boot & Micro Services Syllabus

23

Spring Boot & Micro Services

- 12.Spring Boot Security
- 13.Database Concepts
- 14.Core Concepts
- 15.Micro Services
- 16. Micro Services Design Considerations
- 17. Spring Cloud
- 18. Spring Cloud Config
- 19. Netflix
- 20. Fault Tolerance Concepts
- 21. API Gateway
- 22. Oatuh2 Concepts & Swagger API
- 23.Cloud Hosting

Third Project

24

Web Application: React+Spring Boot

Language: Core JAVA+JDK1.8

Database Language: HQL

IDE: IntelliJ IDEA

Database Tool: MYSQL

Front End Technologies: HTML/CSS/Bootstrap/JS/React

Build Tool: gradle

Framework: Spring Boot + Spring DATA JPA

Deployment Architecture: Micro services

Testing Library/Tool: Junit &Mocketo

Container: Docker

Code Quality Analysis tool: SonarQube

CI /CD: Jenkins

Duration: 3 week

Front End In Depth Syllabus

25

HTML5

1. Introduction of HTML & Why use HTML
2. Basic Tags: like <h1> to <h6> , <p> , , ,<i>, ,<mark>,<small>, ,<ins> ,<sub>,<sup> ,<blockquote>,<q> , <abbr> , <address> , <cite> , <bdo>
3. HTML color: RGB, HEX, HSL
4. HTML Links: with _self, _blank , _parent ,_top attribute, HTML book mark concept and HTML Link color
- 5.HTML img tag,HTML Table, HTML form tag, HTML Inline & block element, HTML iframe tag, Symmentic HTML tags,HTML5 new elements and much more

Note: 20+ assignments for practice and 20+ solve by trainer in class room.

Front End In Depth Syllabus

26

CSS

- | | |
|---|-----------------------------------|
| 1. Introduction to CSS and Why use it. | 12. z-index and overflow property |
| 2. Types of CSS | 13. CSS with form handling |
| 3. Selector in CSS | 14. CSS Gradients |
| 4. Background Color and images property | 15. CSS Animation |
| 5. CSS position & float property | 16. Transformation & Transition |
| 6. CSS flex property | 17. CSS Masking |
| 7. CSS Padding & Margin | 18. CSS Media Query |
| 8. Border property & outline property | 19. CSS object fit |
| 9. Font related property | 20. CSS object fit property |
| 10. CSS tables & Link | |
| 11. CSS display property | |
- Note:** 3 websites teach by trainer in class room and 2 websites provide as practice assignments

Front End In Depth Syllabus

27

JavaScript

1. Introduction of JavaScript
2. Types of JavaScript
3. Variable declaration
4. Function definition
5. Looping and array
6. Event Handling
7. DOM Manipulation
8. BOM manipulation
9. String Handling
10. Regular Expression
11. Validation using JS

Advance JavaScript.

12. Template string
 13. Arrow function
 14. Rest operator
 15. Spread operator
 16. array destructuring
 17. OOP concept
 18. Async & await
 19. Promises in JavaScript
 20. fetch() API
- etc

Front End In Depth Syllabus

28

React

1. Introduction of React
2. React ES6
3. React JSX & babble
4. React Render method
5. React Components
6. Class component
7. Events in React
8. Props in React
9. React conditional
10. React state variable
11. React Form
12. React List
13. Props
14. React Routing
15. Class component life cycle
16. React function component
17. CSS With React component
18. Hooks in React
 - a) useState b) useEffect c) useContext
 - d) useMemo e) useCallback f) useReducer
 - f) customHook etc

Front End In Depth Syllabus

29

React

1. React Material UI Library
 2. React + Redux
 3. React Flux
- etc

Note: 20+ assignments for practice using React and 20 assignment cover In class by trainer as well as 2 live website teach by trainer and 2 projects For practice.

Syllabus of Quantitative Aptitude

30

Quantitative Aptitude & Logical Reasoning

- | | |
|-------------------------------|----------------------------|
| 1. Numbers | 1. Blood Relation |
| 2. Average | 2. Direction Test |
| 3. Ratio & Proportion | 3. Coding & Decoding |
| 4. Percentage | 4. Clock |
| 5. Profit & Loss | 5. Calendar |
| 6. SI/CI | 6. Seating Arrangement |
| 7. Time & Work | 7. Cube & Dice |
| 8. Time Speed & Distance | 8. Syllogism |
| 9. Data Interpretation | 9. Data Sufficiency |
| 10. Permutation & Combination | 10. Puzzles |
| 11. Probability | 11. Figure based reasoning |

Syllabus of Quantitative Aptitude

31

English & Soft Skill

1. Basic Grammar
2. Vocabulary Building
3. HR Preparation
4. Presentations
5. Public Speaking
6. GD Preparation
7. Email Writing
8. ATS friendly Resume Building
9. HR Ethics
10. Corporate Ethics
11. Personality Development
12. Importance of Time Management
13. Technique to Time Management

Thank You