

JAVA FULLSTACK SYLLABUS

Total Duration- 120 hours



Java Full Stack Syllabus Course Syllabus

HTML

1. HTML

- Introduction to HTML
- Tags in HTML
- Basic Structure
- Heading tags
- Paragraph tag
- **Creating a simple website**

2. HTML Formatting

- What is formatting?
- creating Bold text, Italic text, Strong text
- Inserting new data
- Deleting old data
- highlighting text
- Creating address field in website
- Location or site field
- Writing a quote on website
- **Creating Blog website using Formatting**

3. HTML Attribute

- Style
- Class
- Id
- Span
- Width and Height
- Source
- Alternative
- Relative
- href attribute

4. HTML Link

- What is HTML link?
- How to add website link
- How to connect other pages in HTML page
- External Reference
- Creating Hyperlink
- Attributed used in Hyper link
- How to create image link

5. HTML Media

- Adding Images
- Adding animated images like Gif
- Adding Audio
- Adding video

6. HTML List

- What is List?
- How to create a list in a web page: Types
 1. Ordered List
 2. Unordered List
 3. Description List
 4. Horizontal List (Nav Bar)

7. HTML Semantic Tags

- What is semantic tags?
- Semantic tags in HTML5
- Block Elements
- Inline Elements

8. HTML Layout

- Header
- Main content
- Side content
- Session Articles
- Nav bar
- Footer

9. HTML Responsive website

- What is responsive web site
- How we can create a responsive website.
- Creating responsive text
- Creating a responsive image
- Attributes used in responsive websites

10. HTML Form

- What is Form
- Tags used to create form
- Attributes used in form
- Input tags and their types
- Creating radio button
- Creating check box
- Creating dropdown boxes
- Creating date calendar
- **Creating an enquiry form website.**

11. HTML Table

- What are Tables?
- Why we use tables in websites
- Creating a table
- Adding rows and columns

12. Exercise and Practice

CSS

1. CSS

- Introduction of CSS
- Selector, Declaration
- Property, Value
- Grouping selector

2. CSS Types

- Inline
- Internal
- External

3. CSS Color

- RGB Values
- HSL Values
- HEX Value
- RGBA
- HSLA

4. CSS Background

- How to decorate background of web page
- Adding Background Image
- Background-repeat property
- Changing Background size
- Transparency of background using opacity
- Adding Gradient color
- Box-sizing

5. CSS Margin

- What's margin?
- How we can use it
- Using top, right, left and bottom property
- Values assigning for margins CSS Padding

6. CSS Shadow Effect

- What is the shadow effect?

Types:

1. Text Shadow
2. Box Shadow
3. Multi Shadow

7. CSS Text

- Text color
- Text decoration
- Text transform
- Text indent
- Word spacing
- Letter spacing

8. CSS Font

- Generic Family
- Font-family
- Font style
- Font size
- Font weight
- Font variant

9. CSS Table

- Border property
- Border-collapse property

CSS Outline

- What is the outline?
- Outline-style properties
- Outline-color
- Outline-width

CSS Dropdown

- What is a dropdown?
- Dialogue box

10. CSS Layout

- Creating layout using CSS properties
- Grid Layout
- Grid layout properties
- Flex Layout
- Flex layout properties

11. CSS Transforms & Transition

- What is transformation?
- What is transition?
- How we use it
- Using properties

12. CSS Animation

- Generic Family
- Font-family
- Font style
- Font size
- Font weight
- Font variant

13. Exercise & Projects.

Bootstrap

1. Bootstrap

- Introduction to Bootstrap
- Features
- Using CDN
- Downloading bootstrap as module
- Using bootstrap to create a website
- Adding Icons using bootstrap

JavaScript

1. JavaScript

- Introduction to JavaScript
- Client and server-side language
- Feature
- Hello world program.
- Types
 - a. Internal
 - b. External

2. Variable

- What is a variable?
- Declaration of a variable
 - Types:
 1. Local
 2. Global

Data Types

- What are Datatypes?
 - Types:
 1. Primitive
 2. Non-Primitive

3. Operators

- Arithmetic
- Assignment
- Relational
- Misc
- Logical
- Conditional

4. Decision Making

- Introduction
- If Statements
 - a. If-else
 - b. Nested If
 - c. If-else ladder switch case.

5. Flow Control

- Introduction
- 3 major steps in loop
Types:
 1. For Loop
 2. While loop
 3. Do-While loop.

6. Function

- Introduction to functions
- Declaration of a function type:
 1. With argument with Return
 2. Without argument with Return
 3. With argument without Return
 4. Without Argument without Return

7. Event Handling

- Introduction to Events
- How to create an Event

Example:

1. OnClick
2. OnChange
3. OnSubmit
4. MouseOver
5. Confirmation

8. JS Object

- What are objects?
- Math Object
- Object Creation

9. JS Time Format

- How we can use time and date on a website?
- Date() Constructor
- Finding date, hours, minutes and seconds
- Creating a running clock

10. Exercise & Projects.

Core JavaCourse Syllabus

1. Introduction of Java

- What is Java
- Who Developed Java
- How Java runs
- Features of Java
- Applications and Types of Java

2. Fundamentals of Java

- Main function in java
- Hello World Program
- Variables
- Naming rule for variables
- Variable Declaration

3. Datatypes

- What is Datatypes
- Declaring a datatype

Types

- Primitive
- Non- primitive

4. Operators

- Arithmetic
- Assignment
- Relational
- Increment / Decrement
- Logical
- Conditional

5. Decision Making

- **Types**
 - a. If – else
 - b. Nested If
 - c. If else ladder

- o Switch Case.

6. Flow Control

- For Loop
- While loop
- Do-While loop

7. Methods

- Introduction to methods
- How to create a method
- Uses of methods
- Types of Methods

8. Datatypes

Array

- Introduction to array
- How to declare a array
- Getting user input for array

Types

- Single Dimensional
- Multi-Dimensional

9. String

- Introduction to String
- Declaration of String
- String methods
- String Pool

10. String Buffer

- Introduction to String Buffer
- Declaration of String Buffer
- String Buffer methods

String Builder

- Introduction to String Builder
- Declaration of String Builder

- String Builder methods
- Difference between String, String Buffer & Builder

11. Object Oriented Programming - OOPs

- Introduction of OOPs
- Concepts or types of OOPs
- Access Modifier
- Class & Objects

12. Inheritance

- Introduction to inheritance
- Using extends keyword

Types

- Single
- Multi-level
- Hierarchy

13. Abstraction

- Introduction to abstraction
- Using abstract keyword
- Declaration of abstract method
- Defining abstract method

14. Interface

- Introduction to interface
- • Creating an interface using interface keyword
- • Declaring a variable and method
- • Multiple - inheritance

15. Encapsulation

- Introduction to Encapsulation
- Using private keyword
- Setter & getter Method

16.Polymorphism

- Introduction to polymorphism
- Method Overloading
- Constructor Overloading
- Introduction to constructor
- Creating a constructor

Types

- Default Constructor
- Parameterized Constructor
- Method Overriding

17. Exception Handling

- What is Exception
- How we can handle the exception

Keywords:

- Try Catch
- Throw
- Throws
- finally

18. Exercise & Projects.

Advance Java & J2EE Course Syllabus

1. MultiThreading

- What is Thread
- What is Multi-Tasking
- How Multithreading works
- Life Cycle of thread
- Creating a thread:
 1. Using Thread class
 2. Using Runnable interface
- What is Daemon Thread
- How to create daemon thread
- Synchronized Keyword
- Converting a normal method as thread
- Creating more than one thread
- What is Garbage Collection

2. Network Topologies

- Introduction to collection
- Use of Collections
- Collection Object
- Collection classes and interfaces
- List Interface:
 1. Introduction to List
 2. How it stores the data in memory
 3. Types:
 - o ArrayList
 - o LinkedList
 - o Stack o Vector
- Set Interface
 1. Introduction to Set
 2. How it stores the data in memory

- 3. Types:
 - o HashSet
 - o TreeSet
- Queue Interface
 - 1. Introduction to Set
 - 2. How it stores the data in memory
 - 3. Types:
 - o Deque
 - o PriorityDeque

3. Map Interface

- 1. Introduction to Set
- How it stores the data in memory
- Types:
 - o HashMap
 - o TreeMap
 - o LinkedHashMap
 - o NavigatableMap

4. I/O Stream

- Introduction to I/O Stream
- What Input Stream
- What Output Stream
- Creating a file
- Reading and Writing in a file
- Closing and Deleting a file

5. Serialization & Deserialization

- Introduction
- Encrypting the data
- Decrypting the data

6 Networking

- What is networking
- Network Topologies
- What is Socket
- Use of socket class
- One way communication
- Two way communication
- Finding Inet Address

7. Java Swing

- Swing introduction
- Swing Classes
- Creating a frame
- GUI Application
- Creating form, input, radio button, dropdown
- Adding images in frame and button
- What is Event Handling
- How Events work

8. Layout Manager

- Introduction to Layout
- Creating a frame with layout
- Types of Layout:
 1. Grid Layout
 2. Box Layout
 3. Card Layout
 4. Flex Layout

9. JDBC

- Java DataBase Connectivity Introsuction
- MySQL Introduction
- MySQL Administraction
- Using SQL Queries.

- Creating table and adding columns
- Using Constrains in SQL
- Inserting data, updating and deleting the tables.
- Connecting Java to MySQL
- CRUD – Create Read Update Delete Operation

10. Exercise & Projects.

10. Exercise & Projects.

1. Spring Boot

- What is Spring Boot
- Features of Spring Boot
- Creating a Spring Boot project using Spring Initializr
- Software Setup and Configuration (Eclipse)
- How to Run the Project

2. Spring Boot Core

- What is Spring Core
- IoC Container
- BeanFactory Container
- ApplicationContext Container
- Spring Boot Architecture
- Layers in Spring Boot

3. Spring Boot Annotations

- What is Annotation
- Annotation List
- Controller Annotation
- Request Handling (HTTP Request)

4. Spring Boot with REST API

- What is REST API
- How it works
- REST Controller
- Example Program

5. Spring Boot with Database and Data JPA

- What is Spring JDBC
- JDBC Connecting Pool
- Driver Connection

6. Spring Boot with Micro services

- What is MicroServices
- Architecture of MicroServices
- Principle of MicroServices

7. Exercise & Practice

SQL Course Syllabus

1. Database

- What is Database or DBMS
- What is RDBMS
- What is Table and Entity
- Types of SQL Databases
- Installing Tool(MySQL, MS-SQL) and Configurations
- Basic Queries

2. Java MySQL Database Access

- Database Handling with MySQL or MS-SQL
- Create Database Connection

SQL Constrains

- Primary Key
- Check
- Not Null
- Foreign Key
- Unique
- Default

3. DDL Operations

- What is DDL command
- Creating database and Table
- Dropping Database and Table
- Altering the table
- Using Truncate

4. DML Operations

- What is DML
- Inserting data into table
- Updating the data in table
- Deleting data or row, columns

5. Flow Control

DCL Operations

- What is DCL
- Grant
- Revoke

TCL Operations

- What is TCL
- Start transaction
- Commit
- Rollback

DRL – Select Operations

6. SQL DataTypes

- INT
- DECIMAL
- VARCHAR
- DATE & TIME
- DOUBLE or FLOAT

SQL Operators

- Arithmetic
- Relational
- Logical

7. Advanced SQL Topics

SQL Clause & Keywords

- Where
- Group By
- Having
- Order By
- IN
- Between
- Like
- Distinct

- Exist
- Limit
- Offset

8. SQL Joins

- What is Joins
- Inner Join
- Outer Join
- Left Join
- Right Join
- Full Join
- Cross Join
- Self-Join
- Union

9. Aggregation in SQL

- Count()
- Sum()
- Avg()
- Min()
- Max()

10. String Functions

Math Functions

Numeric Functions

11. Windows Function

- ROW_Number()
- RANK()
- DENSE_RANK()

CASE STATEMENTS

12. Subqueries in SQL

- Single-row Subquery
- Multiple-row Subquery
- Correlated Subquery
- Nested Subquery

13. SQL Programming:

Stored Procedures

- What is stored procedure
- Creating Procedure
- Using Procedure

Functions

- What is Function
- Creating Function

Function Types

- DETERMINISTIC
- READS SQL DATA
- NO SQL

14. Views in SQL

- What is Views
- Creating View tables

SQL Trigger

- What is Trigger
- Creating before Triggers
- Creating After Trigger
- Using before Triggers
- Using After Trigger

15. Views in SQL

Normalization

- 1NF
- 2NF
- 3NF
- BCNF

- 4NF
- 5NF
- DKNF

16. Exercise & Practice



HOW OUR PLACEMENT TEAM SUPPORTS YOU

AT INNOVATIVE ACADEMY, PLACEMENT ISN'T AN AFTERTHOUGHT — IT'S BUILT INTO THE JOURNEY.

1

Dedicated HR Support



Get 1-on-1 guidance from our in-house HR expert to help apply for jobs, understand interview formats, and improve communication.

2

Communication & Soft Skills Training



Build confidence with regular sessions focused on speaking clearly, answering smartly, and presenting yourself professionally.

3

Daily Job Alerts in WhatsApp Group



Access exclusive job openings, walk-ins, MNC hiring drives, and company updates posted regularly in our dedicated placement group.

4

Mock Interviews & Resume Building



Practice real-world interview scenarios and get help crafting a resume that gets noticed by recruiters.



Resume Help



Mock Interviews



Job Openings



HR Mentorship



WhatsApp Support



Communication
Classes

TESTIMONIALS

At Innovative Academy, we believe your background doesn't define your future—your determination does. Dozens of our students from non-technical streams like B.Com, B.A., Diploma, even Class 12, have taken their first step with our Java Full Stack course—and today, they're confidently building dynamic applications and thriving in IT roles across India.



Anish JK

"The Core Java course was excellent! The trainers explained concepts with real-world examples, making it easy to learn. I gained strong programming skills that boosted my confidence for interviews."

Sapna T

"This course gave me a solid foundation in Java. Practical assignments and clear teaching style helped me improve coding skills. I recommend it to beginners who want structured learning."



Chaitra T

"Core Java training was very helpful. The course content was well-structured, and the mentor provided great guidance. It strengthened my basics and prepared me for advanced Java topics."

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