

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 Java Course 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 NavigableMap

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 Constraints 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 Constraints

- 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



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

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 **Resume Help**

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TESTIMONIALS

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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."



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"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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