

# Full-Stack Java

## **Gating Started with HTML 5**

- Overview of what's new in HTML5
- Doctype
- Charset
- New structures / tags
- Inline Elements
- Html Tags
- Support for dynamic pages
- Form types
- Deprecated code
- Current browser / platform support
- Importance of the Document Object Model (DOM)
- Using the new HTML5 Tags
- Defining page structure using the new HTML 5 tags
- New HTML5 Elements
- Embedding rich content with multimedia elements
- Borders and Box Effects
- Transitions, Transforms, and Animations
- Layout: Columns and Flexible Box

## **Images, Audio, and Video**

- Adding Images Using the Element
- Using Images as Links
- Choosing the Right Image Format

## **Introducing CSS 3**

- Adding Images Using the Element
- Introducing CSS
- Where You Can Add CSS Rules
- CSS Properties
- Controlling Text
- Text Formatting
- Text Pseudo-Classes
- Styling Text
- Selectors
- Lengths
- Introducing the Box Model
- Creating a Style Sheet for Code

## **Bootstrap**

- Adding Images Using the Element
- Bootstrap Introduction
- Environment – setup
- Document structure
- Layouts – Breakpoints , Container types,
- Alignment in grids
- Contents – Typography, Images, Tables
- Forums
- Components – Dismissible Alerts, Badges, Breadcrumbs ,Button
- and Button groups, cards, carousels, dropdowns, modal, navs,
- navbar, popover, progress bars

## Java Scripts Concepts

- What Is Programming About?
- JavaScript Language Essentials
- How to Add a Script to Your Pages
- Create an External JavaScript
- The Document Object Model
- Starting to Program with JavaScript
- Variables
- Operators
- Functions
- Conditional Statements
- Looping
- Events Handlings
- Built-in Objects
- Writing JavaScript
- Interacting with Users
- Building Smarter Forms
- Working with Dates and Times
- Real World Applications of JavaScript

## Angular JS

- Angular 5 basics
- Using Custom Components
- What is Data binding?
- Components & Data binding Deep Dive
- Directives Deep Dive
- Using Services & Dependency Injection
- Changing Pages with Routing
- Understanding Observables
- Handling Forms in Angular Apps
- Introduction to the Reactive Approach
- Using Pipes to Transform Output
- Making Http Requests
- Authentication & Route Protection in Angular Apps
- Deploying an Angular App
- Typescript Introduction

## React JS

- Introduction of React
- JSX
- React Components
- Props and State
- React Forms
- React Events
- Routing in React
- Bootstrap, JQuery in React
- React Redux
- React Hooks
- HTTP Client
- Testing react

## Core Java Programming Introduction of Java

- What is Java?
- How to Get Java
- A First Java Program
- Compiling and Interpreting Applications
- The JDK Directory Structure
- Using Eclipse

## Data types and Variables

- Primitive Data types, Declarations
- Variable Names
- Numeric Literals, Character Literals, String formatting and parsing, String Literals,
- Arrays, Non-Primitive Data types,
- Page Life Cycle
- The Dot Operator

## Methods

- Methods
- Calling Methods
- Defining Methods
- Method Parameters
- Scope
- Method Parameters
- So, Why All the static?

## Operators and Expressions

- Expressions
- Operators Relational Operators Logical Operators
- Increment and Decrement Operators
- Operate-Assign Operators (+=, etc.)
- The Conditional Operator
- Operator Precedence
- Implicit Type Conversions
- The Cast Operator

## Control Flow Statements

- Conditional (if) Statements
- Data types and Variables
- Adding an else if
- Conditional (switch) Statements while and do-while Loops
- for Loops
- A for Loop Diagram
- Enhanced for Loop
- The continue Statement
- The break Statement

## Object – Oriented Programming (OOPS)

- Introduction to Object-Oriented Programming
- Advantages of OOPS

- OOPS concepts and terminology Fundamentals of OOPS
- Object class
- Classes and Objects
- Fields and Methods
- Encapsulation
- Access Control
- Inheritance
- Polymorphism

## Objects and Classes

- Defining a Class Creating an Object
- Instance Data and Class Data
- Methods Constructors
- Access Modifiers
- Encapsulation

## Using Java Objects

- Object class
- Strings, String Builder and String Buffer Methods
- Parameter Passing
- Destroying Objects

## Inheritance in Java

- Inheritance
- Method Overriding
- Polymorphism
- super

## Packages

- The import Statement
- Creating packages
- Static Imports
- Packages Package Scope

## Exception Handling

- Exceptions Overview

- Catching Exceptions
- The finally Block
- Exception Methods
- Declaring Exceptions
- Defining and Throwing Exceptions

### Introduction to Threads

- Non-Threaded
- Applications Threaded
- Applications Creating
- Threads
- Thread States
- Runnable Threads
- Thread Methods
- Runnable Interface

### Input/output Streams

- Overview of Streams
- Bytes vs. Characters
- Converting Byte Streams to Character
- Streams
- File Object
- Binary Input and Output
- PrintWriter Class
- Reading and Writing Objects
- Basic and Filtered Streams

### Collection Framework

- The Collections Framework
- The Set Interface
- Set Implementation Classes
- The List Interface
- List Implementation Classes

### Interfaces and Abstract Classes

- Separating Interface and Implementation
- Defining Interfaces
- Implementing and Extending

- Interfaces
- Abstract Classes

### Collections

- Collection Interfaces
- Concrete Collections
- The Collections Framework

### Networking

- Internet
- Addressing
- InetAddress
- Factory Methods
- Instance Methods
- TCP/IP Client Sockets
- URL & URL Connection
- TCP/IP Server Sockets
- Datagrams

### JDBC

- Creating a Database and tables
- Getting Information from Database
- Obtaining Result Set Information
- Connecting a Java program to a Database
- Prepared Statements & Statement Classes in Java
- Inserting, Updating & Deleting Table data

### Web Components –Servlets

- What is a web application
- Java servlets
- What is a Servlet
- Servlet Lifecycle
- Servlet Context
- Session management
- Building the first Servlet

### **Java JSP**

- What is a JSP PAGE?
- Basic HTML Tags
- JSP Tag library
- JSP Page Life-cycle
- Creating the first Dynamic web page using JSP
- MVC architecture, 3 - tier architecture

### **Java Servlets**

- What is a Web Application?
- Java Servlets
- Servlets Lifecycle
- Servlets Context
- Session Management
- Building the First Servlet
- Deploying the Servlet

### **Spring Boot**

- Rest API & Web Service Creation
- Integration with JDBC Template
- Integration with Hibernate
- Spring Boot Security