

Full Stack Java Development Course Content

Introduction

- What is Front End Development
- Front End Technologies
- What is Back End Development
- Backend Development Technologies
- What is Full Stack Development
- Advantages of Full Stack Development
- Roles of Full Stack Developer

Module-1: Backend Development

Core Java

- What is Programming Language?
- Types of programming languages
- Java Introduction
- History of Java
- Principles of Java
- Java Installation
- Java Program Execution Flow
- JDK vs JRE
- JVM Architecture
- Identifiers & Keywords
- Data Types
- Variables

- Methods
- Arrays
- Strings Handling
- Object Oriented Principles
- Constructors
- Interfaces
- Programs related to OOPs
- Final Classes
- Abstract Class
- Exception Handling
- Multi-Threading
- Concurrency Package
- Executor Framework
- Synchronization
- Lock Mechanism
- Serialization
- Wrapper Classes
- Auto Boxing, Un-Boxing
- Java Memory Management
- Class Loader Implementation
- Variable Arguments
- File IO Operations
- Introduction to Collection Framework
- List
- Set
- Map
- Properties
- Internal implementation of collection framework (List, Map, Set etc.)
- Java 8 Features Introduction
- Lambda Expressions
- Functional Interfaces
- Default & Static Methods
- Method References

- Date and Time API Changes
- Stream API
- Optional Class
- Spliterator

Advanced Java

- Introduction to Advanced Java
- Introduction to Database
- Types of Databases
- Database Environment Setup
- DB Table Creation
- Table Altering
- CRUD Operations
- Primary Keys
- Foreign Keys
- JDBC Introduction
- JDBC API Details
- JDBC Architecture
- JDBC Driver
- Driver Manager
- Connection
- Statement
- Prepared Statement
- Callable Statement
- Result Set
- What is DAO Layer?
- Steps to create JDBC Application
- JDBC Applications Development
- CRUD Operations
- Connection Pooling
- Most Common Exceptions in JDBC Apps

- Servlets
- What is Web Application?
- Web Application Architecture
- Client & Server
- Http Protocol
- What is Servlet?
- Servlet API
- Servlet Life Cycle
- Steps to Create Servlet
- Deployment Descriptor
- Servlet Interface
- Generic Servlet Class
- HttpServlet Class
- HttpServletRequest
- HttpServletResponse
- ServletConfig
- ServletContext
- Init Params
- Context Params
- Forms Development
- Cookies
- Hidden Variables
- Session Tracking in Servlets
- JSP
- Introduction to User Interface
- Introduction to JSP
- Servlets vs JSP
- Life Cycle of JSP
- JSP Implicit Objects
- JSP Directives
- JSP Scripting Elements
- MVC Architecture Introduction
- Forms Development

- Mini Projects Development

Module-2: Web Development

HTML

- Web Development Overview
- HTML Introduction
- HTML Document Structure
- Headings
- Paragraphs
- Typography
- HTML Links
- Images in HTML
- Attributes
- Lists
- HTML Tables
- Forms & Inputs
- Block & Inline Elements
- Divs
- Spans
- Classes & Ids
- Iframes
- HTML 5 Semantics

CSS

- CSS Introduction
- Basic CSS Selectors

- Dev Tools Introduction
- Fonts
- Colors
- Backgrounds
- Borders
- Box Model
- Margin & Padding
- Display, Alignment & Positioning
- Pseudo Selectors
- Responsive Layouts
- Introduction to FlexBox
- Building Responsive Websites

JavaScript

- Introduction to JavaScript
- Script Tags
- Console Output
- Variables
- Data Types
- Strings & String Methods
- Arrays
- JavaScript Objects
- JSON
- Loops
- Array Helpers
- Conditionals
- Functions
- Constructor Functions
- ES6 Classes
- Window Object & DOM
- DOM Selection

- DOM Manipulation
- Events
- Handling Forms