



ASPIREQ
Freedom meets aspirations

Full Stack Development Course

Syllabus

Module 1

Introduction to Programming with Java

Understand the basics of Java programming and its setup.

Topics:

- History and features of Java
- Setting up the Java Development Kit (JDK)
- Writing your first Java program
- Understanding the Java Virtual Machine (JVM)
- Data types and variables
- Operators and expressions
- Control flow statements (if-else, switch-case)
- Loops (for, while, do-while)

AI Module 2

AI tutorials in programming and Prompt engineering

How to use AI (ChatGPT, Microsoft Copilot & Deepseek) to solve business problems.

Topics:

- AI in Excel: Data Analysis, Power Query, Forecasting, Data Types, Dynamic Arrays, NaturalLanguage Queries, Insert Data from Pictures
- AI in PowerPoint: Design Ideas, Smart Formatting, Content Generation, Visual Enhancements,

Data Visualization

- AI in Programming: Code Generation, Debugging, UI Enhancements, Prompting Practice, AIFrameworks, CheatSheets

Module 3

HTML, CSS, and JavaScript

Learn the essential tools for front-end development.

Topics:

- HTML: Basic tags, Forms, Images, Buttons, HTML5 updates
- CSS: Borders, Backgrounds, Text Effects, Transforms, Animations, Flexbox, Grid, Media Queries
- JavaScript: Variables, Functions, DOM Manipulation, Async JS, Web APIs

Module 4

Frontend Development with React

Understand the core concepts of React and build web apps.

Topics:

- React Basics, JSX, Components, State, Lifecycle, Events, Conditional Rendering, Lists, Context API, Hooks, Routing, HOCs

Module 5

Object-Oriented Programming

Master OOP concepts like inheritance, polymorphism, and abstraction.

Topics:

- Classes, Constructors, Inheritance, Polymorphism, Encapsulation, Interfaces, Abstract Classes, Inner Classes, Packages

Module 6

Exception Handling and Collections

Master Java's exception handling and collections framework.

Topics:

- Try-catch, Finally, Custom exceptions, List, Set, Map, ArrayList, LinkedList, HashSet, TreeSet,

Iterators

Module 7

Full Stack Application Development

Combine React and Java skills to build full-stack apps.

Topics:

- Spring Boot REST APIs, React Integration, CORS, CRUD, Auth, Deployment, CI/CD, Testing, Debugging