TECHNOCATION FREELANCING TRAINING INSTITUTE & SOFTWARE HOUSE

6 MONTHS FULL STACK WEB DEVELOPMENT ADVANCED LEVEL CERTIFICATION COURSE OUTLINE

Module 1: Web Development Foundations

- First, revise HTML, CSS, and JavaScript fundamentals clearly.
- Next, understand how frontend and backend systems work together.
- Then, explore modern web architecture and project workflow.
- Finally, prepare your development environment and useful tools.

Module 2: Advanced HTML & CSS

- First, structure complex pages using semantic HTML elements.
- Next, design responsive layouts using Flexbox and Grid.
- Then, apply animations, transitions, and advanced styling.
- Finally, optimize layouts for accessibility and performance.

Module 3: Advanced JavaScript

- First, master ES6 features like arrow functions and modules.
- Next, manage asynchronous code using promises and async await.
- Then, organize code using classes and reusable functions.
- Finally, debug JavaScript efficiently using browser developer tools.

Module 4: Frontend Framework – React

- First, understand component architecture in React applications.
- Next, manage state using hooks like useState and useEffect.
- Then, build reusable UI components for clean structure.
- Finally, connect frontend components with external APIs.

Module 5: State Management & UI Libraries

- First, manage global state using Redux or Context API.
- Next, organize application logic for scalable projects.
- Then, integrate UI libraries like Material UI or Bootstrap.
- Finally, improve user experience with consistent design systems.

Module 6: Backend Development with Node.js

- First, set up a Node.js server environment properly.
- Next, build REST APIs using Express framework.
- Then, handle requests, responses, and middleware functions.
- Finally, organize backend folders for scalable applications.

Module 7: Databases & Data Management

- First, design structured databases using MySQL or PostgreSQL.
- Next, explore MongoDB for flexible document storage.
- Then, perform CRUD operations through backend APIs.
- Finally, manage data validation and relationships properly.

Module 8: Authentication & Security

- First, implement secure user authentication with JWT tokens.
- Next, protect routes and manage user sessions carefully.
- Then, secure APIs against common web vulnerabilities.
- Finally, follow best practices for password encryption.

Module 9: API Integration & Third Party Services

- First, connect applications with external APIs for data.
- Next, handle JSON responses and asynchronous requests smoothly.
- Then, integrate services like payment gateways or maps.
- Finally, test API responses for reliability and performance.

Module 10: Testing & Debugging

- First, write unit tests for frontend and backend logic.
- Next, use tools like Jest and Postman for testing.
- Then, identify bugs through debugging and logging.
- Finally, maintain stable code through continuous testing.

Module 11: Deployment & DevOps Basics

- First, prepare applications for production deployment carefully.
- Next, use Git and GitHub for version control.
- Then, deploy projects using platforms like Vercel or AWS.
- Finally, monitor performance and update applications regularly.

Module 12: Certification & Final Project

- First, review all course modules and key concepts.
- Next, build a complete full stack web application project.
- Then, present your project with proper documentation.
- Finally, receive your Full Stack Development Certification.