

Full Stack Web Development



Zetlan Technologies

e-Learning Course

Build the web, from front to back. Become a full stack developer
and unlock endless possibilities!

Help Desk: +91 8680961847

www.zetlantech.com

COURSE MODULES

Module 1: Introduction to Web Development

- Overview of Web Development (Frontend, Backend, Full Stack)
- Understanding the Web: How Websites Work
- Setting Up Development Environment (VS Code, Git, Node.js)
- Introduction to HTML, CSS, and JavaScript

Module 2: Frontend Development

HTML & CSS Fundamentals

- HTML Structure and Elements
- Forms, Inputs, and Accessibility
- CSS Basics: Selectors, Box Model, Flexbox, Grid
- Responsive Design & Media Queries
- CSS Preprocessors (SASS/SCSS)
- CSS Frameworks (Bootstrap, Tailwind CSS)

JavaScript Essentials

- JavaScript Basics (Variables, Functions, Loops, Arrays)
- DOM Manipulation & Events
- ES6+ Features (let/const, Arrow Functions, Promises)
- Async JavaScript: Callbacks, Promises, and Async/Await
- Fetch API & Handling JSON Data

Frontend Frameworks (React.js)

- Introduction to React.js
- JSX & Components
- State Management (useState, useEffect)
- React Router for Navigation
- Context API & Redux (State Management)
- Fetching Data with APIs (Axios, Fetch)
- Building & Deploying a React App

Module 3: Backend Development

Node.js & Express.js

- Introduction to Node.js & npm
- Understanding RESTful APIs
- Setting Up Express.js
- Middleware & Routing
- Handling HTTP Requests & Responses
- Building a REST API with Express
- Authentication (JWT, OAuth)
- File Upload & Handling

Database Management

- Introduction to Databases (SQL vs NoSQL)
- MongoDB & Mongoose (NoSQL)
- PostgreSQL / MySQL Basics (SQL)
- CRUD Operations (Create, Read, Update, Delete)
- Relationships & Data Modeling

Module 4: Full Stack Development (Frontend & Backend)

- Integrating React with Node.js & Express
- Fetching & Displaying Data from Backend
- State Management with Redux
- Authentication & Authorization (Login/Signup)
- Role-Based Access Control

Module 5: Advanced Topics

Authentication & Security

- Hashing Passwords (bcrypt)
- JWT (JSON Web Tokens) Authentication
- OAuth 2.0 (Google, Facebook Authentication)
- CORS & Security Best Practices
- Preventing SQL Injection & XSS Attacks

Testing & Debugging

- Debugging with Chrome DevTools
- Unit Testing (Jest, Mocha, Chai)
- API Testing (Postman, Supertest)
- End-to-End Testing (Cypress)

Performance Optimization

- Code Splitting & Lazy Loading
- Caching Strategies
- Image & Asset Optimization
- Server-Side Rendering (SSR) with Next.js

Module 6: DevOps & Deployment

- Version Control with Git & GitHub
- CI/CD Basics (GitHub Actions)
- Hosting Frontend (Netlify, Vercel)
- Deploying Backend (Heroku, Render, AWS, DigitalOcean)
- Using Docker & Containers
- Environment Variables & Config Management

Module 7: Capstone Project & Career Readiness

- Planning & Building a Full Stack Project
- Implementing CRUD Operations
- Authentication & Authorization
- Testing & Debugging
- Deploying the Application