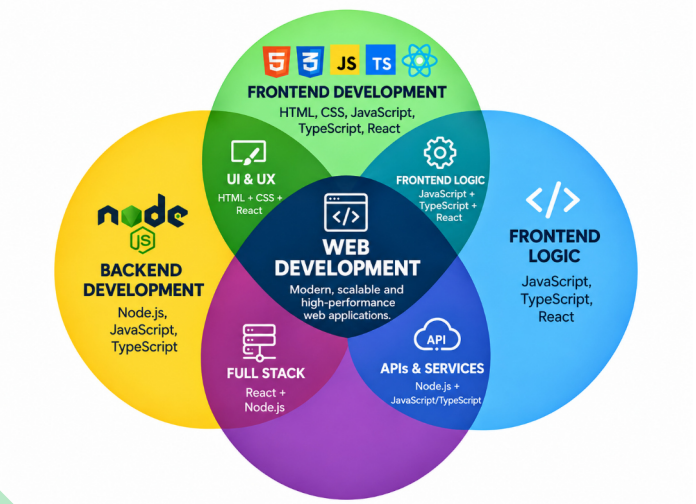
GENESIS
YOUR POTENTIAL. OUR PASSION



Web Development

Course Curriculum

Duration: 45 Days

A simple, complete frontend development curriculum covering the essential technologies and skills required to build modern, responsive web applications.

WEB DEVELOPMENT BASICS

- What is Web Development
- Frontend, Backend and Full Stack
- How Websites Work
- Browsers and Developer Tools
- VS Code and Project Structure



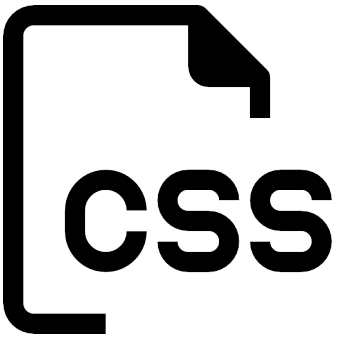
HTML5

- HTML Structure and Elements
- Headings, Paragraphs and Text Formatting
- Links and Images

- Lists and Tables
- Forms and Form Validation
- Semantic HTML & Best Practices

CSS3

- CSS Basics, Selectors, Colors, and Fonts
- Box Model, Margins, Padding and Borders
- CSS Units, Display and Positioning
- Pseudo Classes and Pseudo Elements
- Transitions, Animations & CSS Variables



FLEXBOX AND CSS GRID

- Flexbox Layout: Alignment and Spacing
- CSS Grid Layout: Columns, Rows and Areas
- Responsive Layouts

RESPONSIVE WEB DESIGN

- Mobile First Design & Media Queries
- Responsive Images & Typography
- Mobile, Tablet and Desktop Layouts



BOOTSTRAP 5

- Setup & Grid System
- Responsive Utilities, Buttons and Cards
- Navbar, Forms, Modal, Carousel, Accordion and Dropdown
- Bootstrap Projects

JAVASCRIPT (BASIC TO ADVANCED)

- Basics: Variables, Data Types, Operators, Conditions, Loops
- Functions, Arrays, Objects & ES6+ Features
- DOM Manipulation, Events & Form Handling
- Advanced: Array/Object Methods, Destructuring, Spread/Rest Operators
- Modules, Classes, Promises, Async/Await
- Fetch API, JSON & Error Handling

REST API INTEGRATION

- What is an API & HTTP Methods (GET, POST, PUT, DELETE)
- API Requests/Responses & Fetch API/Axios
- Loading/Error States & CRUD Operations

TYPESCRIPT

- Basics, Types and Type Annotations
- Interfaces, Type Aliases, Union and Intersection Types
- Generics & Type Narrowing

REACT.JS & HOOKS

- Vite and React Setup, Components, JSX, Props
- State, Events, Conditional Rendering, Lists and Keys
- Hooks: useState, useEffect, useRef, useContext, useMemo, useCallback, useReducer
- Custom Hooks & Reusable Components

REACT FORMS & ROUTER

- Controlled Components, Form Handling & Input Validation
- React Hook Form Basics
- Routing, Link/NavLink, Dynamic Routes, Route Parameters
- Nested & Protected Routes, 404 Page



AUTHENTICATION & GIT

- Login/Registration UI, Authentication State & JWT Basics
- Protected Routes & Token Handling
- Git & Tools: GitHub, Repositories, Commit, Push, Pull, Branches, Merge
- npm, package.json and Environment Variables



TESTING, PERFORMANCE AND DEPLOYMENT

- Debugging (Browser DevTools, React DevTools)
- Performance: Lazy Loading, Code Splitting, Lighthouse
- Production Build & Deployment (Vercel, Netlify, GitHub Pages)



REAL-TIME PROJECTS

- **Personal Portfolio Website**
- **Responsive Business Website**
- **JavaScript To-Do Application**
- **API-Based Application**
- **TypeScript Task Manager**
- **React CRUD Application**
- **React Authentication App**
- **E-Commerce / Final Real-World Project**

Course Outcome

- Build responsive websites from scratch
- Create interactive web applications using JavaScript
- Develop modern applications using React and TypeScript
- Integrate REST APIs and perform CRUD operations
- Implement forms, routing, authentication and state management
- Optimize websites for performance, SEO and accessibility
- Build a professional portfolio and deploy to production



Contact US

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