

## 1. Introduction to Web Development

- Overview of web development
- Understanding client-server architecture
- Basics of HTML, CSS, and JavaScript

## 2. HTML Fundamentals

- Structure of HTML documents
- HTML elements and tags
- Semantic HTML
- Forms and input elements

## 3. CSS Fundamentals

- Styling HTML elements
- CSS selectors and specificity
- Box model and layout techniques
- Responsive design principles

## 4. JavaScript

- Introduction to JavaScript
- Variables, data types, and operators
- Control flow and loops
- Functions and scope
- Arrays and objects

## 5. Version Control with Git and GitHub

- Introduction to version control
- Setting up Git and GitHub accounts
- Basic Git commands (`init`, `add`, `commit`, `push`, `pull`, `clone`)

- Collaborative development with GitHub (`fork`, `branch`, `pull request`)

## 6. Introduction to Tailwind CSS

- Overview of Tailwind CSS
- Setting up Tailwind CSS in a project
- Utility-first CSS approach
- Styling with Tailwind CSS classes

## 7. Introduction to React.js

- Introduction to React.js and its benefits
- Setting up a React.js development environment
- Components and JSX syntax
- State management with `useState`

## 8. Advanced React.js

- React Hooks (`useState`, `useEffect`, `useContext`, etc.)
- React Router for navigation
- Forms and form handling in React
- Context API for state management

## 9. Introduction to Next.js

- Overview of Next.js and its features
- Setting up a Next.js project
- Pages and routing in Next.js
- Static Site Generation (SSG) and Server-Side Rendering (SSR)

## 10. Introduction to Node.js & Express.js

- What is Node.js?  
Understanding the runtime
- Setting up a Node.js project
- Building a basic Express.js server
- REST API development (CRUD operations)
- Middleware and error handling

## 11. Building Full-Stack Applications with Next.js and Node.js

- Integrating Next.js frontend with Node.js backend
- API routes in Next.js
- Connecting to databases (MongoDB, PostgreSQL)
- Authentication and authorization (JWT, bcrypt)

## 12. Deployment and Project Work

- Deployment strategies for full-stack applications
  - Deploying frontend on Vercel and backend on a cloud platform (Railway, Render)
  - Building projects and portfolio development
  - Collaborative project work to simulate real-world development environments
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