

MERN - Full Stack Web Application Development

Key Features:

- Understanding web development and in-depth understanding of all the full stack concepts.
- Introduction to the MERN stack
- Build 5+ projects including 2+ Major Projects (E-commerce website & Food Delivery App)
- Showcase your skills with a portfolio of real projects.

Technology Stack

- **HTML CSS**
- **Bootstrap/Tailwind-css/Chakra-UI**
- **JavaScript**
- **ReactJS**
- **MongoDB**
- **Node ExpressJS**
- **GIT - version control**
- **Deployment**

Introduction to HTML:

- Understanding the role of HTML in web development
- Basic syntax and structure of an HTML document
- HTML elements and tags

Working with text and links:

- Creating and formatting text using HTML tags
- Creating hyperlinks to link web pages and resources
- Adding images to web pages using HTML

HTML forms:

- Creating web forms using HTML
- Understanding the different types of form elements and their uses
- Validating user input using HTML5 form validation

CSS

Introduction to CSS:

- Understanding the role of CSS in web development
- Basic syntax and structure of a CSS rule
- How to link CSS to HTML documents

Working with colors, fonts, and text:

- Using CSS to change text colors, backgrounds, and borders
- Understanding typography and choosing appropriate fonts for web
- Adjusting the spacing and alignment of text using CSS

CSS layout and positioning:

- Working with CSS box model
- Creating page layouts using CSS
- Understanding CSS positioning and its types

Advanced CSS topics:

- Creating animations and transitions using CSS
- Media Query - Using CSS to create responsive designs
- CSS frameworks and libraries:- Bootstrap/Tailwind

JavaScript

Introduction to JavaScript:

- Understanding the role of JavaScript in web development
- Basic syntax and structure of JavaScript code
- Variables, data types, and operators

Functions and Objects:

- Creating functions and using parameters and return statements
- Different Types Of Function: Normal Function, Arrow Function
- JavaScript objects and how to create and manipulate them.

Arrays and Loops:

- Working with arrays and array methods in JavaScript
- Using loops to iterate over arrays and perform repetitive tasks
- Understanding the different types of loops in JavaScript

DOM Manipulation:

- Understanding the Document Object Model (DOM)
- Using JavaScript to manipulate HTML and CSS on a web page
- Event handling in JavaScript

Asynchronous JavaScript and APIs:

- Understanding asynchronous programming and callbacks
- Working with Promises and Callback
- Working with Async/Await and making API requests

Important JS Topics For React

- Map,Filter,find,Includes Methods
- Array Destructure and Object Destructure

React

Introduction to React:

- Understanding what React is and how it differs from traditional web development approaches
- Setting up a React development environment
- Creating a simple React component and rendering it to the DOM

Styling,Components and Props:

- Understanding React components and how to create them
- Passing props to components & Using props to render lists of data
- handling events, conditional rendering, styling in React

State and Lifecycle:

- Understanding React state and how to manage it

- Using lifecycle methods to perform actions at specific points in a component's lifecycle
- Understanding the motivation for Hooks
- Using the useState() Hook to manage component state
- Using the useEffect() Hook for API request

Advanced React Concepts:

- Creating reusable components with composition and props.children
- Using React Router to create a multi-page React application
- Using Context/Redux to manage global state in a React application

Node.js for API Development:

- Understanding Node.js and its role in modern web development
- Setting up a development environment for Node.js
- Introduction to API development with Node.js

Building a RESTful API with Express.js:

- Understanding RESTful API design principles
- Creating a basic Express.js server and setting up API routes
- Implementing CRUD operations for API endpoints using MongoDB

Authentication and Authorization with JWT:

- Understanding authentication and authorization concepts
- Implementing user authentication and authorization using JSON Web Tokens (JWT)
- Securing API endpoints with JWT middleware

Error Handling and Validation:

- Understanding and Implementing error handling
- Implementing custom error messages and responses

Testing API ,Deployment and Scalability:

- Using Postman to test and debug API endpoints
- Understanding deployment and scalability in API development
- Deploying the API to a cloud platform.

Project : ECommerce App Development with MERN Stack:

- Setting up a development environment for the eCommerce app
- Building the Backend with Node.js, Express.js, and MongoDB.

Creating the Frontend with React:

- Building a user interface for the eCommerce app using React
- Creating components for different parts of the eCommerce app, such as the product catalog, shopping cart, and checkout process

Building the Backend with Node.js, Express.js, and MongoDB:

- Creating a backend server using Node.js and Express.js
- Setting up MongoDB and connecting it to server
- Creating endpoints for CRUD operations on the MongoDB collections
- Integrating the frontend with the backend using API calls
- Implementing user authentication and authorization using JWT
- Deploying the eCommerce app to a cloud platform such as AWS.