

React JS

Duration: 72 Hrs.

Advanced Concepts of JavaScript

- Arrow functions
- Working with arrays (methods like map, filter)
- Objects and their properties
- Working with asynchronous javascript ()

Introduction to React and JSX

- What is React and why use it
- Setting up a React environment (using Create React App)
- Installing bundlers
- React.createElement and render method
- Introduction to JSX

Components, Props, and State

- Creating and rendering components
- Creating different components
- Understanding props
- Creating cards with props
- Understanding keys in React
- Understanding the useState hook
- Project: Creating a simple React project

Advanced Hooks and State Management

- Understanding the useEffect hook
- Clean-up function of useEffect
- State lifting

UI Functionalities and React-Router

- Introduction to React Router DOM
- Creating different paths

- Creating children routes
- Single Page Application and dynamic routing
- Using useParams hook
- Applying event handlers

Class Components

- Creating class-based components
- States in class components.
- Lifecycle methods of React

Performance optimization

- Fragments
- Performance optimization with React.memo

Introduction to Redux

- What is Redux and why use it
- Setting up Redux
- Actions, reducers, and the store
- Connecting Redux with React components

Advanced Redux

- Advanced Redux concepts (middleware, async actions)
- Combining reducers
- Project work: Integrating Redux into the Recipe app

Node.js

Node.js Basics and Modules

- Introduction to Node.js and its architecture
- Setting up Node.js and creating a basic server
- Understanding the Node.js event loop and asynchronous programming
- Core modules and third-party packages
- Working with NPM for package management
- Creating and managing custom modules

Basics of Express.js and RESTful APIs

- Setting up an Express application
- Understanding routing and middleware in Express
- Creating a basic RESTful API
- CRUD operations and data handling
- Implementing error handling and validation

Advanced Express Features

- Advanced routing techniques and error handling
- Integrating third-party services (e.g., payment gateways)

File Upload

Email handling

API Design and Documentation

- Designing scalable and maintainable APIs
- Documenting APIs using tools like Swagger
- Testing APIs with Postman or similar tools

MySQL/MongoDB Basics

- Introduction to MySQL / MongoDB
- Basic CRUD operations and data modelling

Advanced MySQL/MongoDB

- Schema design and data relationships
- Aggregation framework and indexing
- Performance optimization and data validation

CRUD Example

Project