

React Certification Course

Course Duration : 60 Days

Topics & Details

Introduction to React:

Lesson 1: Introduction to React

- ★ What is React?
 - Overview of React
 - Benefits of using React
- ★ Setting Up the Environment
 - Installing Node.js and npm
 - Setting up a React project using Create React App
 - Understanding the project structure

Lesson 2: JSX and Rendering Elements

- ★ JSX Basics
 - What is JSX?
 - Embedding expressions in JSX
- ★ Rendering Elements
 - Rendering a React element into the DOM
 - Updating the rendered element

Lesson 3: Components and Props

- ★ Introduction to Components
 - Function components
 - Class components
- ★ Props
 - Passing data to components via props



- Rendering props in components
- Prop types and default props

Lesson 4: State and Lifecycle

★ State Basics

- Initializing state in class components
- Updating state

★ Lifecycle Methods

- Mounting, updating, and unmounting phases
- Common lifecycle methods: `componentDidMount`, `componentDidUpdate`, `componentWillUnmount`

★ State in Functional Components

- Using the `useState` hook

Lesson 5: Handling Events

★ Event Handling

- Handling events in React
- Synthetic events

★ Conditional Rendering

- Using `if` statements
- Conditional rendering with logical `&&` and ternary operator

Lesson 6: Lists and Keys

★ Rendering Lists

- Using the `map` function to render lists
- Key property in lists

★ Forms

- Controlled components
- Handling form submission



Lesson 7: Lifting State Up

- ★ Sharing State Between Components
 - Lifting state up to a common ancestor
 - Example of lifting state up

Lesson 8: Composition vs Inheritance

- ★ Component Composition
 - Containment
 - Specialization
- ★ Thinking in React
 - Breaking down the UI into a component hierarchy
 - Building a static version in React
 - Identifying the minimal state

Lesson 9: Hooks

- ★ Introduction to Hooks
 - What are hooks?
 - Rules of hooks
- ★ Common Hooks
 - `useState`
 - `useEffect`
 - `useContext`
- ★ Custom Hooks
 - Creating custom hooks
 - Reusing logic with custom hooks

Lesson 10: Context API

- ★ Context Basics



- Creating context
- Providing and consuming context

Using Context with Hooks

- Using ``useContext`` hook

Lesson 11: React Router

- ★ Setting Up React Router
 - Installing React Router
 - Configuring routes
- ★ Navigation
 - Using ``Link`` and ``NavLink``
 - Programmatic navigation

Lesson 12: State Management with Redux

- ★ Introduction to Redux
 - What is Redux?
 - Core concepts: Store, Actions, Reducers
- ★ Setting Up Redux
 - Installing Redux and React-Redux
 - Creating a store
 - Connecting Redux to React components
- ★ Using Redux Hooks
 - ``useSelector``
 - ``useDispatch``

Lesson 13: Fetching Data

- ★ Using ``fetch`` API
 - Fetching data from an API



- Handling loading and errors

★ Using `axios`

- Installing and setting up `axios`
- Fetching data with `axios`

Lesson 14: Testing

★ Introduction to Testing

- Importance of testing
- Tools for testing React applications

★ Testing Components

- Writing tests using Jest and React Testing Library
- Snapshot testing

Lesson 15: Building and Deployment

★ Optimizing React Applications

- Code splitting
- Lazy loading

★ Building for Production

- Creating a production build
- Deployment options (Netlify, Vercel, etc.)

Lesson 16: Practical Project

- Building a complete React application (e.g., a todo app, blog, or e-commerce site)
- Applying all learned concepts

