

KOENIG SOLUTIONS • COURSE OUTLINE

React JS (JS Institute)

5 Days

DURATION

5

MODULES

59

TOPICS

15

HANDS-ON ACTIVITIES

PREREQUISITES

- Knowledge of JavaScript ES6 Programming.

5 Modules, 59 Topics

DAY 1 Introduction to React and Basic Concepts

01**3 Activities****TOPICS**

- What is React?
- History and evolution of React
- React ecosystem and community
- Installing Node.js and npm
- Setting up Create React App
- Overview of the project structure
- Understanding JSX syntax
- Rendering elements
- Embedding expressions in JSX
- Function and class components
- Props and PropTypes
- Composing components

DAY 2 State Management and Event Handling

02**3 Activities****TOPICS**

- State in class components
- Lifecycle methods (componentDidMount, componentDidUpdate, componentWillUnmount)
- Handling events in React
- Binding event handlers
- Synthetic events
- Conditional rendering techniques
- Inline if with logical && operator
- Conditional rendering with ternary operator
- Rendering lists in React
- Keys and their importance
- Using map() to create lists

03

3 Activities

TOPICS

- Controlled vs. uncontrolled components
- Handling form submissions
- Controlled input elements
- Sharing state between components
- Lifting state up to parent components
- Common state management patterns
- Introduction to Context API
- Creating and using context
- Context.Provider and Context.Consumer
- Creating and using refs
- Accessing DOM nodes
- Managing focus and media playback

04

3 Activities

TOPICS

- Setting up React Router
- Creating routes and links
- Nested routes and route parameters
- Programmatic navigation
- Redirecting routes
- Handling 404 pages
- Using the Fetch API and Axios
- Making GET and POST requests
- Handling loading and error states
- Introduction to React Hooks
- Using useState and useEffect
- Custom hooks for data fetching

05

3 Activities

TOPICS

- Avoiding unnecessary re-renders
- Memoization with React.memo and useMemo
- Optimizing large lists with react-window
- Introduction to code splitting
- Implementing lazy loading with React.lazy and Suspense
- Dynamic imports
- Introduction to testing libraries (Jest, React Testing Library)
- Writing unit tests for components
- Testing user interactions
- Building the application for production
- Setting up continuous integration (CI) with GitHub Actions
- Deploying to hosting services

Practise What You Learn

#	MODULE	ACTIVITY
01	Introduction to React and Basic Concepts	LAB 1: BUILDING BASIC REACT COMPONENTS ■ Setting up a new React project ■ Creating and rendering components ■ Passing and validating props
02	State Management and Event Handling	LAB 2: STATE MANAGEMENT AND EVENT HANDLING ■ Creating components with state ■ Implementing event handlers ■ Building a dynamic list component
03	Advanced React Concepts	LAB 3: ADVANCED COMPONENT PATTERNS ■ Creating and managing forms ■ Lifting state up and sharing state ■ Using Context API for state management
04	React Router and API Integration	LAB 4: ROUTING AND DATA FETCHING ■ Setting up and configuring React Router ■ Creating dynamic routes and navigation ■ Fetching and displaying data from an API
05	Performance Optimization and Testing	LAB 5: FINAL PROJECT AND DEPLOYMENT ■ Optimizing the application for performance ■ Writing and running tests for key components ■ Building and deploying a React application

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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