

React Frontend Development

Course Content

1. Introduction to React

- What is React and why it is used
 - React vs traditional JavaScript
 - SPA (Single Page Application) concept
 - Role of React in Full Stack development
 - Real-world applications built with React
 - Tools & technologies (Node.js, npm, VS Code)
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2. JavaScript Refresher for React

- ES6 features overview
 - let, const, arrow functions
 - Arrays & objects
 - Destructuring & spread operator
 - Modules (import & export)
 - Hands-on:
 - Small JavaScript programs used in React
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3. React Basics

- Setting up React project (Vite / Create React App)
 - Folder structure explanation
 - JSX syntax & rules
 - Components & component types
 - Functional components
 - Props & component reusability
 - Hands-on:
 - Create first React component
 - Pass data using props
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4. State & Events in React

- What is State?
 - useState hook
 - Event handling in React
 - Controlled components & forms
 - Conditional rendering
 - Hands-on:
 - Counter app
 - Simple form handling example
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5. React Hooks & Component Lifecycle

- Introduction to React Hooks
 - useEffect hook
 - Component lifecycle concepts
 - Side effects in React
 - API call basics using fetch / axios
 - Hands-on:
 - Fetch data from public API
 - Display dynamic data in UI
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6. React Routing & UI Design

- Introduction to React Router
 - Multiple pages in React
 - Navigation & dynamic routing
 - Basic styling approaches (CSS, inline styles)
 - Responsive UI concepts
 - Hands-on:
 - Multi-page React application
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7. React + Backend Integration

- Connecting React with backend APIs
- HTTP methods usage in frontend
- Handling API responses
- Error handling & loading states
- Hands-on:
- Consume Spring Boot REST APIs
- Display backend data in React UI

8. React Mini Project

- End-to-end frontend application
 - Example projects:
 - Todo Application
 - Student Management UI
 - Dashboard for backend services
 - Project structure & best practices
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9. Career Guidance & Wrap-Up

- React developer career roadmap
 - Skills required for frontend & full stack roles
 - Project discussion & Q&A
 - How to move from React to Full Stack Developer
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Workshop Outcomes

- Strong understanding of React fundamentals
- Ability to build reusable UI components
- Experience with API integration
- Hands-on experience with real-world React applications
- Confidence to work as a Frontend / Full Stack Developer