

React.js syllabus:-

(This syllabus assumes you already know a little HTML, CSS, and JavaScript)

1. Introduction to React

Goal: Understand what React is and how it works.

- What is React?
- History and advantages of React
- The concept of SPA (Single Page Application)
- Understanding the Virtual DOM
- Difference between React and other frameworks (Angular, Vue)
- Setting up the development environment
 - Node.js, npm/yarn
 - Installing `create-react-app` or using Vite

Hands-on:

- Create your first React app (`npx create-react-app my-app`)
 - Explore project structure
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□ 2. React Basics

Goal: Learn how React components work.

- JSX syntax and rules
- Components and Props
- Functional vs Class components
- Rendering elements
- Fragments
- React Developer Tools

Hands-on:

- Create multiple functional components
 - Pass and render props
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□ 3. State and Events

Goal: Understand how React handles data and user interaction.

- Introduction to `useState`
- Handling events (`onClick`, `onChange`, etc.)
- Conditional rendering
- Lists and keys in React (`.map()`)

Hands-on:

- Create a simple counter app
 - Build a dynamic to-do list
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□ 4. React Hooks (Core Concepts)

Goal: Learn to use React Hooks effectively.

- What are Hooks and why use them
- `useState` and `useEffect`
- Rules of Hooks
- Cleanup functions in `useEffect`
- Basic custom hooks

Hands-on:

- Fetch API data using `useEffect`
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□ 5. React Router

Goal: Add routing and navigation to your app.

- Installing `react-router-dom`
- Setting up `BrowserRouter`
- `Route`, `Link`, `NavLink`
- URL parameters and nested routes
- Programmatic navigation

Hands-on:

- Build a small multi-page app (Home, About, Contact)

□ 6. Styling in React

Goal: Learn different ways to style React components.

- Inline styling
- CSS Modules
- Styled Components
- Bootstrap CSS (optional)

Hands-on:

- Style your to-do or portfolio project using CSS modules
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□ 7. Working with APIs

Goal: Fetch and display data from APIs.

- Using `fetch()` or Axios
- Handling loading and error states
- Displaying API data dynamically

□ 8. Project: Build a React App