

ReactJS – Overview

ReactJS is a JavaScript library developed by Facebook in 2011 and open-sourced in 2013. It is used for **building fast and interactive user interfaces**, especially for **single-page applications (SPAs)**.

React focuses on building **UI components**—reusable, self-contained pieces of code that describe part of a user interface.

Key Features of ReactJS

1. Component-Based Architecture

- UI is broken into **reusable components**.
- Each component manages its own state and logic.

2. Virtual DOM

- React uses a **virtual DOM** to update only what's changed—making updates faster and more efficient.

3. JSX (JavaScript XML)

- Allows writing **HTML-like syntax** inside JavaScript.
- Makes code easier to read and write.

4. One-Way Data Binding

- Data flows in a **single direction** (parent to child), making it easier to debug and control.

5. Hooks (React 16.8+)

- Use **state** and **lifecycle methods** in functional components.
- Examples: `useState()` , `useEffect()` , `useContext()`

6. Declarative UI

- You describe **what** you want, and React figures out **how** to update the UI.
- Makes code predictable and easier to maintain.

7. React Native

- React can be used for building **mobile apps** (iOS & Android) using **React Native**.

8. Strong Ecosystem

- Supported by tools like **React Router**, **Redux**, **Next.js**, and a huge developer community.

