

# What is React and Why Use It?

React is a **JavaScript library** for building **user interfaces**, mainly for web apps.

Developed by **Facebook** in 2013, now widely used.

React is **component-based**, meaning your UI is made of reusable pieces.

React uses a **virtual DOM** for fast updates.

Advantages:

1. *Reusable components → faster development*
2. *Fast rendering with Virtual DOM*
3. *Strong ecosystem & community*
4. *Easy integration with APIs and other libraries*

# Setting Up Environment

## Required Software:

**Node.js** (includes npm) – <https://nodejs.org/>

**VS Code** – <https://code.visualstudio.com/>

## Check Installation:

*node -v*

*npm -v*

# Create First React App

Two popular ways: **Create React App** or **Vite**.

## Option 1 – Create React App

```
npx create-react-app my-first-app  
cd my-first-app  
npm start
```

## Option 2 – Vite (faster & modern)

```
npm create vite@latest my-first-app  
cd my-first-app  
npm install  
npm run dev
```

**VS Code Tip:** Open project folder in VS Code (code .)

# JSX Syntax Basics

JSX = JavaScript + HTML in React.

Example:

```
import React from 'react';

function App() {
  const name = "Rohan";
  return (
    <div>
      <h1>Hello React!</h1>
      <p>Welcome, {name}!</p>
    </div>
  );
}
export default App;
```

## Notes:

- Curly braces {} → used to embed JS expressions in JSX
- Must **return a single root element** (div, section, <> </>)
- JSX gets compiled to React.createElement() under the hood

# Mini-Task

**Objective:** Render “Hello React” on the page.

**Steps:**

1. Open App.js in src/
2. Replace default code with:

```
function App() {  
  return (  
    <div>  
      <h1>Hello React</h1>  
    </div>  
  );  
}  
export default App;
```
3. Save and check in browser (npm start or npm run dev)

# Thanks for Watching!

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