

Page 1: React Fundamentals

1. Introduction

- React is a **JavaScript library** for building user interfaces.
- Developed by **Facebook**.
- Works on the principle of **components** and **virtual DOM**.

2. Key Features

- **Component-Based** architecture.
- **Virtual DOM** improves performance.
- **One-way data flow** (unidirectional).
- **JSX** – JavaScript + XML syntax.

3. Setting Up

- Install Node.js
- Create a React app:
- npx create-react-app myapp
- cd myapp
- npm start

4. JSX

- JSX allows HTML inside JavaScript.
Example:
 - const element = <h1>Hello, React!</h1>;

Page 2: Components and State

1. Components

- **Functional Components:**
- function Welcome(props) {
- return <h1>Hello, {props.name}</h1>;
- }
- **Class Components:**

- class Welcome extends React.Component {
- render() {
- return <h1>Hello, {this.props.name}</h1>;
- }
- }

2. Props

- Read-only data passed from parent to child.

3. State

- Used to manage dynamic data.
- const [count, setCount] = useState(0);

4. Events

```
<button onClick={() => setCount(count + 1)}>Click</button>
```

5. Rendering

- React updates the UI when **state or props** change.