

React Cheatsheet - Expanded Guide

=== 1. JSX ===

JSX is a syntax extension for JavaScript. It allows writing HTML-like code inside JavaScript files.

Example:

```
const element = <h1>Hello, world!</h1>;
```

=== 2. Components ===

React apps are made of components.

- Functional Components (with Hooks)
- Class Components (with lifecycle methods)

Functional Example:

```
function Welcome(props) {  
  return <h1>Hello, {props.name}</h1>;  
}
```

=== 3. Props and State ===

Props: Data passed from parent to child.

State: Local data managed within a component using `useState`.

Example:

```
const [count, setCount] = useState(0);
```

=== 4. Lifecycle (Hooks) ===

`useEffect` is used to perform side effects (similar to lifecycle methods).

Example:

```
useEffect(() => {  
  console.log("Component mounted");  
  return () => console.log("Component unmounted");  
}, []);
```

=== 5. Forms ===

Forms are controlled via useState.

```
<input value={value} onChange={(e) => setValue(e.target.value)} />
```

=== 6. Routing ===

React Router handles navigation.

```
<BrowserRouter>
```

```
<Routes>
```

```
<Route path="/" element={<Home />} />
```

```
</Routes>
```

```
</BrowserRouter>
```

=== 7. Advanced Hooks ===

- useContext for state sharing
- useRef for accessing DOM
- useReducer for complex state logic

=== 8. Optimization ===

- React.memo for component memoization
- useCallback and useMemo to avoid unnecessary renders

=== 9. Styling Options ===

- CSS Modules
- Styled Components
- Tailwind CSS

=== 10. Deployment ===

- Netlify, Vercel, Firebase Hosting

Run: `npm run build and deploy /build folder`