**React:**

* + - * React is a front-end library developed by Facebook. It is used for handling the view layer for web and mobile apps. React JS allows us to create reusable UI components.

**Pre-Requisites**:

* Knowledge of JavaScript, HTML5, and CSS.

**React Features:**

* JSX - JSX is JavaScript syntax extension. It isn't necessary to use JSX in React development, but it is recommended.
* Components - React is all about components. You need to think of everything as a component. This will help you maintain the code when working on larger scale projects.
* Unidirectional data flow and Flux - React implements one-way data flow which makes it easy to reason about your app. Flux is a pattern that helps keeping your data unidirectional.
* License - React is licensed under the Facebook Inc. Documentation is licensed under CC BY 4.0.

**React Advantages**

* Uses virtual DOM which is a JavaScript object. This will improve apps performance, since JavaScript virtual DOM is faster than the regular DOM.
* Can be used on client and server side as well as with other frameworks.
* Component and data patterns improve readability, which helps to maintain larger apps.

**React Limitations**

* Covers only the view layer of the app, hence you still need to choose other technologies to get a complete tooling set for development.
* Uses inline templating and JSX, which might seem awkward to some developers.

**Installation:**

* npm install -g create-react-app
* create-react-app my-app
* cd my-app
* npm start

### **Simple (stateless) React components**

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| **// simple stateless react components**  **const Headline = () => {**  **return <h1>React Cheat Sheet</h1>**  **}** |

* The simple React component is a **function that returns HTML**. In the above example H1 will be rendered on a page.

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| **// simple stateless react components : Multiline**  **// NO.1**  **const Intro = () => {**  **return <div>**  **<Headline />**  **<p>Welcome to the React world!</p>**  **</div>**  **}**  **// No.2**  **const Intro = () => {**  **return (**  **<div>**  **<Headline />**  **<p>Welcome to the React world!</p>**  **</div>**  **)**  **}**  **// No.3**  **const Intro = () => (**  **<div>**  **<Headline />**  **<p>Welcome to the React world!</p>**  **</div>**  **)** |

* All three of these components would do the same thing, but **including the parenthesis might help with readability**of your components (Refer No. 2).
* The third example does not even include the return statement, but we had to change {} to ().

**Why div?**

* It is the requirement of JSX, each Component will return only one element.
* So we need to wrap html content in one div or ul.

### **Advanced React components (ES6 classes)**

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| **class App extends React.Component {**  **render() {**  **return (**  **<h1>React Cheat Sheet</h1>**  **)**  **}**  **}** |

* Adding constructor to it: and set current date as the local state of this component and then render it out inside of the H1.

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| **class App extends React.Component {**    **// fires before component is mounted**  **constructor(props) {**    **// makes this refer to this component**  **super(props);**    **// set local state**  **this.state = {**  **date: new Date()**  **};**    **}**    **render() {**  **return (**  **<h1>**  **It is {this.state.date.toLocaleTimeString()}.**  **</h1>**  **)**  **}**  **}** |