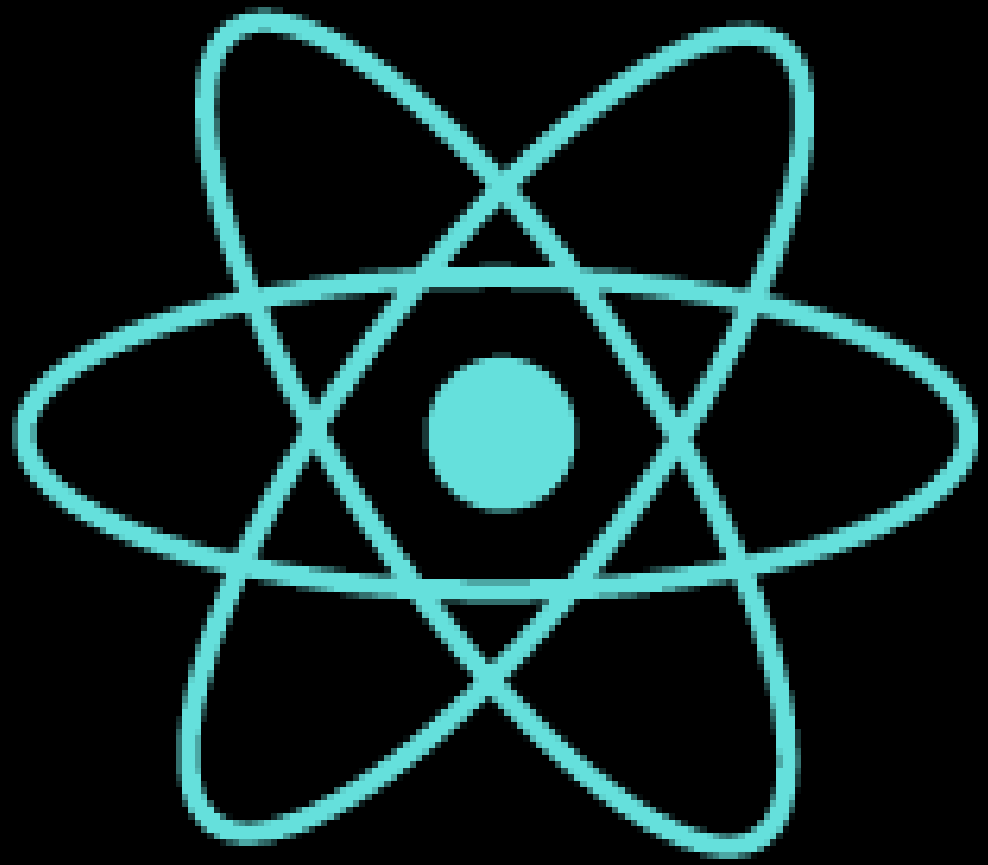

React JS

A JavaScript Library Developed by Facebook for Building User Interfaces in a virtual DOM

How React JS Works

React is a JavaScript library that creates beautiful user interfaces by utilizing declarative code.

Declarative code is code that defines what you want, not how you want it to behave.

Declarative code is easier to write, understand, and change, and as a result it typically has less bugs.

React uses declarative code to create components that accept input and return an element that declares what should appear to the user

React implements a "state" of the application to render what should appear to the user. When the "state" of a component is changed, react will update the virtual DOM quickly and efficiently.

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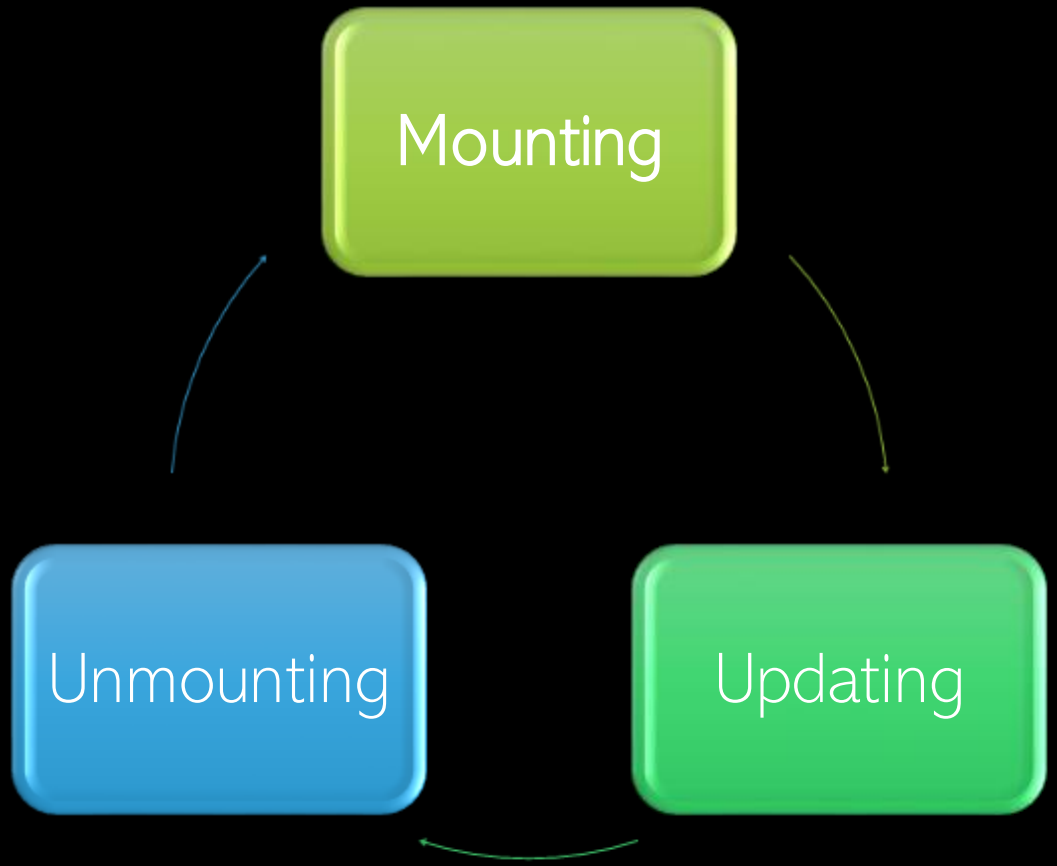
React JS Life Cycle



Mounting:

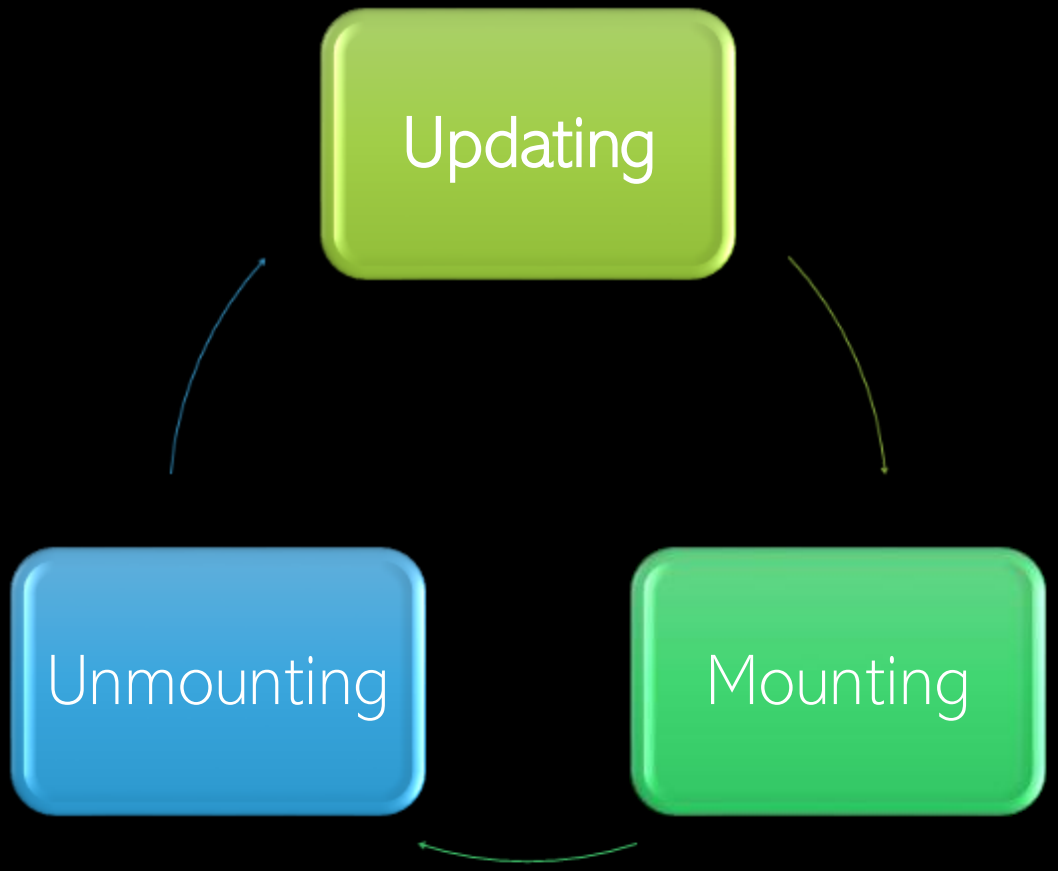
This is how elements are added to the Document Object Model (DOM). Components are mounted using React's in-built methods. There are 4 methods which are called during the mounting process:

1. **constructor() -**
2. **getDerivedStateFromProps()**
3. **render()**
4. **componentDidMount()**

The only required method is ***render().***

Infosource: https://www.w3schools.com/react/react_lifecycle.asp

React JS Life Cycle



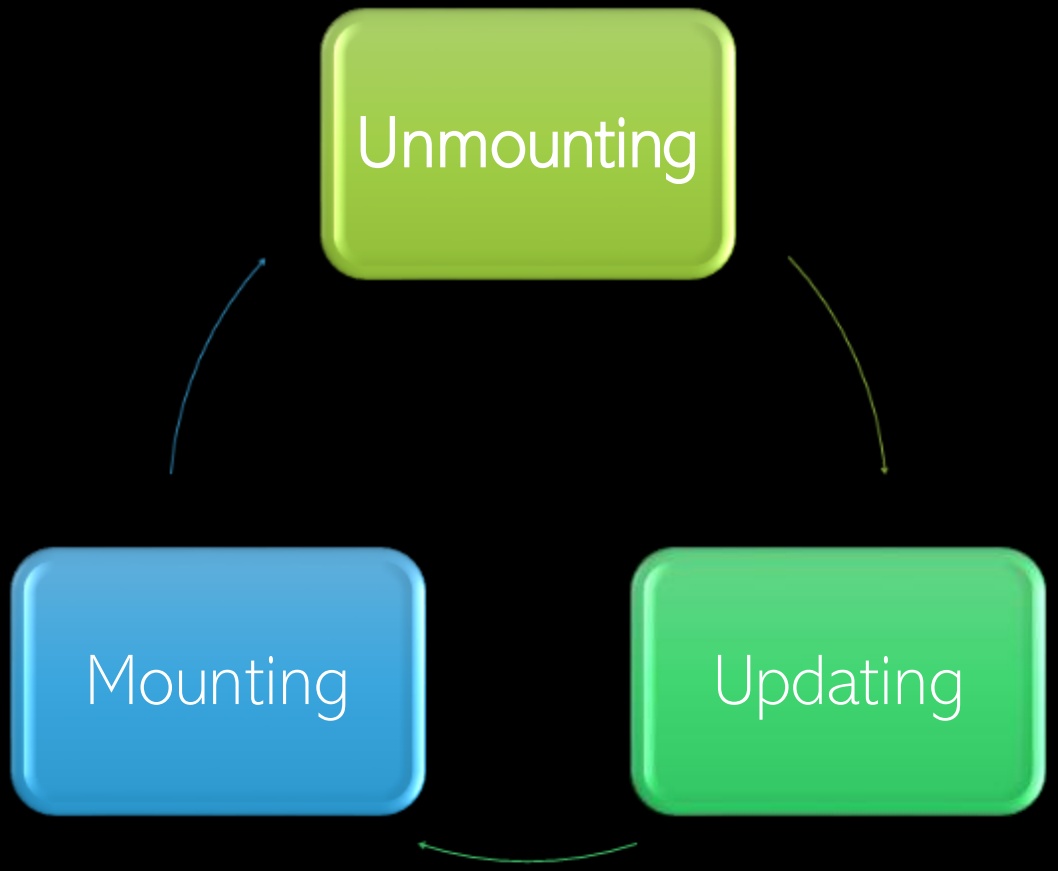
Updating:

Occurs whenever a change is made to the components state or props. React handles updates using 5 in-built methods:

1. **getDerivedStateFromProps()**
2. **shouldComponentUpdate()**
3. **render()**
4. **getSnapshotBeforeUpdate()**
5. **componentDidUpdate()**

Infosource: https://www.w3schools.com/react/react_lifecycle.asp

React JS Life Cycle



Unmounting:

Removes the component from the DOM. There is only one method called when a component is unmounted:

1. **componentWillUnmount()**

Infosource: https://www.w3schools.com/react/react_lifecycle.asp

React JS Pros

- Relatively easy to learn compared to other libraries
- Code reuse is possible as components can be reused or repurposed in other parts of development
- Utilizes a virtual document object model (VDOM) to allow for faster and more efficient processing than a real DOM. Updates made by the user do not rewrite all data, but instead update the specific change made.
- One-way data flow offers more stability to coding as manipulating sub data can not affect data upward
- Uses JSX which allows for more flexibility through use of a mixture of HTML and Javascript

React JS Cons

- Updated frequently which makes it hard for some to keep up with pace of changes
- Frequency makes it difficult to find resources to properly identify and utilize functions and features
- Only responsible for user interface. To create fully functional applications, more resources will be needed to cover backend and data storage.
- Uses JSX which can be complex to understand for some since it blends language usage

React JS Alternatives

- React is not the only front end tool out there....
- Vue is a framework that is more oriented to novice developers, but is very powerful and widely used.
- Angular is a TypeScript based framework used to build applications, and is the "A" in the MEAN stack of web development.
- And there are many others, with new libraries being built all the time.
  - Svelte
  - Ember JS
  - Riot JS
  - The list goes on...

- Presentation done by:
  - Vera Ekhator
  - Miles Coney
  - Mike Prentice