

## Web Front-End Development

### Week 12: React Lifecycle

#### React Lifecycle

<https://reactjs.org/docs/react-component.html#mounting>

React makes lifecycle hooks available through methods that are called throughout a component's lifecycle. Once you understand what hooks are available and when these methods get called you can use them to enhance your component's functionality.

Lifecycle methods are kind of like events – they get called automatically at various stages of a component's life. You can see the most commonly used lifecycle methods in this diagram:

<https://projects.wojtekmaj.pl/react-lifecycle-methods-diagram/>

#### Initial Rendering Phase

When an instance of a component is being created and inserted into the DOM, it's said to be mounting. The following lifecycle methods get called during Mounting:

`constructor()`

- The `constructor()` in a component is called before it's mounted
  - Call `super(props)` before any other statements
  - Initialize local state
  - Bind event handler methods

`render()`

- Responsible for returning a single root node (which may have many child nodes inside it)
- Should act as a pure function
  - Given the same input will return the same result each time it's invoked
  - not modify component state
- If you don't wish to render anything return null or false
- This method is the only required method in a class component

`componentDidMount()`

- This method gets called immediately after the component has been rendered to the DOM
- You can now safely perform any DOM querying operations as the component is ready

With the exception of the `render` method, all of these lifecycle methods can fire only once. After your components get added to the DOM, they can potentially update and re-render when a prop or state change occurs.

#### Updating

Updates occur when there's a state change and `setState()` calls `render()` or when a prop value changes after it has been rendered into the DOM.

`render()`

`componentDidUpdate(prevProps, prevState)`

- gets called after your component updates and the render method has been called
- good place to execute any code after the update takes place
- this method is not called for the initial render

### Unmounting

When a component is removed from the DOM it's called "unmounting". In applications with many components, it's very important to free up resources taken by the components when they are destroyed.

#### `componentWillUnmount()`

- gets called before a component is unmounted and destroyed
- perform any cleanup-related tasks here such as removing event listeners, stopping timers, etc. After this method gets called, your component is removed from the DOM

### Example

<https://repl.it/@aileenjp/react-favorites-lifecycle>

Open in separate window to view the console.

Lifecycle methods implemented in Favorite.js so you can see when they're called.