



What is lifecycle methods and why it is important?

- Around us everything goes through a cycle of taking birth, growing and at some point of time it will die.
- Consider trees, any software application, yourself, a div container or UI component in a web browser, each of these takes birth, grows by getting updates and dies.
- The lifecycle methods are various methods which are invoked at different phases of the lifecycle of a component.



Four phases of a React component

- The React component goes through the following phases
 - Initialization
 - Mounting
 - Update
 - Unmounting

Visual representation of the phases and the methods of ReactJs lifecycle.

Initialization

setup props and state

Mounting

componentWillMount

render

componentDidMount

Updation

props

componentWillReceiveProps

shouldComponentUpdate

componentWillUpdate

render

componentDidUpdate

states

shouldComponentUpdate

componentWillUpdate

render

componentDidUpdate

Unmounting

componentWillUnmount



Initialization

- In this phase the React component prepares for the upcoming tough journey, by setting up the initial states and default props, if any.
- The component is setting up the initial state in the constructor, which can be changed later by using the **setState** method.



Mounting

- After preparing with basic needs, state and props, our React Component is ready to mount in the browser DOM.
- This phase gives hook methods for before and after mounting of components.
- The methods which gets called in this phase are
 - `componentWillMount()`
 - `render()`
 - `componentDidMount()`



Mounting conti.....

- `componentWillMount()`
 - This method is executed just before the React Component is about to mount on the DOM.
 - This method is executed once in a lifecycle of a component and before first render.
 - Usage: This method is used for initializing the states or props, there is a huge debate going on to merge it with the constructor.



Mounting conti.....

- `render()`
 - This method is mounts the component onto the browser.
 - This is a pure method, which means it gives the same output every time the same input is provided.



Mounting conti.....

- `componentDidMount()`
 - This is the hook method which is executed after the component did mount on the dom.
 - This method is executed once in a lifecycle of a component and after the first render.
 - As, in this method, we can access the DOM
 - **Usage:** this is the right method to integrate API



Update

- This phase starts when the react component has taken birth on the browser and grows by receiving new updates.
- The component can be updated by two ways:
 - sending new props
 - updating the state.



Update Conti.....

- sending new props
 - The methods which gets called in this phase are :
 - `componentWillReceiveProps()`
 - `shouldComponentUpdate()`
 - `componentWillUpdate()`
 - `render()`
 - `componentDidUpdate()`



Update Conti.....

- `componentWillReceiveProps()`
 - This method gets executed when the props have changed and is not first render.
 - Sometimes state depends on the props, hence whenever props changes the state should also be synced, This is the method where it should be done.
 - **Usage:** This is how the state can be kept synced with the new props.



Update Conti.....

- **shouldComponentUpdate()**
 - This method tells the React that when the component receives new props or state is being updated, should React re-render or it can skip rendering?
- **componentWillUpdate()**
 - This method is executed only after the `shouldComponentUpdate()` returns true
 - This method is only used to do the preparation for the upcoming render, similar to `componentWillMount()` or constructor.



Update Conti.....

- **render()**
 - This method is mounts the component onto the browser
- **componentDidUpdate()**
 - This method is executed when the new updated component has been updated in the DOM.
 - This method is used to re trigger the third party libraries used to make sure these libraries also update and reload themselves.



Update Conti.....

- updating the state
 - The methods which gets called in this phase are :
 - `shouldComponentUpdate()`
 - `componentWillUpdate()`
 - `render()`
 - `componentDidUpdate()`



Unmounting

- In this phase, the component is not needed and the component will get unmounted from the DOM.
- The method which is called in this phase :
 - `componentWillUnmount()`



Unmounting Conti....

- **componentWillUnmount**
 - This method is the last method in the lifecycle.
 - This is executed just before the component gets removed from the DOM.
 - **Usage:** In this method, we do all the cleanups related to the component.
 - **For example,** on logout, the user details and all the auth tokens can be cleared before unmounting the main component.