**WEEK 6- REACT HO4: “component lifecycle”✅ 1. Explain the Need and Benefits of Component Lifecycle**

React components go through different phases — **Mounting**, **Updating**, and **Unmounting**. The component lifecycle provides built-in methods (called lifecycle hooks) that allow you to run specific code at each stage.

**Benefits:**

* Helps in **data fetching** when the component is loaded (componentDidMount)
* Allows **error handling** (componentDidCatch)
* Enables **clean-up tasks** like removing event listeners before a component is destroyed
* Optimizes performance and control over rendering

**✅ 2. Identify Various Lifecycle Hook Methods**

Here's a list of common **class-based lifecycle methods** in React:

| **Phase** | **Lifecycle Methods** |
| --- | --- |
| Mounting | constructor(), componentDidMount() |
| Updating | shouldComponentUpdate(), componentDidUpdate() |
| Unmounting | componentWillUnmount() |
| Error Handling | componentDidCatch() |

**✅ 3. List the Sequence of Steps in Rendering a Component**

When a class component is rendered, React follows this sequence:

1. constructor() – initialize state
2. render() – return JSX
3. componentDidMount() – run after initial render (used for API calls)
4. Any state change causes re-render
5. If there's an error in rendering or lifecycle – componentDidCatch() is called

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