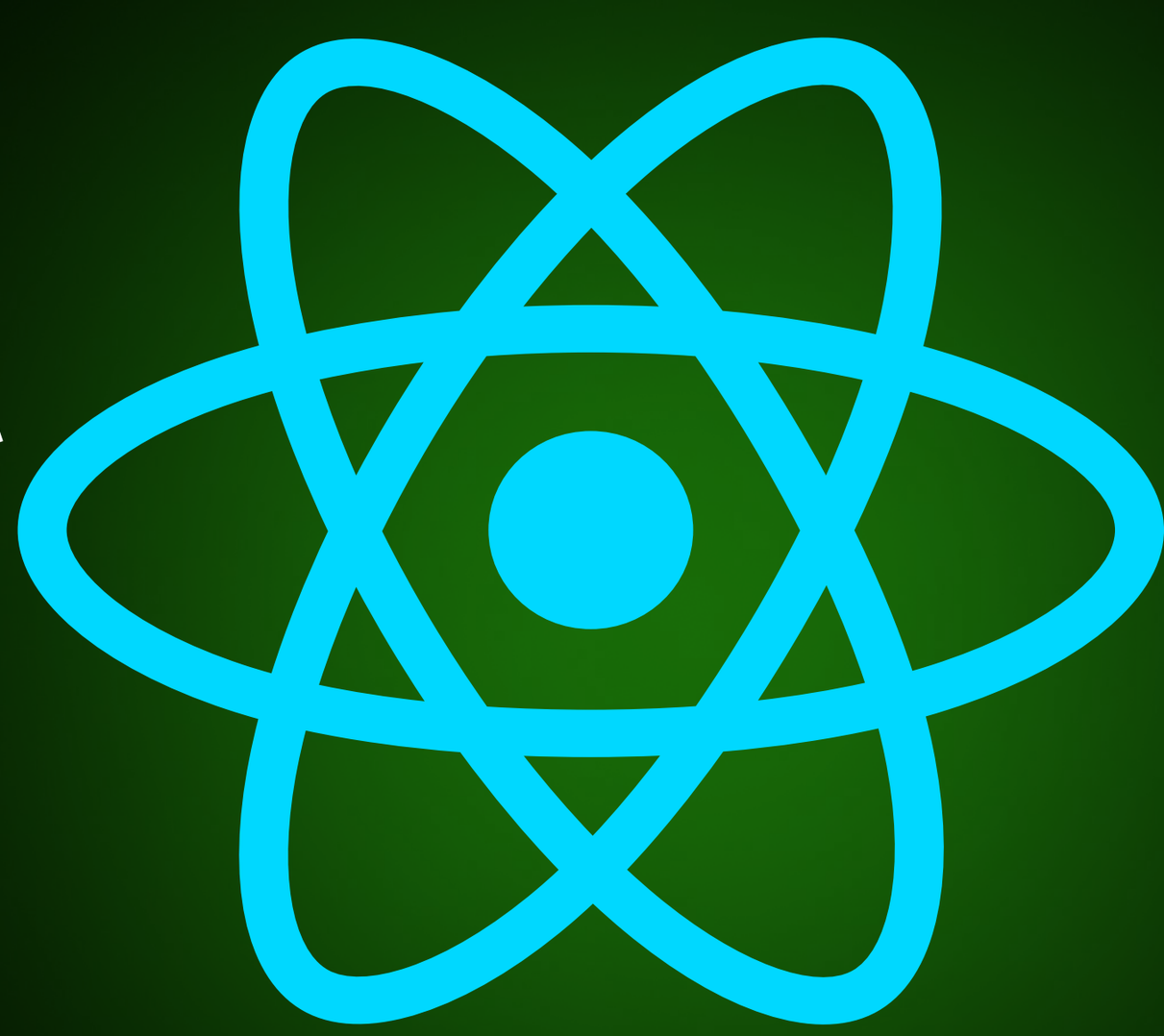
Mastering React's useEffect Hook

Lets Start!



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What is useEffect?

The **useEffect** hook is a built-in React hook that allows you to perform side effects in your functional components.

Side effects include operations like data fetching, subscriptions, or manually changing the DOM.

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Basic Syntax

App.jsx

```
useEffect(() => {}, [dependencies]);
```

The first argument is a function where you write your side effect.
eg: Refetch data

The second argument is an array of dependencies that dictate when the effect runs.

Every time the value in dependency array changes the function will re executed

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Running Effects on Mount and Unmount

If you want the effect to run only once when the component mounts, pass an empty dependency array:

App.jsx

```jsx
useEffect(() => {
  // eg. Fetch initial data on render
  return () => {
    // eg. Remove any event listeners
  };
}, []);
```

Mounting is when a component is first rendered and added to the DOM.
Unmounting is when a component is removed from the DOM, allowing it to perform cleanup tasks.

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Effects with Dependencies

When you include dependencies in the array, the effect runs whenever any of those dependencies change:

App.jsx

```jsx
useEffect(() => {
  // Runs on mount and whenever `count` changes
}, [count]);
```

The useEffect will execute this function every time the value of count changes

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Cleanup Function

You can return a cleanup function from your effect, which React calls when the component unmounts or before re-running the effect:

App.jsx

```jsx
useEffect(() => {
  // Set a timer to execute after 1 second
  const timer = setTimeout(() => {
    console.log("Timer expired"); // Log message on timer expiration
  }, 1000);

  // Cleanup function to clear the timer on unmount
  return () => clearTimeout(timer);
}, []); // Runs only once on mount
```

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Multiple Effects

You can use multiple useEffect hooks in a single component to separate different side effects:

App.jsx

```jsx
useEffect(() => {
  // Effect 1
}, []);

useEffect(() => {
  // Effect 2
}, [dependency]);
```

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Common Use Cases

Fetching data from APIs

Setting up subscriptions or timers

Manually changing the DOM (e.g., focus on an input)

Running cleanup tasks

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Project to practice

Overview:

Fetches and displays posts from the JSON Placeholder API using React, highlighting the useEffect hook for data fetching.

Key Features:

- **Data Fetching:** Retrieves posts from https://jsonplaceholder.typicode.com/posts.
- **Loading State:** Shows a loading message while fetching.
- **Error Handling**: Displays error messages if the fetch fails.
- **Dynamic Rendering**: Lists post titles and content.

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Example Snippet

App.jsx

```
useEffect(() => {
  const fetchPosts = async () => {
    const response = await
fetch('https://jsonplaceholder.typicode.com/posts');
    const data = await response.json();
    setPosts(data);
  };
  fetchPosts();
}, []); // Runs once on mount
```

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Wrapping Up

The useEffect hook is powerful for managing side effects in your functional components. Remember to specify dependencies carefully to avoid unnecessary renders or missed updates.

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Want to learn more about **React** hooks and **state management**?

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