

Report Day: 7.2

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Task:

Using useEffect for API Calls in React (with fetch)

1. Introduction

In React, the useEffect hook is used to perform **side effects**, such as fetching data, manipulating the DOM, setting timers, etc.

When making **API calls**, you typically use useEffect to ensure that the call happens after the component has mounted.

2. Syntax of useEffect

```
jsx

useEffect(() => {
  // Side effect (like API call)
}, []);
```

4. Example

- useState([]) – Initializes the state to hold the fetched data.
- useEffect(() => {...}, []) – Runs once on component mount.
- fetch() – Makes the GET request.
- .then(response => response.json()) – Parses the response.
- setUsers(data) – Updates state with received data.
- catch() – Handles errors (network issues, server errors, etc).

```
import React, { useEffect, useState } from 'react';

function UsersList() {
  const [users, setUsers] = useState([]);

  useEffect(() => {
    fetch('https://jsonplaceholder.typicode.com/users')
      .then(response => response.json())
      .then(data => setUsers(data))
      .catch(error => console.error('Error fetching users:', error));
  }, []);

  return (
    <div>
      <h2>Users:</h2>
    </div>
  );
}
```

5. Best Practices

Always Handle Errors

Don't ignore errors – users should get feedback if something goes wrong.

Show Loading State

Indicate that data is being fetched.

Use async/await with useEffect

You can't directly use async in useEffect(), but you can define an inner function.

6. Conditional Fetching

If the API call depends on a condition (e.g., a prop or state), include that in the dependency array.

Conclusion

Using useEffect with fetch is a powerful way to integrate data into your React applications.

Always remember to handle **loading**, **error**, and **cleanup** states for a smooth user experience.

With these patterns, your apps will be more robust and user-friendly.