State update batching in React refers to the process where React groups multiple state updates together and processes them in a single re-render cycle. This helps improve performance by reducing the number of re-renders that occur.

**Multiple State Updates in a Single Event Handler**

When you have multiple state updates in a single event handler or lifecycle method, React will batch these updates together and perform a single re-render.

function handleClick() {

setState1(value1);

setState2(value2);

// Both setState1 and setState2 will be batched into a single re-render

}

**Asynchronous Updates**

If the state updates are asynchronous (e.g., inside a setTimeout or a promise), React might not batch them unless you use features like ReactDOM.flushSync.

setTimeout(() => {

setState1(value1);

setState2(value2);

// These might not be batched in older versions of React

}, 1000);

**Automatic Batching in React 18**

Starting from React 18, automatic batching is expanded to cover more scenarios, including updates inside async functions, promises, and timeouts.

async function fetchData() {

const data = await fetchSomeData();

setState1(data.value1);

setState2(data.value2);

// These updates will be batched in React 18

}

Batching helps in optimizing performance by reducing the number of re-renders, making your React applications more efficient.









