VIRTUAL DOM IN REACT

WHAT IS DOM?

DOM stands for "Document Object Model". Which in simple words represents the UI of the application. Whenever the UI changes, the DOM gets updated.

As web developers, we usually end up using JavaScript to update/ the DOM.

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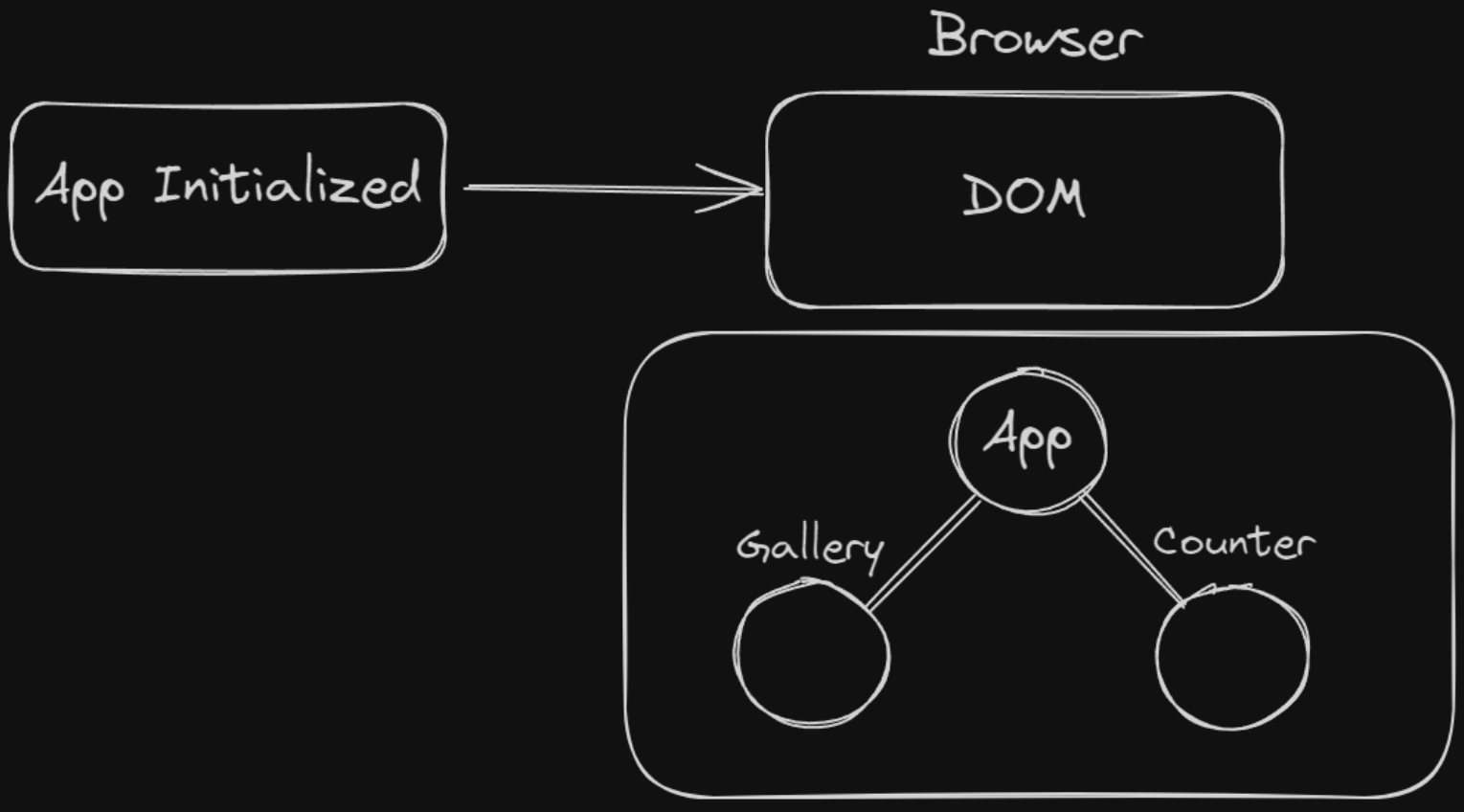
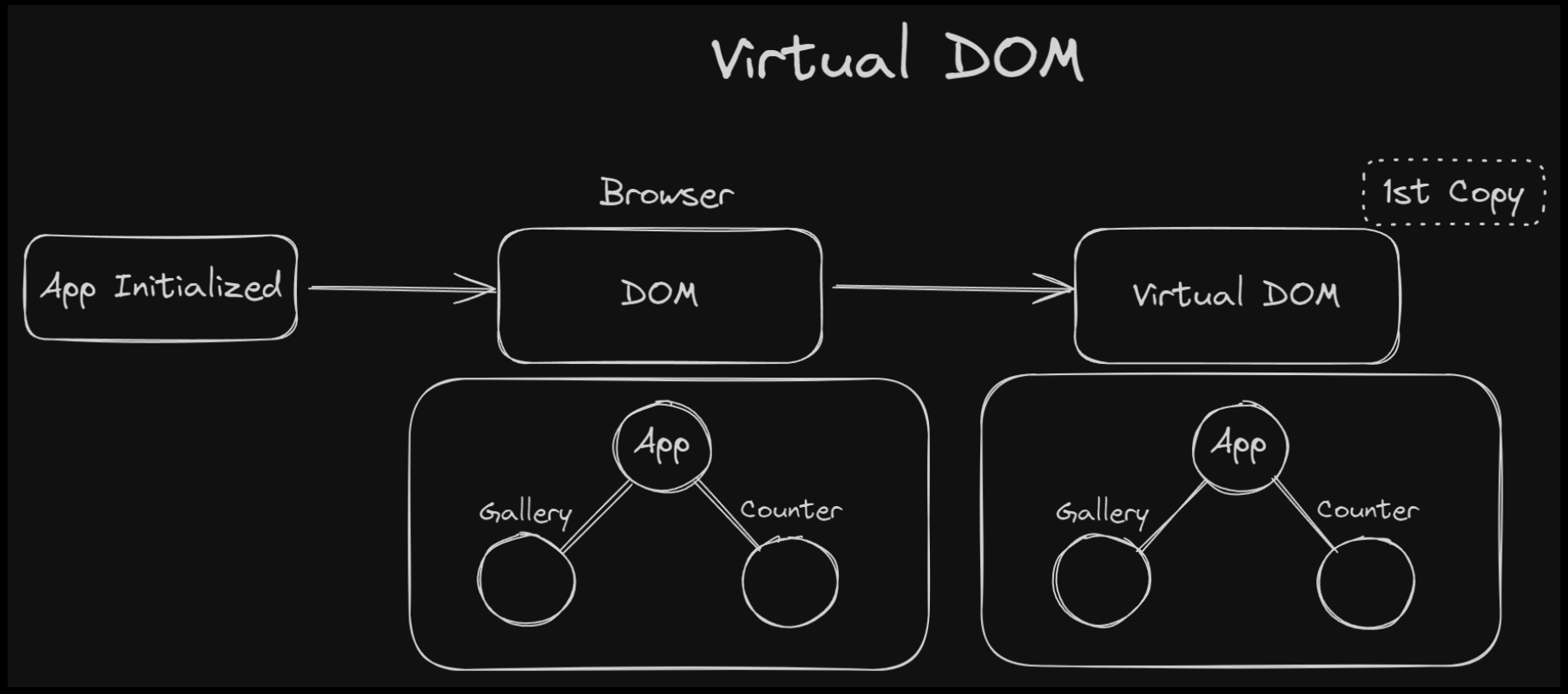
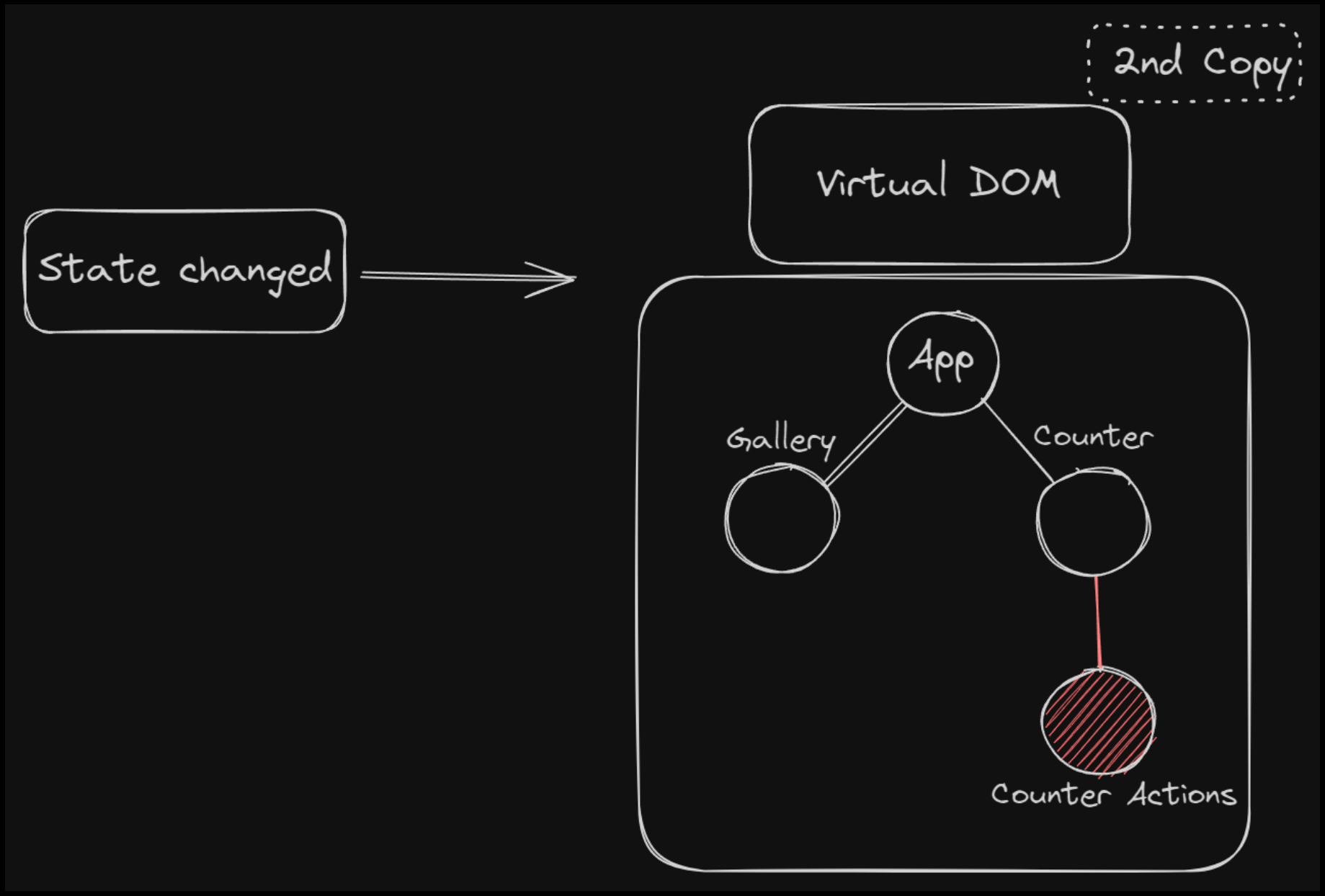
WHAT IS VIRTUAL DOM?

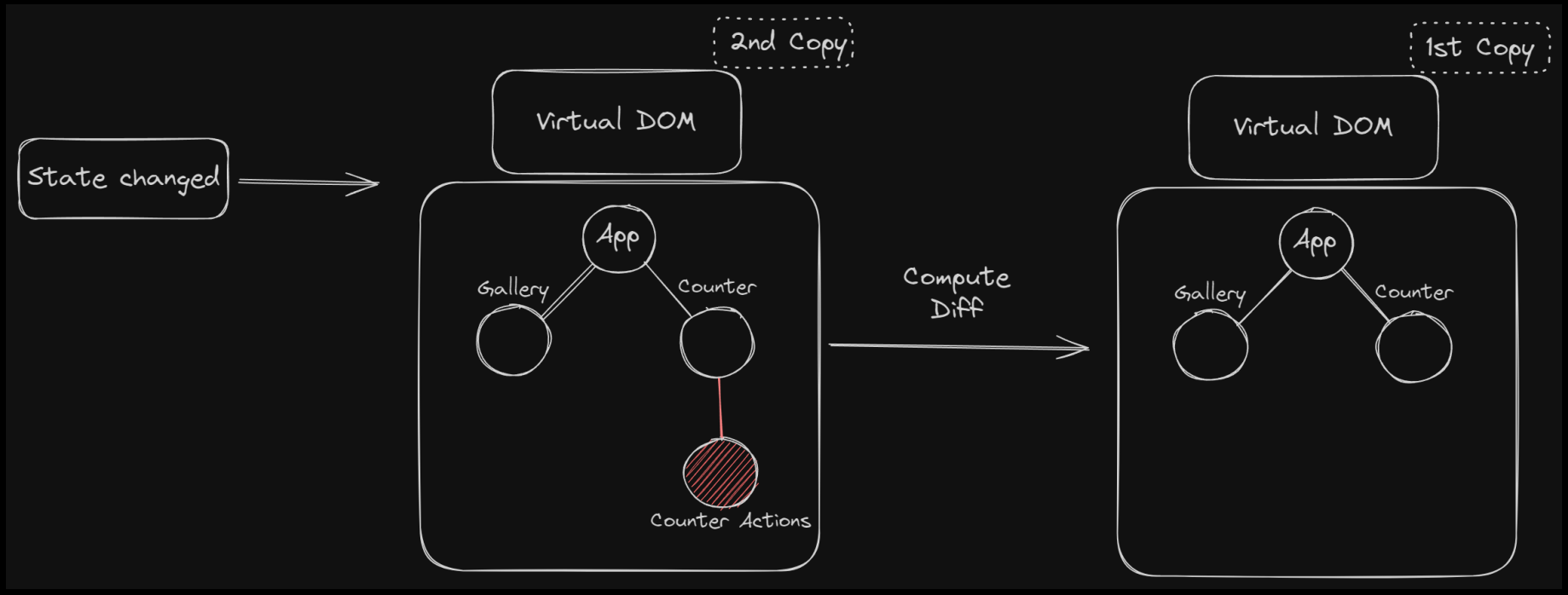
The Virtual DOM is an in-memory representation of the real DOM elements. It's like a lightweight copy of the actual DOM, and it allows React to do its magic behind the scenes, optimizing updates and rendering speed.

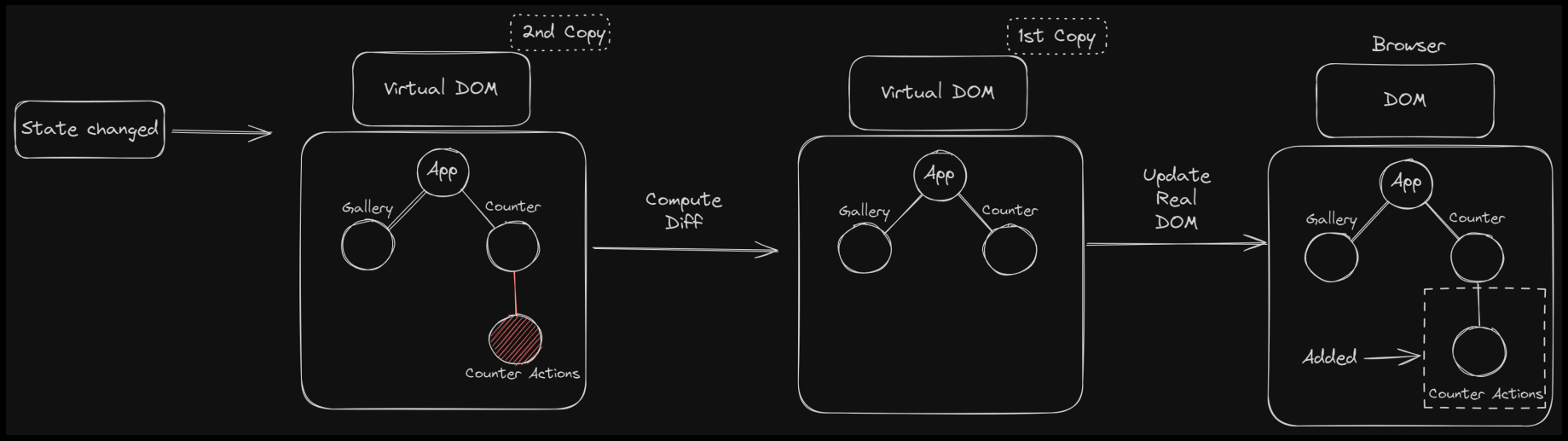
Virtual DOM




Virtual DOM
Browser
1st Copy
App Initialized
DOM
Virtual DOM
App
Gallery
Counter
App
Gallery
Counter


2nd Copy
Virtual DOM
State changed
App
Gallery
Counter
Counter Actions


State changed
2nd Copy
Virtual DOM
App
Gallery
Counter
Counter Actions
Compute
Diff
1st Copy
Virtual DOM
App
Gallery
Counter


State changed
2nd Copy
Virtual DOM
App
Gallery
Counter
Counter Actions
Compute Diff
1st Copy
Virtual DOM
App
Gallery
Counter
Update Real DOM
Browser
DOM
App
Gallery
Counter
Added
Counter Actions

To recap, the Virtual DOM allows React to perform efficient updates by only redrawing nodes that have changed. This results in a significant performance gain, especially in complex applications.

RECAP AND BEST PRACTICES

- Recap: Virtual DOM updates only what is necessary
- Best Practice: Minimize state updates to optimize React's performance better
- Remember: Virtual DOM is not just a performance feature, it is a programming model that simplifies UI logic for React