React

KEY PROP

KEY PROP

- Special prop that we use to tell the diffing algorithm that an element is **unique**

- Allows React to **distinguish** between multiple instances of the same component type

- When a key **stays the same across renders**, the element will be kept in the DOM (*even if the position in the tree changes*)

    1 *Using keys in lists*

- When a key **changes between renders**, the element will be destroyed and a new one will be created (*even if the position in the tree is the same as before*)

    2 *Using keys to reset state*

👎 NO KEYS

```
<ul>
  <Question question={q[1]} />
  <Question question={q[2]} />
</ul>
```

⬇ ADDING NEW LIST ITEM

```
<ul>
  <Question question={q[0]} />
  <Question question={q[1]} />
  <Question question={q[2]} />
</ul>
```

- Same elements, but **different position in tree**, so they are removed and recreated in the DOM (*bad for performance*)

👍 WITH KEYS

```
<ul>
  <Question key='q1' question={q[1]} />
  <Question key='q2' question={q[2]} />
</ul>
```

⬇ ADDING NEW LIST ITEM

```
<ul>
  <Question key='q0' question={q[0]} />
  <Question key='q1' question={q[1]} />
  <Question key='q2' question={q[2]} />
</ul>
```

- **Different position in the tree**, but the key **stays the same**, so the elements will be kept in the DOM 👉 **Always use keys!**

👉 If we have the same element at the same position in the tree, the **DOM element and state** will be kept

```
<QuestionBox>
  <Question
    question={{
      title: 'React vs JS',
      body: 'Why should we use React?',
    }}
    key="q23"
  />
</QuestionBox>
```

NEW QUESTION IN SAME POSITION

```
<QuestionBox>
  <Question
    question={{
      title: 'Best course ever :O',
      body: 'This is THE React course!',
    }}
  />
</QuestionBox>
```

Question state (answer):

| React allows us to build apps faster |

State was preserved. **NOT** what we want

Question state (answer):

| React allows us to build apps faster |

👍 **WITH KEY**

👉 If we have the same element at the same position in the tree, the **DOM element and state** will be kept

```
<QuestionBox>
  <Question
    question={{
      title: 'React vs JS',
      body: 'Why should we use React?',
    }}
    key="q23"
  />
</QuestionBox>
```

NEW QUESTION IN SAME POSITION

```
<QuestionBox>
  <Question
    question={{
      title: 'Best course ever :O',
      body: 'This is THE React course!',
    }}
    key="q89"
  />
</QuestionBox>
```

Question state (answer):

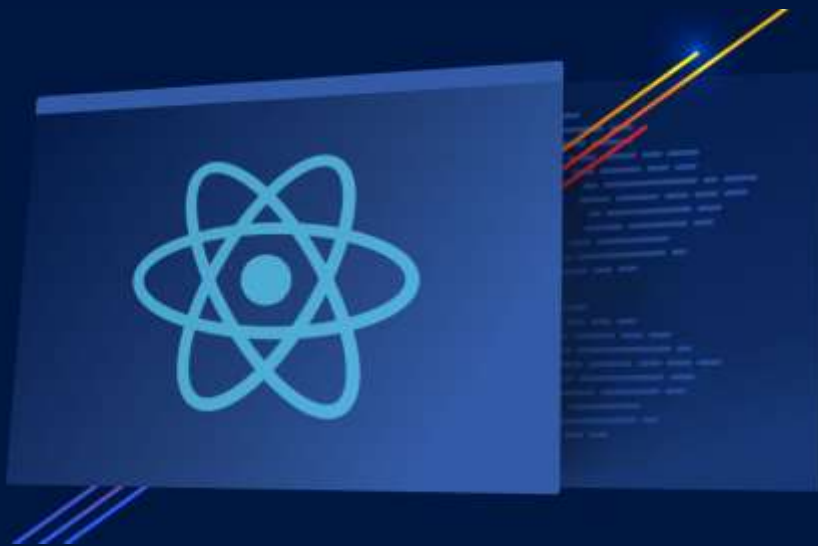| React allows us to build apps faster |

State was **RESET**

Question state (answer):

| |