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# React



Why Separate?

# React DOM



# React

It is the **Core Library** responsible for defining & managing the components of your application.

It provides the mechanisms for creating and updating UI components in a declarative and efficient manner.

```
...  
React.jsx  
  
import React from 'react';  
  
const Greetings = () => {  
  return <div>Hello, Developers!</div>;  
};  
  
export default Greetings;
```



# React DOM

It is a separate package that provides the **bridge between** React **virtual DOM** and the browser's **actual DOM**.

It is responsible for **rendering React components** into the HTML DOM and handling events such as user input etc.

React DOM exposes methods like **render()** that you use to render your React components into the DOM.



This process involves taking your React components, reconciling them with the virtual DOM, and efficiently updating the actual DOM to reflect any changes.



React-DOM.jsx

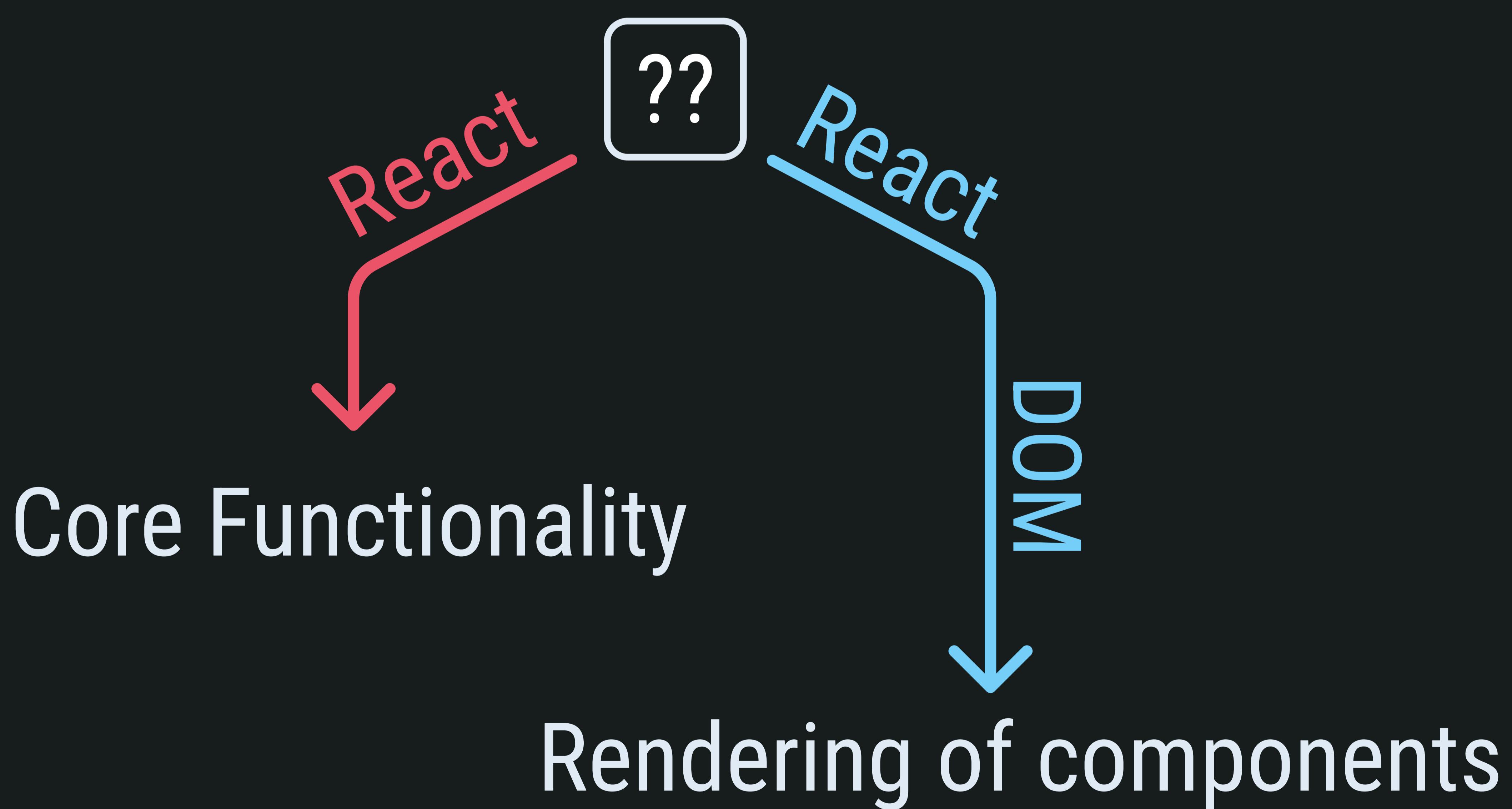
```
import React from 'react';
import ReactDOM from 'react-dom';
import App from './App';

ReactDOM.render(<App />, document.getElementById('root'));
```

# Why Separate?

React focuses on the core functionality of defining and managing components.

While React DOM handles the rendering of those components into the browser DOM.





Separating these concerns allows React to remain framework-agnostic, meaning you can use it to build UI for various platforms.

Working beyond just web browsers, such as mobile apps with React Native or virtual reality experiences with React 360.

Meanwhile, React DOM specifically targets web development, providing the necessary functionality to interact with the browser environment.



# Imagine As

**React (Writer)** As the playwright, you're responsible for writing the script, defining the characters, and designing the scenes.

Your script (React components) outlines the structure and behavior of the play.



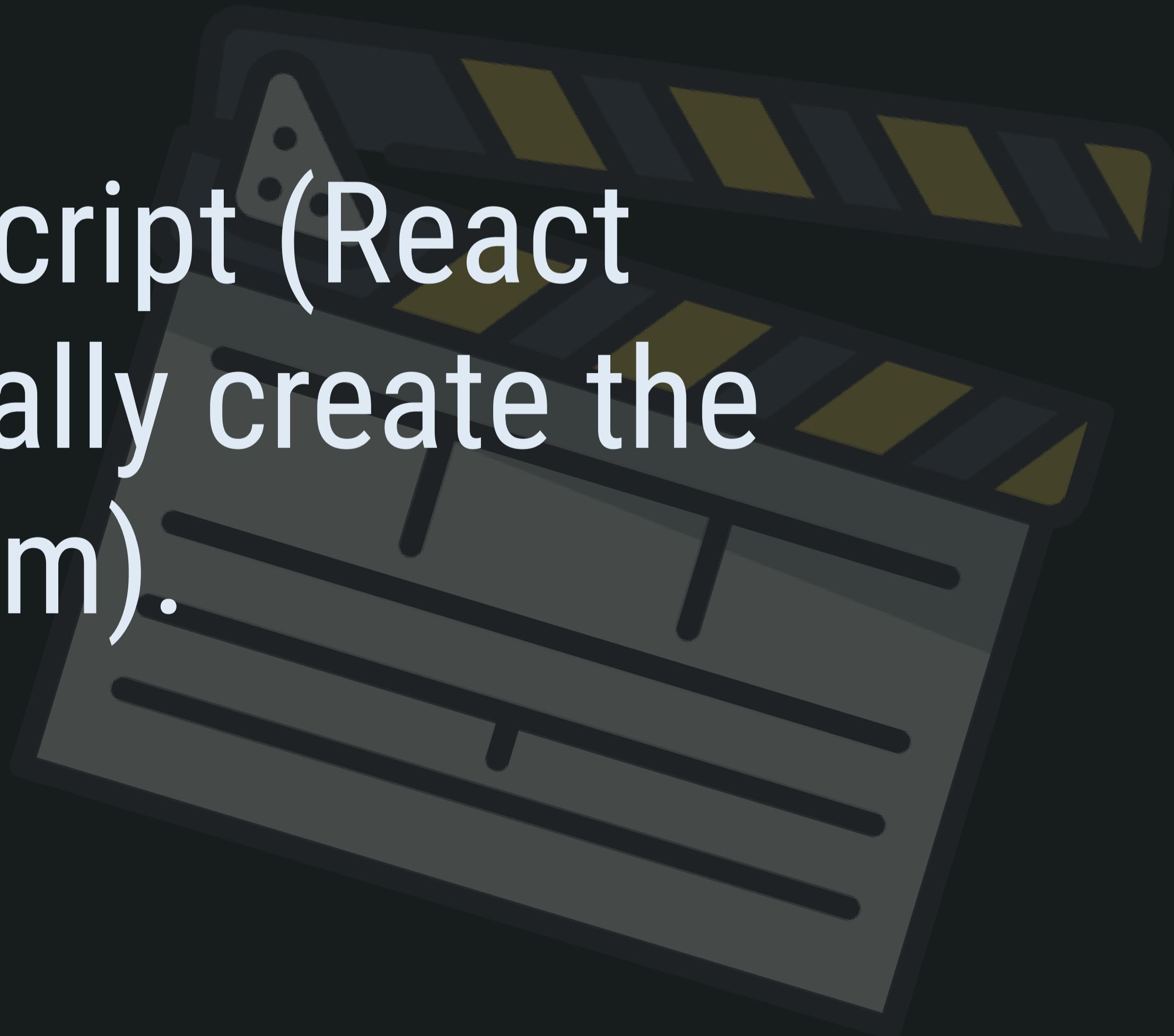
Programmers Writing  
**Code & Logic.**



**React DOM (Stage crew)** They are responsible for bringing the playwright's vision to life on the stage.

They handle tasks such as building sets, arranging props, and managing lighting and sound cues.

Their role is to take the script (React components) and physically create the performance (Render them).



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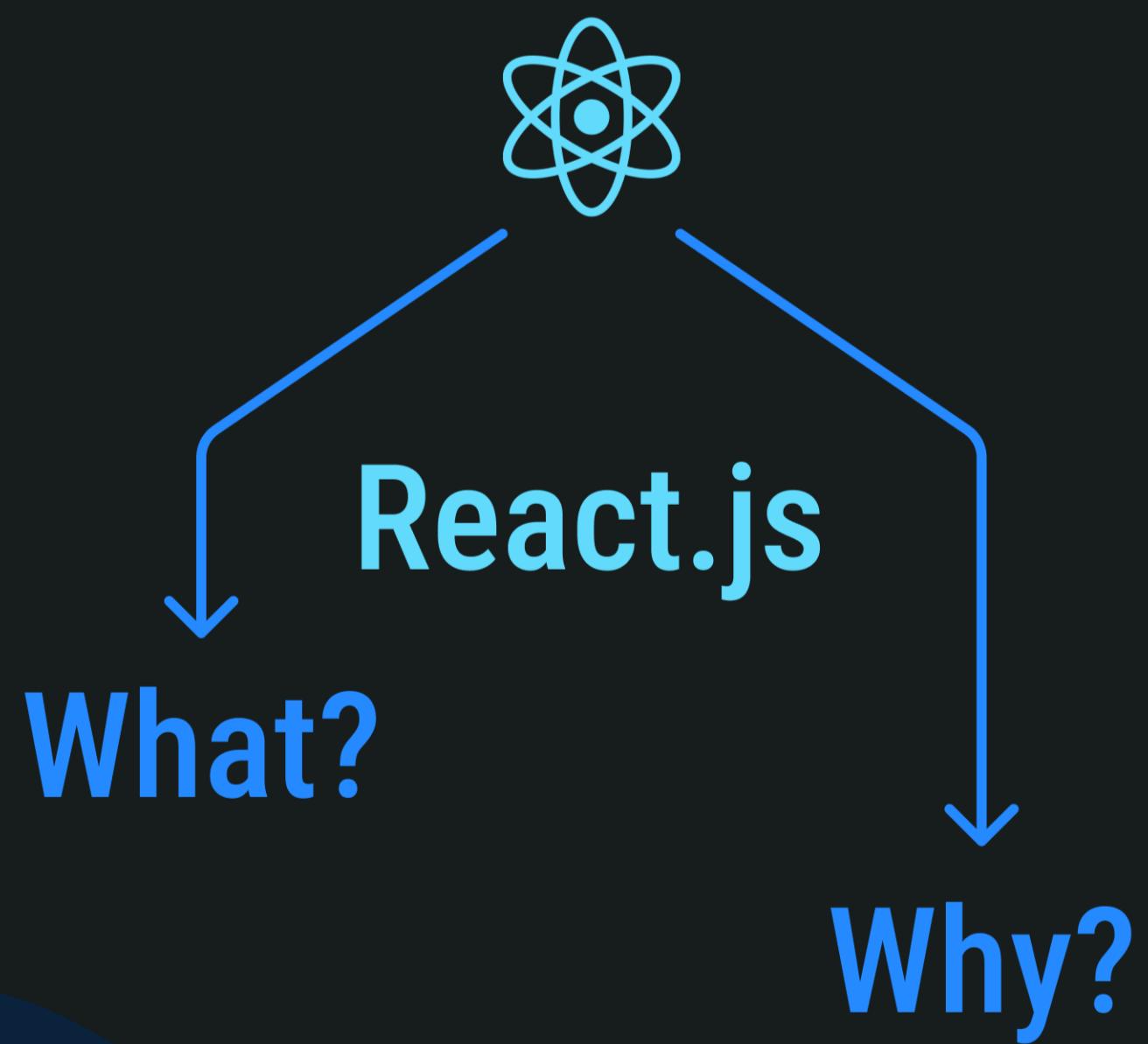
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## Learn What is React & Why use it?

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### What?

It is a popular **JS library** used for building UI for web applications.



It allows developers to create **dynamic, interactive UI components** that can efficiently update and render changes when the underlying data changes.

React is open source & released by **Meta (Facebook)** in **2013**.



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### Why?

#### Component Based Architecture

React follows a **component-based architecture**, where UIs are divided into reusable components.

This approach makes it easier to maintain complex UIs as each component encapsulates its **own logic** and state.

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