

Learning React.js with Principles of Programming Languages

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React JS

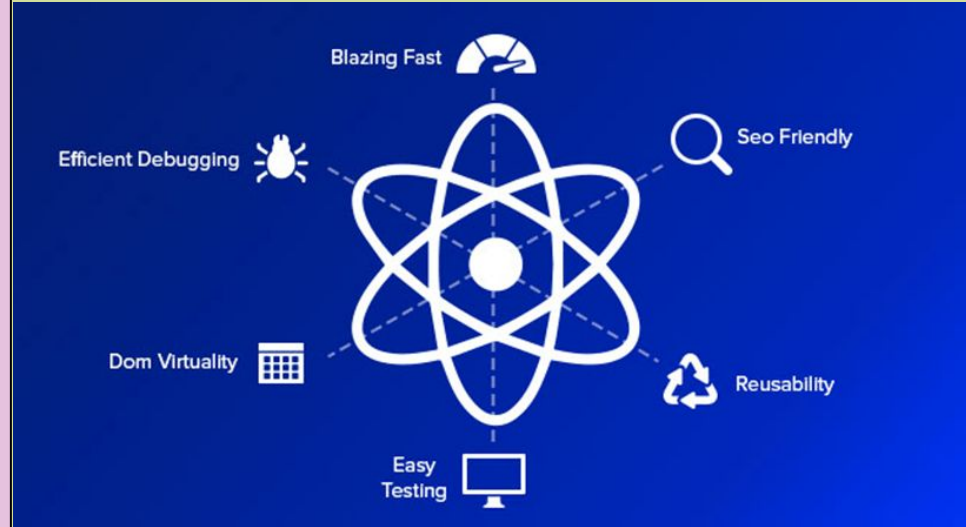


INTRODUCTION

What is React.js?

- Powerful JavaScript library for building user interfaces
- Created by FaceBook
- Uses JavaScript

Commonly used for web applications, and it provides a lot of advantages



Why React.js?

- React makes use of components (similar to functions)
- Virtual DOM (updates real DOM depending on changes)
- Declarative Programming Language

Basic Structure Of A React Component

React

```
import React from 'react';


function App(props) {
  return (
    <div className='App'>
      <h1>Hello React.</h1>
    </div>
  );
}
```

UI Component

Hello React.

How it relates?

- Functions as values: Components are basically functions
- Higher Order Functions: React uses higher-order functions frequently
- Mutability: React uses mutability and immutability for different aspects.



The diagram illustrates a higher-order component (HOC) pattern in React. It features a code editor with the following code:

```
1 function higherOrderComponent(WrappedComponent) {  
2   return (props) => {  
3     return <WrappedComponent {...props} />;  
4   }  
5 }  
6  
7 const Component = (props) => {  
8   return <h1>Hello {props.name}!</h1>  
9 };  
10  
11 const NewComponent = higherOrderComponent(Component);  
12  
13 const element = <NewComponent name="React" />;
```

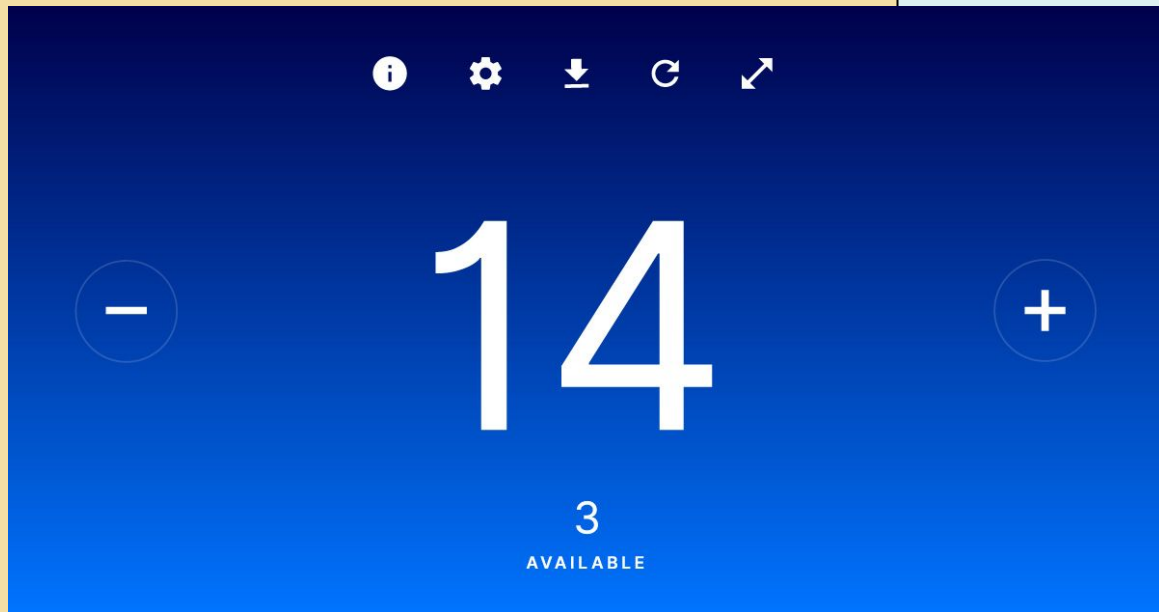
Annotations with arrows point to specific parts of the code:

- "Taking higher order component as an argument" points to the `WrappedComponent` parameter in the `higherOrderComponent` function signature.
- "returning new component" points to the `<WrappedComponent {...props} />` JSX element inside the `higherOrderComponent` function.
- "Passing component to higher order component as an argument" points to the `Component` argument passed to `higherOrderComponent` on line 11.

Counter App

Section 1, Chapter Title

Let's build a counter web app



SUMMARY

1

What is React.js? A powerful JavaScript library for building user interfaces

2

How it relates to this course? Functions as values, Higher Order Functions, Mutability

3

Building a counter web app

THANK YOU