

What is component in react ?

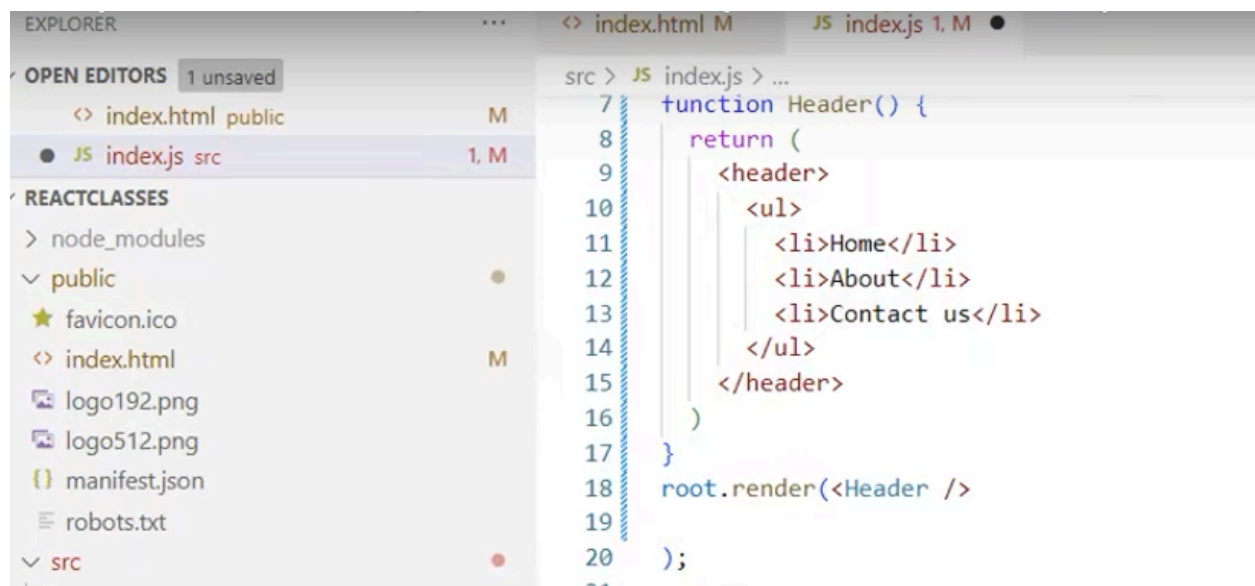
ANS: A **component** in React is like a building block for your website. Each feature or part of the website is divided into these components. For example, a button, a form, or a navigation bar can each be a component. Each component contains its own set of code that controls how that particular feature looks and works. By using components, you can build and organize your website more efficiently, making it easier to manage and update different parts of the site.

- Component means it contains some code (of **html + css +javascript**)

## Types of components

- 1.Functional component → if we render the data by creating function and return to display it on the browser is called functional component
- 2.Class component → rendering data by using class is called class component

## 1.Functional Component



The screenshot shows a code editor with two files: index.html and index.js. The index.html file contains a simple HTML structure with a header and a list of links. The index.js file contains a functional component named Header() that returns the HTML structure. The component is then rendered in the root of the application.

```
src > JS index.js > ...
7  function Header() {
8      return (
9          <header>
10             <ul>
11                 <li>Home</li>
12                 <li>About</li>
13                 <li>Contact us</li>
14             </ul>
15         </header>
16     )
17 }
18 root.render(<Header />
19 );
20
```

Like above we write the functional component and we call the function.

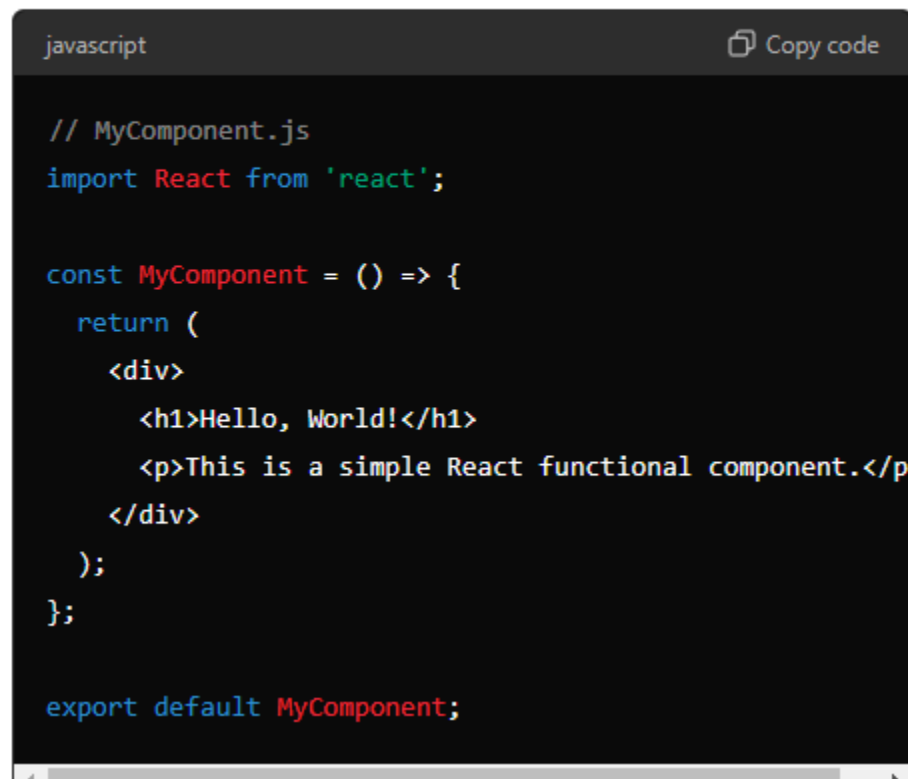
To create a component, write a JavaScript file with the functional component, which can be called and rendered wherever needed in the application.

Example:

Certainly! Here's a sample code example demonstrating how to create a simple functional component in React, write it in a JavaScript file, and then render it in your application:

## Step 1: Create the Functional Component

First, create a new JavaScript file, e.g., `MyComponent.js`.



```
// MyComponent.js
import React from 'react';

const MyComponent = () => {
  return (
    <div>
      <h1>Hello, World!</h1>
      <p>This is a simple React functional component.</p>
    </div>
  );
};

export default MyComponent;
```

`export default MyComponent;` → this line is the syntax to export the component and to use in other components.

Like the image below, we import it and display it wherever we want.

## Step 2: Use the Component in Your Application

Now, import and use this component in your main application file, e.g., `App.js`.

```
javascript Copy code  
  
// App.js  
import React from 'react';  
import MyComponent from './MyComponent';  
  
const App = () => {  
  return (  
    <div>  
      <MyComponent />  
    </div>  
  );  
};  
  
export default App;
```

## Step 3: Render the App Component

Finally, make sure your `index.js` file renders the `App` component to the DOM.

```
javascript Copy code  
  
// index.js  
import React from 'react';  
import ReactDOM from 'react-dom';  
import App from './App';  
  
ReactDOM.render(<App />, document.getElementById('root'))
```

Steps to create a Class component ?

### Steps to Create a Class Component:

1. Import React:

- You need to import React to use its features.

2. Create a Class:

- Define a class that extends `React.Component`. This class will have a `render` method.

3. Define the `render` Method:

- The `render` method returns the JSX (HTML-like syntax) that defines what the component will look like.

4. Export the Component:

- Export the class so it can be used in other parts of the application.

### Example:

Here's a step-by-step example of a simple class component:

1. Create the File:

- Create a new file named `MyClassComponent.js`.

2. Write the Code:

```
javascript Copy code  
  
// Step 1: Import React  
import React from 'react';  
  
// Step 2: Create a Class Component  
class MyClassComponent extends React.Component {
```

```
// Step 3: Define the render Method
render() {
  return (
    <div>
      <h1>{this.state.message}</h1>
    </div>
  );
}
}

// Step 4: Export the Component
export default MyClassComponent;
```

### 3. Use the Component:

- To use this class component, import it into another file, such as `App.js`.

```
javascript Copy code

import React from 'react';
import MyClassComponent from './MyClassComponent';

const App = () => {
  return (
    <div>
      <MyClassComponent />
    </div>
  );
};

export default App;
```



### Explanation:

- **Import React:** Essential to use React features.
- **Create a Class:** `MyClassComponent`` extends `React.Component``.
- **Render Method:** Contains the JSX that defines the component's UI.
- **State:** Optional, but allows for dynamic content (in this example, it holds a message).
- **Export:** Allows the component to be used elsewhere in the application.