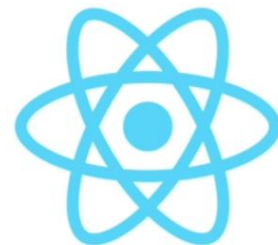


React JS

WHAT IS REACT?

A JavaScript library / framework created and maintained by Facebook that is used for building user interfaces

React gives us a way to build websites & UIs with organized and reusable components



UI COMPONENTS

OUTPUT / HTML (JSX)

LOGIC (JS)

STYLE (CSS)

Optional: Can also be separate

```
<App />
```

```
<MenuBar />
```

```
<MainPage />
```

```
<ListItem />
```

```
<ListItem />
```

```
<ListItem />
```

```
<SiteFooter />
```

React JS

WHAT YOU SHOULD KNOW

- ✓ JavaScript Basics - Data structures, loops, functions, etc
- ✓ The DOM - Document Object Model
- ✓ High Order Array Methods - forEach, map, filter, reduce
- ✓ Arrow Functions
- ✓ Async Programming & Fetch API
- ✓ NPM (Node Package Manager)



DECLARATIVE CODE

W

React is very declarative.

We can picture the result of this code by the declarative elements

```
<App>
  <Header title='Employee Manager' />
  <EmployeeSearch />
  <EmployeeList employees={employees} />
  <Footer />
</App>
```

Components

Props

State

Events

✓ Performance



3. Environment Setup

4. Code Repos

2. React Basics & JSX

1. Feedback Project Intro

2. Create React App

React JS

npx create-react-app Keep-Note --use-npm

```
C:\Users\Dell\Desktop\Sudip>npx create-react-app keep-note --use-npm

Creating a new React app in C:\Users\Dell\Desktop\Sudip\keep-note.

Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...

added 1394 packages in 6m

210 packages are looking for funding
  run `npm fund` for details

Initialized a git repository.

Installing template dependencies using npm...

added 56 packages in 31s

210 packages are looking for funding
  run `npm fund` for details
Removing template package using npm...

removed 1 package, and audited 1450 packages in 10s

210 packages are looking for funding
  run `npm fund` for details

6 high severity vulnerabilities

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.

Created git commit.

Success! Created keep-note at C:\Users\Dell\Desktop\Sudip\keep-note
```

React JS

Success! Created keep-note at C:\Users\Dell\Desktop\Sudip\keep-note
Inside that directory, you can run several commands:

`npm start`

Starts the development server.

`npm run build`

Bundles the app into static files for production.

`npm test`

Starts the test runner.

`npm run eject`

Removes this tool and copies build dependencies, configuration files and scripts into the app directory. If you do this, you can't go back!

We suggest that you begin by typing:

`cd keep-note`

`npm start`

Happy hacking!

```
C:\Users\Dell\Desktop\Sudip\keep-note>code .
```

```
C:\Users\Dell\Desktop\Sudip\keep-note>
```

You can now view keep-note in the browser.

Local: <http://localhost:3000>

On Your Network: <http://192.168.1.68:3000>

Note that the development build is not optimized.
To create a production build, use `npm run build`.

webpack compiled **successfully**

React JS

3. Initializing React

```
JS index.js M X JS App.js U # index.css M
src > JS index.js
1
2 import React from 'react'
3 import ReactDOM from 'react-dom'
4 import './index.css'
5 import App from './App'
6
7 ReactDOM.render(
8   <React.StrictMode>
9   <App />
10 </React.StrictMode>
11 , document.getElementById('root'))

src > JS App.js > [e] default
1 function App(){
2   return <h1> Hello form the app component</h1>
3
4 }
5
6 export default App
```

Hello form the app component

4. Intro To JSX

React JS

src > JS App.js > ...

```
1  function App(){
2    return (
3      <div className="container">
4        <h1> My App</h1>
5
6        </div >
7    )
8  }
9
10 export default App
11
12
13
14 // import React from 'react'
15
16 // function App(){
17 //   return React.createElement(
18 //     'div',
19 //     {className: 'container'},
20 //     React.createElement('h1', {}, 'My App')
21 //   )
22 // }
```

JS index.js

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

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

React JS

React JS

```
JS App.js U X # index.css M
src > JS App.js > App > comments.map() callback
13 function App(){
14   const title = 'Blog Post'
15   const body = 'This is my blog post'
16   const comments = [
17     {id:1, text: 'Comment one'},
18     {id:2, text: 'Comment two'},
19     {id:3, text: 'Comment three'},
20   ]
21   return (
22     <div className="container">
23       <h1> {title.toUpperCase()}</h1>
24       <p> {body}</p>
25
26       <div className="comments">
27         <h3> Comments ({comments.length})</h3>
28         <ul>
29           {comments.map((comment, index) => (
30             <li key={index}>{comment.text}</li>
31           ))}
32         </ul>
33       </div>
34     </div >
35   )
36 }
37
38 export default App
20
```

BLOG POST

This is my blog post

Comments (3)

- Comment one
- Comment two
- Comment three

5. Dynamic Values & Lists in JSX

React JS

6. Conditionals in JSX

```
src > JS App.js > App > commentBlock
21
22   const loading = false
23   const showComments = true
24
25   if(loading) return <h1> Loading...</h1>
26
27   const commentBlock = (
28     <div className="comments">
29       <h3> Comments ({comments.length})</h3>
30       <ul>
31         {comments.map((comment, index) => (
32           <li key={index}>{comment.text}</li>
33         ))}
34       </ul>
35     </div>
36   )
37   return (
38     <div className="container">
39       <h1> {title.toUpperCase()}</h1>
40       <p> {body}</p>
41
42       {showComments && commentBlock}
43
44
45     </div >
46   )
47 }
48
49 export default App
```

BLOG POST

This is my blog post

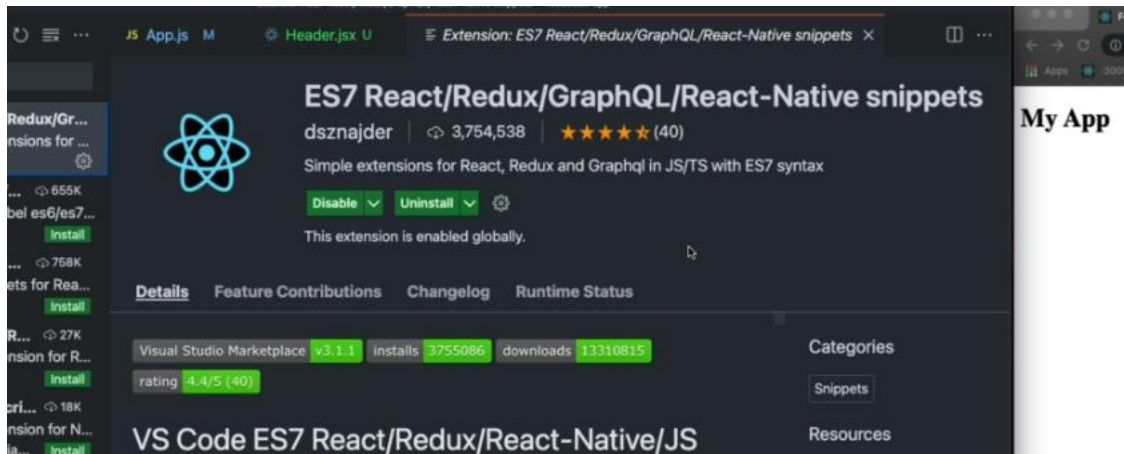
Comments (3)

- Comment one
- Comment two
- Comment three

React JS

3. Components, Props & State

1. Creating Your First Component & Props



rfce

```
JS App.js U    # index.css M    JS Header.jsx U ●
src > components > JS Header.jsx > header
1  import React from 'react'
2
3  function header() {
4    return (
5      <div>header</div>
6    )
7  }
8
9  export default header
```

Activate Wind

React JS

```
JS App.js U X JS Header.jsx U
src > JS App.js > [🔗] default
56 import Header from "../components/Header"
57
58 function App(){
59   return (
60     <>
61     <Header/>
62     </>
63   )
64 }
65 export default App
```

```
JS App.js U JS Header.jsx U X
src > components > JS Header.jsx > [🔗] default
1 import PropTypes from 'prop-types'
2
3 function header({ text }) {
4   return (
5     <header>
6       <div className="container">
7         <h2>{text}</h2>
8       </div>
9     </header>
10   )
11 }
12
13
14
15 header.defaultProps = {
16   text: 'Feedback UI',
17 }
18
19 header.propTypes = {
20   text: PropTypes.string
21 }
22
23 export default header
```

React JS

2. Adding Styles To A Component

```
src > JS App.js > App
58 function App(){
59   return (
60     <>
61       <Header bgColor = 'red' textColor='blue'/>
62       <div className="container">
63         <h1>Keep Notes</h1>
64       </div>
65     </>
66   )
67 }
68 export default App
```

```
JS App.js U    JS Header.jsx U X
src > components > JS Header.jsx > header > constructor > headerStyles
1  import PropTypes from 'prop-types'
2
3  function header({ text, bgColor, textColor }) {
4
5     const headerStyles = {
6       backgroundColor: bgColor,
7       color: textColor,
8     }
9
10    return (
11      <header style={headerStyles}>
12        <div className="container"> ...
13      </div>
14    </header>
15  )
16 }
17
18
19 }
```

React JS

React JS

```
JS App.js U JS Header.jsx U X
src > components > JS Header.jsx > ...
4
5   const headerStyles = {
6     backgroundColor: bgColor,
7     color: textColor,
8   }
9
10  return (
11    <header style={headerStyles}>
12  > <div className="container"> ..
15    </div>
16
17    </header>
18  )
19 }
20
21 header.defaultProps = {
22   text: 'Feedback UI',
23   bgColor: 'rgba(0,0,0,0.4)',
24   textColor: '#ff6a95'
25 }
26
27 Headers.propTypes = {
28   text: PropTypes.string,
29   bgColor: PropTypes.string,
30   textColor: PropTypes.string,
31 }
32
33 export default header
```

```
JS App.js U X JS Header.jsx U
src > JS App.js > App
55
56 import Header from "../components/Header"
57
58 function App(){
59   return (
60     <>
61     <Header />
62     <div className="container">
63       <h1>Keep Notes</h1>
64     </div>
65   </>
66 )
67 }
68 export default App
69
70
```

3. State & useState Hook