by Kunal Sir

Routing in React

In single-page-application, we need to navigate end-user to the different-different components (views) that we have define in our application.

React-router-dom library allows us to define the navigation in react application.

React-router-dom intercept the browser url and according to browser URL it renders the component.

React-router-dom library comes with several predefine components, by using them we can implement the routing.

1. **BrowserRouter: -**

    BrowserRouter component intercepts the value of browser URL in sync manner. and as URL of a browse gets changed it provide updated browser url to its child component. BrowserRouter component allows routing in react application.

2. **Routes: -**

    Routes component wraps all the mappings on URLs and their corresponding components as children. And insures at a time only on component get render among of them.

3. **Route: -**

    Route component is use for mapping purpose. it defines the mapping of path to desired component.
    Route Component has two important props
    1. path: - path props get the value of url endpoint mapping
    2. element: - get the component which needs to be render

4. **Link: -**

Link component is use to change the browser URL. Instead of using <button> or <a> elements we use Link component.

It has two important props
1. className: - get the css class name to style the link

2. to :- it accepts the string value on which you want to shift the browser url

Q) How to install `react-router-dom` library?

-> Using npm command:- **npm install react-router-dom**

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\B176 React WorkSpace\react-routing> npm install react-router-dom

added 3 packages, and audited 1548 packages in 3s
```

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❖ **Below example will demonstrate the routing in react application.**

1. **Application folder structure.**

```
∨ REACT-ROUTING                    ⊡ ⊟ ↻ ⧉
  > 📦 node_modules
  > 🖼 public                                ●
  ∨ 🗂 src                                   ●
    ∨ 📂 includes                           ●
      ∨ 📂 courses                          ●
          JS Courses.js                     U
      ∨ 📂 enquiry                          ●
          JS Enquiry.js                     U
      ∨ 📂 sign-in                          ●
          JS SignIn.js                      U
    ∨ 📂 template                           ●
      ∨ 📂 about                            ●
          JS About.js                       U
      ∨ 📂 header                           ●
          JS Header.js                      U
      ∨ 📂 home                             ●
          JS Home.js                        U
      🎨 App.css
      JS App.js                             M
      🎨 index.css
      JS index.js                           M
      🔶 .gitignore
      📋 package-lock.json                  M
      📋 package.json                       M
      Ⓜ README.md
```

2. Snippet of Index.js

```js
JS index.js M ✕

src > JS index.js > ...
 1   import React from 'react';
 2   import ReactDOM from 'react-dom/client';
 3   import './index.css';
 4   import App from './App';
 5
 6
 7   const root = ReactDOM.createRoot(document.getElementById('root'));
 8   root.render(
 9
10     <App />
11
12   );
13
```

3. Snippet of App.js

```js
JS App.js M ✕

src > JS App.js > ⊗ App
 1
 2   import './App.css';
 3   import '../node_modules/bootstrap/dist/css/bootstrap.css'
 4   import Header from '/template/header/Header';
 5   import { BrowserR    module "d:/B176 React WorkSpace/react-routing/src/template/home/Home"
 6   import Home from './template/home/Home';
 7   import About from './template/about/About';
 8   import Courses from './includes/courses/Courses';
 9   import Enquiry from './includes/enquiry/Enquiry';
10   import SignIn from './includes/sign-in/SignIn';
11   function App() {
12     return (
13       <div>
14         <BrowserRouter>
15             <Header/>
16             <Routes>
17                 <Route path="/" element={<Home/>}/>
18                 <Route path="/home" element={<Home/>}/>
19                 <Route path="/about" element={<About/>}/>
20                 <Route path="/courses" element={<Courses/>}/>
21                 <Route path="/contact-us" element={<Enquiry/>}/>
22                 <Route path="/login" element={<SignIn/>}/>
23
24             </Routes>
25
26         </BrowserRouter>
27       </div>
28     );
29   }
30
31   export default App;
32
```

4. Snippet of Header. js

```
JS Header.js U ×
src > template > header > JS Header.js > [∅] default
1    import { Link } from "react-router-dom";
2
3    function Header()
4    {
5        return <nav className="d-flex justify-content-around bg-primary">
6                    <h1 className="text-white">Welcome To CJC..!</h1>
7                    <div className="mt-2">
8
9                        <Link className="btn btn-dark fs-5 me-2" to={'/home'}>Home</Link>
10                       <Link className="btn btn-dark fs-5 me-2" to={'/about'}>About</Link>
11                       <Link className="btn btn-dark fs-5 me-2" to={'/courses'}>Courses</Link>
12                       <Link className="btn btn-dark fs-5 me-2" to={'/contact-us'}>Enquiry</Link>
13                       <Link className="btn btn-dark fs-5 me-2" to={'/login'}>Sign-In</Link>
14
15                   </div>
16           </nav>
17   }
18
19   export default Header;
```

5. Snippet of Home.js

```
JS Home.js U ×
src > template > home > JS Home.js > ⊗ Home
1    import React from 'react'
2
3    function Home() {
4      return (
5        <h1 className='text-center'>Home</h1>
6      )
7    }
8
9    export default Home
```

6. Snippet of About.js

```
JS About.js U  ✕

src > template > about > JS About.js > ⬡ About
  1    import React from 'react'
  2
  3    function About() {
  4      return (
  5   💡  <h1 className='text-center'>About</h1>
  6      )
  7    }
  8
  9    export default About
```

7. Snippet of Courses.js

```
JS Courses.js U  ✕

src > includes > courses > JS Courses.js > ⬡ Courses
  1    import React from 'react'
  2
  3    function Courses() {
  4      return (
  5        <h1 className='text-center text-primary'>......Featching courses information...!</h1>
  6      )
  7    }
  8
  9    export default Courses
```

8. Snippet of Enquiry.js

```
JS Enquiry.js U ✕

src > includes > enquiry > JS Enquiry.js > ⊗ Enquiry
1    import React from 'react'
2
3    function Enquiry() {
4      return (
5        <h1 className='text-center'>Feel free to enquir..!</h1>
6      )
7    }
8
9    export default Enquiry
```

9. Snippet of SignIn.js

```
JS SignIn.js U ✕

src > includes > sign-in > JS SignIn.js > ⊗ SignIn
1    import React from 'react'
2
3    function SignIn() {
4      return (
5        <h1 className='text-center'>Sign-In here..!</h1>
6      )
7    }
8
9    export default SignIn
```