Learn step by step REACT.JS with WEBAPI CURD operation

Part 1: Create react application and Dom routing

npx create-react-app users

```
Microsoft Windows [Version 10.0.19041.1415]
(c) Microsoft Corporation. All rights reserved.

F:\MY REACT>npx create-react-app users

Creating a new React app in F:\MY REACT\users.

Installing packages. This might take a couple of minutes.

Installing react, react-dom, and react-scripts with cra-template...

added 1373 packages in 5m

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

Initialized a git repository.

Installing template dependencies using npm...

npm MARN deprecated source-map-resolve@0.6.0: See https://github.com/lydell/source-map-resolve#deprecated added 38 packages in 11s
```

```
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:

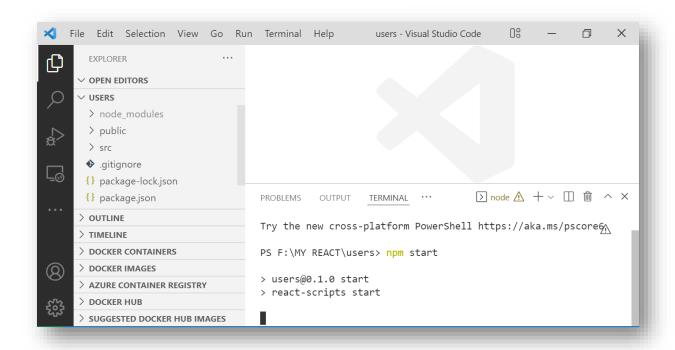
cd users
npm start

Happy hacking!

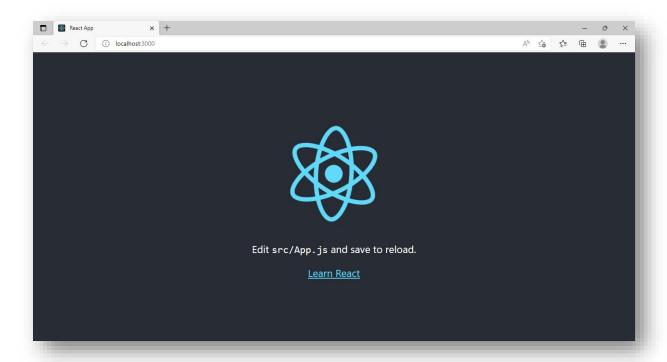
F:\MY REACT>
```

Now open this project in vs and run

```
F:\MY REACT>cd users
F:\MY REACT\users>code .
```



Npm start



Now go to vs code and clean up the code and only to display hello world.

Delete following files

Logo.svg

setupTests.js

reportWebVitals.js

App.test.js

Do the modification in the files as follows

Let's clean Index.js file

Default code

```
ズ File Edit Selection View Go Run Terminal Help
                                                                                                                                                                                                                                                      index.js - users - Visual Studio Code
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ⊳ □ …
                              EXPLORER ... JS index.js X
                                                                                                                                                    OPEN EDITORS
                                × JS index.js src
                              / USERS
                               > node_modules
                                ∨ public
                                ★ favicon.ico
                                 > index.html
                                  logo192.png
                                 logo512.png
                                                                                                                                                                                        </React.StrictMode>.
                                  {} manifest.json
                                                                                                                                                                                    document.getElementById('root')
                                                                                                                                                         11
                                   \equiv robots.txt
                                                                                                                                                         13
                                  # App.css
                                                                                                                                                         \, 14 \, // If you want to start measuring performance in your app, pass a function
                                                                                                                                                          // in you want to state the state that the state that it is a state that the state that it is a state that i
                                  JS App.js
                                  JS App.test.js
                                                                                                                                                                                 reportWebVitals();
                                                                                                                                                           17
                                   # index.css
```

Let's clean the code

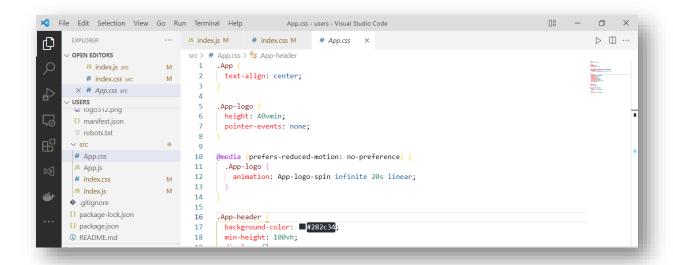
```
JS index.js M X
src > JS index.js
      import React from 'react';
     import ReactDOM from 'react-dom';
      import './index.css';
  4
      import App from './App';
  5
  6
     ReactDOM.render(
  7
        <React.StrictMode>
  8
          <App />
  9
         </React.StrictMode>,
         document.getElementById('root')
 10
 11
 12
```

Clean the index.css

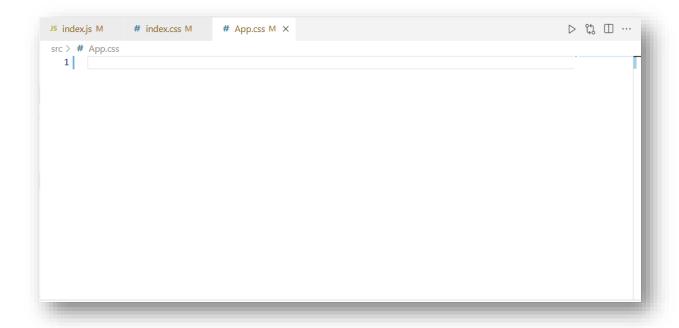
```
File Edit Selection View Go Run Terminal Help
                                     index.css - users - Visual Studio Code
     EXPLORER ... Js index.js M # index.css X
                                                                                           ⊳ 🗆 …
     OPEN EDITORS
                        USERS (+ E+ O =
     ≡ robots.txt
     ∨ src
     # App.css
     Js App.js
     JS App.test.js
                              font-family: source-code-pro, Menlo, Monaco, Consolas, 'Courier New',
                         11
                         13
     • .gitignore
                         14
     {} package-lock.json
     {} package.json
     ① README.md
```

After

Clean App.css default



After



Now clean the few codes from App.js default

```
EXPLORER

√ OPEN EDITORS

                                 src > JS App.js > 🕀 App
                                   1 import logo from './logo.svg';
2 import './App.css';
 × JS App.js src
∨ USERS
   logo192.png
                                4 function App() {
 logo512.png
 {} manifest.json

    robots.txt

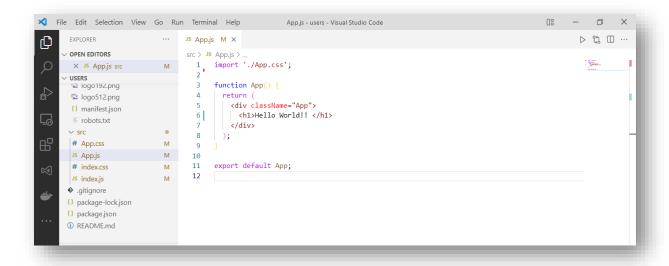
                                                <header className="App-header">
 ∨ src
                                                  <img src={logo} className="App-logo" alt="logo" />
 # App.css
                                    9
                       10
 JS App.js
                                                  Edit <code>src/App.js</code> and save to reload.

<a
className="App-link"
href="https://reactjs.org"
target="_blank"
rel="noopener noreferrer"
>
  # index.css
 JS index.js
                                   13
 .gitignore
                                  14
 {} package-lock.json
                                  15
 {} package.json

    README.md

                                               Learn React
                                   18
> OUTLINE
                                   19
                                                </header>
                                   20
> TIMELINE
                                              </div>
> DOCKER CONTAINERS
```

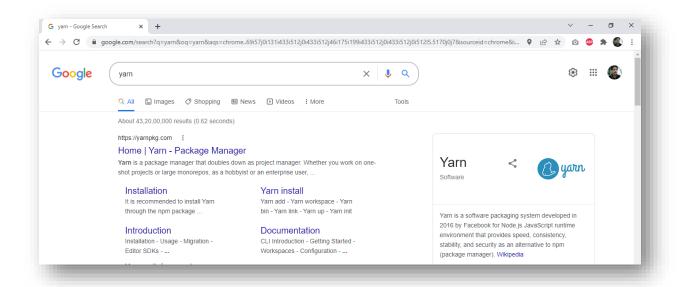
Do modification and we get output

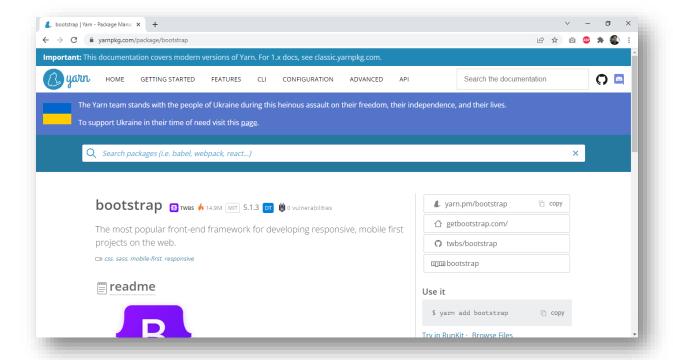




Now add bootstrap

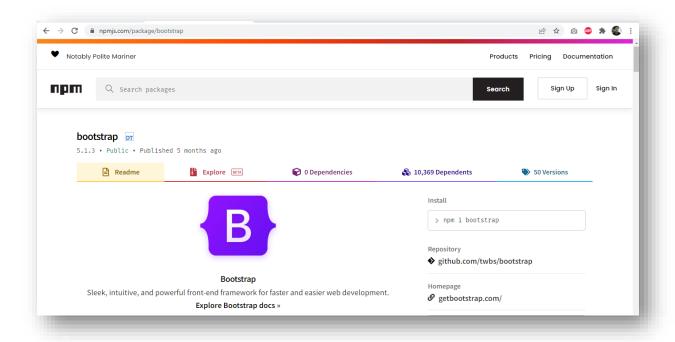
Now in place of npm you can also use yarn. The only the things are yarn is faster than npm.





yarn add bootstrap

you can also npm

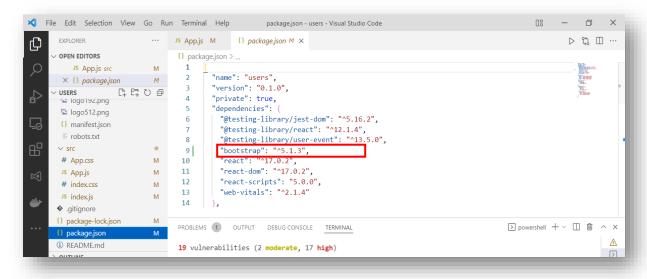


npm i bootstrap

Paste the command on shell and install



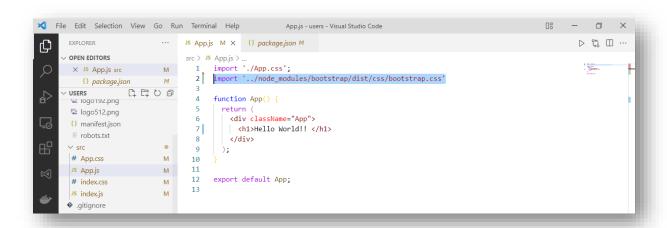
Now check in package. json bootstrap is installed or not



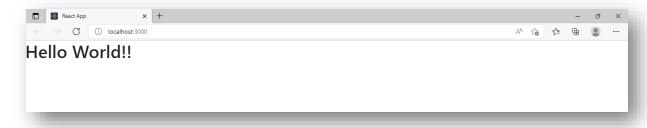
Now go to App.js and import bootstrap after that it is available entire project.

Add following line in App.js

import '../node_modules/bootstrap/dist/css/bootstrap.css'

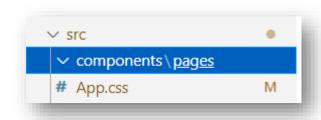


Check output after adding bootstrap

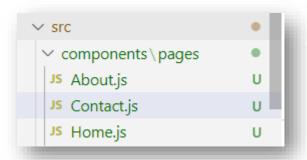


Now create component and better in structural way

Create component folder and add pages folder inside, create pages.



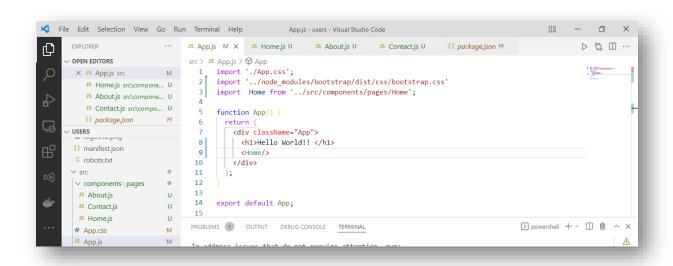
Now added few pages in the pages folder as follows



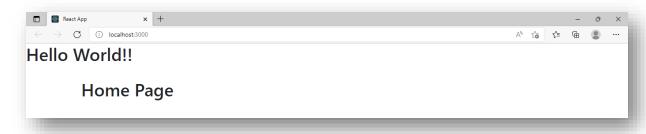
Now start doing modification one by one

```
JS Home.js U X
JS App.js M
                                 JS About.js U
src > components > pages > JS Home.js > [∅] Home
       import React from "react";
  1
  2
  3
       const Home = () => {
  4
         return (
            <div className="container">
  5
  6
              <div className="py-4">
  7
                <h1>Home Page</h1>
  8
              </div>
            </div>
 10
         );
 11
       };
 12
 13
       export default Home;
 14
```

Now let's import Home in App.js file



See the output



Now create components About, Contact and import into App.js file.

Contact.js

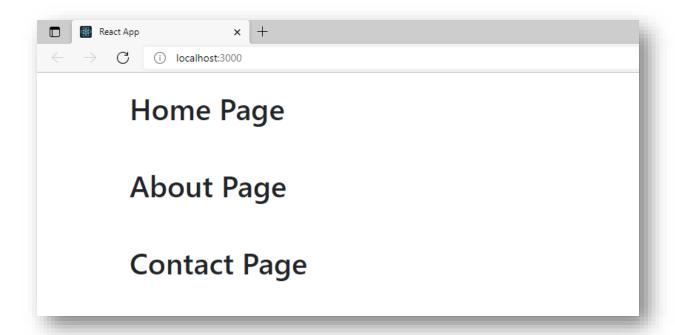
```
JS Home.js U
                                  JS About.js U
                                                   JS Contact.js U X
src > components > pages > JS Contact.js > [∅] default
  1
       import React from "react";
  2
  3
       const Contact = () => {
  4
         return (
           <div className="container">
  5
  6
              <div className="pv-4">
  7
                <h1>Contact Page</h1>
              </div>
  8
           </div>
  9
 10
         );
 11
       };
 12
 13
       export default Contact;
```

About.js

```
JS Home.js U
                                  JS About.js U X JS Contact.js U
JS App.js M
src > components > pages > JS About.js > [∅] About
       import React from "react";
   1
   2
   3
       const About = () => {
          return (
   4
   5
            <div className="container">
              <div className="pv-4">
   6
   7
                <h1>About Page</h1>
   8
              </div>
   9
            </div>
          );
 10
 11
        };
 12
 13
       export default About;
```

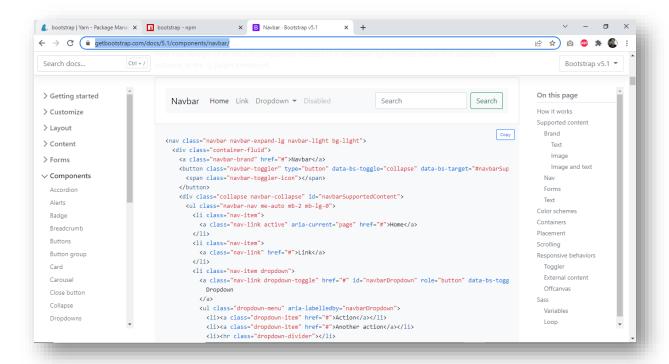
export default App;

```
JS App.js M X
               JS Home.js U
                               JS About.js U
                                                JS Contact.js U
                                                                  {} pa
src > JS App.js > 🗘 App
      import "./App.css";
      import "../node_modules/bootstrap/dist/css/bootstrap.css";
  3
      import Home from "../src/components/pages/Home";
      import About from "./components/pages/About";
  4
       import Contact from "./components/pages/Contact";
  5
  7
       function App() {
         return (
  8
  9
           <div className="App">
 10
             <Home />
 11
             <About />
            <Contact />
 12
           </div>
 13
 14
 15
 16
 17
       export default App;
 18
```



Now create Navbar in your project

https://getbootstrap.com/docs/5.1/components/navbar/



Add one new folder Layout and create component Navbar.js

Navbar.js

```
import React from "react";
const Navbar = () => {
 return (
   <nav class="navbar navbar-expand-lg navbar-light bg-light">
     <div class="container-fluid">
       <a class="navbar-brand" href="#">
         Navbar
       </a>
       <button
         class="navbar-toggler"
         type="button"
         data-bs-toggle="collapse"
         data-bs-target="#navbarSupportedContent"
         aria-controls="navbarSupportedContent"
         aria-expanded="false"
         aria-label="Toggle navigation"
         <span class="navbar-toggler-icon"></span>
       </button>
       <div class="collapse navbar-collapse" id="navbarSupportedContent">
```

```
<a class="nav-link active" aria-current="page" href="#">
    Home
  </a>
 <a class="nav-link" href="#">
    Link
  </a>
 class="nav-link dropdown-toggle"
    href="#"
    id="navbarDropdown"
    role="button"
    data-bs-toggle="dropdown"
    aria-expanded="false"
    Dropdown
  </a>
   <a class="dropdown-item" href="#">
       Action
     </a>
    <
     <a class="dropdown-item" href="#">
       Another action
     </a>
    <hr class="dropdown-divider" />
    <
     <a class="dropdown-item" href="#">
       Something else here
     </a>
    <a class="nav-link disabled">Disabled</a>
 <form class="d-flex">
 <input</pre>
```

```
class="form-control me-2"
              type="search"
              placeholder="Search"
              aria-label="Search"
            <button class="btn btn-outline-success" type="submit">
            </button>
          </form>
        </div>
      </div>
   </nav>
 );
};
export default Navbar;
And now import into App.js
import "./App.css";
import "../node_modules/bootstrap/dist/css/bootstrap.css";
import Home from "../src/components/pages/Home";
import About from "./components/pages/About";
```

export default App;



Now check the output



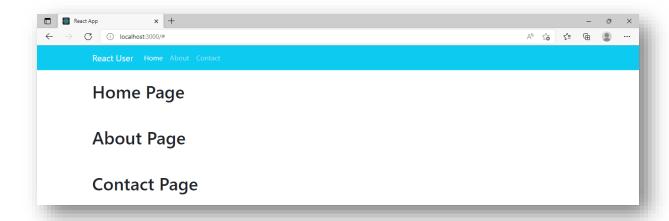
```
import React from "react";
const Navbar = () => {
  return (
    <nav class="navbar navbar-expand-lg navbar-dark bg-info">
      <div class="container">
        <a class="navbar-brand" href="#">
          Navbar
        </a>
        <button
          class="navbar-toggler"
          type="button"
          data-bs-toggle="collapse"
          data-bs-target="#navbarSupportedContent"
          aria-controls="navbarSupportedContent"
          aria-expanded="false"
          aria-label="Toggle navigation"
          <span class="navbar-toggler-icon"></span>
        </button>
```

```
<div class="collapse navbar-collapse" id="navbarSupportedContent">
 <a class="nav-link active" aria-current="page" href="#">
     Home
    </a>
  <a class="nav-link" href="#">
     Link
    </a>
  class="nav-link dropdown-toggle"
     href="#"
     id="navbarDropdown"
     role="button"
     data-bs-toggle="dropdown"
     aria-expanded="false"
    >
     Dropdown
    </a>
    <a class="dropdown-item" href="#">
        Action
      </a>
     <
      <a class="dropdown-item" href="#">
        Another action
      </a>
     <
      <hr class="dropdown-divider" />
     <
      <a class="dropdown-item" href="#">
        Something else here
      </a>
     <a class="nav-link disabled">Disabled</a>
```

```
<form class="d-flex">
             <input</pre>
               class="form-control me-2"
               type="search"
               placeholder="Search"
               aria-label="Search"
             />
             <button class="btn btn-outline-success" type="submit">
             </button>
          </form>
        </div>
      </div>
    </nav>
  );
};
export default Navbar;
```

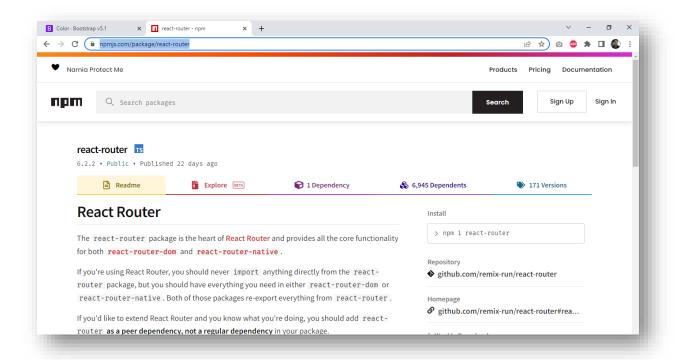
Now let's make changes in the nav and make simple according to navigation.

```
import React from "react";
const Navbar = () => {
 return (
   <nav class="navbar navbar-expand-lg navbar-dark bg-info">
     <div class="container">
       <a class="navbar-brand" href="/">
        React User
       </a>
       <button
        class="navbar-toggler"
        type="button"
        data-bs-toggle="collapse"
        data-bs-target="#navbarSupportedContent"
        aria-controls="navbarSupportedContent"
        aria-expanded="false"
        aria-label="Toggle navigation"
        <span class="navbar-toggler-icon"></span>
       <div class="collapse navbar-collapse">
        <a class="nav-link active" href="/">
             Home
            </a>
          <a class="nav-link" href="#">
              About
```



Now routing install router

https://www.npmjs.com/package/react-router



npm i react-router

npm install react-router-dom

```
🔾 File Edit Selection View Go Run Terminal Help
                                                                                                                                                                                                                                                                                                                                                                                 Navbar.js - users - Visual Studio Code
                                                                                                                                                 JS About.js U JS Contact.js U {} package.json M
                                                                                                                                                                                                                                                                                                                                                                         ▷ 
$\mathcal{1}$
$\mathcal{1}$</p
                   JS App.js M JS Navbar.js 2, U × JS Home.js U
                    src > components > Layout > J5 Navbar.js > ..
                                     import React from "react";
                                       const · Navbar · = · () · = > · {
                                                 <nav class="navbar navbar-expand-lg navbar-dark bg-info">
                                                      <div class="container";</pre>
 <a class="navbar-brand" href="/">
                                                               -React-User
                                                          -</a>
                                                        · · <button
                                           class="navbar-toggler"
                     PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL
                                                                                                                                                                                                                                                                                                                                > powershell + ∨ □ 🛍 ^ ×
                                                                                                                                                                                                                                                                                                                                                                                                    >
                     PS F:\MY REACT\users> npm i react-router
                                                                                                                                                                                                                                                                                                                                                                                                    >
                     added 2 packages, and audited 1415 packages in 10s
                     171 packages are looking for funding run `npm fund` for details
                     7 vulnerabilities (6 moderate, 1 high)
                     To address issues that do not require attention, run:
                           npm audit fix
                     To address all issues (including breaking changes), run: npm audit fix --force
```

App.js

```
import "./App.css";
import "../node_modules/bootstrap/dist/css/bootstrap.css";
import Home from "../src/components/pages/Home";
import About from "./components/pages/About";
```

Now import in App.js and do the following modification

Step 1:

```
import "./App.css";
import "../node_modules/bootstrap/dist/css/bootstrap.css";
import Home from "../src/components/pages/Home";
import About from "./components/pages/About";
import Contact from "./components/pages/Contact";
import Navbar from "./components/Layout/Navbar";
import { BrowserRouter as Router, Switch, Route } from "react-router-dom";
function App() {
 return (
    <Router>
      <div className="App">
        <Navbar />
        <Home />
        <About />
        <Contact />
      </div>
    </Router>
 );
}
export default App;
```

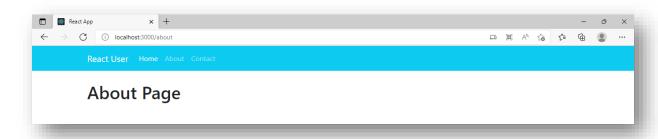
Step 3: Add switch

And installed version 5.2.0 of react-router-dom npm install react-router-dom@5.2.0

```
import "./App.css";
import "../node_modules/bootstrap/dist/css/bootstrap.css";
import Home from "../src/components/pages/Home";
import About from "./components/pages/About";
import Contact from "./components/pages/Contact";
import Navbar from "./components/Layout/Navbar";
import { BrowserRouter as Router, Switch, Route } from "react-router-dom";
function App() {
 return (
    <Router>
      <div className="App">
        <Navbar />
        <Switch>
          <Route exact path="/" component={Home}/>
          <Route exact path="/about" component={About}/>
          <Route exact path="/Contact" component={Contact}/>
        </Switch>
      </div>
    </Router>
 );
}
export default App;
```

You can on URL, which is not feasibly of doing

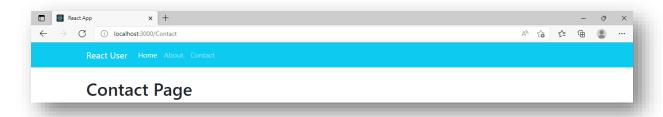
React App



Step 4: Now avoid typing on the URL, do changes in Navbar component as follows

```
import React from "react";
const Navbar = () => {
 return (
   <nav class="navbar navbar-expand-lg navbar-dark bg-info">
     <div class="container">
      <a class="navbar-brand" href="/">
        React User
      </a>
      <button
        class="navbar-toggler"
        type="button"
        data-bs-toggle="collapse"
        data-bs-target="#navbarSupportedContent"
        aria-controls="navbarSupportedContent"
        aria-expanded="false"
        aria-label="Toggle navigation"
        <span class="navbar-toggler-icon"></span>
      <div class="collapse navbar-collapse">
        <a class="nav-link active" href="/">
             Home
           </a>
          <a class="nav-link" href="/About">
         About
           </a>
          <a class="nav-link" href="/Contact">
             Contact
           </a>
          </div>
     </div>
   </nav>
 );
};
export default Navbar;
```

Now check, its working but entire page is reloading.



Step 5: Do some more modification in the component.

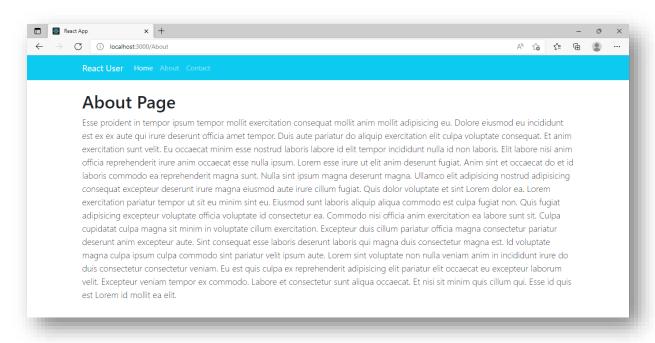
Hint: select word and press Ctrl+d and change it will change all <Link class="nav-link active" href="/">

Final code and you notice page will not refresh

```
import React from "react";
import { Link } from "react-router-dom";
const Navbar = () => {
 return (
   <nav class="navbar navbar-expand-lg navbar-dark bg-info">
     <div class="container">
       <Link class="navbar-brand" to="/">
        React User
       </Link>
       <button
        class="navbar-toggler"
        type="button"
        data-bs-toggle="collapse"
        data-bs-target="#navbarSupportedContent"
        aria-controls="navbarSupportedContent"
        aria-expanded="false"
        aria-label="Toggle navigation"
         <span class="navbar-toggler-icon"></span>
       </button>
       <div class="collapse navbar-collapse">
         <Link class="nav-link active" to="/">
              Home
            </Link>
          <Link class="nav-link" to="/About">
              About
```

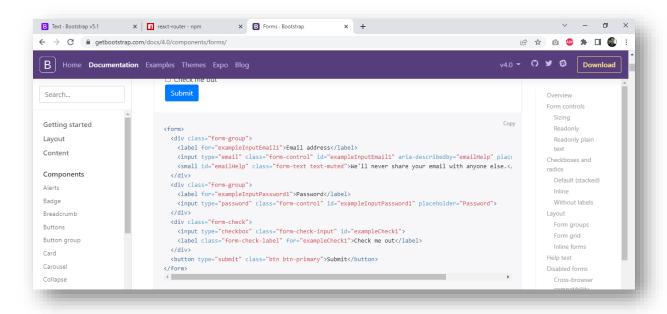


Now let's decorate your pages about, use dummy text Ctrl+shift+P and type lorem then enter



Now also decorate Contact page, just for formality add form from get bootstrap

https://getbootstrap.com/docs/4.0/components/forms/



Contact.js

```
import React from "react";
const Contact = () => {
  return (
    <div className="container">
      <div className="py-4">
        <h1>Contact Page</h1>
        <form>
          <div class="form-group">
            <label for="exampleInputEmail1">Email address</label>
            <input
              type="email"
              class="form-control"
              id="exampleInputEmail1"
              aria-describedby="emailHelp"
              placeholder="Enter email"
            />
            <small id="emailHelp" class="form-text text-muted">
              We'll never share your email with anyone else.
            </small>
          </div>
          <div class="form-group">
            <label for="exampleInputPassword1">Password</label>
            <input
              type="password"
              class="form-control"
              id="exampleInputPassword1"
```

```
placeholder="Password"
            />
          </div>
          <div class="form-check">
            <input</pre>
              type="checkbox"
              class="form-check-input"
              id="exampleCheck1"
            />
            <label class="form-check-label" for="exampleCheck1">
              Check me out
            </label>
          </div>
          <button type="submit" class="btn btn-primary">
          </button>
        </form>
      </div>
    </div>
  );
};
export default Contact;
```

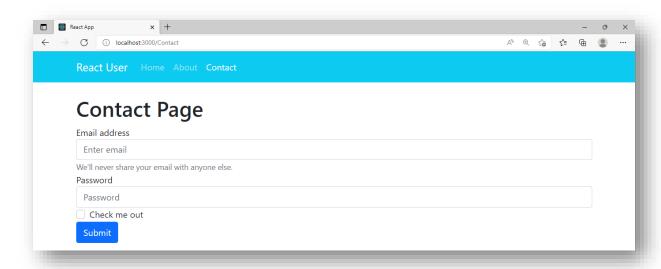
Now do following changes in the Navbar.js file. To click and highlighted on click

Do: import NavLink, class to rename with className

Navbar.js

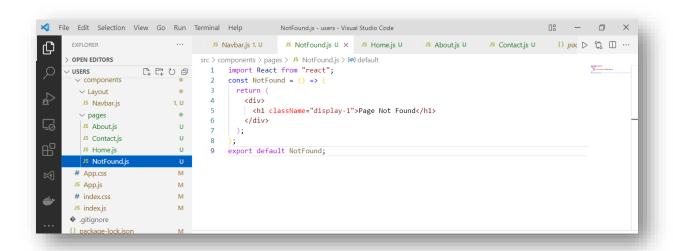
```
import React from "react";
import { Link, NavLink } from "react-router-dom";
const Navbar = () => {
 return (
    <nav className="navbar navbar-expand-lg navbar-dark bg-info">
      <div className="container">
        <NavLink className="navbar-brand" to="/">
          React User
        </NavLink>
        <button
          className="navbar-toggler"
          type="button"
          data-bs-toggle="collapse"
          data-bs-target="#navbarSupportedContent"
          aria-controls="navbarSupportedContent"
          aria-expanded="false"
          aria-label="Toggle navigation"
```

```
>
       <span className="navbar-toggler-icon"></span>
     <div className="collapse navbar-collapse">
       <NavLink className="nav-link" exact to="/">
           Home
         </NavLink>
        <NavLink className="nav-link" exact to="/About">
          About
         </NavLink>
        <NavLink className="nav-link" exact to="/Contact">
           Contact
         </NavLink>
        </div>
    </div>
  </nav>
 );
};
export default Navbar;
```

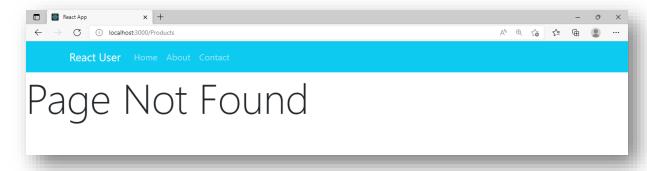


Now let's create Not found page in the pages folder, do the following

NotFound.js



Now add in the route of App.js page



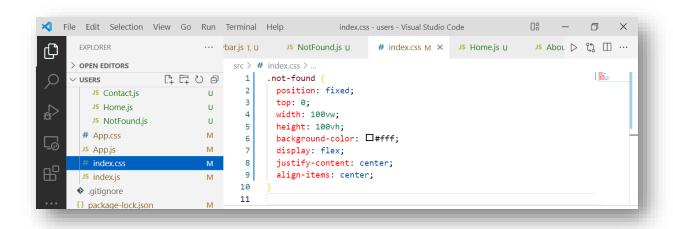
http://localhost:3000/Products

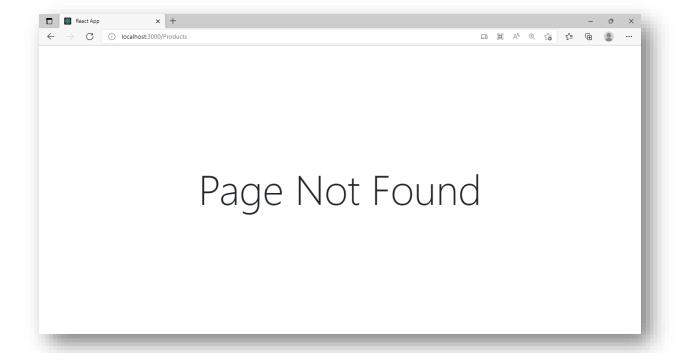
Now not found page to be fully display on page for this do the following Now do some changes in the NotFound. is page

Now go to index.css page and do add following CSS

```
.not-found {
  position: fixed;
  top: 0;
  width: 100vw;
  height: 100vh;
  background-color: #fff;

  display: flex;
  justify-content: center;
  align-items: center;
}
```



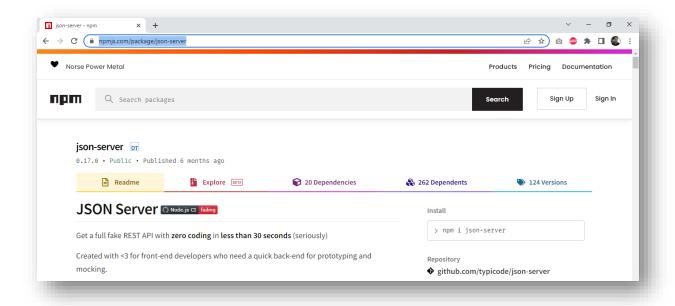


Part 2: Create WEP-API and CRUD OPERATION

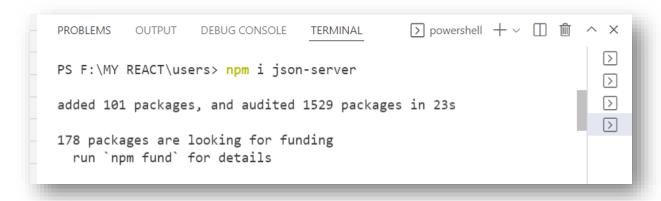
Now we have to create fake server for API.

Step 1: Install json server

https://www.npmjs.com/package/json-server

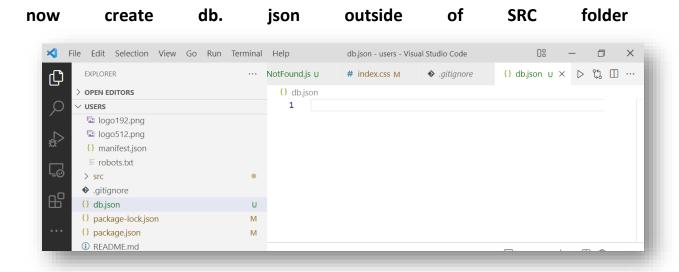


npm i json-server



Note: see the note





Step 3: Go to json place holder to get some dummy data.

https://jsonplaceholder.typicode.com/users

Now copy data and put into db.json file. First to follows tag and then paste. 10 user data

```
{
  "users": <paste here>
}
```

Step 4: configure json server to run concurrently, for that go to package. json and do the modification as follows.

Note: you can run application and json separately, to run concurrently we will do some more modification.

```
"json-server": "json-server --watch db.json --port 3003",
```

REACT.JS & JSON WEB SERVER WEBAPI

```
≡ robots.txt
                                              scripts": {
                                                "start": "react-scripts start",
                                        19
• .gitignore
                                        "json-server": "json-server --watch db.json --port 3003",
                                                "build": "react-scripts build",
{} db.json
                                         22
                                               "test": "react-scripts test",
{} package-lock.json
                                  М
                                               "eject": "react-scripts eject"
                                         23
{} package.json
                                  М
                                         24

 README.md

                                              eslintConfig": {
```

Step5: run json server, write following command on terminal

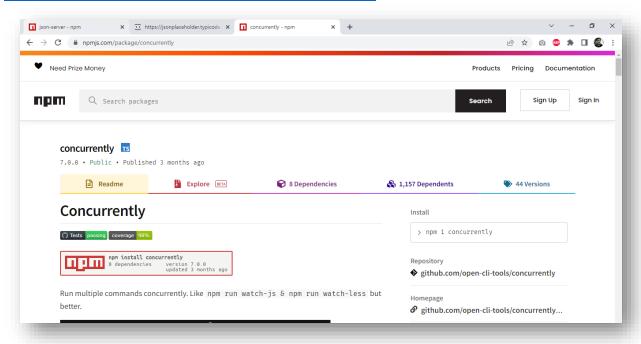
npm run json-server

```
> node + ∨ □ 🛍 ^
PROBLEMS 52
              OUTPUT DEBUG CONSOLE
                                       TERMINAL
                                                                           >
PS F:\MY REACT\users> npm run json-server
                                                                           >
> users@0.1.0 json-server
                                                                           \triangleright
> json-server --watch db.json --port 3003
                                                                           >
                                                                            >  
 \{^_^}/ hi!
 Loading db.json
 Done
  Resources
  http://localhost:3003/users
  Home
```

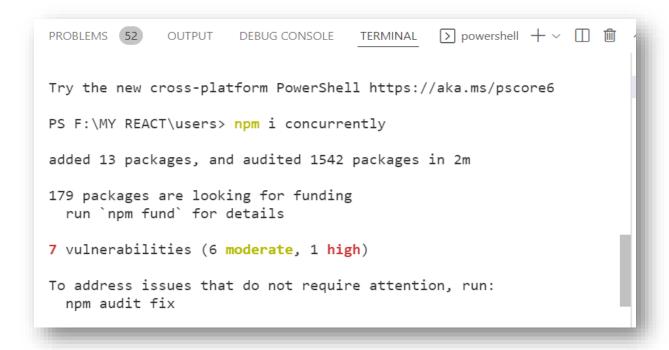
localhost:3003/users

Step 5: Now install package to run both applications concurrently Note: see the document about the usage

https://www.npmjs.com/package/concurrently



npm i concurrently



Now go to the package. json and do the modification as follows.



"start": "concurrently \"command1 arg\" \"command2 arg\""

Change the name "start to something you can't have the same name. Currently here package name.

```
"scripts": {
    "start": "react-scripts start",
    "json-server": "json-server --watch db.json --port 3003",
    "start:dev": "concurrently \"npm start\" \"npm run json-server\"",
    "build": "react-scripts build",
    "test": "react-scripts test",
    "eject": "react-scripts eject"
},
```

"start:dev": "concurrently \"npm start\" \"npm run json-server\"",

Step 6: Now run concurrently script

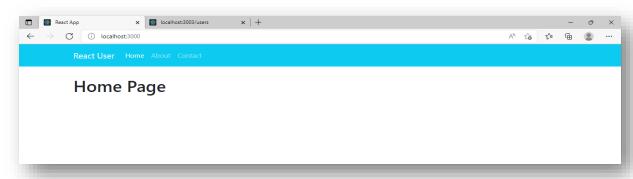
Note: same name of script to run start:dev what you have given

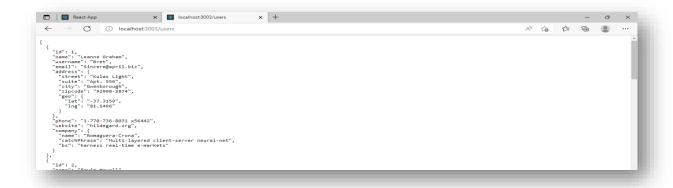
PS F:\MY REACT\users> npm run start:dev

```
X File Edit Selection View Go Run Terminal Help
                                                              package.json - users - Visual Studio Code
                                                {} package.json M ×
                                                                                    JS About.js U
     nd.js U
               # index.css M {} db.json U
                                                                     JS Home.js U
       {} package.json > {} scripts > be eject

react-scripts : o.u.,
                 "web-vitals": "^2.1.4"
        17
        18
                ▶ Debua
                "scripts": {
        19
                  "start": "react-scripts start",
        20
تع
                 "json-server": "json-server --watch db.json --port 3003",
        21
                 "start:dev": "concurrently \"npm start\" \"npm run json-server\"",
        22
品
                 "build": "react-scripts build",
        23
                 "test": "react-scripts test",
        24
                "eject": "react-scripts eject"
        26
        27
                "eslintConfig": {
        28
                 "extends": [
       PROBLEMS 52 OUTPUT DEBUG CONSOLE TERMINAL
        Try the new cross-platform PowerShell https://aka.ms/pscore6
(
        PS F:\MY REACT\users> npm run start:dev
        > users@0.1.0 start:dev
```

Check both servers are concurrently

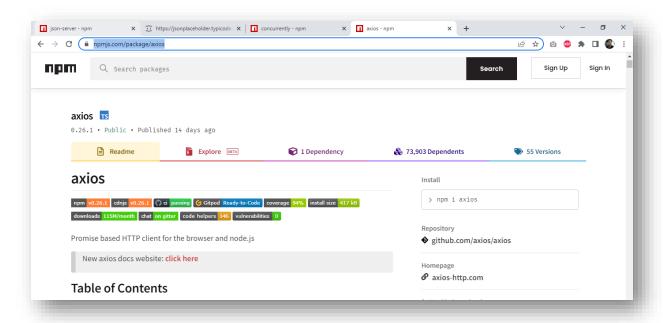




Part 3: install Axios for composing get put post request.

Now install package Axios

https://www.npmjs.com/package/axios



npm i axios

```
PROBLEMS 52 OUTPUT DEBUG CONSOLE TERMINAL

PS F:\MY REACT\users> npm i axios

added 1 package, and audited 1543 packages in 13s

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

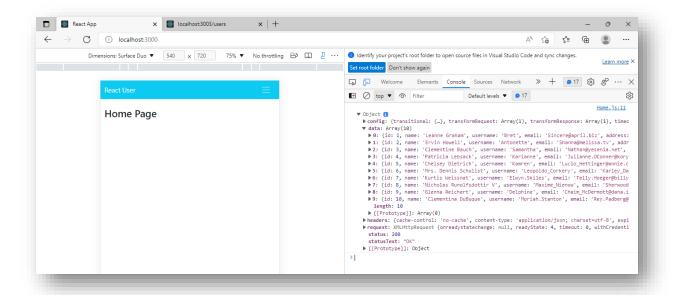
Now we have to display data in home page. Do some the modification on Home.js file.

Please write the description about useState, useEffect

Before

```
import React from "react";
const Home = () => {
  return (
    <div className="container">
      <div className="py-4">
        <h1>Home Page</h1>
      </div>
    </div>
 );
};
After changes:
import React, {useState, useEffect} from "react";
import axios from "axios";
const Home = () => {
const [users, setUser] = useState([]);
useEffect(()=>{
  loadUsers();
},[]);
const loadUsers = async ()=>{
  const result = await axios.get("http://localhost:3003/users");
  console.log(result);
};
  return (
    <div className="container">
      <div className="py-4">
        <h1>Home Page</h1>
      </div>
    </div>
  );
};
export default Home;
```

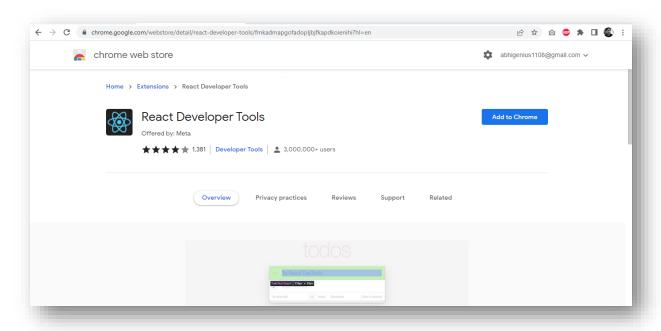
REACT.JS & JSON WEB SERVER WEBAPI



POINT TO PONDER:

useEffect(()=>{ loadUsers();

},[]); // why to give [] in this , is the way to define dependency. Other wise this loop will be executing infinitely.



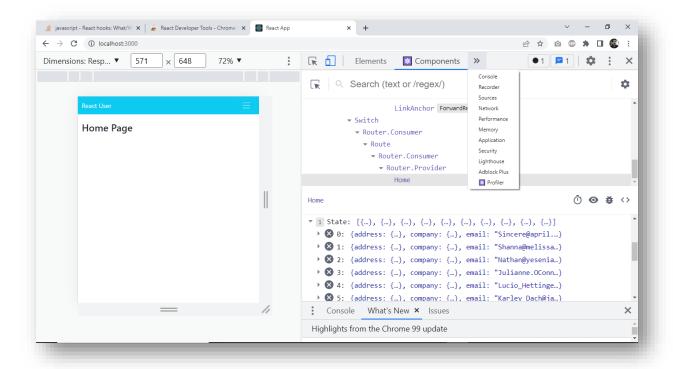
Now do some modification in above code

const loadUsers = async ()=>{

```
const result = await
axios.get("http://localhost:3003/users");
  console.log(result);
};

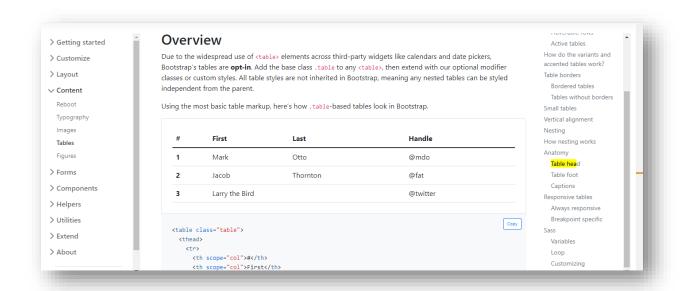
Despite of showing result on con console.log(result);
const loadUsers = async ()=>{
  const result = await
axios.get("http://localhost:3003/users");
  setUser(result.data);
};

And see the data on google chrome.
```



Now we have display data into table, go to getbootstrap and copy any basic structure table.

https://getbootstrap.com/docs/5.1/content/tables/

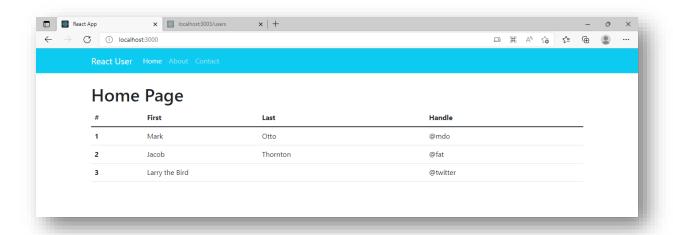


Copy the basic structure and paste. After that the page code as follows and output

Home.js

```
import React, { useState, useEffect } from "react";
import axios from "axios";
const Home = () => {
 const [users, setUser] = useState([]);
 useEffect(() => {
   loadUsers();
 }, []);
 const loadUsers = async () => {
   const result = await axios.get("http://localhost:3003/users");
   setUser(result.data);
 };
 return (
   <div className="container">
    <div className="py-4">
      <h1>Home Page</h1>
      <thead>
         #
           First
           Last
           Handle
         </thead>
```

```
1
     Mark
     0tto
     @mdo
    2
     Jacob
     Thornton
     @fat
    3
     Larry the Bird
     @twitter
    </div>
 </div>
);
};
export default Home;
```



Now do modification according to data manipulation. Modified code as follows:

```
Home.js
import React, { useState, useEffect } from "react";
import axios from "axios";
import { Link } from "react-router-dom";
```

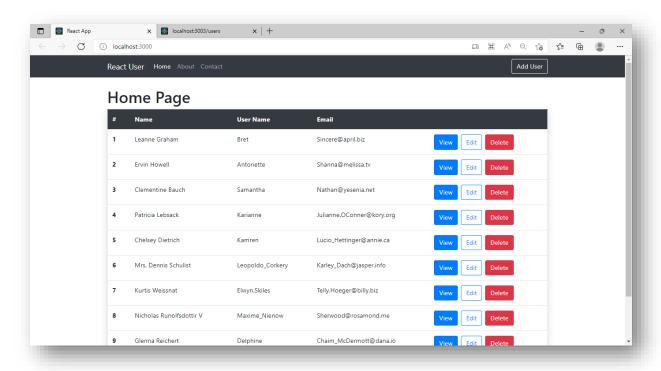
```
const Home = () => {
 const [users, setUser] = useState([]);
 useEffect(() => {
   loadUsers();
 }, []);
 const loadUsers = async () => {
   const result = await axios.get("http://localhost:3003/users");
   setUser(result.data);
 };
 return (
   <div className="container">
    <div className="py-4">
      <h1>Home Page</h1>
      <thead class="table-dark">
         #
          Name
          User Name
          Email
          </thead>
       {
          users.map((user,index)=>(
           {index+1}
            {user.name}
            {user.username}
            {user.email}
             <Link class="btn btn-primary mr-2">View</Link>
             <Link class="btn btn-outline-primary mr-2">Edit</Link>
             <Link class="btn btn-danger">Delete</Link>
            ))
         }
       </div>
   </div>
 );
};
export default Home;
```

Note: Add "Add User" button in NavBar.js This updated

```
import React from "react";
import { Link, NavLink } from "react-router-dom";
const Navbar = () => {
 return (
   <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
     <div className="container">
       <NavLink className="navbar-brand" to="/">
        React User
       </NavLink>
       <button
        className="navbar-toggler"
        type="button"
        data-toggle="collapse"
        data-target="#navbarSupportedContent"
        aria-controls="navbarSupportedContent"
        aria-expanded="false"
        aria-label="Toggle navigation"
        <span className="navbar-toggler-icon"></span>
       </button>
       <div className="collapse navbar-collapse">
        <NavLink className="nav-link" exact to="/">
             Home
            </NavLink>
          <NavLink className="nav-link" exact to="/About">
             About
            </NavLink>
          <NavLink className="nav-link" exact to="/Contact">
              Contact
            </NavLink>
          <form className="d-flex">
          <button className="btn btn-outline-light" type="submit">
          </button>
        </form>
       </div>
     </div>
```

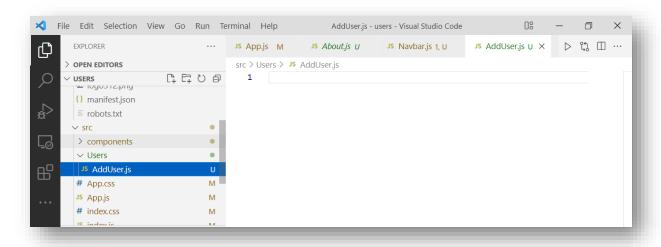
Note: If bootstrap not old version you want to install you can

npm i bootstrap@4.6.0



Part 4: Now we have to perform crud operation

Now first add User folder and inside it add component AddUser.js



```
AddUser.js
import React from 'react'
export const AddUser = () => {
 return (
   <div>AddUser</div>
 )
Now define the route for AddUser in App.js do following
import { AddUser } from "./Users/AddUser";
   <Switch>
         <Route exact path="/" component={Home}/>
         <Route exact path="/about" component={About}/>
         <Route exact path="/contact" component={Contact}/>
         <Route exact path="/users/add" component={AddUser}/>
         <Route component={NotFound}/>
   </Switch>
Now do changes in Navbar.js
 <form className="d-flex">
           <NavLink className="btn btn-outline-light" exact to="/users/add">
    Add User
</NavLink>
 </form>
```

Then final out put after defining route after clicking on button AddUser



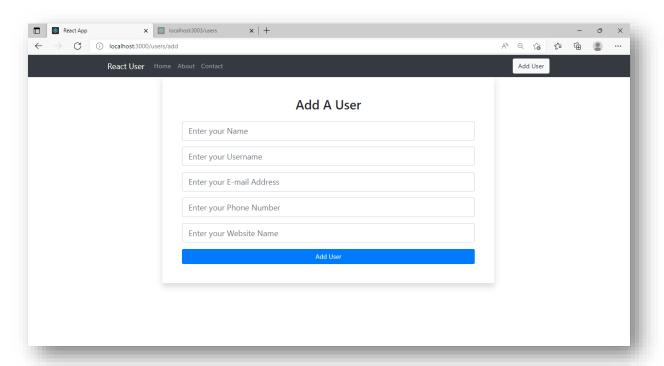
Now add following code in AddUser to create Add user form

AddUser.js

```
<div className="form-group">
            <input
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Name"
              name="name"
            />
          </div>
          <div className="form-group">
            <input
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Username"
              name="username"
            />
          </div>
          <div className="form-group">
            <input
              type="email"
              className="form-control form-control-lg"
              placeholder="Enter your E-mail Address"
              name="email"
            />
          </div>
          <div className="form-group">
            <input</pre>
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Phone Number"
              name="phone"
            />
          <div className="form-group">
            <input</pre>
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Website Name"
              name="website"
            />
          </div>
          <button className="btn btn-primary btn-block">Add User
        </form>
      </div>
    </div>
  );
};
```

<form>

Output:



Now do the following changes

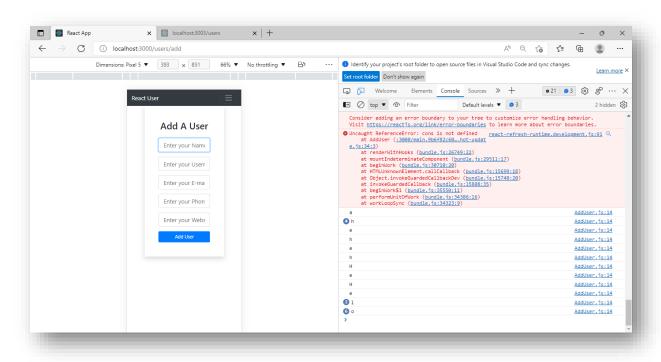
AddUser.js

```
import React, { useState } from "react";
export const AddUser = () => {
 const [user, setUser] = useState({
   name: "",
  username: "",
    email: "",
   phone: "",
   website: "",
});
const {name,username,email,phone,website} = user;
const onInputChange = e => {
console.log(e.target.value);
  return (
    <div className="container">
      <div className="w-75 mx-auto shadow p-5">
        <h2 className="text-center mb-4">Add A User</h2>
        <form>
          <div className="form-group">
            <input</pre>
              type="text"
```

```
placeholder="Enter your Name"
              name="name" value={name}
              onChange={e=>onInputChange(e)}
            />
          </div>
          <div className="form-group">
            <input</pre>
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Username"
              name="username" value={username}
              onChange={e=>onInputChange(e)}
            />
          </div>
          <div className="form-group">
            <input</pre>
              type="email"
              className="form-control form-control-lg"
              placeholder="Enter your E-mail Address"
              name="email" value={email}
              onChange={e=>onInputChange(e)}
            />
          </div>
          <div className="form-group">
            <input
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Phone Number"
              name="phone" value={phone}
              onChange={e=>onInputChange(e)}
            />
          </div>
          <div className="form-group">
            <input</pre>
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Website Name"
              name="website" value={website}
              onChange={e=>onInputChange(e)}
            />
          </div>
          <button className="btn btn-primary btn-block">Add User
        </form>
      </div>
    </div>
  );
};
```

className="form-control form-control-lg"

Now after the you notice, when you type any text its not typing but it showing on console.

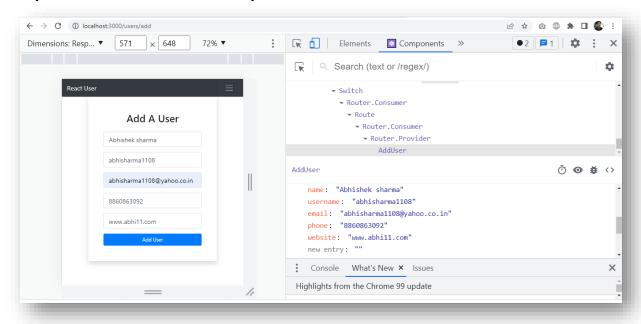


Now add the following code to save the changes, modified in the onInputChange.

```
const onInputChange = e => {
//console.log(e.target.value);
setUser({...user,[e.target.name]:e.target.value})
Final code:
import React, { useState } from "react";
export const AddUser = () => {
 const [user, setUser] = useState({
   name: "",
   username: "",
   email: "",
   phone: "",
   website: "",
 });
const {name,username,email,phone,website} = user;
const onInputChange = e => {
//console.log(e.target.value);
setUser({...user,[e.target.name]:e.target.value})
}
 return (
```

```
<div className="container">
  <div className="w-75 mx-auto shadow p-5">
    <h2 className="text-center mb-4">Add A User</h2>
    <form>
      <div className="form-group">
        <input
          type="text"
          className="form-control form-control-lg"
          placeholder="Enter your Name"
          name="name" value={name}
          onChange={e=>onInputChange(e)}
        />
      </div>
      <div className="form-group">
        <input</pre>
          type="text"
          className="form-control form-control-lg"
          placeholder="Enter your Username"
          name="username" value={username}
          onChange={e=>onInputChange(e)}
        />
      </div>
      <div className="form-group">
        <input</pre>
          type="email"
          className="form-control form-control-lg"
          placeholder="Enter your E-mail Address"
          name="email" value={email}
          onChange={e=>onInputChange(e)}
        />
      </div>
      <div className="form-group">
        <input
          type="text"
          className="form-control form-control-lg"
          placeholder="Enter your Phone Number"
          name="phone" value={phone}
          onChange={e=>onInputChange(e)}
        />
      </div>
      <div className="form-group">
        <input</pre>
          type="text"
          className="form-control form-control-lg"
          placeholder="Enter your Website Name"
          name="website" value={website}
          onChange={e=>onInputChange(e)}
        />
```

Output: Use react developer tool to see on chrome.



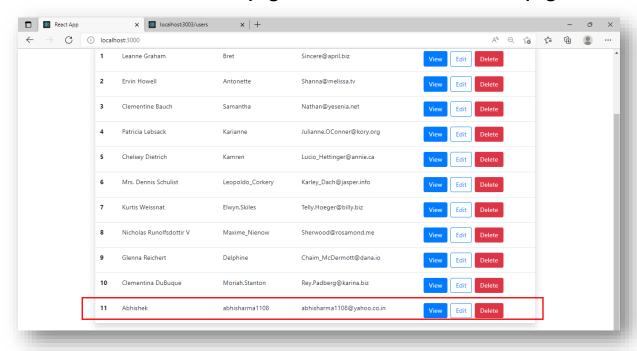
Now the final updated code of Add User as follows

```
import React, { useState } from "react";
import axios, { Axios } from "axios";
import { useHistory } from "react-router-dom";
export const AddUser = () => {
 let history = useHistory();
    const [user, setUser] = useState({
   name: "",
   username: "",
   email: "".
   phone: "",
 website: "",
 });
  const { name, username, email, phone, website } = user;
const onInputChange = (e) => {
  //console.log(e.target.value);
 setUser({ ...user, [e.target.name]: e.target.value });
 };
 const onSubmit = async e =>{
```

```
e.preventDefault();
    await axios.post("http://localhost:3003/users",user);
    history.push("/");
return (
  <div className="container">
    <div className="w-75 mx-auto shadow p-5">
      <h2 className="text-center mb-4">Add A User</h2>
      <form onSubmit={e=> onSubmit(e)}>
        <div className="form-group">
           <input
             type="text"
             className="form-control form-control-lg"
             placeholder="Enter your Name"
             name="name"
             value={name}
             onChange={(e) => onInputChange(e)}
          />
         </div>
        <div className="form-group">
           <input</pre>
             type="text"
             className="form-control form-control-lg"
             placeholder="Enter your Username"
             name="username"
             value={username}
             onChange={(e) => onInputChange(e)}
/>
        </div>
        <div className="form-group">
           <input</pre>
             type="email"
             className="form-control form-control-lg"
             placeholder="Enter your E-mail Address"
            name="email"
             value={email}
             onChange={(e) => onInputChange(e)}
           />
        </div>
         <div className="form-group">
           <input</pre>
             type="text"
             className="form-control form-control-lg"
             placeholder="Enter your Phone Number"
             name="phone"
             value={phone}
             onChange={(e) => onInputChange(e)}
           />
```

```
</div>
          <div className="form-group">
            <input</pre>
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Website Name"
              name="website"
              value={website}
              onChange={(e) => onInputChange(e)}
            />
          </div>
          <button className="btn btn-primary btn-block">Add User</button>
        </form>
      </div>
    </div>
  );
};
```

And after Add user data page will redirect to home page.



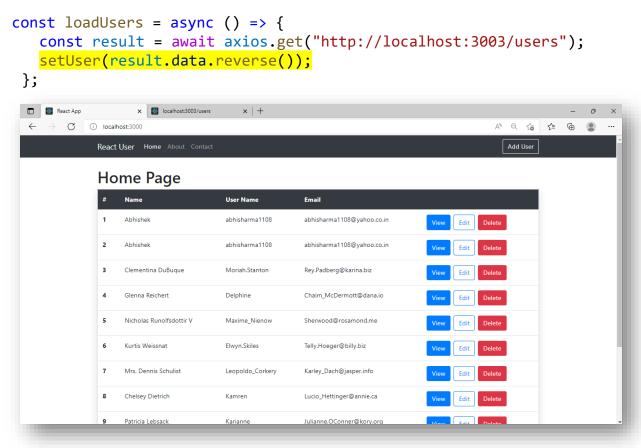
And also showing in the api.

```
{
  "name": "Abhishek",
  "username": "abhisharmall08",
  "email": "abhisharmall08gyahoo.co.in",
  "phone": "88e865392",
  "website": "maw. abhil.com",
  "id: 11
}

// name": "Abhishek",
  "username": "abhisharmall08gyahoo.co.in",
  "phone": "abhisharmall08gyahoo.co.in",
  "phone": "abhisharmall08gyahoo.co.in",
  "phone": "abhisharmall08gyahoo.co.in",
  "id": 12
}

// id": 12
}
}
```

Now if you want to display data in reverse order use array method in Home.js page code as follows



Now we have Edit user data.

Add **EditUser.js** in user folder and create a component and add in the App.js as routing and check.

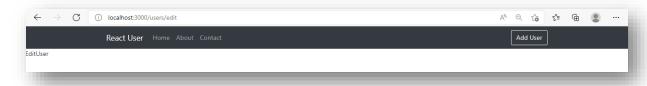
```
🔾 File Edit Selection View Go Run Terminal Help
                                                        EditUser.js - users - Visual Studio Code
                                                                                                         EXPLORER
                      ··· JS AddUser.js 1, U JS EditUser.js U X JS Home.js U
                                                                                      凸
     > OPEN EDITORS
                                     src > Users > JS EditUser.js > ...
                                                                                                           -
                                      1 import React from 'react'
                               U
                                      3
4
5
6
        JS About.js
                                           export const EditUser = () => {
        JS Contact.js
                               U
                                             return (
                                               <div>EditUser</div>
        JS Home.js
                                U
         JS NotFound.js
                                U

∨ Users

        JS AddUser.js
                                1, U
        JS EditUser.js
                                U
        # App.css
                                M
       JS App.js
                                М
```

EditUser.js import React from 'react' export const EditUser = () => { return (<div>EditUser</div>) App.js import { EditUser } from "./Users/EditUser"; <Switch> <Route exact path="/" component={Home}/> <Route exact path="/about" component={About}/> <Route exact path="/contact" component={Contact}/> <Route exact path="/users/add" component={AddUser}/> <Route exact path="/users/edit" component={EditUser}/> <Route component={NotFound}/> </Switch> Home.js <Link class="btn btn-primary mr-2">View</Link> <Link class="btn btn-outline-primary mr-2" exact to="/users/edit">Edit</Link> <Link class="btn btn-danger">Delete</Link>

Final output on edit button click



Edit code almost similar to AddUser (post)

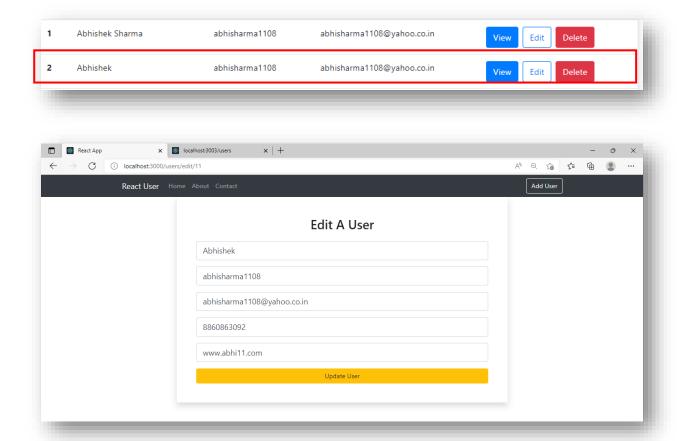
Now following changes page by page final code as follows

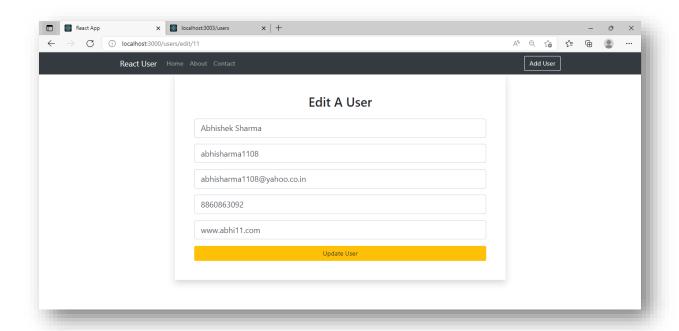
```
EditUser. is
import React, { useEffect, useState } from "react";
import axios, { Axios } from "axios";
import { useHistory,useParams } from "react-router-dom";
export const EditUser = () => {
  let history = useHistory();
  const {id} = useParams();
    const [user, setUser] = useState({
    name: "",
   username: "",
   email: "",
    phone: "",
   website: "",
  });
  const { name, username, email, phone, website } = user;
  const onInputChange = (e) => {
    //console.log(e.target.value);
    setUser({ ...user, [e.target.name]: e.target.value });
  };
 useEffect(()=>{
  loadUser();
 },[]);
 const onSubmit = async e =>{
      e.preventDefault();
      await axios.put(`http://localhost:3003/users/${id}`,user);
     history.push("/");
  }
 const loadUser = async()=>{
  const result = await axios.get(`http://localhost:3003/users/${id}`)
 setUser(result.data);
 }
 return (
    <div className="container">
      <div className="w-75 mx-auto shadow p-5">
        <h2 className="text-center mb-4">Edit A User</h2>
        <form onSubmit={e=> onSubmit(e)}>
          <div className="form-group">
            <input</pre>
              type="text"
              className="form-control form-control-lg"
              placeholder="Enter your Name"
              name="name"
              value={name}
              onChange={(e) => onInputChange(e)}
```

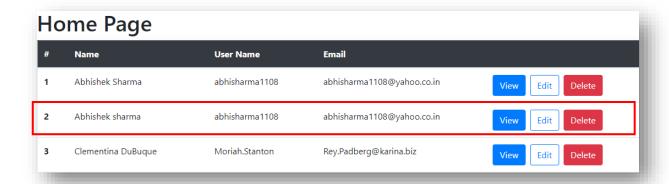
```
/>
        </div>
        <div className="form-group">
          <input</pre>
            type="text"
            className="form-control form-control-lg"
            placeholder="Enter your Username"
            name="username"
            value={username}
            onChange={(e) => onInputChange(e)}
          />
        </div>
        <div className="form-group">
          <input
            type="email"
            className="form-control form-control-lg"
            placeholder="Enter your E-mail Address"
            name="email"
            value={email}
            onChange={(e) => onInputChange(e)}
          />
        </div>
        <div className="form-group">
          <input</pre>
            type="text"
            className="form-control form-control-lg"
            placeholder="Enter your Phone Number"
            name="phone"
            value={phone}
            onChange={(e) => onInputChange(e)}
          />
        </div>
        <div className="form-group">
          <input
            type="text"
            className="form-control form-control-lg"
            placeholder="Enter your Website Name"
            name="website"
            value={website}
            onChange={(e) => onInputChange(e)}
          />
     </div>
        <button className="btn btn-warning btn-block">Update User</button>
      </form>
    </div>
  </div>
);
```

```
};
Home.js
 <Link class="btn btn-primary mr-2">View</Link>
 <Link class="btn btn-outline-primary mr-2" exact</pre>
to={`/users/edit/${user.id}`}>
Edit</Link>
<Link class="btn btn-danger">Delete</Link>
App.js
 <Switch>
          <Route exact path="/" component={Home}/>
          <Route exact path="/about" component={About}/>
          <Route exact path="/contact" component={Contact}/>
          <Route exact path="/users/add" component={AddUser}/>
          <Route exact path="/users/edit/:id" component={EditUser}/>
          <Route component={NotFound}/>
  </Switch>
```

Final Output







Now we have to delete User, for this do the following changes in the Home.js page, create one anonymous function deleteuser() and on click of delete button call this method, final code as following

Home.js

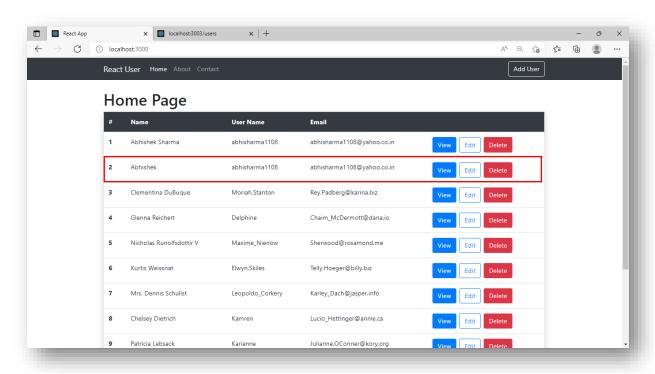
```
import React, { useState, useEffect } from "react";
import axios from "axios";
import { Link } from "react-router-dom";

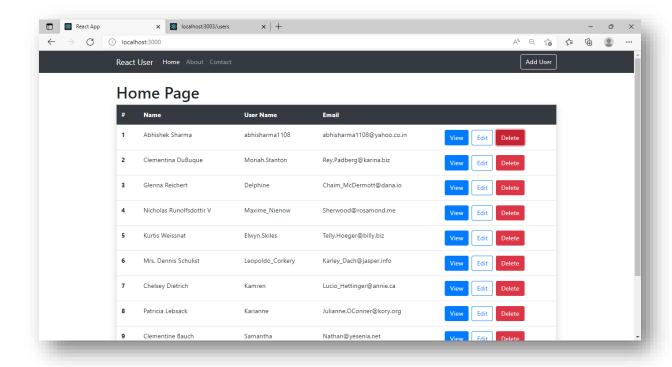
const Home = () => {
   const [users, setUser] = useState([]);

   useEffect(() => {
      loadUsers();
   }, []);
   const loadUsers = async () => {
      const result = await axios.get("http://localhost:3003/users");
      setUser(result.data.reverse());
```

```
};
const deleteUser = async id => {
//console.log(`${id}`);
await axios.delete(`http://localhost:3003/users/${id}`);
loadUsers();
};
return (
  <div className="container">
   <div className="py-4">
     <h1>Home Page</h1>
     <thead class="table-dark">
       #
         Name
         User Name
         Email
         </thead>
      {users.map((user, index) => (
         {index + 1}
          {user.name}
          {user.username}
          {user.email}
          >
            <Link class="btn btn-primary mr-2">View</Link>
             class="btn btn-outline-primary mr-2"
             exact
             to={`/users/edit/${user.id}`}
             Edit
            </Link>
            <Link
             class="btn btn-danger"
             onClick={() => deleteUser(user.id)}>
             Delete
            </Link>
          ))}
      </div>
```

Output:





Now we have to view user details we have to create one more component. So, like above what we have done as follows.

DetailsUser.js



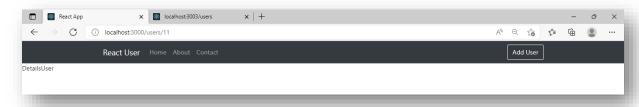
App.js

```
import "./App.css";
import Home from "../src/components/pages/Home";
import About from "./components/pages/About";
import Contact from "./components/pages/Contact";
import Navbar from "./components/Layout/Navbar";
import { BrowserRouter as Router, Switch, Route } from "react-router-dom";
import NotFound from "./components/pages/NotFound";
import { AddUser } from "./Users/AddUser";
import { EditUser } from "./Users/EditUser";
import { DetailsUser } from "./Users/DetailsUser";
function App() {
 return (
    <Router>
      <div className="App">
        <Navbar />
        <Switch>
          <Route exact path="/" component={Home}/>
          <Route exact path="/about" component={About}/>
          <Route exact path="/contact" component={Contact}/>
```

In Home.js kindly do changes in view link as follows.

```
<Link class="btn btn-primary mr-2" exact to={`/users/${user.id}`}>
View
</Link>
```

And on click view option on home page and check link

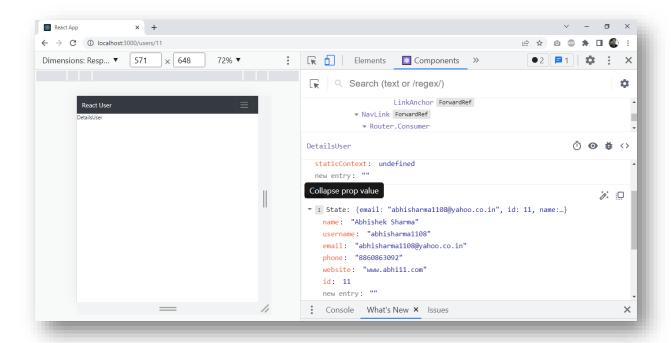


Now write following code to check data is fetching or not Note: most of the code is same like edit page.

DetailsUser.js

```
import React, { useEffect, useState } from "react";
import axios, { Axios } from "axios";
import { useHistory, useParams } from "react-router-dom";
export const DetailsUser = () => {
  const [user, setUser] = useState({
    name: "",
    username: "",
    email: "",
    phone: "",
   website: "",
  });
  const { id } = useParams();
  useEffect(() => {
    loadUser();
  }, []);
  const loadUser = async () => {
```

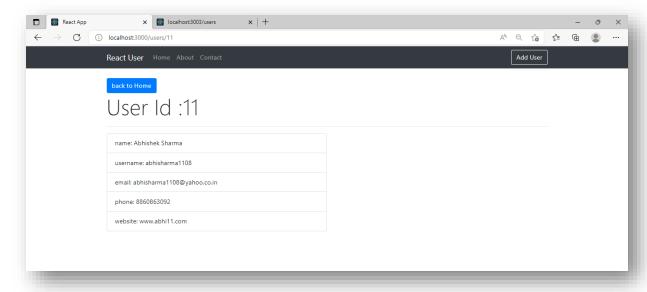
```
const result = await axios.get(`http://localhost:3003/users/${id}`);
   setUser(result.data);
};
return <div>DetailsUser</div>;
};
```



Now the final code of detailsUser as follows

```
import React, { useEffect, useState } from "react";
import axios, { Axios } from "axios";
import { useHistory, useParams } from "react-router-dom";
import { Link } from "react-router-dom";
export const DetailsUser = () => {
  const [user, setUser] = useState({
    name: "",
    username: "",
    email: "",
    phone: "",
   website: "",
  });
  const { id } = useParams();
  useEffect(() => {
   loadUser();
  }, []);
  const loadUser = async () => {
    const result = await axios.get(`http://localhost:3003/users/${id}`);
    setUser(result.data);
  };
  return (
```

And the final output



PS F:\MY REACT\users> npm run start:dev