**Lesson 02 Demo 02**

**Implementing Programmatic Routing with a Login Page and Nested Routing**

**Objective:** To demonstrate React routing by navigating to the home component after a successful login with credentials and incorporating nested concepts within the home component

**Tools required:** Node.js and React.js

**Prerequisites:** None

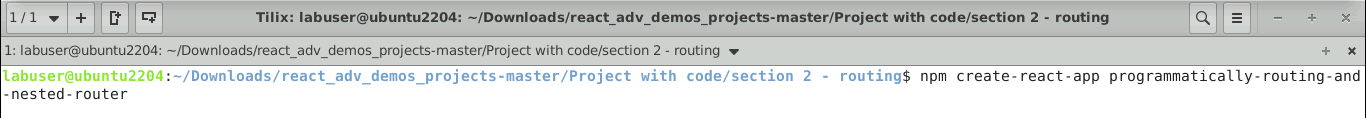
Steps to be followed:

1. Set up the React project
2. Create files for the home component
3. Test the application

**Step 1: Set up the React project**

1. Open the terminal window and run the following command to create a React application:

**npm create-react-app programmatically-routing-and-nested-router**

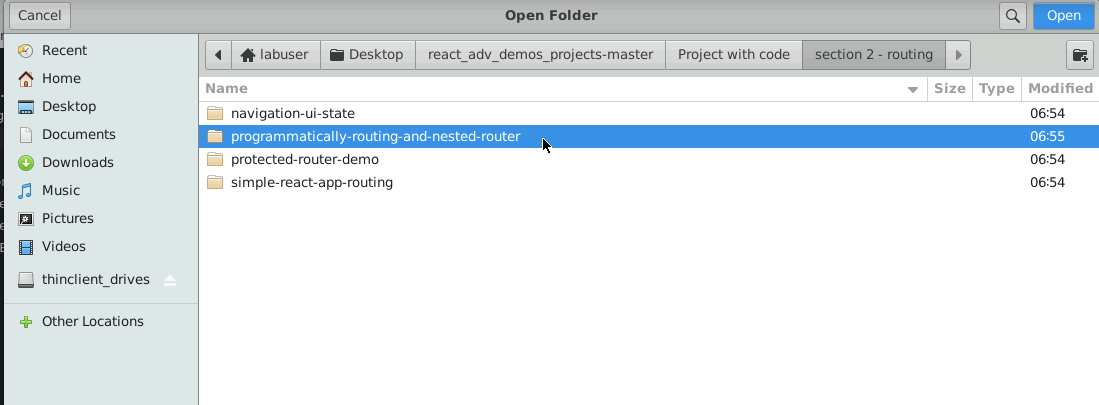


1. Open the created React application folder (**programmatically-routing-and-nested-router**) in VS Code by clicking on **File** in the top left corner and selecting **Open Folder**

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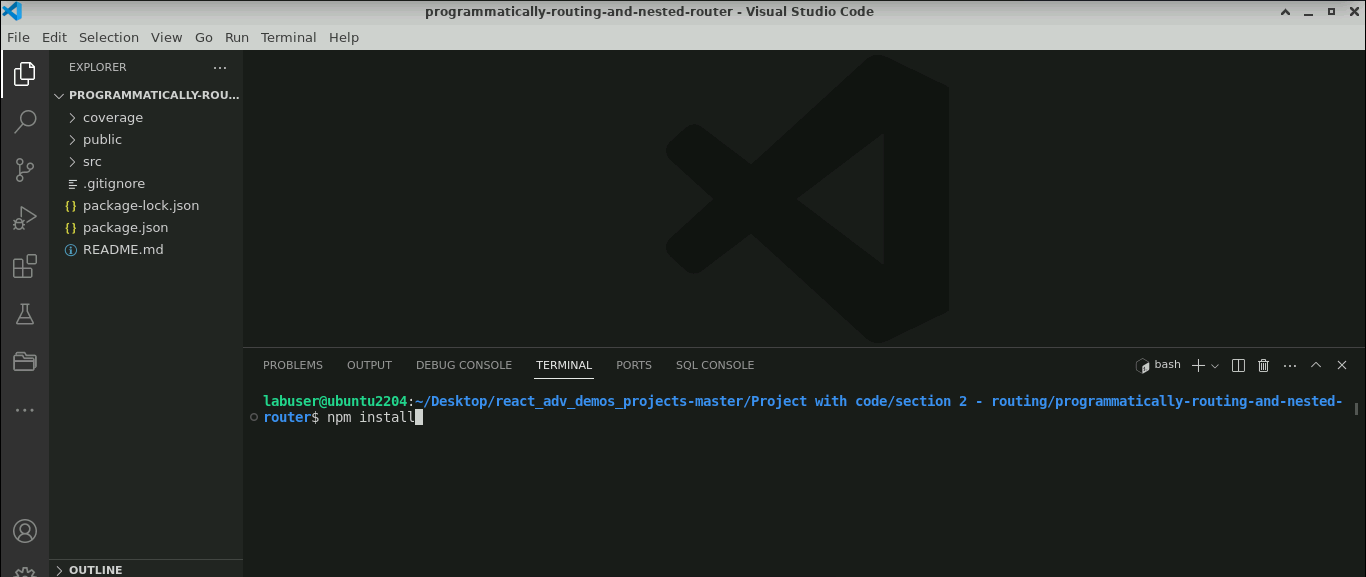
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1. Click on **Open**

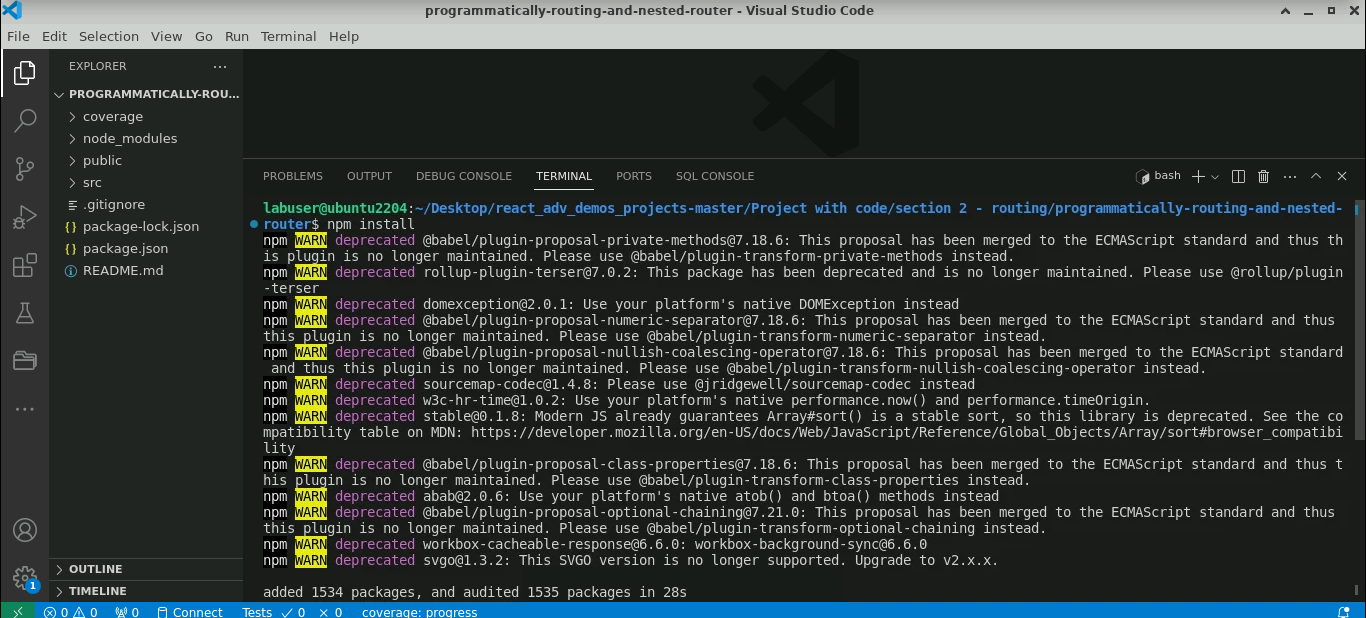


1. Inside the folder, open the **Terminal** and enter the following command:

**npm install**



The following output appears:

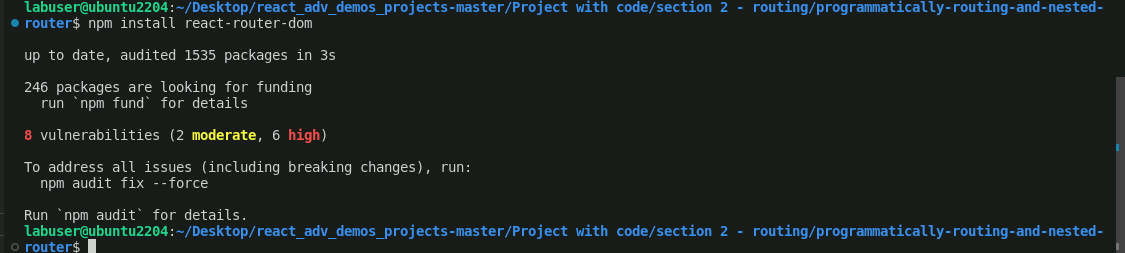


1. Enter the following command to install routing dependencies:

**npm install react-router-dom**



The following output appears:

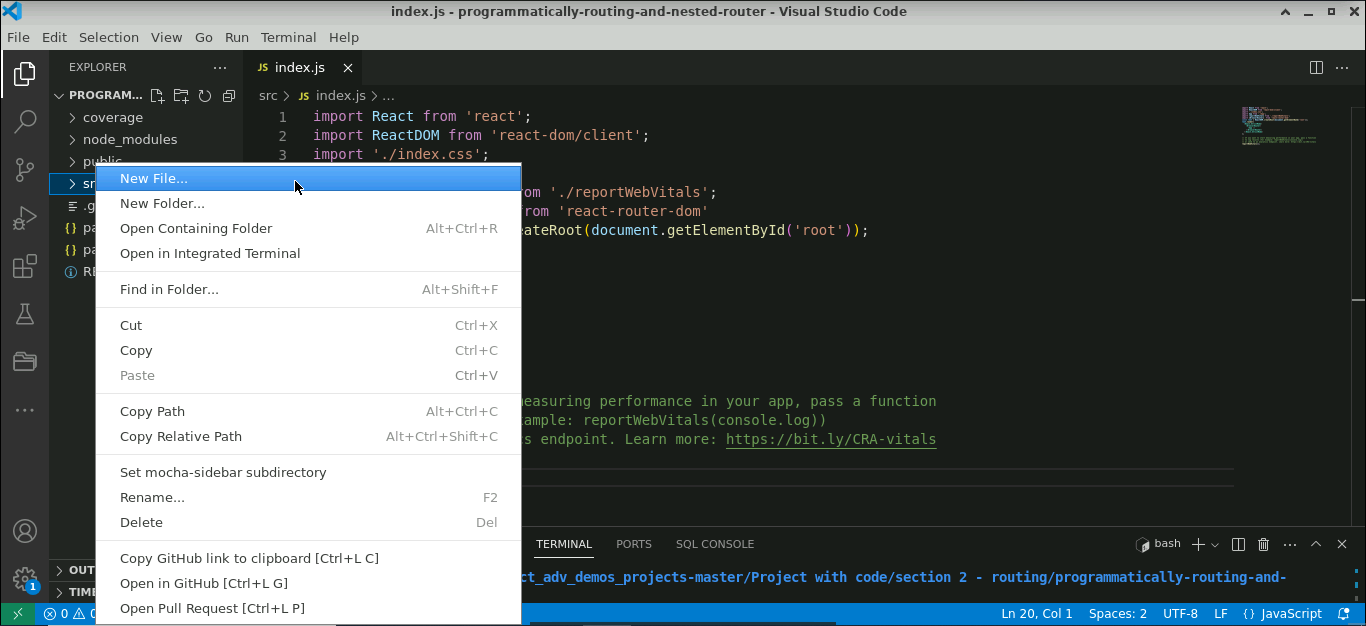


1. Click on the **package.json** file to view the installed routing dependencies

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1. Right-click on the **src** folder and select **New File**



1. Create a file named **index.js**

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1. In the **index.js** file, enter the following code:

**import React from 'react';**

**import ReactDOM from 'react-dom/client';**

**import './index.css';**

**import App from './App';**

**import reportWebVitals from './reportWebVitals';**

**import {BrowserRouter} from 'react-router-dom'**

**const root = ReactDOM.createRoot(document.getElementById('root'));**

**root.render(**

**<React.StrictMode>**

**<BrowserRouter>**

**<App />**

**</BrowserRouter>**

**</React.StrictMode>**

**);**

**// If you want to start measuring performance in your app, pass a function**

**// to log results (for example: reportWebVitals(console.log))**

**// or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals**

**reportWebVitals();**

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**Step 2: Create files for the home component**

* 1. Create **LoginPage.js** file under the **src** folder and enter the following code:

**import React, { useState } from "react";**

**import "./App.css";**

**import { useNavigate } from "react-router-dom";**

**import RegistrationForm from "./RegistrationForm";**

**function LoginPage() {**

**const navigate = useNavigate();**

**const handleSubmit = (username, password) => {**

**//console.log(username, password);**

**if(username=="admin@gmail.com" && password=="admin@123"){**

**navigate("home");**

**}else {**

**alert("failure try once again")**

**}**

**};**

**return (**

**<div className="App">**

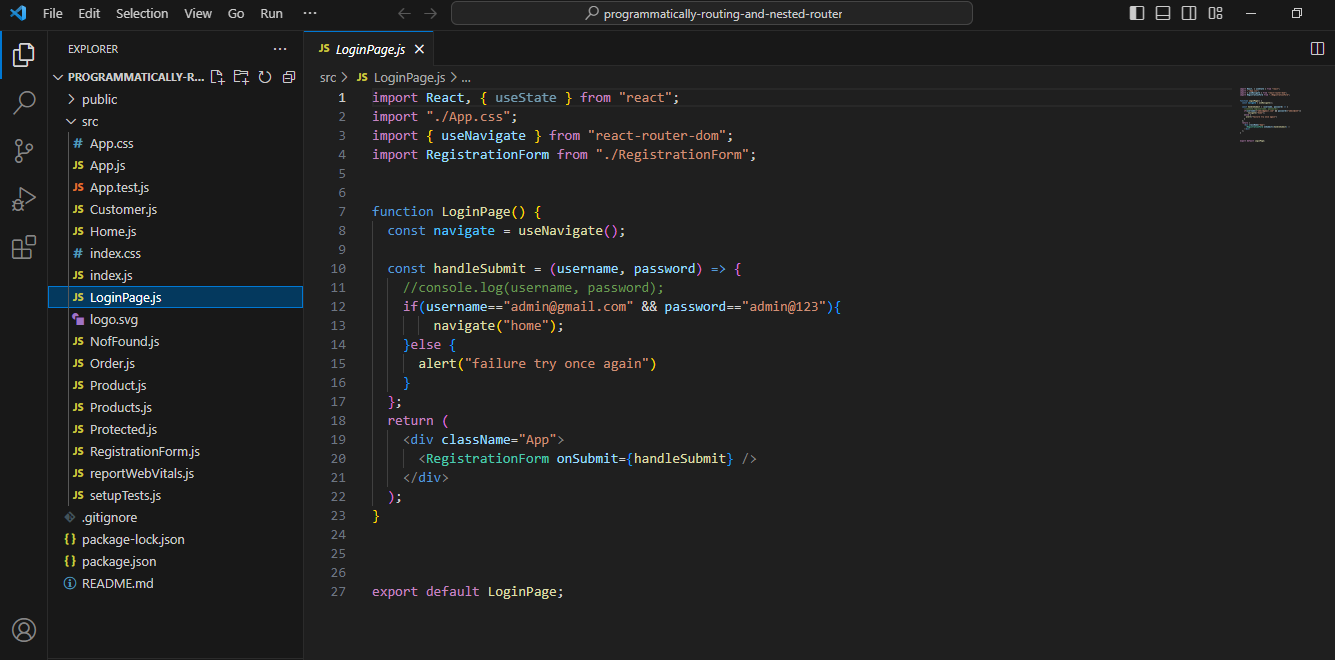
**<RegistrationForm onSubmit={handleSubmit} />**

**</div>**

**);**

**}**

**export default LoginPage;**



**Note:** Copy the **username** (**admin@gmail.com**) and **password** (**admin@123**) as it will be used in the further steps

* 1. Create **RegistrationForm.js** file under the **src** folder and enter the following code:

**import { useState } from "react";**

**function RegistrationForm({ onSubmit }) {**

**const [username, setUsername] = useState("");**

**const [password, setPassword] = useState("");**

**const [isEnable, setEnable] = useState(true);**

**const handleKeyUp = () => {**

**if (username.length > 0 && password.length > 0) setEnable(false);**

**else setEnable(true);**

**};**

**return (**

**<div className="container" style={{"marginTop":"100px"}}>**

**<div className="row offset-4">**

**<div className="col-6">**

**<h2>Login Page</h2>**

**</div>**

**</div>**

**<form className="form-group">**

**<div className="row offset-4">**

**<div className="col-3">**

**<label>User Name</label>**

**</div>**

**<div className="col-3">**

**<input**

**type="text"**

**id="username-input"**

**placeholder="username"**

**value={username}**

**onKeyUp={handleKeyUp}**

**onChange={(event) => setUsername(event.target.value)}**

**className="form-control"**

**/>**

**</div>**

**</div>**

**<div className="row offset-4">**

**<div className="col-3">**

**<label>Password</label>**

**</div>**

**<div className="col-3">**

**<input**

**type="password"**

**id="password-input"**

**placeholder="Password"**

**onKeyUp={handleKeyUp}**

**value={password}**

**onChange={(event) => setPassword(event.target.value)}**

**className="form-control"**

**/>**

**</div>**

**</div>**

**<div className="row offset-4">**

**<div className="col-3">**

**<button**

**type="submit"**

**id="button-input"**

**disabled={isEnable}**

**onClick={() => onSubmit(username, password)}**

**className="btn btn-primary"**

**>**

**Register**

**</button>**

**</div>**

**<div className="col-3">**

**<button**

**type="reset"**

**id="button-input"**

**onClick={() => {**

**setUsername("")**

**setPassword("")**

**}**

**}**

**className="btn btn-danger"**

**>**

**Reset**

**</button>**

**</div>**

**</div>**

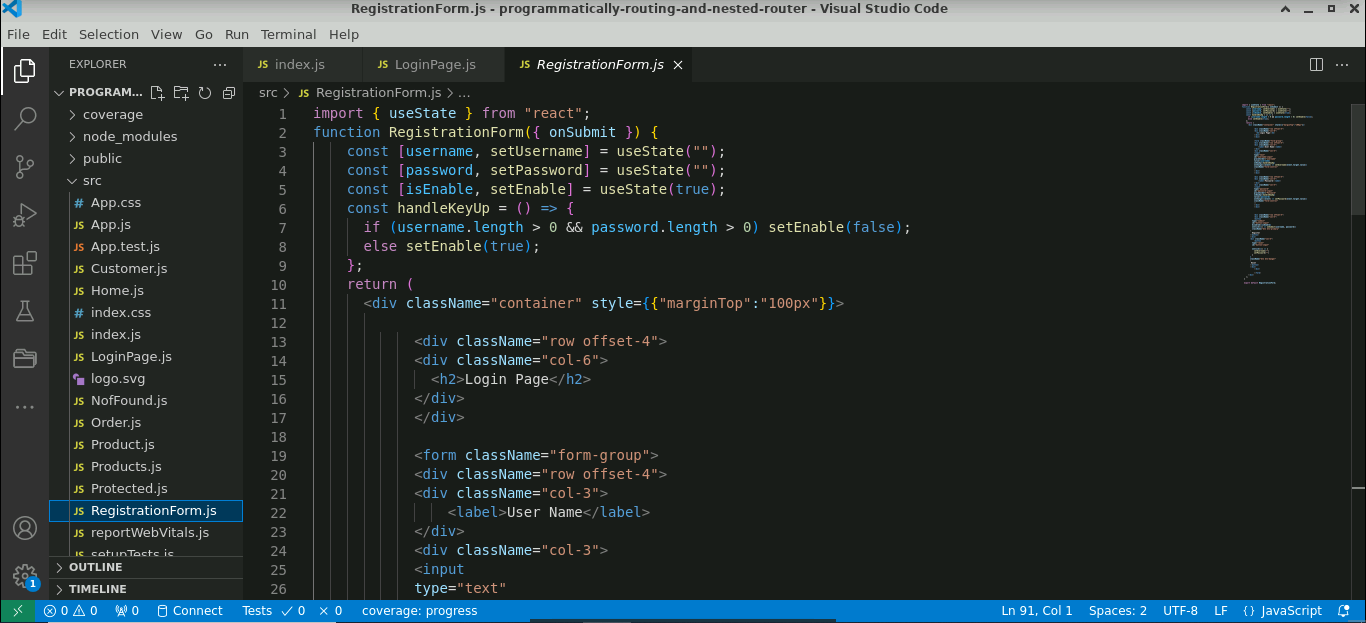
**</form>**

**</div>**

**);**

**}**

**export default RegistrationForm;**



* 1. Create **Home.js** file under the **src** folder and enter the following code:

**import { useNavigate } from "react-router-dom";**

**import { Outlet } from "react-router-dom";**

**function Home() {**

**const navigate = useNavigate();**

**return(**

**<div className="container">**

**<nav className="navbar navbar-inverse">**

**<div className="container-fluid">**

**<div className="navbar-header" style={{"textAlign":"center"}}>**

**<a className="navbar-brand" href="#" onClick={()=>navigate("customer")}>Customer</a>**

**<a className="navbar-brand" href="#" onClick={()=>navigate("products")}>Product</a>**

**<a className="navbar-brand" href="#" onClick={()=>navigate("order")}>Order</a>**

**<a className="navbar-brand" href="#" onClick={()=>navigate("/")}>Logout</a>**

**</div>**

**</div>**

**</nav>**

**<hr/>**

**<h2>Welcome to Home Component</h2>**

**<div style={{"margin":"50px"}}>**

**<Outlet/>**

**</div>**

**</div>**

**)**

**}**

**export default Home;**

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* 1. Create **Customer.js** file under the **src** folder and enter the following code:

**function Customer() {**

**return(**

**<div>**

**<h4>Customer Information</h4>**

**</div>**

**)**

**}**

**export default Customer;**

A screenshot of a computer

Description automatically generated

* 1. Create **Products.js** file under the **src** folder and enter the following code:

**import { Link, Outlet, useParams } from "react-router-dom";**

**import Product from "./Product";**

**function Products() {**

**let params = useParams() || 100;**

**let products = [**

**{"pid":101,"pname":"TV","price":56000},**

**{"pid":102,"pname":"Computer","price":45000},**

**{"pid":103,"pname":"Laptop","price":90000},**

**]**

**return(**

**<div>**

**<h4>Product Information</h4>**

**{products.map(p=>**

**<Link to={`product/${p.pid}`}>{p.pname}</Link>**

**)}**

**<Product params={params} products={products}/>**

**</div>**

**)**

**}**

**export default Products;**

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* 1. Create **Product.js** file under the **src** folder and enter the following code:

**function Product({params,products}) {**

**console.log(params)**

**console.log(products)**

**return(**

**<div>**

**{products.filter(p=>p.pid==eval(params.pid)).map(p=>**

**<div>**

**PId {p.pid} PName {p.pname} Price {p.price}**

**</div>**

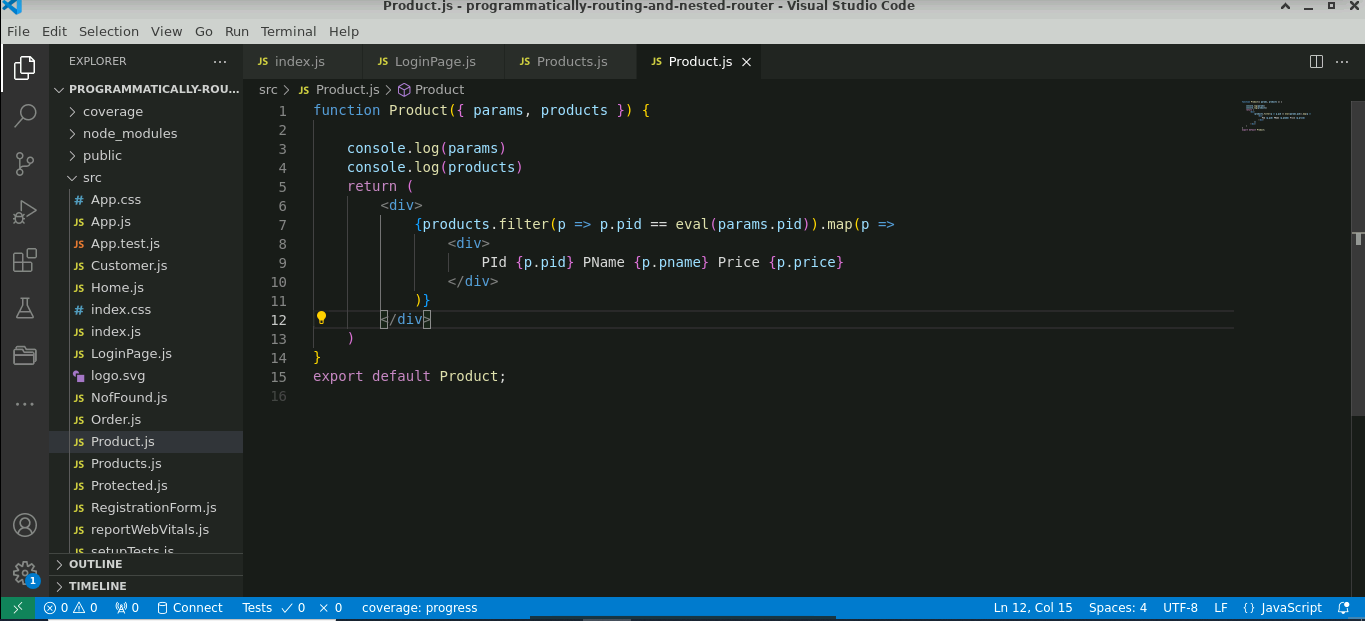
**)}**

**</div>**

**)**

**}**

**export default Product;**



* 1. Create **Order.js** file under the **src** folder and enter the following code:

**function Order() {**

**return(**

**<div>**

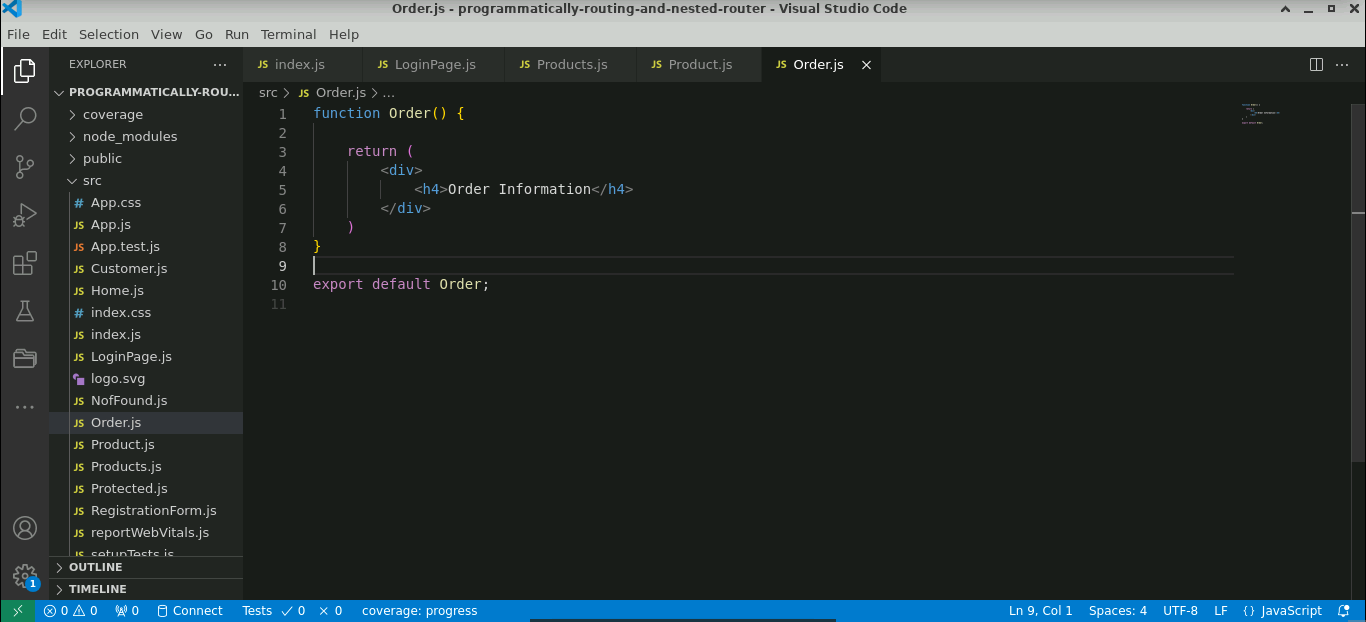
**<h4>Order Information</h4>**

**</div>**

**)**

**}**

**export default Order;**



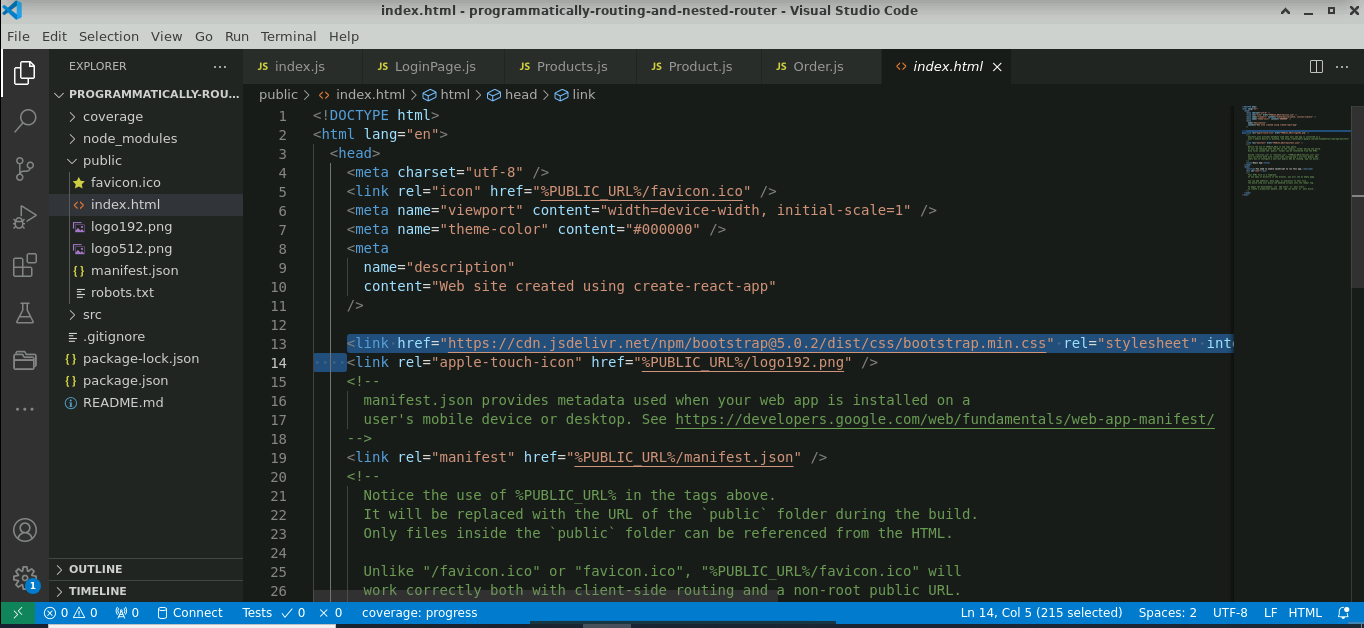
* 1. Right-click on the **public** folder, select **New File**, and create a file named **index.html**

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* 1. In the **index.html** file, add the bootstrap CDN (content delivery network) link:

**<link href=**[**https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css**](https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css) **rel="stylesheet" integrity="sha384 EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC" crossorigin="anonymous">**



* 1. Create **App.js** file under the **src** folder and enter the following code:

**import logo from './logo.svg';**

**import './App.css';**

**import { Route, Routes } from 'react-router-dom';**

**import Home from './Home';**

**import LoginPage from './LoginPage';**

**import Customer from './Customer';**

**import Products from './Products';**

**import NotFound from './NofFound';**

**import Product from './Product';**

**import Order from './Order';**

**function App() {**

**return (**

**<div className="App">**

**<Routes>**

**<Route path='/' element={<LoginPage/>}></Route>**

**<Route path='/home' element={<Home/>}>**

**<Route path='customer' element={<Customer/>}></Route>**

**<Route path='products' element={<Products/>}>**

**<Route path='product/:pid' element={<Product/>}></Route>**

**</Route>**

**<Route path='order' element={<Order/>}></Route>**

**</Route>**

**<Route path='\*' element={<NotFound/>}></Route>**

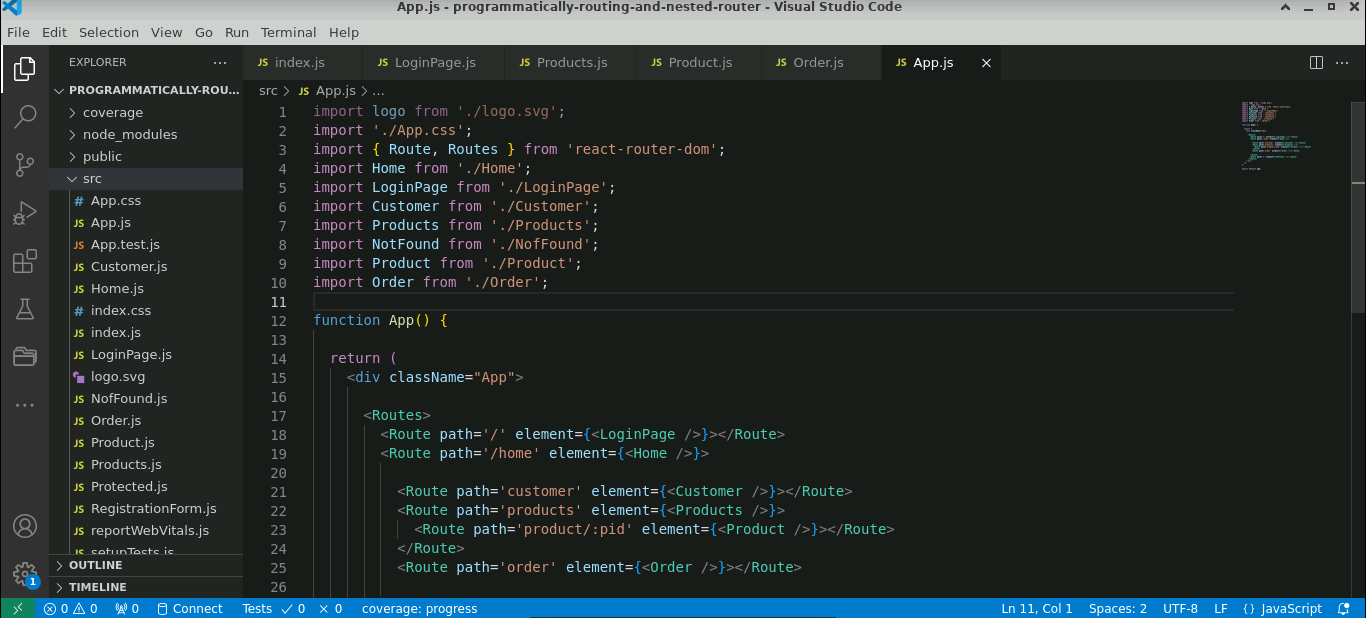
**</Routes>**

**</div>**

**);**

**}**

**export default App;**



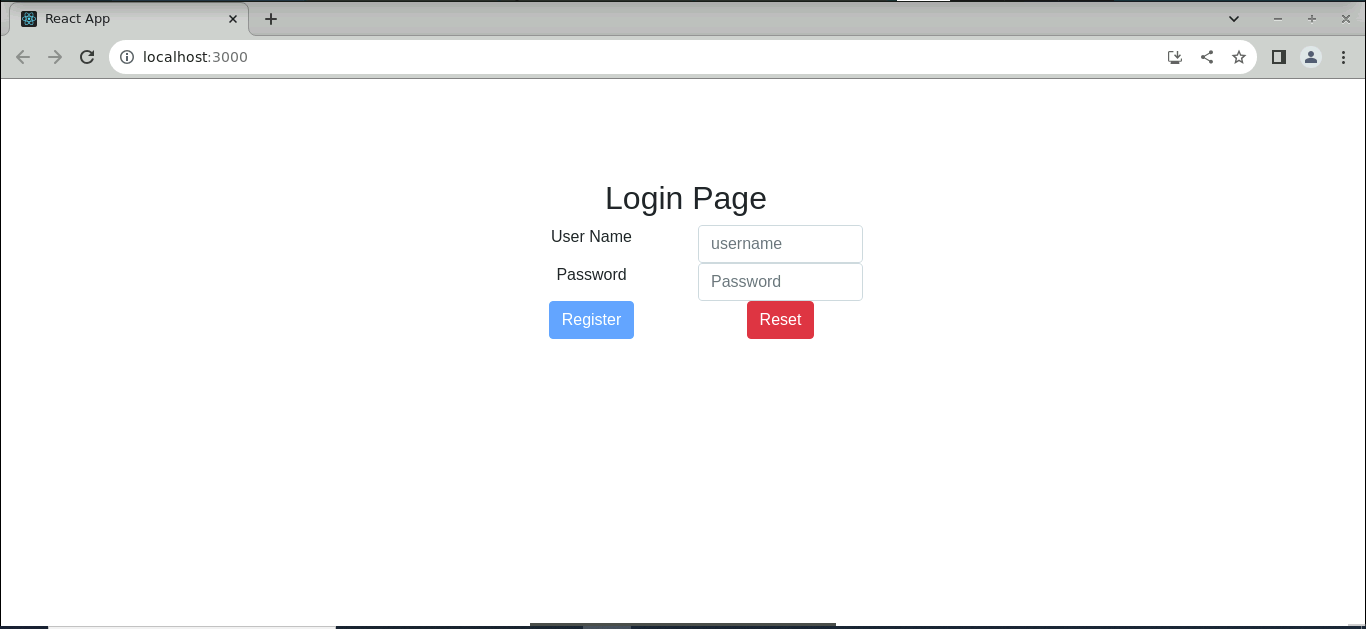
**Step 3: Test the application**

* 1. In the terminal, enter the below command:

**npm start**



The following output appears:



* 1. Enter the **User Name** (**admin@gmail.com**) and **Password** (**admin@123**)that was copied earlier in step 2.1, and then click on **Register**

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Description automatically generated

The following output screen appears:

A screenshot of a computer

Description automatically generated

* 1. Click on **Customer**

A screenshot of a computer

Description automatically generated

The following output screen appears:

A screenshot of a computer

Description automatically generated

* 1. Click on **Product**

A screenshot of a computer

Description automatically generated

The following output screen appears:

A screenshot of a computer

Description automatically generated

* 1. Click on **TVComputerLaptop** to display the **Product Information**

A screenshot of a computer

Description automatically generated

The following output screen appears:

A screenshot of a computer

Description automatically generated

* 1. Click on **Logout**

A screenshot of a computer

Description automatically generated

The following output screen appears:

A screenshot of a computer

Description automatically generated

With this, you have successfully demonstrated React routing by navigating to the home component after a successful login with credentials and incorporating nested concepts within the home component.