Add Login Protection in Web Apps

Open last project (4. Routing URL in React JS Web Apps)

Open VS code Terminal
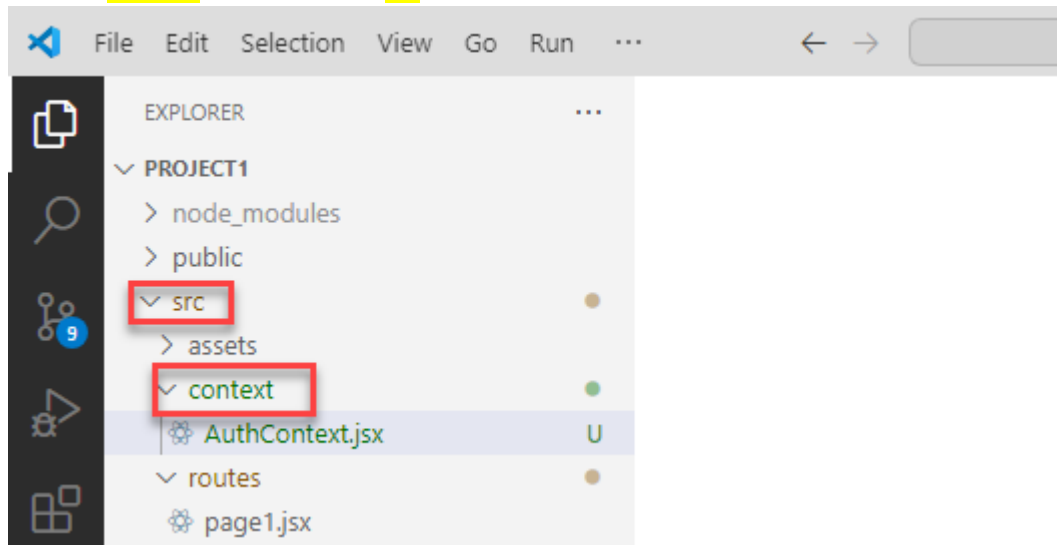
Install **axios** to create HTTP request in our apps:
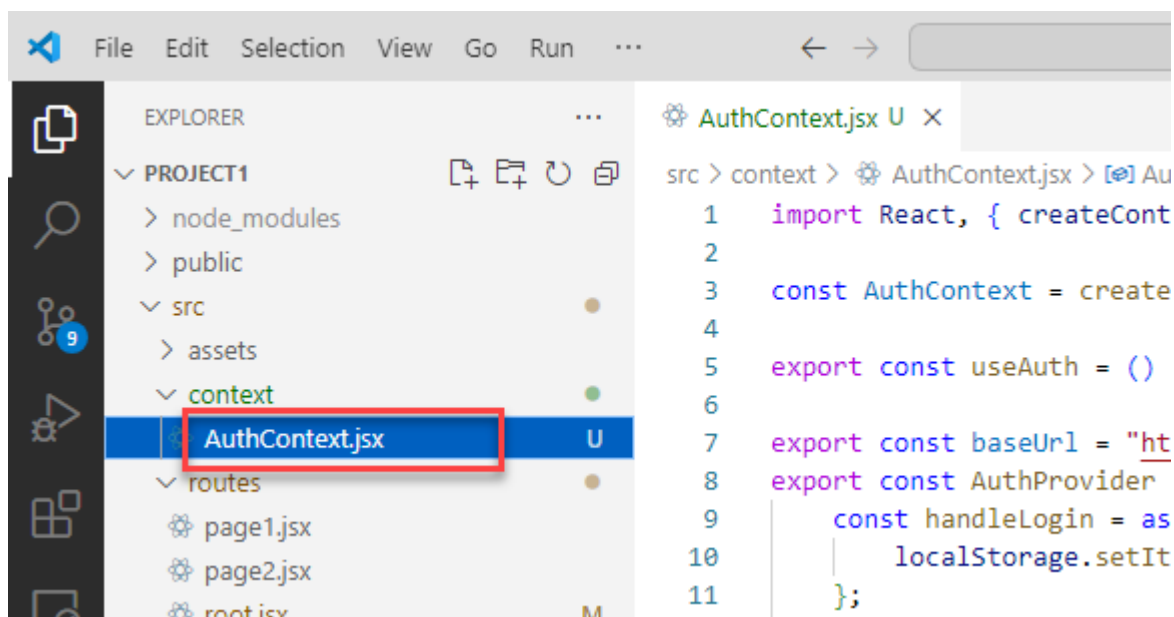**npm install axios**

We need MUI Lab for using Loading Button. Install with this command:
npm install @mui/lab

Create "**context**" folder inside "**src**" folder

Create **AuthContext.jsx** inside "context" folder

Open and put this code in **src/context/AuthContext.jsx**:

```jsx
import React, { createContext, useContext } from "react";

const AuthContext = createContext();

export const useAuth = () => useContext(AuthContext);

export const baseUrl = "https://learning2.pt-mine.id";
export const AuthProvider = ({ children }) => {
    const handleLogin = async (res) => {
        localStorage.setItem("appuser", JSON.stringify(res));
    };

    const handleLogout = () => {
        localStorage.removeItem("appuser");
        window.location.href = "/login";
    };

    const checkLogin = () => {
        try {
            const token = localStorage.getItem("appuser");
            if (token !== null) {
                const appuser = JSON.parse(token);
                return appuser.email;
            } else {
                return false;
            }
        } catch (error) {
            return false;
        }
    };

    return (
        <AuthContext.Provider value={{ checkLogin, handleLogin, handleLogout }}>
            {children}
        </AuthContext.Provider>
    );
};

export const getToken = async () => {
    try {
        const token = localStorage.getItem("appuser");
        if (token !== null) {
            const appuser = JSON.parse(token);
            const bearerToken = "Bearer " + appuser.token;
            return bearerToken;
        } else {
            return null;
        }
    } catch (error) {
        return null;
    }
};
```
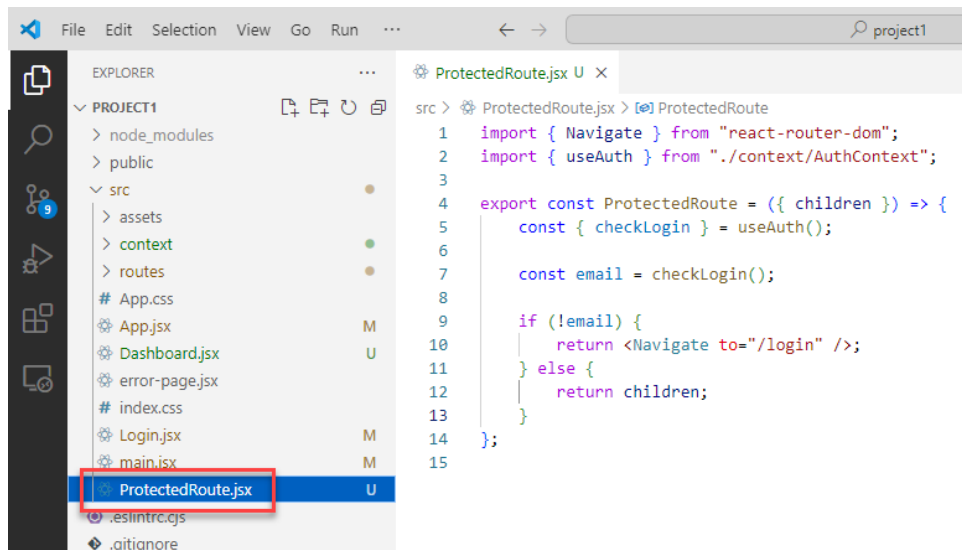
Create **ProtectedRoute.jsx** inside "**src**" folder.

This file is use to block request if not signed in

Open and put this code **in src/ProtectedRoute.jsx**:

```jsx
import { Navigate } from "react-router-dom";

import { useAuth } from "./context/AuthContext";

export const ProtectedRoute = ({ children }) => {
    const { checkLogin } = useAuth();

    const email = checkLogin();

    if (!email) {
        return <Navigate to="/login" />;
    } else {
        return children;
    }
};
```

We will move **main.jsx to App.jsx** to make our code become organized.

Open and replace **src/main.jsx** with this code:

```jsx
import * as React from "react";
import * as ReactDOM from "react-dom/client";
import App from "./App";

ReactDOM.createRoot(document.getElementById("root")).render(
    <React.StrictMode>
        <App />
    </React.StrictMode>
);
```

Open and replace **src/App.jsx** with this code:

```jsx
import * as React from "react";

import { createBrowserRouter, RouterProvider } from "react-router-dom";
import "./index.css";
import Root from "./routes/root";
import Page1 from "./routes/page1";
import Page2 from "./routes/page2";
import Login from "./Login";
import { AuthProvider } from "./context/AuthContext";
import { ProtectedRoute } from "./ProtectedRoute";

const router = createBrowserRouter([
    {
        path: "/",
        element: (
            <ProtectedRoute>
                <Root />
            </ProtectedRoute>
        ),
        children: [
            {
                path: "page-one",
                element: <Page1 />,
            },
            {
                path: "page-two",
                element: <Page2 />,
            },
        ],
    },
    {
        path: "login",
        element: <Login />,
    },
]);

export default function App() {
    return (
        <AuthProvider>
            <RouterProvider router={router} />
        </AuthProvider>
    );
}
```

Open and replace **src/Login.jsx** with this code:

```jsx
import { useState } from "react";

import { baseUrl, useAuth } from "./context/AuthContext";
import { useNavigate } from "react-router-dom";
import axios from "axios";
import CssBaseline from "@mui/material/CssBaseline";
import TextField from "@mui/material/TextField";
import Paper from "@mui/material/Paper";
import Box from "@mui/material/Box";
import Grid from "@mui/material/Grid";
import Typography from "@mui/material/Typography";
import LoadingButton from "@mui/lab/LoadingButton";
import { createTheme, ThemeProvider } from "@mui/material/styles";
const defaultTheme = createTheme();

export default function Login() {
    const [loading, setLoading] = useState(false);
    const { handleLogin } = useAuth();
    const navigate = useNavigate();

    const handleSubmit = async (event) => {
        event.preventDefault();
        const data = new FormData(event.currentTarget);

        setLoading(true);
        try {
            const formData = new FormData();
            formData.append("useremail", data.get("email"));
            formData.append("userpassword", data.get("password"));
            const response = await axios.post(`${baseUrl}/login`, formData, {
                headers: {
                    "Content-Type": "multipart/form-data",
                },
            });

            if (response.data.result) {
                handleLogin(response.data.userData);
                navigate("/page-one");
            } else {
                alert(response.data.message);
            }
        } catch (error) {
            console.error("Error sending data: ", error);
            alert("An error occurred. Please try again later.");
        } finally {
            setLoading(false);
        }
    };

    return (
        <ThemeProvider theme={defaultTheme}>
            <Grid container component="main" sx={{ height: "100vh" }}>
                <CssBaseline />
                <Grid
```

```jsx
    item
    xs={false}
    sm={4}
    md={7}
    sx={{
        backgroundImage:
            "url(https://source.unsplash.com/random?wallpapers)",
        backgroundRepeat: "no-repeat",
        backgroundColor: (t) =>
            t.palette.mode === "light"
                ? t.palette.grey[50]
                : t.palette.grey[900],
        backgroundSize: "cover",
        backgroundPosition: "center",
    }}
/>
<Grid
    item
    xs={12}
    sm={8}
    md={5}
    component={Paper}
    elevation={6}
    square
>
    <Box
        sx={{
            my: 8,
            mx: 4,
            display: "flex",
            flexDirection: "column",
            alignItems: "center",
        }}
    >
        <img
            src="https://www.roomie.id/roomieweb/img/logo/roomie-logo-black.png"
            width="200"
        ></img>
        <Typography component="h1" variant="h5">
            Sign in
        </Typography>
        <Box
            component="form"
            onSubmit={handleSubmit}
            noValidate
            sx={{ mt: 1 }}
        >
            <TextField
                margin="normal"
                required
                fullWidth
                id="email"
                label="Email Address"
                name="email"
                autoComplete="email"
                autoFocus
            />
```

```
                <TextField
                    margin="normal"
                    required
                    fullWidth
                    name="password"
                    label="Password"
                    type="password"
                    id="password"
                    autoComplete="current-password"
                />

                <LoadingButton
                    loading={loading}
                    type="submit"
                    fullWidth
                    variant="contained"
                    sx={{ mt: 3, mb: 2 }}
                >
                    Sign In
                </LoadingButton>
            </Box>
        </Box>
      </Grid>
    </Grid>
  </ThemeProvider>
  );
}
```

Open and replace **src/routes/root.jsx** with this code:

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

import Button from "@mui/material/Button";
import { useAuth } from "../context/AuthContext";

export default function Root() {
    const { handleLogout } = useAuth();

    const logout = () => {
        handleLogout();
    };

    return (
        <>
            <div id="sidebar">
                <h1>React Router Example</h1>
                <div>Our title</div>
                <nav>
                    <ul>
                        <li>
                            <Link to={`/page-one`}>Go to Page 1</Link>
                        </li>
                        <li>
                            <Link to={`/page-two`}>Go to Page 2</Link>
                        </li>
                        <li>
```

```
                <Button onClick={logout}>Log Out</Button>
            </li>
        </ul>
    </nav>
  </div>
  <div id="detail">
    <Outlet />
  </div>
</>
  );
}
```

Run this project :

<mark>npm run dev</mark>

Two users were inserted in MongoDB. You can use:
test@gmail.com / 123456 or
test1@roomie.id / test1@roomie.id