Routing URL in React JS Web Apps

In react web apps, we need *routing library* to display different web page. In this tutorial, we will be using React Router (https://reactrouter.com/) as routing library. Because this library is most popular among react developer.

Open last project (**3. Using Material UI as Component User Interface Library**) with VS Code.

Install react router with this command:
npm install react-router-dom localforage match-sorter sort-by

First, we make a simple stylesheet (CSS) to styling our page. It's help us to make the appearance of our website more organized.
Open and replace "**src/index.css**" with this code:

```css
html {
    box-sizing: border-box;
}
*,
*:before,
*:after {
    box-sizing: inherit;
}

body {
    font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", "Roboto",
        "Oxygen", "Ubuntu", "Cantarell", "Fira Sans", "Droid Sans",
        "Helvetica Neue", sans-serif;
    -webkit-font-smoothing: antialiased;
    -moz-osx-font-smoothing: grayscale;
}

code {
    font-family: source-code-pro, Menlo, Monaco, Consolas, "Courier New",
        monospace;
}

html,
body {
    height: 100%;
    margin: 0;
    line-height: 1.5;
    color: #121212;
}
textarea,
input,
button {
    font-size: 1rem;
    font-family: inherit;
    border: none;
    border-radius: 8px;
    padding: 0.5rem 0.75rem;
    box-shadow: 0 0px 1px hsla(0, 0%, 0%, 0.2), 0 1px 2px hsla(0, 0%, 0%, 0.2);
    background-color: white;
```

```css
    line-height: 1.5;
    margin: 0;
}
button {
    color: #3992ff;
    font-weight: 500;
}

textarea:hover,
input:hover,
button:hover {
    box-shadow: 0 0px 1px hsla(0, 0%, 0%, 0.6), 0 1px 2px hsla(0, 0%, 0%, 0.2);
}

button:active {
    box-shadow: 0 0px 1px hsla(0, 0%, 0%, 0.4);
    transform: translateY(1px);
}

#contact h1 {
    display: flex;
    align-items: flex-start;
    gap: 1rem;
}
#contact h1 form {
    display: flex;
    align-items: center;
    margin-top: 0.25rem;
}
#contact h1 form button {
    box-shadow: none;
    font-size: 1.5rem;
    font-weight: 400;
    padding: 0;
}
#contact h1 form button[value="true"] {
    color: #a4a4a4;
}
#contact h1 form button[value="true"]:hover,
#contact h1 form button[value="false"] {
    color: #eeb004;
}

form[action$="destroy"] button {
    color: #f44250;
}

.sr-only {
    position: absolute;
    width: 1px;
    height: 1px;
    padding: 0;
    margin: -1px;
    overflow: hidden;
    clip: rect(0, 0, 0, 0);
    white-space: nowrap;
    border-width: 0;
```

```css
}

#root {
    display: flex;
    height: 100%;
    width: 100%;
}

#sidebar {
    width: 22rem;
    background-color: #f7f7f7;
    border-right: solid 1px #e3e3e3;
    display: flex;
    flex-direction: column;
}

#sidebar > * {
    padding-left: 2rem;
    padding-right: 2rem;
}

#sidebar h1 {
    font-size: 1rem;
    font-weight: 500;
    display: flex;
    align-items: center;
    margin: 0;
    padding: 1rem 2rem;
    border-top: 1px solid #e3e3e3;
    order: 1;
    line-height: 1;
}

#sidebar > div {
    display: flex;
    align-items: center;
    gap: 0.5rem;
    padding-top: 1rem;
    padding-bottom: 1rem;
    border-bottom: 1px solid #e3e3e3;
}

#sidebar > div form {
    position: relative;
}

@keyframes spin {
    from {
        transform: rotate(0deg);
    }
    to {
        transform: rotate(360deg);
    }
}

#sidebar nav {
    flex: 1;
```

```css
    overflow: auto;
    padding-top: 1rem;
}


#sidebar nav a span {
    float: right;
    color: #eeb004;
}
#sidebar nav a.active span {
    color: inherit;
}


i {
    color: #818181;
}
#sidebar nav .active i {
    color: inherit;
}


#sidebar ul {
    padding: 0;
    margin: 0;
    list-style: none;
}


#sidebar li {
    margin: 0.25rem 0;
}


#sidebar nav a {
    display: flex;
    align-items: center;
    justify-content: space-between;
    overflow: hidden;

    white-space: pre;
    padding: 0.5rem;
    border-radius: 8px;
    color: inherit;
    text-decoration: none;
    gap: 1rem;
}


#sidebar nav a:hover {
    background: #e3e3e3;
}


#sidebar nav a.active {
    background: hsl(224, 98%, 58%);
    color: white;
}


#sidebar nav a.pending {
    color: hsl(224, 98%, 58%);
}


#detail {
```

```css
    flex: 1;
    padding: 2rem 4rem;
    width: 100%;
}

#detail.loading {
    opacity: 0.25;
    transition: opacity 200ms;
    transition-delay: 200ms;
}

#contact {
    max-width: 40rem;
    display: flex;
}

#contact h1 {
    font-size: 2rem;
    font-weight: 700;
    margin: 0;
    line-height: 1.2;
}

#contact h1 + p {
    margin: 0;
}

#contact h1 + p + p {
    white-space: break-spaces;
}

#contact h1:focus {
    outline: none;
    color: hsl(224, 98%, 58%);
}

#contact a[href*="twitter"] {
    display: flex;
    font-size: 1.5rem;
    color: #3992ff;
    text-decoration: none;
}
#contact a[href*="twitter"]:hover {
    text-decoration: underline;
}

#contact img {
    width: 12rem;
    height: 12rem;
    background: #c8c8c8;
    margin-right: 2rem;
    border-radius: 1.5rem;
    object-fit: cover;
}

#contact h1 ~ div {
    display: flex;
```

```css
        gap: 0.5rem;
        margin: 1rem 0;
    }

    #contact-form {
        display: flex;
        max-width: 40rem;
        flex-direction: column;
        gap: 1rem;
    }
    #contact-form > p:first-child {
        margin: 0;
        padding: 0;
    }
    #contact-form > p:first-child > :nth-child(2) {
        margin-right: 1rem;
    }
    #contact-form > p:first-child,
    #contact-form label {
        display: flex;
    }
    #contact-form p:first-child span,
    #contact-form label span {
        width: 8rem;
    }
    #contact-form p:first-child input,
    #contact-form label input,
    #contact-form label textarea {
        flex-grow: 2;
    }

    #contact-form-avatar {
        margin-right: 2rem;
    }

    #contact-form-avatar img {
        width: 12rem;
        height: 12rem;
        background: hsla(0, 0%, 0%, 0.2);
        border-radius: 1rem;
    }

    #contact-form-avatar input {
        box-sizing: border-box;
        width: 100%;
    }

    #contact-form p:last-child {
        display: flex;
        gap: 0.5rem;
        margin: 0 0 0 8rem;
    }

    #contact-form p:last-child button[type="button"] {
        color: inherit;
    }
```
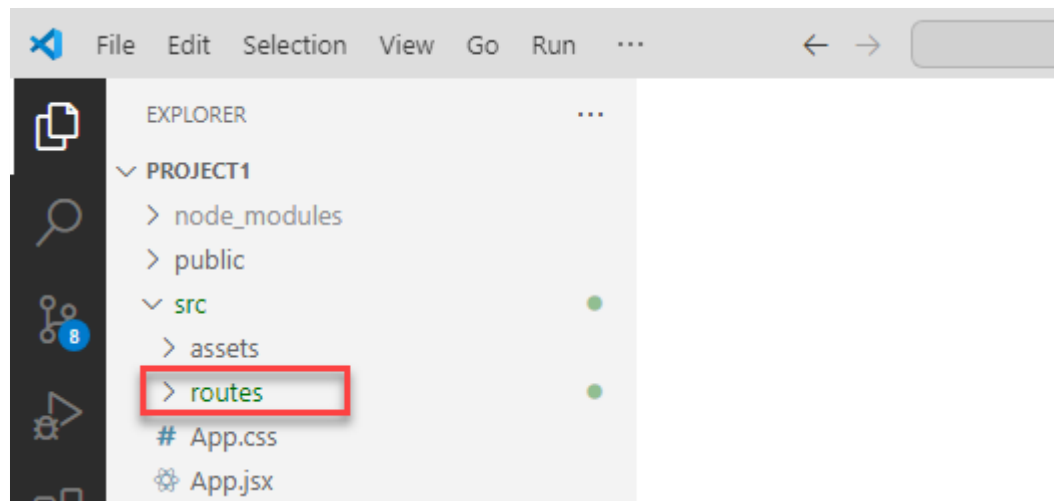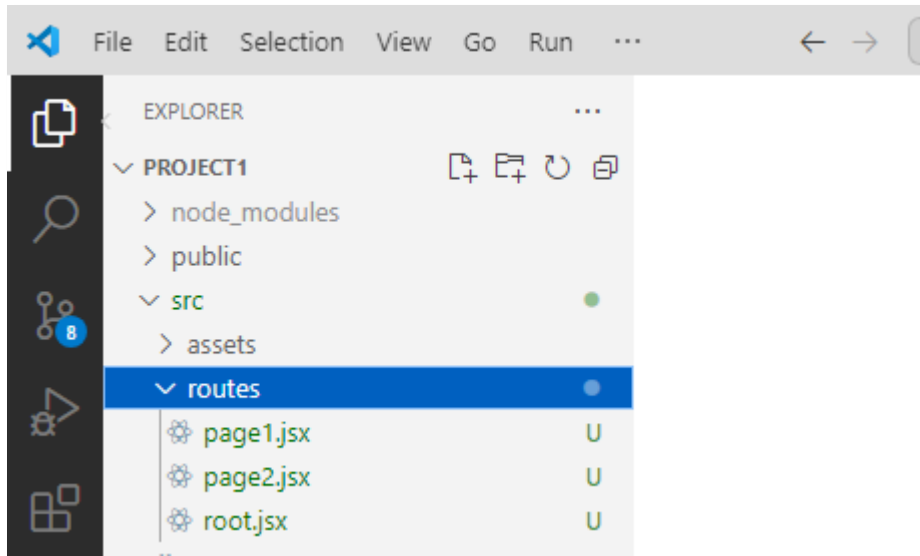
```css
#zero-state {
    margin: 2rem auto;
    text-align: center;
    color: #818181;
}

#zero-state a {
    color: inherit;
}

#zero-state a:hover {
    color: #121212;
}

#zero-state:before {
    display: block;
    margin-bottom: 0.5rem;
}

#error-page {
    display: flex;
    flex-direction: column;
    align-items: center;
    justify-content: center;
    width: 100%;
}
```

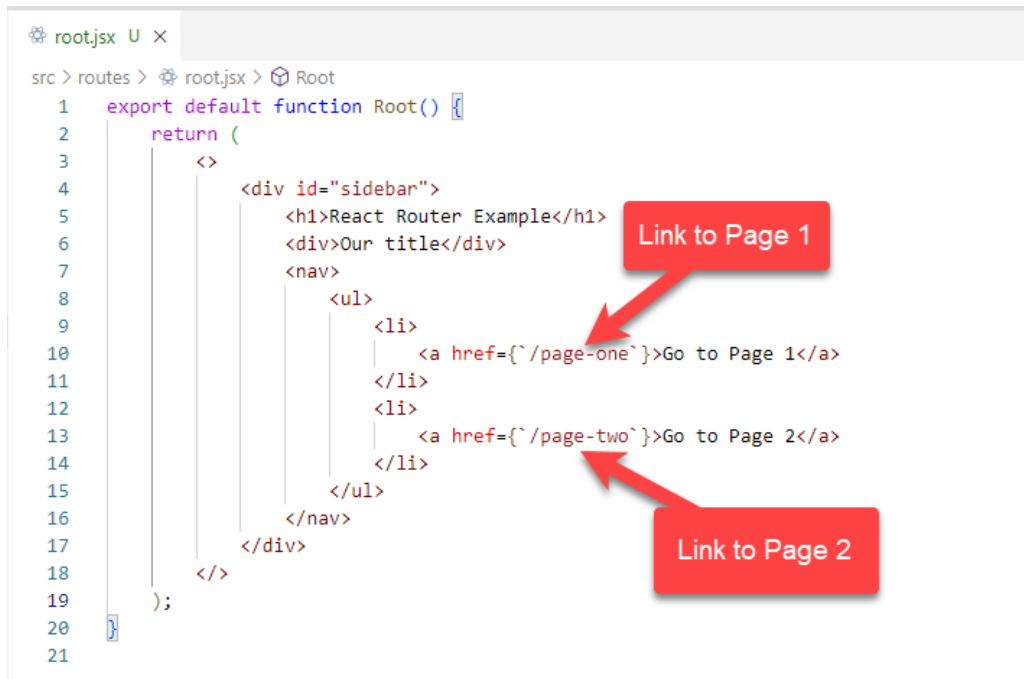Create folder "**routes**" inside "**src**" folder

Create 3 files inside routes folder:

- **root.jsx**
- **page1.jsx**
- **page2.jsx**

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


```jsx
export default function Root() {

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

```
                    <a href={`/page-two`}>Go to Page 2</a>
                </li>
            </ul>
        </nav>
    </div>
</>
    );
}
```

Open and put this code in <mark>src/routes/page1.jsx</mark>:

```
export default function Page1() {

    return (
        <div>
            <h1>Page One</h1>
            <img
                width={300}
                src="https://www.roomie.id/img/hotel/2024/01/31/GyxVTFW9gk73S2ZzS8Mv660BGuPhuGXi.j
pg"
            />
            <br></br>
        </div>
    );
}
```

Open and put this code in <mark>src/routes/page2.jsx</mark>:

```
export default function Page3() {
    return (
        <div>
            <h1>Page Two</h1>
            <img
                width={300}
                src="https://www.roomie.id/img/hotel/2024/01/31/room3.jpg"
            />
            <br></br>
        </div>
    );
}
```

Open and replace <mark>src/main.jsx</mark> with this code:

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

import * as ReactDOM from "react-dom/client";
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";

const router = createBrowserRouter([
```

```jsx
    {
        path: "/",
        element: <Root />,
    },
    {
        path: "page-one",
        element: <Page1 />,
    },
    {
        path: "page-two",
        element: <Page2 />,
    },
]);

ReactDOM.createRoot(document.getElementById("root")).render(
    <React.StrictMode>
        <RouterProvider router={router} />
    </React.StrictMode>
);
```
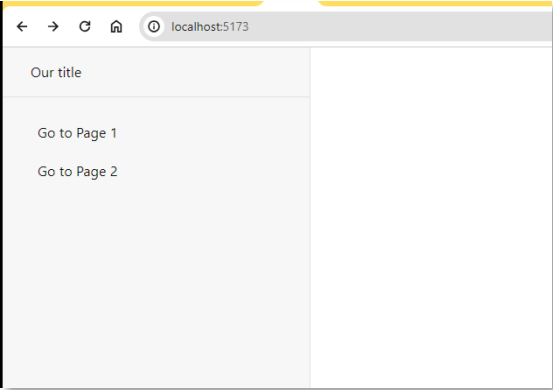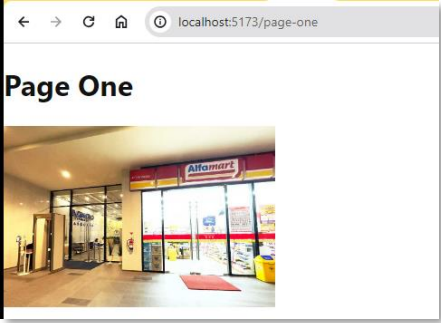

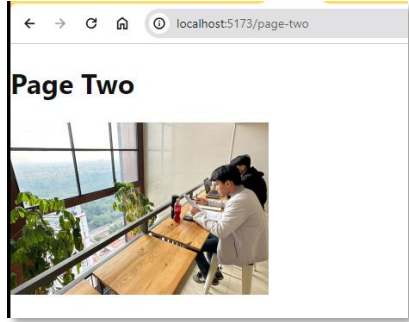Save all files and check result in browser

---

Root (Home)

Page 1

Page 2

Next step, we want to display page1 and page2 inside root component.
Open **src/main.jsx**
Replace :

```
1   import * as React from "react";
2   import * as ReactDOM from "react-dom/client";
3   import { createBrowserRouter, RouterProvider } from "react-rc
4   import "./index.css";
5   import Root from "./routes/root";
6   import Page1 from "./routes/page1";
7   import Page2 from "./routes/page2";
8
9   const router = createBrowserRouter([
10      {
11          path: "/",
12          element: <Root />,
13      },
14      {
15          path: "page-one",
16          element: <Page1 />,
17      },
18      {
19          path: "page-two",
20          element: <Page2 />,
21      },
22  ]);
23
```

With :

```
src > ⚙ main.jsx > [●] router > 🔗 children
1   import * as React from "react";
2   import * as ReactDOM from "react-dom/client";
3   import { createBrowserRouter, RouterProvider } from "react-router-dom";
4   import "./index.css";
5   import Root from "./routes/root";
6   import Page1 from "./routes/page1";
7   import Page2 from "./routes/page2";
8
9   const router = createBrowserRouter([
10      {
11          path: "/",
12          element: <Root />,
13          children: [
14              {
15                  path: "page-one",
16                  element: <Page1 />,
17              },
18              {
19                  path: "page-two",
20                  element: <Page2 />,
21              },
22          ],
23      },
24  ]);
25
26  ReactDOM.createRoot(document.getElementById("root")).render(
```

Basically, what we do is put page1 and page2 inside root children.

Insert outlet in src/routes/root.jsx with this code:

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

export default function Root() {
    return (
        <>
            <div id="sidebar">
                <h1>React Router Example</h1>
                <div>Our title</div>
                <nav>
                    <ul>
                        <li>
                            <a href={`/page-one`}>Go to Page 1</a>
                        </li>
                        <li>
                            <a href={`/page-two`}>Go to Page 2</a>
                        </li>
                    </ul>
                </nav>
            </div>
            <div id="detail">
                <Outlet />
            </div>
        </>
    );
}
```

Import outlet

Place where page displayed

Save all files and if nothing error happened, this is your web page result: