Single page Application

**React Router**

# What is Routing?

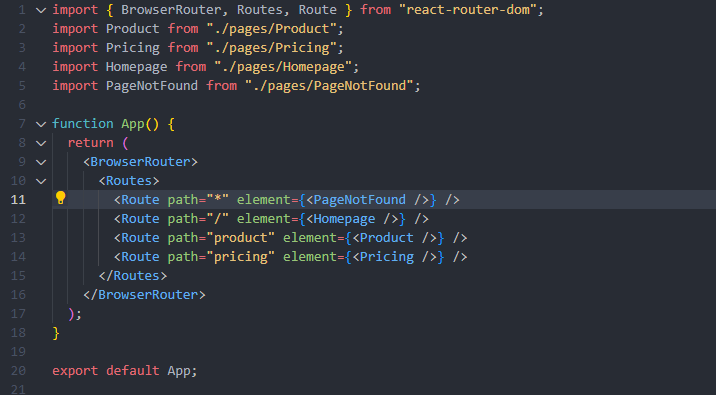
* We match different URLs to different Views (components)
  + A match is called **ROUTE**
* The user can navigate between different application screens, using the URL
* This works on the ‘**CLIENT-SIDE**’
* React Relies on 3rd party package
  + **React Router**
* Routing is **FUNDAMENTAL**

# What is SPA (single Page app)?

* Application that is **EXECUTED ENTIRELY on the CLIENT (browser)**
* SPA’s rely on **ROUTES**
* When the user Clicks on a **Router Link**
  + The **URL CHANGES**
  + The **DOM IS UPDATED**
  + **JS (react) is updating the DOM**
* The Page is **NEVER RELOADED**
* Feels like a NATIVE APP
* The SPA can also **COMMUNICATE with a SERVER through API**

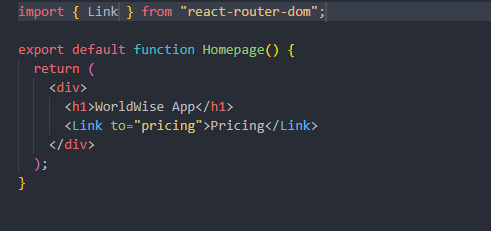
# React Router Library

* Install it in the project using
  + **Npm I react-router-dom**
  + **Npm I react-router-dom@6** – to install VERSION 6 of React Router
* We will import and define the **BrowserRouter**
* We import and define the **Routes**
* We import and define a **Route**
  + We need to define the **path = “desired path”**
    - Path = “product”
  + We need to define the element, the **React Component** for that route
    - Element={<Product/>}
* Now we can access the ‘/product’ page
* Use **path=”\*”**  for any other route that is not in the project

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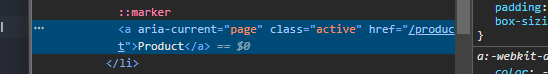
# Linking between Routes

* we are not using **<a>** elements since this will **reload the**  whole page
* WE ARE USIN the **LINK** element
  + <Link to=”pricing”> Pricing </Link>

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* We have created a new component that will only handle the Navigation

With **NavLink**, React Router gives us the **Active** class into the element so we can use it



# Ways to STYLE a REACT APP

1. Inline CSS
   1. Straight to the JSX element itself
      1. <div style={{width:’80’ display:’flex’}}></div>
   2. Scoped only to this element
2. External CSS
   1. className prop
   2. entire app
   3. A nightmare in large apps
   4. Never used in large apps
3. CSS Modules
   1. We write a CSS file for each component
   2. One external file per component
4. Utility-first CSS
   1. Tailwind
      1. Define utility classes
      2. And define whatever CSS you want without leaving the JSX
5. No CSS
   1. Use predefined UI libraries
      1. MUI
      2. Chakra UI
      3. Mantine

# CSS Modules

* A library
* Comes out of the box with Vite and Create React App
* 1 External css file / component
  + NameOfTheComponent.module.css
* We cannot use html element only
  + Using straight html elements will SELECT ALL ELEMENTS FROM THE APP
* We have to use **CLASSES** 
  + **.navigation**
* Import it using
  + Import styles from ‘./filename.modules.css’
* Use is as a JS variable
  + <element className={styles.nav}/>
* From a CSS Module, we can set up a **GLOBAL**  class
  + :global(.test){
  + Css styles
  + }
  + 