

# React.js

Lecture 3

# Agenda

- Recap last lecture.
- Routing
- HTTP Requests using Axios
- Questions!



# Routing

Routing is the capacity to show different pages to the user. That means the user can move between different parts of an application by entering a URL or clicking on an element.

React at its core is a very simple library, and it does not dictate anything about routing so you need to install it first :

```
npm install react-router
```

<https://reactrouter.com/start/library/installation>

---

# Routing

## <BrowserRouter>

A `<BrowserRouter>` stores the current location in the browser's address bar using clean URLs and navigates using the browser's built-in history stack.

## <Routes>

Rendered anywhere in the app, `<Routes>` will match a set of child routes from the current location. Whenever the location changes, `<Routes>` looks through all its child routes to find the best match and renders that branch of the UI.

## <Route>

Routes are perhaps the most important part of a React Router app. They couple URL segments to components, each route should specify 2 mandatory props the path and element which takes JSX component.

# Routing

```
<BrowserRouter>
```

```
  <Routes>
```

```
    <Route path="/" element={<Home />} />
```

```
    <Route path="/about-us" element={<AboutUs />} />
```

```
    <Route path="/list" case element={<List />} />
```

```
  </Routes>
```

```
</BrowserRouter>
```

# Routing

- To Define not found page use the \* for the path

```
<Route path="*" element={<h1>Not found page</h1>} />
```

- To Define dynamic segments page use the :property for the path

```
<Route path="/details/:id" case element={<Details />} />
```

# Routing-Link

A `<Link>` is an element that lets the user navigate to another page by clicking or tapping on it. a `<Link>` renders an accessible `<a>` element with a real href that points to the resource it's linking to.

```
<Link to="/">Home</Link>
```

```
<Link to="/about-us">About us</Link>
```

# Routing - Active links [self study]

Most web apps have persistent navigation sections at the top of the UI, the sidebar, and often multiple levels. Styling the active navigation items so the user knows where they are

Using NavLink: is a special kind of <Link> that knows whether or not it is "active" or "pending"

```
<NavLink
```

```
  to="/"
```

```
  className={({ isActive, isPending }) => {
```

```
    return isActive ? "active" : isPending ? "pending" : "";
```

```
  })>
```

```
    Home
```

```
</NavLink>
```



# Routing-Routing hooks

- useNavigate:
  - This hook tells you everything you need to know about a page navigation, can use the navigate function to go from route to other like `navigate("/products")`
- useParams:
  - The useParams hook returns an object of key/value pairs of the dynamic params from the current URL that were matched by the route.
- useLocation:
  - This hook returns the current location object.
- useSearchParams:
  - The useSearchParams hook is used to read and modify the query string in the URL for the current location.
  - `const [searchParams, setSearchParams] = useSearchParams();`
  - `searchParams.get('paramName')`

# Routing- Having Layout [Extra]

We will need to wrap the routes with a parent wrapper that holds the layout element with the navbar and footer for example.

```
<BrowserRouter>
```

```
  <Routes>
```

```
    <Route element={<Layout />}>
```

```
      <Route path="/" element={<Home /> } />
```

```
    </Route>
```

```
    <Route path="/about-us" element={<AboutUs /> } />
```

```
  </Routes>
```

```
</BrowserRouter>
```

# Routing- Having Layout [Extra]

And inside the layout component we can use the navbar and the `<Outlet />` element from `react-router-dom` to be as a placeholder for the components that match the route.

An `<Outlet>` should be used in parent route elements to render their child route elements. This allows nested UI to show up when child routes are rendered.

```
function Layout() {  
  return (  
    <>  
      <Header />  
      <Outlet />  
    </>  
  )  
}
```

# Axios

Axios is basically an external library,  
which is used to make promise  
based HTTP calls

```
npm install axios
```

Creating instance for shared  
config :

```
import axios from 'axios';
```

```
export const instance =  
  axios.create({  
    baseURL: 'API BASE URL',  
  });
```

---



After initialize axios instance you can use it for API calling to integrate with backend server :

```
instance.get('/endpoint_path')  
  .then(function (response) {  
    console.log(response);  
  })  
  .catch(function (error) {  
    console.log(error);  
  });
```

Let's check Axios Docs

# Interceptors

Interceptors are functions that Axios calls for every request to transform the request before Axios sends it, or transform the response before Axios returns the response to your code.

<https://github.com/axios/axios>

There are two types of interceptors:

- request interceptor: this is called before the actual call to the endpoint is made.
- response interceptor: this is called before the promise is completed and the data is received by the then callback.

# Interceptors

To use interceptors you need his two methods for request and another for response :

```
axios.interceptors.request.use(function (config) {  
    // Do something before request is sent  
    return config;  
}, function (error) {  
    // Do something with request error  
    return Promise.reject(error);  
});
```



# Interceptors

To use interceptors you need his two methods for request and another for response :

```
// Add a response interceptor
axios.interceptors.response.use(function (response) {
  // Do something with response data
  return response;
}, function (error) {
  // Do something with response error
  return Promise.reject(error);
});
```

# Interceptors

Interceptors can be used for example :

- Show loader in request method and hide it in response one
- Set authorization header
- Send repeated params with the apis
- Set Accept-language key based on user selected language
- Handling general errors returned from API

Thank you

Lap

# Task: Movies App

1 - Add navbar with links for different pages as shown in task ( Movie list , movie details, watchlist , not found )

Create account on the movie database website :

<https://www.themoviedb.org/login>

2- get Movies list using API :

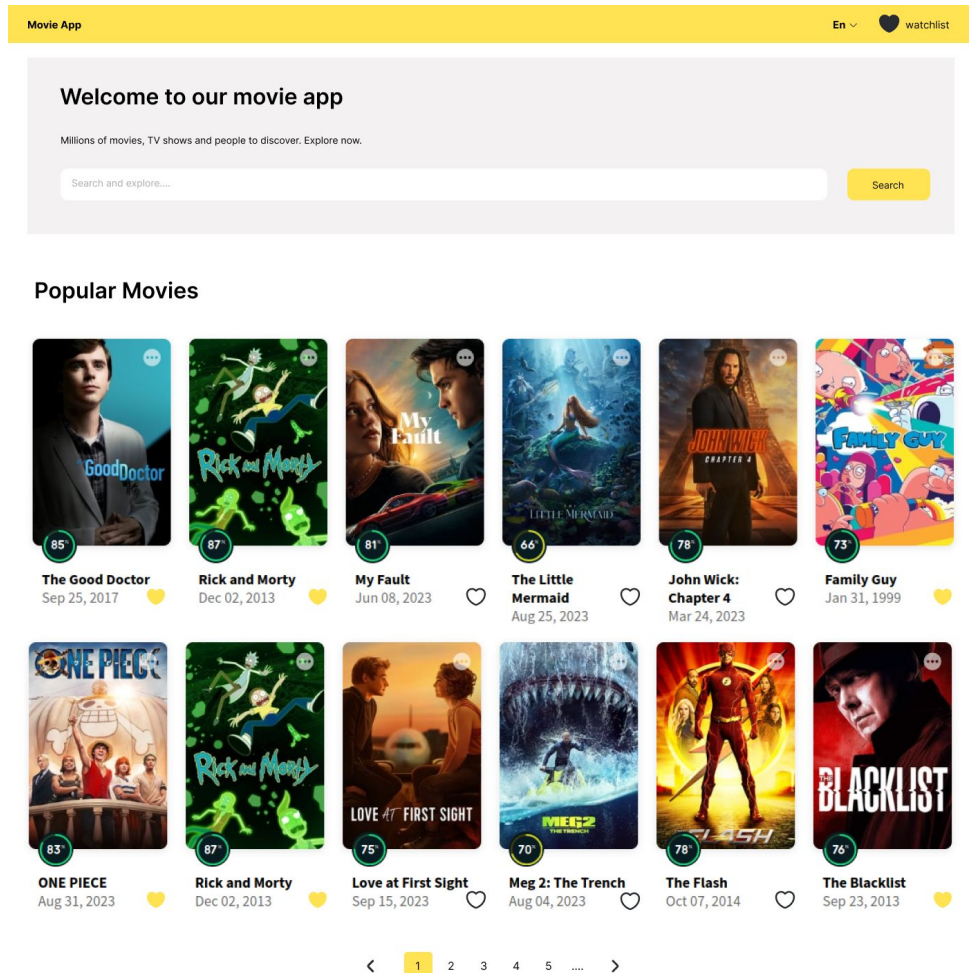
[https://api.themoviedb.org/3/movie/popular?api\\_key={apiKey}](https://api.themoviedb.org/3/movie/popular?api_key={apiKey})

3- using dynamic routes get movie details data using API :

[https://api.themoviedb.org/3/movie/880009?api\\_key={apiKey}](https://api.themoviedb.org/3/movie/880009?api_key={apiKey})

Where 880009 is the movie ID you will get from the url

Set the api key in interceptor and baseURL in axios instance



# Task :Movies App


For images please add static url part  
to img src before poster\_path key

[https://image.tmdb.org/t/p/w500/{poster\\_path}](https://image.tmdb.org/t/p/w500/{poster_path})

Movies DB link:

<https://developers.themoviedb.org/3/movies/get-popular-movies>

**Movie App**watchlist 5

The movie poster for Black Widow features Scarlett Johansson in her Black Widow suit, holding dual pistols, standing in front of a red and black background with other characters in the background.

## Black Widow

Sep 25, 2017

★★★★☆ 9288

Natasha Romanoff, also known as Black Widow, confronts the darker parts of her ledger when a dangerous conspiracy with ties to her past arises. Pursued by a force that will stop at nothing to bring her down, Natasha must deal with her history as a spy and the broken relationships left in her wake long before she became an Avenger.

Action Crime Thriller

Duration: 134 Min. Languages: English

MARVEL STUDIOS

Website

# Task :Movies App

4-Handle pagination by send query params to url called **page** [Bonus]

[https://api.themoviedb.org/3/movie/popular?api\\_key={api\\_key}&page=4](https://api.themoviedb.org/3/movie/popular?api_key={api_key}&page=4)

5- Apply search for movies using the following api

[https://api.themoviedb.org/3/search/movie?api\\_key={api\\_key}&query={MovieName}](https://api.themoviedb.org/3/search/movie?api_key={api_key}&query={MovieName}) [Bonus]

