

## Labwork-3: Mobile App with Ionic Framework and API call

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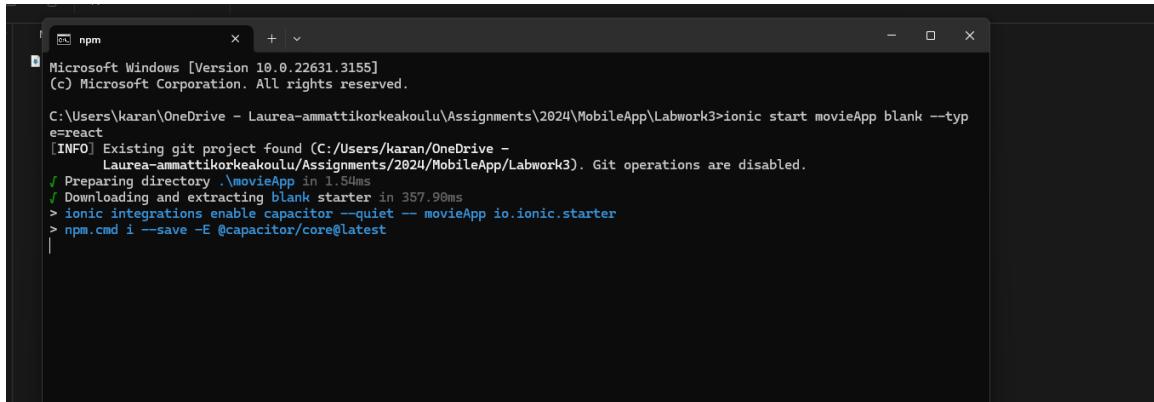
## 1 Learning Reflection

I watched all the videos required for module 3, followed the official documentation and video tutorials. Initially, following the video “Ionic React Beginners Guide | Navigation, Components & HTTP Calls” by Simon Grimm felt a bit frustrating, as I felt like the creator went too fast in explaining the steps, but after some time spent experimenting and rewatching certain parts (and other tutorials), I began to grasp the concepts better. Additionally, I encountered an execution error while trying to run the Ionic serve command. The error message indicated that PowerShell script execution was disabled on my system, preventing the Ionic script from running. After researching and understanding the issue, I successfully resolved it by adjusting the PowerShell execution policy. The combination of watching videos, reading documentation, and hands-on experimentation proved to be an effective learning approach for mastering the concepts covered in the module. Creating the simple mobile app took a bit more time, the trickiest part was the input handling and storage, but I am now much more confident in creating my own app!

## 2 Ionic-React API Call

Code: <https://github.com/karanxhagiulia/Labwork3>

I followed the video step-by-step. Unfortunately, I encountered some errors. It took some time to debug them, but eventually, I made the app work exactly as it did in the video.



```
Microsoft Windows [Version 10.0.22631.3155]
(c) Microsoft Corporation. All rights reserved.

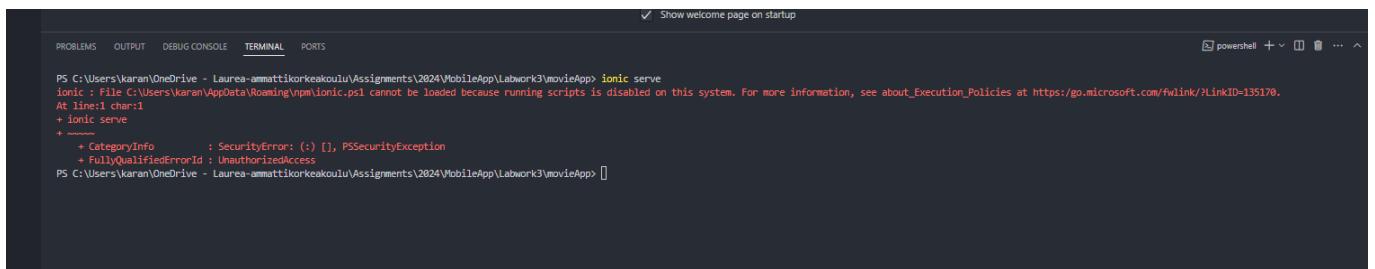
C:\Users\karan\OneDrive - Laurea-ammattiikorkeakoulu\Assignments\2024\MobileApp\Labwork3>ionic start movieApp blank --type react
[INFO] Existing git project found (C:/Users/karan/OneDrive - Laurea-ammattiikorkeakoulu/Assignments/2024/MobileApp/Labwork3). Git operations are disabled.
✓ Preparing directory .\movieApp in 1.54ms
✓ Downloading and extracting blank starter in 357.90ms
> ionic integrations enable capacitor --quiet -- movieApp io.ionic.starter
> npm.cmd i --save -E @capacitor/core@latest
|
```

I opened the app on VS Code.

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```
> npm.cmd i
up to date, audited 761 packages in 2s
156 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
Join the Ionic Community! ❤️
Connect with millions of developers on the Ionic Forum and get access to live events, news updates, and more.
? Create free Ionic account? No
Your Ionic app is ready! Follow these next steps:
- Go to your new project: cd .\movieApp
- Run ionic serve within the app directory to see your app in the browser
- Run ionic capacitor add to add a native iOS or Android project using Capacitor
- Generate your app icon and splash screens using cordova-res --skip-config --copy
- Explore the Ionic docs for components, tutorials, and more: https://ion.link/docs
- Building an enterprise app? Ionic has Enterprise Support and Features: https://ion.link/enterprise-edition
C:\Users\karan\OneDrive - Laurea-ammattikorkeakoulu\Assignments\2024\MobileApp\Labwork3>cd movieApp
C:\Users\karan\OneDrive - Laurea-ammattikorkeakoulu\Assignments\2024\MobileApp\Labwork3\movieApp>code .
C:\Users\karan\OneDrive - Laurea-ammattikorkeakoulu\Assignments\2024\MobileApp\Labwork3\movieApp>
```

Here I encountered the first error:



The solution was actually easy though: because I use a school account (not administrator), I had to open PowerShell as an Administrator and update the execution policy to “YES”. Once I finished creating the app, I reverted the settings to [N] (as shown in a later screenshot).

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> Get-ExecutionPolicy
Restricted
PS C:\WINDOWS\system32> Set-ExecutionPolicy RemoteSigned

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose you to the security risks described in the about_Execution_Policies help topic at https://go.microsoft.com/fwlink/?LinkId=135170. Do you want to change the execution policy?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Y
PS C:\WINDOWS\system32>
```

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```
+ FullyQualifiedErrorId : UnauthorizedAccess
PS C:\Users\karan\OneDrive - Laurea-ammattikorkeakoulu\Assignments\2024\MobileApp\Labwork3\movieApp> ionic serve
> vite.cmd --host=localhost --port=8100
[vite]  → Local: http://localhost:8100
[vite]  → press h + enter to show help

[INFO] Development server running!
Local: http://localhost:8100
Use Ctrl+C to quit this process
[INFO] Browser window opened to http://localhost:8100!
```

Then I created the app:

```
> Home.tsx
src > App.tsx
17 import '@ionic/react/css/text-alignment.css';
18 import '@ionic/react/css/text-transformation.css';
19 import '@ionic/react/css/text-color.css';
20 import '@ionic/react/css/display.css';
21
22 // Theme variables
23 import './theme/variables.css';
24
25 setupIonicReact();
26
27 const App: React.FC = () => (
28   <IonApp>
29     <IonReactRouter>
30       <IonRouterOutlet>
31         <Route exact path="/home">
32           <Home />
33         </Route>
34         <Route exact path="/">
35           <Redirect to="/home" />
36         </Route>
37       </IonRouterOutlet>
38     </IonReactRouter>
39   </IonApp>
40 )
41
42 export default App;
43
```

I activated the API key:

API Key Inbox

The OMDb API <donotreply@omdbapi.com>  
to me ▾

Here is your key: cacb3c53

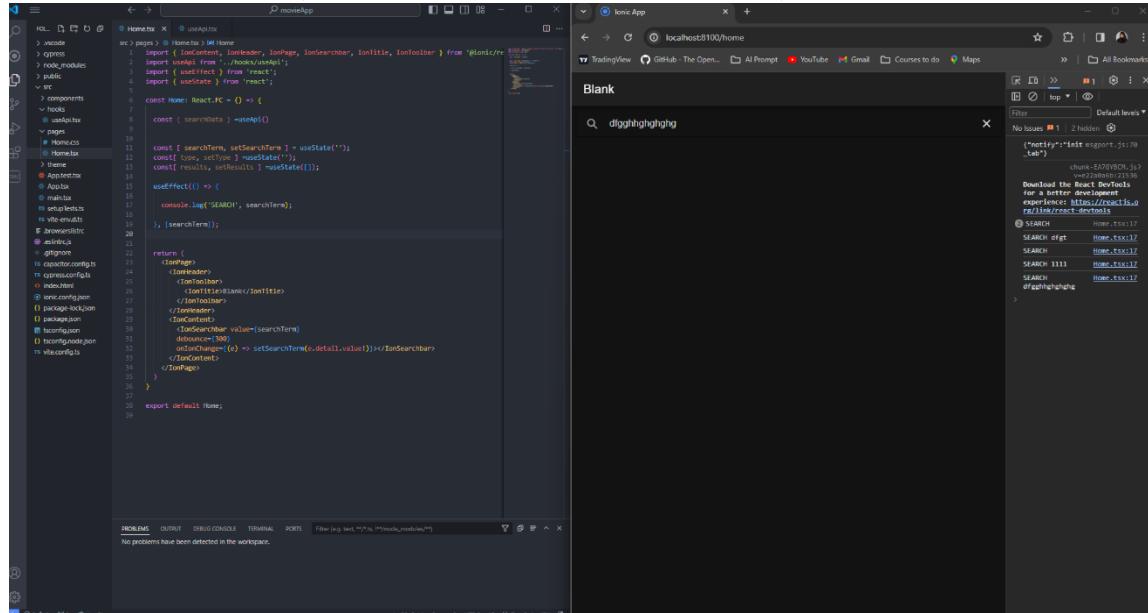
Please append it to all of your API requests,

OMDb API: <http://www.omdbapi.com/?i=t3896198&apikey=cacb3c53>

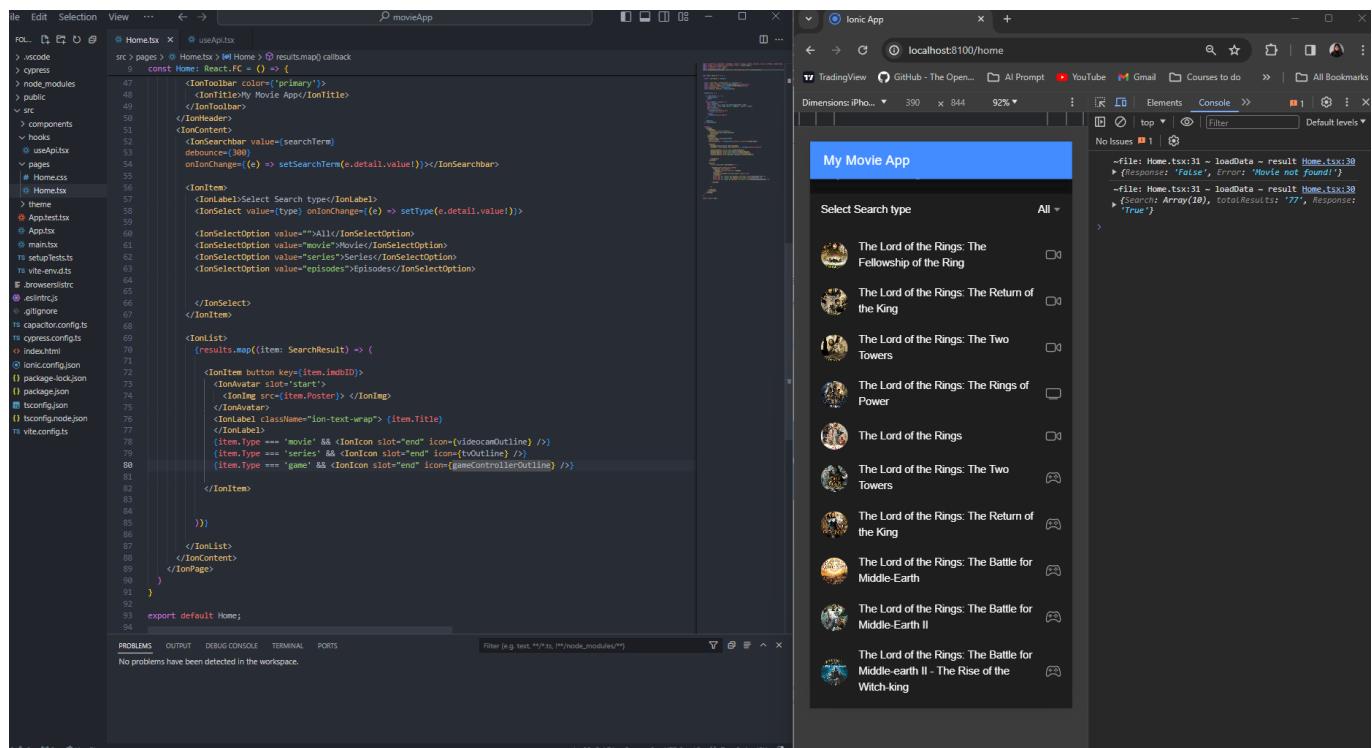
Click the following URL to activate your key: <http://www.omdbapi.com/apikey.aspx?VERIFYKEY=5e9124fd-000f-4e8a-aa42-1e13d95d024a>  
If you did not make this request, please disregard this email.

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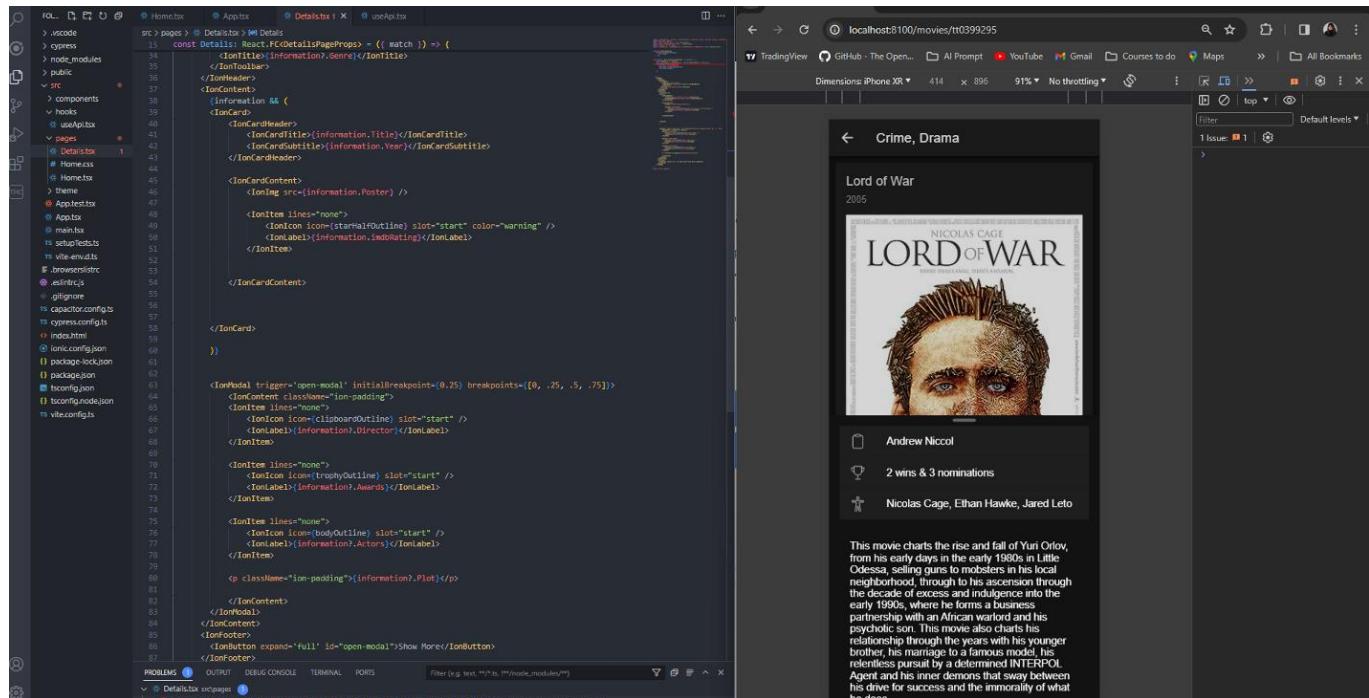
And I switched to Chrome because I prefer the UI and the developer console on Chrome (the screenshots before were on FireFox).



The video was straightforward to follow, I struggled a bit with the fact that sometimes I forgot to import what was not imported automatically, spending quite some time to understand why the code wasn't working properly, when everything looked correct.



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In the end I reverted the execution policy settings:

```
Administrator: Windows PowerShell
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> Get-ExecutionPolicy
Restricted
PS C:\WINDOWS\system32> Set-ExecutionPolicy RemoteSigned

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose
you to the security risks described in the about_Execution_Policies help topic at
https://go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Y
PS C:\WINDOWS\system32> Set-ExecutionPolicy RemoteSigned

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose
you to the security risks described in the about_Execution_Policies help topic at
https://go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): N
PS C:\WINDOWS\system32>
```

I used an emulator with a Pixel 8 after running ionic capacitor to build both iOS and Android:

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```
C:\WINDOWS\system32\cmd. X + v
156 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
> capacitor.cmd add ios
[capacitor] ✓ Adding native Xcode project in ios in 68.16ms
[capacitor] ✓ add in 69.83ms
[capacitor] [warn] sync could not run--missing dist directory.
[capacitor] [success] ios platform added!
[capacitor] Follow the Developer Workflow guide to get building:
[capacitor] https://capacitorjs.com/docs/basics/workflow

C:\Users\karan\OneDrive - Laurea-ammattikorkeakoulu\Assignments\2024\MobileApp\Labwork3\movieApp>ionic cap add android
> npm.cmd i -E @capacitor/android@5.7.2

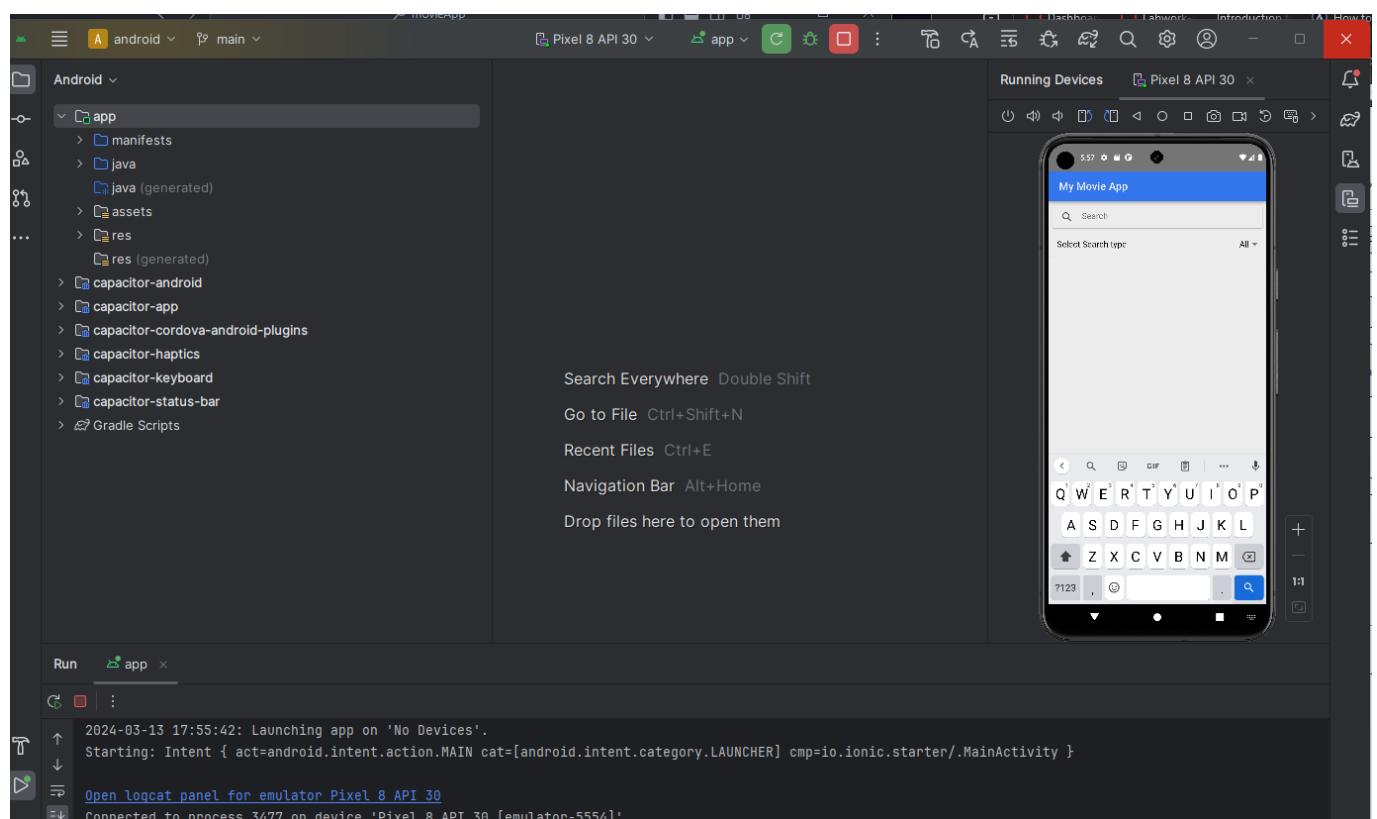
added 1 package, and audited 763 packages in 4s

156 packages are looking for funding
  run `npm fund` for details

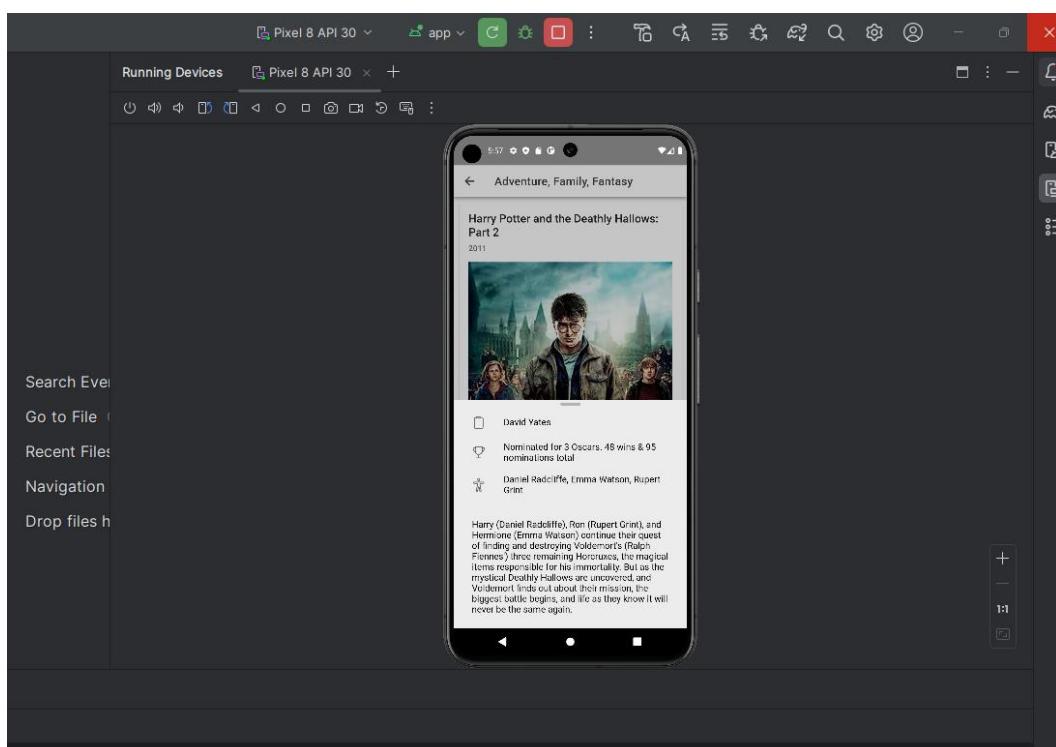
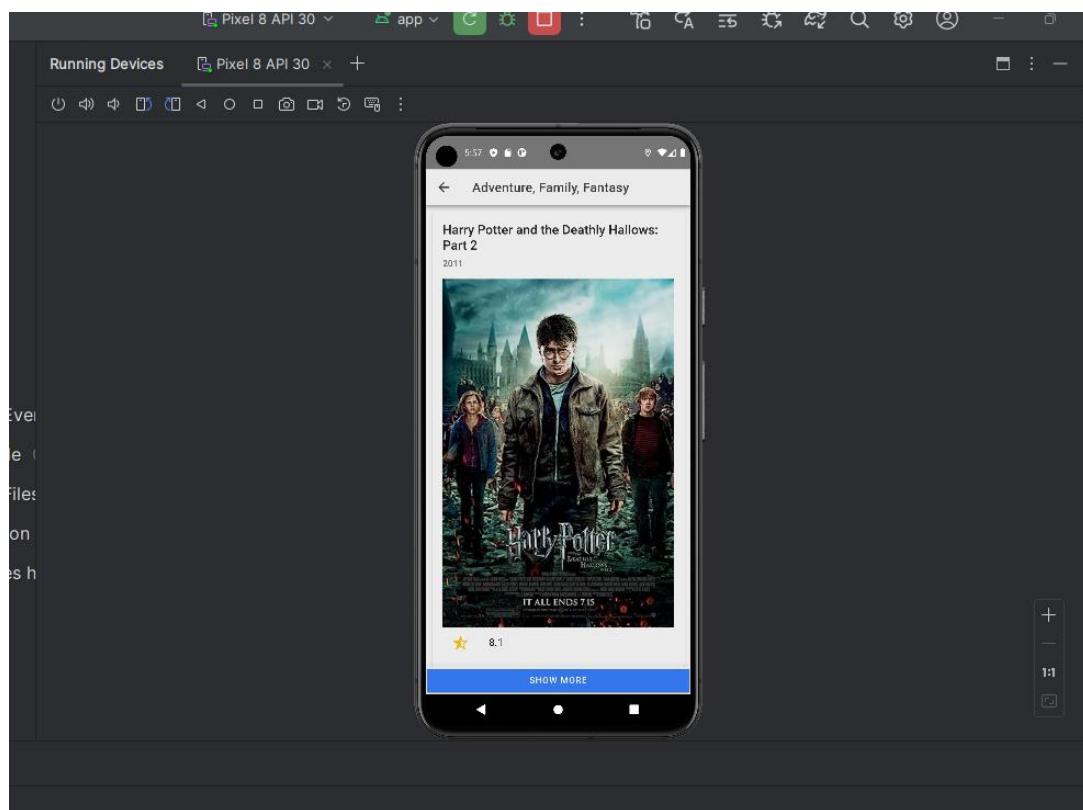
found 0 vulnerabilities
> capacitor.cmd add android
[capacitor] ✓ Adding native android project in android in 182.13ms
[capacitor] ✓ add in 183.28ms
[capacitor] [warn] sync could not run--missing dist directory.
[capacitor] [success] android platform added!
[capacitor] Follow the Developer Workflow guide to get building:
[capacitor] https://capacitorjs.com/docs/basics/workflow

C:\Users\karan\OneDrive - Laurea-ammattikorkeakoulu\Assignments\2024\MobileApp\Labwork3\movieApp>
[vite] 5:34:43 pm [vite] hmr update /src/App.tsx
from his early days in th
Ola...ndia
```

Android Studio slowed my laptop, but the app ran smoothly as expected!



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### 3 Creating a Simple Mobile App

Repository link: [https://github.com/karanxhagiulia/Crypto\\_Tracker\\_Mobile\\_App/tree/main/CryptoTrackerApp](https://github.com/karanxhagiulia/Crypto_Tracker_Mobile_App/tree/main/CryptoTrackerApp)

I created a “Crypto tracker app”; the Crypto tracker app tracks which cryptocurrencies you own, how many, and their value. I created it because you can buy cryptocurrencies in multiple platforms, and in this way you can have a centralized tracker (I use an excel file at the moment).

I used the same structure as the previous Labwork, where I have a “Service” tab for the menu, I also took inspiration from the movie app previously created by following the YouTube tutorial, and created the following pages:

- Home
- MyCryptoList: the user can input, update, and delete the cryptocurrency list
- Watchlist: the user can write the cryptocurrency name and a comment to keep in mind (for example: “BTC, “to buy at 60000€”)

I decided to create a Crypto Price Tracker app so that in the future, I can integrate the API <https://docs.coingecko.com/v3.0.1/reference/setting-up-your-api-key> (I already created the API page and activated my key) and see the price in real time.

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```
[OK] C:\WINDOWS\system32\cmd. X + ^

Microsoft Windows [Version 10.0.22631.3155]
(c) Microsoft Corporation. All rights reserved.

C:\Users\karan\OneDrive - Laurea-ammattiikorkeakoulu\Assignments\2024\MobileApp\Crypto_Tracker_Mobile_App>ionic start CryptoTrackerApp blank --type=react
[INFO] Existing git project found (C:/Users/karan/OneDrive - Laurea-ammattiikorkeakoulu/Assignments/2024/MobileApp/Crypto_Tracker_Mobile_App). Git operations are disabled.
/ Preparing directory \CryptoTrackerApp in 2.10ms
/ Downloading and extracting blank starter in 268.80ms
Ionic integrations enabled. Capacitor is quiet — CryptoTrackerApp io.ionic.starter
> npm install @capacitor/core@latest
npm WARN deprecated abab@2.0.6: Use your platform's native atob() and btoa() methods instead
npm WARN deprecated domexception@4.0.0: Use your platform's native DOMException instead

added 692 packages, and audited 693 packages in 2m

150 packages are looking for funding
  run 'npm fund' for details

found 0 vulnerabilities
> npm.cmd i -D -E @capacitor/cli@latest

added 64 packages, and audited 757 packages in 3s

156 packages are looking for funding
  run 'npm fund' for details

found 0 vulnerabilities
> npm.cmd i --save -E @capacitor/haptics @capacitor/app @capacitor/keyboard @capacitor/status-bar
added 4 packages, and audited 761 packages in 2s

156 packages are looking for funding
  run 'npm fund' for details

found 0 vulnerabilities
> capacitor.cmd init CryptoTrackerApp io.ionic.starter --web-dir dist
/ Creating capacitor.config.ts in C:\Users\karan\OneDrive - Laurea-ammattiikorkeakoulu\Assignments\2024\MobileApp\Crypto_Tracker_Mobile_App\CryptoTrackerApp in 7.09ms
[success] capacitor.config.ts created!

Next steps:
https://capacitorjs.com/docs/getting-started#here-to-go-next
[OK] Integration capacitor added!

Installing dependencies may take several minutes.

Ionic AppFlow, the mobile DevOps solution by Ionic
Continuously build, deploy, and ship apps
Focus on building apps while we automate the rest
Learn more: https://ion.link/appflow

> npm.cmd i
up to date, audited 761 packages in 2s

156 packages are looking for funding
  run 'npm fund' for details

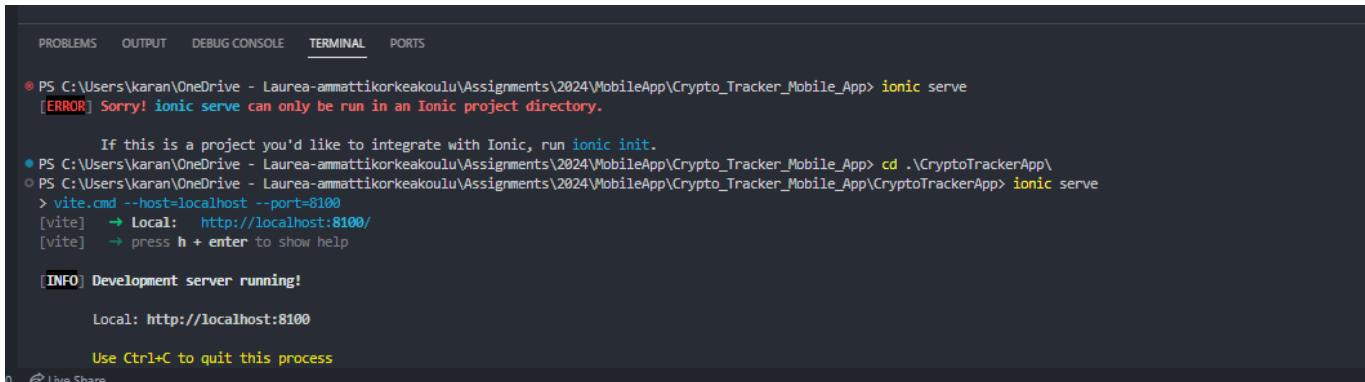
found 0 vulnerabilities

Join the Ionic Community! ❤️
Connect with millions of developers on the Ionic Forum and get access to live events, news updates, and more.
? Create free Ionic account? No

Your Ionic app is ready! Follow these next steps:
- Go to your new project: cd \CryptoTrackerApp
- Run ionic serve within the app directory to see your app in the browser
- Run ionic capacitor add to add a native iOS or Android project using Capacitor
- Generate your app icon and splash screens using cordova-res --skip-config --copy
- Explore the Ionic docs for components, tutorials, and more: https://ion.link/docs
- Building an enterprise app? Ionic has Enterprise Support and Features: https://ion.link/enterprise-edition

C:\Users\karan\OneDrive - Laurea-ammattiikorkeakoulu\Assignments\2024\MobileApp\Crypto_Tracker_Mobile_App>code .
```

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```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\karan\OneDrive - Laurea-ammatikorkeakoulu\Assignments\2024\MobileApp\Crypto_Tracker_Mobile_App> ionic serve
[ERROR] Sorry! ionic serve can only be run in an Ionic project directory.

If this is a project you'd like to integrate with Ionic, run ionic init.
PS C:\Users\karan\OneDrive - Laurea-ammatikorkeakoulu\Assignments\2024\MobileApp\Crypto_Tracker_Mobile_App> cd ..\CryptoTrackerApp
> vite.cmd --host=localhost --port=8100
[vite]  → Local: http://localhost:8100
[vite]  → press h + enter to show help

[INFO] Development server running!

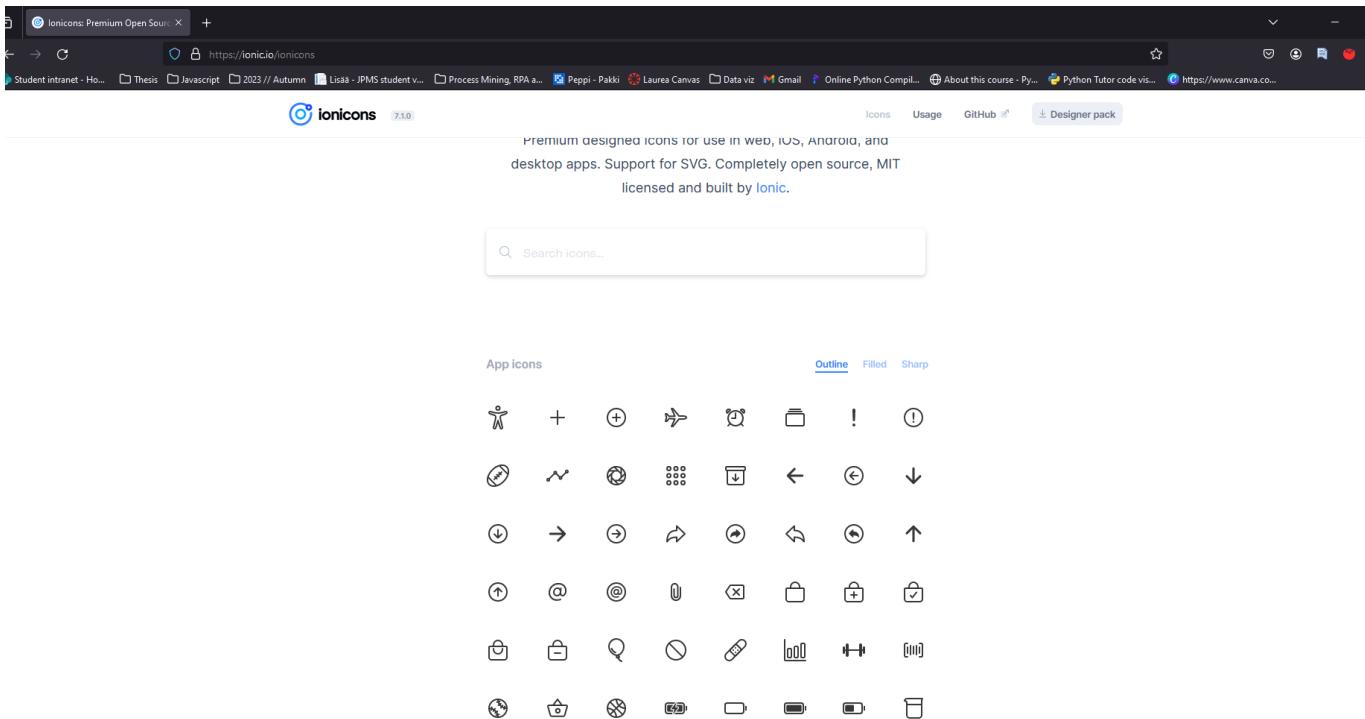
Local: http://localhost:8100

Use Ctrl+C to quit this process

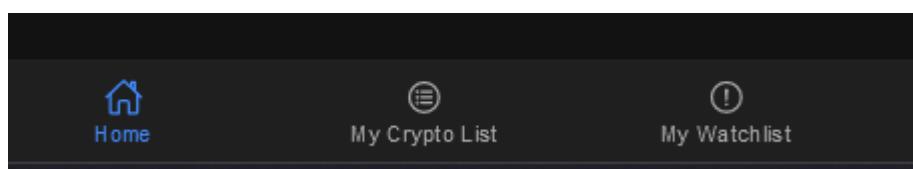
```

I realized I made a small mistake, I first created the repository, and then the app. Since I opened the repository folder in VS Code, I was trying to run Ionic Serve in the wrong folder.

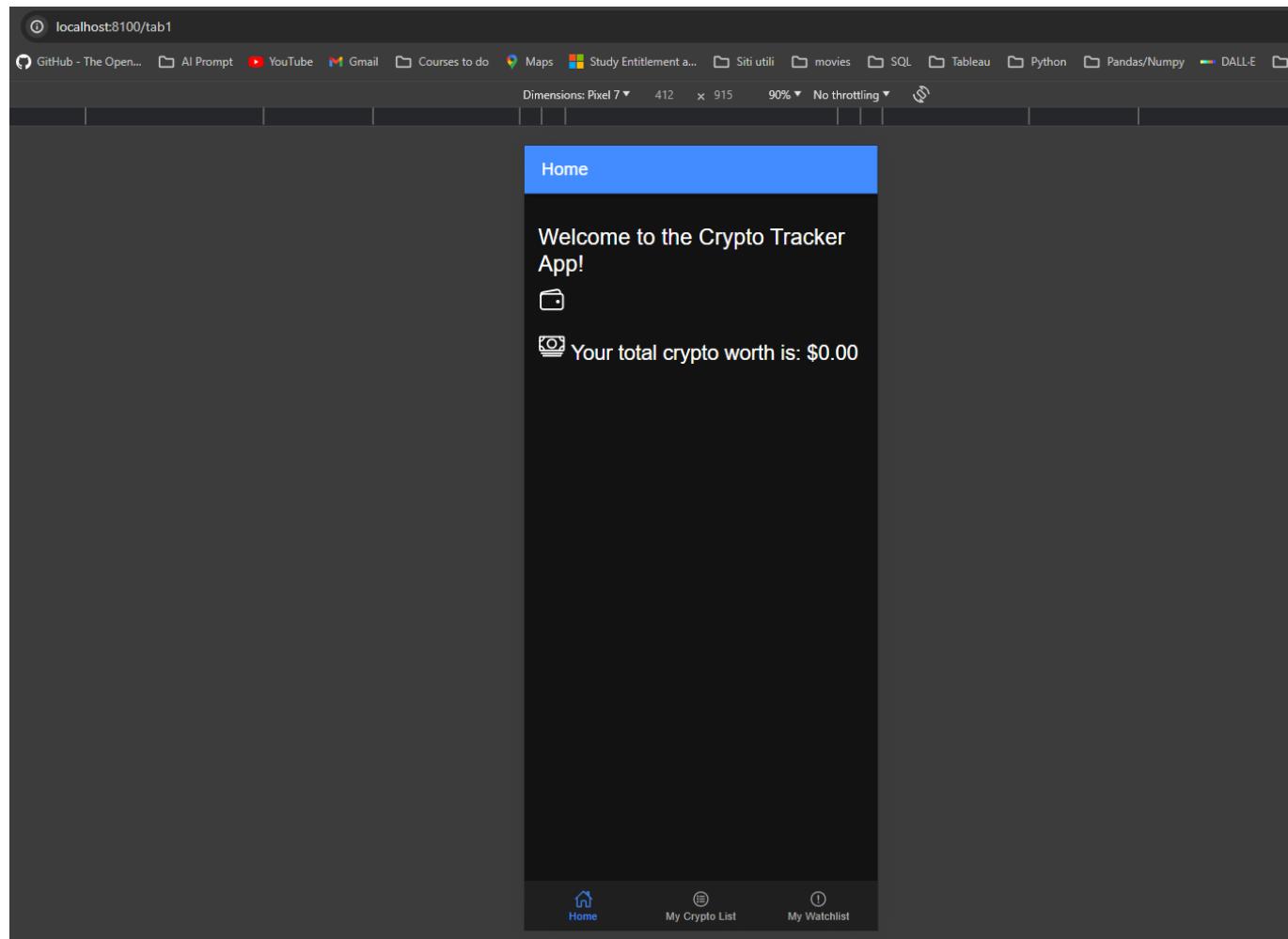
### Selecting the icons for the app:



I decided to use the “outline” icons for my app:



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The initial Home of the app. I then removed the second row.

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The screenshot shows a browser developer tools console with two identical warning messages from the Ionic framework. Both messages are from the file 'chunk-22LP62ES.js?v=b0c4a9f5:7' at line 7. The first message is about the 'ion-input' component, stating that it now requires a label with either the 'label' or 'aria-label' attribute. It provides examples for both cases. The second message is identical, appearing below the first. The code snippets shown in the warnings are:

```
> [Ionic Warning]: chunk-22LP62ES.js?v=b0c4a9f5:7
  ion-input now requires providing a label with either
  the "label" property or the "aria-label" attribute.
  To migrate, remove any usage of "ion-label" and pass
  the label text to either the "label" property or the
  "aria-label" attribute.

  Example: <ion-input label="Email"></ion-input>
  Example with aria-label: <ion-input aria-
  label="Email"></ion-input>

  For inputs that do not render the label immediately
  next to the input, developers may continue to use
  "ion-label" but must manually associate the label
  with the input by using "aria-labelledby".

  Developers can use the "legacy" property to continue
  using the legacy form markup. This property will be
  removed in an upcoming major release of Ionic where
  this form control will use the modern form markup.
  ><ion-input type="text" value class="sc-ion-input-i
  os-h sc-ion-input-ios-s ios legacy-input">...
  </ion-input> flex slot
```

▲ [Ionic Warning]: chunk-22LP62ES.js?v=b0c4a9f5:7  
 ion-input now requires providing a label with either  
 the "label" property or the "aria-label" attribute.  
 To migrate, remove any usage of "ion-label" and pass  
 the label text to either the "label" property or the  
 "aria-label" attribute.

Example: <ion-input label="Email"></ion-input>  
 Example with aria-label: <ion-input aria-  
 label="Email"></ion-input>

For inputs that do not render the label immediately  
 next to the input, developers may continue to use  
 "ion-label" but must manually associate the label  
 with the input by using "aria-labelledby".

Developers can use the "legacy" property to continue  
 using the legacy form markup. This property will be  
 removed in an upcoming major release of Ionic where  
 this form control will use the modern form markup.  
 ><ion-input type="text" value class="sc-ion-input-i

```
<IonList>
  <IonItem>
    <IonLabel position="floating">Crypto Name</IonLabel>
    <IonInput type="text" label="Name" value={cryptoName} onIonChange={e => setCryptoName(e.detail.value!)></IonInput>
  </IonItem>
  <IonItem>
    <IonLabel position="floating">Value per Unit</IonLabel>
```

I received this warning in the console. I initially added the “label” property as suggested, and wrongly kept the IonLabel attribute too, it was writing (of course) two words in the Item attribute (for example, “Crypto Name”, and Name”) so I removed completely the label attribute, left the label property in the IonInput attribute, and fixed the css for the IonInput attribute.

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The screenshot illustrates a developer's workspace. On the left, the 'File Explorer' shows the project structure for 'CryptoTrackerApp' with files like Home.tsx, App.tsx, and various components and services. The main area displays the 'Ionic App' running in a browser, showing a simple UI for managing a crypto list. The 'Ionic App' interface includes a header, a form for adding crypto (with fields for name, price, units, and total), and a table listing existing cryptos with columns for Name, Price, Units, and Total. The 'File Explorer' also shows the corresponding code for these components, including logic for handling form submissions and updating state.

At the current state, the app is composed by:

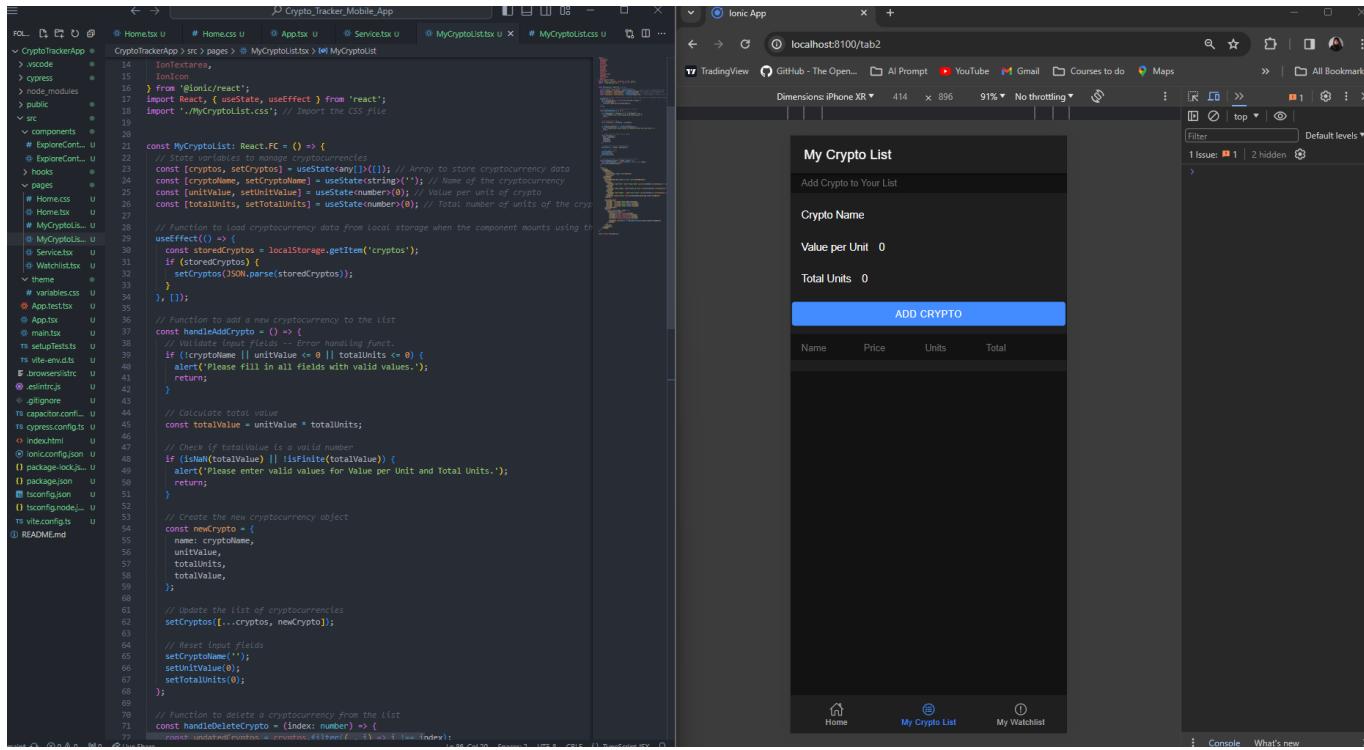
The Home page, which I intend to fix in the future with a “Total” of the crypto list value, has a separate Home.css page as well [https://github.com/karanxhagiu-lia/Crypto\\_Tracker\\_Mobile\\_App/blob/main/CryptoTrackerApp/src/pages/Home.tsx](https://github.com/karanxhagiu-lia/Crypto_Tracker_Mobile_App/blob/main/CryptoTrackerApp/src/pages/Home.tsx)

The screenshot shows a developer's environment with multiple windows open:

- Code Editors:** On the left, there are several code editors showing parts of the `src` directory of a React application. The files include `App.tsx`, `Home.tsx`, `Service.tsx`, and `ServiceList.tsx`. The `Home.tsx` file contains code for a home page component.
- Browsers:** Two browser tabs are visible. The left tab is titled "Crypto.Tracker\_Mobile\_App" and shows a dark-themed application with a header and a main content area. The right tab is titled "Ionic App" and shows a "Welcome to the Crypto Tracker App!" screen with a blue header and a white body containing the welcome message and a small icon.
- Toolbars and Status:** At the bottom, there are standard OS X-style toolbars for file operations like "New", "Open", "Save", and "Close". Below the toolbars, there are status indicators for "In 3d", "Col 1", "Spacebar 2", "UTT-B", "LF", "TypeScript SX", and "Live Share".

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The MyCryptoList page, which has a css as well, and allows you to input (or delete a whole row) the crypto name, value and total units, and will automatically write the total value: [https://github.com/karanxhagulia/Crypto\\_Tracker\\_Mobile\\_App/blob/main/CryptoTrackerApp/src/pages/MyCryptoList.tsx](https://github.com/karanxhagulia/Crypto_Tracker_Mobile_App/blob/main/CryptoTrackerApp/src/pages/MyCryptoList.tsx)



```

const MyCryptoList: React.FC = () => {
  const [cryptos, setCryptos] = useState<any>([]);
  const [cryptoName, setCryptoName] = useState<string>('');
  const [unitValue, setUnitValue] = useState<number>(0);
  const [totalUnits, setTotalUnits] = useState<number>(0);
  const [totalValue, setTotalValue] = useState<number>(0);

  useEffect(() => {
    const storedCryptos = localStorage.getItem('cryptos');
    if (storedCryptos) {
      setCryptos(JSON.parse(storedCryptos));
    }
  }, []);

  const handleAddCrypto = () => {
    // Function to add a new cryptocurrency to the list
    const handleAddCrypto = () => {
      // Check if all inputs are valid
      if (!cryptoName || unitValue < 0 || totalUnits <= 0) {
        alert('Please fill in all fields with valid values.');
        return;
      }

      // Calculate total value
      const totalValue = unitValue * totalUnits;

      // Check if totalValue is a valid number
      if (!isFinite(totalValue) || !isFinite(totalValue)) {
        alert('Please enter valid values for Value per Unit and Total Units.');
        return;
      }

      // Create the new cryptocurrency object
      const newCrypto = {
        name: cryptoName,
        unitValue,
        totalUnits,
        totalValue,
      };

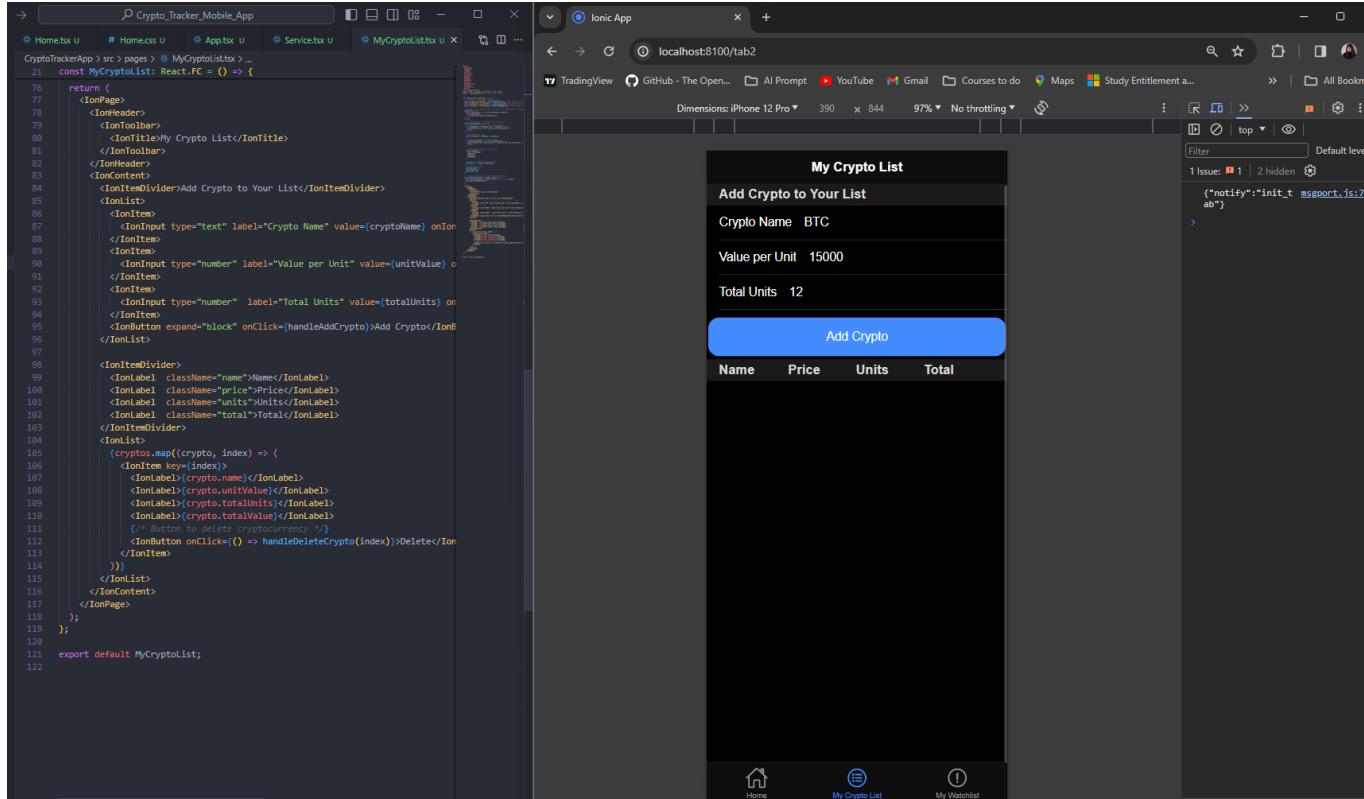
      // Update the list of cryptocurrencies
      setCryptos([...cryptos, newCrypto]);
    };
  };

  const handleDeleteCrypto = (index: number) => {
    const updatedCryptos = cryptos.filter((_, i) => i !== index);
    setCryptos(updatedCryptos);
  };
}

export default MyCryptoList;

```

The user can insert the cryptocurrency name, value, total units:



```

const MyCryptoList: React.FC = () => {
  const [cryptos, setCryptos] = useState<any>([]);
  const [cryptoName, setCryptoName] = useState<string>('');
  const [unitValue, setUnitValue] = useState<number>(0);
  const [totalUnits, setTotalUnits] = useState<number>(0);
  const [totalValue, setTotalValue] = useState<number>(0);

  useEffect(() => {
    const handleAddCrypto = () => {
      // Function to add a new cryptocurrency to the list
      const handleAddCrypto = () => {
        // Check if all inputs are valid
        if (!cryptoName || unitValue < 0 || totalUnits <= 0) {
          alert('Please fill in all fields with valid values.');
          return;
        }

        // Calculate total value
        const totalValue = unitValue * totalUnits;

        // Check if totalValue is a valid number
        if (!isFinite(totalValue) || !isFinite(totalValue)) {
          alert('Please enter valid values for Value per Unit and Total Units.');
          return;
        }

        // Create the new cryptocurrency object
        const newCrypto = {
          name: cryptoName,
          unitValue,
          totalUnits,
          totalValue,
        };

        // Update the list of cryptocurrencies
        setCryptos([...cryptos, newCrypto]);
      };
    };

    const handleDeleteCrypto = (index: number) => {
      const updatedCryptos = cryptos.filter((_, i) => i !== index);
      setCryptos(updatedCryptos);
    };
  }, []);

  const handleAddCrypto = () => {
    handleAddCrypto();
  };

  const handleDeleteCrypto = (index: number) => {
    handleDeleteCrypto(index);
  };
}

export default MyCryptoList;

```

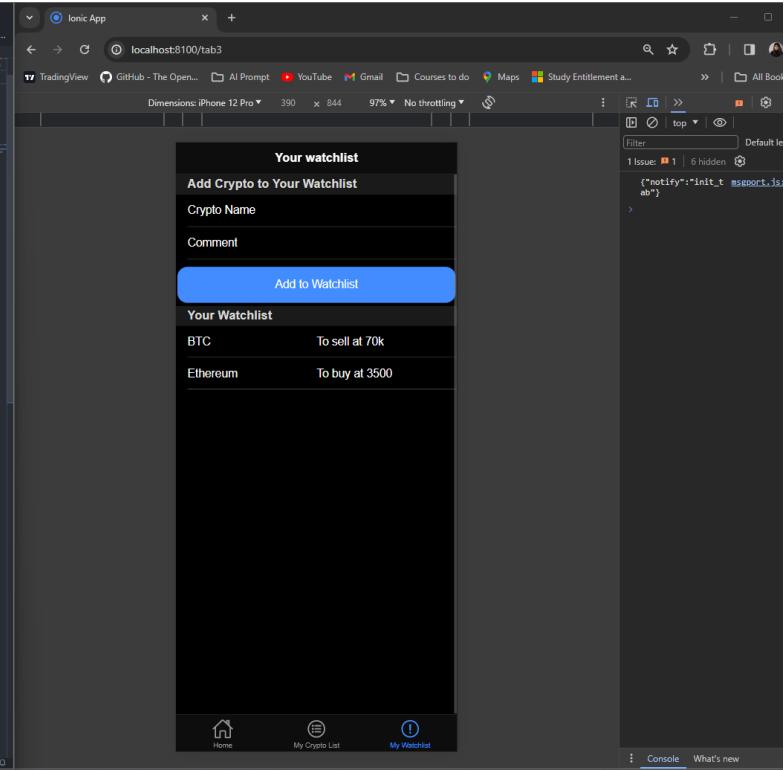
The screenshot shows a mobile application interface with a dark background. At the top, there is a header bar with the text "Dimensions: iPhone 12 Pro" followed by device dimensions (390 x 844), battery level (97%), and a "No throttling" setting. Below the header is a title "My Crypto List". A sub-section "Add Crypto to Your List" is displayed in red. The main content area contains three input fields: "Crypto Name", "Value per Unit 0", and "Total Units 0". Below these fields is a large blue button labeled "Add Crypto". Underneath the button is a table with four columns: "Name", "Price", "Units", and "Total". The table lists three entries: BTC (15000, 12, 180000), XRP (0.62, 100, 62), and ETH (4500, 2.6, 11700). Each entry has a "Delete" button to its right. At the bottom of the screen are three navigation icons: "Home" (house icon), "My Crypto List" (list icon), and "My Watchlist" (circle with exclamation mark icon).

Name	Price	Units	Total
BTC	15000	12	180000
XRP	0.62	100	62
ETH	4500	2.6	11700

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- The Watchlist page works very similarly as the MyCryptoList page

[https://github.com/karanxhagiulia/Crypto\\_Tracker\\_Mobile\\_App/blob/main/Crypto-TrackerApp/src/pages/Watchlist.tsx](https://github.com/karanxhagiulia/Crypto_Tracker_Mobile_App/blob/main/Crypto-TrackerApp/src/pages/Watchlist.tsx)



```

const Watchlist = React.FC<{}> => {
  const [cryptos, setCryptos] = useState<string[]>([]); // Name of the cryptocurrency
  const [comment, setComment] = useState<string>(''); // Comment for the crypto

  // Load watchlist data from local storage when the component mounts, using useEffect like in the MyCryptoList component
  useEffect(() => {
    const watchlist = JSON.parse(localStorage.getItem('watchlist'));
    if (watchlist) {
      setCryptos(watchlist);
    }
  }, []);

  // Empty dependency array means this effect runs only once when the component will mount
  const handleAddCrypto = () => {
    const cryptoName = cryptoNameRef.current.value;
    const comment = commentRef.current.value;
    if (!cryptoName || !comment) {
      alert('Please fill in all fields.');
      return;
    }

    // Create a new cryptocurrency object
    const newCrypto = {
      name: cryptoName,
      comment,
    };

    // Push the crypto object with its new cryptocurrency
    setCryptos([...cryptos, newCrypto]);
    setComment('');
  };

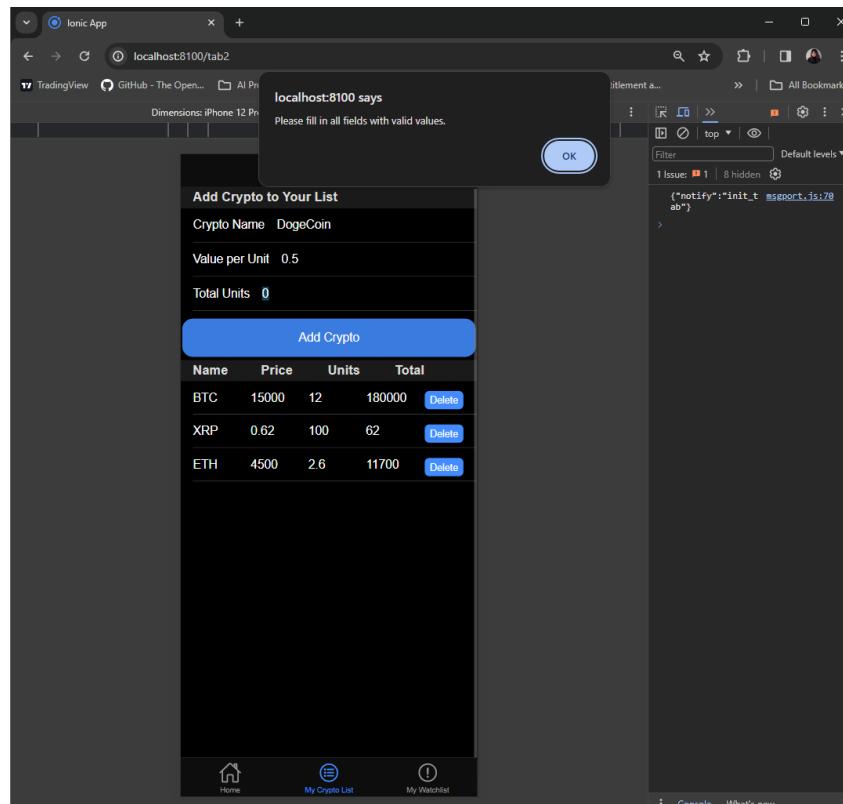
  // Save updated watchlist data to local storage whenever the "cryptos" state changes
  useEffect(() => {
    localStorage.setItem('watchlist', JSON.stringify(cryptos));
  }, [cryptos]);
}

export default Watchlist;

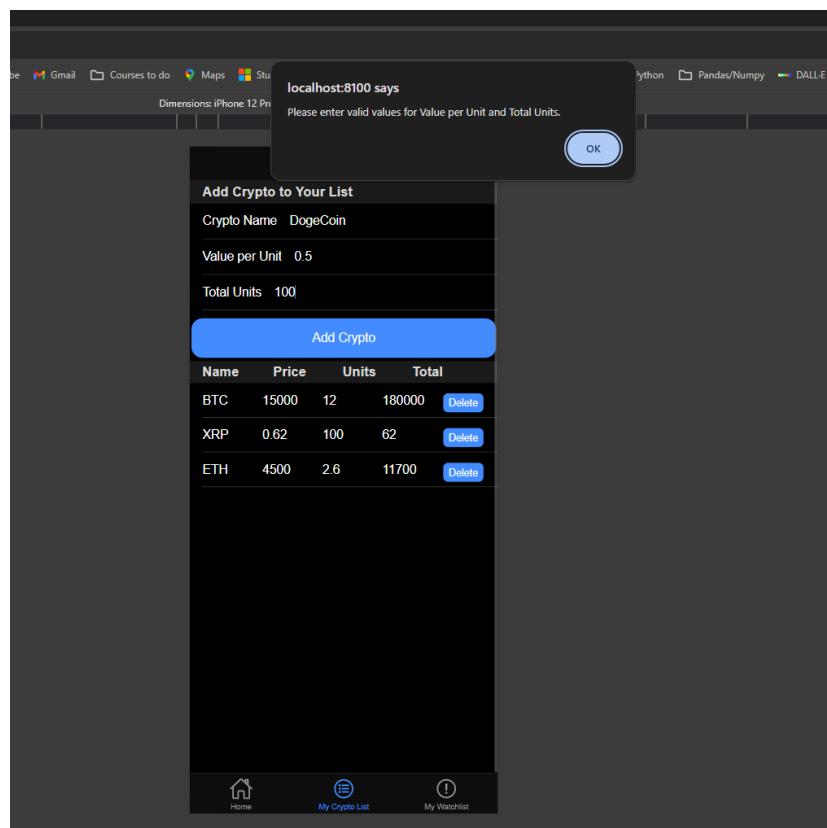
```

This app took me quite some time to create, mostly because of the local storage and input handling. I still have a few “bugs” and tweaks I want to fix, such as the fact that when I input the fields, if I click “add crypto” before clicking outside the last field, it doesn’t save the input and the alert appears, as I haven’t filled all the fields.

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This one, is not:



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## References

### Electronic sources

Grimm, S. (2023). Ionic React Beginners Guide | Navigation, Components & HTTP Calls 🔥 [YouTube video]. [Accessed 05.03.2024]. Available: <https://www.youtube.com/watch?v=xn-qpnT2n3Q>

Academind (2021). Ionic + React - Tutorial for Beginners [YouTube video]. [Accessed 02.03.2024]. Available: [https://www.youtube.com/watch?v=\\_03VKmdrxV8](https://www.youtube.com/watch?v=_03VKmdrxV8)

Ionic official documentation. [Accessed 06.03.2024]. Available: <https://ionicframework.com/docs/api/input>

Ionic Start. Storing Data with local storage. [Accessed 06.03.2024]. Available: <https://ionicstart.com/modules/ionic-vs-angular/4/?r=true>