Project
Ionic Weather & News Reader

Mobile Applications Development
Higher Diploma in Science – Computing (Software Development)

Contents

Introduction

Write an Ionic mobile application that reads weather and news stories from internet resources.

Project Start

The project must be written using the Ionic framework V3 and created initially using the following command:

```
ionic start GXXXXXXXX blank --type=ionic-angular
```

where GXXXXXXXX is your student number.

Submission of the Project

The zipped Ionic project (named GXXXXXXXX.zip where GXXXXXXXX is your student number) should be uploaded to the *Project* section of Moodle in the Mobile Applications Development module no later than **Monday, January 4ᵗʰ 2021 at 9:00am.**

Plagiarism

Plagiarism will be dealt with in accordance with the institute's [Plagiarism policy](#).

Marks

This project is worth 60% of the marks for the module.

Marking Scheme

85% of the marks will be awarded for implementing the functionality described in this document.

15% of the marks will be awarded for innovation, extra functionality, exceeding the requirements listed in this document.

Please describe your innovation (if any) in a document entitled innovation.doc which should be stored in the root folder of your submission.

Overview of Web App

The web app should consist of the following pages:

Home Page

The *Home Page* is the first page of the application. It has a navigation bar which should have your student number and a link to the *Settings* page.
As no city has yet been entered the *News* button will be disabled and no weather data will be shown.
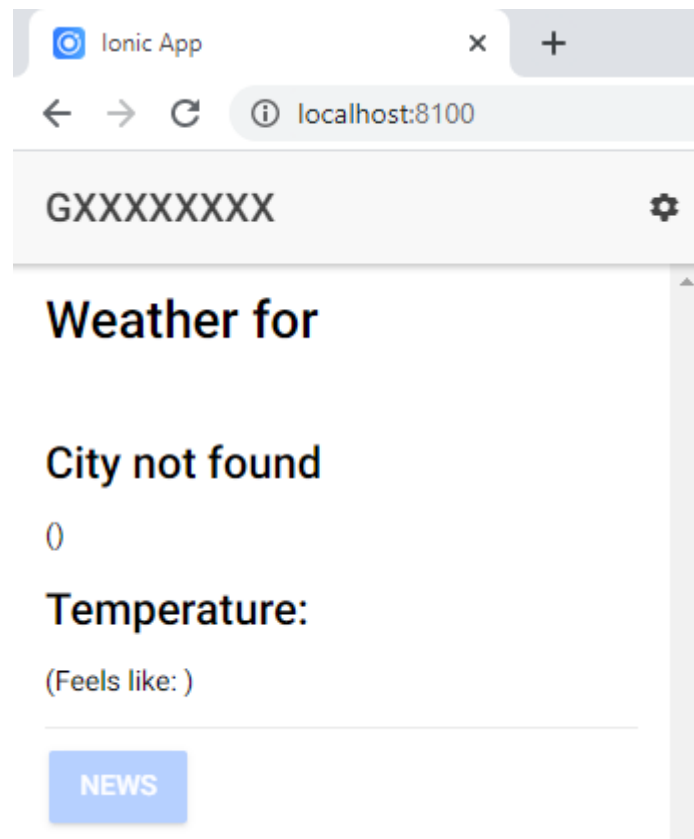

Figure 1 Home Page

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Settings Page

The *Settings Page* allows the user of the app to enter the *City* for which weather data will be displayed and to change the *Units* in which the weather data is shown.
The default units should be *Metric*.

Any changes made on this page should be stored persistently by the app, when the *Save* button is pressed.
If the user leaves the page without pressing the *Save* button, changes are not saved.
If the user leaves the page but doesn't enter a *City* it should be set to *Galway* by the app.
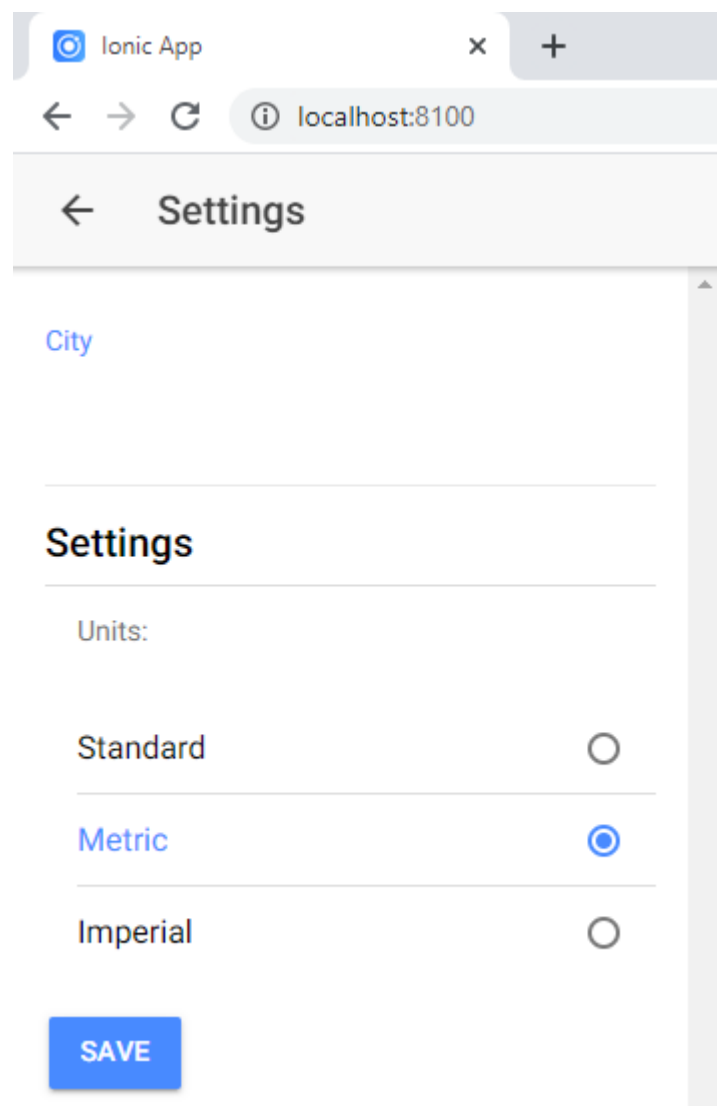

Figure 2 Settings Page

Once a *City* has been saved persistently by the *Settings* page, weather data for that page should be displayed on the *Home* page as shown below.
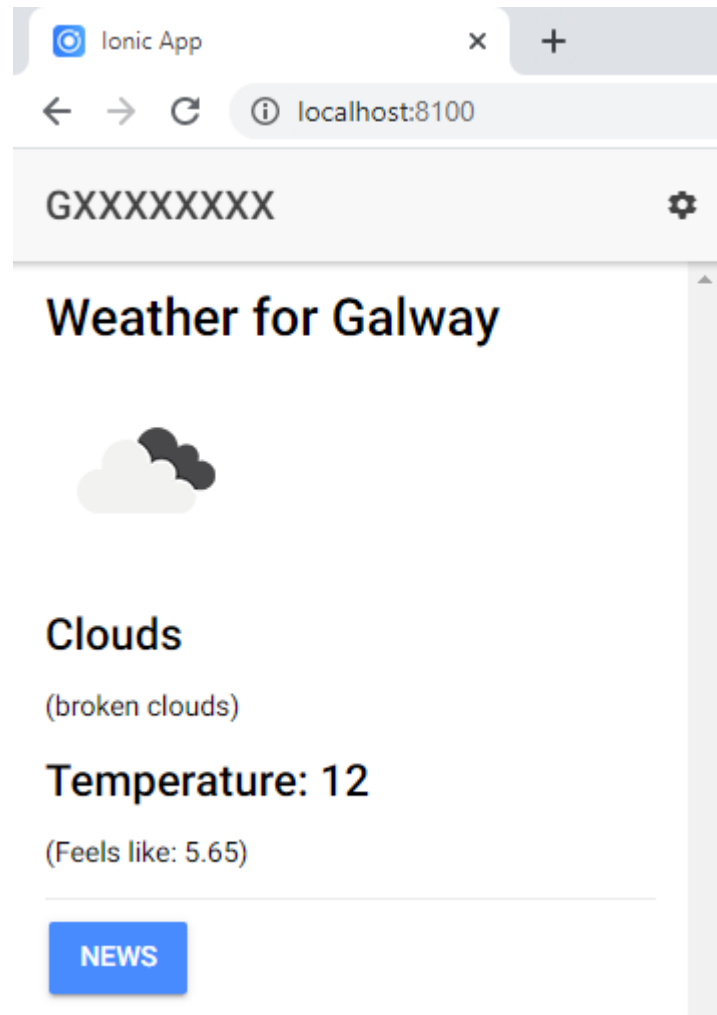In addition, when weather data has been received for a valid city the *News* button should be enabled.

Figure 3 Home Page with Weather

Home Page with Weather & News

When the News button is pressed, the first 5 news stories from the country the City is in should be displayed on the *Home Page*, as well as the total number of news stories for that country.
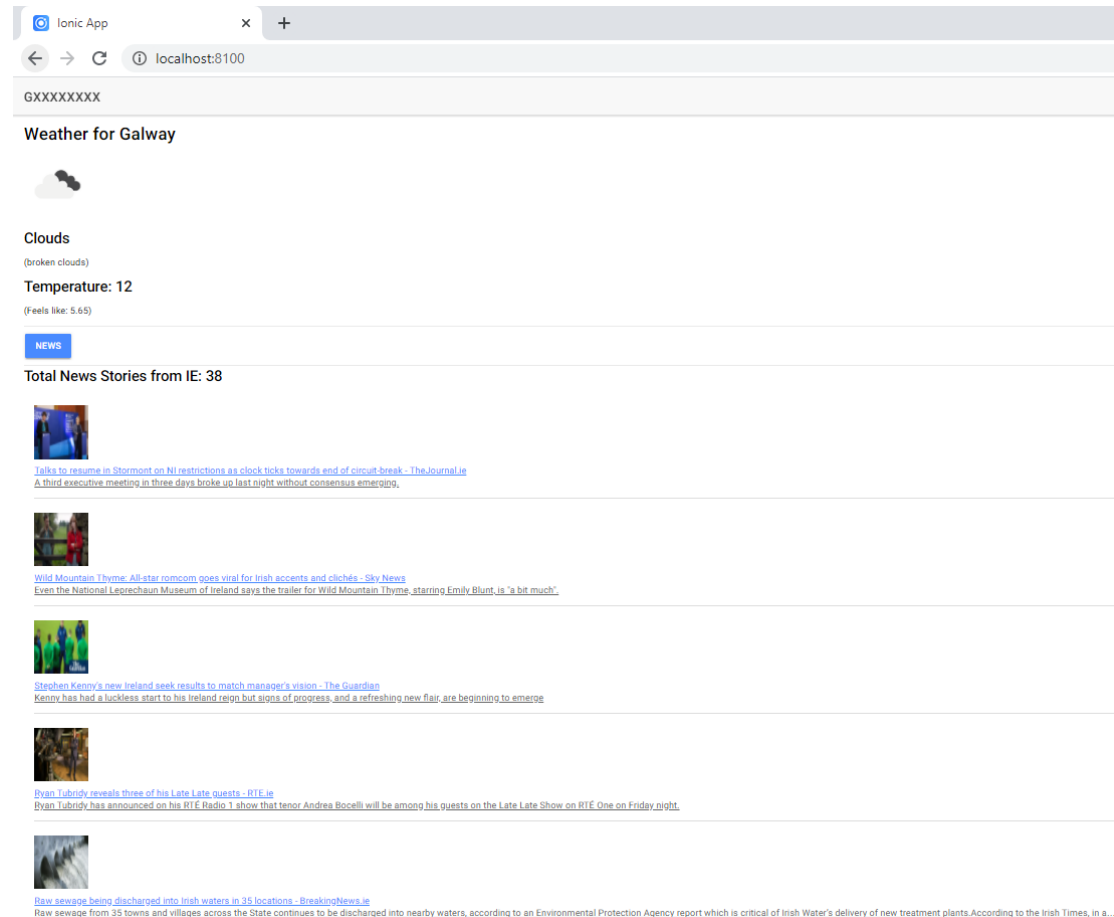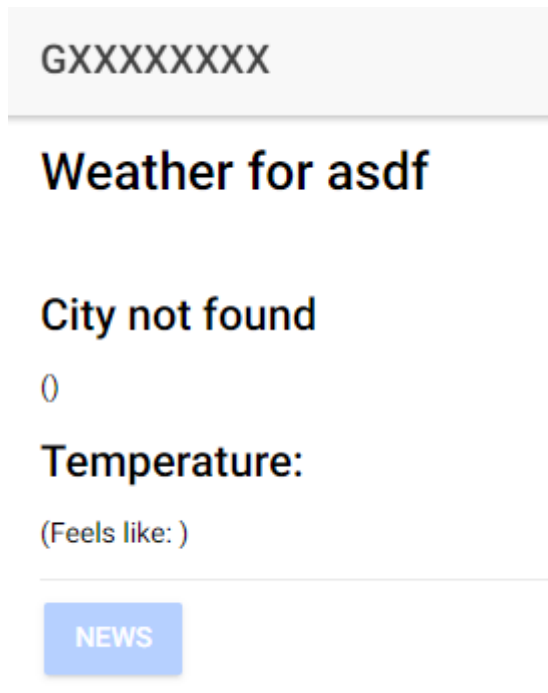

Figure 4 Home Page with Weather & News

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Home Page with unknown City

If the user enters a city that is unknown to openweathermap.org, as well as no data for the selected city being displayed, the *News* button should also be disabled:

GXXXXXXX

Weather for asdf

City not found

()

Temperature:

(Feels like:)

NEWS

Figure 5 Home Page with unknown City

Weather Data

The weather data is taken from https://openweathermap.org/ by a Provider in your application.
To use openweathermap.org go to https://openweathermap.org/api and *Subscribe* to "Current Weather Data".
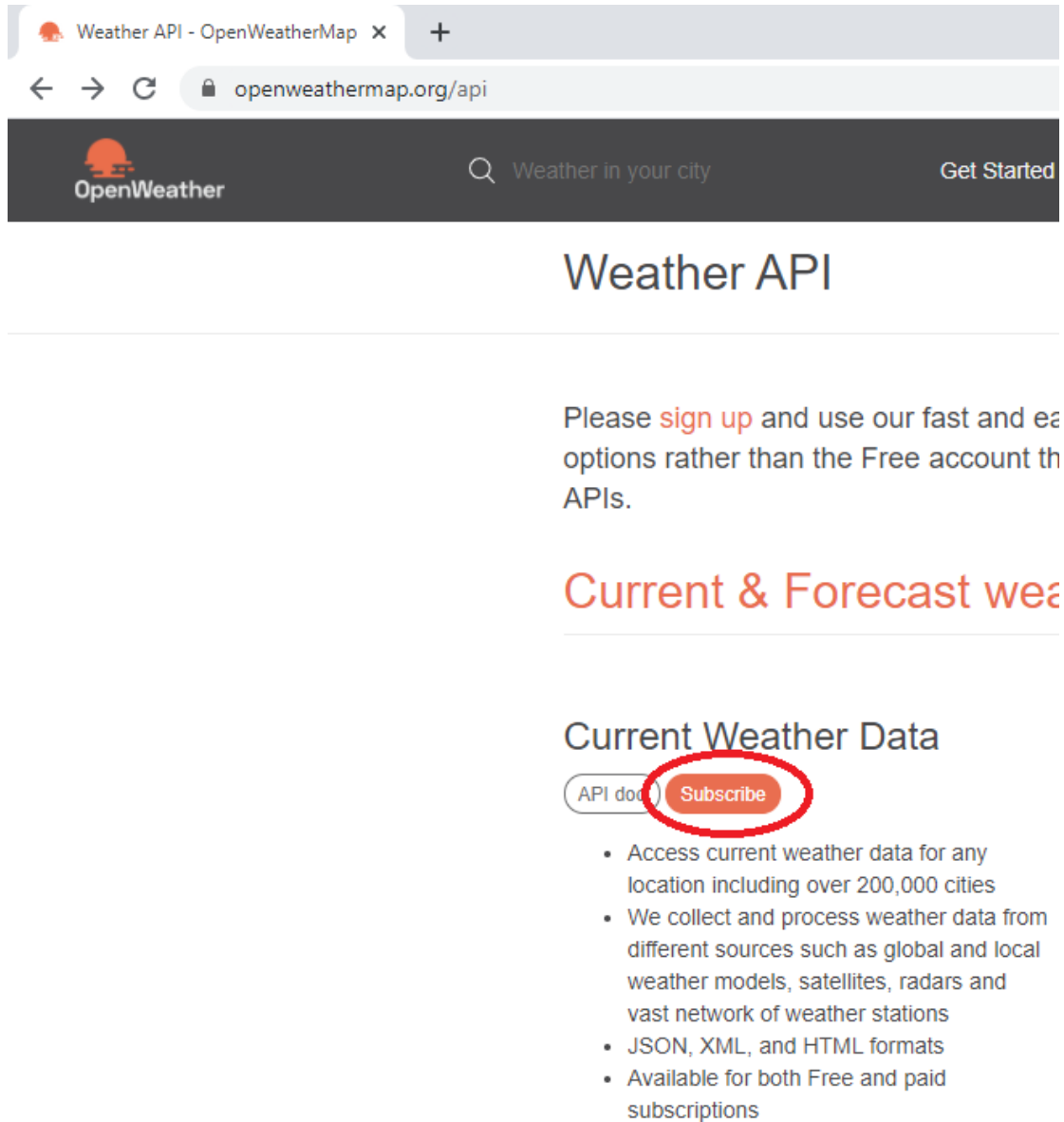

Figure 6 openweathermap.org – Subscribe to Current Weather Data
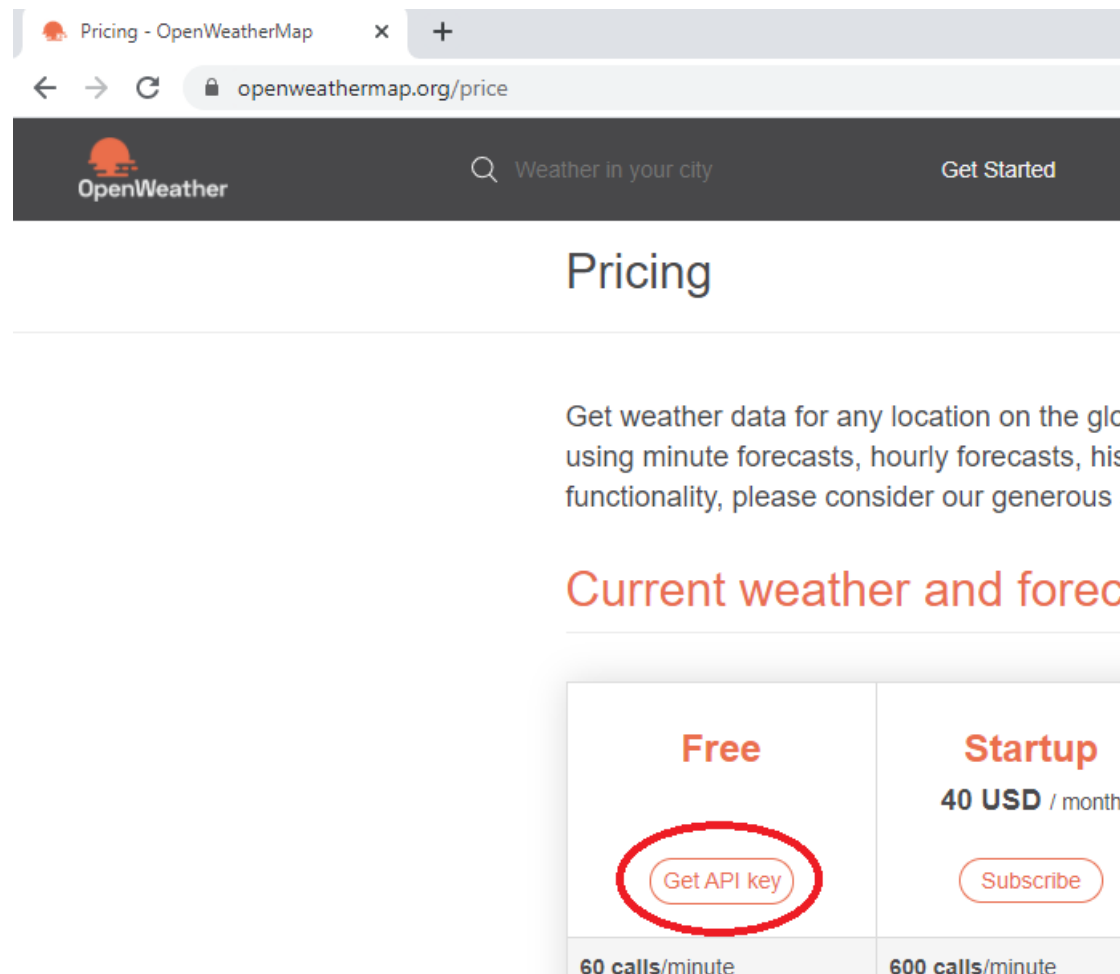
Then get your API Key for the Free service.

Figure 7 openweathermap.org - get Current Weather Data API Key

The link https://openweathermap.org/current provides details on how to access the data you will need for the app via the API.

A summary of the main points are as follows:
- All API calls will go to
  http://api.openweathermap.org/data/2.5/weather?q={city_name}&units={units}&appid={API_key}

- For example, to get the Current Weather in Metric units for Galway (with an example API Key = "A123") would mean a call to the following API endpoint:
  http://api.openweathermap.org/data/2.5/weather?q=Galway&units=metric&appid=A123

The following diagram highlights the parts of the JSON data returned from openweathermap.org and how they should be displayed on the *Home Page*:
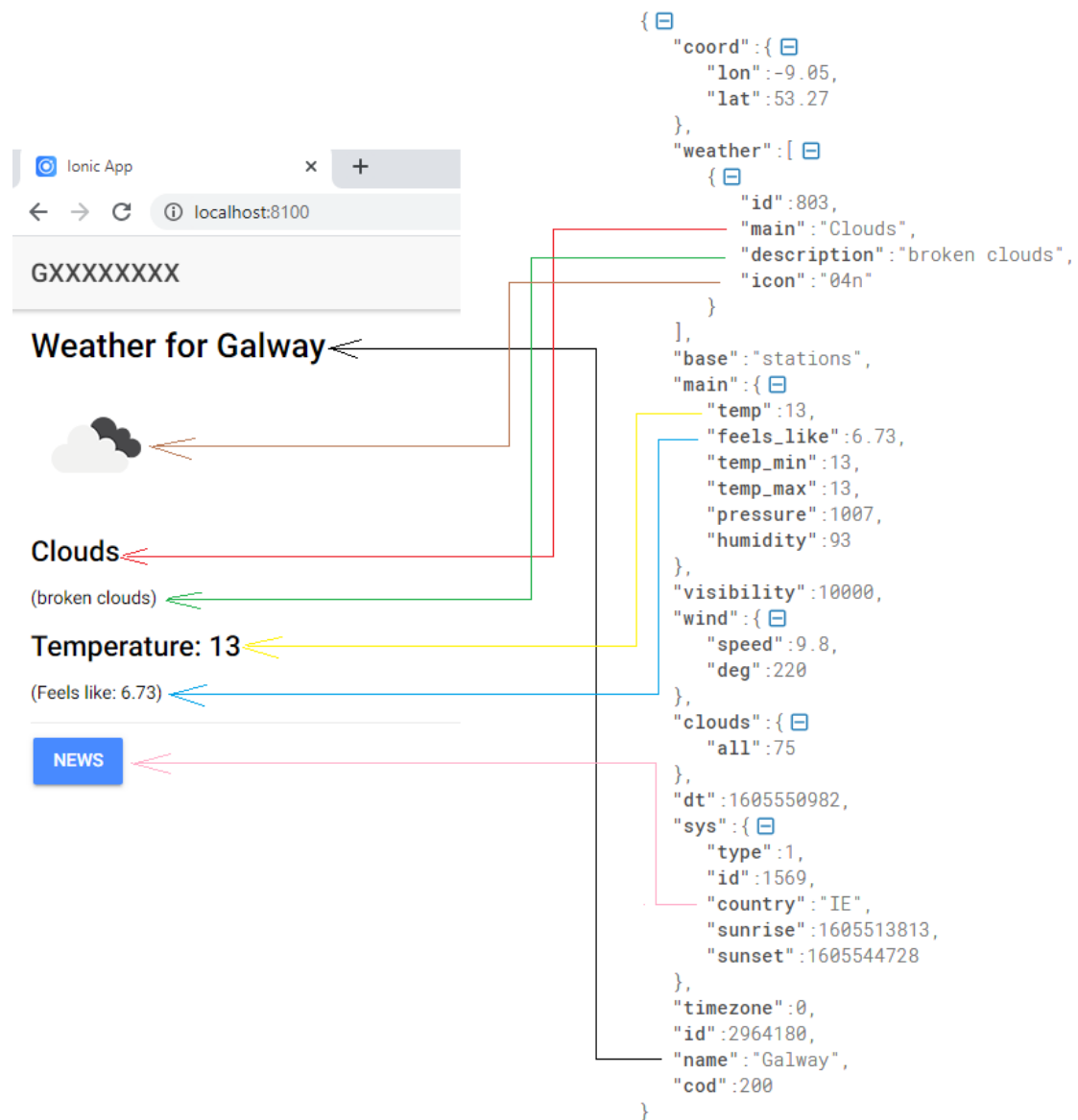

Figure 8 openweathermap.org JSON data needed

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News Sources

The news stories are taken from https://newsapi.org/ by a Provider in your application.
To use *newsapi.org* you need an API key which you get by:

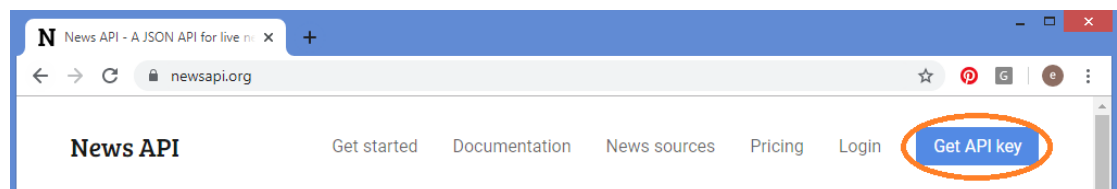- Navigating to https://newsapi.org
- Clicking on GET API KEY:

Figure 9 News API.org registration

- Filling in the details requested

You will then be given a unique API Key:

Figure 10 Example API key

The link https://newsapi.org/docs/endpoints/everything provides details on how to access the data you will need for the app via the API.

A summary of the main points are as follows:
- All API calls will go to :
  https://newsapi.org/v2/top-headlines?country={country}&pageSize={pageSize}&apiKey={Api_Key}

- For example, to get the first 5 news stories for Ireland (with an example API Key = "A123") would mean a call to the following API endpoint:
  https://newsapi.org/v2/top-headlines?country=ie&pageSize=5&apiKey=A123

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The following diagram highlights the parts of the JSON data returned from newsapi.org and how they should be displayed on the *Home Page*:
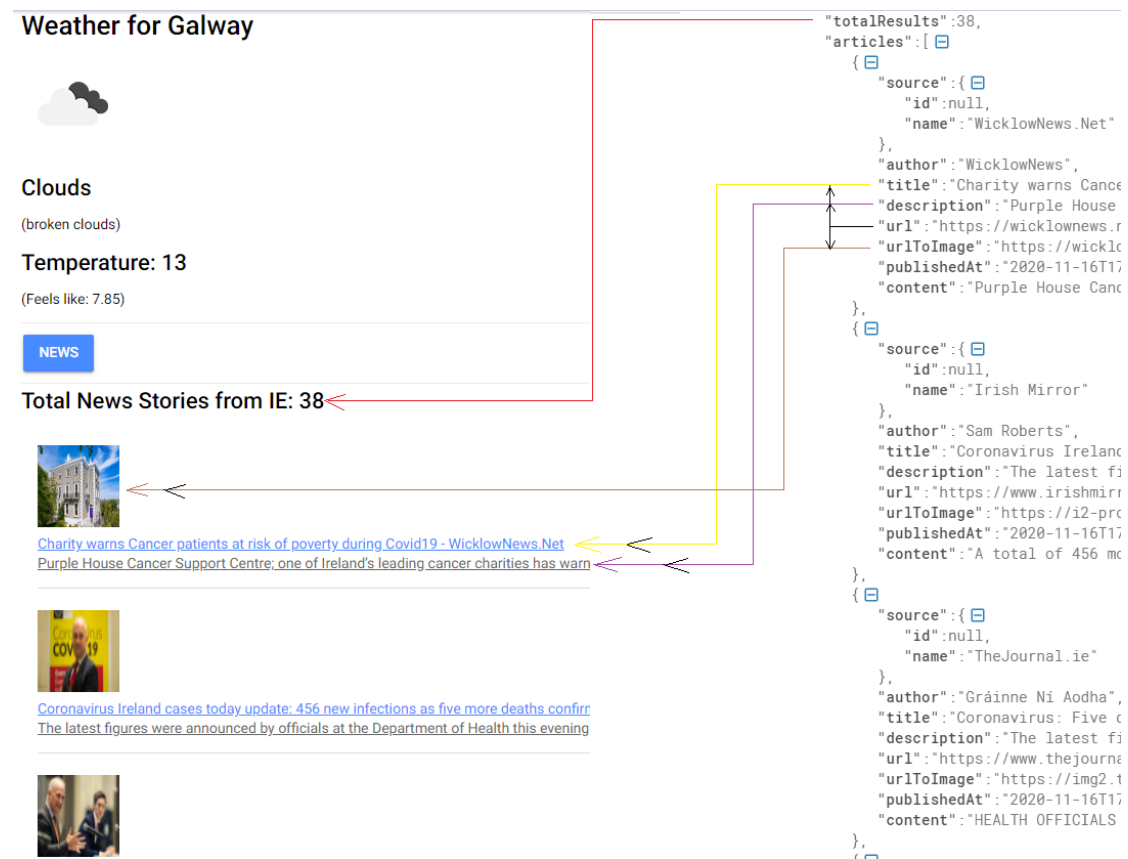

Figure 11 newsapi.org JSON data needed

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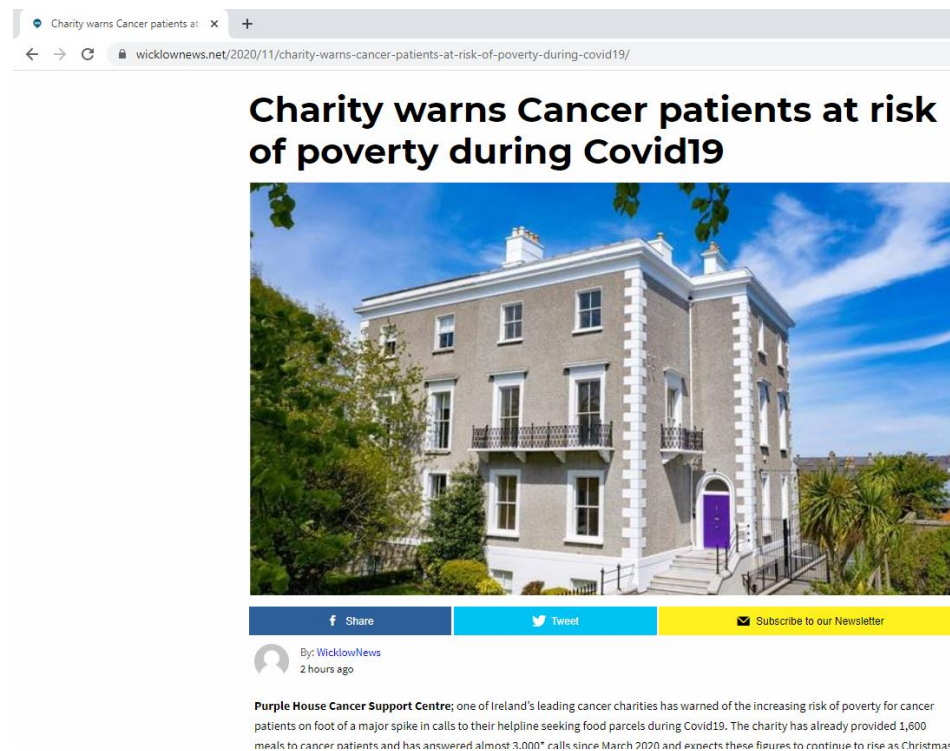When the user clicks on an image, title or description the associated URL is open in a new tab:

Figure 12 URL open in new tab