Final Project: Weather Site II

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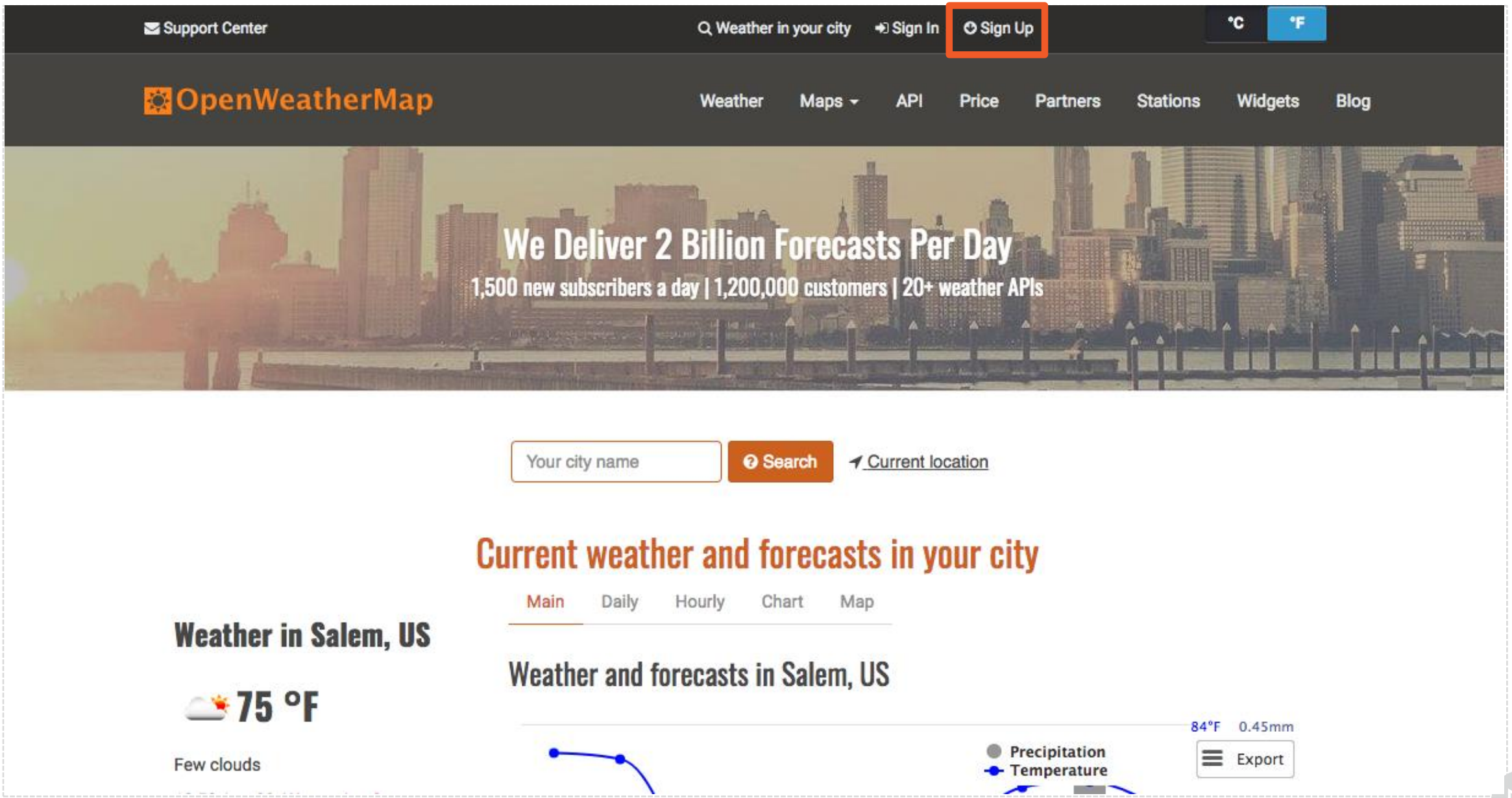
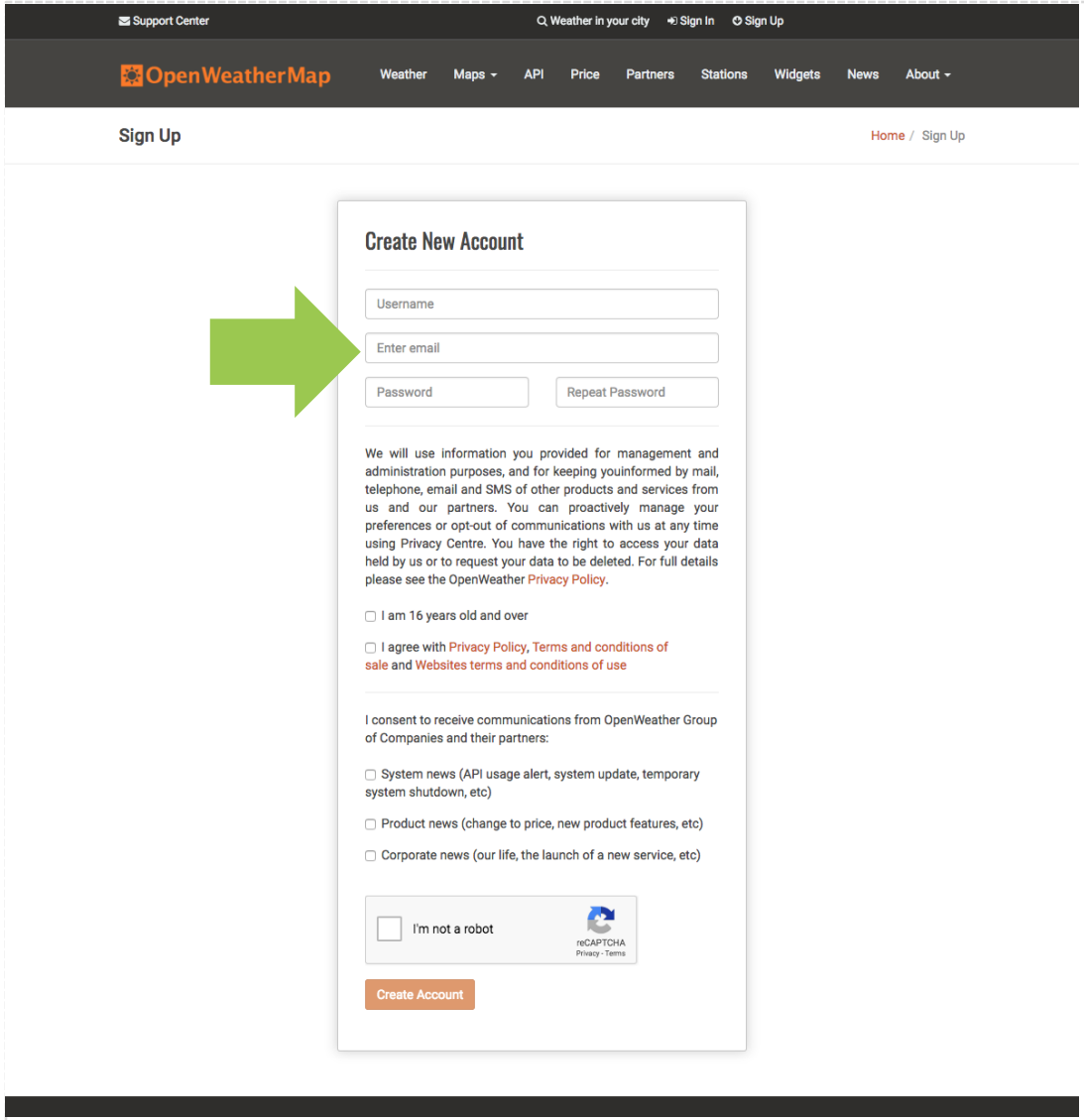
spartandesignuniversity.com

Agenda

- Create an account
- API key and documentation
- Start file
- Build the app
- Test the page

Create an Account


Support Center
Weather in your city
Sign In
Sign Up
°C
°F
OpenWeatherMap
Weather
Maps
API
Price
Partners
Stations
Widgets
Blog
We Deliver 2 Billion Forecasts Per Day
1,500 new subscribers a day | 1,200,000 customers | 20+ weather APIs
Your city name
Search
Current location
Current weather and forecasts in your city
Main
Daily
Hourly
Chart
Map
Weather in Salem, US
75 °F
Few clouds
Weather and forecasts in Salem, US
84°F
0.45mm
Precipitation
Temperature
Export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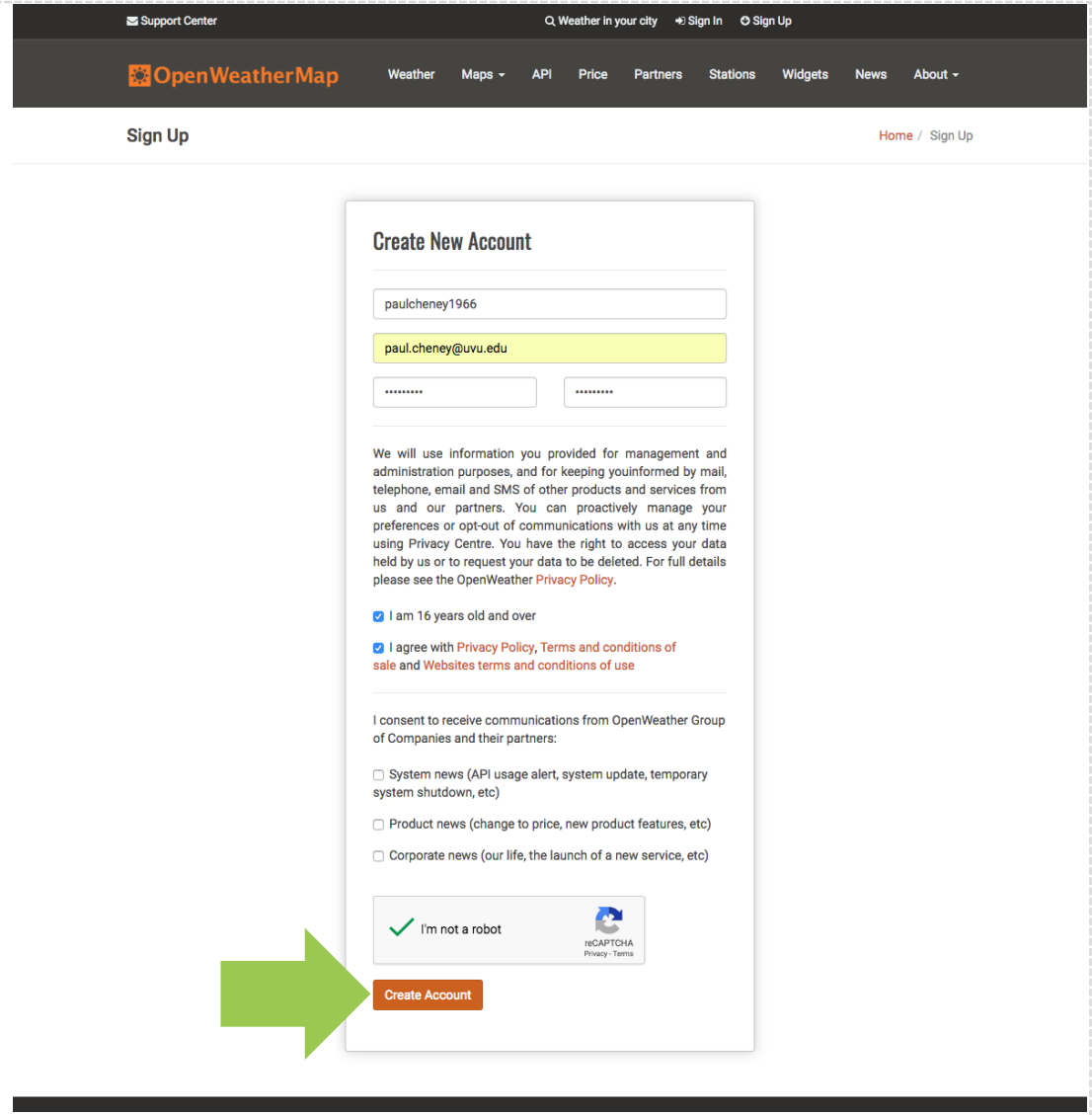
API
Price
Partners
Stations
Widgets
News
About
Sign Up
Home / Sign Up
Create New Account
Username
Enter email
Password
Repeat Password
We will use information you provided for management and administration purposes, and for keeping youinformed by mail, telephone, email and SMS of other products and services from us and our partners. You can proactively manage your preferences or opt-out of communications with us at any time using Privacy Centre. You have the right to access your data held by us or to request your data to be deleted. For full details please see the OpenWeather Privacy Policy.
I am 16 years old and over
I agree with Privacy Policy, Terms and conditions of sale and Websites terms and conditions of use
I consent to receive communications from OpenWeather Group of Companies and their partners:
System news (API usage alert, system update, temporary system shutdown, etc)
Product news (change to price, new product features, etc)
Corporate news (our life, the launch of a new service, etc)
I'm not a robot
reCAPTCHA
Privacy - Terms
Create Account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paulcheney1966
paul.cheney@uvu.edu
We will use information you provided for management and administration purposes, and for keeping youinformed by mail, telephone, email and SMS of other products and services from us and our partners. You can proactively manage your preferences or opt-out of communications with us at any time using Privacy Centre. You have the right to access your data held by us or to request your data to be deleted. For full details please see the OpenWeather Privacy Policy.
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How and where will you use our API?

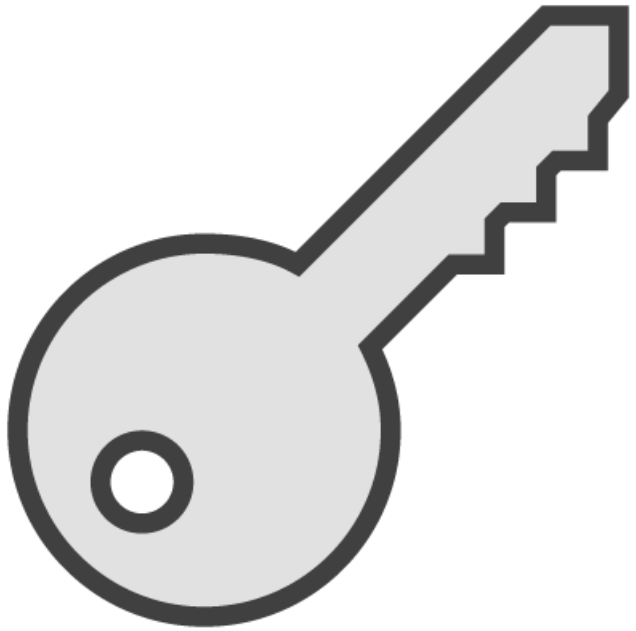
Hi! We are doing some housekeeping around thousands of our customers. Your impact will be much appreciated. All you need to do is to choose in which exact area you use our services.

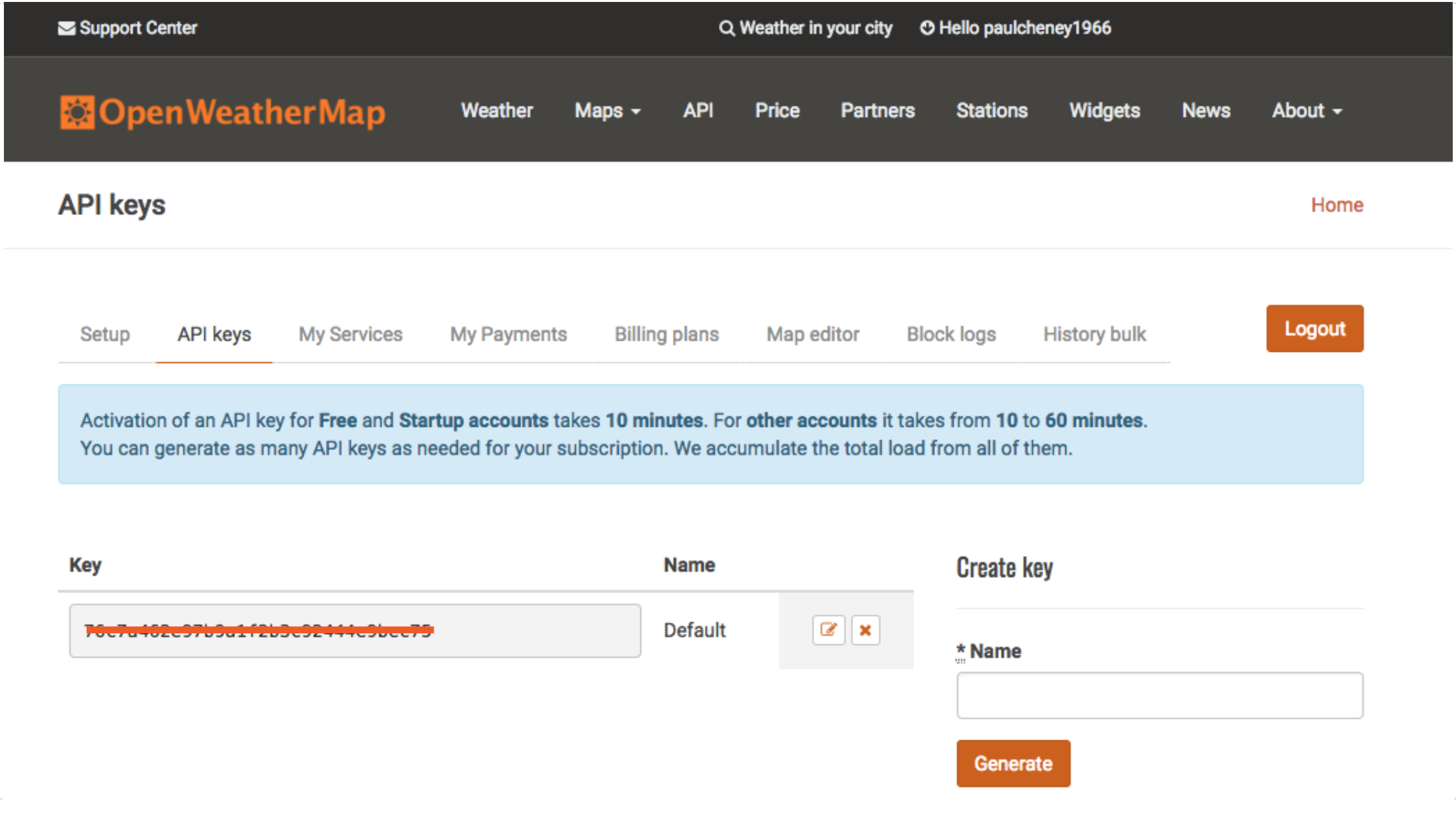
Company SpartanDesign University

*** Purpose** Education/Science

Cancel Save

API Key and Documentation




Support Center
Weather in your city
Hello paulcheney1966
OpenWeatherMap
Weather
Maps
API
Price
Partners
Stations
Widgets
News
About
API keys
Home
Setup
API keys
My Services
My Payments
Billing plans
Map editor
Block logs
History bulk
Logout
Activation of an API key for Free and Startup accounts takes 10 minutes. For other accounts it takes from 10 to 60 minutes.
You can generate as many API keys as needed for your subscription. We accumulate the total load from all of them.
Key
Name
Default
Create key
* Name
Generate

Weather API

Our weather API is simple, clear and free. We also offer higher levels of support, please see our paid plan options. To access the API you need to sign up for an API key if you are on a free or paid plan.

Current weather data

API doc | Subscribe

- Access current weather data for any location including over 200,000 cities
- Current weather is frequently updated based on global models and data from more than 40,000 weather stations
- Data is available in JSON, XML, or HTML format
- Available for Free and all other paid accounts

5 day / 3 hour forecast

API doc | Subscribe

- 5 day forecast is available at any location or city
- 5 day forecast includes weather data every 3 hours
- Forecast is available in JSON and XML
- Available for Free and all other paid accounts

16 day / daily forecast

API doc | Subscribe

- 16 day forecast is available at any location or city
- 16 day forecast includes daily weather
- Forecast is available in JSON and XML
- Available for all paid accounts

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- 16 day forecast is available at any location or city
- 16 day forecast includes daily weather
- Forecast is available in JSON and XML
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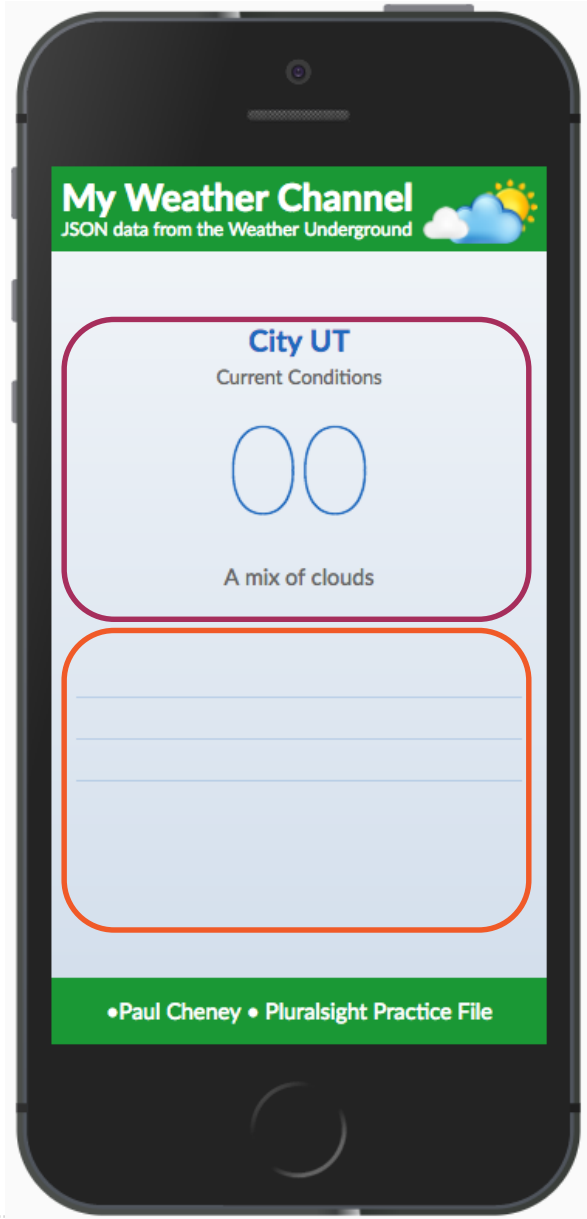
Here we can see that data is provided by City Name, by City ID, by Geographic coordinates whish is longitude and latitude, by zipcode etc. For this example, we will be using zipcode.

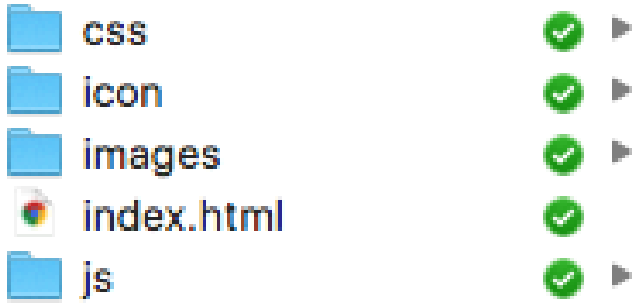
Here they show an example of what the API call should look like and what a Response will look like. We will be pulling specific information from the response and putting it on our web page.

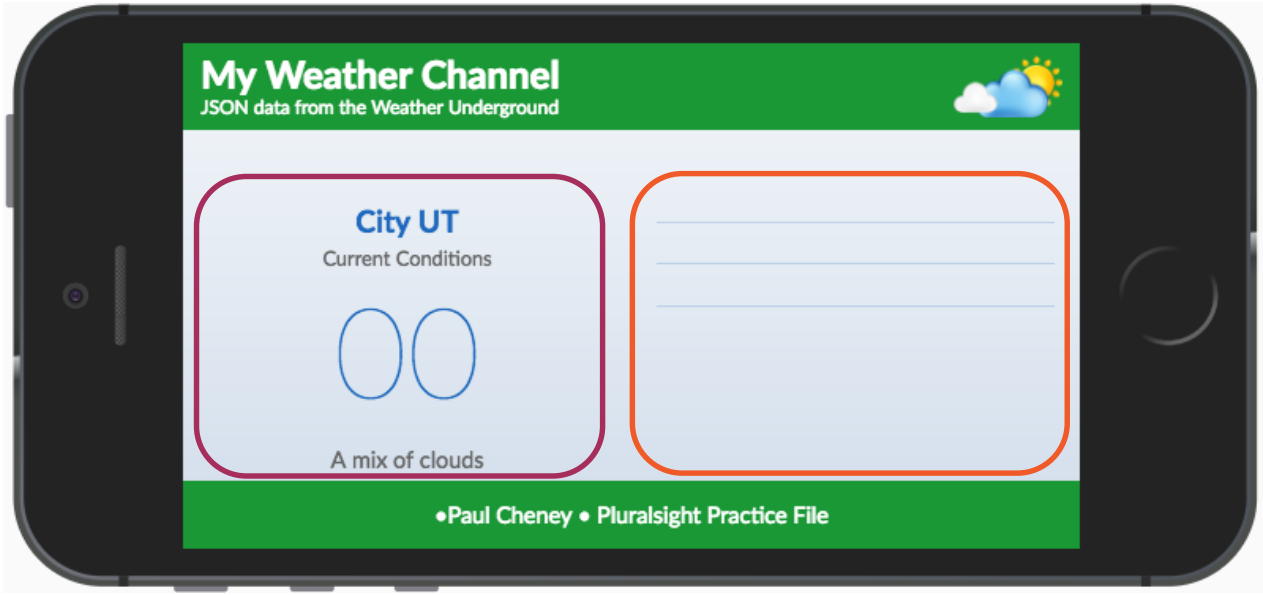
AJAX Request

```
myObj.open('GET', 'http://api.openweathermap.org/data/2.5/weather?q=84653,us', true);

myObj.responseType = 'text'; // coming as a string


myObj.send();

myObj.onload = function() {
   if (myObj.status === 200){
      var x = JSON.parse(myObj.responseText);
      console.log(x);
   } //end if
}; //end function
```

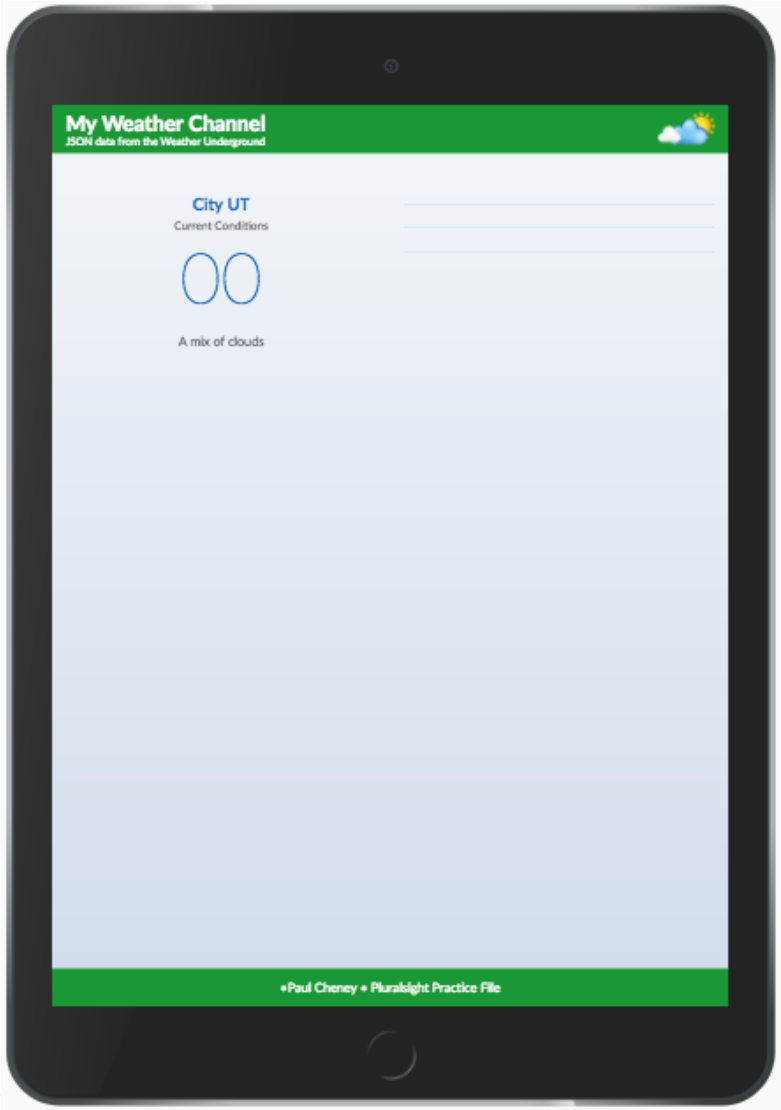
Small Screen Demo

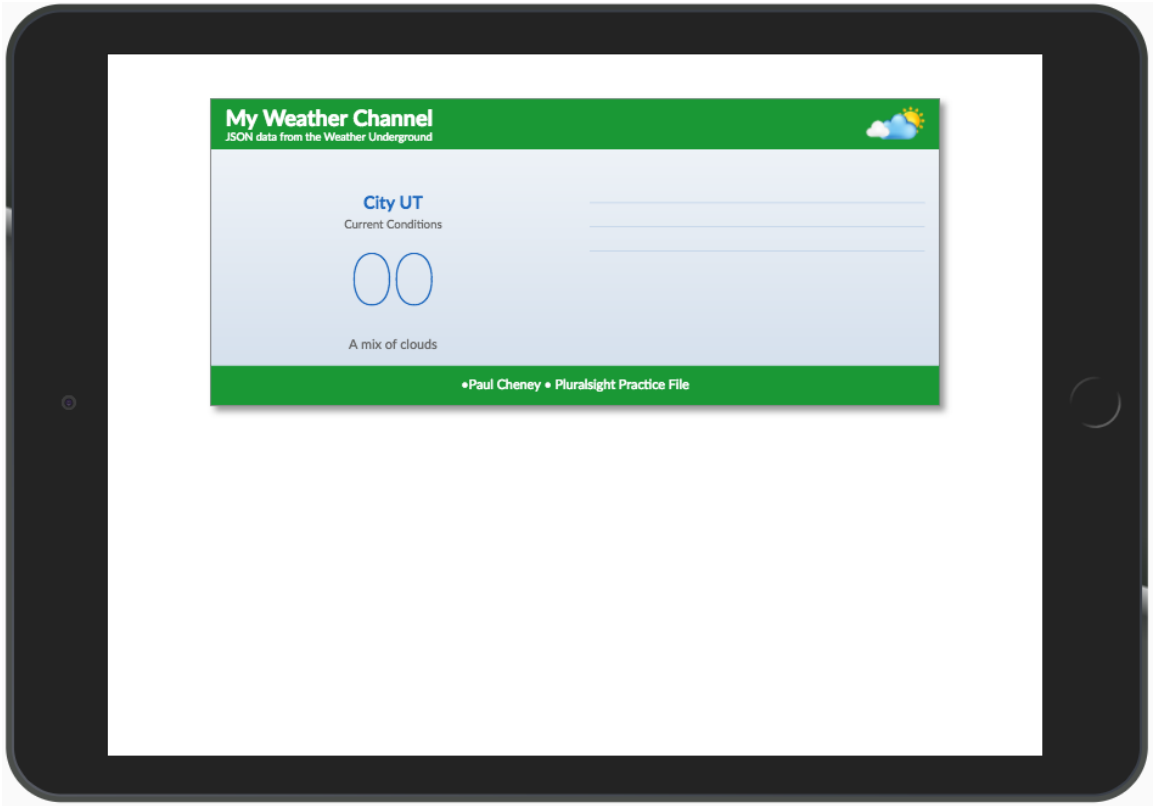




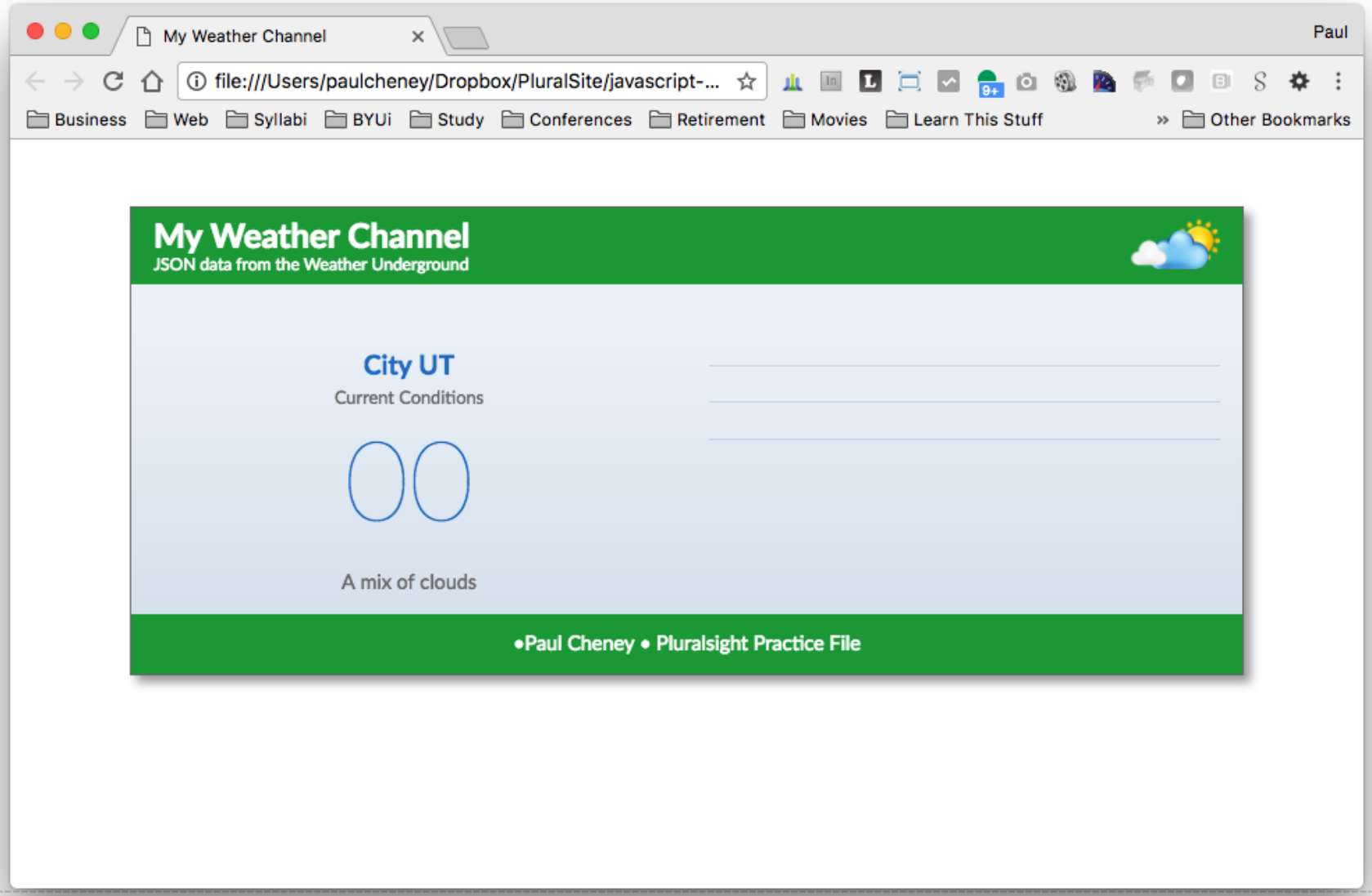


Medium Screen Demo



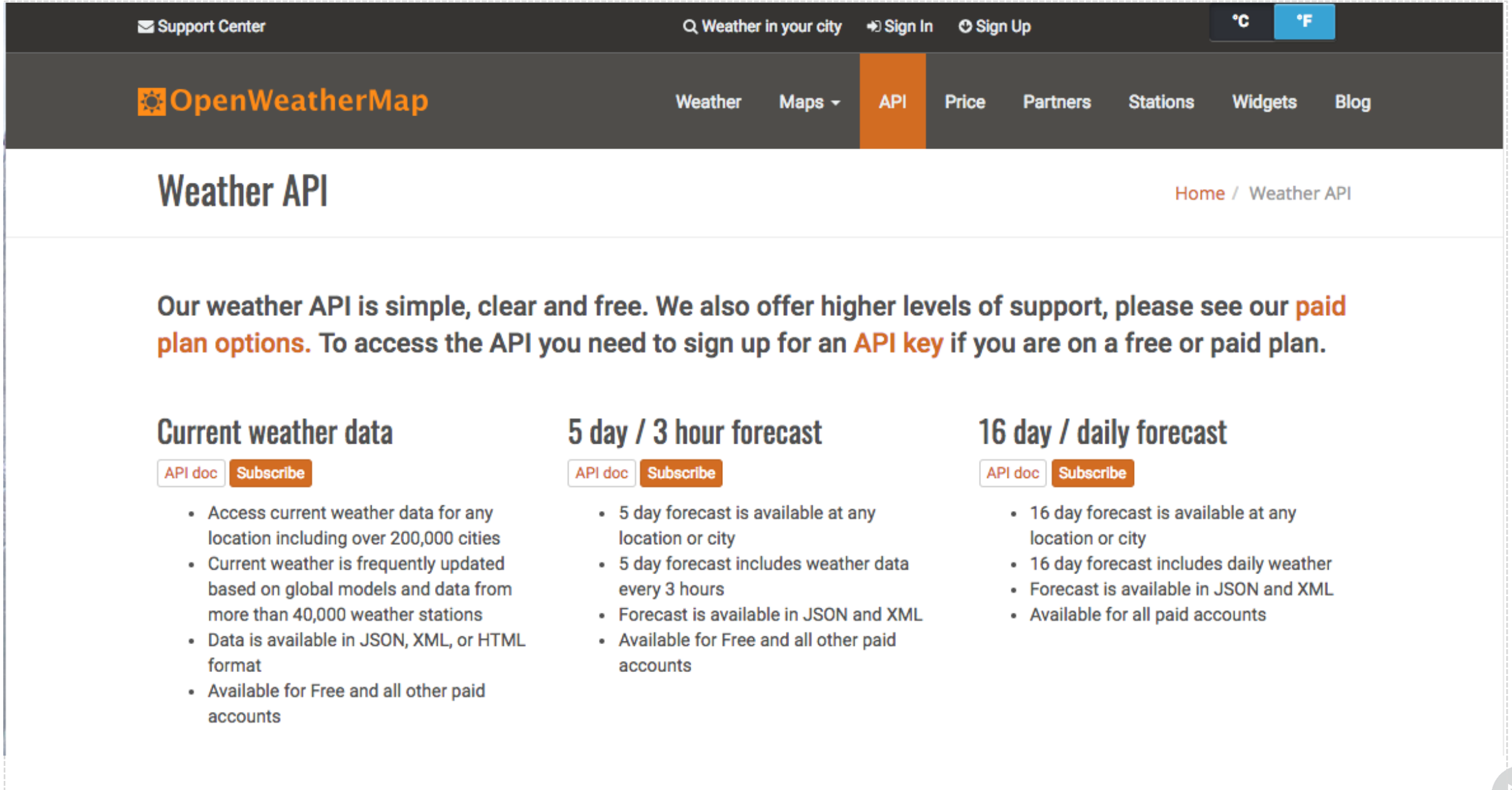


Large Screen Demo



Please get a clean copy of the weather_start from the demos in this unit.
Open it in your favorite text editor and open the index file in your Chrome. I have also opened the inspector we we can watch the Console.

When we load the page we see errors in the console That is because we have not provided the correct information to the open on line 10 and 33.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16 day / daily forecast
API doc
Subscribe
16 day forecast is available at any location or city
16 day forecast includes daily weather
Forecast is available in JSON and XML
Available for all paid accounts

```
 8
 9  // GET THE CONDITIONS
10  weatherConditions.open('', '', true);
11  weatherConditions.responseType = 'text';
12  weatherConditions.send(null);
13
14  weatherConditions.onload = function() {
15      if (weatherConditions.status === 200){
16          cObj = JSON.parse(weatherConditions.responseText);
17          console.log(cObj);
18
19
20      } //end if
21  }; //end function
22
23
24
25
26
27
28
29
30
31
32  // GET THE FORECARST
33  weatherForecast.open('', '', true);
34  weatherForecast.responseType = 'text';
35  weatherForecast.send();
36
```

To keep things simple, please comment out line 33 and line 35 so we are not continually seeing errors.

Lets review what we have. We have two XML HTTP Requests on line 4 and 5.

On line 6 and 7 we are creating variables for the conditions object and the forecast object.

Now on Line 10 se need to set the method to GET inside the first set of Quotes.

In the second set of quotes we will put a value provided by the pen Weather Map website.

Under the APU Menu select the current weather documentation button

Scroll down to Zipcode and copy the Example API Call.

Between the second set of single quotes, type http:// and then paste. Please change the zipcode to 84653 which is my home town of Salem.

When we refresh the page we see that we have a 401 error -- unauthorized. That is because we need to add in our personal API key.

By ZIP code

Description:

Please note if country is not specified then the search works for USA as a default.

API call:

api.openweathermap.org/data/2.5/weather?zip={zip code},{country code}

Examples of API calls:

api.openweathermap.org/data/2.5/weather?zip=94040,us

Parameters:

zip zip code

API respond:

We need to add another name value pair for the API key.
Please type ampersand to start the next name value pair.
Type appid which is the name and then = followed by your long api key.

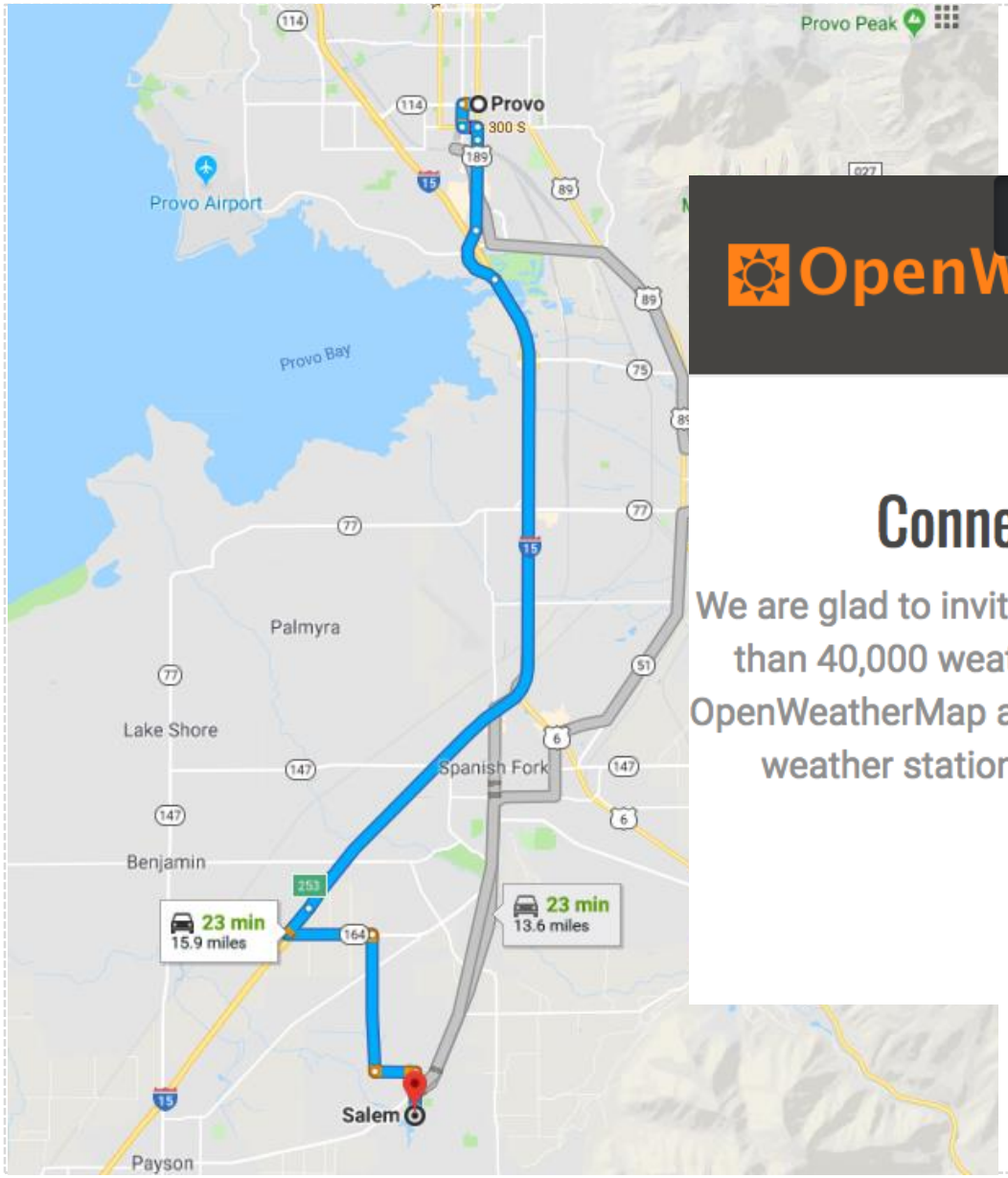
I am going to go back to the website to get mine by clicking sign in and API Keys

Please don't use mine or it will break and you will get frustrated.

Now when you refresh the page, you can see the object displayed in the console just as we asked for on line 17.

We're trying to get the weather information for Salem UT

if I click the down arrow and look for the "name" I can see that the city is Provo NOT Salem as I requested.



°C °F

OpenWeatherMap

Connect your weather station to OpenWeatherMap

We are glad to invite you to join our network of private weather stations. Today we have more than 40,000 weather stations around the world. You can connect your weather station to OpenWeatherMap and get a convenient interface for gathering and monitoring data from your weather station. You can also embed your weather station data into your home page.

Connect

If you open the "main" arrow, you will see that the temperature is showing in Kelvin not degrees. Since I want to see my temperatures in Fahrenheit, I will add another name value pair to the path.

Type another ampersand and then units = imperial.

Now When you refresh the page and open the object, you will see the temperature showing as Fahrenheit

Now that our data is correctly displayed to the console let's take that information and display it on the webpage for our end user to see.

Open the index.html and look at line 45-48. These are divisions with id's. We can assign dynamic values by referencing these ID's in our JavaScript.

On line 18, type document dot getElementByID. Use the ID of location which we saw in our HMTL. Now type dot and innerHTML and set it equal to the current conditions object we created on line 6.
Now switch back to the browser. Mouse over name next to Provo and you can see that we need to access this value using dot name. Remember the semicolon.
Refresh the page and you should see Provo as the City.

Now lets do the weather description.
Copy the location line and past it below. Change location to weather as show in the html.
Open the object and open weather. Then open 0 to see the description.
When you mouse over description you will see that it can be accessed using weather 0 in square brackets followed by a dot and description.
When we refresh the page, we see the description appearing on our page.

Temperature is very similar. Copy the previous line, paste it below. Insert temperature.
We can see that the current temperature showing in Chrome is main.temp. so we add the here.

In the previous module when we accessed date from the weather underground, they provided a long description of the weather. Tis information in NOT available here so lets make a change.

We will add wind speed under the temperature.

Copy the temperature line and paste it below.

Look at the html and we see the id is desc. In the JavaScript, change this to desc and change the reference to wind dot speed.

While this works, its useless data to our user. They need to know what tis value is for.

Please add ""+ here in the code. Between the quotes, type Wind Speed.
Now when we view the results it look better.

Now were ready to tackle the forecast. Please remove the two forward slashes from open and send.

The open method for the forecast is identical to the current conditions with one exception. Type GET here and the copy and paste the second parameter here.

Open the openweathermap website and choose API. Under the 5 day forecast, scroll down to zipcode. Notice that is is the same except for the word forecast.

Lets change our code to forecast and save.

When we refresh our page, we can see another object displayed on the screen. I am going to comment out the first one so we don't make any mistakes.

Now I am only seeing one object in the console.
Notice that this has a list with 40 items. That is because it reports every three hours for 5 days. That is 8 times a day for 5 days or 40 items in the array.

Lets open the first element and see what we have. Notice that the date text shows the year, month and day. It also shows the hour.

The next few will be the same date with the hour changing.

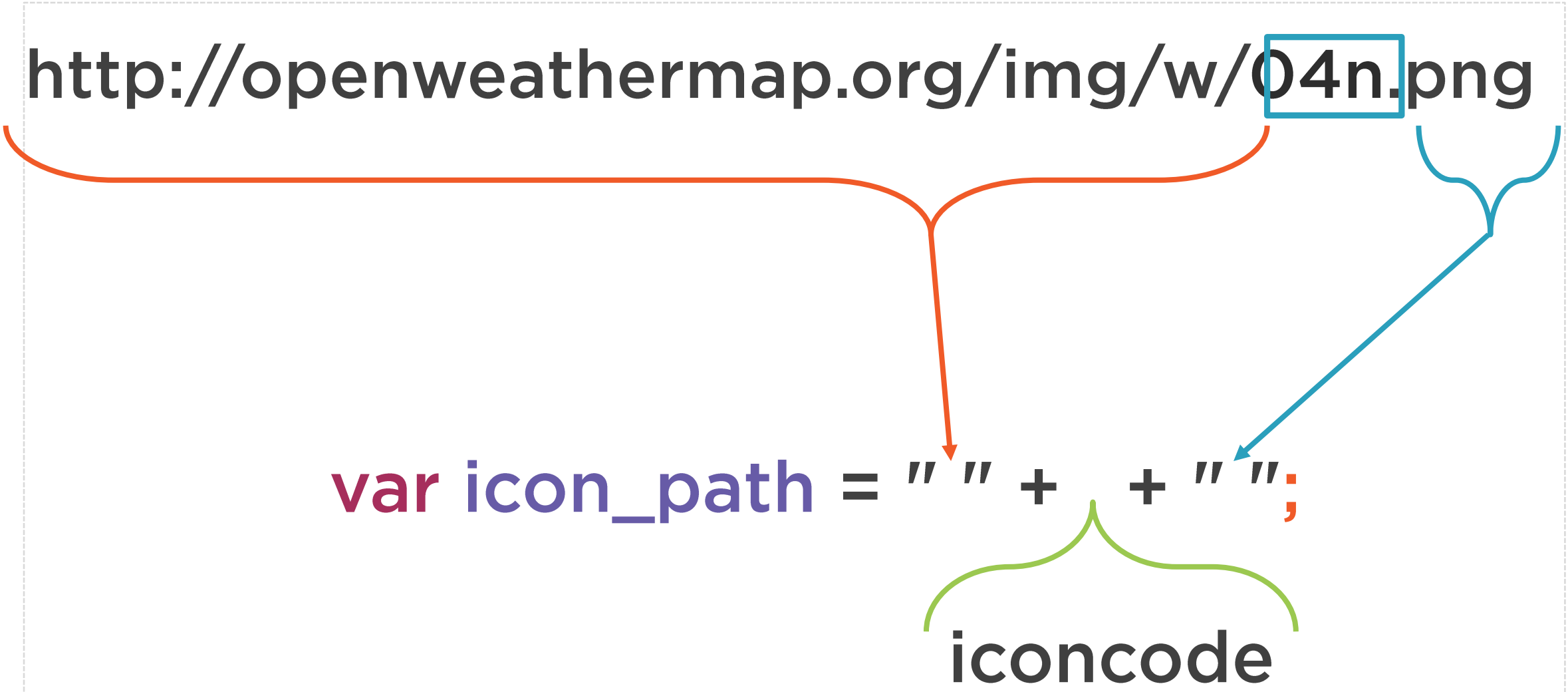
In our HTML, we can see that there is a row and columns setup as id's This is a pattern I just made up.

Lets set row 1 column 1 to the forecast object using list zero dot date text.
Now that works but its a little overkill. Let's use javascript to remove the year and the time of day.

Create a new variable called date raw and set it equal to the list zero dot date text
Now we can use substring to chop off the ends. We will start the substring at character 5 and end it at character 11. remember that string are 0 indexed.
Now lets display the new variable to ro1 1 column 1.

Now lets display an icon representing the currentweather in row 1 column 2. Notice in the html that I have given the image tag the id instead of the span. That is so I can use javascriot to assign the source of that image.

Under the array element we can open the weather and under the 0 array, there is an icon name. After poking around quite a bit, I discovered that these icons are all stored in a specific location on their site.




```
var icon_path = "http://openweathermap.org/img/w/" + iconcode + ".png";
```

Please create a new variable called icon code and set it equal to the forecast Object.
Chrome will show us that path as list zero weather 0 icon. Notice that I am not adding quotes inside the square bracket as they are not necessary.

Now we type the code we just saw on the previous slide like this where be build the full path to the icon using three different parts.
Now al we need to do is set the source of row 1 column 1 to the variable icon path and it should work.

The next two are the temperature maximum which we can see here in Chrome and the temperature minimum which we see here.
Set the inner html of row 1 column 3 to main temp minimum.
Set the inner html of row 1 column 4 to main temp maximum.
Once again we have a usability problem conveying what these number represent.
Lets add an html entity for degree to the end of each one.
Type a plus and "". Then put the ° between the quotes.
Now look at your end product.

We will simply copy and paste for the next three days.

Please copy everything after the console log. Paste it after.
Change the 4 references to row 1 to row 2
Next change 4 references to the list array from 0 to the next day at 8
Seriously, that's it.

Copy and paste that block of code one more time
Change the 4 references to row 2 to row 3
Next change 4 references to the list array from 8 to the next day at 16.

Now were ready to upload this to a server and run some tests.

I am putting this on a non-secure website. As you can see everything loads correctly and the only console error I get is about a fav icon.

Now lets upload it to a secure site with s SSL certificate.
Now everything is broken and I am getting warnings in my console about blocked content.

To solve this we need to go back to our editor.

Start with line 10. We are forcong the data to be loaded ofer http whoch does not work over https. If we remove the http and leave the two forward slaches. It will work on both secure and non-secure web hosting but unfortunately breaks when we run it locally.

There are five uses of http. Three for loading json data and two for loading the images.

With those removed the file no longer works on our desktop.

When we upload it to a non-secure server, we have success and no console errors.

When we upload it to a secure server with an SSL certificate, we have success and no console errors.

This wraps up the testing part of this module and we are now done.

Summary

- Create an account
- API key and documentation
- Start file
- Build the app
- Test the page