



# HCA Tech Note 604

## Open Weather Map

To use this internet weather provider you must first establish an account with them. This is done from their website at [www.openweathermap.org](http://www.openweathermap.org)

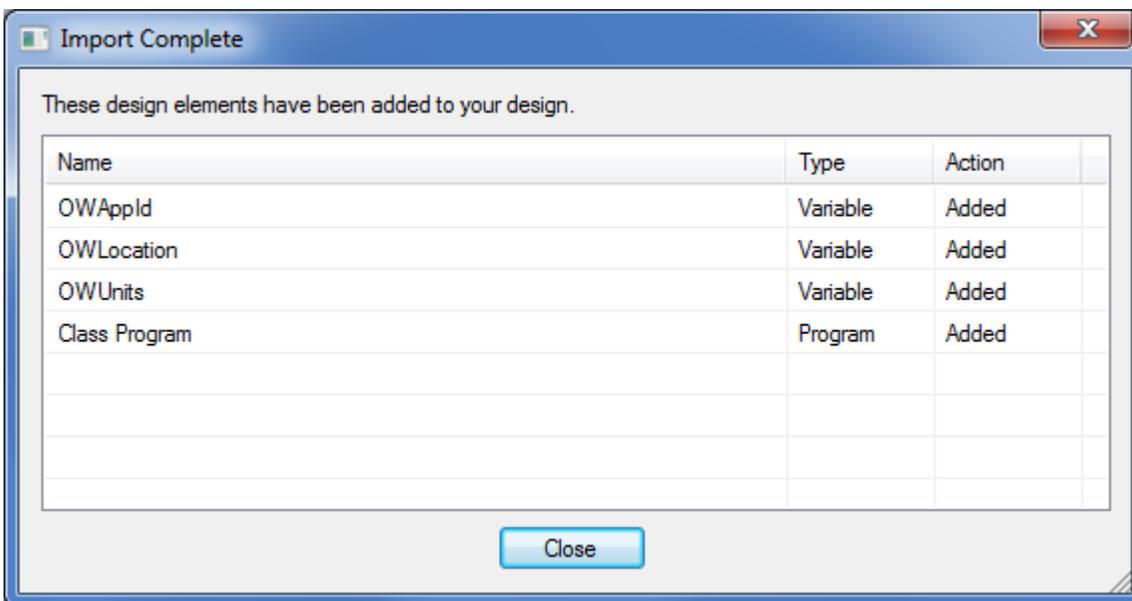
Complete the account signup process and then go to the API “How to start” page. To request an application id. It takes a bit before it arrives as they say. I got mine within an hour. [www.openweathermap.org/appid](http://www.openweathermap.org/appid)

For a single user it is all free if you don’t access more than 60 requests a minute, which you are unlikely to do.

Next, familiarize yourself with the way that they designate a location. There are many ways to do this from a simple zip code or by location coordinates. This is all explained on this page of their website: [www.openweathermap.org/current](http://www.openweathermap.org/current)

The HCA Weather class supports all the location specification options. To operate correctly, you just must enter it in the format OpenWeather expects it and is documented on their website.

Next, import the Open Weather Map class either from the online library or from a file. The class program is added in a folder called “OW” (for OpenWeather).



Before doing anything else, open the variable inventory and update the three global variables.

OWAppId is the application ID you received from Open Weather Map when you signed and got started with their API.



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OWUnits is the units that the data comes in. It only effects temperature readings and is one of two strings: "Imperial" or "metric". Make sure you set to one of these.

OWLocation is the location to use. You can use any of the way that OpenWeather specifies a location. For example:

OWLocation = "zip=98102,us"

OWLocation = "lat=47.60&lon=-122.33"

If using latitude and longitude, it follows the usual conventions so North America longitude is a negative number.

If you want, you can look at the OpenWeather website for all their city codes and use those if you want.

Since these values are unlikely to change after you configure then, I suggest that you enter the value as the "Current Value" and also in the "Set it to this value" with the "When HCA loads the design file" option selected. That way each time HCA starts and loads your file, the variables have the right values.

The screenshot shows the 'Variable Inventory' dialog box. On the left is a table of variables:

Name	Value
_Dark	No
_Light	Yes
degrees	No
hPA	No
mm	No
mph	No
OWAppId	"25464b7e106..."
OWLocation	"zip=98376,us"
OWUnits	"imperial"
Pressure	No
temp	"39.97"

The right side of the dialog is for editing the selected variable, 'OWUnits':

- Name: OWUnits
- Current Value: "imperial"
- Usage Info: Open Weather units for temperature. Choices are imperial or metric
- When HCA loads the design file:
  - Set its value to what it was when the design file last saved
  - Set it to this value
- Input field for 'Set it to this value': imperial
- Buttons: Save changes, Delete
- Referenced in these locations: Open Weather - Class Program
- Bottom buttons: Create New, Export, Delete all unused, Close



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## Periodic class execution

Now that the class is added and configured, there are two final steps: Getting weather data periodically and using the data.

To retrieve weather data periodically, one way is to cause the Open Weather class to execute periodically using the Auto Start option on the Advanced Options tab.

Auto Start

Once started automatically run again in: 0 days 1 hours 0 minutes

This way you can choose how often the class runs to collect weather data: Once an hour, every 30 minutes, etc. Also, you may want to add a trigger on the class to start it running when HCA loads your design.

Trigger

Trigger Type: Special Condition

Start the program when this condition happens:

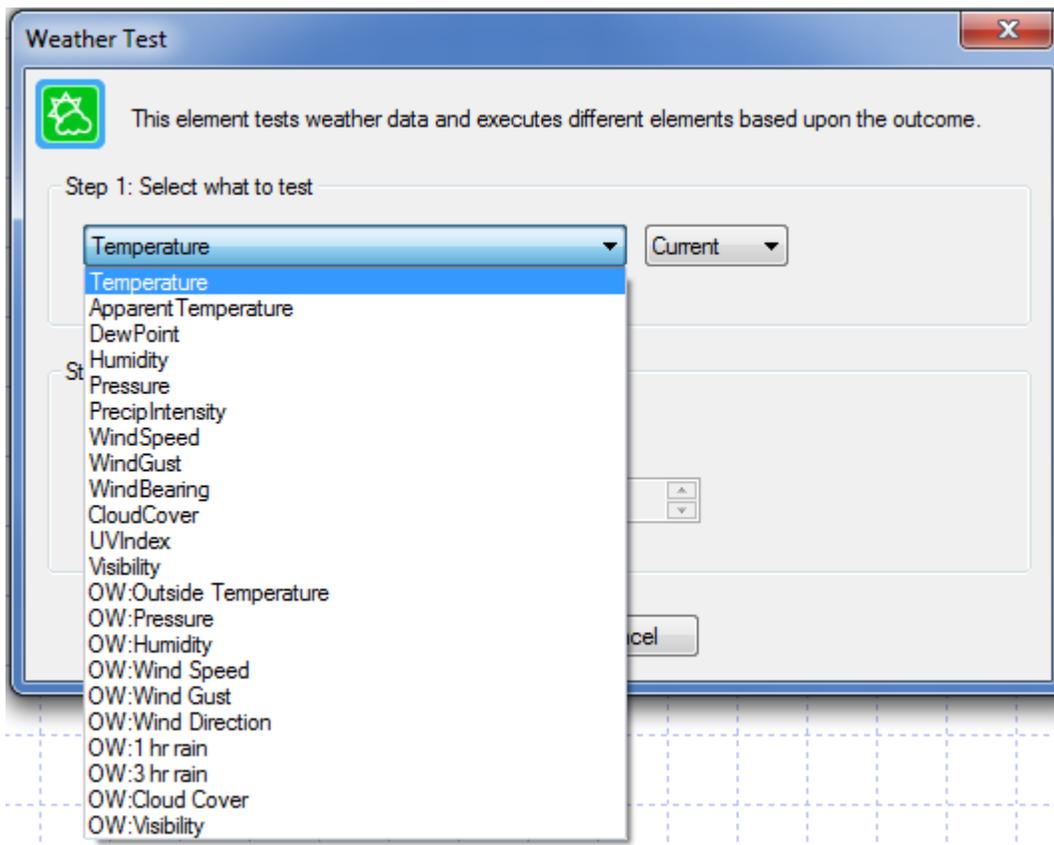
HCA started normally



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Using the weather data.

Now that the class has been added, and executed at least once, when you use the Weather-Test element or create a weather trigger, then OpenWeather data is available to choose from.



The data items prefixed by “OW” are the Open Weather ones, the un-prefixed ones are the standard built-in DarkSky observation data.

You can also use OpenWeather data in expressions using the `_WeatherGet` function like this:

```
_WeatherGet("OW:Outside Temperature")
```

Again, the name of the data is the same text as is shown in the Weather-Test element with the “OW:” prefix.

##end##

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