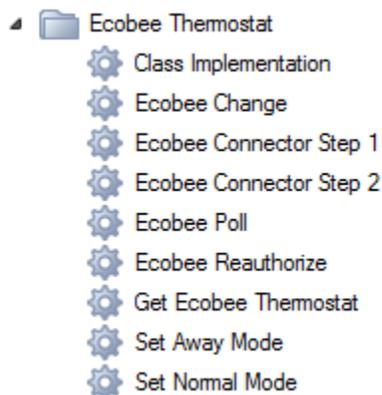## Ecobee Thermostat
https://www.ecobee.com/

The Ecobee thermostat with Wi-Fi is supported in HCA using the following steps after you have installed the thermostat. You also must have established an Ecobee account at their web site and used it to be able to access your thermostat from their web interface. The Ecobee package supports up to 4 thermostats.

Step 1.
In the Design ribbon category, press the Library Browse/Import button to access the online library. Then locate the Ecobee class. The lower section of the library browser shows the documentation for the class. All the programs that are part of the class are listed with instructions on their use.

Press the *Import Selected* button. The class programs are added to your design and added to the import report displayed.

A folder is created that holds the class implementation programs.

Ecobee Thermostat
- Class Implementation
- Ecobee Change
- Ecobee Connector Step 1
- Ecobee Connector Step 2
- Ecobee Poll
- Ecobee Reauthorize
- Get Ecobee Thermostat
- Set Away Mode
- Set Normal Mode

Step 2.
On the computer that runs the HCA Server or HCA.exe if using stand-alone mode, create a folder called "Ecobee". That is c:\ecobee. Saved in this folder is a very small file that contains the access tokens for Ecobee. Since the access tokens last for only a limited time, it is essential that they be protected in case HCA abnormally terminates. Saving in a file does that. You need not worry about creating a folder in the C root as it perfectly acceptable to do so and contains only one very small file.
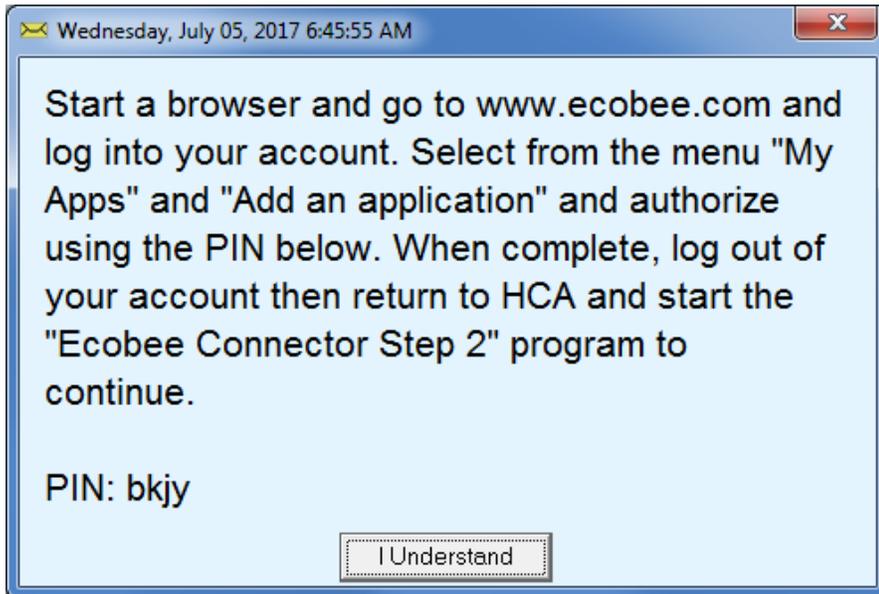
Step 3.
There is a mandatory procedure to follow to allow HCA to access your thermostat though the Ecobee servers. Along with the class implementation program several additional programs were imported as well. The programs that handle the authorization are named "Ecobee Connector Step 1" and "Ecobee Connector Step 2".

Run "Ecobee Connector Step 1" by double-clicking on it in the design pane or right-click and select "Start". The program runs and displays this popup message:
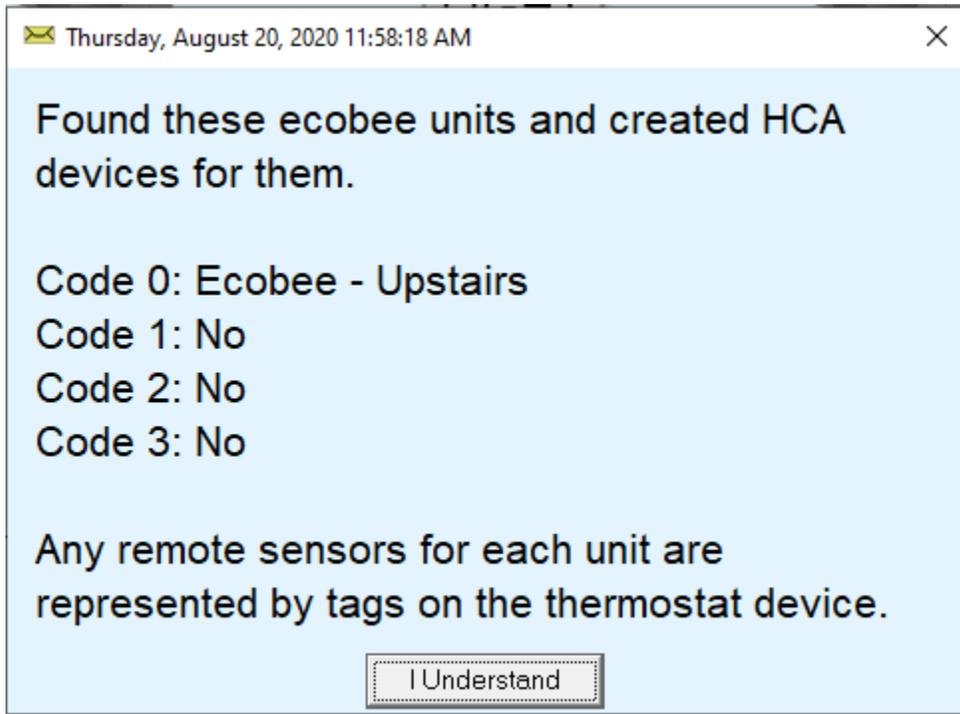

Note: These popup message boxes are different than you may have seen in HCA before. They are independent of HCA and can be left open while you perform other operations in HCA. You will need to close them using the upper right corner "X" or press the "I understand" button.

As it directs, start a browser and connect to ecobee.com and log into your account. On the Ecobee site, open the menu – click on the three horizontal lines in the upper right part of the page - and press the "Add application" button. Enter the PIN shown in the HCA message box and press the "Validate" button. The web page displays information about the author and application. Complete the process by pressing the "Add Application" button again.

Run "Ecobee connector step 2" by double-clicking on it in the design pane or right-click and select "Start".
After a bit, this popup appears:

Thursday, August 20, 2020 11:58:18 AM   ✕

Found these ecobee units and created HCA
devices for them.

Code 0: Ecobee - Upstairs
Code 1: No
Code 2: No
Code 3: No

Any remote sensors for each unit are
represented by tags on the thermostat device.

I Understand

Any Ecobee thermostat that is part of your account is listed and an HCA device object for it was created in the "Ecobee" folder.

The Ecobee thermostat can be installed with remote temperature and occupancy sensors. Once you have completed these steps, tags on the thermostat device were created that contain these remote sensor temperature and occupancy indications.

In this example installation, there are two remote sensors – one installed in the library and one in the dining room – in addition to the thermostat itself – called "Upstairs" in this example.

You can use these values in your own programs to access the most current values of the ambient temperate and occupancy from that sensor. They are updated every 5 minutes – the fastest update rate possible.

Step 4.

The thermostat can now be used with all the usual HCA facilities including:
- Right-click on the device and select "thermostat" from the popup menu
- Tap on the device in the control UI
- The Thermostat and Thermostat-Test Visual Programmer elements

Limitations

The Ecobee thermostat is VERY SMART and really wants to run its own world. As such there are many limitations on what HCA can do with it and to it.

To start with, all communication with the thermostat doesn't go direct from HCA to the thermostat. It all gets routed through the Ecobee cloud servers. As such there are limitations on how often messages can be sent to their server to read and to effect changes. Because of this you may not see changes you make to the setpoints happen for several minutes.

The Ecobee really wants to manage its own setpoints based upon its schedule and other parameters. As such all the HCA can do is to put the thermostat into a "hold mode" for an indefinite time with your chosen setpoint.

You may want to consider letting the thermostat handle its own world and use it more as a information-only system where you can access the remote sensors – HCA supports up to 10 per Ecobee unit - and the setpoints for your needs.

##end##