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.
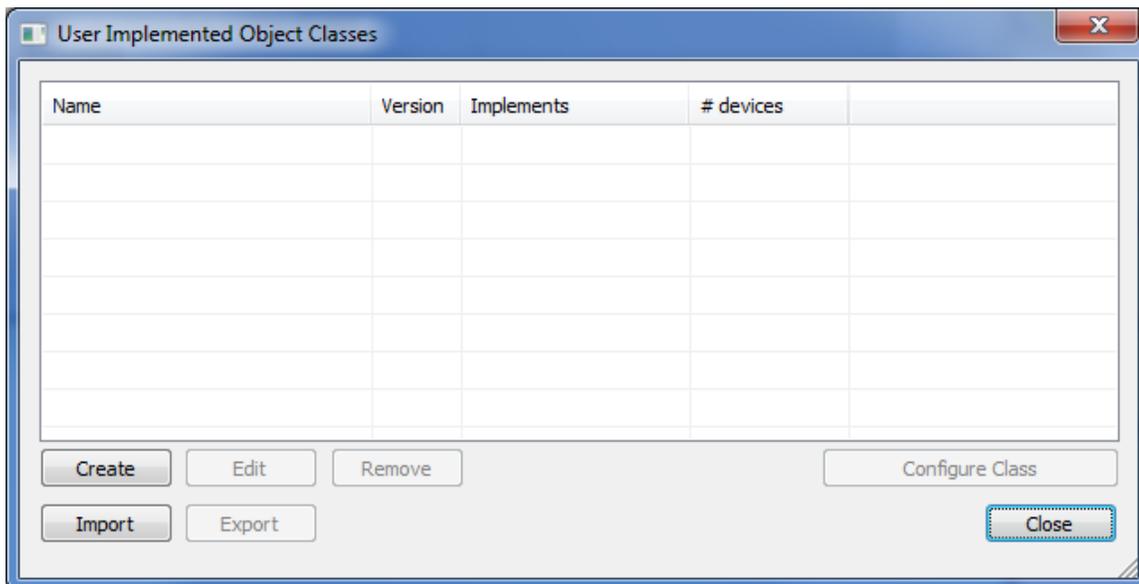
Step 1.
Download from the support web site the Ecobee hclass file. It is in a zip file. Unzip into the HCA documents area.

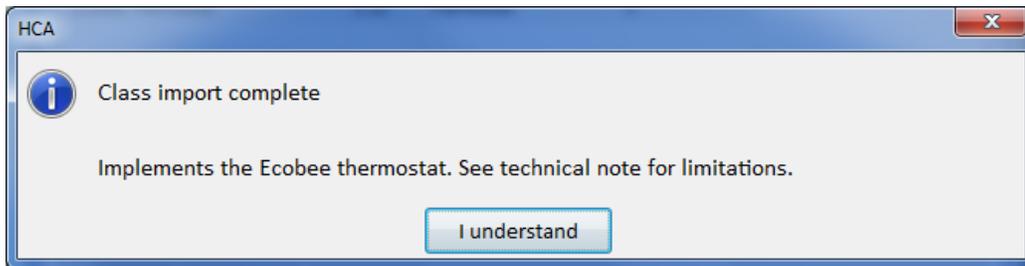www.HCATech.com/download/V14/Classes/EcobeeClass.zip

Step 2.
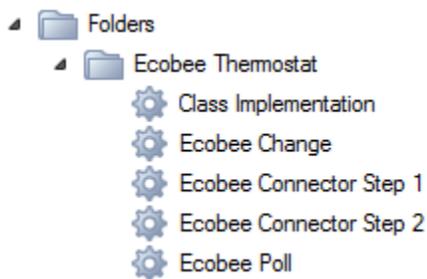In the *Protocols* ribbon category press the *User Class Manager* button to open the class manager

Press the import button and browse to where you saved the hclass file and select that. A popup shows when the import is complete.
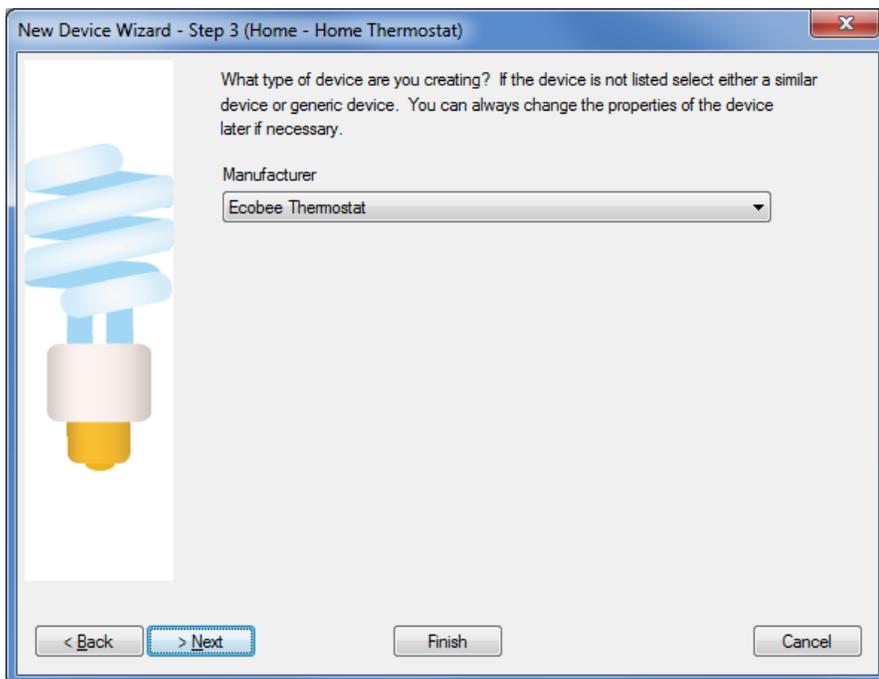
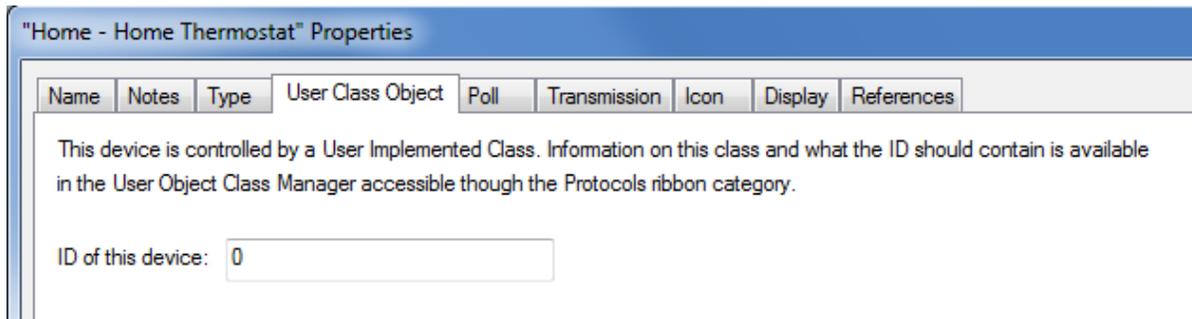A folder will be created that holds the class implementation programs.

Step 3.
Create a device of that class using the new Device Wizard. At step 3, chose the Ecobee class which is listed now that you have imported the class.

After completing the New Device Wizard, open its properties and on the User Class Object tab enter "0"

Currently, only a single Ecobee thermostat is supported in an installation. By entering "0"- denoting the first thermostat – you will be ready for any future changes that are made to Ecobee support.

Step 4

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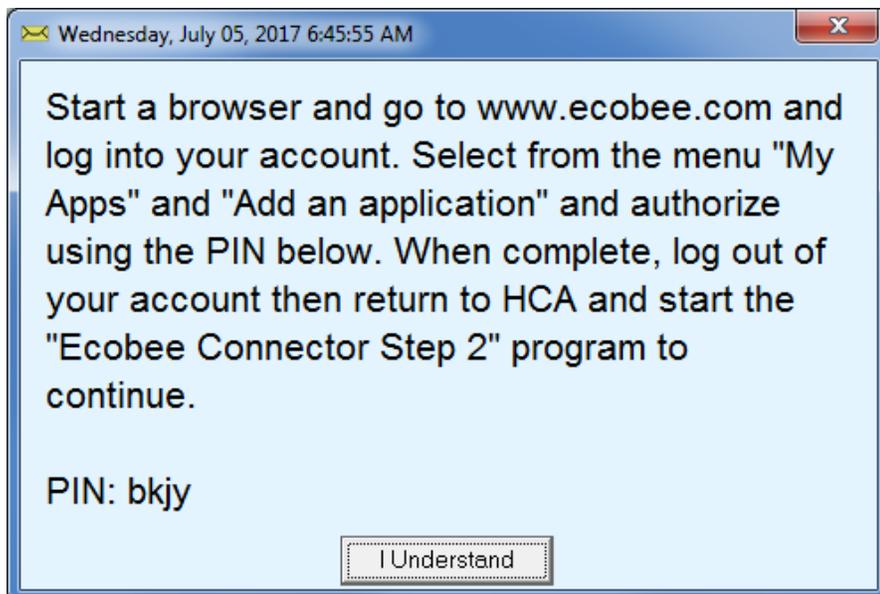
Note: These popup message boxes are different than you may have seen in HCA before. They are independent of HCA and can be left open while you perform other operations in HCA. You will need to close them using the upper right corner "X" or press the "I understand button".

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:
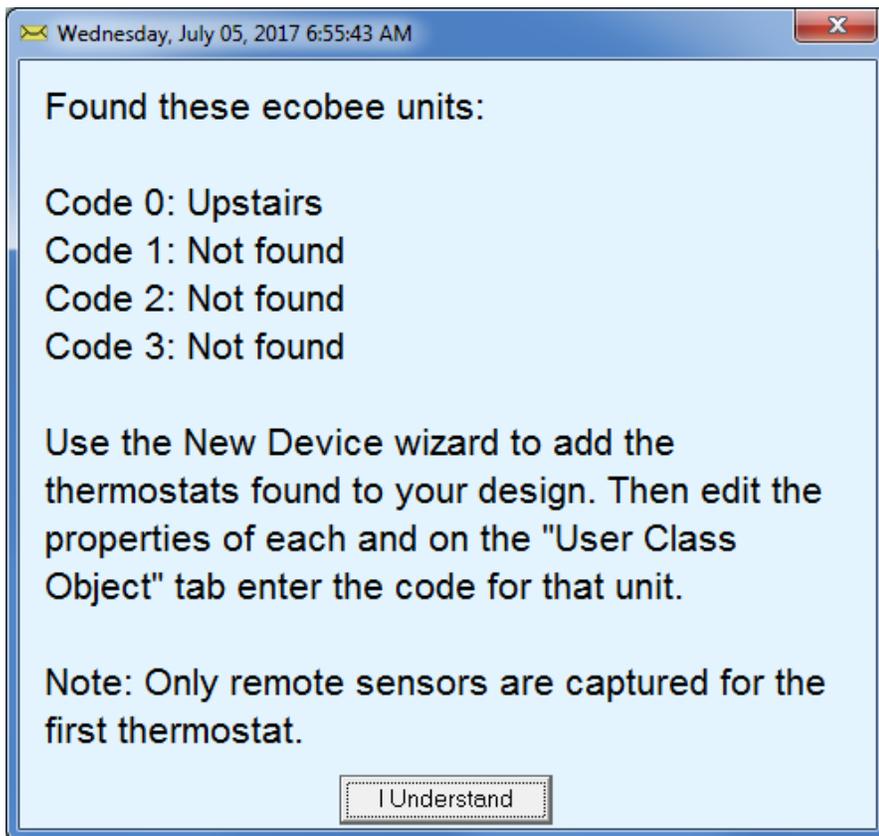
Any Ecobee thermostat that is part of your account is listed. But as said above, one limitation is that only the first thermostat can read and controlled.

The Ecobee thermostat can be installed with remote temperature and occupancy sensors. Once you have completed these steps, variables have been 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.

Name	Value
_Dark	No
_Light	Yes
bee_access_token	"D5bHMxB7WPMUhz6ka8IHVhQ9r8HOibMa"
bee_clientID	"bqTI6hOPQVDCTM7bvZRV3GX9KalyvR57"
bee_CoolSetpoint	65
Bee_dining_occupancy	No
Bee_dining_temperature	67.8
bee_ErrorCode	0
bee_ErrorReason	""
bee_Fan	0
bee_FanStr	"auto"
bee_HeatSetpoint	50
bee_Humidity	48
bee_JSON	"{ "page": { "page": 1, "totalPages": 1, "pageSize": 1, "total":...
bee_LastPollTime	#7/5/2017 6:55:40 AM#
bee_LastUpdateTime	#1/1/2017 10:00:00 AM#
Bee_library_occupancy	No
Bee_library_temperature	69
bee_Mode	1
bee_refresh_token	"r1H5r4zi3A2r7w17dhBPteTYJRDzd6jg"
bee_root	"api.ecobee.com:443"
bee_Temperature	67.9
Bee_Upstairs_occupancy	No
Bee_Upstairs_temperature	67.1
bee_UserCoolSetpointChange	0
bee_UserFanChange	""
bee_UserHeatSetpointChange	0
valueTemp	""
void	No

You can use these variables 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 5

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 read-only system where you can access the remote sensors for your needs.

##end##