



HCA Tech Note 706

Flume 2 Integration with HCA using Hubitat

Water conservation is an important topic in many places. Knowing how much water you are using on a detailed basis may allow you to change the way you use water and conserve water *and* dollars. The Flume 2 is a device that allows you to do just that:

www.flumewater.com

(And some water companies are offering a rebate for the installation of this device-check with yours.)

The Flume2 consists of two pieces of hardware. One is a flow monitor that easily attaches to you existing water meter without any type of plumbing work. (Be sure to check that your water meter type is compatible with the Flume 2 by looking on their website.) This flow monitor uses a 900Mhz radio signal to transmit to the Flume 2 bridge, which connects to the Internet and the Flume cloud via WiFi. Flume has an app available for iOS and Android for setting up the device and monitoring it. There is also a web portal for access. The device can report water usage for the last minute, hour, day, week, and month, as well as alerts such as abnormally high flows for sustained periods. The Flume app can be used to customize alerts.

The first step is to install the Flume 2 and get it working with their app. The next step is to install the Hubitat driver for Flume 2, available here:

github.com/tomwpublic/hubitat_flume

This driver can be installed via copy and paste, just as the HCA Hubitat drivers are as described in HCA Tech Note 703. You will need your Flume client_id, client_secret, username, and password. The above URL has full instructions on how to install and configure the driver.

The next step after driver installation is to add the Flume 2 device in the Hubitat MakerAPI. After checking the box for the device in the MakerAPI, be sure to hit "Update".

Once this is done, you should go into HCA and run the program "#1 Do Discover" in the Hubitat Elevation software package you can download from the HCA website. Your Flume 2 should show up in the Hubitat Devices folder. You can drag-and-drop the device to whatever folder you would like it in.

Initially, the device type for the Flume 2 in HCA shows up as "Hubitat Unsupported":

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"Home - Flume 2" Properties

Log		Groups		Schedule		Referenced By		Power Track		Green		Tags		Statistics	
Name	Notes	Room	Type	User Class Object	Options	Triggers	Restart	Icon	Display	Poll	Transmission				

What type of device are you creating? If the device is not listed select either a similar device or a generic device. You can always change the properties of the device later if necessary.

Class name:
Hubitat Unsupported Allow change of device class

You should check the box "Allow change of device class" and set the Class name to "Hubitat Sensor":

"Home - Flume 2" Properties

Log		Groups		Schedule		Referenced By		Power Track		Green		Tags		Statistics	
Name	Notes	Room	Type	User Class Object	Options	Triggers	Restart	Icon	Display	Poll	Transmission				

What type of device are you creating? If the device is not listed select either a similar device or a generic device. You can always change the properties of the device later if necessary.

Class name:
Hubitat Sensor Allow change of device class

As values for water usage and other Flume 2 parameters change, the driver reports those to HCA. This can take a bit of time, so you won't see all of these values in the Flume 2 Tags immediately after adding the device to your design. Here is a screen shot of the tags after the device has been in use for a while:



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Name	Notes	Room	Type	User Class Object	Options	Triggers	Restart	Icon	Display	Poll	Transmission
Log		Groups	Schedule	Referenced By		Power Track		Green		Tags	Statistics

Tag Name	Current Value	Tag Name	Current Value
HE_Water	dry		
HE_LastEventAt	11/23/2022 3:01:58 PM		
HE_CommStatus	good		
HE_UsageLastHou	0.0		
HE_UsageLastDay	53.5		
HE_UsageLastWee	825.54		
HE_UsageLastMorr	1261.14		
HE_UsageLastMinu	0.0		
HE_FlowStatus	stopped		
HE_FlowDurationMi	0		
HE_Presence	present		
HE_NotificationStre	[2022-11-21T13:44:00.000Z]: High Flow Alert trigge		

"Tags" are name-value pairs associated with devices, programs, groups, folders, rooms, and displays that your programs can manipulate. You can view and modify them here but they are usually manipulated by programs.

OK Cancel

While many of these are self-explanatory, a few warrant discussion. "HE_Water" can have the value "dry" or "wet". For Flume Smart Leak alerts, this tag is marked "wet". Once you have handled this event accordingly, clear the condition with the clearWetStatus custom command on the device. (More about how to invoke



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these custom commands from HCA below.) “HE_NotificationStream” contains the full text of the message for a Flume usage alert related to normal conditions (e.g. "High Flow" usage alert). “HE_Presence” indicates whether someone is present at the property i.e. “Present”, or whether a third party, identified in the Flume app, should be notified of a water leak when “Not Present”.

Custom commands are sent to the Flume driver using the HCA HTTP program element. Here is an example of setting the Flume presence to “Not Present”:

The screenshot shows the 'HTTP Properties' dialog box with the following configuration:

- Connect to:** The address field contains `%HE_HubAddress%:80`. A note below the field says: "Supply the address, a colon, and then the port number. For example: 192.168.0.100:80 or web.myhome.dyndns:4300". The Use HTTPS checkbox is unchecked.
- Send:** The Action dropdown is set to 'Get'. The Send field contains the URL: `/apps/api/%HE_APICode%/devices/204/setAwayMode?access_token=%HE_AccessToken%`. The Optional Headers and Optional Data fields are empty.
- Receive:** The 'Save reply to variable' radio button is selected, and the variable name is `STresponse`. The 'Save reply to file' option is also present with a 'Browse' button.
- Timeout:** The Timeout is set to 7 seconds. The 'On timeout continue with next element' radio button is selected.

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

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The key elements in the command being sent in this example are “204”, which is the Hubitat Flume Device ID, which can be found in HCA on the User Class Object tab for the device, and “setAwayMode”, which is the command. The commands that are useful are:

```
setAwayMode  
clearAwayMode  
testWetStatus  
clearWetStatus
```

testWetStatus sets HE_water to “wet” and is useful for testing a program that, for example, alerts you to that status. clearWetStatus sets HE_water back to “dry”.

Now that you have your Flume 2 integrated with HCA, it can be used to create an informational dashboard about water usage on, for example, a web page:

Water statistics at 11/23/2022 3:48:20 PM

Status: dry, Flow: stopped, Presence: present, Communication status: good

Last minute: 0.0, Last hour: 7.31, Last day: 60.81, Last week: 832.85, Last month: 1268.45

Last alert: [2022-11-21T13:44:00.000Z]: High Flow Alert triggered at Home. Water has been running for 15 minutes averaging 14.11 gallons every minute.

##end##