



HCA Tech Note 700

Hubitat to HCA connector: Step-by-step (updated 27-June-22)

HCA can use Hubitat as an interface to all the devices it manages so HCA can control and receive status reports from them. It is also possible to have Hubitat control HCA as if HCA was an interface. For now, this is one-way in that Hubitat can control HCA managed devices and start HCA programs, but it can't receive status updates from it.

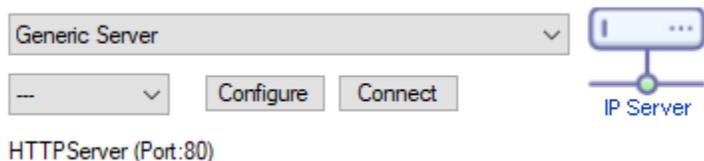
Why would you want to do this? There may be features in Hubitat that you want to take advantage of. While the "Rules machine" is tedious and not very capable, it does offer a way to handle events locally within Hubitat. Should this be important to you, here is the procedure to have Hubitat control HCA.

NOTE: The method described in this note is still valid, but a much better system exists. Look at Technical Note #703 for details.

NOTE: If you are continuing with this technical note and you are using version 3 of the HTTP Server package or later, then the name of the "Generic Server" described just below should be "HTTP Server" with a space between "HTTP" and "Server".

Step 1: Create new interface in HCA

In the HCA Server create a new interface on the *HCA Options – Hardware* tab. It can be any one of the eight interfaces. The type is "Generic Server" and the name should be "HTTPServer" (in keeping with the fact that programmers hate spaces in names, there is no space between HTTP and Server)



Big note here: If you have worked with Hubitat already, you may already have a Generic Server configured for port 80. That is the interface that receives update messages from the Hubitat. This must be changed if you have that interface already defined! This is very important.

Look at the Hubitat technical note ([#613](#)) on page 20. My Hubitat was configured for port 80 to receive Hubitat status messages so I updated it as follows:

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1. In Hubitat Maker API I changed to port 8080 as is shown in the technical note on page 20.
2. I then changed the port number for that interface in HCA to 8080.
3. Now I have Hubitat status messages on a Generic Server using port 8080, and this new Generic Server for this use on port 80.

The configuration for the HTTPServer interface must be like this:

A name is needed when referencing this generic IP Server in programs that use it.

Name:

Connection

IP Port:

Clients connect using WebSocket Protocol

Logging

Log receptions from this interface

Log sends to this interface

Data

Data is binary

Data is text

What character(s) delimit each message SENT TO this interface?

What character(s) delimit each message RECEIVED FROM this interface?

The key points are the name, port 80, data in text form, and no delimiters for sends or receives.

Step 2: Import package from the online library

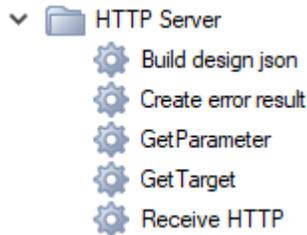
Import into your HCA design the package "HTTP Server" from the online library. These programs are added:

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Step 3: Test HCA

Now is the time to test that you have HCA setup correctly. Start a browser on any computer connected to the same network as the HCA server and enter this into the address bar – substituting the IP address of your computer running the HCA Server - and hit [Enter].



(This image is from the Chrome browser)

If it works, then the display area of the browser will show a similar report to that which HCA sends as the daily report.

If it doesn't work, check that you typed it correctly and have the IP address of your HCA server computer as part of the address. Mine is 192.168.0.144 but yours will be different. If that still doesn't work, check that you named the interface in HCA "HTTPServer" and it is set for port 80 with the other configuration as shown above.

Step 4: Create drivers in Hubitat

For this step you will need two text files and they are available on the HCA website. These are:

<http://homecontrolassistant.com/download/Hubitat/HCADriverDim.txt>

<http://homecontrolassistant.com/download/Hubitat/HCADriverNon-Dim.txt>

As you need them, you can just open them in your browser, select all, and copy the file contents on to the Windows clipboard.

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Connect to your Hubitat as usual and click on “Drivers Code” in the left-hand menu. Click on the “New Driver” button. The display changes to a largely blank screen with “New Driver” in the upper left corner.

Take the contents of one of the text files and paste it into this page and then press the “Save” button in the upper right.

```
New Driver modified < Drivers code Import Spaces 4 No wrap Save
1  /*
2  * HCA Connector for DIMable devices and programs
3  *
4  * Calls HCA Server for control
5  *
6  */
7  metadata {
8  definition(name: "HCA Dim Object", namespace: "HCA", author: "HCA Central", importUrl: "") {
9      capability "Switch"
10     capability "Switch Level"
11 }
12 }
13
14 preferences {
15 section("HCA Connection") {
16     input "ServerIP", "text", title: "HCA Server IP Address", required: true
17     input "HCAName", "text", title: "HCA 2-Part name", required: true
18     input name: "logEnable", type: "bool", title: "Enable debug logging", defaultValue: true
19 }
20 }
```

Note: Don't use the Import button, I could never get it to work. If you figure out how to make it work, please let me know.

Next, click the “<< Drivers code” button to return to the previous page and start the process again of creating a second driver. This time paste in the other file's contents. In the above image I used “HCADriverDim.txt” and so for the next driver I would use “HCADriverNonDim.txt”.

When you have both drivers created you should see this:

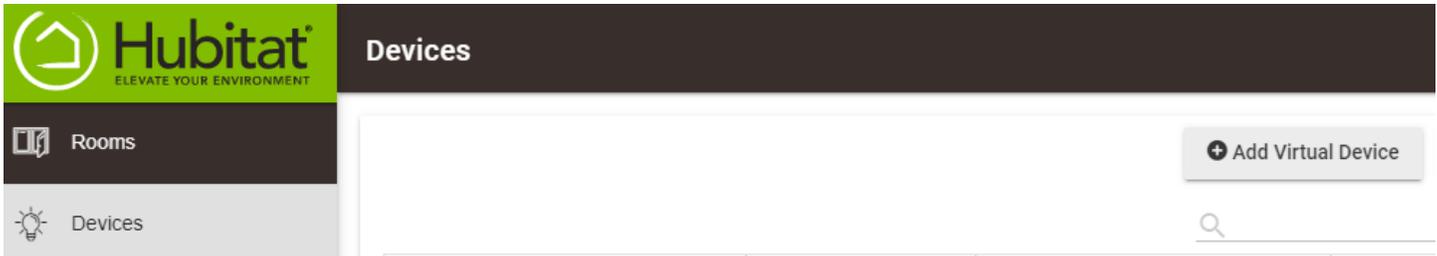
HCA Dim Object	HCA	SwitchLevel, Switch	2021-09
HCA Non-Dim Object	HCA	Switch	2021-09



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Step 5: Create devices in Hubitat

To create a new device in Hubitat for a HCA managed device or a program, from the Hubitat Devices page, click the “Add Virtual Device” button.



The display changes to a page to create the device.

Device Information

Device Name *

HCA Stairway Program

DeviceId=0e2d-4f5b-ac71-b55b09ab5fd3

Device Label

Type *

HCA Non-Dim Object

Zigbee Id

Room

No room assigned

Enter any Device Name you want and choose as the type either “HCA Non-Dim Object” or “HCA Dim Object”. For programs the choice is probably “HCA Non-Dim Object” unless the program was created as “Program As Device” and supports dimming.

Note: The custom driver types are all the way at the bottom of the Type list. Just scroll way down to find the new HCA drivers.

Don't forget to press the “Save” button when done to complete creating the device.

Now open the properties of the device. On that page you must fill in the two preferences:

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Preferences

HCA Server IP Address * 192.168.0.68	HCA 2-Part name * office-lights
<input type="button" value="Save Preferences"/>	

Enter the IP address of the server computer and the name of the device used in HCA. This must be entered as the room or folder name, followed by a dash, followed by the device name. It's OK to have blanks on either side of the dash if you want.

Don't forget to press the "Save Preferences" button when done!

Step 6: Test Hubitat controlling HCA

You can then test the device using the buttons at the top of the device page:

Commands

Off off	On on	Set Level setLevel Level* : _____ Duration : _____
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Since this is a dimmable device, I have On, Off, and Set Level buttons. For a non-dim device only On and Off are available.

##end##

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