



HCA Tech Note 615

Shelly WiFi devices

This note describes the support for some Shelly WiFi devices.

Reference (for ease of linking I use Amazon, but they are available in many places):

Supported as of 11/2/2021:

<https://www.amazon.com/SHELLY-Wireless-Automation-Android-Application/dp/B07G33LNDY>

Step 1.

Use the instructions that come with the device to install it into your environment. You can use the Shelly app or its built-in web server. This note shows using the webserver and not the app to adjust necessary settings. But both would work.

Once installed, it is necessary to make sure that the device IP address doesn't change over time as HCA stores that address as part of the device configuration. Use whatever means are available for that - IP Reservations, Reserved IP address – in your router.

Step 2.

Import the Shelly package into your HCA design from the online library.

Step 3.

Create a new device of type “Shelly Relay” or “Shelly Sensor”. When completed, open the properties of the device and on the “User Class Object” tab, enter the IP address of the device. For example:

Outside - Gate Properties

Name	Notes	Room	Type	User Class Object	P
This device is controlled by a User Implemented Class. T If needed, examine the class implementation to see what th					
ID of this device:				<input type="text" value="192.168.0.95"/>	

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Step 4.

If the device controls a load, test the device by a right-click on the device name in the HCA left pane or on the icon in the right pane and select ON and OFF from the popup menu. The load controlled by the device should go on and off. If a relay device type, if you are close to the device, you should hear the relay click. If it doesn't go on and off, then check the IP address.



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NOTE: The following steps are only needed if you want to handle actions sent from the devices. For example from the optional button on the Relay device (Shelly 1). The optional button has a lot of configurations inside the Shelly. Refer to their documentation on how to wire the button and to configure for momentary action or other choices.

Step 5.

In HCA create a new interface of type “Generic Server”. Name that interface “Shelly” and make sure its properties are configured like this:

Configuration for: Shelly (Port:8082)

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?

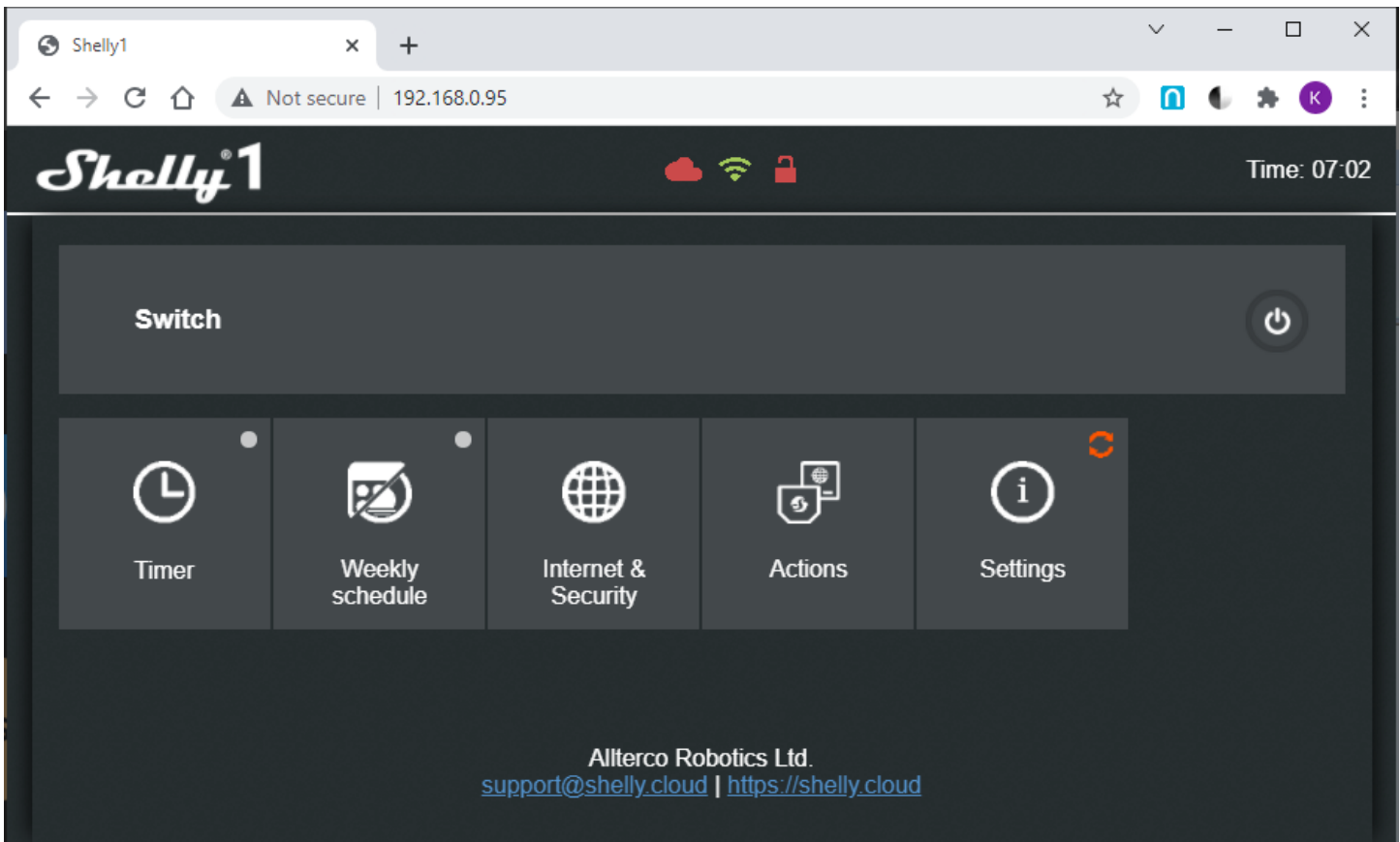


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You can use any port number you want just make note of your choice. Make sure that data is specified as “text” and that the delimiters are both set to “None”.

Step 6.

The next step configures the Shelly device. Open a browser and enter the IP address of the device in the address bar.



Open the Actions section and edit the URL for each button action you want HCA to be notified for.

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BUTTON LONG PRESSED URL

Enabled

Url to be hit when the button is held down

`http://192.168.0.144:8082/HCA?action=buttonLong&name=Outside-Gate`

SAVE

To capture button actions, the URL should be of the form:

`http://<ip address of the HCA computer>:<port #>/HCA?action=<action>&name=<HCA device name>`

For the Shelly1 the actions are `buttonLong`, `buttonShort`, `buttonOn`, `buttonOff`, `relayOn`, `relayOff`

This is all documented in the Shelly package program “Receive message” in the program notes.

BIG NOTE: If the HCA device or folder names contain spaces, you must use the URL escape sequence to enter this: For example: for “Outside-Gate button”, use `Outside-Gate%20button`

The Shelly UI has some quirks. Make sure you tick the “Enabled” and enter the URL before saving. If you don’t tick the enabled box and enter a URL, it will not get saved. Also, don’t forget to press the “Save” button.

Step 7.

Back in HCA, open the properties of the Shelly device that has the attached button. On the “Tags” tab enter a tag called “ShellyAction” like this:

Tag Name	Current Value
LastAction	on at 11/1/2021 11:07:19 AM
ShellyAction	buttonShort,Outside-GateShort,buttonLong,Outside-GateLong

The ShellyAction tag value is a comma separated list like this: `<action name>,<program to start>,...`

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In the above example configuration, when an action “buttonShort” is received, the program “Outside-GateShort” is started. If an action “buttonLong” is received, the program “Outside-GateLong” is started. The started program is supplied with two value parameters: The first is the name of the device sending the action and the second parameter is the action. In this way one program could handle multiple actions from multiple devices if desired.

	Type	Default for value parameter if not supplied by calling program
Number of parameters: <input type="text" value="2"/>		
Parameter 1: <input type="text" value="Device"/> <small>What HCA Device</small>	<input type="text" value="Value"/>	<input type="text"/>
Parameter 2: <input type="text" value="Action"/> <small>What action</small>	<input type="text" value="Value"/>	<input type="text"/>

The action names listed above, “buttonShort, buttonLong, etc, are not really “must use”. All that happens is that whatever text you put in the “action=” parameter of the URLs in the Shelly configuration, is matched against the text in the device tag to determine which program to run.

Also, each time an action is received, the action and time are saved in a tag called “LastAction”.

NOTE: Because the URL the device sends contains the name of the device in HCA, you only need one interface defined in HCA to handle as many Shelly devices as you have.

##end##