# Simple Blue Iris I/O using Shelly1 Wi-Fi Devices

In case someone is interested, I recently performed some simple I/O with Blue Iris v5 using two Shelly1 Wi-Fi smart switches. I chose the Shelly1's because they are tiny, not expensive, very configurable, don't require their cloud for local operations, are UL-approved and I needed to start somewhere! This is my first venture into such devices, as I had disconnected my two Alexa Echo Dots in 2020 after realizing our household was being listened to...but that's **another thread**.

First, let me say that I realize there are many other such devices available....different brands, models, abilities, etc. and that this is not meant to be a tutorial on Shelly devices, mainly because I am new to them myself. I just want to pass on what I consider simple hints I discovered to help someone and maybe inspire others to come up with even more useful and practical applications.

The Shelly1 can operate from and switch 120VAC to 240VAC or when properly configured, 12VDC or 24 to 50VDC. The relay contact inside the Shelly1 is a 'dry' contact, meaning it can switch DC or AC loads up to 15A @ 240VAC. Note that on the input, the switch will apply the same voltage that is applied as the device operating voltage. It should be no problem to operate the coil of an external, higher current relay or contactor with it. However, if you do that I would consider a **Quencharc**® (an R-C snubber) across such an external relay coil to suppress EMI and voltage transients generated as the field of the coil of the larger, external relay collapses. I like the fact that I can choose to operate the device on 12VDC, including the device I'm switching. If you're like me, you likely have a small 12VDC wall wart for an IP or old analog camera around that will power the Shelly.
Refer to Figure 1.
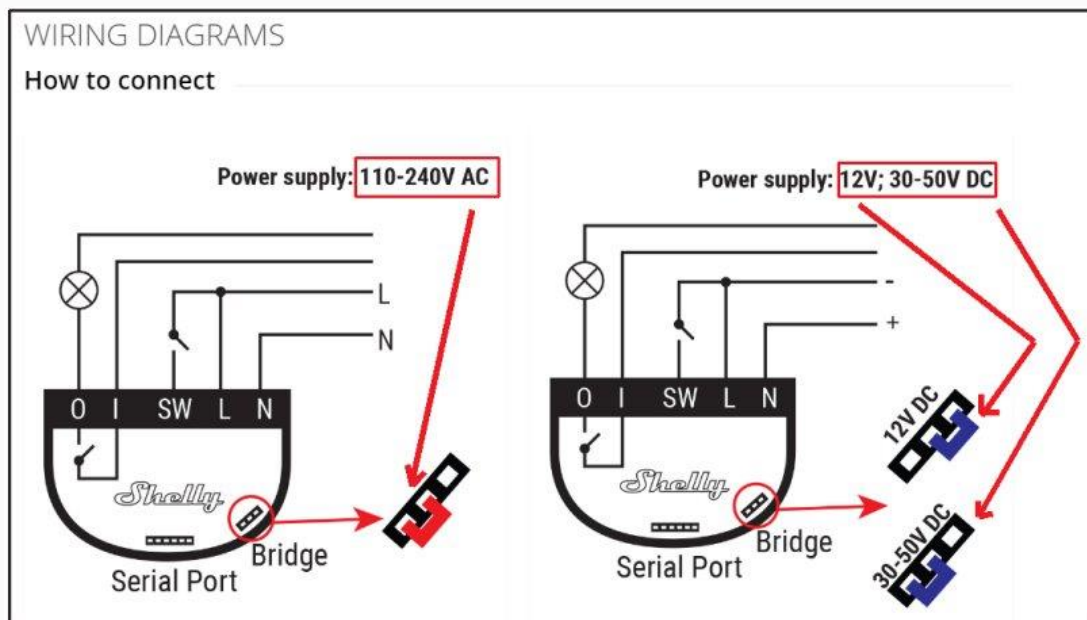
These instructions apply to the Shelly1 although many features and commands are shared among various Shelly models; I also have a Shelly1PM which share many of the same features but can also perform power monitoring, but right now I'm focusing on some simple I/O with the Shelly1.

Incredibly, printed instructions come with the Shellys about logging into the device's webGUI as it comes up in its default AP mode, broadcasts a Wi-Fi SSID and has a default IP address. FWIW, there's a PDF available **here**.

Configuring the Shelly1

Change the wireless NIC on a PC, wireless tablet, or phone to a static IP of 192.168.33.3, subnet mask of 255.255.255.0 then look for the Shelly AP's unique Wi-Fi SSID (like "shelly1-DBE8D6840144") being broadcast and log into it, no password initially (you can configure that later).

Now open a browser and log into the Shelly's embedded webGUI at 192.168.33.1, no authentication needed initially here as well, you can also configure that later.

Assuming you want to bind the Shelly to your local Wi-Fi, first log into the Shelly, go to "Internet & Security"=> "WIFI MODE - ACCESS POINT" and UNcheck "Configure Shelly device to create WiFi Access Point and you can connect to its network".
Refer to Figure 2.
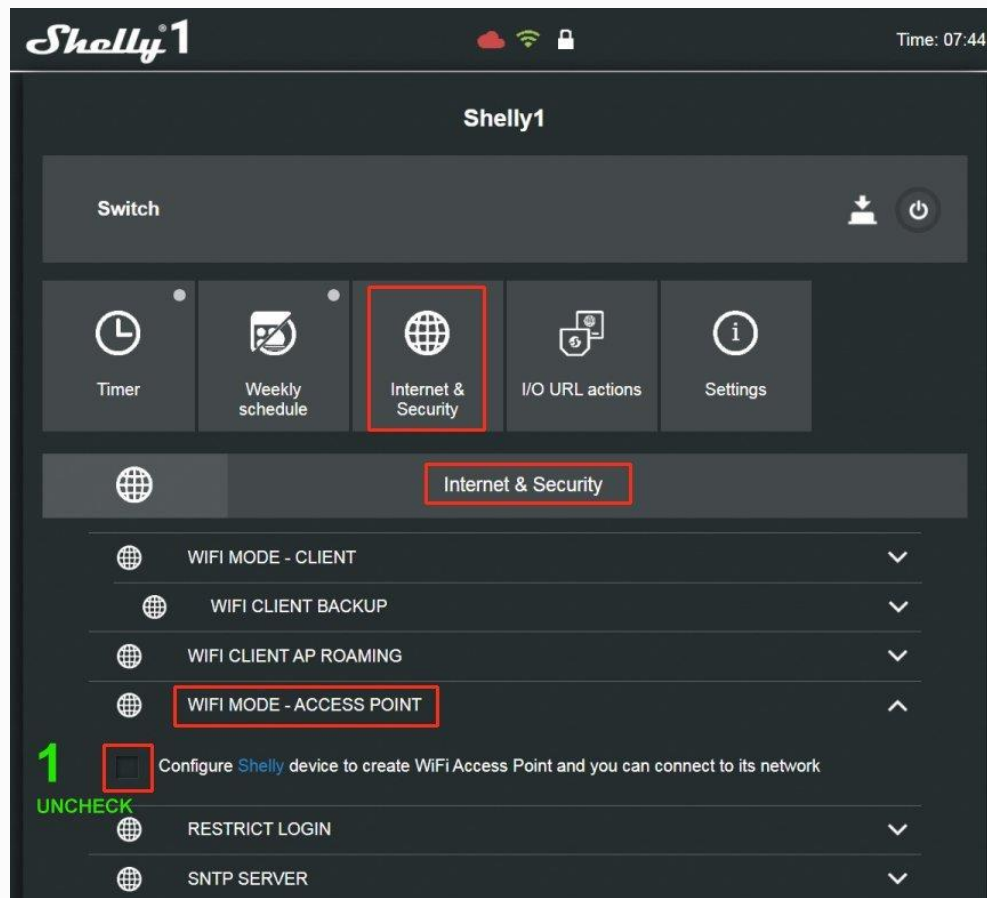
Next, go up to "WIFI MODE - CLIENT" => "Connect the Shelly device to an existing WiFi Network", type in your local Wi-Fi's SSID and password, assign each Shelly a unique static IP in your LAN's subnet with subnet mask of 255.255.255.0 and click on "SAVE".
Refer to Figure 3.
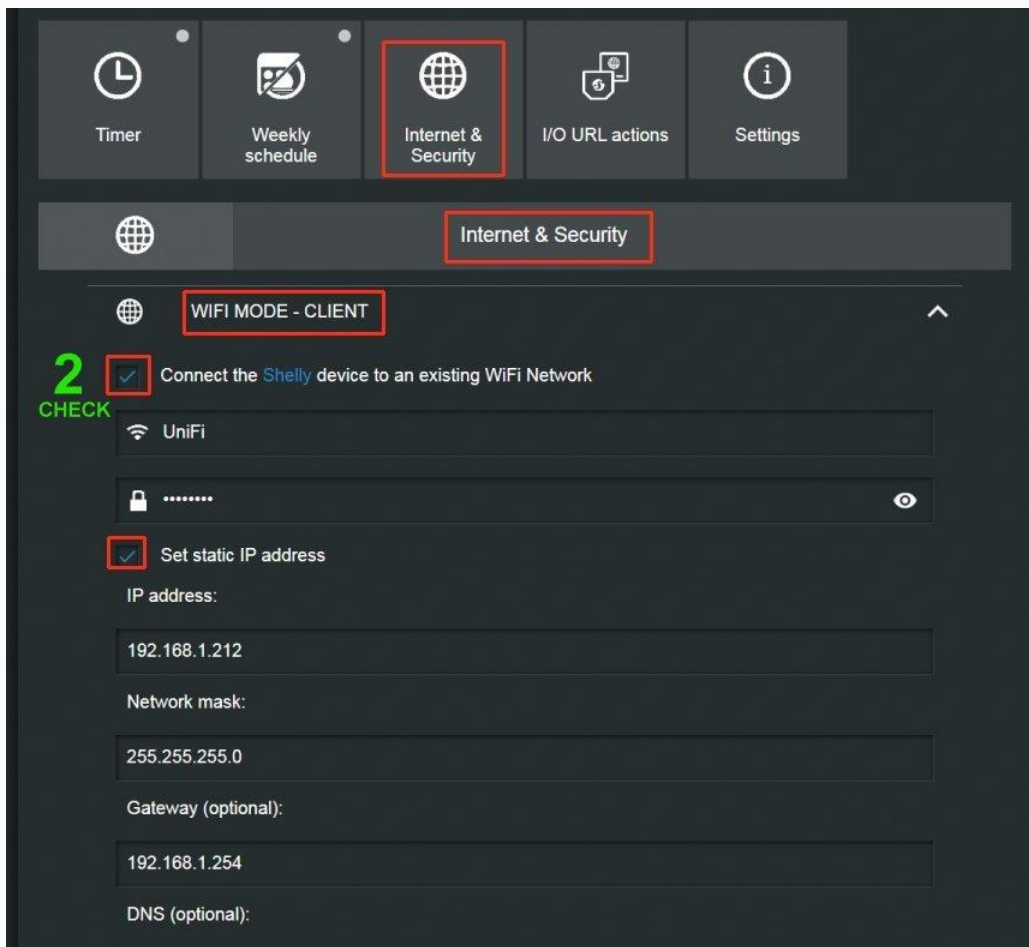
Return to the wireless NIC network settings of the device you used to log into the Shelly when it was in AP mode and broadcasting an SSID and change the device's IP from the static 192.168.33.3 back to what it was.

Now open a browser, type in the IP of the Shelly that you assigned it and if all was configured properly the webGUI of that Shelly should open. From this point forward you will open a browser in this manner to perform each Shelly's configuration.

First I will provide the details below for INPUT to Blue Iris from Shelly #1 followed by details for OUTPUT from Blue Iris to Shelly #2.

INPUT to Blue Iris from Shelly #1

Because I planned to use an external, hand held pushbutton, I configured Shelly #1 (with a SHORT press of the button) to call preset #2 on my front porch PTZ that watches for packages. I then configured the Shelly #1 so that the same pushbutton (with a LONG press) will call the PTZ back to preset #1 where it usually sits.

NOTE: Of course, the LAN IP and port of my BI server and my cam's "Short Name" is likely not the same as yours so make those changes where needed below.
Refer to Figure 4.
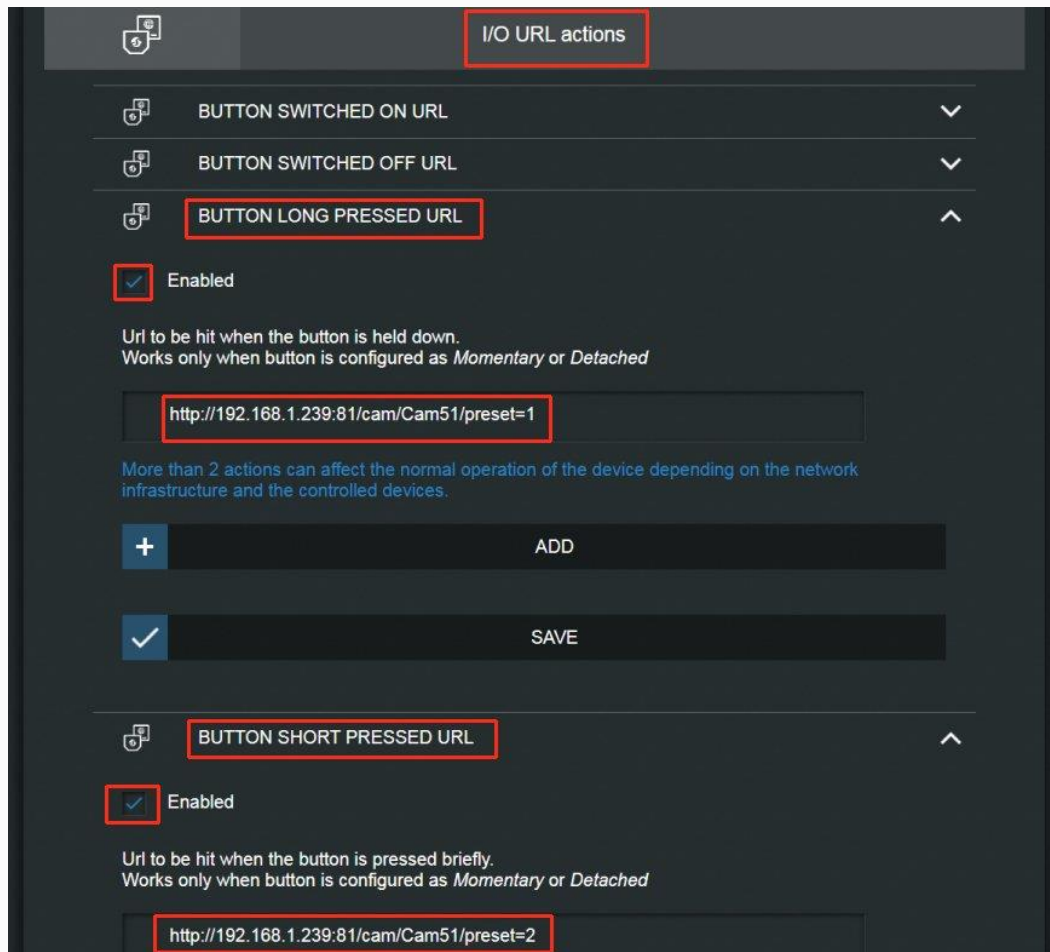
- Configuration of Shelly #1 to move Cam51 (front porch) to Preset 2 when external button SHORT pressed, return to Preset 1 when external button LONG pressed:

Go to "I/O URL actions" => "BUTTON **SHORT** PRESSED URL" => Check "Enabled"
Under "Url to be hit when the output is switched ON" => Type
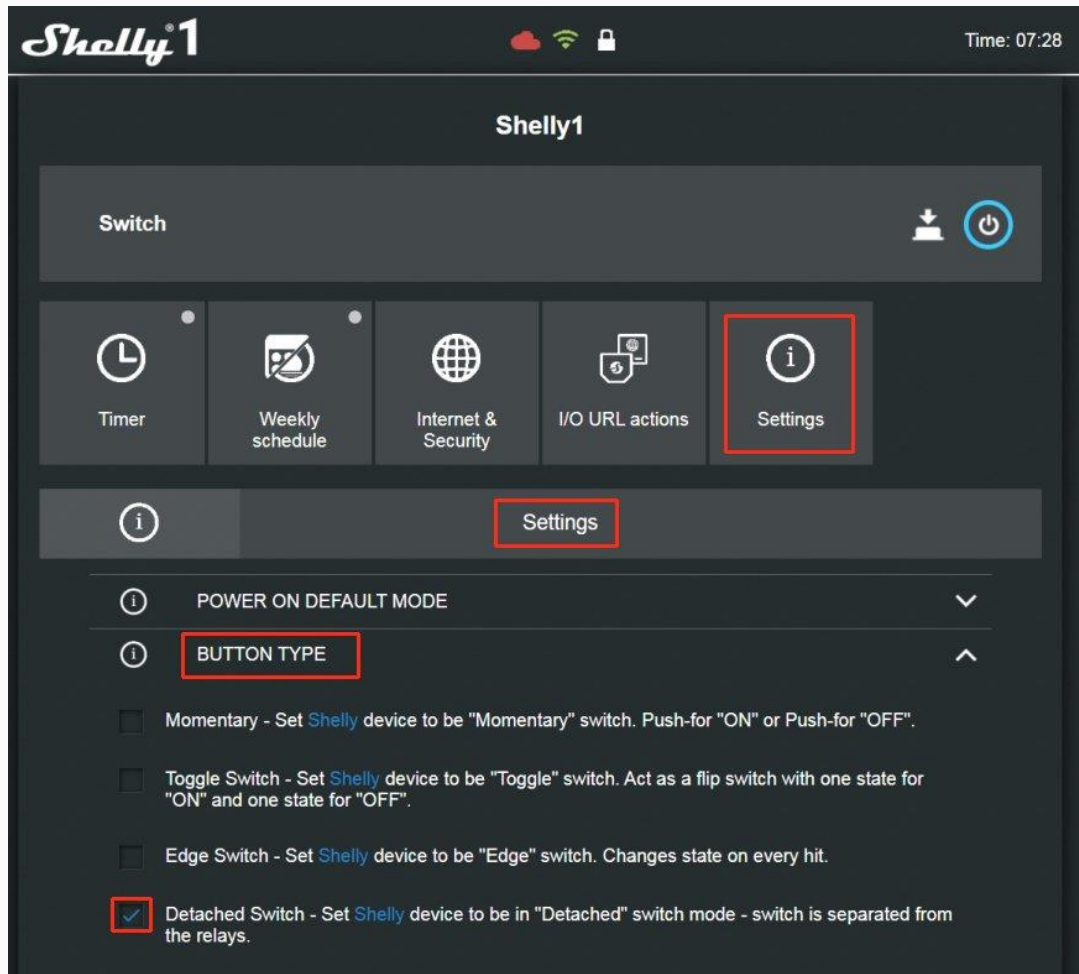"http://192.168.1.239:81/cam/Cam51/preset=2"

and

Go to "I/O URL actions" => "BUTTON **LONG** PRESSED URL" => Check "Enabled"
Under "Url to be hit when the output is switched ON" => Type
"http://192.168.1.239:81/cam/Cam51/preset=1"

and

Go to "Settings" => "BUTTON TYPE" => Check "Detached Switch" - "Set Shelly device to be in "Detached" switch mode - switch is separated from the relays"
Click on "SAVE"
Refer to Figure 5.

NOTE: The default setting for the amount of time deemed a "long" press is 1000 ms (1.0 seconds), which also means anything less than that is a "short" press. That can be changed as follows:
Go to "Settings" => "LONG PUSH TIME" and change the "1000" to your preference.
Click on "SAVE"

NOTE: The above URLs sent to BI from Shelly assume that BI is configured with User "anonymous" enabled. If user "anonymous" is NOT enabled and you have created a user and password in BI to be used by Shelly, then you must also place that user/password at the end of the URL that Shelly sends to BI. That would add "?user=username&pw=password" to the end, so the example URL now would be "http://192.168.1.239:81/cam/Cam51/preset=2?user=username&pw=password". Additionally, you must also go to "Web server" => "Advanced' and UNcheck "use secure session keys and login page".

OUTPUT from Blue Iris to Shelly #2

For Shelly #2, I configured an alert from a specific camera in BI to send a HTTP command to Shelly #2 that CLOSES its relay and turns ON a lamp for a timed period. For that timed period I chose to use BI's alert timer "Wait" function even though Shelly also can provide a timer function. Then after the "Wait" period times out, another HTTP command is sent to Shelly #2 to OPEN its relay, turning the lamp OFF.

Go to "Camera Settings" => "Alerts", under "Actions", click the "On Alert" button.
Under "Action Set", click on the " + " button to create a new "Web request or MQTT". For the HTTP command to be sent to Shelly #2 enter its username and password (if configured), its IP address and the rest of the URL as in: "username:password@192.168.1.213/relay/0/?turn=on"
Then click on the "OK' button to save.
Refer to Figure 6.
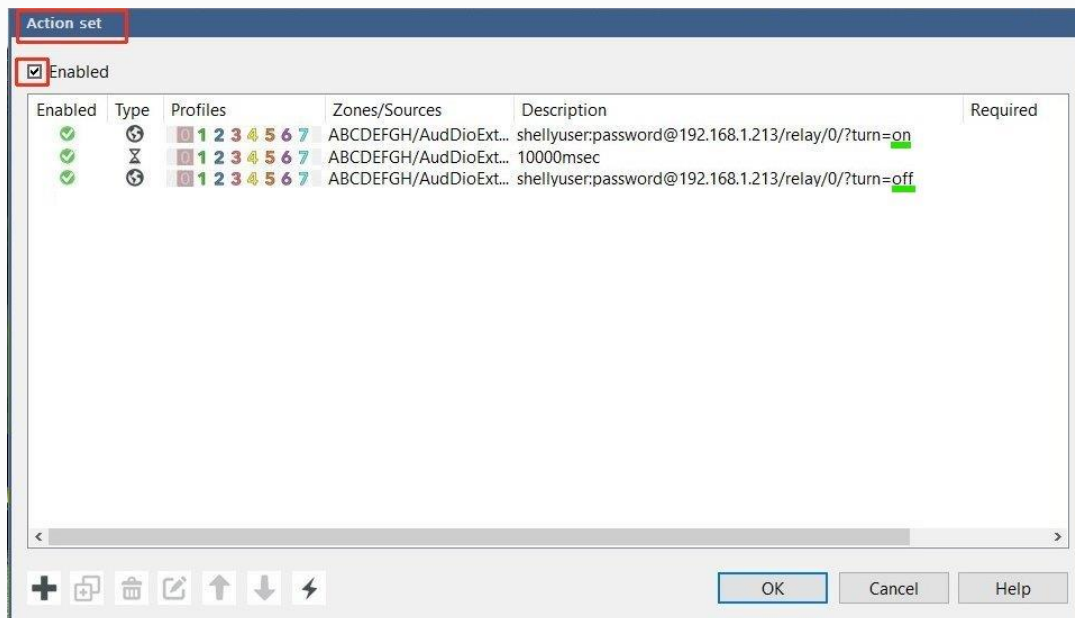
I then created a "Wait" action for 10,000 ms (10 seconds) so Shelly #2's relay would stay CLOSED keeping the lamp ON for 10 seconds before moving to the next action. The next action is to OPEN Shelly #2's relay and turn the lamp OFF as follows:

Create a new "Web request or MQTT"; for the HTTP command to be sent to Shelly #2 enter its username and password (if configured), its IP address and the rest of the URL as in:
"username:password@192.168.1.213/relay/0/?turn=off"
Then click on the "OK" button to save.
Refer to Figure 7.

You should have 3 entries under "Action Set":

    #1 (first) is a "Web request or MQTT" to CLOSE Shelly #2's relay and turn the lamp ON.

    #2 is a "Wait' action for 10,000 milliseconds.

    #3 (last) is a "Web request or MQTT" to OPEN Shelly #2's relay and turn the lamp OFF.

More information and ideas can be found at the following:

- **Official Shelly Support Forum**
- **Knowledge Base**
- **Shelly Family Overview - API Reference**
- **Shelly Shop USA**