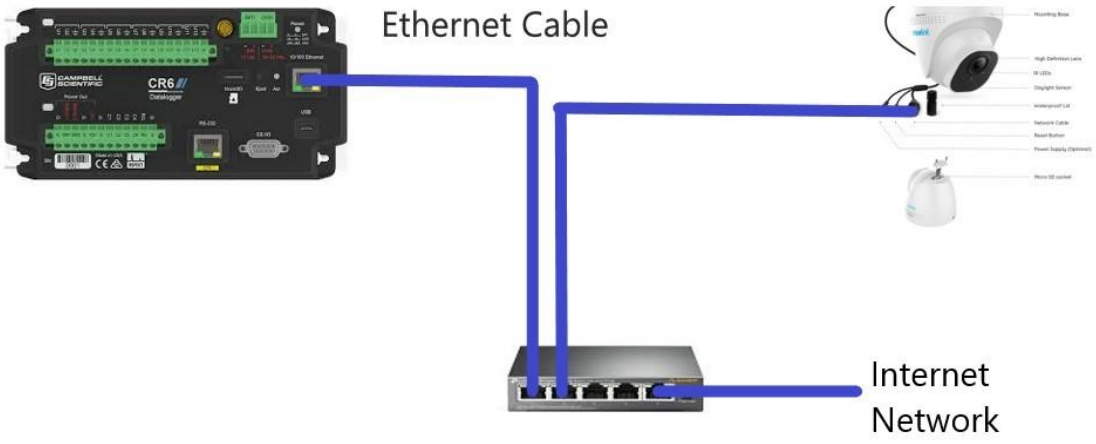
How to add a camera to an existing Shortcut Instrumentation?

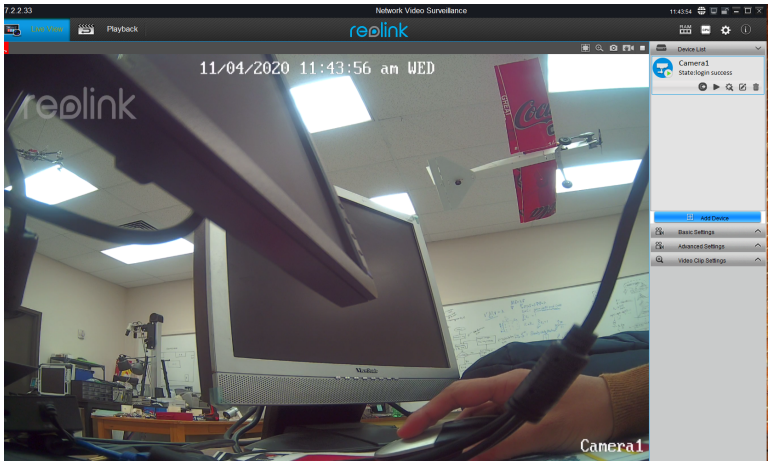
1. Create the shortcut program for the rest of the instrumentation ready for execution
2. Hardware Setup (CR6, POE switch, IP camera)
    a. Wiring Diagram



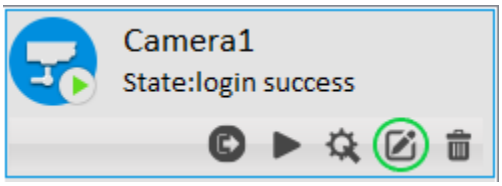
    b. Internet Connection

The acquisition process does not actually need an internet connection. Having the camera set up in a network eliminates a step of assigning an IP address to the camera

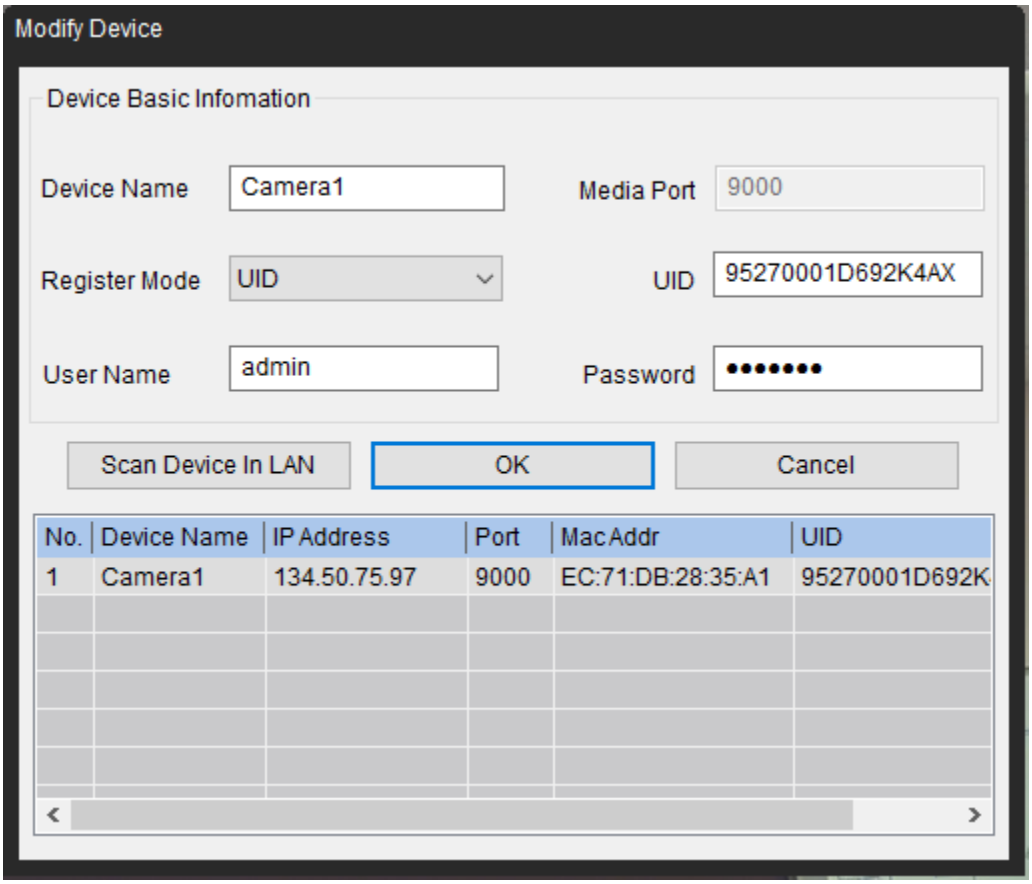
3. Acquiring IP address
   There are a number of ways to acquire an IP address. The easiest way is:
    a. Install Reolink Client application to a computer
    b. Connect the computer to the POE switch using an ethernet cable
    c. When you open the application, the camera is automatically installed and you should see a visual from the camera on the screen like below. If you do not see it, it means that there is something wrong in the connection or hardware.



d. On the top right side you will see this block. Click on this icon inside the block marked by the green pointer.



e. Another box containing the IP address of the camera will appear



4. Cr6 Code
   a. Open the CRBASIC file associated with your shortcut application.
   b. Declare Public Variables
      i. Add the line below along with the public variables created in your code(Usually on the top section of your document)

```
Public http_Header, Get_IP_Image,counter
```

      ii. After Scan add following 3 lines

```
http_Header=""
Get_IP_Image = HTTPGet ("http://134.50.75.54/cgi-bin/api.cgi?cmd=Snap&channel=0&rs=wuuPhkmUCeI9WG7C&user=admin&password=[blank]","CPU:Newphoto"& counter &".jpg", http_Header)
counter  = counter +1
```

Khanal3

iii. HTTPGET has 3 components:
1. URL
    a. This is camera specific
    b. Format for Reolink:

“http://(ip address)/cgi-bin/api.cgi?cmd=Snap&channel=0&rs=(any combination of numbers and letters)&user=(user name)&password=(user password)”

    c. IP address changes every time the network gets disconnected so make sure it is current
    d. rs can be anything
    e. Username and password can be found attached in the camera
2. Response
    a. Sample: "CPU:Newphoto"& counter &".jpg"
        i. CPU -> save the image to CPU
        ii. counter does the job of generating an unique name every iteration which prevents the issue of overwriting the previous image with a new image because of same name
        iii. .jpg is the image format
        iv. Changing CPU to CRD will make CR6 store the images in the micro sd card inserted in the CR6
3. Header
    a. http_Header=""
    b. HTTPGET(“....”, “....”,http_Header)
    c. Can be used as provided without losing generality for the purpose

iv. Counter
1. counter = counter +1
2. Provides unique name to each image stored in the card by incrementing itself at each scan

Note:

1. The camera instrumented using this process inherits the sampling time assigned during the creation of a shortcut program.
2. Changing settings on the Reolink app changes the picture settings on the camera. So, settings for mirroring and rotation can be changed by changing the settings in the reolink app before starting the scan

References:

1. Reolink: https://support.reolink.com/hc/en-us/
2. Reolink:https://support.reolink.com/hc/en-us/articles/360007011233-How-to-Capture-Live-JPEG-Image-of-Reolink-Cameras-via-Web-Browsers
3. Campbell Scientific: CRBASIC Documentation for ‘HTTPGET’