OPCUA-PI (FROM SCRATCH)

Step 1: (on Pi)

Clone Repo for python-opcua

Step 2:

Get certificates from the OPCUA Server that are needed (In our case NI Insight)

1. NI InsightCM OPC Server Certificate.der
2. NI InsightCM OPC Server Certificate.pfx

3) Place into the folder of opcua/client/

There should be some other files in there like ua\_client.py and \_init\_.py

4) Modify the client-minimal.py file

Change client from …

#client = Client("opc.tcp://localhost:4840/freeopcua/server/")

to

client = Client("opc.tcp://192.168.2.10:49580/")

5) Add variables to get:

var0 = client.get\_node("ns=2;s=UT.SERF.Equipment\_AHU\_9.Thermocouple 1.Value")

var1 = client.get\_node("ns=2;s=UT.SERF.Equipment\_AHU\_9.Thermocouple 2.Value")

varn = client.get\_node("basically all the other points you are interested in getting”)

6) Add in post:

import requests

r = requests.post("https://mati.engr.utk.edu/matibe1api/tmpdata", data={'sensor\_id': 1, 'equipment\_id': 3, 'data': var})

r2 = …….another requests.post(info…)

r3 = …..do this until all points are posted where they should go… . .

print(r.status\_code, r.reason)

print(r.text[:300] + '...')

`````````There will be some errors be sure all needed packages are installed. Use pip install …..`````

7) SET UP AUTOMATION

a) Use CHRON to set up the python program to run using a .sh file at a specific interval ex: every ten minutes or so…..

You are done. Leave your pi attached to the same network as the OPCUA server and it will automatically grab the points and post as intended.