#!/usr/bin/python

import serial

import MySQLdb

import time

import urllib

import urllib2

DEVICE = '/dev/ttyACM0'

BAUD = 9600

db = MySQLdb.connect("localhost", "root", "daweather", "daweather")

curs=db.cursor()

ser = serial.Serial(DEVICE, BAUD, timeout = 2.0)

print(ser)

#Url pour les requetes http des alertes

url = 'http://daweather.ovh/webservice/station/alert'

alertTemp = 0

alertPre = 0

alertHumi = 0

alertSpeed = 0

alertRain = 0

while 1:

donnee=str(ser.readline())

#print(donnee)

curs.execute ("SELECT email,private\_key from station;")

elems = curs.fetchone()

email = elems[0]

private\_key = elems[1]

#Recuperation des donnees

try:

ardString = donnee.split(";")

temp = ardString[0]

humi = ardString[1]

pre = ardString[2]

speed = ardString[3]

direct = ardString[4]

rain = ardString[5]

#Conversion en float

try:

tempFloat = float(temp)

humiFloat = float(humi)

preFloat = float(pre)

speedFloat = float(speed)

directFloat = float(direct)

rainFloat = float(rain)

except:

print "conversion exception"

#Requetes HTTP des alertes

if (tempFloat < -80 or tempFloat > 80):

if (alertTemp == 0):

alertTemp = 1

try:

arg = {'email':email, 'privatekey':private\_key, 'alert':'temperature'}

data = urllib.urlencode(arg)

request = urllib2.Request(url,data)

response = urllib2.urlopen(request)

print response.read()

except:

print("temperature http request exception")

else:

alertTemp = 0

if (preFloat < 870 or preFloat > 1100):

if (alertPre == 0):

alertPre = 1

try:

arg = {'email':email, 'privatekey':private\_key, 'alert':'pressure'}

data = urllib.urlencode(arg)

request = urllib2.Request(url,data)

urllib2.urlopen(request)

except:

print("pression http request exception")

else:

alertPre = 0

if (humiFloat < 0 or humiFloat > 100):

if (alertHumi == 0):

alertHumi = 1

try:

arg = {'alert':'humidity'}

data = urllib.urlencode(arg)

request = urllib2.Request(url,data)

urllib2.urlopen(request)

except:

print("humidity http request exception")

else:

alertHumi = 0

if (speedFloat < 0 or speedFloat > 300):

if (alertSpeed == 0):

alertSpeed = 1

try:

arg = {'alert':'speed'}

data = urllib.urlencode(arg)

request = urllib2.Request(url,data)

urllib2.urlopen(request)

except:

print("wind speed http request exception")

else:

alertSpeed = 0

if (rainFloat < 0 or rainFloat > 50):

if (alertRain == 0):

alertRain = 1

try:

arg = {'alert':'rain'}

data = urllib.urlencode(arg)

request = urllib2.Request(url,data)

urllib2.urlopen(request)

except:

print("rain http request exception")

else:

alertRain = 0

#Affichage

print("temperature: ", temp)

print("humidite: ", humi)

print("pression: ", pre)

print("vitesse: ", speed)

print("direction: ", direct)

print("pluie: ", rain)

print("==========================")

#Insertion dans BDD

try:

curs.execute ("INSERT INTO s\_data\_temp(date,valeur,STATION\_idStation) VALUES(NOW(), "+temp+", 1);")

curs.execute ("INSERT INTO s\_data\_hum(date,valeur,STATION\_idStation) VALUES(NOW(), "+humi+", 1);")

curs.execute ("INSERT INTO s\_data\_pre(date,valeur,STATION\_idStation) VALUES(NOW(), "+pre+", 1);")

curs.execute ("INSERT INTO s\_data\_vent(date,valeur,direction,STATION\_idStation) VALUES(NOW(), "+speed+", "+direct+", 1);")

curs.execute ("INSERT INTO s\_data\_pluie(date,valeur,STATION\_idStation) VALUES(NOW(), "+rain+", 1);")

#simulation valeurs vent+pluie

#curs.execute ("INSERT INTO s\_data\_temp(date,valeur,STATION\_idStation) VALUES(NOW(),RAND()\*10, 1);")

#curs.execute ("INSERT INTO s\_data\_hum(date,valeur,STATION\_idStation) VALUES(NOW(), RAND()\*10, 1);")

#curs.execute ("INSERT INTO s\_data\_pre(date,valeur,STATION\_idStation) VALUES(NOW(), RAND()\*10, 1);")

#curs.execute ("INSERT INTO s\_data\_vent(date,valeur,direction,STATION\_idStation) VALUES(NOW(), (RAND()\*10)\*3.6, RAND()\*100, 1);")

#curs.execute ("INSERT INTO s\_data\_pluie(date,valeur,STATION\_idStation) VALUES(NOW(), RAND()\*10, 1);")

db.commit()

except:

print "insertion exception"

except:

print "En attente de donnees"