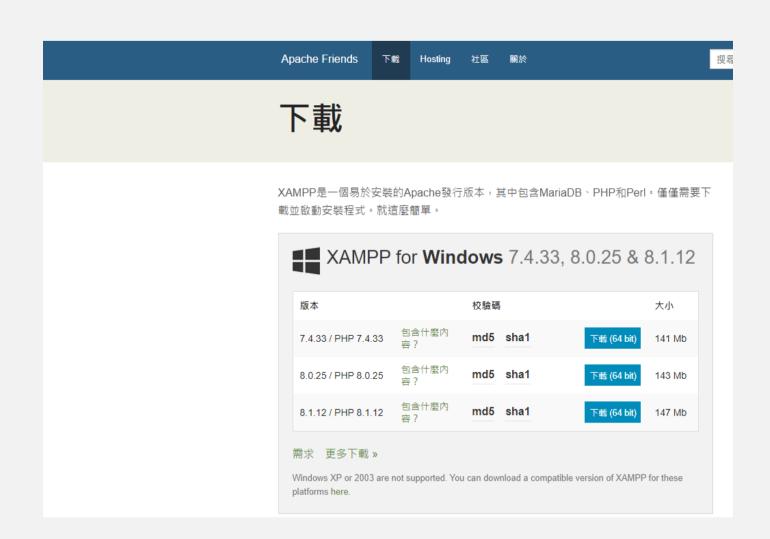
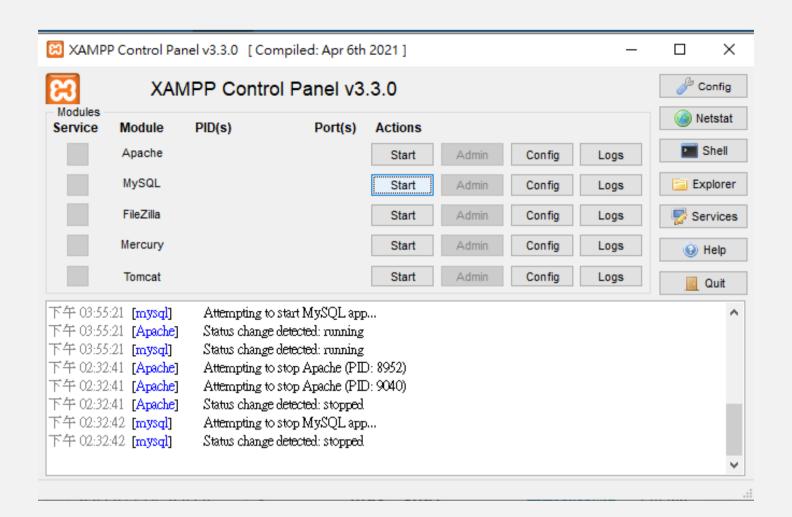


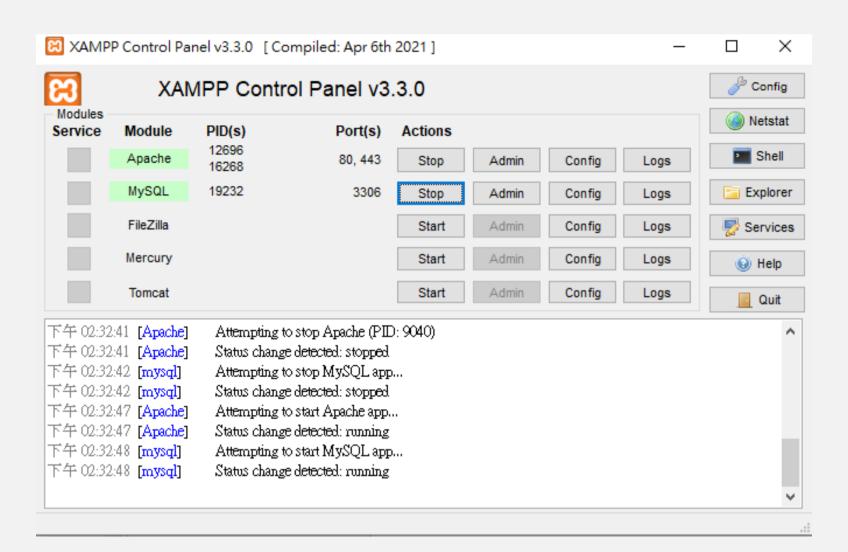
Download XAMPP



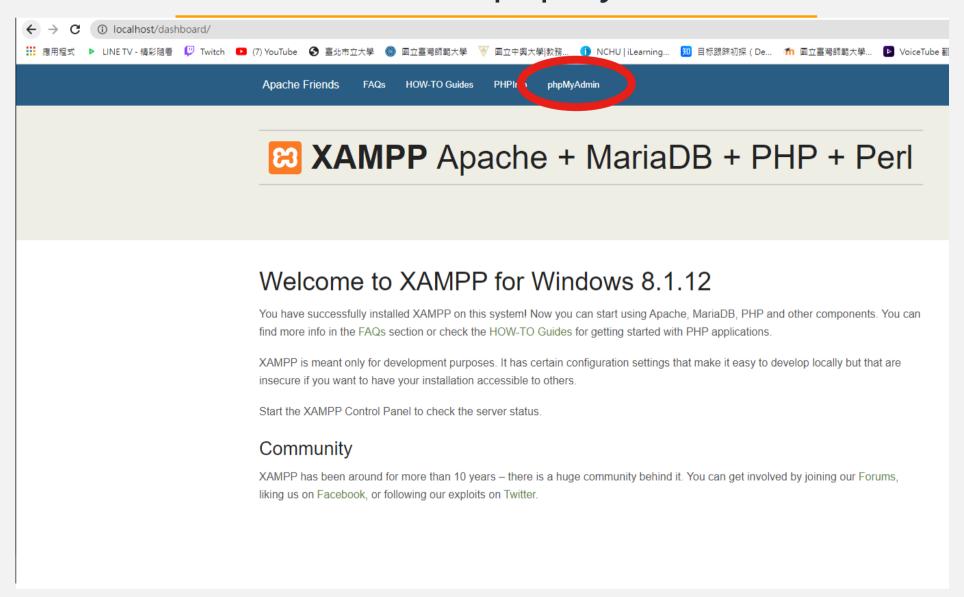
Start Apache&MySQL



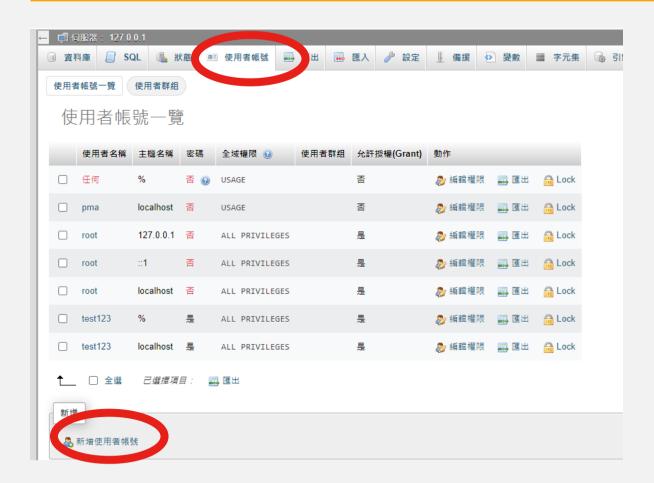
Start Apache&MySQL



Go Localhost&phpMyAdmin



新建使用者帳號



登入資訊 使用者名稱:	使用文字方塊		新建使用者帳號
主機名稱:	任何主機 🔻 %	•	
空碼:	使用文字方塊	強度: —	
重新輸入:			
認證外掛程式	原生	MySQL 認證 🗸	
產生密碼	: 產生		
_	名的資料庫,並授予所有權限。		
- 全域 機限 🔲 🕏		座 限。	
注意:MySQL 權限名標	質會以英文表示。		
□ 資料	□ 結構	□ 管理	資源限制
SELECT	☐ CREATE	GRANT	注意: 設定為 0 即代表無限制。
☐ INSERT	☐ ALTER ☐ INDEX	SUPER PROCESS	MAX QUERIES PER HOUR 0
☐ DELETE	DROP	RELOAD	MAX UPDATES PER HOUR 0
□ FILE ■ 主控台	CREATE TEMPORARY TABLES SHOW VIEW	SHOW DATABASES	MAX CONNECTIONS PER HOUR 0

紅圈填test123

全域權限打勾

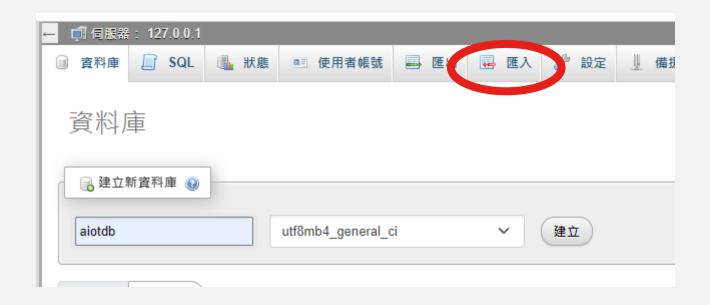
登入資訊 使用者名稱: 使用文字方塊	再新建使用者帳號
主機名稱: 任何主機 %	•
密碼: 使用文字方塊 🗸	強度:
重新輸入:	
認證外掛程式 原生 MyS	QL 認證 ✔
產生密碼: 產生	
使用者帳號的資料庫 建立與使用者同名的資料庫,並授予所有權限。 給以帳號_開頭的資料庫 (username_%) 授予所有權限。	
全域 雙限 □ 全選 注意: MySQL 權限名稱會以英文表示。	
□ 資料 □ 結構 □ CREATE □ INSERT □ ALTER □ INDEX □ DELETE □ DROP	□ 管理 □ GRANT □ SUPER □ PROCESS □ RELOAD □ MAX UPDATES PER HOUR 0 MAX UPDATES PER HOUR 0
□ FILE □ CREATE TEMPORARY TABLES □ SHOW VIEW	SHUTDOWN SHOW DATABASES MAX CONNECTIONS PER HOUR 0

紅圈填test123

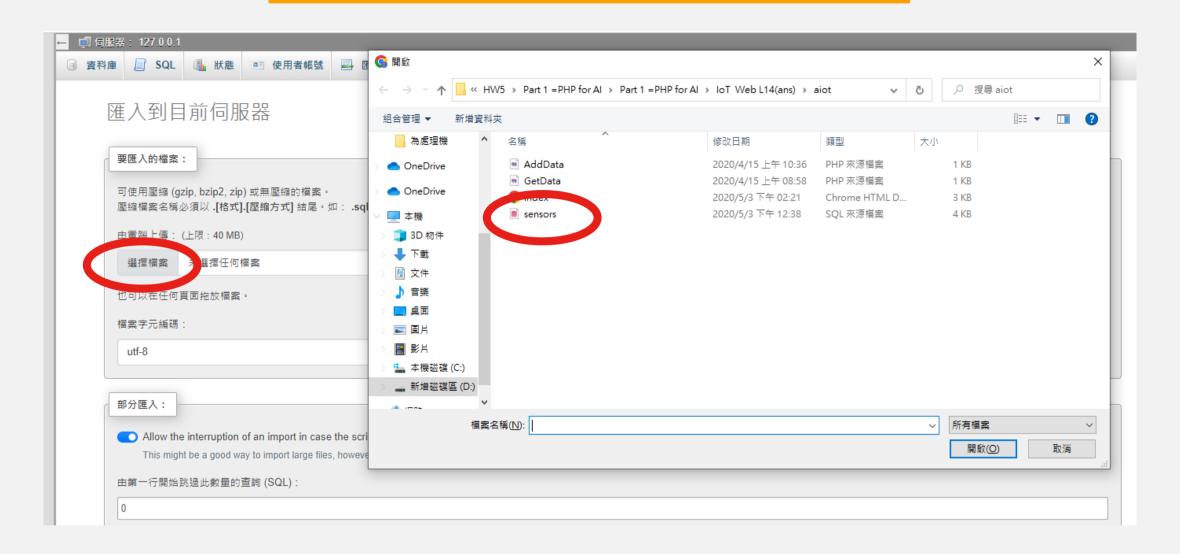
全域權限打勾

主機名稱改主機

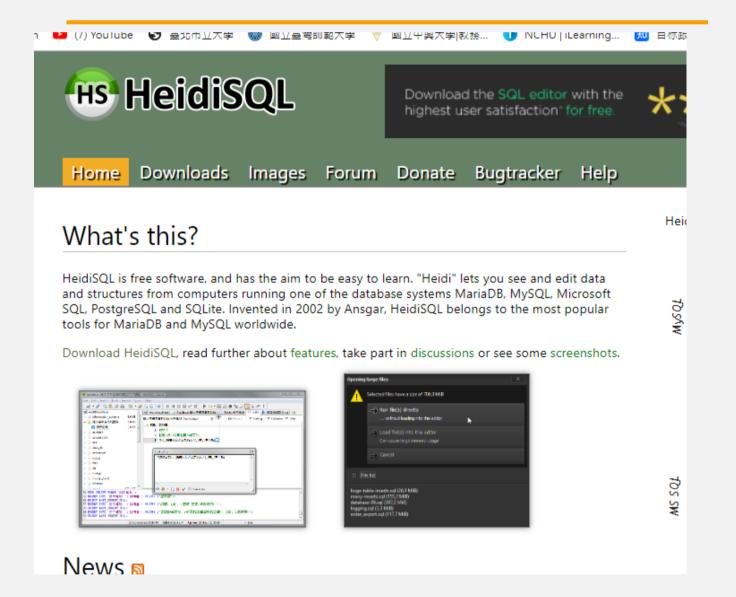
到資料庫建立aiotdb資料庫並點匯入



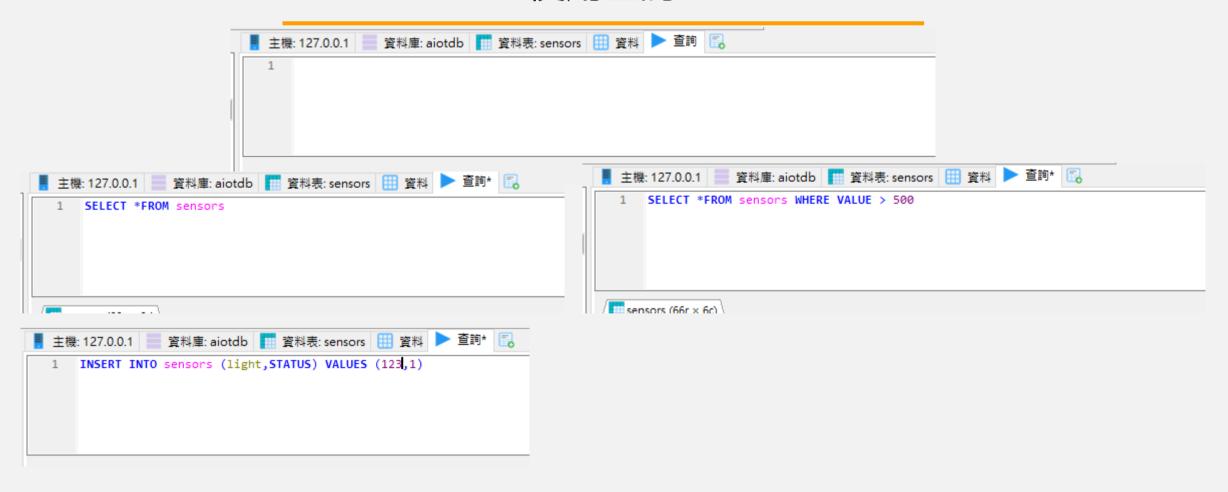
滙入sensors



Download HeidiSQL



使用查詢



網址上輸入 AddData



55	2022-12-13 13:51:18	1,000	30	30	0
56	2022-12-13 10:52:46	22	0	0	0
57	2022-12-13 10:52:46	33	0	0	0
58	2022-12-13 10:52:46	44	0	0	0
59	2022-12-13 10:52:46	44	44	44	0
60	2022-12-13 13:51:18	1,000	30	30	0
61	2022-12-13 13:51:18	1,000	30	30	0
62	2022-12-13 10:51:00	44	0	0	0
63	2022-12-13 10:52:46	55	0	0	0
64	2022-12-13 13:51:18	555	0	0	1
65	2022-12-13 13:51:18	987	0	0	0
66	2022-12-13 13:51:18	897	87	87	0
67	2022-12-13 14:55:47	500	0	0	1
68	2022-12-13 14:55:58	123	0	0	1
69	2022-12-13 14:59:52	1,000	30	30	0

資料庫尾端

AddData.php

```
<?php
                                            //2.query db
                                            $salquery = "insert into sensors (light, humi, temp) VALUES ($light, $humi, $temp)";
//0.get parameters input
                                            $result = $mvsqli -> querv($sqlquerv);
$light = 0;
$humi = 0:
$temp = 0;
                                              //3.close db
if (!empty($ GET['light'])) {
  $light = $ GET['light'];
                                              $mysqli -> close();
if (!empty($ GET['humi'])) {
  $humi = $ GET['humi'];
                                              header( "Location: http://localhost/aiot/");
if (!empty($ GET['temp'])) {
                                              ?>
  $temp = $ GET['temp'];
```

初始化

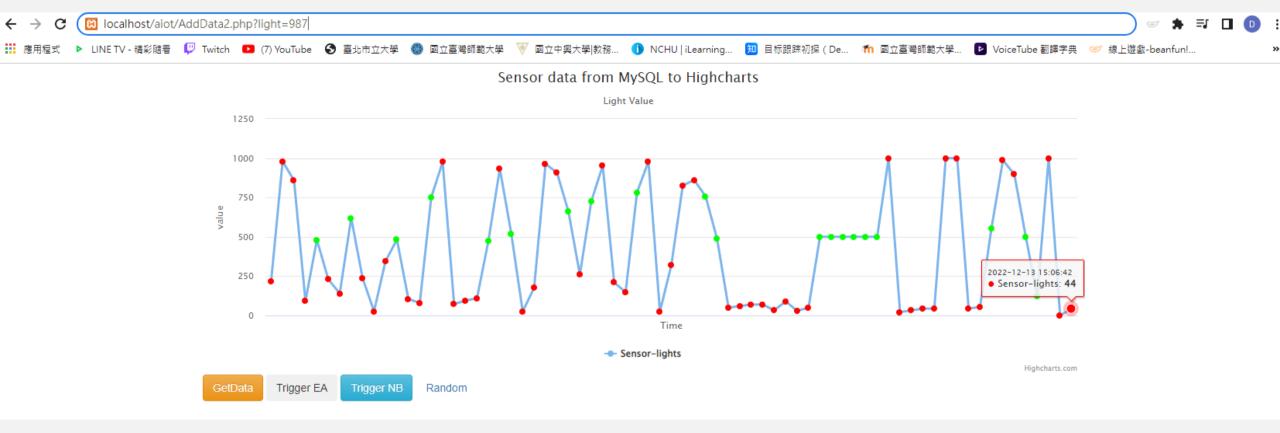
connect

query

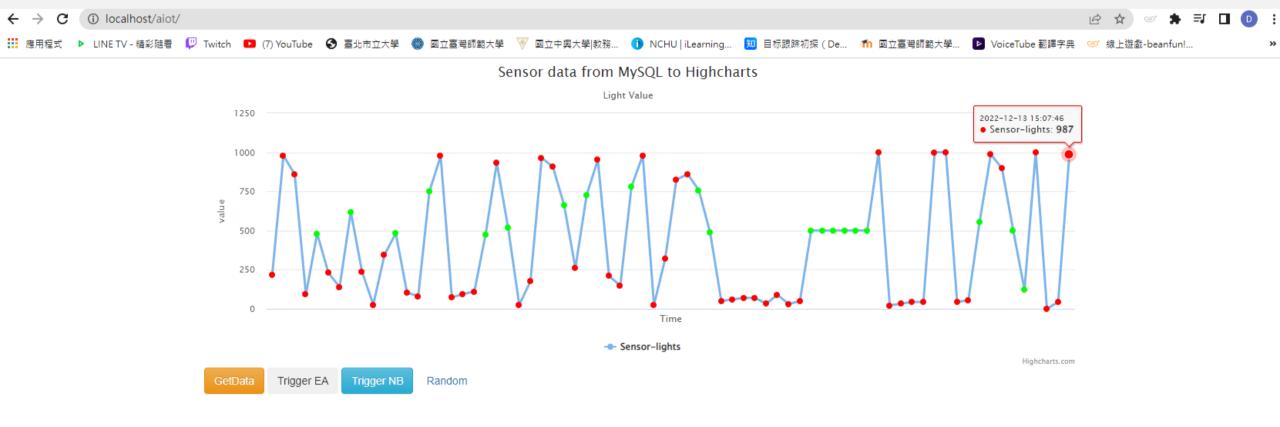
Close 並導向

```
//1.conncet db
$mysqli = new mysqli("localhost","test123","test123","aiotdb");
// Check connection
if ($mysqli -> connect errno) {
  echo "Failed to connect to MySOL: " . $mysqli -> connect error;
  exit();
else
    echo "Succes";
```

AddData.php



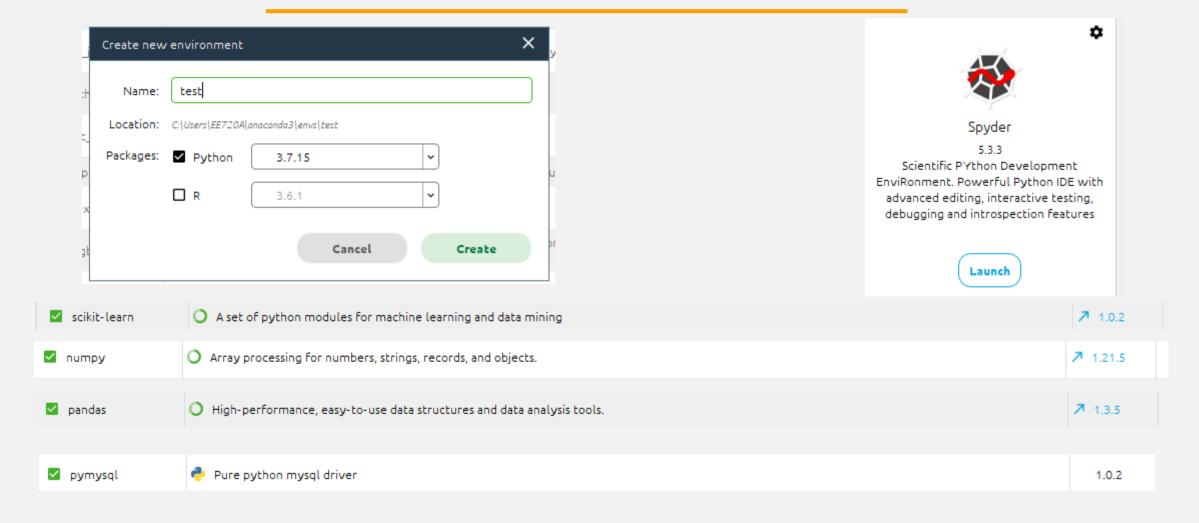
AddData.php



Refresh in index.hml(Demo highchart)



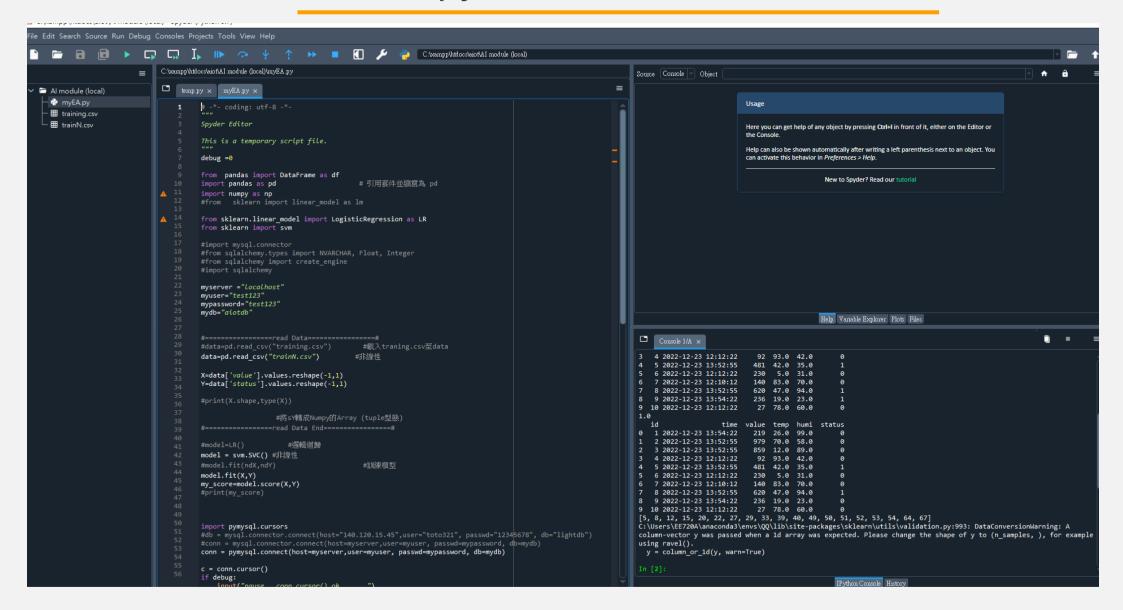
創建環境(Anaconda)



Htdos/aiot裡面放Al module

→ ・ ↑	> 本機	→ 本機磁碟 (C:) → xampp → ht	docs > aiot >		
a 1634-4-5		名稱 ^	修改日期	類型	大小
★ 快速存取 桌面	nt.	spyproject	2022/12/13 上午 10:40	檔案資料夾	
		Al module (local)	2022/12/13 下午 01:51	檔案資料夾	
➡ 下載	A.	AddData	2020/4/15 上午 10:36	PHP 來源檔案	1 KB
🏥 文件	A.	AddData2	2022/12/13 下午 03:05	PHP 來源檔案	1 KB
■ 圖片	2	GetData	2020/4/15 上午 08:58	PHP 來源檔案	1 KB
HW4		index oindex	2022/12/13 下午 03:13	Chrome HTML D	3 KB
meeting3		sensors	2020/5/3 下午 12:38	SQL 來源檔案	4 KB
作業考古解答					

Spyder 編輯 AI module



Al module訓練(myEA.py)

from sklearn import svm

```
#data=pd.read_csv( training.csv ) #報人traning data=pd.read_csv("trainN.csv") #非線性

X=data['value'].values.reshape(-1,1)

Y=data['status'].values.reshape(-1,1)

#print(X.shape,type(X))
```

```
#model=LR() #ஊ輕迴歸

model = svm.SVC() #非線性

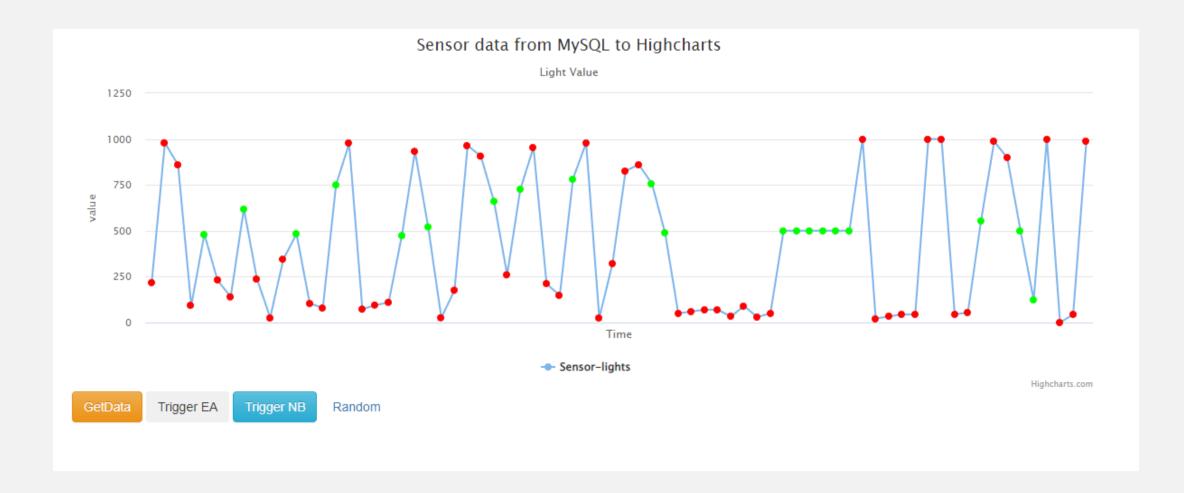
#model.fit(ndX,ndY) #訓練模型

model.fit(X,Y)

my_score=model.score(X,Y)

#print(my_score)
```

Demo(Al Module & Web)



pickle

1. 使用 pickle 儲存模型

```
import pickle
with open('./model/xgboost-iris.pickle', 'wb') as f:
   pickle.dump(xgboostModel, f)
```

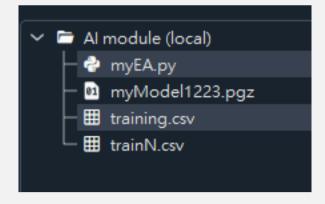
2. 使用 pickle 儲存模型並利用 gzip 壓縮

```
import pickle
import gzip
with gzip.GzipFile('./model/xgboost-iris.pgz', 'w') as f:
    pickle.dump(xgboostModel, f)
```

pickle (myEA.py)

```
print("my model is", model)
import pickle
import gzip
with gzip.GzipFile('myModel1223.pgz', 'w') as f:
    pickle.dump(model, f)
```

打包出去



在fit之後

pickle (myEA.py)

```
import pickle
import gzip
with gzip.open('./myModel1223.pgz', 'r') as f:
    model = pickle.load(f)
```

```
#=======#
#data=pd.read csv("training.csv")
                                  #載入traning.csv至data
#data=pd.read csv("trainN.csv")
                                 #非線性
#X=data['value'].values.reshape(-1,1)
#Y=data['status'].values.reshape(-1,1)
#print(X.shape,type(X))
                #將sY轉成Numpy的Array (tuple型態)
#========#
#model=LR()
                  #羅輯河歸
#model = svm.SVC() #非線性
#model.fit(ndX,ndY)
                                  #訓練模型
#model.fit(X,Y)
print("my model is",model)
#import pickle
#import gzip
#with gzip.GzipFile('myModel1223.pgz', 'w') as f:
# pickle.dump(model, f)
#my score=model.score(X,Y)
#print(my_score)
```

Load進來

不需要model跟train data

補充commit(有動到資料庫要使用)

```
## make all status =0
c.execute('update sensors set status=0 where light>0')
conn.commit()
```

flask

#4 H H /±	407日	IHI IRA	ABB PIA
> 新增磁碟區 (D:) → AIOT → HW	/5 > Part 2=From PHP to Flask Basics	s > Part 2=From PHF	P to Flask Basics > step4_flask_AIoT-20211103T030638Z-001 > step4_flask_AIo
名稱	修改日期	類型	大小
.spyproject	2022/12/22 下午 01:54	檔案資料夾	
model	2022/12/22 下午 01:49	檔案資料夾	
templates	2022/12/22 下午 01:49	檔案資料夾	
🔋 арр	2021/5/22 上午 08:22	Python File	3 KB
🔋 арр2	2022/12/22 下午 02:32	Python File	1 KB
🚳 deploy_heroku	2021/5/22 上午 08:22	Windows 批次檔案	1 KB
Procfile	2021/5/22 上午 08:22	檔案	1 KB
requirements	2021/5/22 上午 08:22	文字文件	1 KB
runtime	2021/5/22 上午 08:22	文字文件	1 KB
update_heroku	2021/5/22 上午 08:22	Windows 批次檔案	1 KB

App2練習

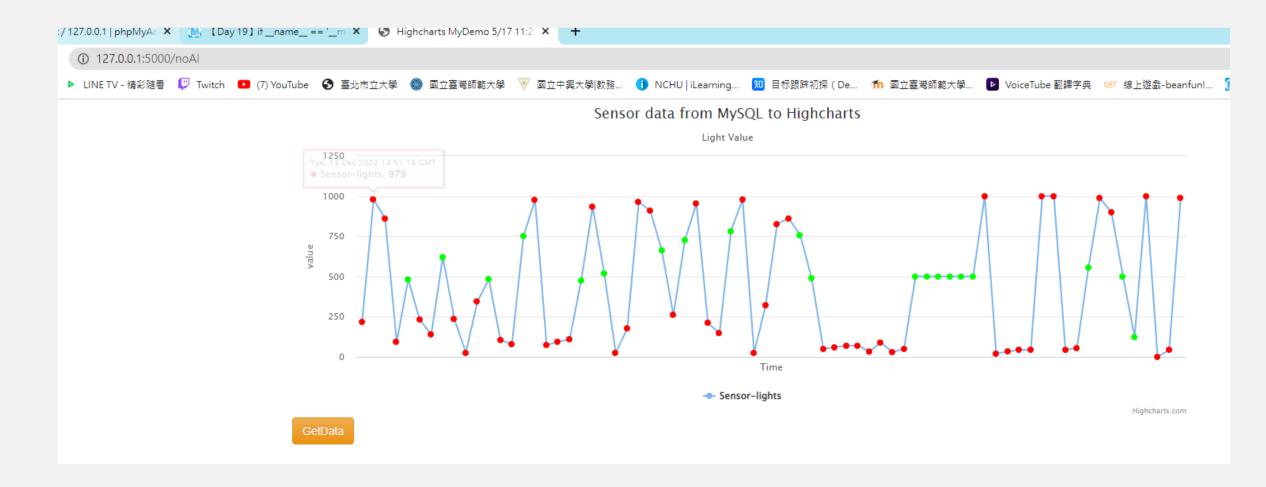
```
□ арр.ру ×
              арр2.ру 🗴
         # -*- coding: utf-8 -*-
         Created on Thu Dec 22 14:26:02 2022
         @author: EE720A
         from flask import Flask, render template, jsonify
         import pandas as pd
         from six.moves import urllib
A 10
         import json
         app = Flask( name )
         @app.route("/")
  15
         def index():
             return 'Hello world...'
         if __name__ == '__main__ ' :
            app.run(port=5000)
                    . . . .
              ① 127.0.0.1:5000

    應用程式 ▶ LINE TV - 精彩随看 🔑 Twitch ▶ (7) YouTube 🔇 臺北市立大學 🌑 國立臺灣師範:
Hello world...
```

noAl練習

```
Basics\Part 2=From PHP to Flask Basics\step4 flask AIoT-20211103T030638Z-001\step4 flask AIoT\app.py.
              indexNoAI.html ×
    арр.ру 🗙
        from flask import Flask, render template, isonify
        import pandas as pd
        from six.moves import urllib
        import ison
        app = Flask( name )
        @app.route("/data.json")
        def data():
            timeInterval = 1000
            data = pd.DataFrame()
            featureList = ['market-price',
                            'trade-volume']
            for feature in featureList:
                url = "https://api.blockchain.info/charts/"+feature+"?timespan="+str(timeInterval)+"days&format=j
                data['time'] = pd.DataFrame(json.loads(urllib.request.urlopen(url).read().decode('utf-8'))['value
                data[feature] = pd.DataFrame(json.loads(urllib.request.urlopen(url).read().decode('utf-8'))['vall
            result = data.to dict(orient='records')
            seq = [[item['time'], item['market-price'], item['trade-volume']] for item in result]
            return jsonify(seq)
        @app.route("/")
        def index():
            return render template('index.html')
       wapp.route("/noAI")
        def noAI():
 27
            return render template('indexNoAI.html')
```

noAl練習



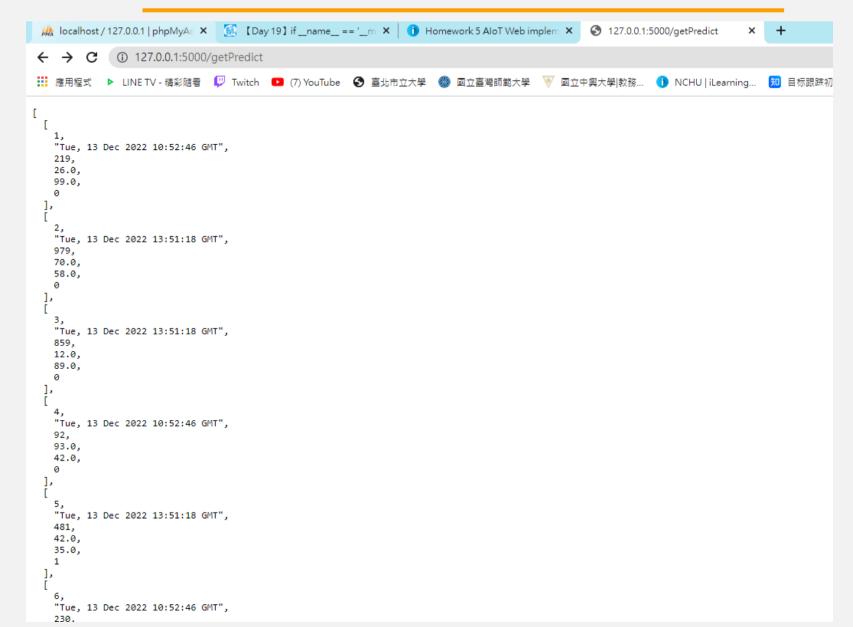
getPredict

value改light

```
indexNoALhtml ×
                         indexAI.html ×
                                       EA.py ×
арр.ру 🗙
     @app.route("/getPredict")
     def getPredict():
         debug = 0
         from pandas import DataFrame as df
         import pandas as pd
                                                # 引用套件並縮實為 pd
         import numpy as np
         #from sklearn import linear model as lm
         from sklearn.linear model import LogisticRegression as LR
         #import mysal.connector
         #from salalchemy.types import NVARCHAR, Float, Integer
        #from sqlalchemy import create engine
        #import salalchemy
        myserver ="localhost"
        mvuser="test123"
        mypassword="test123"
        mvdb="aiotdb"
         #====== load model ========
         import pickle
         import gzip
         #讀取Model
        with gzip.open('./model/myModel.pgz', 'r') as f:
            model = pickle.load(f)
         #print(my score)
         import pymysql.cursors
         #db = mysql.connector.connect(host="140.120.15.45",user="toto321", passwd="12345678", db="ligh
         #conn = mysql.connector.connect(host=myserver,user=myuser, passwd=mypassword, db=mydb)
        conn = pymysql.connect(host=myserver,user=myuser, passwd=mypassword, db=mydb)
```

```
print(test df.head(10))
if debug:
    input("pause.. now show correct one above.....")
##Example 1 ## write back mysal ############
c.execute('update light set status=0 where value>'+str(threshold))
conn.commit()
#results = c.fetchall()
#print(type(results))
#print(results[:10])
input("pause ....update ok....")
##Example 2 ## write back mysql #############
## make all status =0
c.execute('update sensors set status=0 where light>0')
## choose status ==1 have their id available
id list=list(test df['status']==1].id)
print(id list)
for id in id list:
   #print('update light set status=1 where id=='+str( id))
   c.execute('update sensors set status=1 where id='+str( id))
conn.commit()
if debug:
    input("pause ....update ok....")
c.close()
conn.close()
test_df = df(list(results),columns=['id','time','value','temp','humi','status'])
print(test df.head(10))
result = test df.to dict(orient='records')
seq = [[item['id'], item['time'], item['value'], item['temp'], item['humi'], item['status']] for ite
return jsonify(seq)
```

getPredict



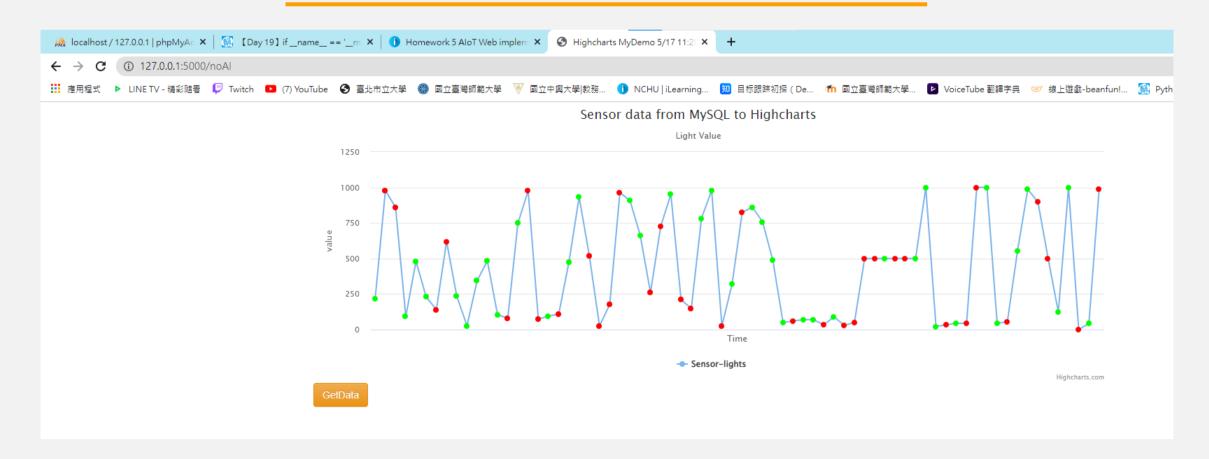
getRandom

```
@app.route("/getData")
def setRandom():
    myserver ="localhost"
    myuser="test123"
    mypassword="test123"
    mydb="aiotdb"
```

```
c.execute("update sensors set status = RAND() where true")
conn.commit()
c.execute("select * from sensors")
```

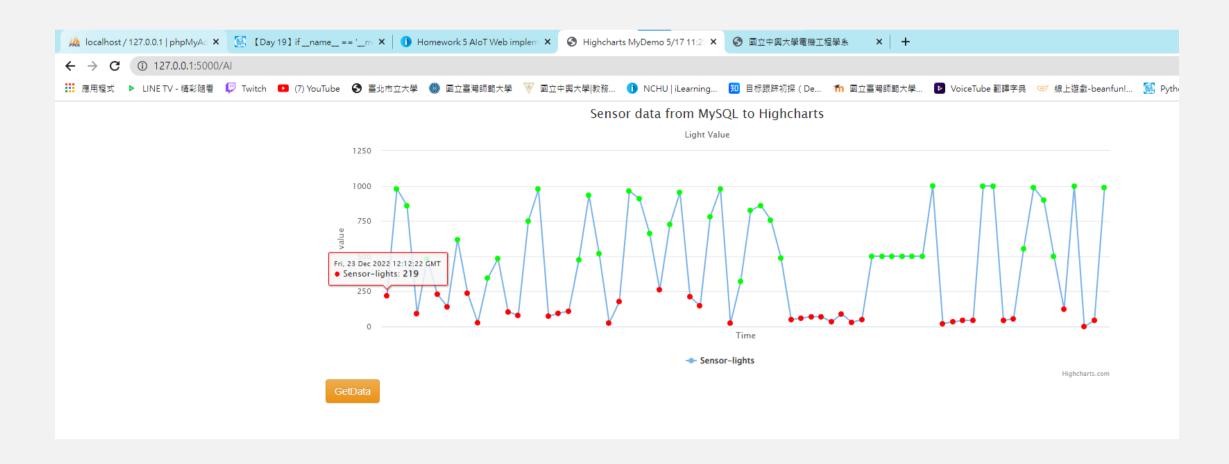
```
← → C ① 127.0.0.1:5000/getData
應用程式 ▶ LINE TV - 精彩随看 ♥ Twitch ▶ (7) YouTube
  "Fri, 23 Dec 2022 12:10:06 GMT",
  26.0.
  99.0.
  "Fri, 23 Dec 2022 12:11:07 GMT",
  70.0.
  58.0.
  "Fri, 23 Dec 2022 12:11:07 GMT",
  12.0,
  89.0,
  "Fri, 23 Dec 2022 12:11:07 GMT",
  93.0,
  42.0,
  "Fri, 23 Dec 2022 12:11:07 GMT",
  42.0,
  35.0,
```

noAl(Demo flask)



有隨機的noAl

AI (Demo flask)



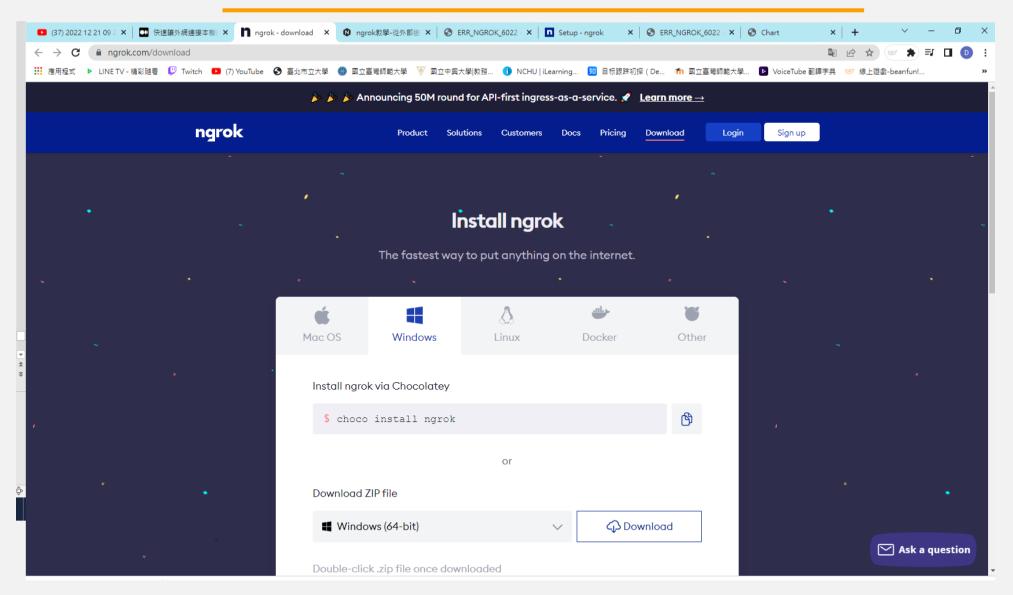
make all status =0

c.execute('update sensors set status=0 where true')

shoose status ==1 have their id available

有隨機的AI

Ngrok(install)



Connect account

ngrok 2022/9/15 上午 01:26 應用程式 18,917 KB

2. Connect your account

Running this command will add your authtoken to the default ngrok.yml configuration file. This will grant you access to more features and longer session times. Running tunnels will be listed on the endpoints page of the dashboard.

\$ ngrok config add-authtoken 2JJ1C4ngBebBXKptL31Ep3QW0ZV_2GjyFCXcYZWZp4RqwTcCn

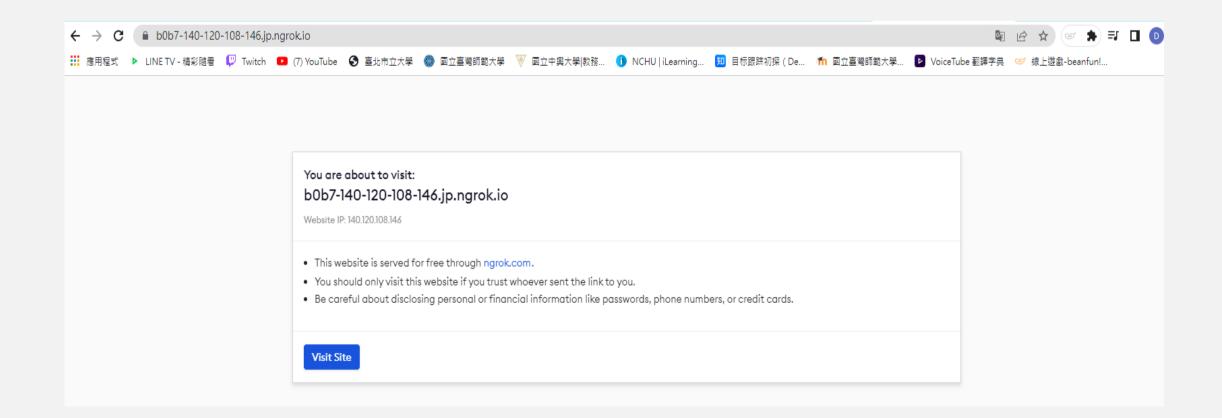
D:\AIOT\HW5\ngrok-v3-stable-windows-amd64>ngrok config add-authtoken 2JJ1C4ngBebBXKptL31Ep3QW0ZV_2GjyFCXcYZWZp4RqwTcCn Authtoken saved to configuration file: C:\Users\EE720A\AppData\Local/ngrok/ngrok.yml

Connect port

D:\AIOT\HW5\ngrok-v3-stable-windows-amd64>ngrok http 5000_

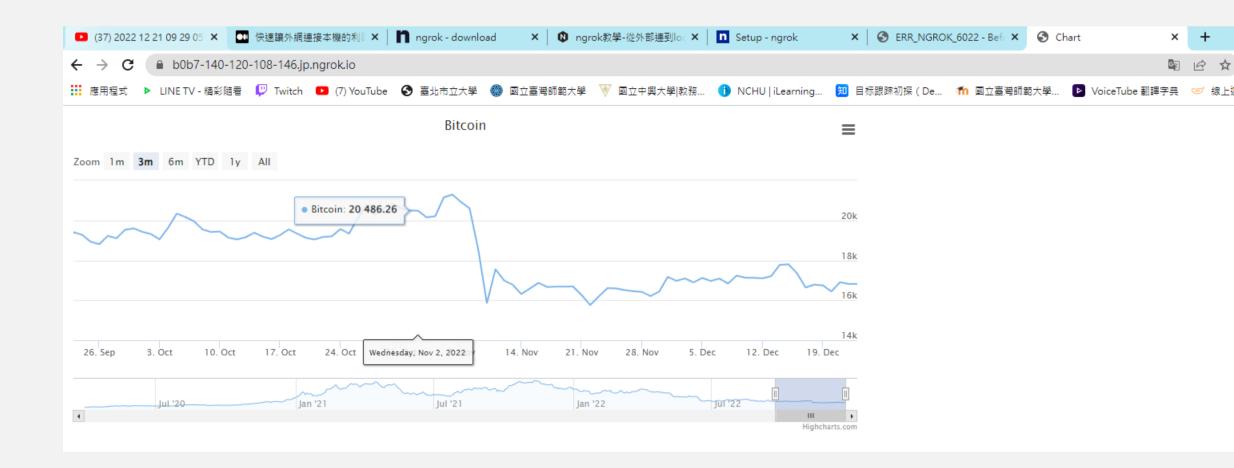
```
(Ctrl+C to qu
ngrok
                                love759542@gmail.com (Plan: Free)
Account
                               3.1.0
Version
                               Japan (jp)
Region
Latency
                               http://127.0.0.1:4041
Web Interface
                               https://b0b7-140-120-108-146.jp.ngrok.io -> http://localhost:5000
Forwarding
                                                        rt5
0.00
                                                                р50
0.00
Connections
                               ttl
                                                rt1
                                                                         р90
0.00
                                       opn
O
                                                0.00
```

在外網輸入網址



點visit site

Demo



GitHub(網址在備忘稿)

