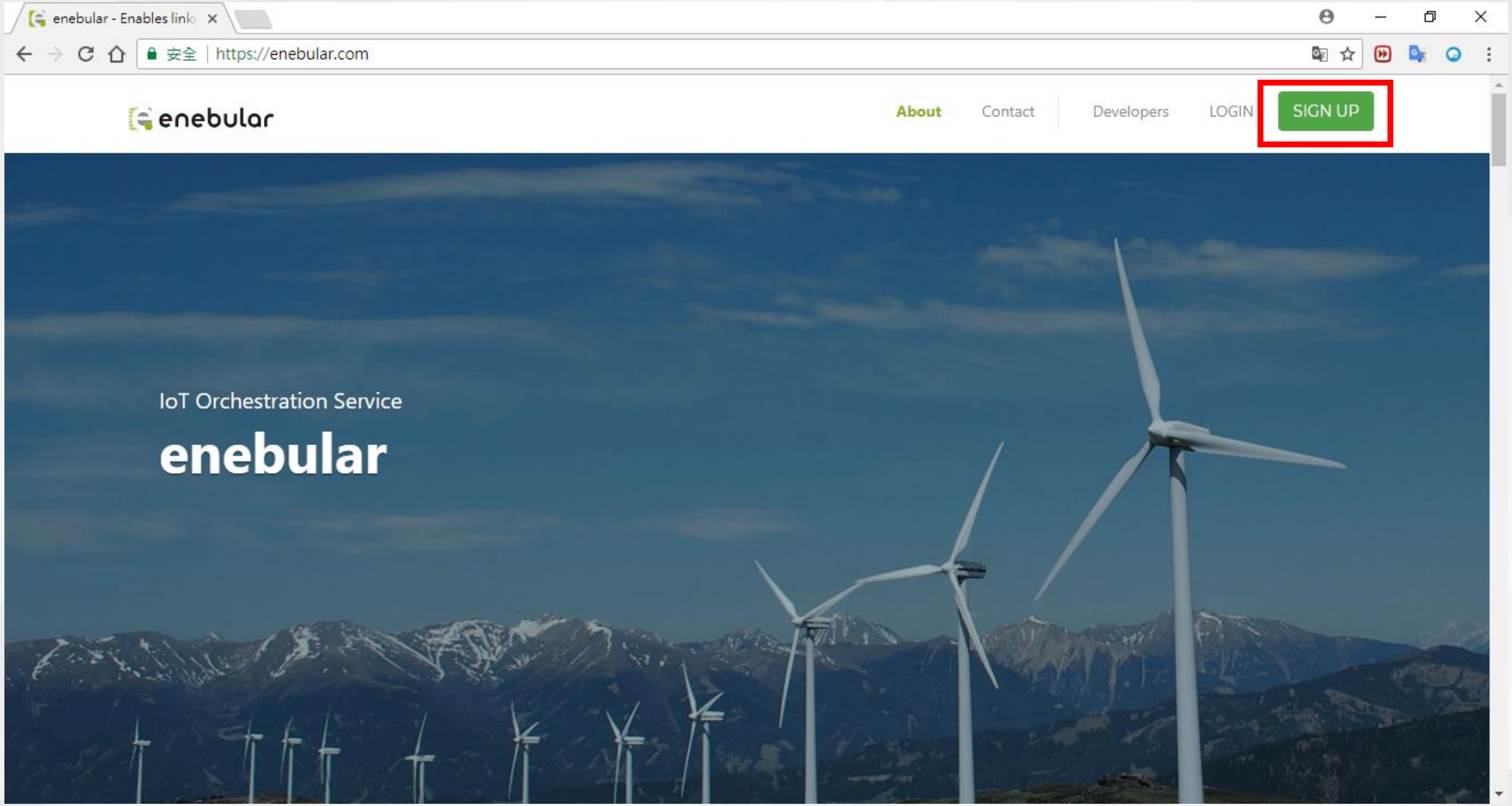
enebular 平台

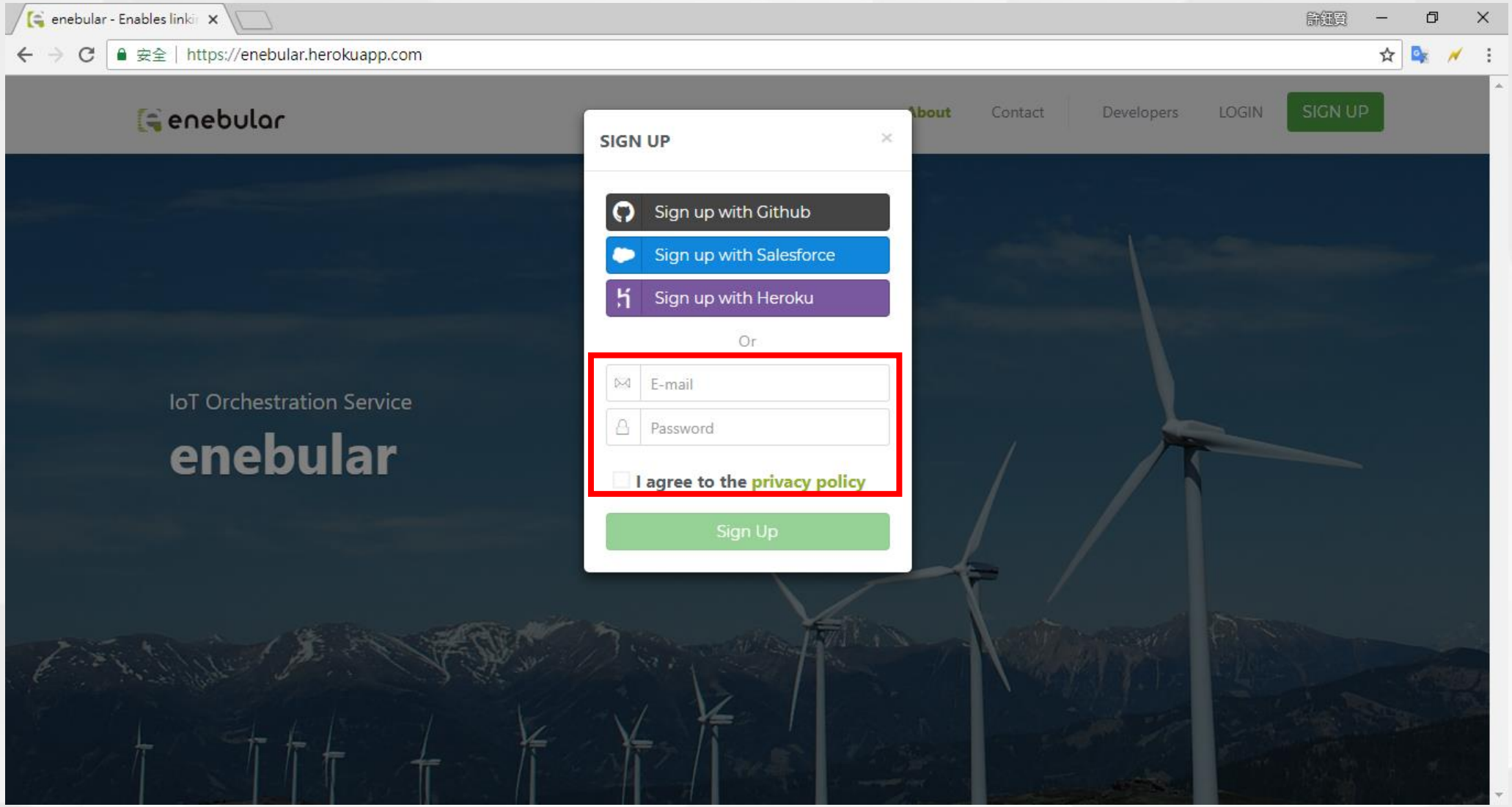
D.C
Design. Create

https://enebular.herokuapp.com/



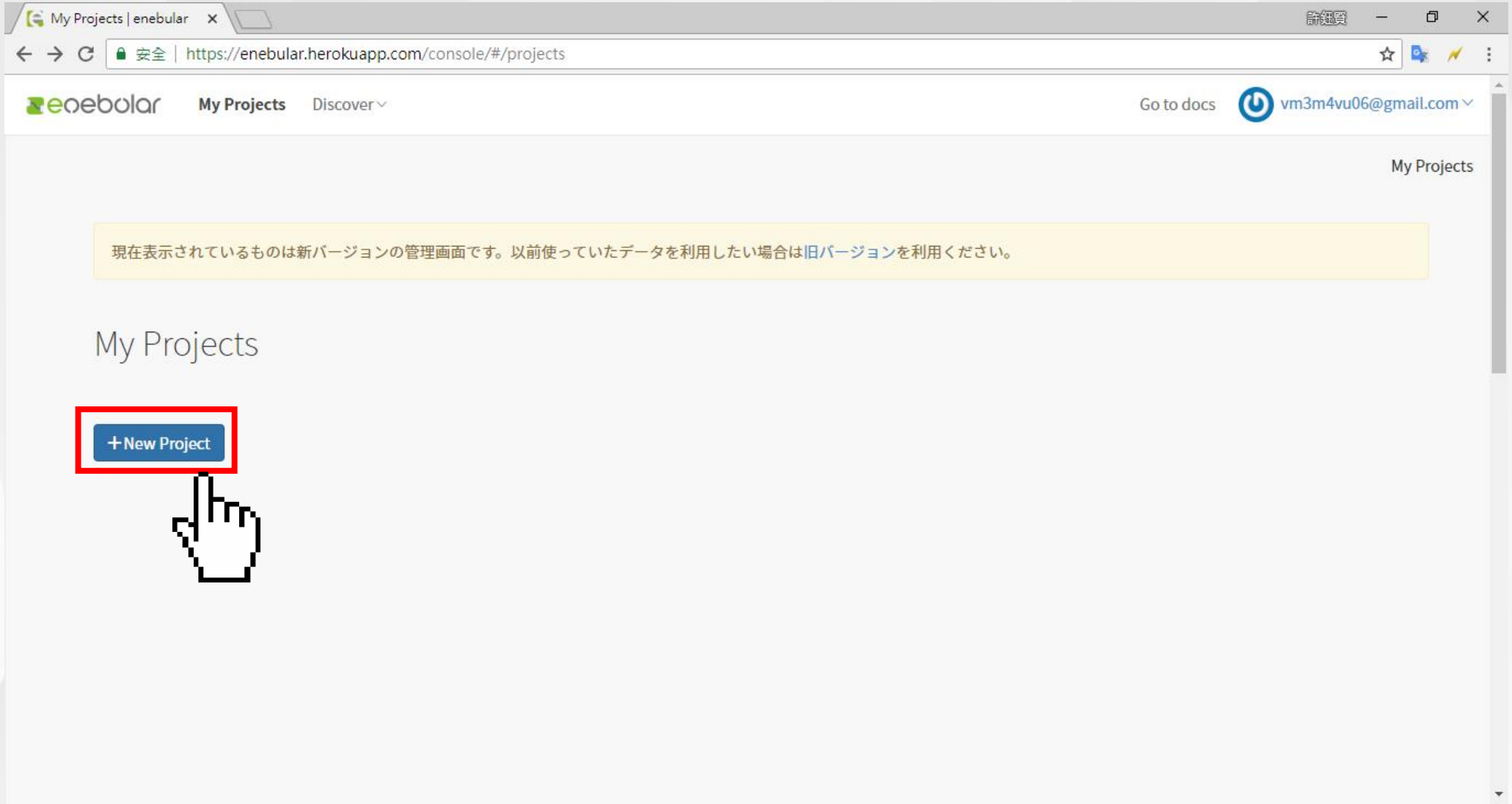
D.C
Design. Create

註冊帳號



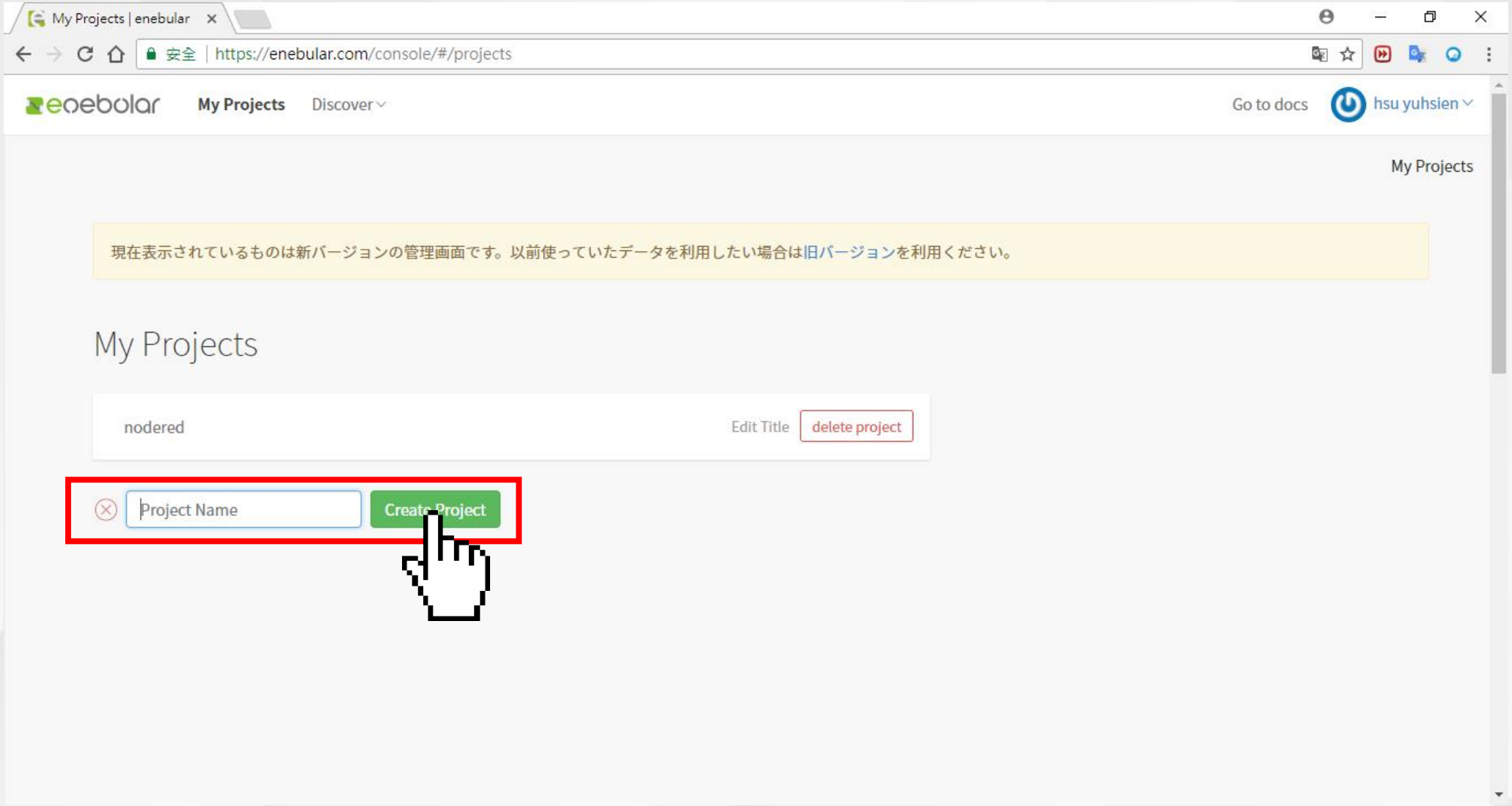
D.C
Design. Create

新增專案New Project



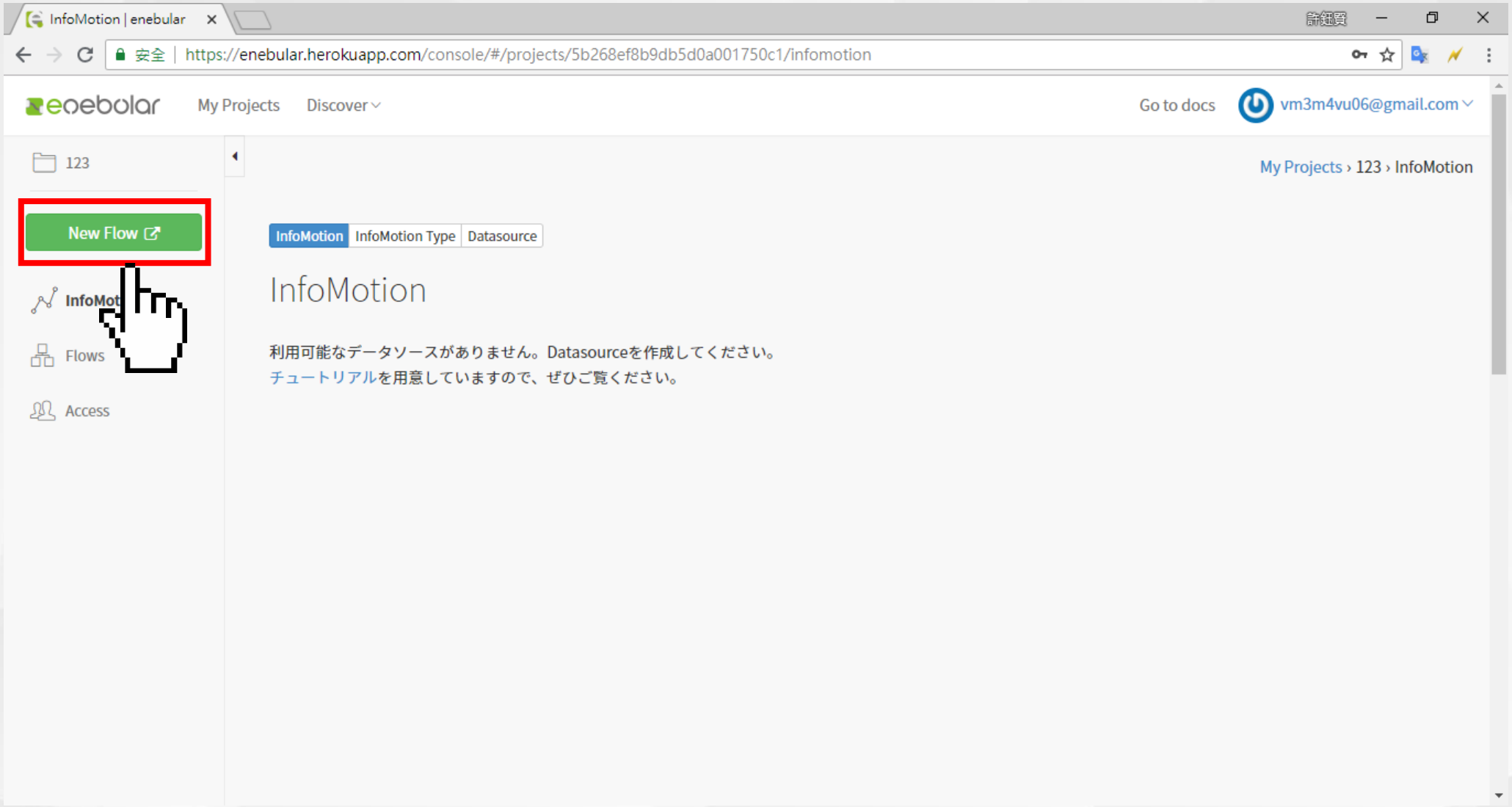
D.C
Design. Create

新增專案Create Project



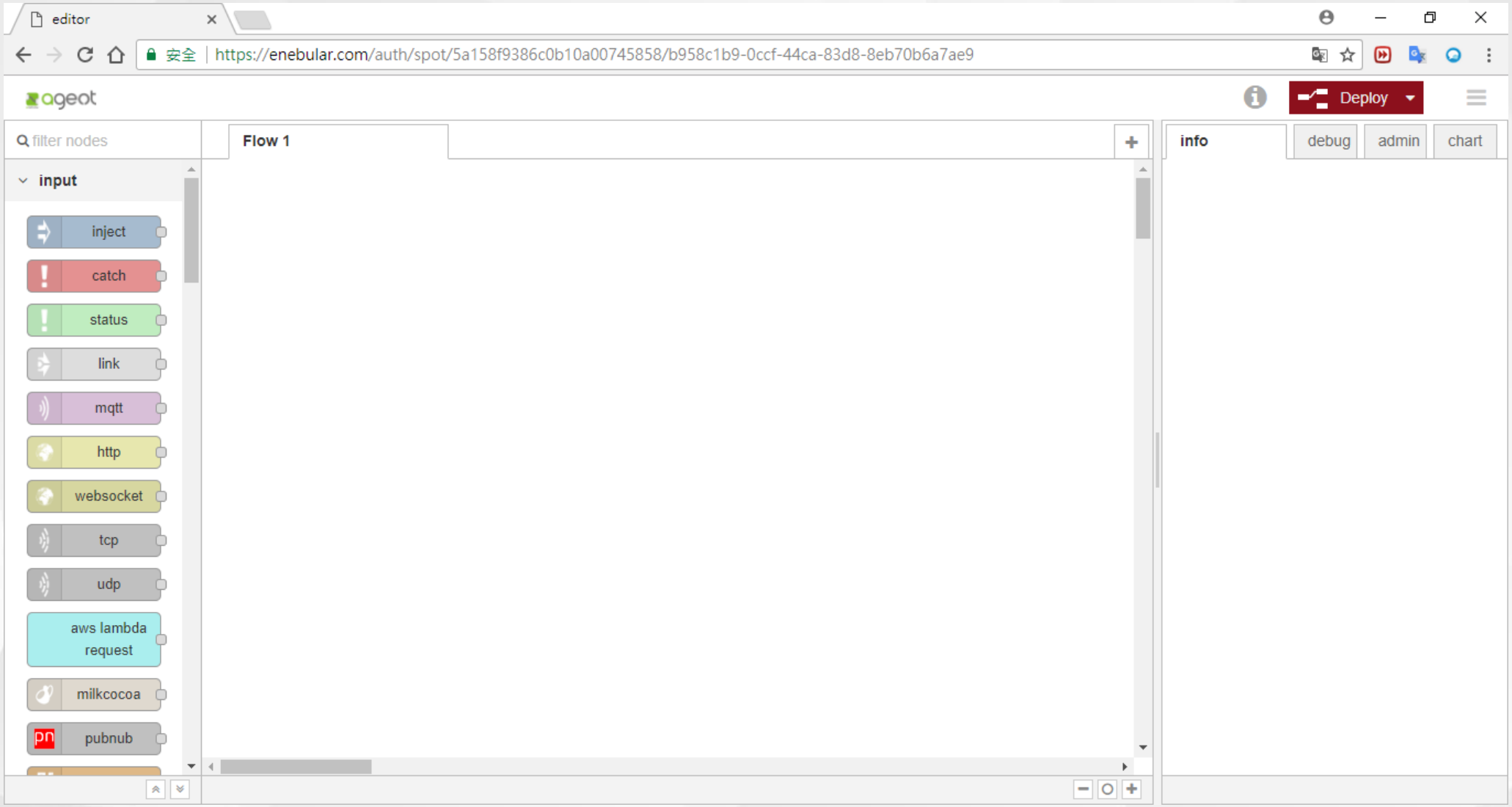
D.C
Design. Create

新增編輯Flow



D.C
Design. Create

编輯介面



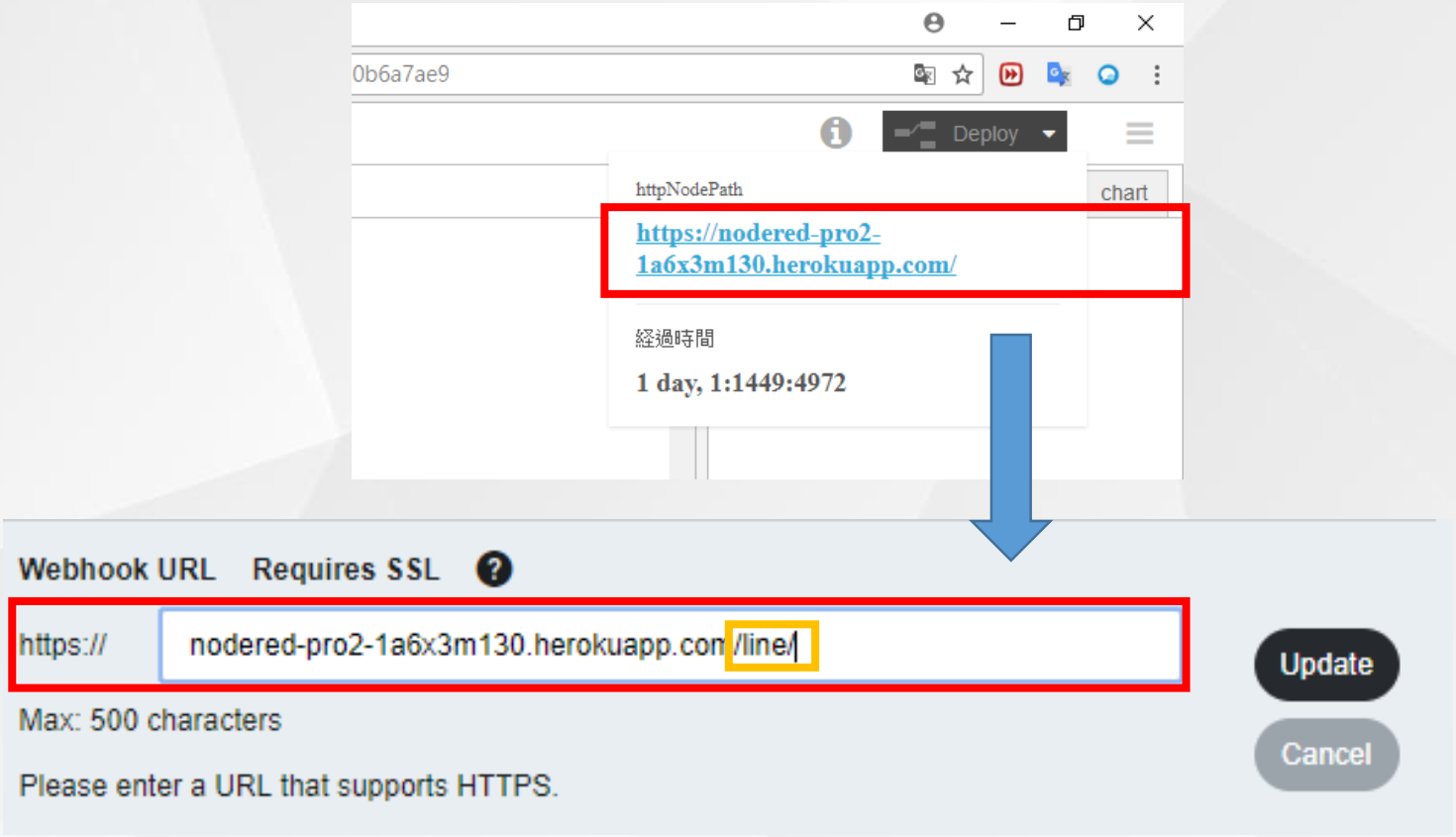
D.C
Design. Create

REPLY MESSAGE

D.C
Design. Create

REPLY MESSAGE

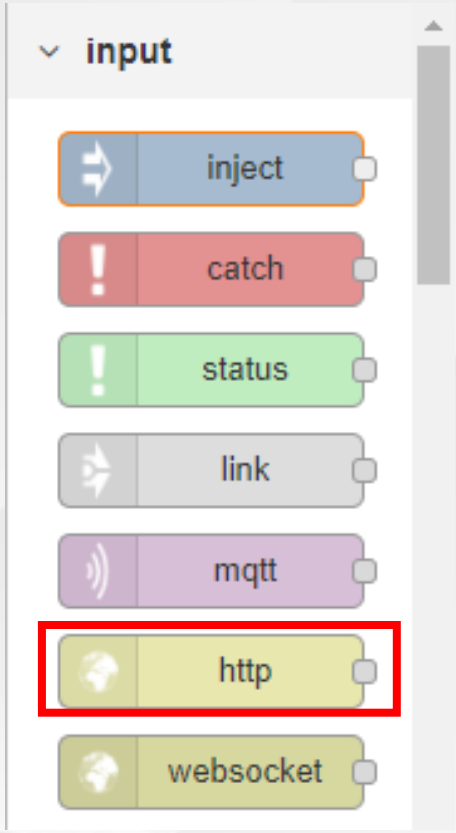
更改 Webhook URL: enebular -> Line



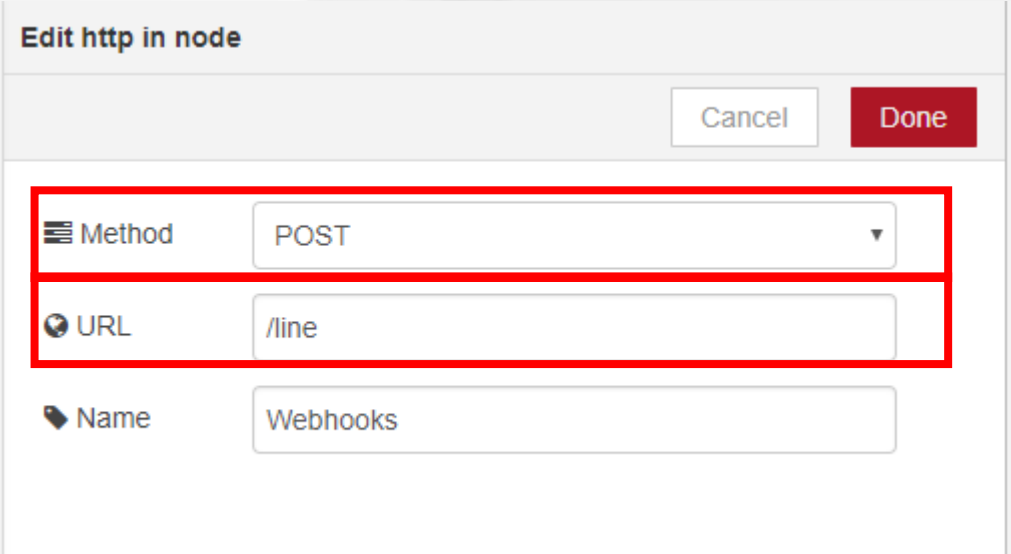
D.C
Design. Create

REPLY MESSAGE

Input->選http



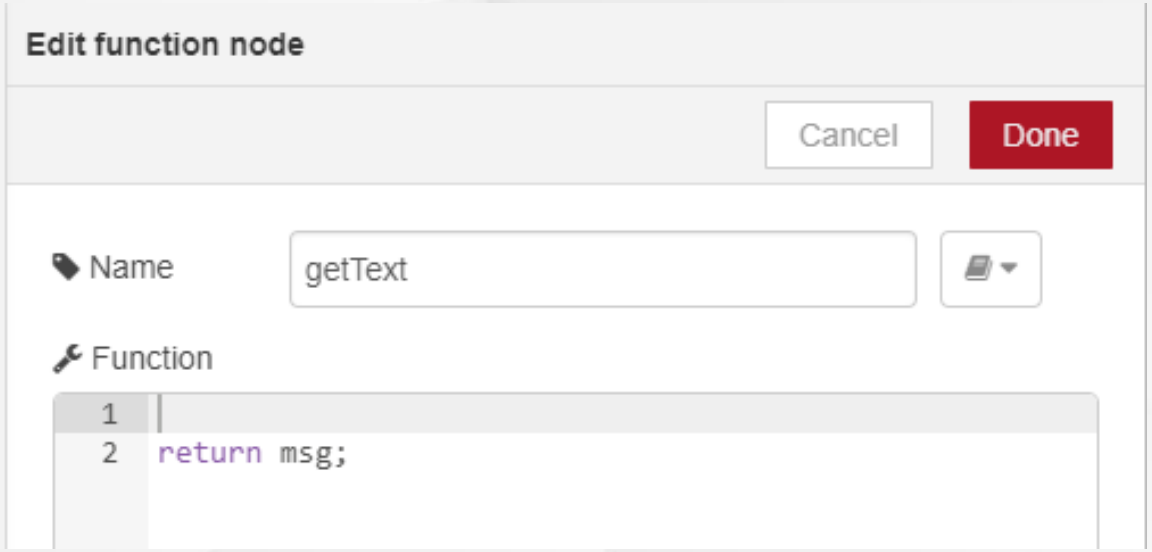
Method->選POST
URL->輸入/line



D.C
Design. Create

REPLY MESSAGE

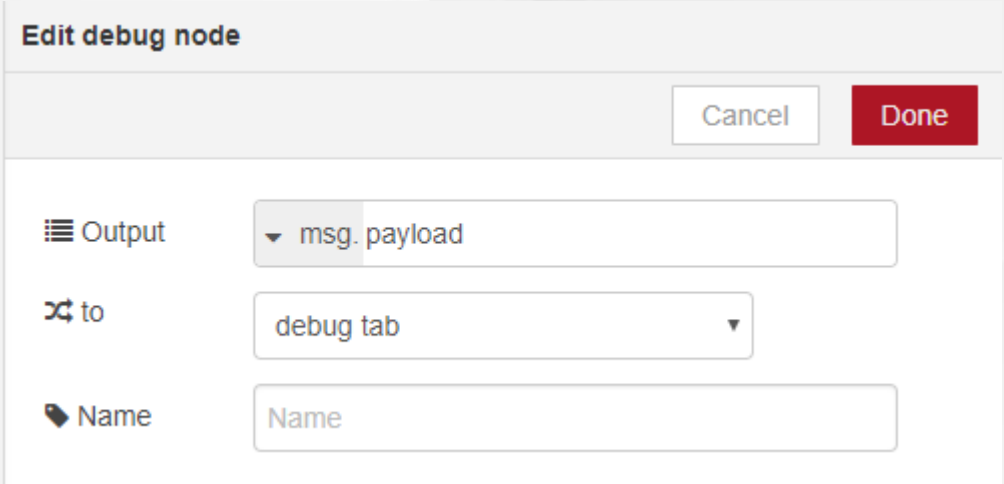
function->選function



D.C
Design. Create

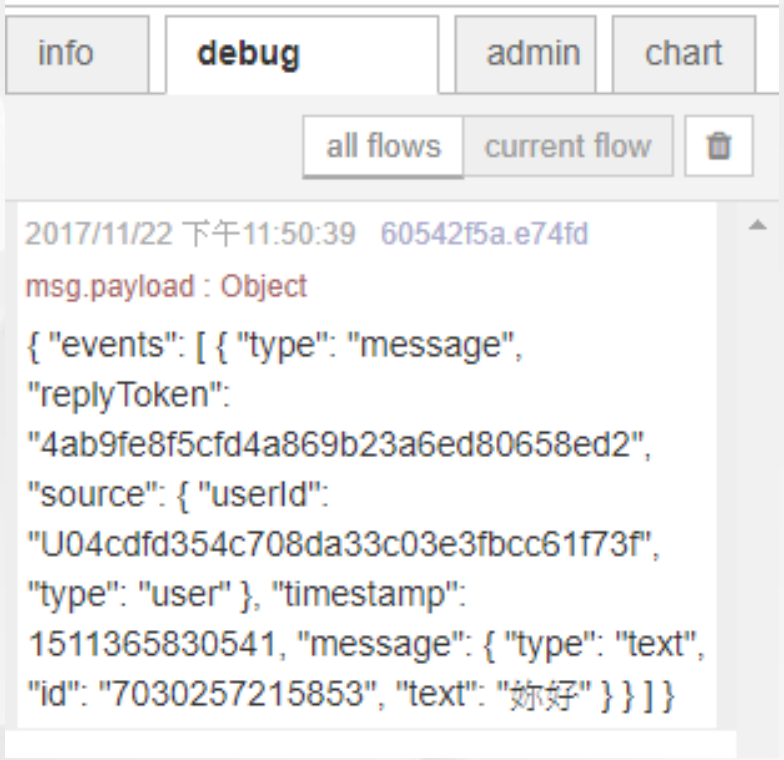
REPLY MESSAGE

output->選debug



D.C
Design. Create

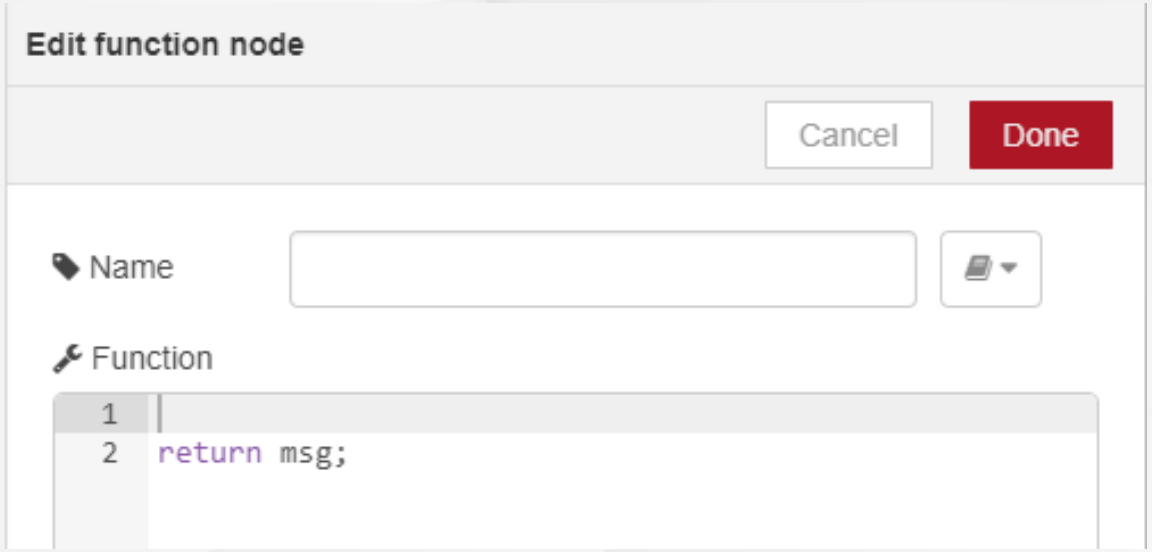
REPLY MESSAGE



D.C
Design. Create

REPLY MESSAGE

function->選function



D.C
Design. Create

REPLY MESSAGE


```
var post_request = {
  "headers": {
        "content-type": "application/json; charset=UTF-8 ",
        "Authorization": " Bearer " + "{Channel Access Token}"
   },
   "payload": {
          "replyToken": msg.payload.events[0].replyToken,
           "messages": [
                  {
                    "type": "text",
                    "text": msg.payload.events[0].message.text
                  }
               ]
        }
};
return post_request;
```

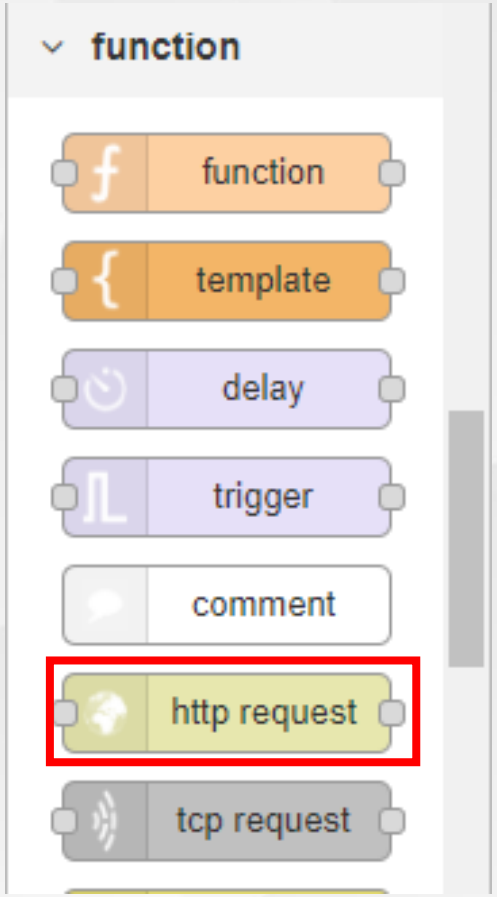
D.C
Design. Create

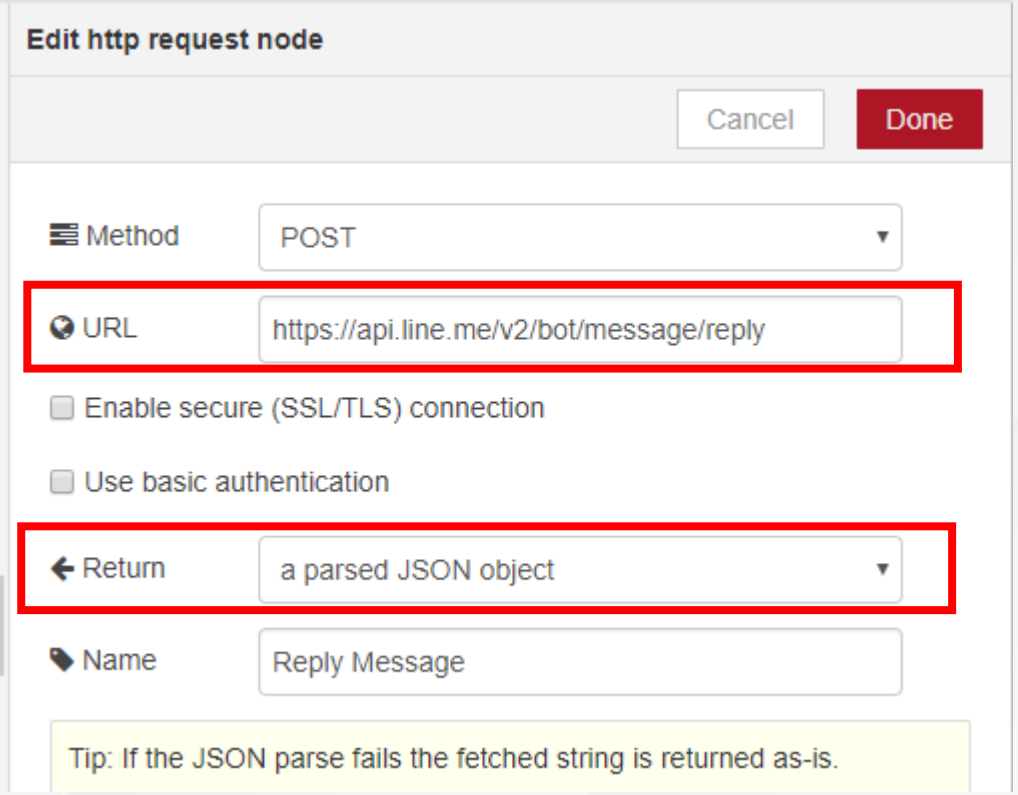
REPLY MESSAGE

function->選http request

URL->輸入

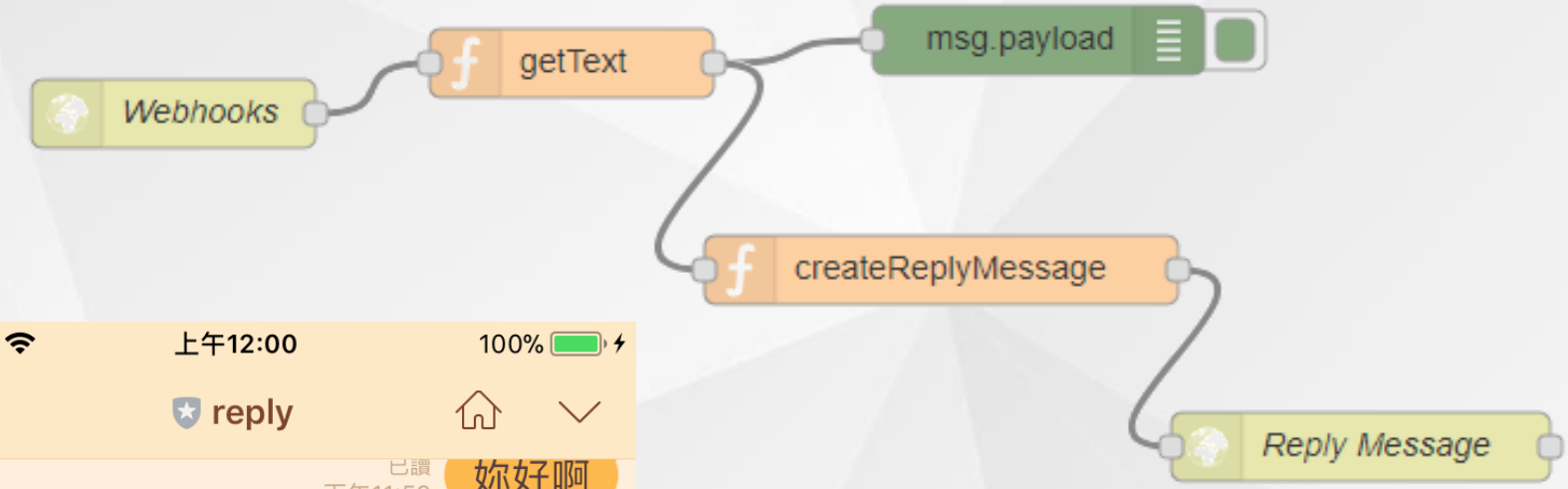
https://api.line.me/v2/bot/message/reply





D.C
Design. Create

REPLY MESSAGE



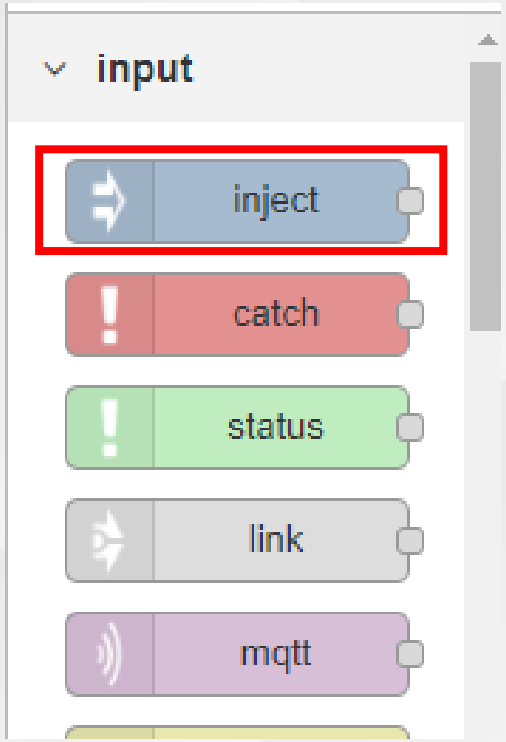
D.C
Design. Create

PUSH MESSAGE

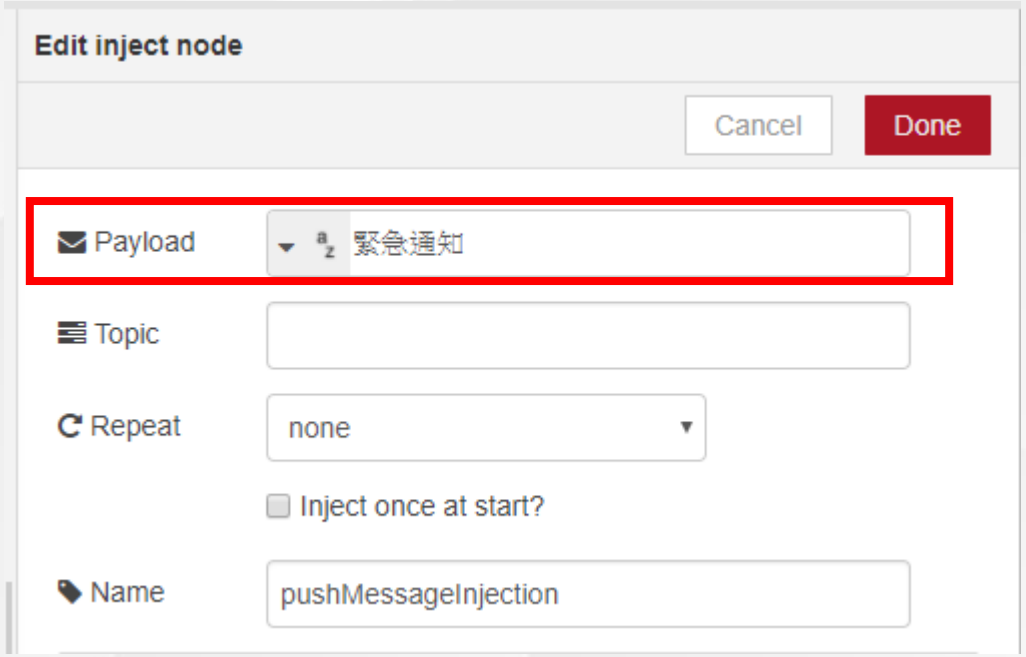
D.C
Design. Create

PUSH MESSAGE

Input->選inject



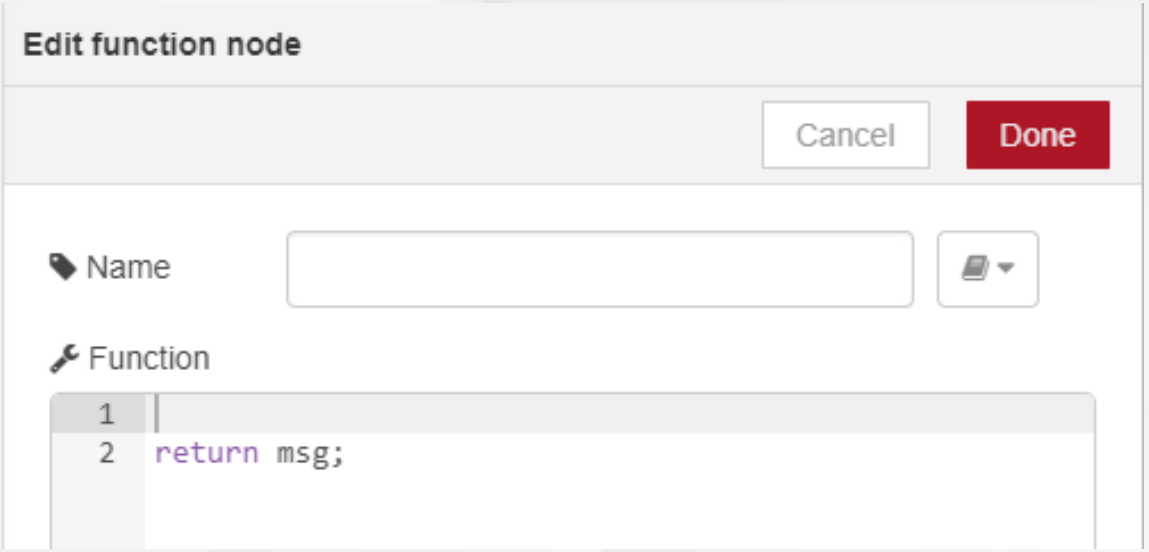
Payload->輸入:緊急通知



D.C
Design. Create

PUSH MESSAGE

function->選function



D.C
Design. Create

PUSH MESSAGE


```
var post_request = {
    "headers": {
        "content-type": "application/json; charset=UTF-8",
        "Authorization": " Bearer " + "{Channel Access Token}"
        },
    "payload": {
        "to": "UserId",
        "messages": [
            {
                "type": "text",
                "text": msg.payload
            }
        ]
    }
};
return post_request;
```

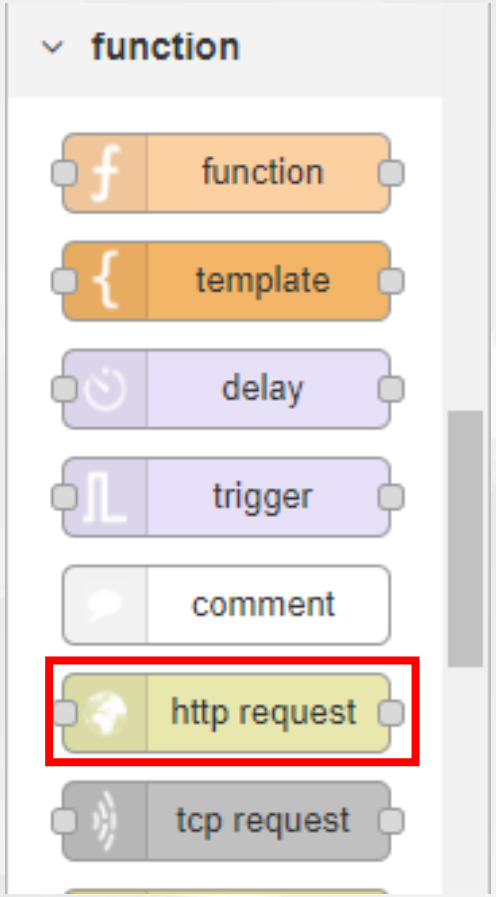
D.C
Design. Create

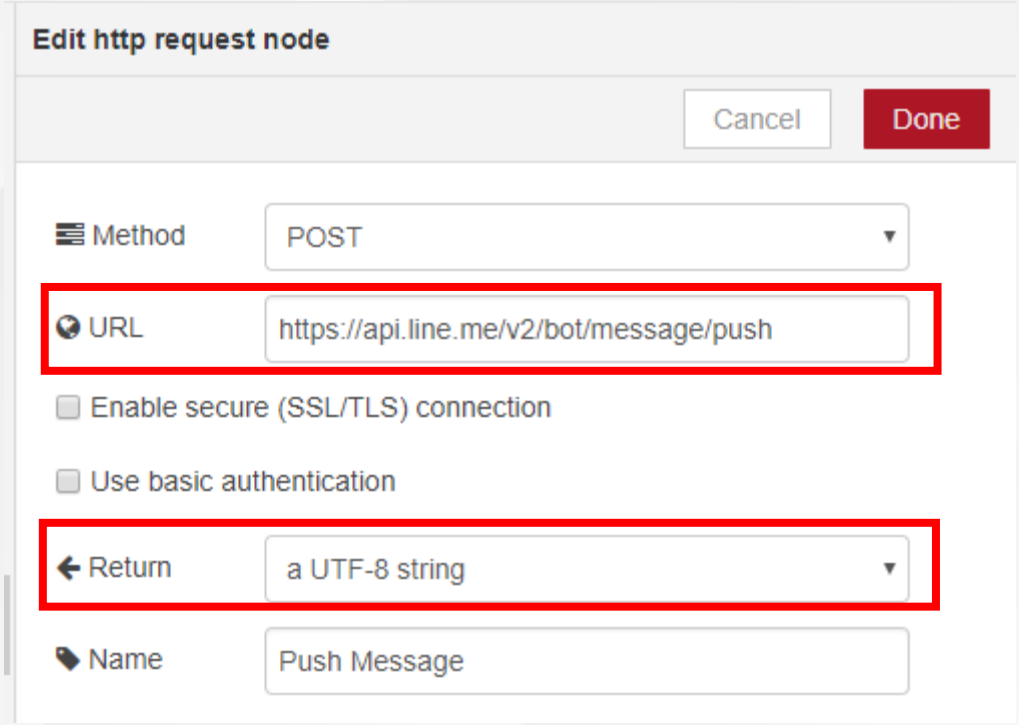
PUSH MESSAGE

function->選http request

URL->輸入

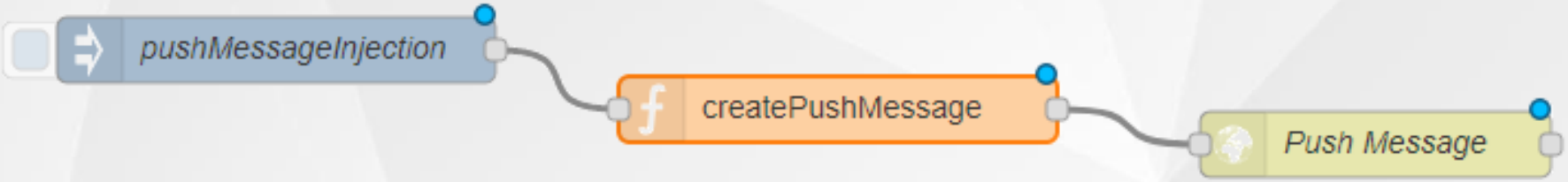
https://api.line.me/v2/bot/message/push





D.C
Design. Create

PUSH MESSAGE



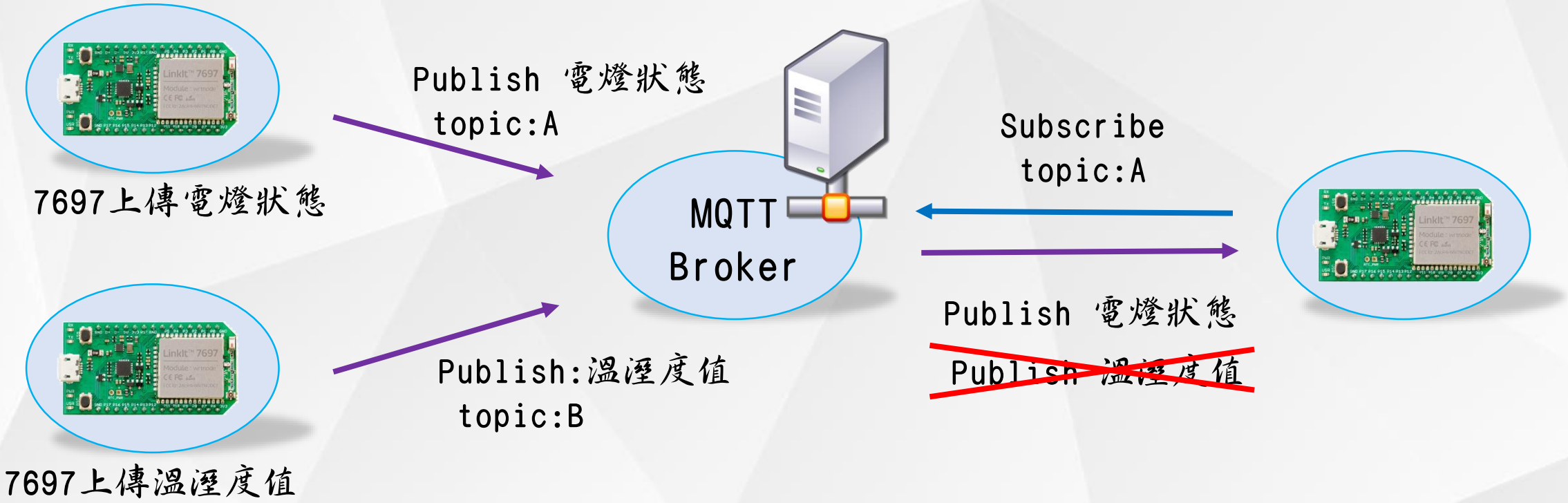
D.C
Design. Create

MQTT 介紹

D.C
Design. Create

MQTT 介紹

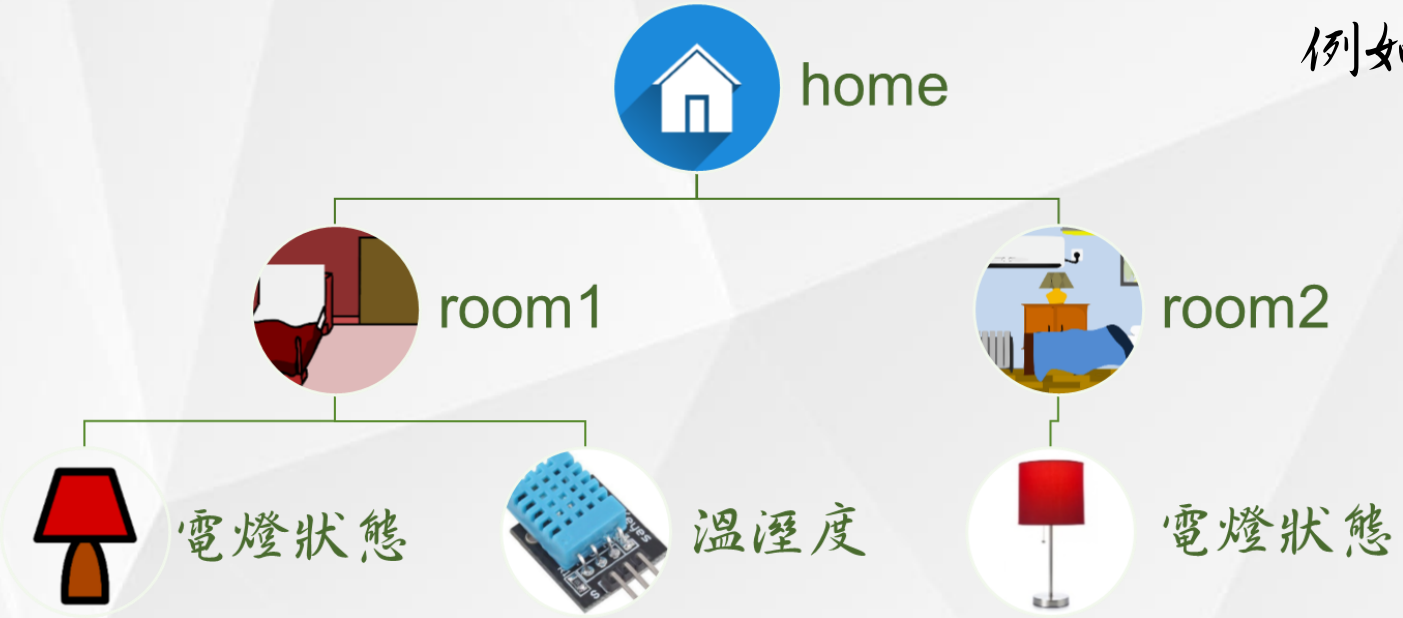
使用TCP/IP作為基本的網路連線，低頻寬、低硬體需求的特性，
並且透過publish/subscribe的方式做資料傳送與接收。



D.C
Design. Create

MQTT 介紹

Subscribe topic 可結合字元: + 跟 #



例如:

home/+/電燈狀態:

home/room1/電燈狀態

home/room2/電燈狀態

home/#: home/room1/電燈狀態

home/room1/溫溼度

home/room2/電燈狀態

D.C

Design. Create

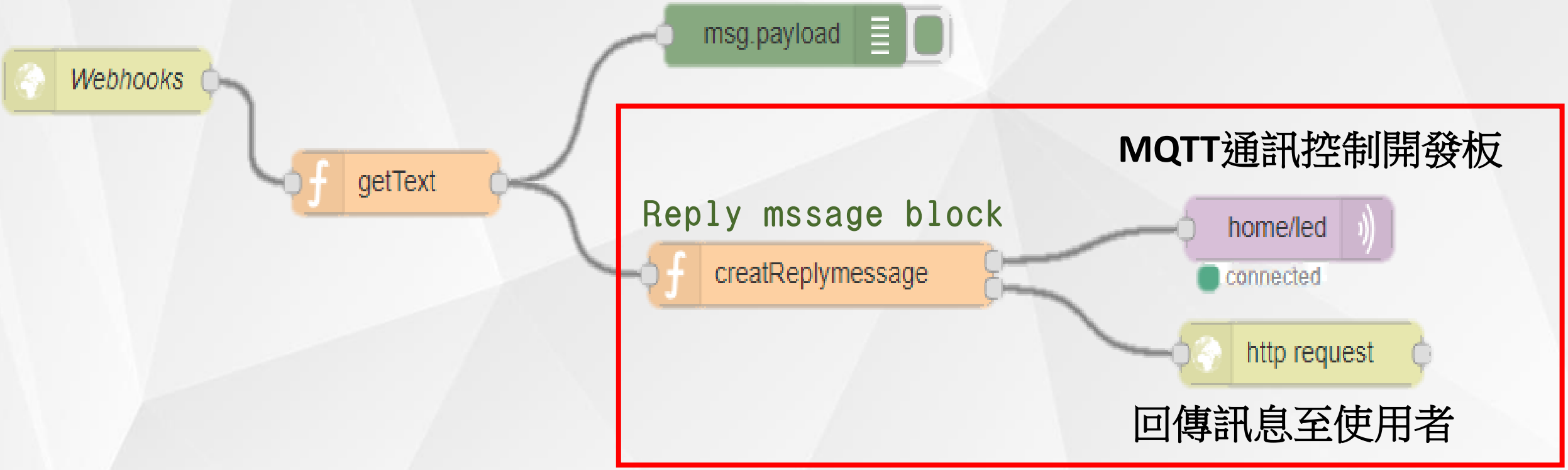
MQTT 訂閱資料

D.C
Design. Create

實作 Line bot 控制Usr_led燈

D.C
Design. Create

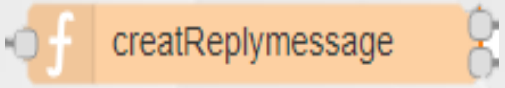
LINE BOT 控制USR_LED(NODE-RED 接線)

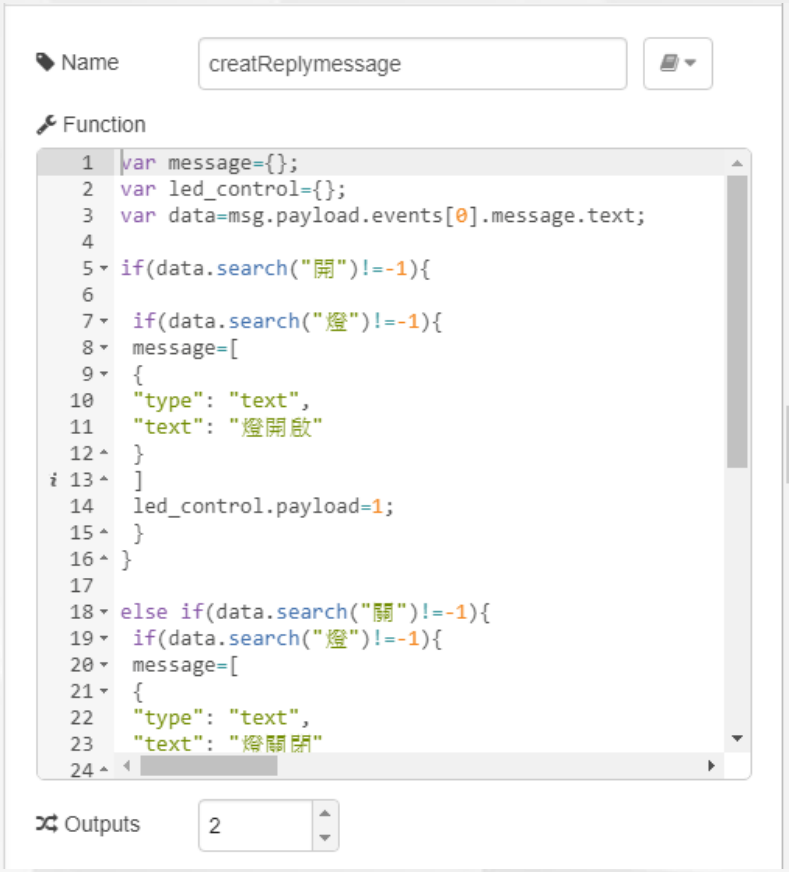


D.C
Design. Create

LINE BOT 控制USR_LED(NODE-RED 程式)

Reply mssage block






```
var message={};
var led_control={};
var data=msg.payload.events[0].message.text;
if(data.search("開")!=-1){
        if(data.search("燈")!=-1){
        message=[ { “type”: “text”, “text”: “燈開啟” } ]
        led_control.payload=1; //LED控制訊息
  }
}
else if(data.search("關")!=-1){
        if(data.search("燈")!=-1){
        message=[ { “type”: “text”, “text”: “燈關閉” } ]
        led_control.payload=0; //LED控制訊息
  }
}
```

D.C
Design. Create

LINE BOT 控制USR_LED(NODE-RED 程式)

Name: creatReplymessage

Function

```
21  {
22  "type": "text",
23  "text": "燈關閉"
24  }
25  ]
26  led_control.payload=0;
27  }
28 }
29
30 var post_request = {
31  "headers": {
32  "content-type": "application/json; charset=UTF-8",
33  "Authorization": " Bearer " + "{k2z7jWXeLaEyAY0+O8
34  },
35  "payload": {
36  "replyToken": msg.payload.events[0].replyToken,
37  "messages": message
38  }
39 };
40
41
42 return [led_control,post_request];
43
```

Outputs: 2

選擇2個 OUTPUT

See the Info tab for help writing functions.

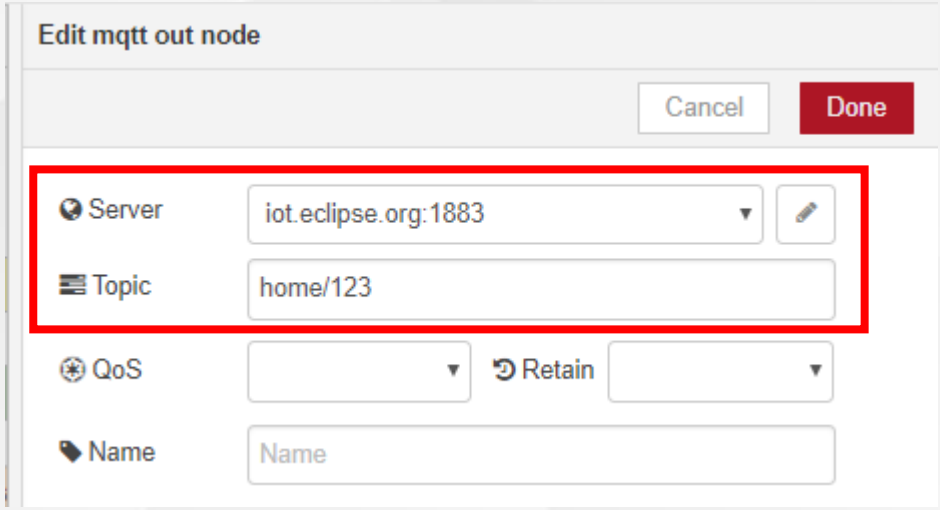
```
var post_request = {
  "headers": {
        "content-type": "application/json; charset=UTF-8 ",
        "Authorization": " Bearer " + "{Channel Access Token}"
  },
  "payload": {
        "replyToken": msg.payload.events[0].replyToken,
        "messages": [
              {
              "type": "text",
              "text": message
              }
        ]
  }
};
return [led_control,post_request];
```

D.C
Design. Create

LINE BOT 控制USR_LED(NODE-RED 程式)

Output->選mqtt

Server->輸入iot.eclipse.org
Topic->自行定義



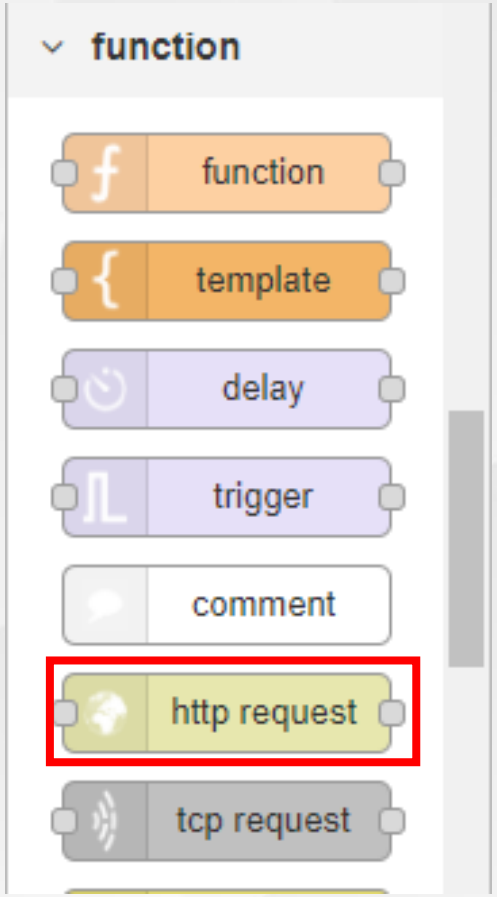
D.C
Design. Create

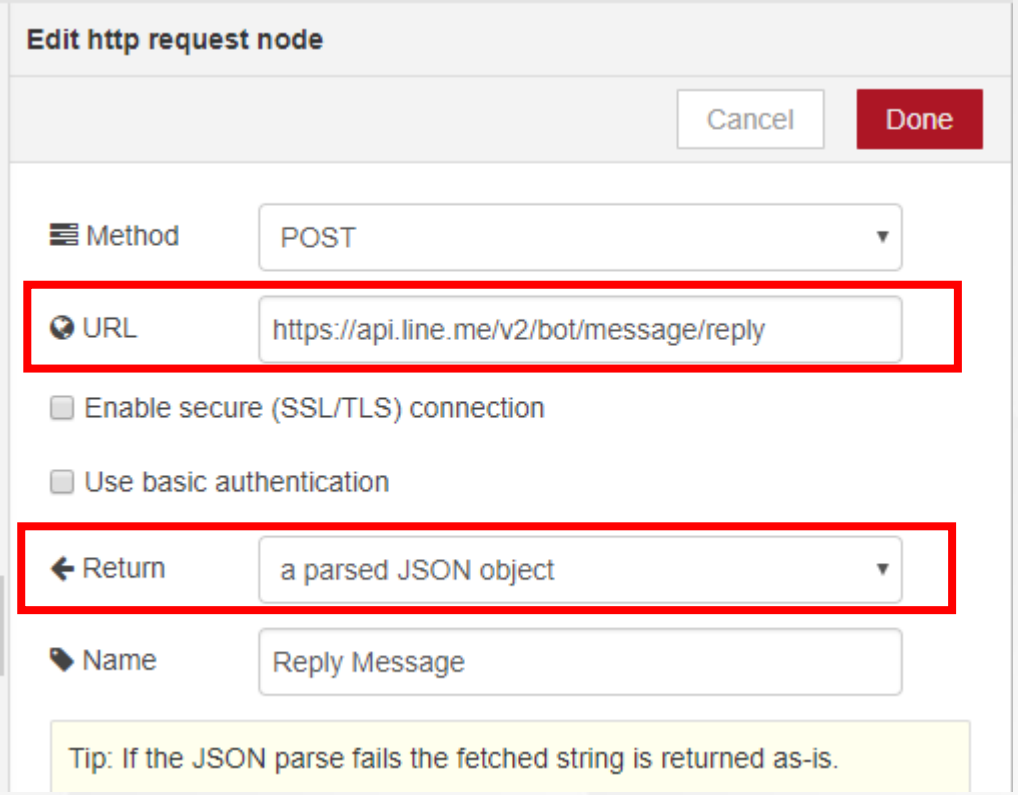
LINE BOT 控制USR_LED(NODE-RED 程式)

function->選http request

URL->輸入

https://api.line.me/v2/bot/message/reply





D.C
Design. Create

實作 Line bot 控制Usr_led燈

Arduino 程式撰寫

D.C
Design. Create

Line bot 控制Usr_led燈(1/5)

```
#include<LWiFi.h>
#include <PubSubClient.h>

char ssid[] = " ssid ";      //  your network SSID (name)
char pass[] = " password";  // your network password

int keyIndex = 0;
int status = WL_IDLE_STATUS;
WiFiClient client;
char message[256];
PubSubClient upload(client);
```

D.C
Design. Create

Line bot 控制Usr_led燈(2/5)

```
void callback(char* topic, byte* payload,
unsigned int length) {
 if (strcmp(topic,"home/123") == 0) {
  Serial.print("Message arrived [");
  Serial.print(topic);
  Serial.print("] ");
  for (int i=0;i<length;i++) {
    Serial.print((char)payload[i]);
    message[i]=payload[i];
  }
  Serial.println();
```

```
if(atoi(message)==1){
    digitalWrite(7, HIGH);
  }
  else if(atoi(message)==0){
    digitalWrite(7, LOW);}
  }
}
```

D.C
Design. Create

Line bot 控制Usr_led燈(3/5)

```
void reconnect() {
  while (!upload.connected()) {
   Serial.print("Attempting MQTT connection...");
   // Attempt to connect
   if (upload.connect("client")) {
     Serial.println("connected");
     upload.subscribe("home/#");
   }
  else {
     Serial.print("failed, rc=");
     Serial.print(upload.state());
     Serial.println(" try again in 5 seconds");
    delay(5000);}
  }
}
```

D.C
Design. Create

Line bot 控制Usr_led燈(4/5)

```
void setup() {
  //Initialize serial and wait for port to open:
   Serial.begin(9600);
   pinMode(7, OUTPUT);
   while (!Serial) {
    }
 while (status != WL_CONNECTED) {
      Serial.print("Attempting to connect to SSID: ");
      Serial.println(ssid);
      status = WiFi.begin(ssid, pass);
   }
   Serial.println("Connected to wifi");
   printWifiStatus();
   upload.setServer("iot.eclipse.org", 1883);
   upload.setCallback(callback);
}
```

```
void loop() {
if (!upload.connected()) {
   reconnect();
  }
   upload.loop();
 }
```

D.C
Design. Create

Line bot 控制Usr_led燈(5/5)

```
void printWifiStatus() {
    // print the SSID of the network you're attached to:
    Serial.print("SSID: ");
    Serial.println(WiFi.SSID());

    // print your WiFi shield's IP address:
    IPAddress ip = WiFi.localIP();
    Serial.print("IP Address: ");
    Serial.println(ip);

    // print the received signal strength:
    long rssi = WiFi.RSSI();
    Serial.print("signal strength (RSSI):");
    Serial.print(rssi);
    Serial.println(" dBm");
}
```

D.C
Design. Create

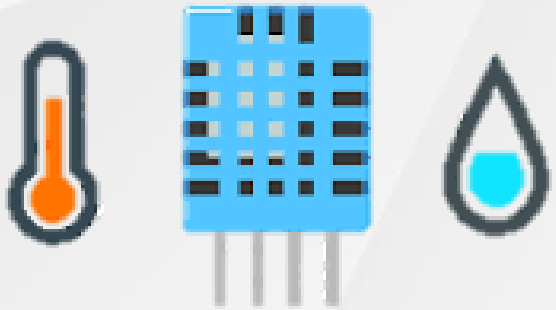
MQTT 上傳資料

D.C
Design. Create

實作 Line bot 獲得溫溼度

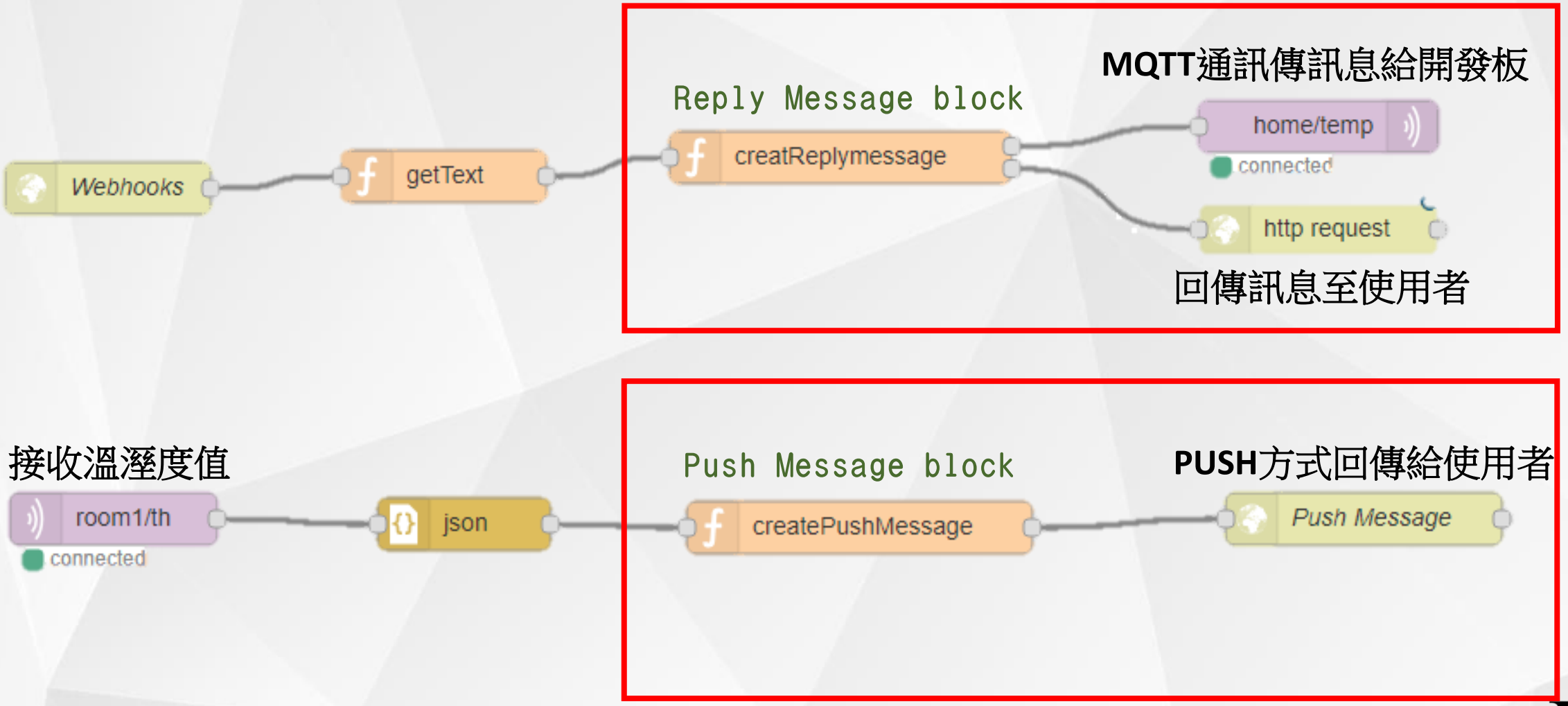
溫溼度模組

如何獲得溫溼度呢?



D.C
Design. Create

Line bot 獲得溫溼度(Node-Red 接線)

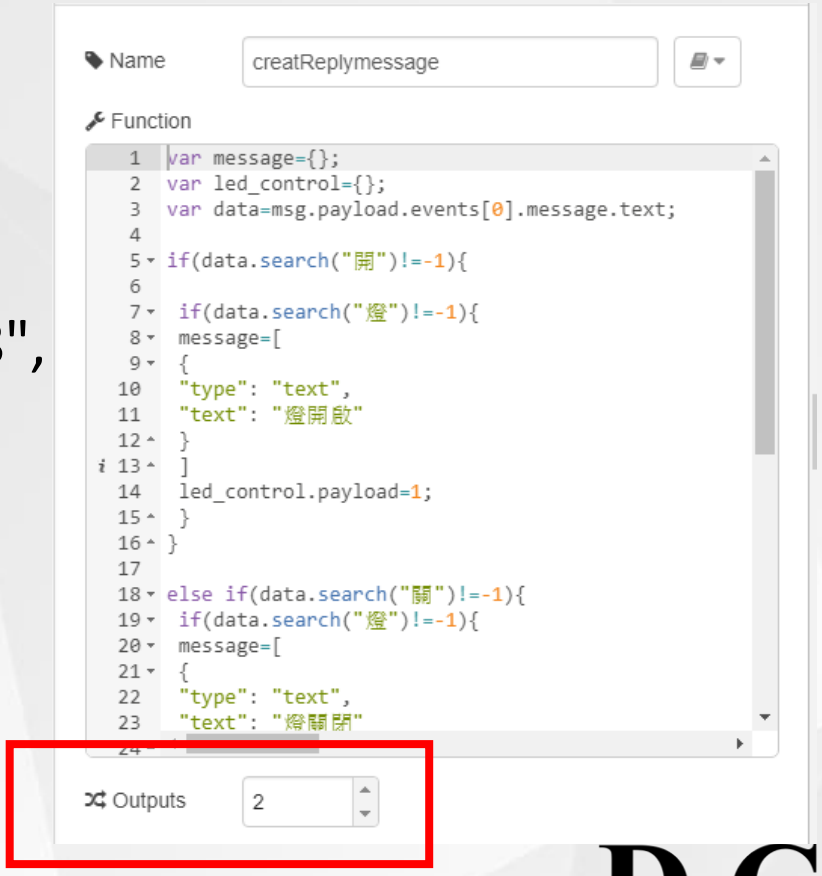


D.C
Design. Create

Line bot 獲得溫溼度(Node-Red 程式)

```
var message={};
var th_control={};
var data=msg.payload.events[0].message.text;
 if(data.search("溫度")!=-1||data.search("濕度")!=-1){
  th_control.payload=1; //溫溼度觸發訊息
 }
var post_request = {
"headers": { "content-type": "application/json; charset=UTF-8",
 "Authorization": " Bearer " + "{Channel Access Token}" },
 "payload": {
"replyToken": msg.payload.events[0].replyToken,
 "messages": message
}
};
return [th_control,post_request];
```

Reply Message block



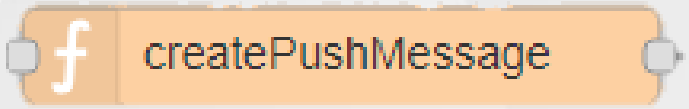
選擇2個 OUTPUT

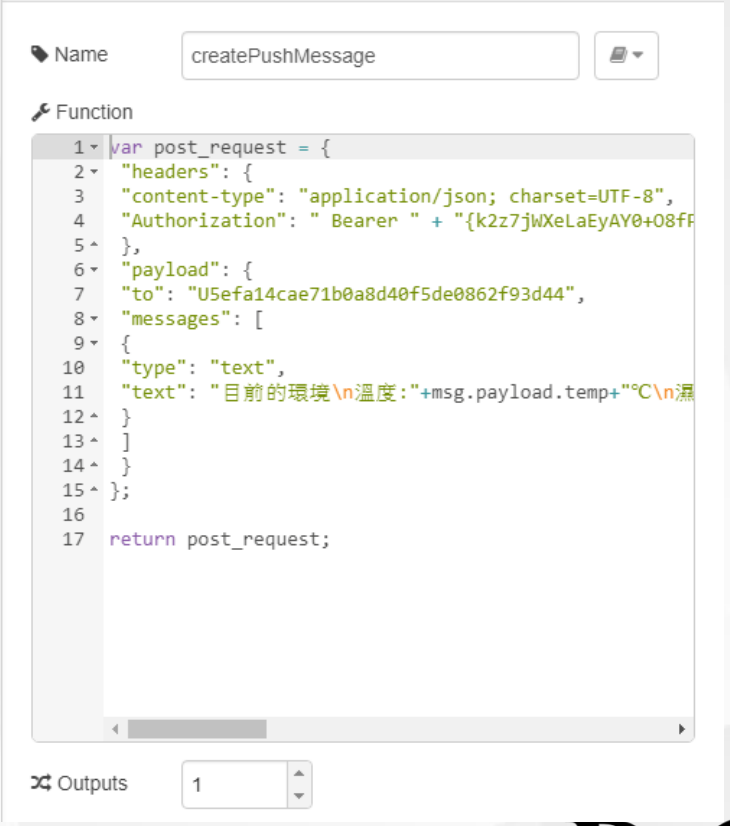
D.C
Design. Create

Line bot 獲得溫溼度(Node-Red 程式)

```
var post_request = {
 "headers": { "content-type": "application/json; charset=UTF-8",
"Authorization": " Bearer " + "{Channel Access Token}" },
"payload": {
"to":  "your userid",
"messages": [
{
"type": "text",
"text": "目前的環境\n溫度:"+msg.payload.temp+
"℃\n濕度:"+msg.payload.humid+"%"
}
]
}
};
return post_request;
```

Push Message block





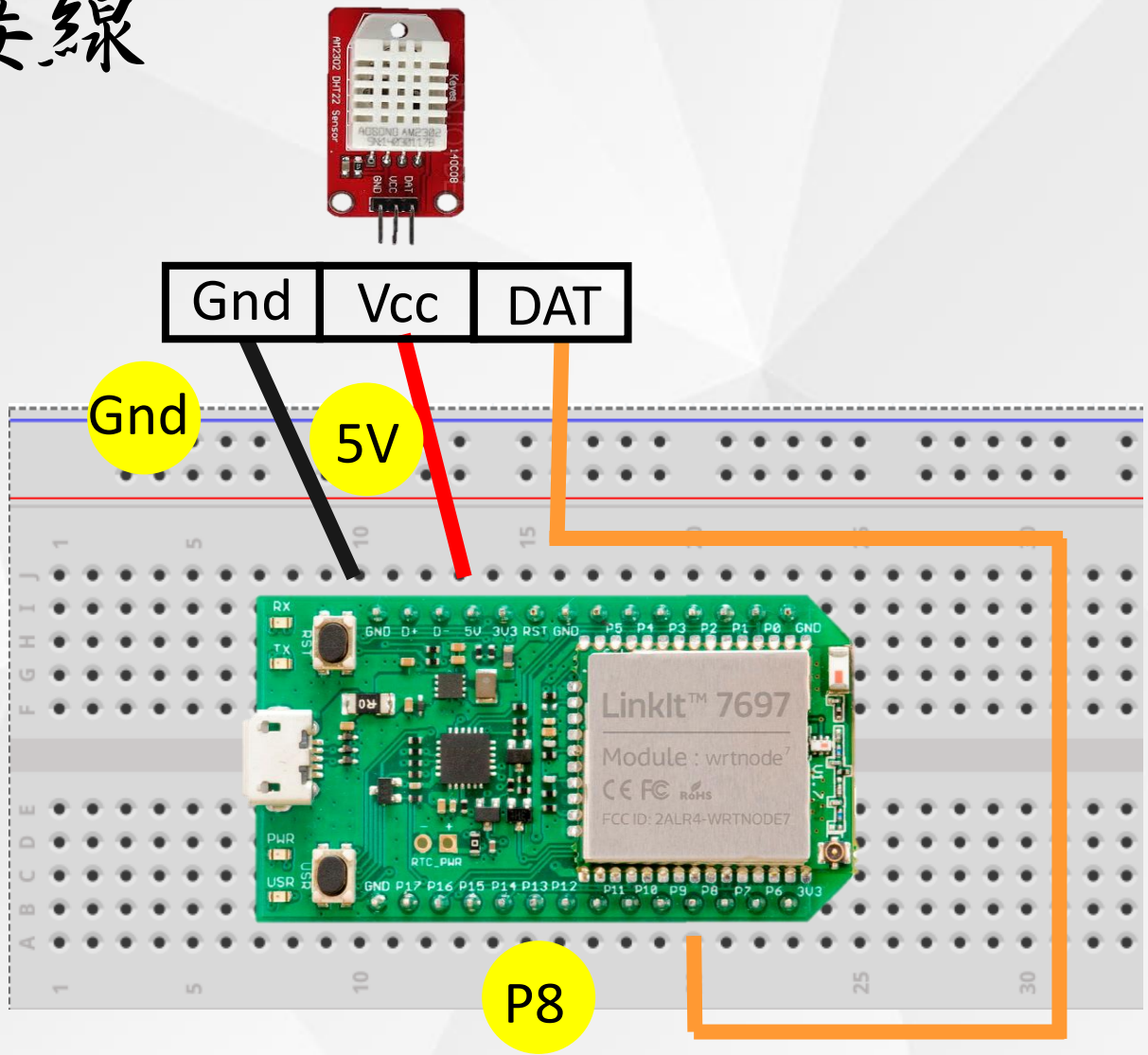
D.C
Design. Create

實作 Line bot 獲得溫溼度

Arduino 程式撰寫

D.C
Design. Create

溫溼度模組接線



D.C
Design. Create

Line bot 獲得溫溼度(1/6)

```
#include<LWiFi.h>
#include <PubSubClient.h>
#include <dht.h>
#define dht_dpin 8
dht DHT;
char ssid[] = "your ssid";      //  your network SSID (name)
char pass[] = "your password";  // your network password
int keyIndex = 0;
int status = WL_IDLE_STATUS;
WiFiClient client;
char message[256];
PubSubClient upload(client);
/*****************************************/
char data[256];
char load[256];
```

D.C
Design. Create

Line bot 獲得溫溼度(2/6)

```
void callback(char* topic, byte* payload, unsigned int length) {

  if (strcmp(topic, "home/temp") == 0) {
    Serial.print("Message arrived [");
    Serial.print(topic);
    Serial.print("] ");
    for (int i = 0; i < length; i++) {
      Serial.print((char)payload[i]);
       load[i]=payload[i];
    }
    Serial.println();
      if(atoi(load)==1){
        th();
      }
  }
}
```

D.C
Design. Create

Line bot 獲得溫溼度(3/6)

```
void reconnect() {
while (!upload.connected()) {
   Serial.print("Attempting MQTT connection...");
   // Attempt to connect
   if (upload.connect("client")) {
     Serial.println("connected");
     upload.subscribe("home/#");
   } else {
     Serial.print("failed, rc=");
     Serial.print(upload.state());
     Serial.println(" try again in 5 seconds");
     // Wait 5 seconds before retrying
     delay(5000);
   }
 }
}
```

D.C
Design. Create

Line bot 獲得溫溼度(4/6)

```
void setup() {
  Serial.begin(9600);
   while (!Serial) {;
   // wait for serial port to connect. Needed for native USB port only
   }
  while (status != WL_CONNECTED) {
      Serial.print("Attempting to connect to SSID: ");
      Serial.println(ssid);
      status = WiFi.begin(ssid, pass);
   }
   Serial.println("Connected to wifi");
   printWifiStatus();

   upload.setServer("iot.eclipse.org", 1883);
   upload.setCallback(callback);
}
```

D.C
Design. Create

Line bot 獲得溫溼度(5/6)

```
void loop() {
if (!upload.connected()) {
   reconnect();
  }
   upload.loop();
 }

void th(){
  DHT.read11(dht_dpin);
  String h= String(DHT.humidity);
  String t= String(DHT.temperature);
  String load = "{\"temp\":"+ t +" , \"humid\":"+h+"}";
  load.toCharArray(data, (load.length() + 1));
  upload.publish("room1/th",data);
}
```

```
{
 "temp": t,
 "humid": h
}
```

D.C
Design. Create

Line bot 獲得溫溼度(6/6)

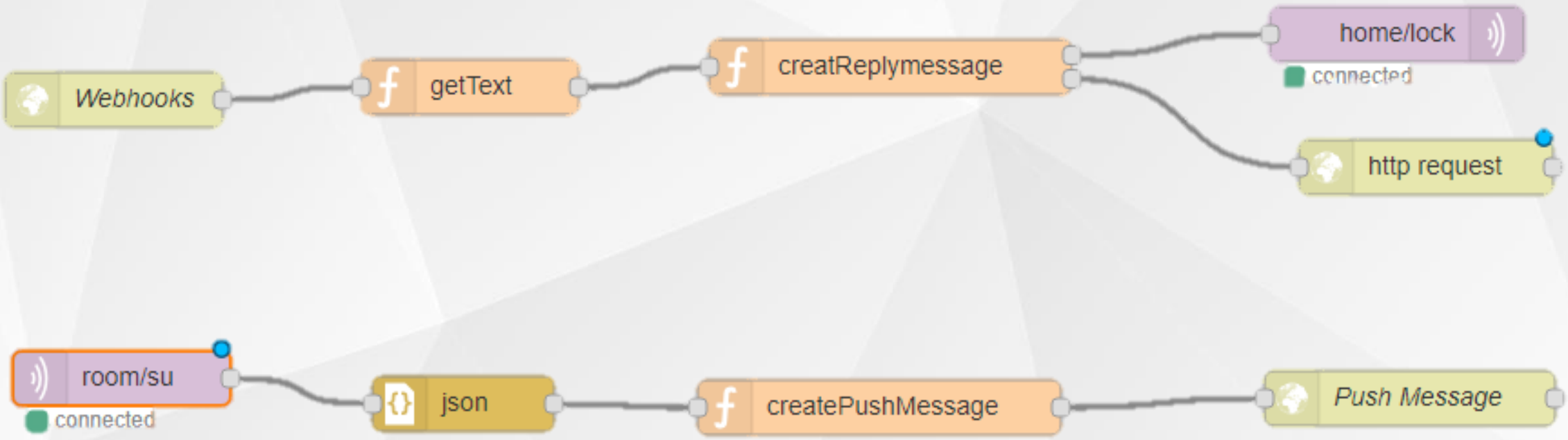
```
void printWifiStatus() {
  // print the SSID of the network you're attached to:
  Serial.print("SSID: ");
  Serial.println(WiFi.SSID());

  // print your WiFi shield's IP address:
  IPAddress ip = WiFi.localIP();
  Serial.print("IP Address: ");
  Serial.println(ip);

  // print the received signal strength:
  long rssi = WiFi.RSSI();
  Serial.print("signal strength (RSSI):");
  Serial.print(rssi);
  Serial.println(" dBm");
}
```

D.C
Design. Create

實作 Line bot 保全燈

D.C
Design. Create

Line bot 保全燈(Node-Red 接線)



D.C
Design. Create

Reply Message block

Name: creatReplymessage

Function

```
var message={};
var su_control={};
var data=msg.payload.events[0].message.text;



if(data.search("開")!=-1){

 if(data.search("保全")!=-1){
 message=[
 {
 "type": "text",
 "text": "已開啟保全!"
 }
 ]
 su_control.payload=1;
 }


}

else if(data.search("關")!=-1){
 if(data.search("保全")!=-1){
 message=[
```

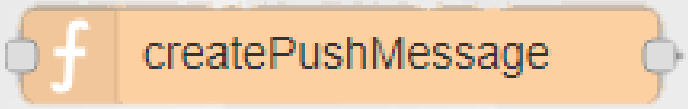
Outputs: 2

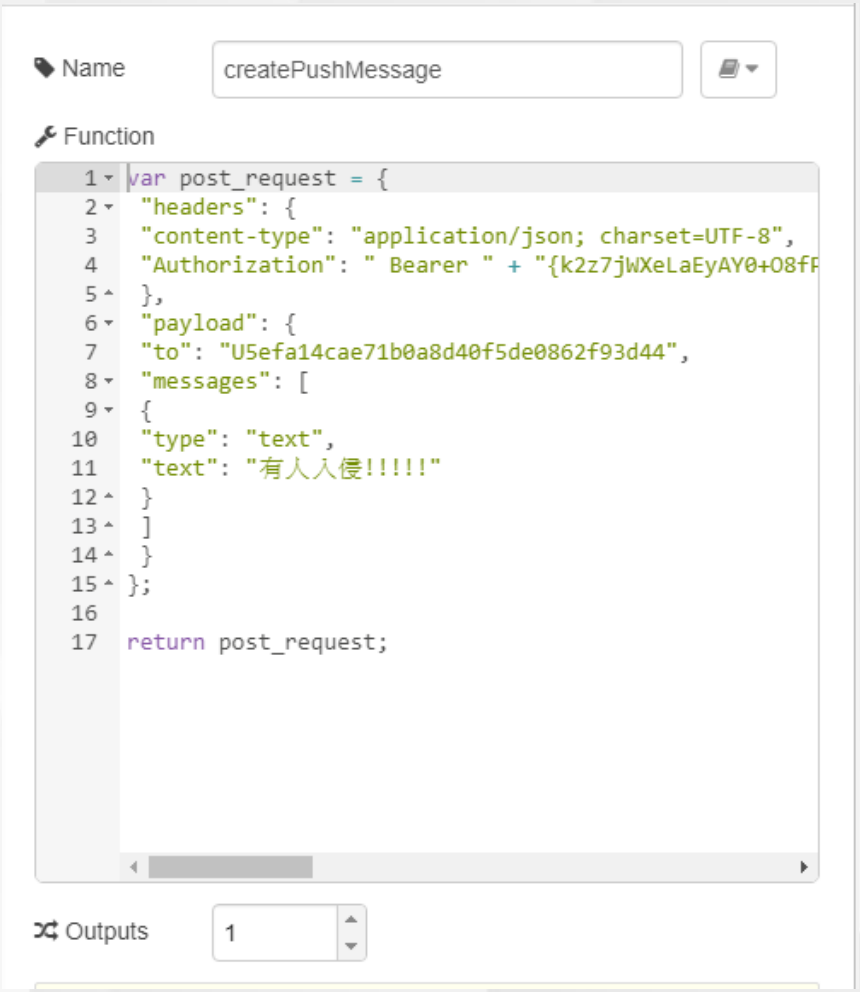
選擇2個 OUTPUT

```
var message={};
var su_control={};
var data=msg.payload.events[0].message.text;
if(data.search("開")!=-1){
if(data.search("保全")!=-1){
message=[ { "type": "text", "text": "已開啟保全!" } ]
su_control.payload=1; }
}
else if(data.search("關")!=-1){
 if(data.search("保全")!=-1){
message=[ { "type": "text", "text": "已關閉保全!" } ]
su_control.payload=0; }
 }
var post_request = {
"headers": { "content-type": "application/json; charset=UTF-8",
 "Authorization": " Bearer " + "{YOUR TOKEN}" },
 "payload": { "replyToken": msg.payload.events[0].replyToken,
 "messages": message
}
};
return [su_control,post_request];
```

D.C
Design. Create

Push Message block






```
var post_request = {
"headers": {
 "content-type": "application/json; charset=UTF-8",
"Authorization": " Bearer " + "{Channel Access Token}" },
"payload": { "to": "your userid",
 "messages": [ { "type": "text", "text": "有人入侵!!!!!"
  }
]
}
};
return post_request;
```

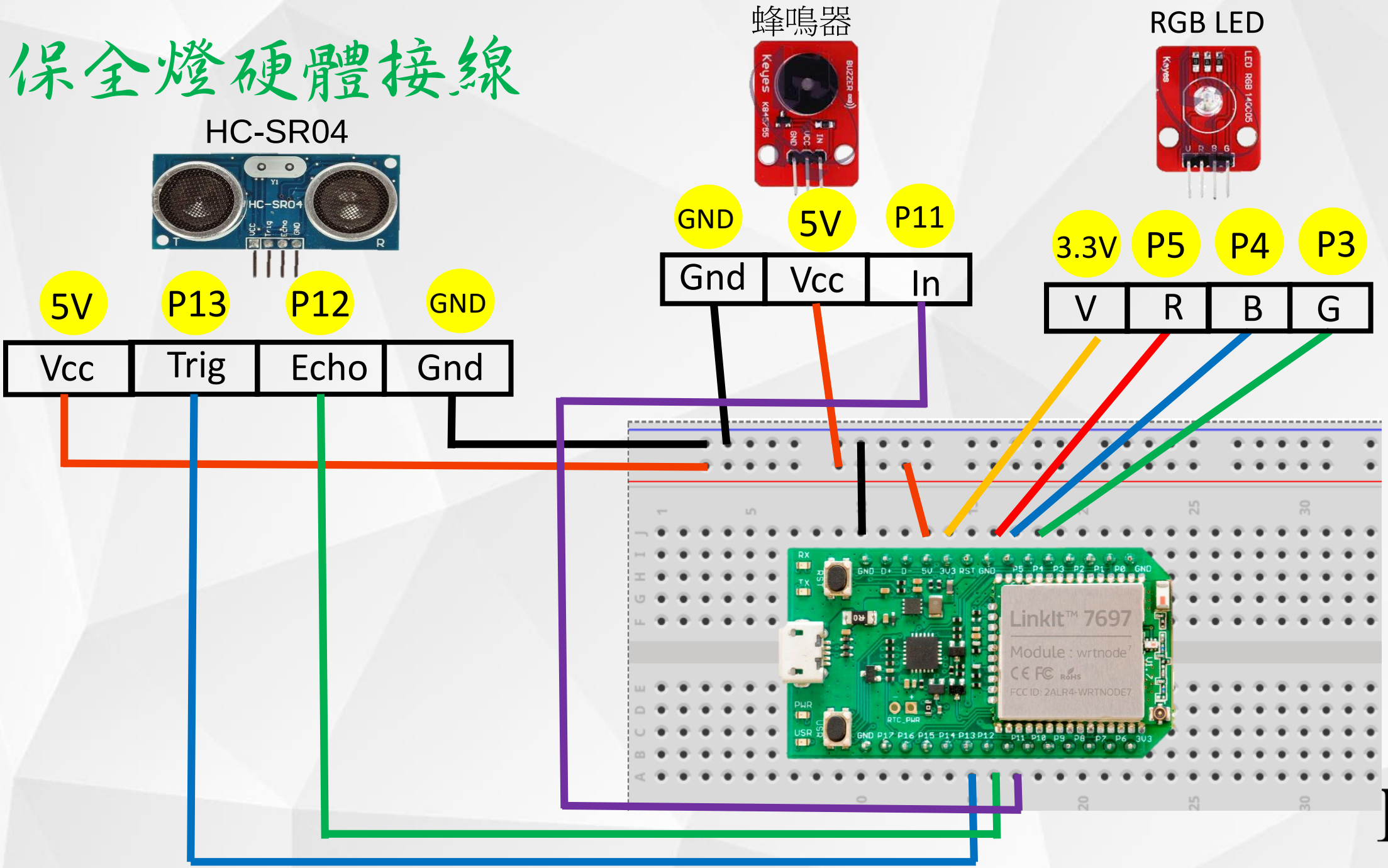
D.C
Design. Create

實作 Line bot 保全燈

Arduino 程式撰寫

D.C
Design. Create

保全燈硬體接線



D.C
Design. Create

Line bot 保全燈(1/7)

```
#include<LWiFi.h>
#include <PubSubClient.h>
char ssid[] = " your ssid";      //  your network SSID (name)
char pass[] = " your password";  // your network password
int keyIndex = 0;
int status = WL_IDLE_STATUS;
WiFiClient client;
int R=5,G=4,B=3;
#define trigPin 13
#define echoPin 12
int lock;
int piezoPin = 11;
int su=0;
char load[256];
PubSubClient upload(client);
```

D.C
Design. Create

Line bot 保全燈(2/7)

```
void callback(char* topic, byte* payload, unsigned int length) {
  if (strcmp(topic, "home/lock") == 0) {
    Serial.print("Message arrived [");
    Serial.print(topic);
    Serial.print("] ");
    for (int i = 0; i < length; i++) {
      Serial.print((char)payload[i]);
       load[i]=payload[i];
    }
     Serial.println();
      if(atoi(load)==1){
       lock=1;
       digitalWrite(R, HIGH);
       digitalWrite(G, LOW);
       digitalWrite(B, HIGH);
    }
```

D.C
Design. Create

Line bot 保全燈(3/7)

```
else if(atoi(load)==0){
        lock=0;
        su=0;
        digitalWrite(R, LOW);
        digitalWrite(G, LOW);
        digitalWrite(B, LOW);
        noTone(piezoPin);
    }
  }
}
```

```
void reconnect() {
while (!upload.connected()) {
   Serial.print("Attempting MQTT connection...");
    if (upload.connect("linelock")) {
     Serial.println("connected");
     upload.subscribe("home/#");
   } else {
     Serial.print("failed, rc=");
     Serial.print(upload.state());
     Serial.println(" try again in 5 seconds");
     // Wait 5 seconds before retrying
     delay(5000);
   }
  }
}
```

D.C
Design. Create

Line bot 保全燈(4/7)

```
void setup() {
  Serial.begin(9600);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  pinMode(R, OUTPUT);
  pinMode(G, OUTPUT);
  pinMode(B, OUTPUT);
  digitalWrite(R, LOW);
  digitalWrite(G, LOW);
  digitalWrite(B, LOW);
  pinMode(piezoPin,OUTPUT);
  noTone(piezoPin);
```

```
while (status != WL_CONNECTED) {
  Serial.print("Attempting to connect to SSID: ");
  Serial.println(ssid);
  status = WiFi.begin(ssid, pass);
 }
 Serial.println("Connected to wifi");
 printWifiStatus();

 upload.setServer("iot.eclipse.org", 1883);
 upload.setCallback(callback);
}
```

D.C
Design. Create

Line bot 保全燈(5/7)

```
void loop() {
  if (!upload.connected()) {
    reconnect();
  }
  upload.loop();
  long duration, distance;
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  duration = pulseIn(echoPin, HIGH);
  distance = (duration/2) / 29.1;
  Serial.print(" distance = ");   Serial.print(distance);
  Serial.println("cm ");
  delay(1000);
```

D.C
Design. Create

Line bot 保全燈(6/7)

```
 if((lock==1)&&(distance<4)){
   su=1;
   upload.publish("room/su","1");
   digitalWrite(R, LOW);
   digitalWrite(G, HIGH);
   digitalWrite(B, HIGH);
 }
if(su==1){
 tone(piezoPin, 1000, 100);delay(200);
 tone(piezoPin, 1000, 100);delay(200);
 tone(piezoPin, 1000, 100);delay(200);
 tone(piezoPin, 1000, 100); noTone(piezoPin);
 delay(1000);
}
}
```

D.C
Design. Create