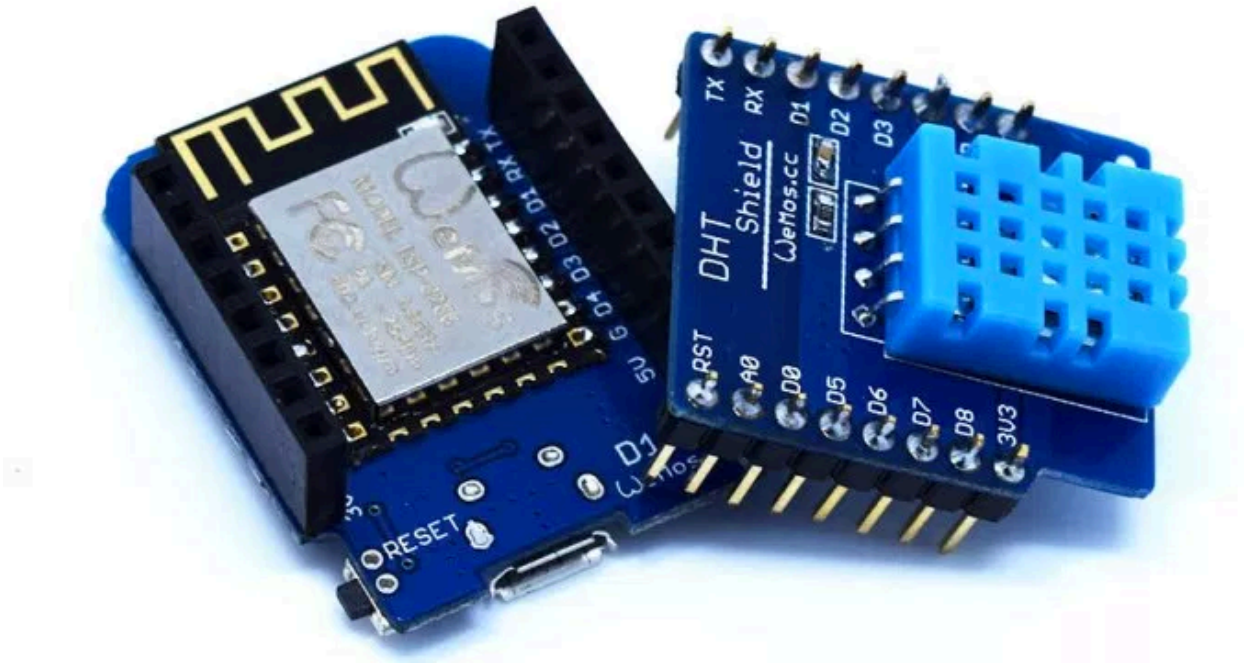
wemos DHT shield



使用此範例前請先完成arduino_測試範例

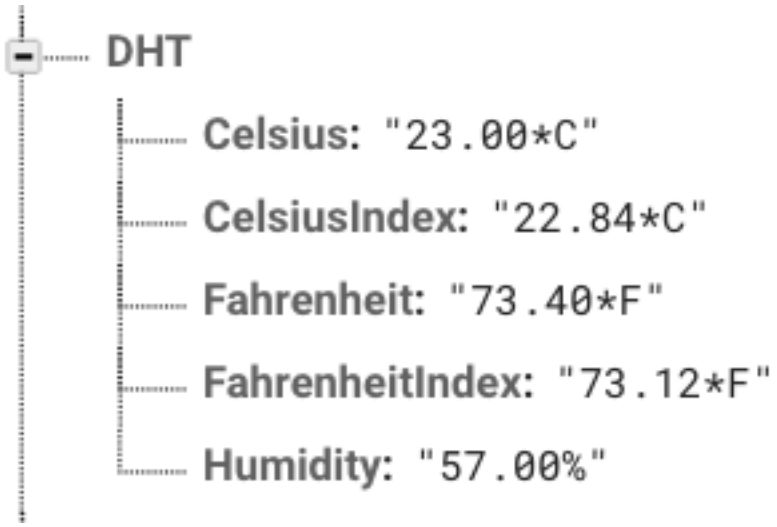
學習目的:

- 將DHT shield取得的值傳遞至雲端Firebase database
- Arduino程式碼
- 使用Firebase平台測試

雲端Firebase database設定

在Database內建立節點

- DHT/Celsius:”23.00*C”
- DHT/CelsiusIndex:”22.84*C”
- DHT/Fahrenheit:”73.40*F”
- DHT/FahrenheitIndex:”73.12”
- DHT/Humidity:”57.00%”



加入Arduino程式碼

在global區段內

```
//載入Library內的DHT.h
#include <DHT.h>

//定義Pin腳和Type
#define DHTPIN D4
#define DHTTYPE DHT11

//建立dht物件
DHT dht(DHTPIN, DHTTYPE);

//建立目前的時間變數
unsigned long lastDHTTime = 0;
```

在setup區段內

```
//初始化dht
dht.begin();

//取得目前的時間指定給lastDHTTime
lastDHTTime = millis();
```

在loop區段內

```
//每2秒執行1次
if((millis() - lastDHTTime) > 2000){
        //取得溫度華氏和攝氏值，濕度值
    float h = dht.readHumidity();
    float t = dht.readTemperature();
    float f = dht.readTemperature(true);
        //檢查是否正確取出，不正確就重新執行
    if (isnan(h) || isnan(t) || isnan(f)) {
      Serial.println("Failed to read from DHT sensor!");
      return;
    }
    // Compute heat index in Fahrenheit (the default)
```

```
//取得華氏和攝氏的溫度指標，並輸出到控制台
float hif = dht.computeHeatIndex(f, h);
      // Compute heat index in Celsius (isFahreheit = false)
      float hic = dht.computeHeatIndex(t, h, false);

      Serial.print("Humidity: ");
      Serial.print(h);
      Serial.print(" %\t");
      Serial.print("Temperature: ");
      Serial.print(t);
      Serial.print(" *C ");
      Serial.print(f);
      Serial.print(" *F\t");
      Serial.print("Heat index: ");
      Serial.print(hic);
      Serial.print(" *C ");
      Serial.print(hif);
      Serial.println(" *F");
      //上傳至Firebase
      Firebase.setString("DHT/Humidity",String(String(h)+"%"));
      Firebase.setString("DHT/Celsius",String(String(t)+"*C"));
      Firebase.setString("DHT/CelsiusIndex",String(String(hic)+"*C"));
      Firebase.setString("DHT/Fahrenheit",String(String(f)+"*F"));
      Firebase.setString(“DHT/FahrenheitIndex",String(String(hif)+"*F"));
      //更新最後時間
      lastDHTTime = millis();

    }
```

使用Firebase平台測試

至Firebase console的及時資料庫內，觀察DHT節點內的值是否會改變。