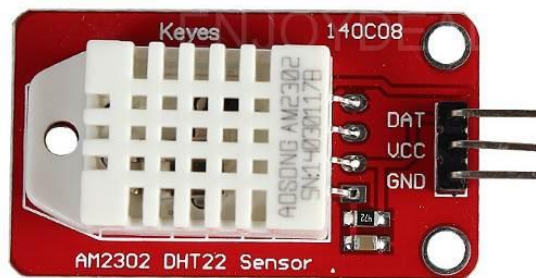


Raspberry Pi 3 溫度感測應用

準備材料：

1. 中華電信 NodeRED 元件：node-red-contrib-CHT
2. Raspberry Pi 3 開發板
3. DHT22 溫度感測器

1. 參考下列網址安裝中華電信 NodeRED 元件
2. <https://iot.cht.com.tw/iot/developer/resources/iot/download/NodeRED/Raspberry%20Pi%20%20-%20NodeRED%20installation%20guide.pdf>
3. SSH 進入 Raspberry Pi 3 並參考下列網址安裝 DHT sensor 的 NodeRED 元件
<https://www.npmjs.com/package/node-red-contrib-dht-sensor>
4. DHT22 sensor 的腳位圖如下：



VCC 接上 3.3v DC Power, GND 接到 Ground，並將 DAT 接到 GPIO 的腳位上
Raspberry Pi 3 的腳位圖如下：

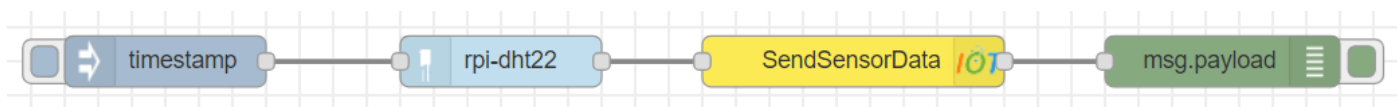
Raspberry Pi 3 GPIO Header				
Pin#	NAME		NAME	Pin#
01	3.3v DC Power	Red	DC Power 5v	02
03	GPIO02 (SDA1, I ² C)	Blue	DC Power 5v	04
05	GPIO03 (SCL1, I ² C)	Black	Ground	06
07	GPIO04 (GPIO_GCLK)	Orange	(TXD0) GPIO14	08
09	Ground	Black	(RXD0) GPIO15	10
11	GPIO17 (GPIO_GEN0)	Green	(GPIO_GEN1) GPIO18	12
13	GPIO27 (GPIO_GEN2)	Black	Ground	14
15	GPIO22 (GPIO_GEN3)	Green	(GPIO_GEN4) GPIO23	16
17	3.3v DC Power	Red	(GPIO_GEN5) GPIO24	18
19	GPIO10 (SPI_MOSI)	Purple	Ground	20
21	GPIO09 (SPI_MISO)	Green	(GPIO_GEN6) GPIO25	22
23	GPIO11 (SPI_CLK)	Purple	(SPI_CE0_N) GPIO08	24
25	Ground	Black	(SPI_CE1_N) GPIO07	26
27	ID_SD (I ² C ID EEPROM)	Yellow	(I ² C ID EEPROM) ID_SC	28
29	GPIO05	Black	Ground	30
31	GPIO06	Green	GPIO12	32
33	GPIO13	Black	Ground	34
35	GPIO19	Green	GPIO16	36
37	GPIO26	Green	GPIO20	38
39	Ground	Black	GPIO21	40

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www.element14.com/RaspberryPi

本範例將 DAT 接到 GPIO4 的腳位上

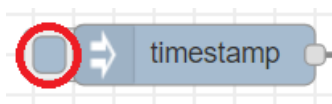
5. 透過同網域下電腦的瀏覽器連線到 Raspberry Pi 3，
網址是 <Raspberry Pi 3 的 IP>:1880
並設計如下圖：



6. 對 rpi-dht22 點擊 2 下設定組態(本範例將 DAT 接在 GPIO4 上)

7. 對 SendSensorData 點擊 2 下設定組態，
填入在中華電信物聯網大平台上註冊的 APIkey, Device ID 和 Sensor ID

8. 點擊 timestamp 的按鈕即可發送溫度資訊





在 debug 面板上看到“”，沒有錯誤訊息即為傳送成功

9. 點擊 timestamp2 下設定組態可以設定成定時間自動傳送資訊

A screenshot of the 'Edit inject node' configuration panel. At the top, there are three buttons: 'Delete', 'Cancel', and 'Done'. Below the buttons, there is a section titled 'node properties'. Under this section, there are several fields: 'Payload' with a dropdown menu set to 'timestamp', 'Topic' with an empty text input, and a checkbox labeled 'Inject once after' followed by a numeric input '0.1' and the text 'seconds, then'. Below these is a section labeled 'Repeat' which is highlighted with a red box. This section contains a dropdown menu set to 'interval', a numeric input '1', and a dropdown menu set to 'seconds'. At the bottom of the panel, there is a 'Name' field with the text 'Name'. A yellow note box at the bottom contains the following text: 'Note: "interval between times" and "at a specific time" will use cron. "interval" should be less than 596 hours. See info box for details.'