P4.

<https://iotmaker.kr/iotbook-install-raspi-node-red/>

<https://reddb.tistory.com/123>

sudo apt update

sudo apt upgrade

sudo curl -sL https://deb.nodesource.com/setup\_14.x | sudo -E bash

apt list | grep nodejs

sudo apt-get install nodejs

node -v

bash <(curl -sL https://raw.githubusercontent.com/node-red/linux-installers/master/deb/update-nodejs-and-nodered)

node-red-start

P6.

sudo apt-get install mariadb-server

sudo mysql

create database rasbp;

show databases;

use rasbp

create user 'pi'@'%'identified by '0000';

grant all privileges on rasbp.\* to 'pi';

create table node\_rasbp(

-> sensor varchar(38) not null,

-> collect\_time datetime not null,

-> temp\_c float,

-> temp\_f float,

-> hump float);

show tables;

P7.

sudo apt install fswebcam

P8.

[https://www.circuitbasics.com/how-to-set-up-the-dht11-humidity-sensor-on-the-raspberry-pi/](https://github.com/traveller59/spconv/issues/484)

import time

import board

import adafruit\_dht

dhtDevice = adafruit\_dht.DHT11(board.D4)

t = dhtDevice.temperature

f = t \* (9/5)+32

h = dhtDevice.humidity

print("Temp: {:.1f} F / {:.1f} C Humidity {}%".format(f,t,h))

P9.

[https://www.youtube.com/watch?v=AprmCrSZXEw&t=425s](https://github.com/traveller59/spconv/issues/484)

P11.

var sensor = msg.topic;

var timezoneOffset = new Date().getTimezoneOffset() \* 60000;

var timezoneDate = new Date(Date.now() - timezoneOffset);

var time = timezoneDate.toISOString().slice(0, 19).replace("T", " ")

var temp\_c = msg.payload;

var temp\_f = temp\_c \* (9 / 5) + 32;

var hump = msg.humidity;

msg.payload = [sensor, time, temp\_c, temp\_f, hump]

msg.topic = "INSERT INTO node\_rasbp(sensor,collect\_time,temp\_c,temp\_f,hump)"

msg.topic = msg.topic + "VALUES(?,?,?,?,?)";

return msg;

P15.

<img width ="320px" height="240px" src="data:image/jpg;base64,{{{payload}}}">

P16.

[https://reddb.tistory.com/123](https://github.com/traveller59/spconv/issues/484)

P17.

[https://stackoverflow.com/questions/53196848/importerror-no-module-named-board-adafruit](https://github.com/traveller59/spconv/issues/484)

sudo pip3 install adafruit-blinka

P18.

sudo python3 setup.py install

sudo pip3 install Adafruit\_DHT

elif match.group(1) == 'BCM2711':

return 3

P19.

pip3 install adafruit-circuitpython-dht

pip3 install adafruit-blinka

sudo apt-get install mariadb-server

[https://blog.naver.com/PostView.nhn?blogId=emperonics&logNo=222092518468](https://github.com/traveller59/spconv/issues/484)

[https://docs.circuitpython.org/projects/dht/en/latest/](https://github.com/traveller59/spconv/issues/484)

[https://power-of-optimism.tistory.com/10](https://github.com/traveller59/spconv/issues/484)

[https://fishpoint.tistory.com/5224](https://github.com/traveller59/spconv/issues/484)

[https://blog.naver.com/PostView.nhn?blogId=agapeuni&logNo=222135758778](https://github.com/traveller59/spconv/issues/484)

[https://bradheo.tistory.com/entry/%EB%9D%BC%EC%A6%88%EB%B2%A0%EB%A6%AC%ED%8C%8C%EC%9D%B4-%EC%98%A8%EC%8A%B5%EB%8F%84-%EC%84%BC%EC%84%9Cdht11](https://github.com/traveller59/spconv/issues/484)

<https://github.com/traveller59/spconv/issues/484>

var sensor = msg.topic;

sensor변수에 msg.topic 할당

var timezoneOffset = new Date().getTimezoneOffset() \* 60000;

var timezoneDate = new Date(Date.now() - timezoneOffset);

텍스트이(가) 표시된 사진

자동 생성된 설명

var time = timezoneDate.toISOString().slice(0, 19).replace("T", " ")

<https://devzem.tistory.com/m/1>

var temp\_c = msg.payload;

temp funtion에 정의

var temp\_f = temp\_c \* (9 / 5) + 32;

값 변경

var hump = msg.humidity;

hump funtion에 정의

msg.payload = [sensor, time, temp\_c, temp\_f, hump]

재정의 배열 생성

msg.topic = "INSERT INTO node\_rasbp(sensor,collect\_time,temp\_c,temp\_f,hump)“

텍스트이(가) 표시된 사진

자동 생성된 설명

msg.topic = msg.topic + "VALUES(?,?,?,?,?)";

Mysql에서 만든 database에 table을 가져와서 msg.topic에 할당

return msg;