Installation configuration and wiring of the DHT22 sensor modules for the monitoring of room temperature and humidity.

sudo npm install --unsafe-perm -g node-dht-sensor

sudo npm install --unsafe-perm -g node-red-contrib-dht-sensor

Getting an error with sensor communication…..

TypeError: failed to initialize

After much google searching I found I was missing the bcm2835 Library <http://www.airspayce.com/mikem/bcm2835/>

I installed bcm2835-1.44 using the below commands

tar zxvf bcm2835-1. 44.tar.gz

cd /home/pi/bcm2835-1.44

./configure

make

sudo make check

sudo make install

At this point, I am getting an unknown error with the make commands that I have never seen before.

After about 20 minutes of trial and error, I found that raspbian OS does not have automake installed by default like most other Linux distros.

So I had to install it using the below command.

Sudo apt-get update | sudo apt-get install automake -y

After automake was installed, I deleted and re-extracted the tar file for safe measure then preceded to install BCM2835 libraries.

tar zxvf bcm2835-1.44.tar.gz

cd /home/pi/bcm2835-1.44

./configure

make

sudo make check

sudo make install

After this library was installed, I had to also reinstall the DHT22 node modules in nodered so they would pick up the new library files in the appropriate pi user directory.

sudo npm uninstall --unsafe-perm -g node-red-contrib-dht-sensor

sudo npm uninstall --unsafe-perm -g node-dht-sensor

sudo npm install --unsafe-perm -g node-dht-sensor

sudo npm install --unsafe-perm -g node-red-contrib-dht-sensor

sudo reboot

Still getting the TypeError: failed to initialize

At this point, I assumed that the GPIO pin on the raspberry pi was bad so I changed the connected pin as noted below but I still ended up with the same error in the end.

Changing port GPIO17 to GPIO4

Still same error.

After some research, I found I need bcm2835 library version 1.5 or higher for it to work properly with node red. Therefore, I proceeded to download bcm2835-1.55 and removed the previous version of the BCM library files and reinstall the new version of the library. This time went much smoother because automake was installed and I knew what I was doing.

tar zxvf bcm2835-1.55.tar.gz

cd /home/pi/bcm2835-1.55

./configure

make

sudo make check

sudo make install

I then had to uninstall the DHT sensor nodes again, reinstall them, and then reboot the pi denoted below.

sudo npm uninstall --unsafe-perm -g node-red-contrib-dht-sensor

sudo npm uninstall --unsafe-perm -g node-dht-sensor

sudo npm install --unsafe-perm -g node-dht-sensor

sudo npm install --unsafe-perm -g node-red-contrib-dht-sensor

The latest library seems to have fixed the issue and the sensor is now reporting properly inside of node red.

Below is a sample of the DHT22 humidity and temperature sensor now outputting to debug console….

Humidity is is percent and the temperature “payload” is in C.

rpi-dht22 : msg : Object

*object*

topic: "rpi-dht22"

payload: "21.40"

\_msgid: "404fb130.58317"

humidity: "44.90"

sensorid: "dht22"