

DHT22 Sensor Experiment Raspberry PI 2

Most the code and work is taken from this video

<https://www.youtube.com/watch?v=e1c1EwFHHss>

There one modification when running commands **sudo make install** was used instead of **make install** as there was a permission issue.

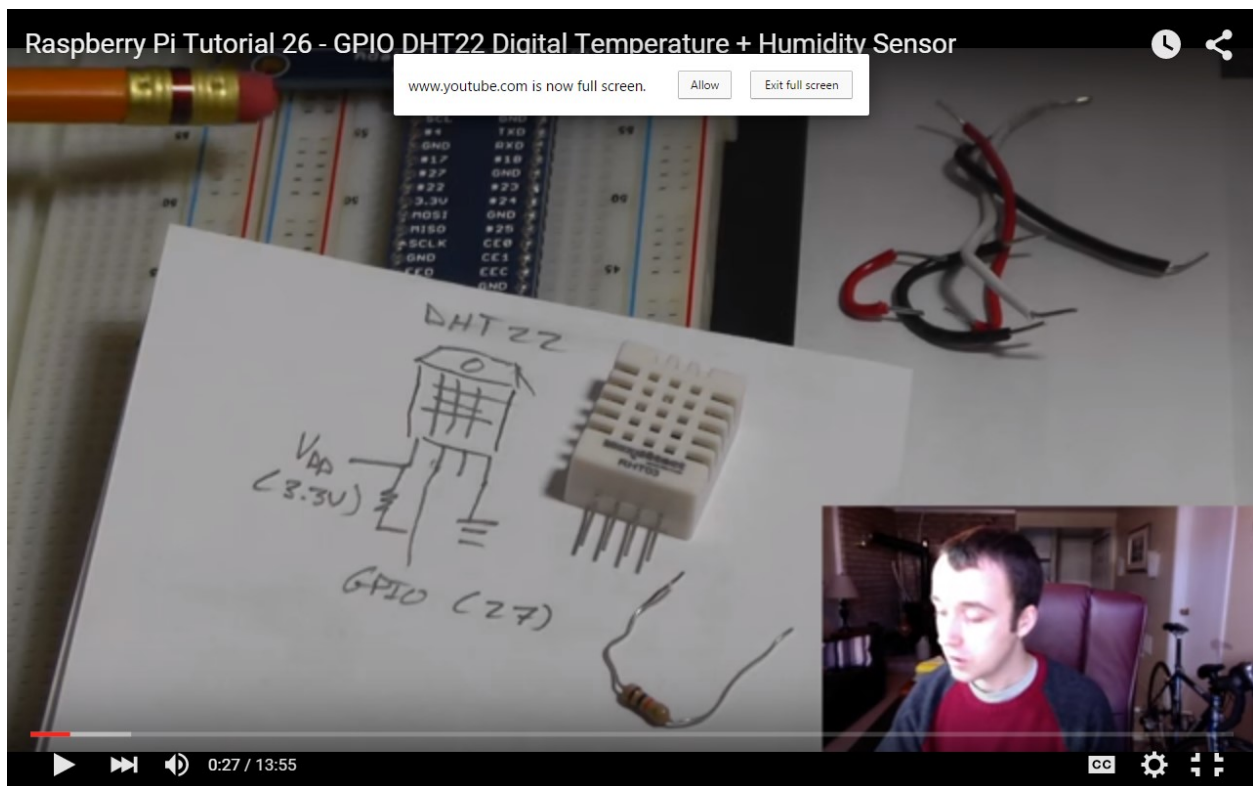
We have taken the circuit from the below video and blog which are by the creator of video

<https://www.youtube.com/watch?v=IHTnU1T8ETk>

<http://www.rototron.info/dht22-tutorial-for-raspberry-pi/>

But following this we had issue with some drivers using Adafruit library and then we moved to the first video for completing this experiment. We still retained the circuit but as the GP4 “4” gpio pin did not work we had to move to GP27 “27” gpio pin. As suggested by first video.

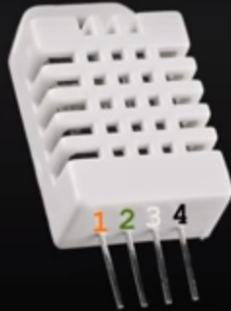
Circuits



DHT22 Raspberry Pi Humidity Temperature Sensor Tutorial



DHT22



- 1 - 3.3 V
- 2 - Data
- 3 - No Connection
- 4 - GND

Raspberry Pi



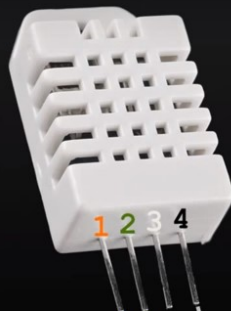
0:27 / 7:23



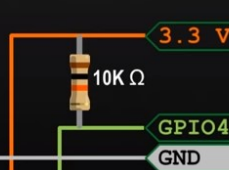
DHT22 Raspberry Pi Humidity Temperature Sensor Tutorial



DHT22



- 1 - 3.3 V
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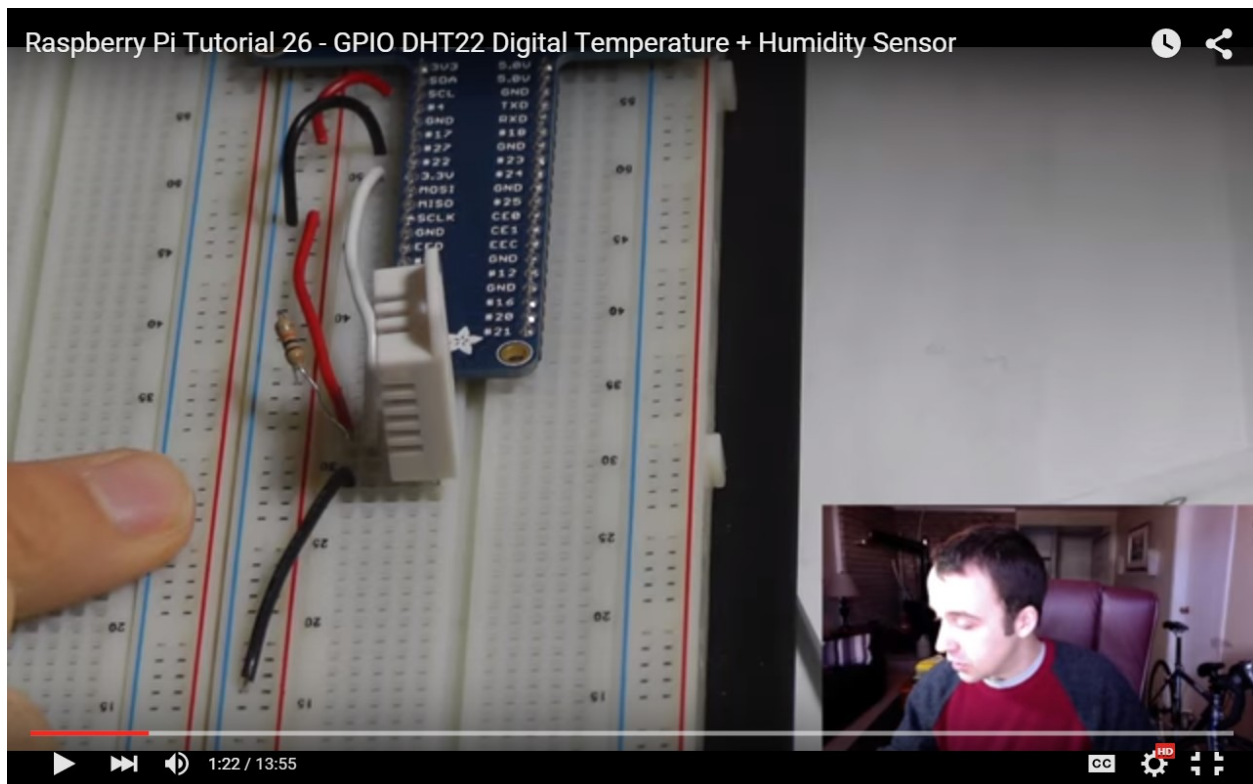


Raspberry Pi



0:48 / 7:23





Setup & Code

The coding is in python, I have followed the instructions on the below video for complete coding and library download.

<https://www.youtube.com/watch?v=e1c1EwFHHss>

```
sudo apt-get update
sudo apt-get upgrade
wget http://abyz.co.uk/rpi/pigpio/pigpio.zip
unzip pigpio.zip
cd PIGPIO/
make
sudo make install
sudo python3 setup.py install
cd ~
```

Go to <http://abyz.co.uk/rpi/pigpio/examples.html> and download python code "DHT22/AM2302 sensor". Unzip the code example take the "DHT22.py" file and copy to folder where you want to write your code to read sensor data.

```
sudo pigpiod
```

Start running the code you have created.



sensingDHT22.py

The screenshot shows a Raspberry Pi desktop with a taskbar at the top. The taskbar includes icons for the Menu, a network status icon, a battery icon, a red alert icon, and a volume icon. The system tray shows '[16 GB Filesystem]', 'pi@raspberrypi-CSC...', 'Python Shell', and 'sensingDHT22.py - /...'. The time is 22:0.

Two windows are open:

- sensingDHT22.py - /home/pi/DHT22_Example/sensingDHT22.py**: A text editor window showing a Python script. The script includes a note about starting the pigpio daemon, imports for pigpio, DHT22, and time, and a while loop that reads humidity and temperature from a DHT22 sensor and prints them every 3 seconds.
- Python Shell**: A terminal window showing the Python 3.2.3 (default, Mar 1 2013, 11:53:50) [GCC 4.6.3] on linux2 prompt. It displays the copyright, credits, and license information.

```
***
Note: Remember to start pigpio daemon using the command 'sudo pigpiod'
before running this code as this is needed to gain root access to GPIO pins.
This has to be done every time we restart the PI
***

import pigpio
import DHT22
from time import sleep

# Intite GPIO for pigpio
pi = pigpio.pi()
# Setup the sensor
dht22 = DHT22.Sensor(pi, 27) # use the actual GPIO pin name
dht22.trigger()

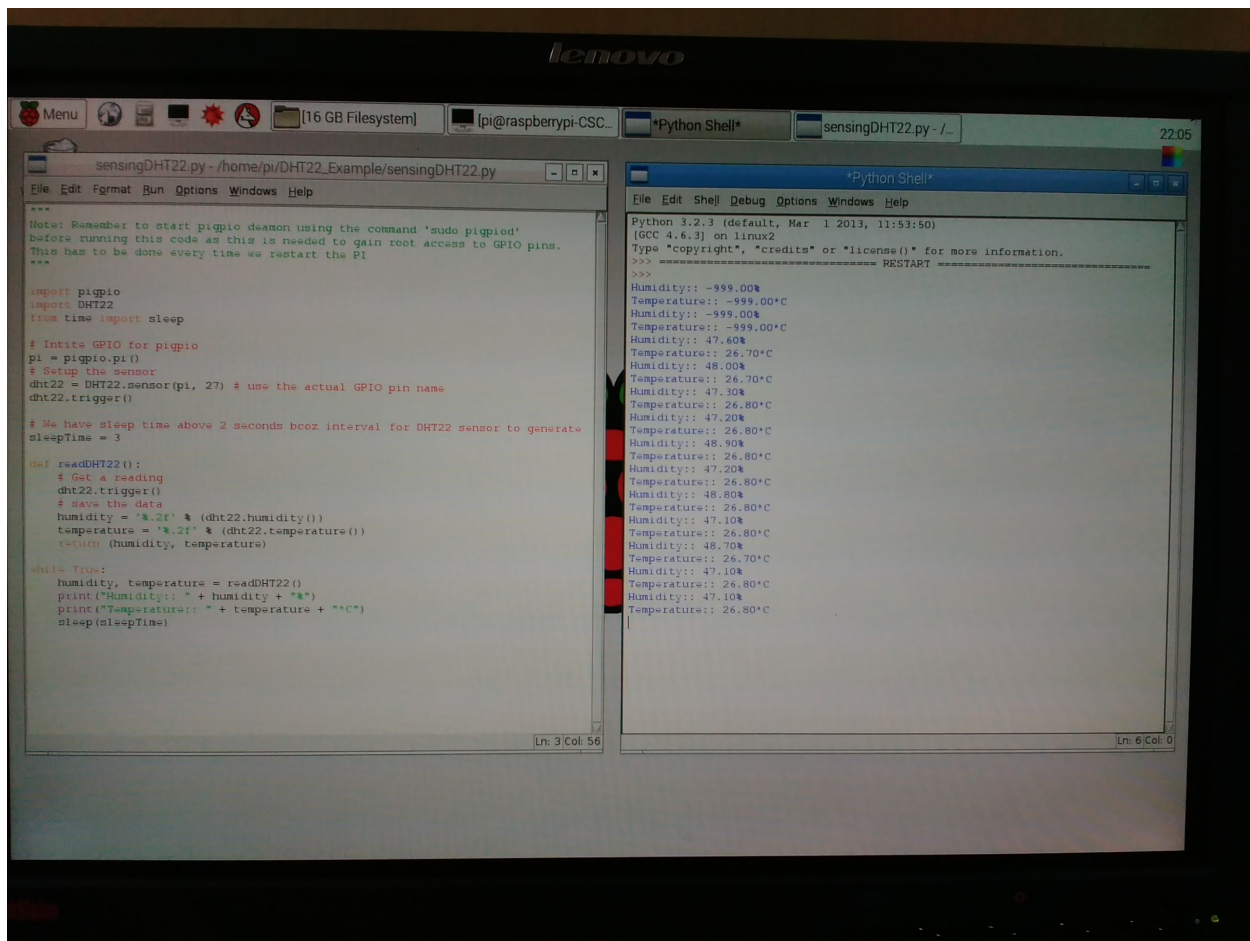
# We have sleep time above 2 seconds bcoz interval for DHT22 sensor to generate
sleepTime = 3

def readDHT22():
    # Get a reading
    dht22.trigger()
    # save the data
    humidity = '%.2f' % (dht22.humidity())
    temperature = '%.2f' % (dht22.temperature())
    return (humidity, temperature)

while True:
    humidity, temperature = readDHT22()
    print("Humidity:: " + humidity + "%")
    print("Temperature:: " + temperature + "°C")
    sleep(sleepTime)
```

Ln: 3 Col: 56

Ln: 4 Col: 56



Our Circuit after successful experiment

