**Design a system using RPi where you can monitor Temperature and Humidity (DHT11 sensor) of a place on an IDE/LCD.**

**Hardware components:**

1.DHT11 sensor

**Raspberry Pi 3**

**Jumper wires**

**USB Cable**

LCD Display

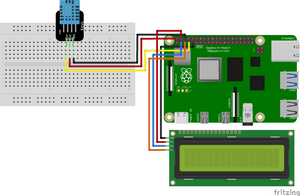
12C module for LCD display

**Software components:**

**SSH Terminal**

**Python IDE**

### ****Circuit Diagram:****



The DHT11 sensor if first interfaced with the raspberry pi module. Then the 16x2 LCD display is connected to the circuit so as to view the results.

### ****What goes where?****

* The **yellow** wire connects the signal pin of the DHT11 sensor to the pin GPIO 4 of the raspberry pi 3 board.
* The **red** wire connects the voltage pin(power supply) of the sensor to the 5V pin of the raspberry pi board.
* The **black** wire connects the GND (ground) pin of the sensor to the GND pin of the raspberry pi device.

By performing these connections, the DHT11 sensor can be interfaced with the raspberry pi module. Now, this circuit has to be interfaced with the 16x2 LCD display.

* The **black** wire connects the GND (ground) pin of the LCD display to the GND pin of the raspberry pi device.
* The **red** wire connects the voltage pin(power supply) of the LCD display to the 5V pin of the raspberry pi board.
* The **blue** wire connects the SDA pin of the LCD display to the SDA pin of the raspberry pi device.
* The **orange** wire connects the SCL pin of the LCD display to the SCL pin of the raspberry pi board.

**Code**

import sys

import I2C\_LCD\_driver

import Adafruit\_DHT

import time

mylcd = I2C\_LCD\_driver.lcd()

mylcd.lcd\_clear()

mylcd.lcd\_display\_string('LearnElectronics',1)

mylcd.lcd\_display\_string('DHT11 with RPi',2,1)

try:

while True:

humidity, temperature = Adafruit\_DHT.read\_retry(11, 4)

if(temperature != None and humidity != None):

mylcd.lcd\_clear()

mylcd.lcd\_display\_string('Temp:{0:0.1f} C '.format(temperature),1,2)

mylcd.lcd\_display\_string('Humidity:{0:0.1f} %'.format(humidity),2,1)

time.sleep(1)

except KeyboardInterrupt:

mylcd.lcd\_clear()

mylcd.lcd\_display\_string('Thanks',1,5)

mylcd.lcd\_display\_string('For Watching',2,2)

time.sleep(5)

mylcd.lcd\_clear()