TEMPERATURE SENSING AND HOME AUTOMATION

TEAM MEMBERS:- 16BEC0090,16BEC0395,15BEC0277

FOR HOME AUTOMATION:-

COMPONENTS REQUIRED:-

- Arduino board
- Breadboard
- Bluetooth module/sensor – HC05
- Couple of jumpers/single stranded wires
- LEDs
- An ANDROID Phone

Connections Of Bluetooth module HC05 :-

VCC – to VCC of Arduino.

GND – to GND of Arduino.

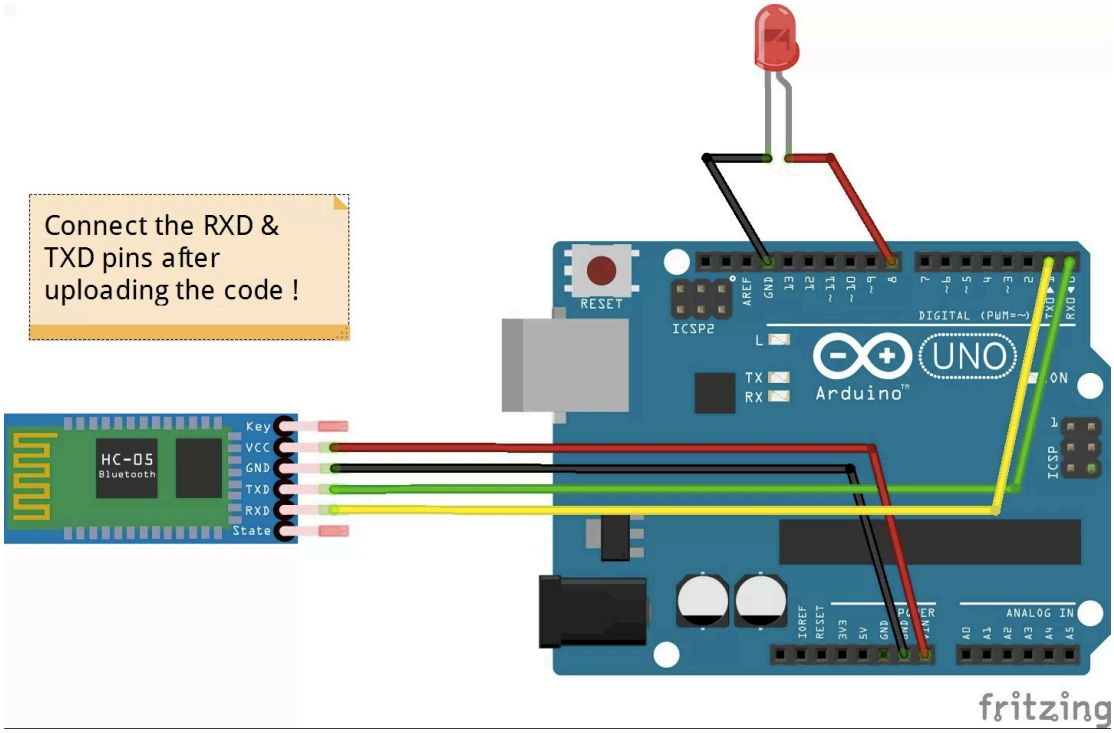
RX – to digital pin 0(TX pin) of Arduino.

TX – to digital pin 1(RX pin) of Arduino. (connect RX & TX pin after uploading the code)

Of LED –

Positive terminal – to pin 8 of Arduino.

Negative terminal – GND of Arduino.

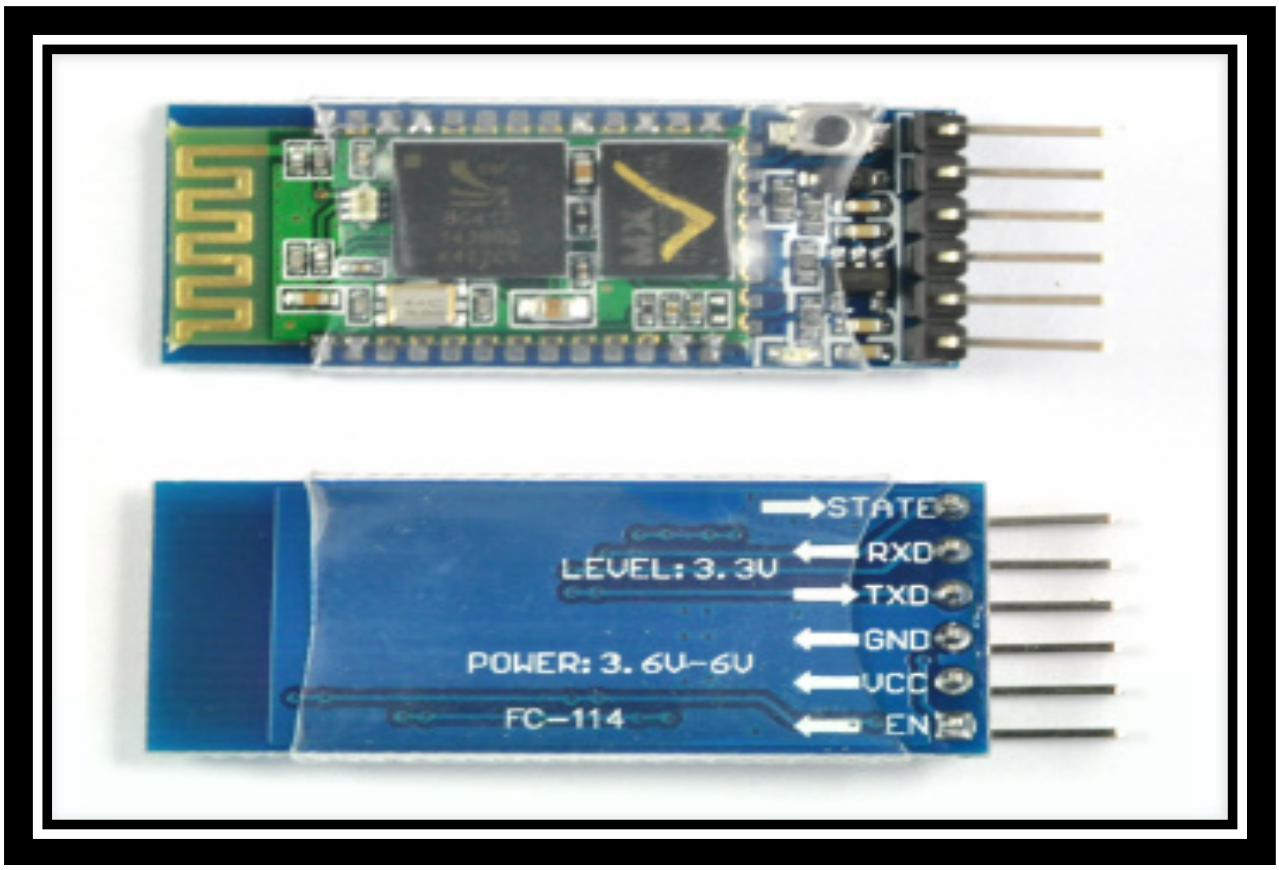


Connections of bluetooth module HC05 with Arduino

Procedure :-

1. Make the connections as shown in the above image. Don't connect the RX & TX pins WHILE/BEFORE uploading the code !
2. Type the Aurdino code according to the circuit.
3. Open the app and connect the Bluetooth module with it
4. Open the app (It will automatically turn on the device's Bluetooth). Go to options. Click on *"Connect to Robot"*. Choose the device – HC 05.
5. When you are connecting to the Bluetooth module for the first time, it will ask you the password. Enter **0000** OR **1234.**
6. When the device gets successfully paired with the sensor, the LED lights on sensor will start blinking at a slower rate than usual.

BLUETOOTH HC-05 MODULE:-



FOR TEMPERATURE SENSING:-

COMPONENTS REQUIRED:-

1. Arduino Uno

2. DHT-11 Temperature and Humidity Sensor

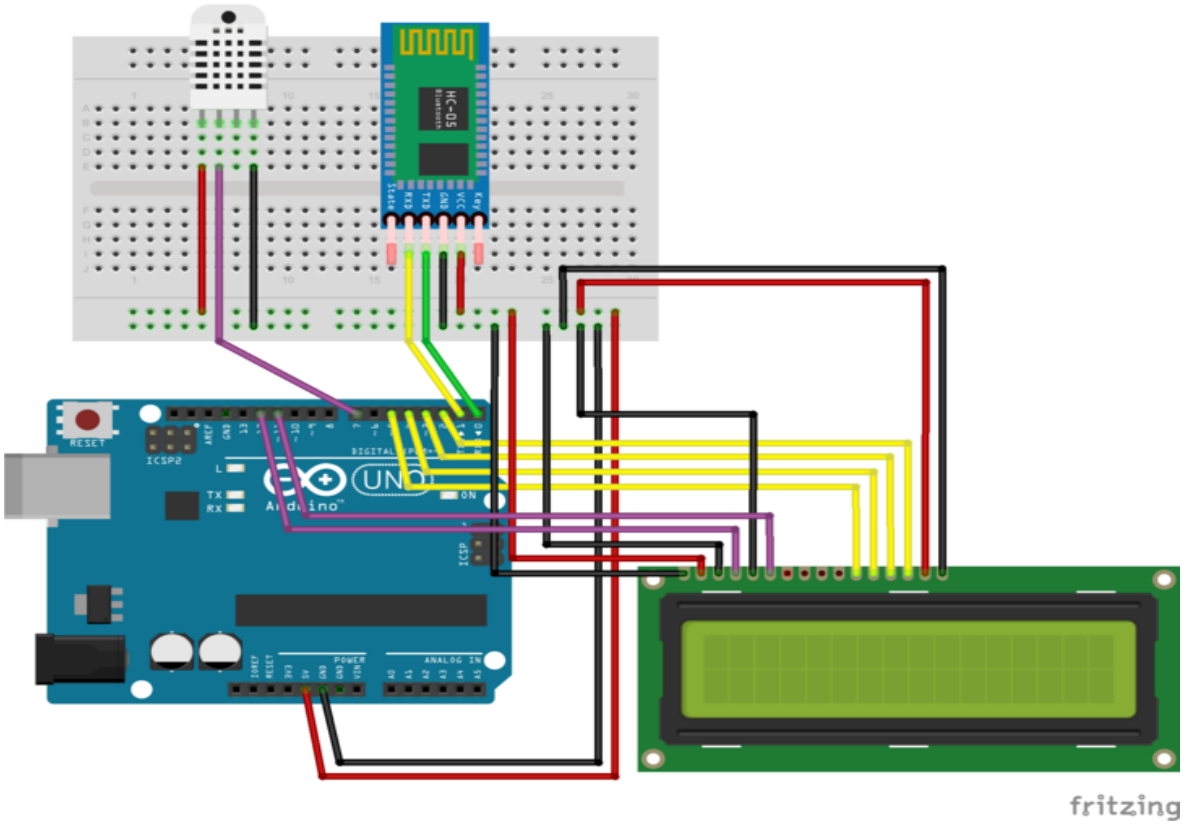
3. Breadboard

4. Jumper Cables

5. Internet Interface device(Bluetooth Shield HC05 + Android Phone)

6. LCD 16x2 Alphanumeric Display(JHD162A)

CIRCUIT DIAGRAM:-



CONNECTING HC-05 WITH ARDUINO:

After installing the DHT Library,Move to the Connection of HC-05 to arduino.

- Connect the Rx pin of HC-05 to the Tx Pin of Arduino(Pin 0).
- Connect the Tx pin of HC-05 to the Rx Pin of Arduino(Pin 1).
- Connect the Vcc pin of HC-05 to the 5V pin of Arduino.
- Connect the GND pin of HC-05 to the GND pin of Arduino.

Wiring Up the LCD:

The LCD has 16 pins, 12 are used.

- Pin1 to Ground
- Pin 2 to +5V
- Pin 3 to 10K trimpot center
- Pin 4 (RS) to Arduino Digital Pin 3
- Pin 5 (RW) to Ground
- Pin 6 (E) to Arduino Digital Pin 4
- Pin 7 - Not Used
- Pin 8 - Not Used
- Pin 9 - Not Used
- Pin 10 - Not Used
- Pin 11 (D4) to Arduino Digital Pin 5
- Pin 12 (D5) to Arduino Digital Pin 6
- Pin 13 (D6) to Arduino Digital Pin 7
- Pin 14 (D7) to Arduino Digital Pin 8
- Pin 15 (Back Light +) to 5v
- Pin 16 (Back Light -) to ground via100 Ohm resistor)
- One side of the 10K trimpot goes to +5v the other side to ground
- Note:You may omit the use of resistors and trimpot as they are used only for controlling the backlight and contrast of lcd display.

ACTUAL OUTPUT:-