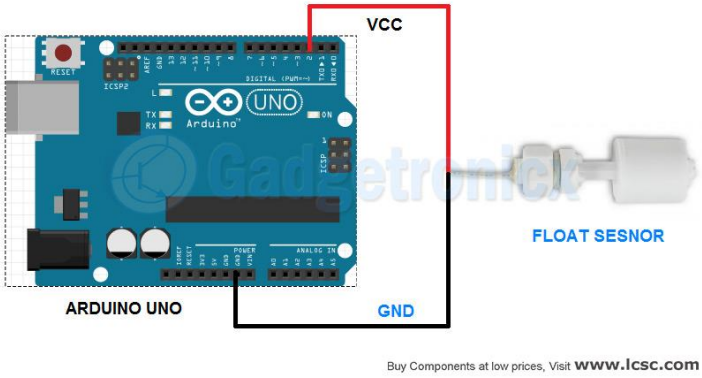
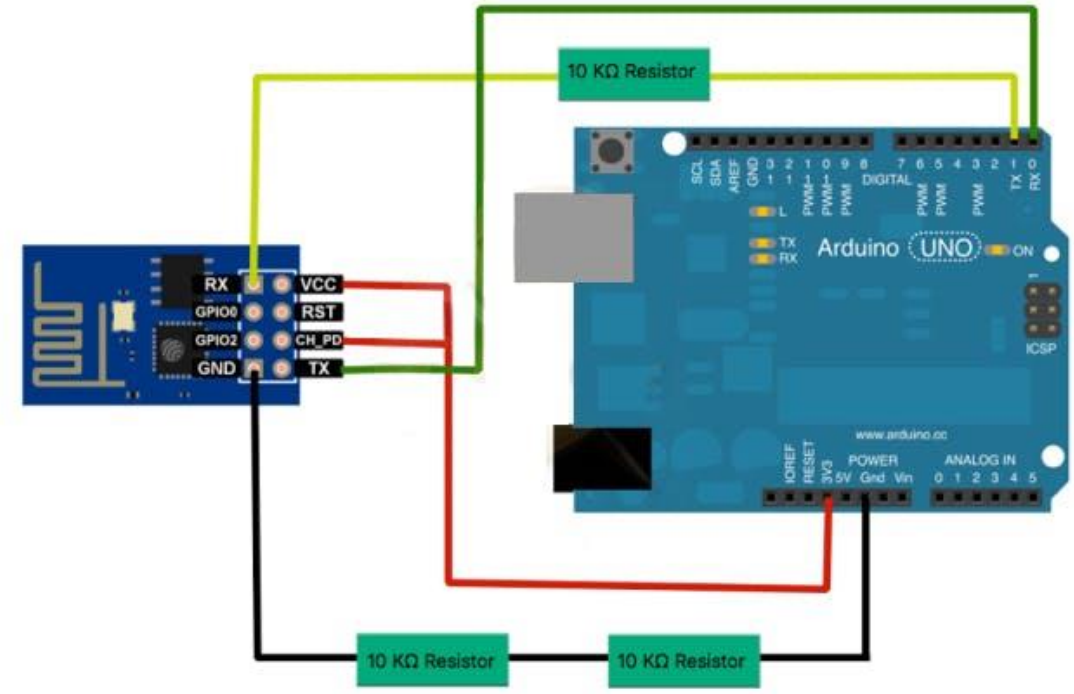
ESP8266 Wi-Fi Module with Arduino Uno Programmer

Circuit:





Source : https://create.arduino.cc/projecthub/coderscafe/telegram-bot-with-esp8266-dbada8

https://www.gadgetronicx.com/interfacing-float-sensor-arduino/#:~:text=INTERFACING%20THE%20MAGNETIC%20FLOAT%20SENSOR%20SWITCH%20WITH%20ARDUINO%3A&text=The%20VCC%20terminal%20of%20float,either%20being%20high%20or%20low.

Operating System : ubuntu 20.04.3

Aurdino Configuration

Board : ESP8266 Boards(3.0.2) -> Aurdino

Model : Uno WiFi

Port : dev/ttyUSB0

Code :

```
#include <UniversalTelegramBot.h>

#include <ESP8266WiFi.h>

#include <WiFiClientSecure.h>


#define TELEGRAM_BUTTON_PIN 5


// ------- Telegram config --------

#define BOT_TOKEN "5594386813:AAHYe1eBoIpmoz5fH46i8JIAQqSpTfGE2dg"  // your Bot Token (Get from Botfather)

#define CHAT_ID "1140760526" // Chat ID of where you want the message to go (You can use MyIdBot to get the chat ID)


//------- WiFi Settings -------

char ssid[] = "XXX";      // your network SSID (name)

char password[] = "XXX";  // your network key


// SSL client needed for both libraries

WiFiClientSecure client;
```

```
UniversalTelegramBot bot(BOT_TOKEN, client);
String ipAddress = "";

void setup()
{
  Serial.begin(115200);

  // Initlaze the buttons
  pinMode(TELEGRAM_BUTTON_PIN, INPUT);

  // Set WiFi to station mode and disconnect from an AP if it was Previously
  // connected
  WiFi.mode(WIFI_STA);
  WiFi.disconnect();
  delay(100);

  // Attempt to connect to Wifi network:
  Serial.print("Connecting Wifi: ");
  Serial.println(ssid);
  WiFi.begin(ssid, password);

  while (WiFi.status() != WL_CONNECTED)
  {
    Serial.print(".");
    delay(500);
  }

  Serial.println("");
  Serial.println("WiFi connected");
```

```
    Serial.println("IP address: ");
    IPAddress ip = WiFi.localIP();
    Serial.println(ip);
    ipAddress = ip.toString();
}

void sendTelegramMessage()
{
    String message = "SSID:  ";
    message.concat(ssid);
    message.concat("\n");
    message.concat("IP: ");
    message.concat(ipAddress);
    message.concat("\n");
    if(bot.sendMessage(CHAT_ID, message, "Markdown"))
    {
        Serial.println("TELEGRAM Successfully sent");
    }
}

int count = 0;
int buttonState = LOW;

void loop() {
  buttonState = digitalRead(TELEGRAM_BUTTON_PIN);

  if (buttonState == LOW)
  {
    count ++;
```

```
  Serial.println( "WATER LEVEL - HIGH");
 }
 else
 {
  count = 0;
  Serial.println( "WATER LEVEL - LOW" );
 }

 delay(1000);

 if (count==1)
 {
  sendTelegramMessage();
 }
}
```

Problems :

- ***Even though the code is being compiled, it is not getting uploaded to the board.***

Arduino: 1.8.19 (Linux), Board: "Arduino, Uno WiFi, 80 MHz, Flash, Disabled (new aborts on oom), Disabled, All SSL ciphers (most compatible), 32KB cache + 32KB IRAM (balanced), Use pgm_read macros for IRAM/PROGMEM, 4MB (FS:none OTA:~1019KB), v2 Lower Memory, Disabled, None, Only Sketch, 115200"

Executable segment sizes:

ICACHE : 32768 - flash instruction cache

IROM : 358576 - code in flash (default or ICACHE_FLASH_ATTR)

IRAM : 27769 / 32768 - code in IRAM (IRAM_ATTR, ISRs...)

DATA : 1504) - initialized variables (global, static) in RAM/HEAP

RODATA : 1888) / 81920 - constants (global, static) in RAM/HEAP

BSS : 25968) - zeroed variables (global, static) in RAM/HEAP

Sketch uses 389737 bytes (37%) of program storage space. Maximum is 1044464 bytes.

Global variables use 29360 bytes (35%) of dynamic memory, leaving 52560 bytes for local variables. Maximum is 81920 bytes.

esptool.py v3.0

Serial port /dev/ttyUSB0

Connecting....._____....._____....._____....._____....._____....._____....._____

Traceback (most recent call last):

File "/home/gb/.arduino15/packages/esp8266/hardware/esp8266/3.0.2/tools/upload.py", line 66, in <module>

esptool.main(cmdline)

File "/home/gb/.arduino15/packages/esp8266/hardware/esp8266/3.0.2/tools/esptool/esptool.py", line 3552, in main

esp.connect(args.before, args.connect_attempts)

File "/home/gb/.arduino15/packages/esp8266/hardware/esp8266/3.0.2/tools/esptool/esptool.py", line 529, in connect

raise FatalError('Failed to connect to %s: %s' % (self.CHIP_NAME, last_error))

esptool.FatalError: Failed to connect to ESP8266: Timed out waiting for packet header

esptool.FatalError: Failed to connect to ESP8266: Timed out waiting for packet header

This report would have more information with

"Show verbose output during compilation"

option enabled in File -> Preferences.

Source: https://forum.arduino.cc/t/esp-8266-timed-out-waiting-for-packet-header/597634

- ***The ESP8266 is not responding to AT command***

Source : https://arduino.stackexchange.com/questions/13226/esp8266-not-responding-to-the-at-commands

https://community.blynk.cc/t/esp8266-01s-not-responding-to-at-commands/45937/9

Not getting any output for AT command and AT+GMR command in serial monitor for all baud rate.

Only Tx LED is blinking, the Rx LED is remaining low.

- ***Tried Flashing and uploading the firmware to ESP8266 module***

Source : https://cordobo.com/2300-flash-esp8266-01-with-arduino-uno/

esptool.py -b 9600 --port /dev/ttyUSB0 erase_flash

Not getting any serial response

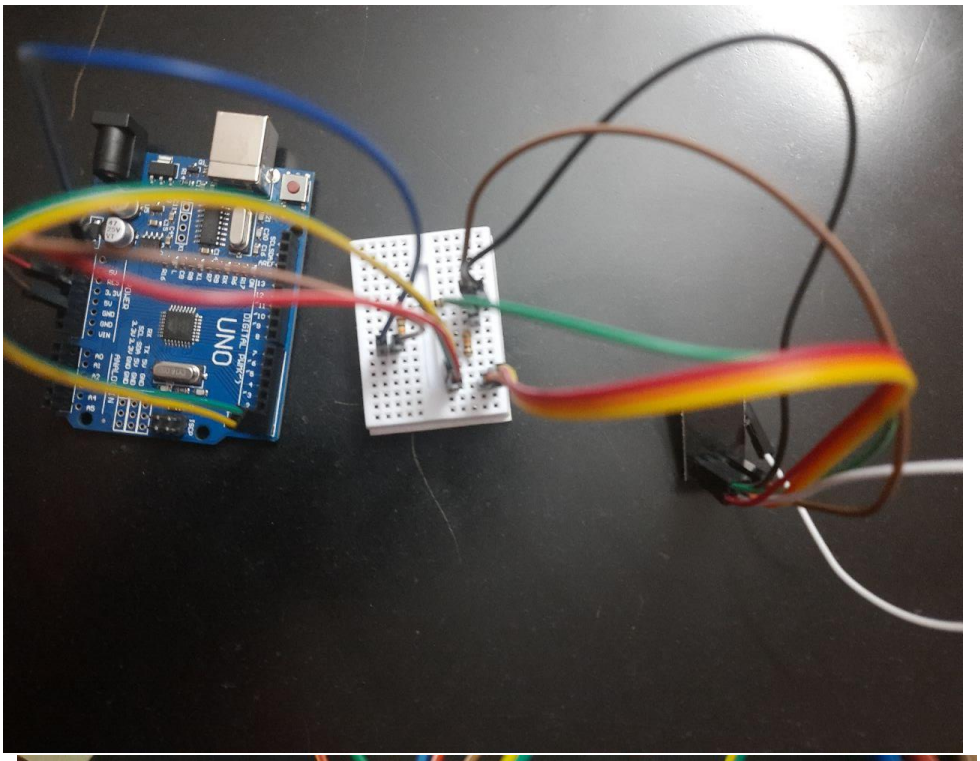
esptool.py v4.1

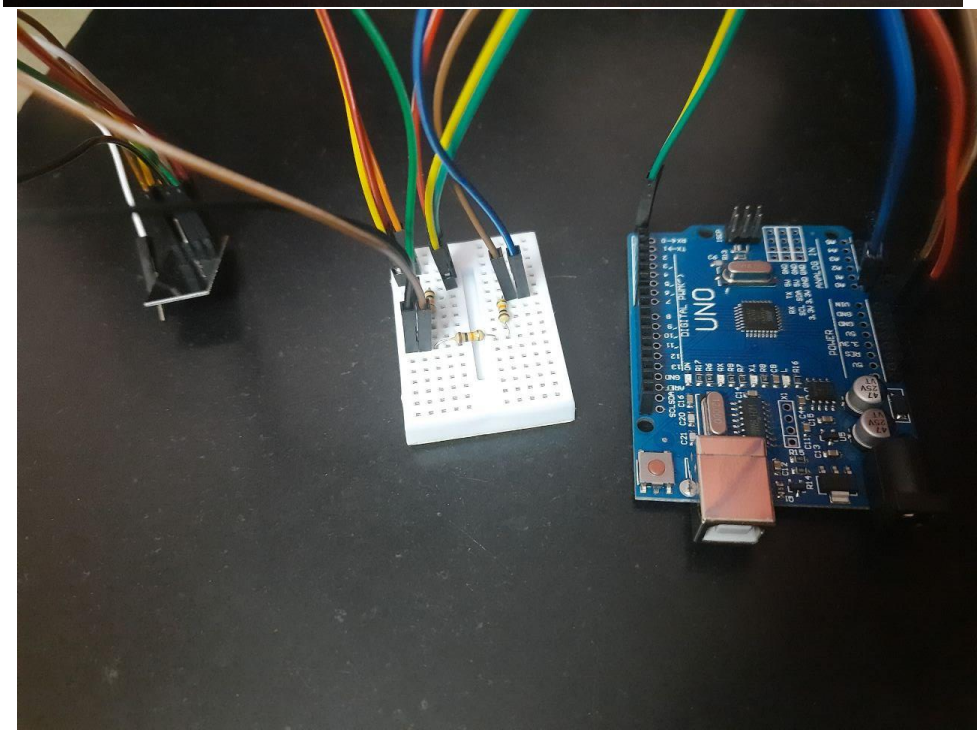
Serial port /dev/ttyUSB0

Connecting.....

A fatal error occurred: Failed to connect to Espressif device: No serial data received.

For troubleshooting steps visit:
https://docs.espressif.com/projects/esptool/en/latest/troubleshooting.html


UNO


UNO