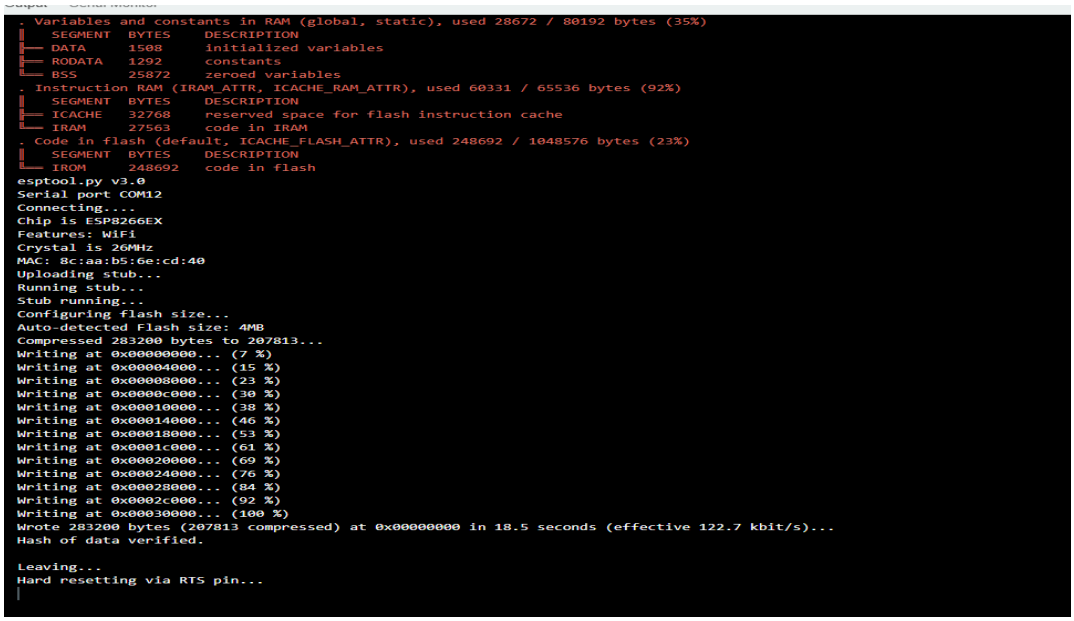
Week 7

```
#include <DHT.h>
#include <DHT_U.h>
#include <ESP8266WiFi.h>
String apiKey = "ZYUP9R7N15OEBYRO";  //
const char *ssid =  "surekha";
const char *pass =  "sakhison";
const char* server = "api.thingspeak.com";
#define DHTPIN D3
DHT dht(DHTPIN, DHT11);
WiFiClient client;

 void setup()
{
  Serial.begin(115200);
  delay(1000);
  dht.begin();
  Serial.println("Connecting to ");
  Serial.println(ssid);
  WiFi.begin(ssid, pass);
  while (WiFi.status() != WL_CONNECTED)
  {
    delay(2000);
    Serial.print(".");
  }
Serial.println("");
Serial.println("WiFi connected");
}
void loop()
{
 float h = dht.readHumidity();
 float t = dht.readTemperature();
 if (isnan(h) || isnan(t))
 {
  Serial.println("Failed to read from DHT sensor!");
  return;
 }
if (client.connect(server,80))   //   "184.106.153.149" or api.thingspeak.com
{
  String postStr = apiKey;
  postStr +="&field1=";
  postStr += String(t);
  postStr +="&field2=";
  postStr += String(h);
  postStr += "\r\n\r\n";
client.print("POST /update HTTP/1.1\n");
client.print("Host: api.thingspeak.com\n");
client.print("Connection: close\n");
client.print("X-THINGSPEAKAPIKEY: "+apiKey+"\n");
client.print("Content-Type: application/x-www-form-urlencoded\n");
client.print("Content-Length: ");
client.print(postStr.length());
client.print("\n\n");
```

```
client.print(postStr);
Serial.print("Temperature: ");
Serial.print(t);
Serial.print(" degrees Celcius, Humidity: ");
Serial.print(h);
Serial.println("%. Send to Thingspeak.");
}
  client.stop();
  Serial.println("Waiting...");
  delay(1000);
}
```

Output



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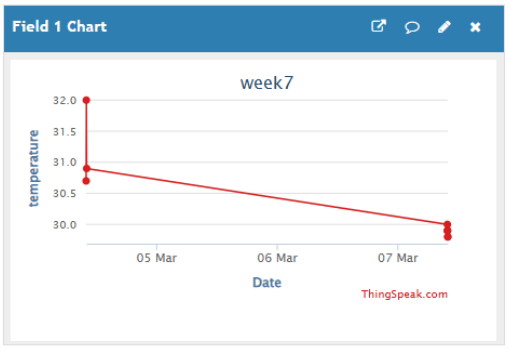
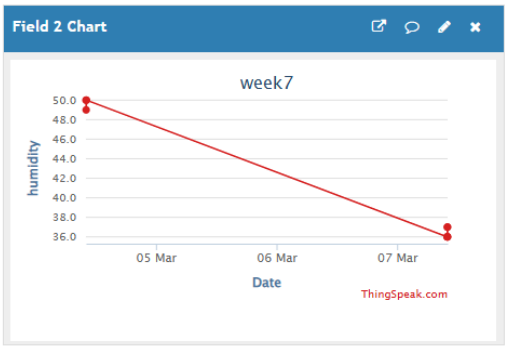
ailed to read from DHT sensor!
emperature: 32.90 degrees Celcius, Humidity: 43.00%. Send to Thingspeak.
aiting...
emperature: 32.90 degrees Celcius, Humidity: 41.00%. Send to Thingspeak.
aiting...
emperature: 32.90 degrees Celcius, Humidity: 41.00%. Send to Thingspeak.
aiting...
```

Entries: 9





Week 8

```
#include "ThingSpeak.h"
#include <ESP8266WiFi.h>
#include<DHT.h>
const char ssid[] = "surekha";  // your network SSID (name)
const char pass[] = "sakhison";   // your network password
int statusCode = 0;
WiFiClient  client;

//---------Channel Details---------//
unsigned long counterChannelNumber =  2846266;            // Channel ID
const char * myCounterReadAPIKey = "SXJMCVLJWIZMZLLF"; // Read API Key
const int FieldNumber1 = 1;  // The field you wish to read
const int FieldNumber2 = 2;  // The field you wish to read
//-------------------------------//

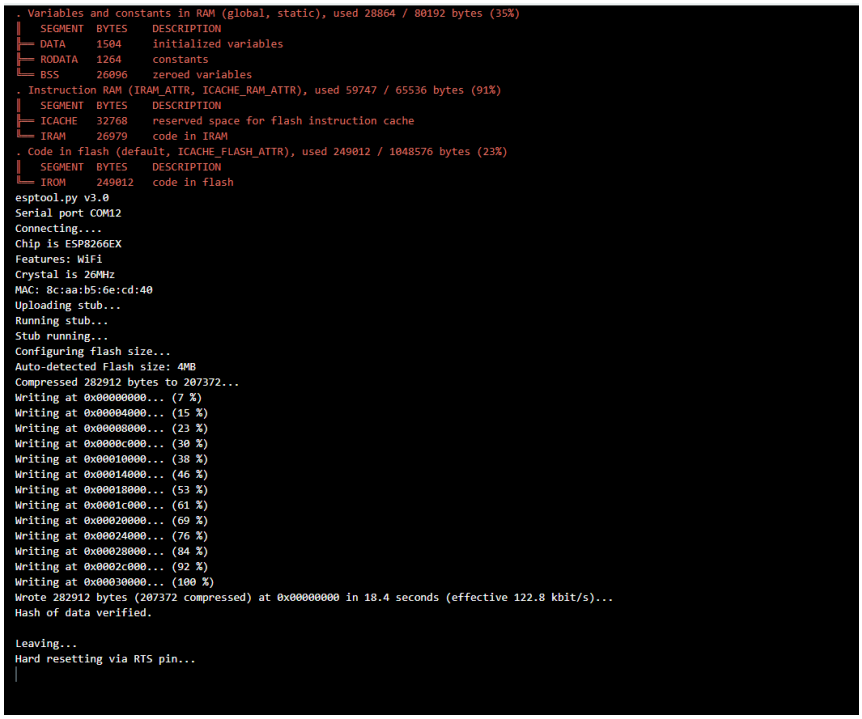
void setup()
{
  Serial.begin(115200);
  WiFi.mode(WIFI_STA);
  ThingSpeak.begin(client);
}

void loop()
{
  //----------------- Network -----------------//
  if (WiFi.status() != WL_CONNECTED)
  {
    Serial.print("Connecting to ");
    Serial.print(ssid);
    Serial.println(" ....");
    while (WiFi.status() != WL_CONNECTED)
    {
      WiFi.begin(ssid, pass);
      delay(5000);
    }
    Serial.println("Connected to Wi-Fi Succesfully.");
  }
  //--------- End of Network connection--------//

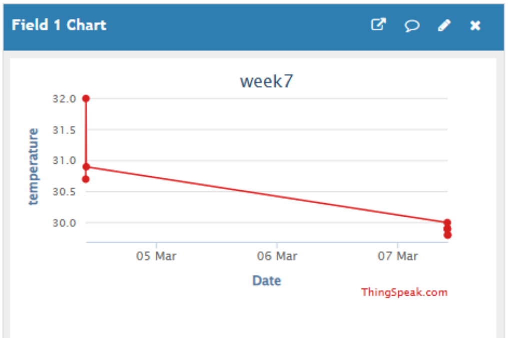
  //---------------- Channel 1 ----------------//
  long temp = ThingSpeak.readLongField(counterChannelNumber, FieldNumber1,
myCounterReadAPIKey);
  statusCode = ThingSpeak.getLastReadStatus();
  if (statusCode == 200)
  {
    Serial.print("Temperature: ");
    Serial.println(temp);
  }
  else
  {
    Serial.println("Unable to read channel / No internet connection");
  }
```

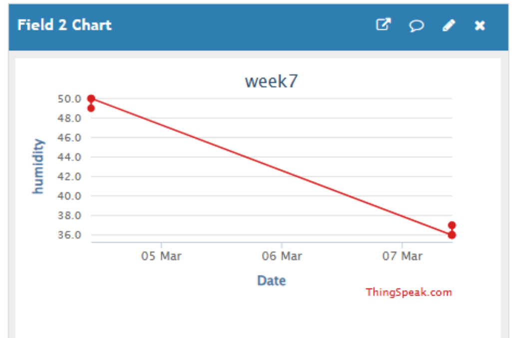
```
  delay(100);
  //-------------- End of Channel 1 -------------//

  //---------------- Channel 2 ----------------//
  long humidity = ThingSpeak.readLongField(counterChannelNumber, FieldNumber2,
myCounterReadAPIKey);
  statusCode = ThingSpeak.getLastReadStatus();
  if (statusCode == 200)
  {
    Serial.print("Humidity: ");
    Serial.println(humidity);
  }
  else
  {
    Serial.println("Unable to read channel / No internet connection");
  }
  delay(100);
  //-------------- End of Channel 2 -------------//
}
```



Entries: 9






```
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Temperature: 29
Humidity: 36
```

Week 6

```
#include <ESP8266WiFi.h>
String apiKey = "5NAVIX2DRXWOAV41";
const char *ssid =  "surekha";
const char *pass =  "sakhison";
const char* server = "api.thingspeak.com";
#define IRpin D3
WiFiClient client;
int value;
void setup()
{
Serial.begin(115200);
pinMode(IRpin, INPUT);
delay(1000);
```

```
Serial.println("Connecting to ");
Serial.println(ssid);
WiFi.begin(ssid, pass);
while (WiFi.status() != WL_CONNECTED)
{
delay(1000);
Serial.print(".");
}
Serial.println("   ");
Serial.println("WiFi connected");
}
void loop(){
 value = digitalRead(IRpin);
Serial.println(value);
  if(value==0)
  {
  Serial.println("object detected");
  }
  else
  {
  Serial.println("no object detected");
  }
if (client.connect(server,80))
{
String postStr = apiKey;
postStr +="&field1=";
postStr += String(value);
postStr += "\r\n\r\n";

client.print("POST /update HTTP/1.1\n");
client.print("Host: api.thingspeak.com\n");
client.print("Connection: close\n");
client.print("X-THINGSPEAKAPIKEY: "+apiKey+"\n");
client.print("Content-Type: application/x-www-form-urlencoded\n");
client.print("Content-Length: ");
client.print(postStr.length());
client.print("\n\n");
client.print(postStr);
client.stop();

Serial.println("Waiting...");

delay(1000);
}
}
```