

```

#include <Wire.h> // include the Wire library for I2C communication

#include <ESP8266WiFi.h> // include the ESP8266WiFi library for connecting to WiFi

#include <ThingSpeak.h> // include the ThingSpeak library for sending data to ThingSpeak

#include <Adafruit_MPU6050.h>

#include <Adafruit_Sensor.h>

const int MPU_addr=0x68; // I2C address of gy521 sensor

int16_t AcX,AcY,AcZ,Tmp,GyX,GyY,GyZ;

Adafruit_MPU6050 mpu;

const char* ssid = "VITTAL1804"; // your WiFi SSID

const char* password = "12345678"; // your WiFi password

unsigned long myChannelNumber = 2075607;

const char * myWriteAPIKey = "7F0P43M0TVTCZ0O6";

WiFiClient client;


void setup() {

  Wire.begin();

  Serial.begin(9600);

  WiFi.begin(ssid, password);

  ThingSpeak.begin(client); // initialize ThingSpeak communication
}


void loop() {

  /* Get new sensor events with the readings */

  sensors_event_t a, g, temp;

  mpu.getEvent(&a, &g, &temp);


  /* Print out the values */

```

```
Serial.print("Acceleration X: ");  
Serial.print(a.acceleration.x);  
Serial.print(", Y: ");  
Serial.print(a.acceleration.y);  
Serial.print(", Z: ");  
Serial.print(a.acceleration.z);  
Serial.println(" m/s^2");
```

```
Serial.print("Rotation X: ");  
Serial.print(g.gyro.x);  
Serial.print(", Y: ");  
Serial.print(g.gyro.y);  
Serial.print(", Z: ");  
Serial.print(g.gyro.z);  
Serial.println(" rad/s");
```

```
Serial.print("Temperature: ");  
Serial.print(temp.temperature);  
Serial.println(" degC");
```

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

```
ThingSpeak.setField(1, a.acceleration.x);  
ThingSpeak.setField(2, a.acceleration.y);  
ThingSpeak.setField(3, a.acceleration.z);  
ThingSpeak.setField(4, g.gyro.x);  
ThingSpeak.setField(5, g.gyro.y);  
ThingSpeak.setField(6, g.gyro.z);
```

```
delay(500);
```

```
// Write to ThingSpeak. There are up to 8 fields in a channel, allowing you to store up to 8 different
```

// pieces of information in a channel. Here, we write to field 1.

int x = ThingSpeak.writeFields(myChannelNumber, myWriteAPIKey);

delay(500);

}

The screenshot shows the Arduino IDE interface. The main window displays a C++ sketch for an ESP8266 microcontroller. The sketch includes libraries for I2C communication (Wire.h), WiFi (ESP8266WiFi.h), ThingSpeak data logging (ThingSpeak.h), and an Adafruit MPU6050 sensor (Adafruit\_MPU6050.h). It defines constants for the I2C address, WiFi SSID, password, channel number, and API key. The setup function initializes the serial port and ThingSpeak client. The loop function reads sensor data and prints it to the serial monitor.

```
varshoh

#include <Wire.h> // include the Wire library for I2C communication
#include <ESP8266WiFi.h> // include the ESP8266WiFi library for connecting to WiFi
#include <ThingSpeak.h> // include the ThingSpeak library for sending data to ThingSpeak
#include <Adafruit_MPU6050.h>
#include <Adafruit_Sensor.h>
const int MPU_addr=0x68; // I2C address of the gy521 sensor
int16_t AccX,AccY,AccZ,Tmp,GyX,GyY,GyZ;
Adafruit_MPU6050 mpu;
const char* ssid = "WITTAL1804"; // your WiFi SSID
const char* password = "12345678"; // your WiFi password
unsigned long myChannelNumber = 2075607;
const char * myWriteAPIKey = "7F0F43M0VTFC2006";
WiFiClient client;

void setup() {
  Wire.begin();
  Serial.begin(9600);
  WiFi.begin(ssid, password);

  ThingSpeak.begin(client); // initialize ThingSpeak communication
}

void loop() {

  /* Get new sensor events with the readings */
  sensor_event_t a, g, temp;
  mpu.getEvent(&a, &g, &temp);

  /* Print out the values */
  Serial.print("Acceleration X: ");
  Serial.print(a.acceleration.x);
  Serial.print(", Y: ");
  Serial.print(a.acceleration.y);
  Serial.print(", Z: ");
  Serial.print(a.acceleration.z);
  Serial.println();

  /* Send data to ThingSpeak */
  int x = ThingSpeak.writeFields(myChannelNumber, myWriteAPIKey);
  delay(500);
}
```

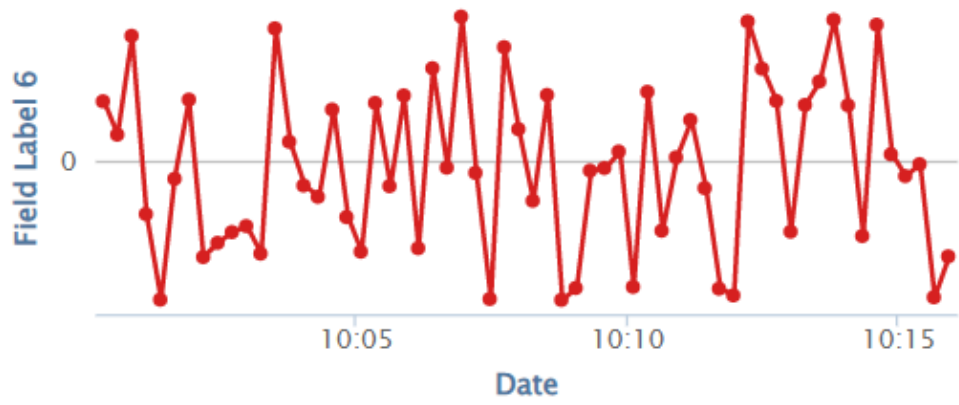
The serial monitor window (COM9) shows the output of the sketch, displaying sensor readings and timestamps. The output includes acceleration (X, Y, Z), rotation (X, Y, Z), and temperature (degC) data. The serial monitor settings are set to 9600 baud, with the 'Autoscroll' and 'Show timestamp' options checked.

```
10:21:16.721 -> Rotation X: -3.27, Y: 0.00, Z: -25.91 rad/s
10:21:16.768 -> Temperature: 35.21 degC
10:21:16.816 ->
10:21:17.665 -> Acceleration X: -7.01, Y: 19.62, Z: 125.69 m/s^2
10:21:17.712 -> Rotation X: -3.27, Y: 0.00, Z: -31.90 rad/s
10:21:17.760 -> Temperature: 35.21 degC
10:21:17.807 ->
10:21:18.657 -> Acceleration X: 69.64, Y: 24.52, Z: 125.69 m/s^2
10:21:18.704 -> Rotation X: -3.27, Y: 0.00, Z: 31.58 rad/s
10:21:18.751 -> Temperature: 35.21 degC
10:21:18.799 ->
10:21:19.651 -> Acceleration X: -44.94, Y: 30.65, Z: 125.69 m/s^2
10:21:19.746 -> Rotation X: -3.27, Y: 0.00, Z: 25.59 rad/s
10:21:19.794 -> Temperature: 35.21 degC
10:21:19.794 ->
```

## Field 6 Chart



vasanth



ThingSpeak.com