



***Globalcode***

# USING WIFI MODULE



# FILES FOR THIS CLASS

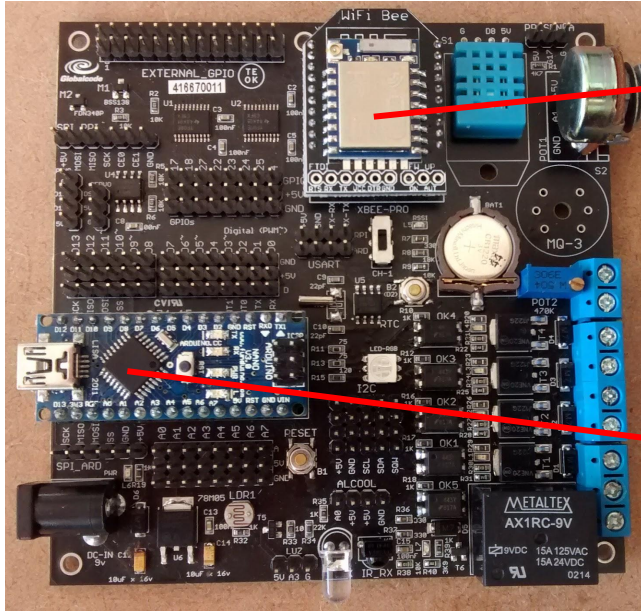
[HTTPS://PORTALALUNO.TOOLSCLOUD.NET/REDMINE/PROJECTS/IOTSURFBOARD/FILES](https://portalaluno.toolscloud.net/redmine/projects/iotsurfboard/files)

□ PRESENTATION: IOT\_SURFING\_CLASS\_10\_EN.PDF

# WIFI BEE MODULE

- ❑ ESP8266 PACKED WITH ZIGBEE FORM FACTOR
- ❑ COMPLETE TCP/IP SOC WITH LUA SUPPORT
- ❑ CAN BE PROGRAMMED WITH ARDUINO IDE!
- ❑ CAN HOST A HTTP SERVER AND MQTT BROKER

# DUAL MCU: ATMEGA328 + ESP8266



## Wifi Bee w/ ESP8266

WIFI Communication ready for ThingSpeak.com Sparkfun Data, IFTTT, firmware can be replaced by MQTT + REST gateway.

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## Arduino w/ Atmega328

Dedicated controller to manage actuators and sensors provides communication abstraction for USB Cable, Bluetooth, WIFI, Zigbee and 2g / 3g Modems.

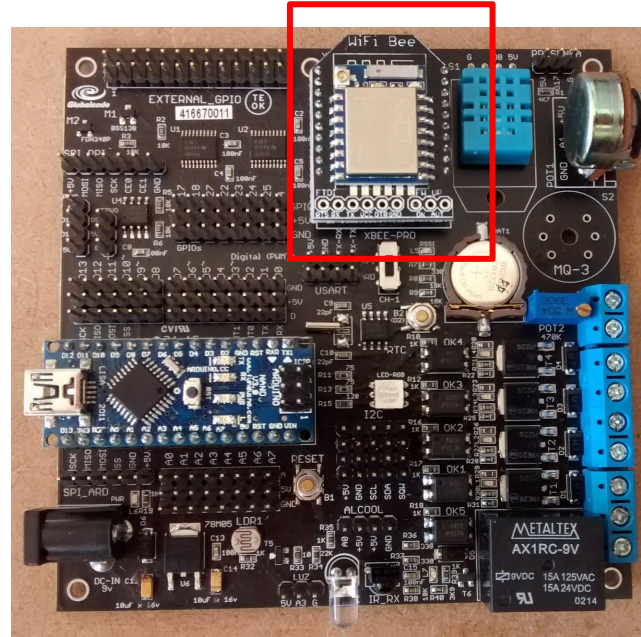
## Internet

REST  
MQTT  
ThingSpeak  
Sparkfun Data  
ifttt.org  
NodeRed  
IBM Bluemix  
Amazon IoT

# HOW TO USE...

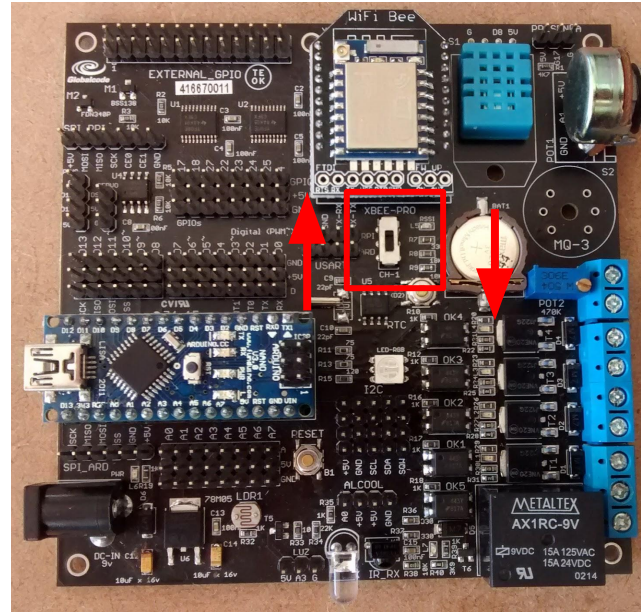
1. PLUG THE WIFI MODULE
2. CHANGE WIFI THE SWITCH ARDUINO - RASPBERRY PI
3. OPEN AT COMMAND WIFI FIRMWARE
4. CHANGE SSID, PWD AND KEY
5. UPLOAD TO YOUR BOARD
6. TEST WITH [DATA.SPARKFUN.COM](http://DATA.SPARKFUN.COM) AND [THINGSPEAK.COM](http://THINGSPEAK.COM)

# 1. PLUG THE WIFI MODULE



## 2. CHANGE WIFI SWITCH

IF YOU MOVE UP,  
WIFI MODULE WILL  
BE DISABLED AND  
YOU CAN UPLOAD  
SKETCHES TO YOUR  
ARDUINO.



IF YOU MOVE DOWN,  
WIFI MODULE WILL BE  
ENABLED AND YOU  
CAN'T UPLOAD  
SKETCHES TO YOUR  
ARDUINO.



### 3. OPEN AT COMMAND BASIC FIRMWARE



The screenshot shows the Arduino IDE interface. The 'File' menu is open, displaying options: New, Open..., Open Recent, Sketchbook (highlighted), Examples, Close, Save, Save As..., Page Setup, Print, Preferences, and Quit (with Ctrl+Q). The background code is an AT command sketch for WiFi access and database connection.

```
//dados para acesso a rede WiFi
#define SSID "iot-mobile"
#define PASS "iotiotiot"

#define DST_IP "54.86.132.254" //data.sparkfun.com
char myChar;

//dados para acesso ao banco de dados Sparkfun
const String publicKey = "G2q1b21w54FoDl5Q5GjY";
const String privateKey = "NW460W6J9RsMjqRkRWNl";

system_mode(1, myBlink);
```

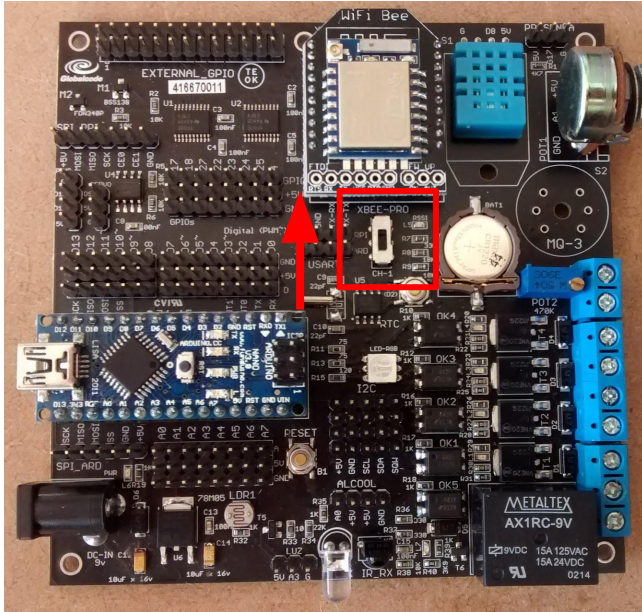
## 4. CHANGE THE SSID, PWD AND KEYS

```
//dados para acesso a rede WiFi
#define SSID "iot-mobile"
#define PASS "iotiotiot"

#define DST_IP "54.86.132.254" //data.sparkfun.com
char myChar;

//dados para acesso ao banco de dados Sparkfun
const String publicKey = "G2q1b21w54FoDl5Q5GjY";
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```

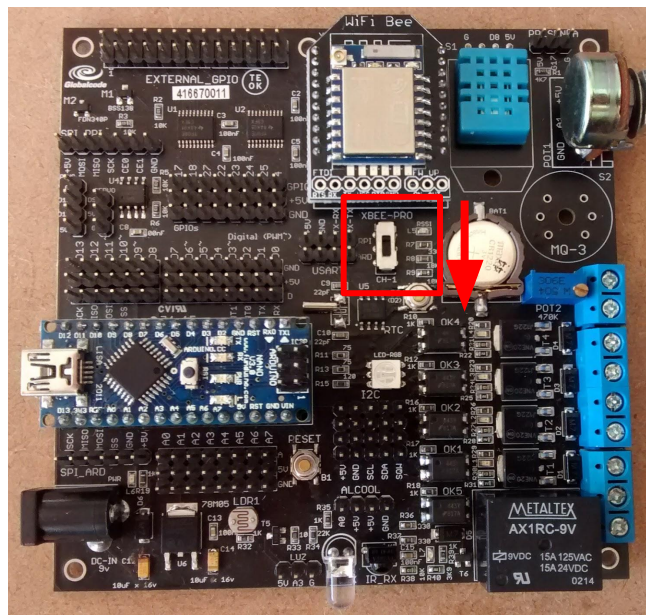
## 5. UPLOAD TO YOUR BOARD



```
DHT dht (DHTPIN, DHTTYPE);
```

```
//dados para acesso a rede WiFi  
#define SSID "iot-mobile"
```

# 6. TEST WITH SPARKFUN AND THINGSPEAK!



[ThingSpeak](#) [Channels ▾](#) [Apps](#) [Blog](#) [Support ▾](#)

## IoT Surfboard

Channel ID: 62673

IoT Surfboard Channel

Author: vsenger

Access: Private

[Private View](#) [Public View](#) [Channel Settings](#) [API Keys](#) [Data Import / Export](#)

[+ Add Visualizations](#) [Data Export](#)

### Channel Stats

Created 3 months ago

Updated about 12 hours ago

1 Entries



# LIVE DEMO



# SUMMARY

- DUAL-CORE ROCKS: ARDUINO AS DEDICATED CONTROLLER, ESP AS TCP/IP PROVIDER
- CHEAPEST WIFI SOLUTION EVER!
- ESP8266 IS A BIG COMMUNITY!

IOT SURFBOARD + ARDUINO + ESP8266 =  
BEST CHOICES!

