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# **coffee-bin-mqtt Documentation**

***Release latest***

**Jan 31, 2020**



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## Table of content

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<b>1</b>	<b>Features</b>	<b>3</b>
<b>2</b>	<b>Hardware</b>	<b>5</b>
<b>3</b>	<b>Wiring</b>	<b>7</b>
<b>4</b>	<b>Development</b>	<b>9</b>



MQTT sensor project for [CoffeeBin](#).



# CHAPTER 1

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## Features

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- It uses deep sleep mode to save energy.
- It measures the voltage on bootup and send the result as MQTT message to the broker.
- It has an external status LED
- It has a switch to broadcast an MQTT message, that the coffee machine is in maintenance mode.





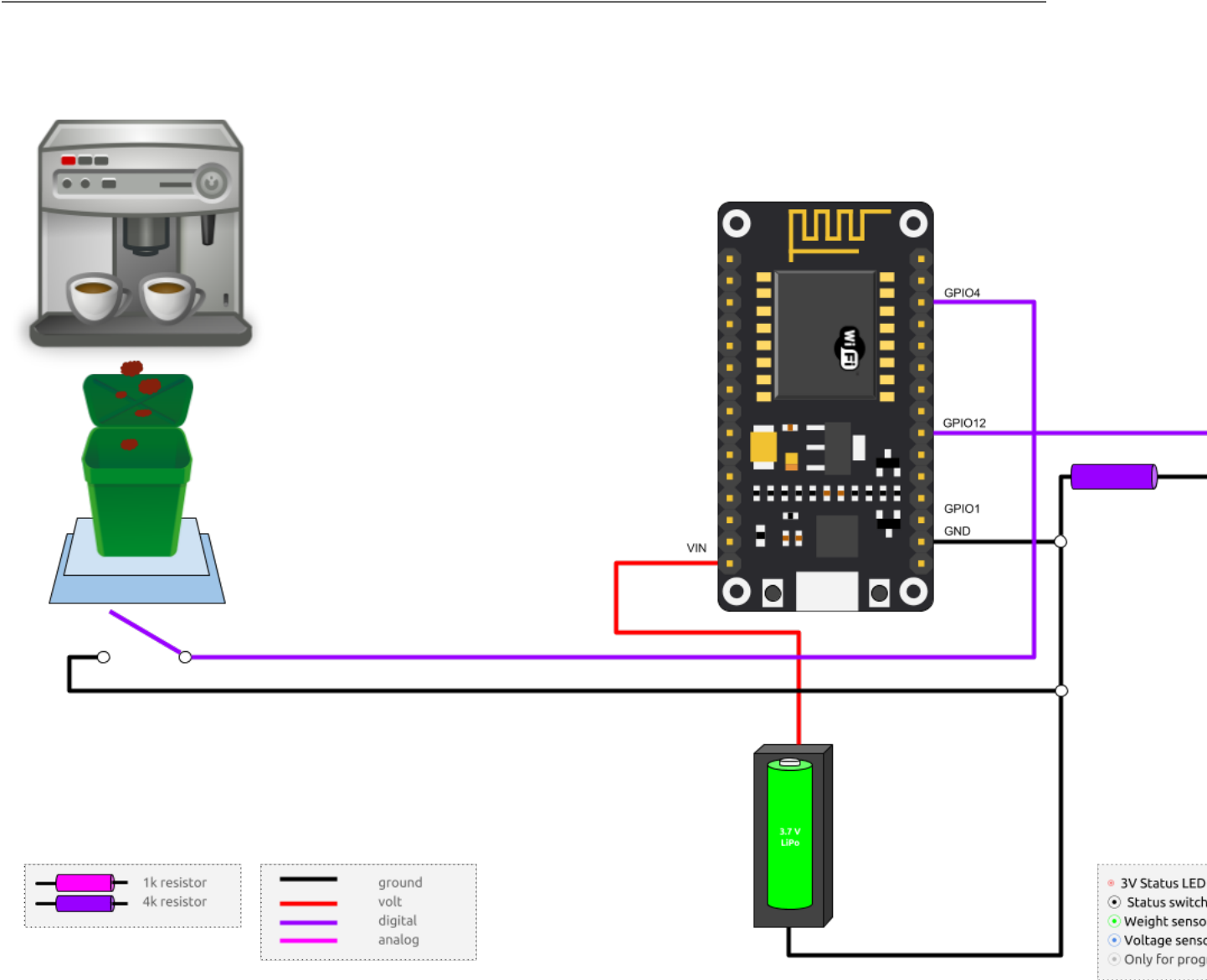
- **ESP8266 ESP12F**
  - Flash Size: 32 Mbit
  - Flash Mode: DIO
  - Flash Speed: 40 MHz
- LED
- Switch
- Voltage sensor





# CHAPTER 3

## Wiring



### 4.1 Preparation

Install the USB driver for your ESP8266 and find out on which port your device is available. For convenience you can save that information in your `~/.bashrc` or `~/.bash_profile` file.

If you don't wanna do that, you have to add the port to each command.

```
mos --port /dev/cu.SLAB_USBtoUART COMMAND
```

### 4.2 Build

You need to install Docker to build it locally.

```
git clone https://github.com/vergissberlin/coffee-bin-mqtt
cd coffee-bin-mqtt
mos build --platform ESP8266 --local --verbose
mos flash --esp-erase-chip --esp-baud-rate 115200 --esp-flash-params "dio,4m,40m"
```

### 4.3 Debugging and configuration

```
mos wifi --port /dev/cu.SLAB_USBtoUART WIFI-SSID WIFI-PASSWORD
mos console --port /dev/cu.SLAB_USBtoUART
```

## 4.4 Upload files

```
mos put --port /dev/cu.SLAB_USBtoUART fs/init.js
```

### 4.4.1 Requirements

#### Hardware

- ESP8266 ES12F
- Switch
- USB adapter
- Voltage sensor
- Red LED
- 18650 Li-ion battery case
- 18650 Li-ion protected battery
- Step down voltage regulator

#### Software

- Web browser on Linux, MacOS or Windows
- USB adapter driver (/dev/cu.wchusbserial14610)
- [MongooseOS](#)

### 4.4.2 Configuration

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**Tip:** You can enable RPC to configure and controll your device over WiFi.

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#### config9.json

```
{
  "device": {
    "id": "esp8266_XXXXX"
  },
  "mqtt": {
    "enable": false,
    "server": "io.adafruit.com:1883",
    "user": "USERNAME",
    "pass": "PASSWORD"
  },
  "aws": {
    "thing_name": "esp8266_XXXXX"
  },
  "wifi": {
```

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```
"ap": {  
  "enable": false  
},  
"sta": {  
  "enable": true,  
  "ssid": "WIFI_SSID",  
  "pass": "WIFI_PASSWORD"  
}  
}
```

### 4.4.3 Contribute

#### Pull requests

If you are interested to improve the code, feel free to 1. Make a fork 2. make your changes 3. Create a pull request.

#### Bug reports

If you find a bug and don't know how to fix it, then your bug report is also welcome! Try to describe the problem very detailed.