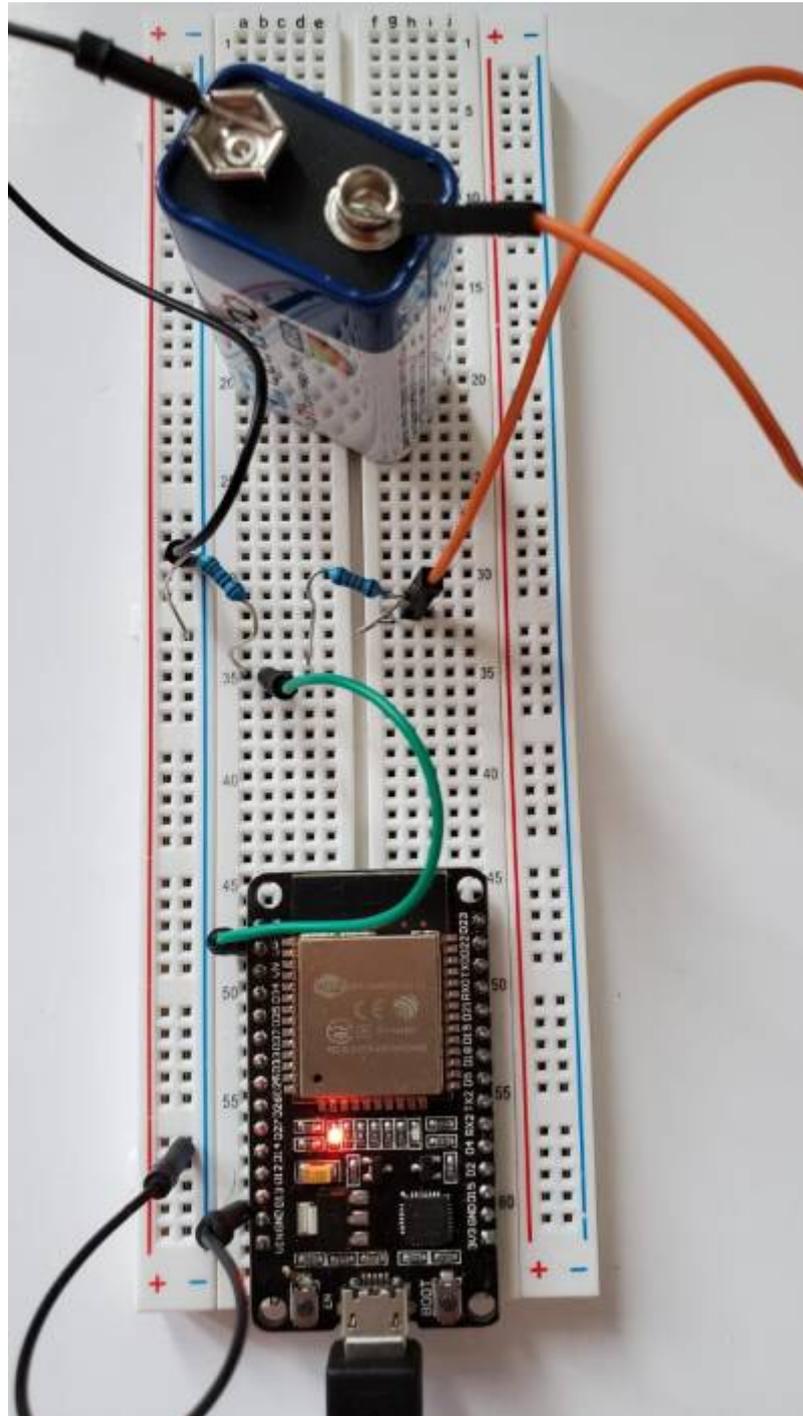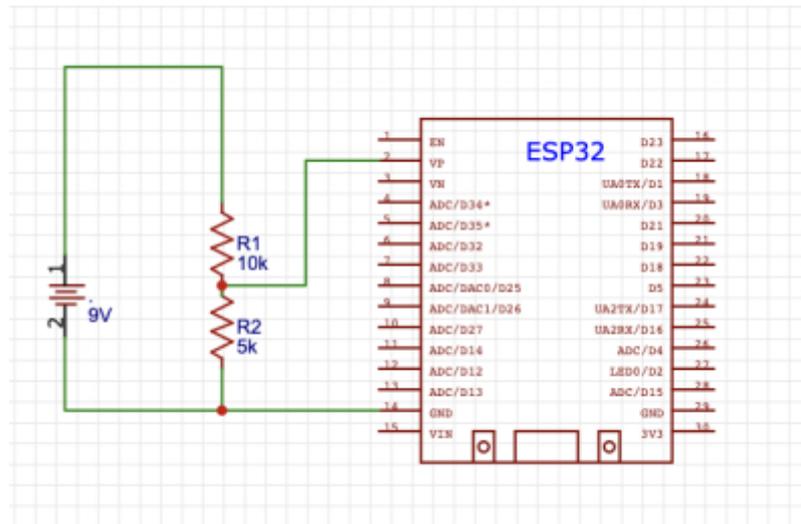# Build

Schematics

Code & Description

```
*//Reading of voltage

 int potPin = A0;       // Analog pin has to be ADC 1, because ADC 2 are used
by wifi and wont work
int potValue;             // do not change
float voltage =0;         // float because its a decimal number not integer
float battery_percent;

void setup() {

  Serial.begin(115200);


  {

  potValue = analogRead(potPin);
  float voltage = (3.3/4095.0) * potValue * 2.73;        //2.73 or 3 actual
ratio is the calibration



  Serial.print("potValue:");                    //NOT NEEDED FOR FINAL CODE
  Serial.print(potValue);                       //NOT NEEDED




  Serial.print(" Voltage:");
  Serial.print(voltage);
  Serial.println("V");


battery_percent = mapfloat(voltage, 3.0, 9.0, 0 , 100); // min value cut
```

```
off at 6V and maximum voltage is 9V

  if (battery_percent > 100)
  {
    battery_percent = 100;
  }
  if (battery_percent < 0)
  {
    battery_percent = 0;
  }



  Serial.print("Battery Percentage = ");
  Serial.println(battery_percent);



  if (voltage > 7.0 && voltage < 8.2) // THIS VALUES HAVE TO CHANGE
ACCRODING TO SOURCE
  {Serial.print("Low bat");                    // USE VOLTMETER TO FIND
THE ACCURATE VOLTAGE
  }
  if (voltage <6.5)                  //cut-off value is at 6V according to
specification , we use 6.5V
  {Serial.print("Replace Battery");
  }
  delay(1000);


}
}

 float mapfloat(float x, float in_min, float in_max, float out_min, float
out_max)
{
  return (x - in_min) * (out_max - out_min) / (in_max - in_min) + out_min;
}

void loop()
{

}



                                    // NO LOOP NEEDED,,, ONE VALUE WITH
WARNING SHOULD BE DISPLAYED ON GRAFANA
```

Results

```
ΓΓL@f ZΓ = 04ΓΓ
Γ ΓpotValue:0 Voltage:0.00V
Battery Percentage = 0.00
Replace Batteryets Jun  8 2016 00:22:57

rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
configsip: 0, SPIWP:0xee
clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
mode:DIO, clock div:1
load:0x3fff0030,len:1344
load:0x40078000,len:13516
load:0x40080400,len:3604
entry 0x400805f0
potValue:2566 Voltage:5.65V
Battery Percentage = 44.09
Replace Batteryets Jun  8 2016 00:22:57

rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
configsip: 0, SPIWP:0xee
clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
mode:DIO, clock div:1
load:0x3fff0030,len:1344
load:0x40078000,len:13516
load:0x40080400,len:3604
entry 0x400805f0
potValue:0 Voltage:0.00V
Battery Percentage = 0.00
Replace Batteryets Jun  8 2016 00:22:57

rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
configsip: 0, SPIWP:0xee
clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
mode:DIO, clock div:1
load:0x3fff0030,len:1344
load:0x40078000,len:13516
load:0x40080400,len:3604
entry 0x400805f0
potValue:2557 Voltage:5.63V
Battery Percentage = 43.76
Replace Battery
```

From:
https://wiki.eolab.de/ - **HSRW EOLab Wiki**

Permanent link:
https://wiki.eolab.de/doku.php?id=amc2022:grouph:link&rev=1662756123

Last update: **2022/09/09 22:42**