File "/WIZ750SR/main.cpp" printed from os.mbed.com on 4/12/2019

```
  #include "mbed.h"
#include "EthernetInterface.h"
#include "Adafruit_SSD1306.h"
#include "HTTPClient.h"
#include "reScale.h"

#if defined(TARGET_WIZWIKI_W7500)||defined(TARGET_WIZWIKI_W7500P)
    uint8_t mac_addr[6] = {0x00, 0x08, 0xDC, 0x53, 0xAE, 0x90};
#endif
// W7500 onboard LED & Init
DigitalOut rled(LED1,1);
DigitalOut gled(LED2,0);
DigitalOut bled(LED3,1);

// I2C Class
I2C i2c(PA_10,PA_9);

// OLED Class
Adafruit_SSD1306_I2c gOled(i2c,NC,0x78,64,128);

Serial pc(USBTX, USBRX);
Serial device(D1,D0);
EthernetInterface eth;

// Declare TCP Connection Class
TCPSocketConnection sock;

DigitalOut myled(D1);
  double V = 0;
double Current = 0;
float voltage=0;
double RawValue=0;
double volt=0;
 //int voltage = 0;
DigitalOut myled_R(LED_RED);

AnalogIn cin(A0);
AnalogIn vin(A1);
AnalogIn bin(A2);
AnalogIn nin(A3);




int main() {

    pc.baud(115200);

    printf("Wait a second...\r\n");

   eth.init(mac_addr);     //Use DHCP
eth.connect();

      printf("IP Address is %s\r\n\r\n", eth.getIPAddress());
        printf("MASK Address is %s\r\n\r\n", eth.getNetworkMask());
        printf("GATEWAY Address is %s\r\n\r\n", eth.getGateway());
        printf("MAC Address is %s\r\n\r\n", eth.getMACAddress());
    char str[512];

    char msg[512]= "";




     int cin_val = 0;
    int vin_val = 0;
        int bin_val = 0;
            int nin_val = 0;

    while (1) {
        printf("Entered!");
        for(int i = 0; i < 1000; i++)
      {
        cin_val += cin.read()*1000;
        vin_val += vin.read()*1000;
        bin_val += bin.read()*1000;
        nin_val += nin.read()*1000;
      }
      cin_val/=1000;
      vin_val/=1000;//voltage
      bin_val/=1000;//current
      nin_val/=1000;

      for(int i = 0; i < 1000; i++)
      {
       V = (V + ((3.3/4095) * bin_val)); // (5 V / 1024 (Analog) = 0.0049) which converter Measured analog input voltage to 5 V Range
      }
      V/=1000;
      Current = (V -0.6)/(0.185);
     for(int i = 0; i < 1000; i++) {
       reScale _scale (0,1023,0,16.5);
       voltage = voltage+(_scale.from(vin_val)); // (5 V / 1024 (Analog) = 0.0049) which converter Measured analog input voltage to 5 V Range
      }

      voltage = voltage/1000;

        // output the voltage and analog values
        printf("======================\r\n");
        //printf("analog value x1000 : %d\r\n",cin_val);          // analog value 0 ~ 1000
```

```
100         printf("analog value x1000 : %d\r\n",vin_val);
101         //printf("analog value x1000 : %d\r\n",bin_val);
102         //printf("analog value x1000 : %d\r\n",nin_val);
103         printf("\n VFC (V) = %f\r\n",V); // shows the measured voltage
104         printf("\n Current (A) = %.2f\r\n",Current);
105         printf("\n Voltage (V) = %f\r\n",voltage ); // shows the measured voltage
106 
107            sock.connect("api.thingspeak.com",80);
108 
109         sprintf(msg,"https://api.thingspeak.com/update?api_key=RPR5D5L24YOWVOEV&field2=%f&field3=%f",Current,voltage);
110         HTTPClient http;
111         int ret = http.get(msg, str, sizeof(str));
112          if(!ret)
113         {
114           pc.printf("\r\nPage fetched successfully - read %d characters\r\n", strlen(str));
115           pc.printf("Result: %s\r\n", str);
116         }
117          else
118         {
119           pc.printf("Error - ret = %d - HTTP return code = %d\n", ret, http.getHTTPResponseCode());
120         }
121 
122         wait(16);
123         sprintf(msg,"https://api.thingspeak.com/update?api_key=RPR5D5L24YOWVOEV&field3=%d",vin_val);
124         pc.printf("msg : %s\r\n",msg);
125 
126         ret = http.get(msg, str, sizeof(str));
127         if(!ret)
128         {
129           pc.printf("\r\nPage fetched successfully - read %d characters\r\n", strlen(str));
130           pc.printf("Result: %s\r\n", str);
131         }
132          else
133         {
134           pc.printf("Error - ret = %d - HTTP return code = %d\n", ret, http.getHTTPResponseCode());
135         }
136 
137 
138          //sock.close();
139       wait(16);
140     }}
141 
142 
143 
```

File "/WIZ750SR/main.cpp" printed from os.mbed.com on 4/12/2019