

Smart Farmer-IOT Enabled Smart Farming Application

DEVELOP A PYTHON CODE

TEAM ID: PNT2022TMID50396

Vanasundari. k	952319106035
Manisha. j	952319106018
Esai Malathi. J	952319106008
Suba. M	952319106034
Arthi. I	952319106002

```
#include "DHT.h"
```

```
#define DHTPIN A1
```

```
#define DHTTYPE DHT11 // DHT 11
```

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

```
#include <LiquidCrystal.h> // initialize the library with the numbers of the interface pins
```

```
#include <SoftwareSerial.h>
```

```
SoftwareSerial ESP11 = SoftwareSerial(2,3); // RX, TX
```

```
LiquidCrystal lcd(8, 9, 4, 5, 6, 7);
```

```
#define DEBUG true
```

```
int pump = 10;
```

```
// WIFI SHIELD DECLARATION
```

```
String ssid = "\"wifi002\"";
```

```
String pass = "\"12345678\"";
```

```
String tcp = "\"TCP\"";
```

```
String remoteip = "\"webapp2022-23.000webhostapp.com\"";
```

```
String portnum = "80";
```

```
int soil=A0;
```

```
int sm=0;
```

```
int mode=2;
```

```
int in=0;
```

```
float tp,mv=0;
```

```
int cel=0;
```

```
int h=0;
```

```
String st="";
```

```

void setup() {

    dht.begin();

    lcd.begin(16,2);
    ESP11.begin(115200);
    Serial.begin(115200);

    pinMode(pump,OUTPUT);
    digitalWrite(pump,LOW);

    lcd.setCursor(0,0);
    lcd.print("IRRIGATION IoT");
    lcd.setCursor(0,1);
    delay(2000);
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print(" Loading!....");
    sendData("AT+CWMODE=3\r\n",2000,DEBUG); // configure as access point and Client
    lcd.setCursor(0,1);
    lcd.print(" 20% ");
    sendData("AT+RST\r\n",2000,DEBUG); // reset module
    lcd.setCursor(0,1);
    lcd.print(" 40% ");

    sendData("AT+CWLAP\r\n",3,DEBUG); // List all available AP's*/
    lcd.setCursor(0,1);
    lcd.print(" 60% ");

    sendData("AT+CWJAP=" + ssid + "," + pass + "\r\n",3,DEBUG); // Connect to AP

```

```
lcd.setCursor(0,1);  
lcd.print("  90% ");  
sent();  
lcd.clear();  
lcd.setCursor(0,0);  
lcd.print("SM:  I:");  
lcd.setCursor(0,1);  
lcd.print("HM:  T:");  
  
}
```

```
void loop() {
```

```
    h = dht.readHumidity();  
    cel = dht.readTemperature();
```

```
    if(cel>100)  
        cel=100;
```

```
    lcd.setCursor(12,1);  
    lcd.print("  ");  
    lcd.setCursor(12,1);  
    lcd.print(cel);
```

```
    lcd.setCursor(3,1);  
    lcd.print("  ");  
    lcd.setCursor(3,1);
```

```
lcd.print(h);
```

```
sm = analogRead(soil);
```

```
sm/=10;
```

```
if(sm>100)
```

```
sm=100;
```

```
sm = 100-sm;
```

```
lcd.setCursor(3,0);
```

```
lcd.print("  ");
```

```
lcd.setCursor(3,0);
```

```
lcd.print(sm);
```

```
in=digitalRead(A2);
```

```
if(in==1)
```

```
{
```

```
    lcd.setCursor(12,0);
```

```
    lcd.print("  ");
```

```
    lcd.setCursor(12,0);
```

```
    lcd.print("DT");
```

```
}
```

```
else if(in==0)
```

```
{
```

```
    lcd.setCursor(12,0);
```

```
    lcd.print("  ");
```

```
    lcd.setCursor(12,0);
```

```
lcd.print("ND");
```

```
}
```

```
sent();
```

```
}
```

```
String sendData(String command, const int timeout, boolean debug)
```

```
{
```

```
String response = ""; // ESP8266 sendData String
```

```
Serial.print(command); // send the read character to the esp8266
```

```
}
```

```
void sent()
```

```
{
```

```
String getStr = "GET http://webapp2022-23.000webhostapp.com/irrigation/update.php?sm="; //  
Getting info from my online database through my online website
```

```
//int s=1;
```

```
getStr+=sm;
```

```
getStr+="temp=";
```

```
getStr+=cel;
```

```
getStr+="hum=";
```

```
getStr+=h;
```

```
getStr+="in=";
```

```
getStr+=in;
```

```
}
```

