

LAMPIRAN

LISTENING PROGRAM

KODE PROGRAM NODEMCU TEKNOLOGI SISTEM IKLIM MIKRO

```
#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#include <ESP8266WiFi.h>
#include <ESP8266HTTPClient.h>
#include <WiFiClient.h>
#include <dht.h>
#include <ArduinoJson.h>

#define lamp D0
#define pump1 D3
#define pump2 D4
#define dhtpin D6
#define fan D5

const int pinSoil = A0;
String failed;
LiquidCrystal_I2C lcd(0x27, 16, 2);
dht DHT;

int tem, hum, count, strlength;
float soilhum;
const byte degreeSymbol = B11011111;

const char *ssid = "H-STW";
const char *pass = "HURUFKECIL@321";
const char *host = "http://apps.herisetiawan.my.id/api/data";

//const char *ssid = "H-STW";
//const char *pass = "HURUFKECIL@321";
//const char *host = "http://192.168.18.241/simitech/api/data";
```

```
void setup() {
  pinMode(fan, OUTPUT);
  pinMode(pump2, OUTPUT);
  pinMode(lamp, OUTPUT);
  pinMode(pump1, OUTPUT);
  digitalWrite(fan, LOW);
  digitalWrite(pump2, HIGH);
  digitalWrite(lamp, LOW);
  digitalWrite(pump1, LOW);
  Serial.begin(115200);
  Wire.begin(D2, D1);
  lcd.begin();
  lcd.backlight();
  delay(1000);
  lcd.setCursor(0, 0);
  lcd.print("Connecting");
  WiFi.mode(WIFI_STA);
  WiFi.begin(ssid, pass);
  while (WiFi.status() != WL_CONNECTED) {
    lcd.print(".");
    delay(2000);
  }
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("Connected to ");
  lcd.setCursor(0, 1);
  lcd.print(ssid);
  delay(2000);
  lcd.setCursor(0, 0);
  lcd.print("IP Address");
  lcd.setCursor(0, 1);
  lcd.print(WiFi.localIP());
```

```

delay(2000);
lcd.clear();
count = strlen = 0;
}

void loop() {
  DHT.read11(dhtpin);
  tem = DHT.temperature;
  hum = DHT.humidity;
  soilhum = (100 - ((analogRead(pinSoil) / 1023.00) * 100)) ;
  String Data = (String)"suhu=" + tem + "&hum=" + hum + "&soilhum=" + soilhum
;
  Serial.println(Data);
  WiFiClient client;
  HTTPClient http;
  http.begin(client, host);
  http.addHeader("Content-Type", "application/x-www-form-urlencoded");
  int httpCode = http.POST(Data);
  String payload = http.getString();
  http.end();
  Serial.println(payload + (String)httpCode);
  if (payload) {
    failed = payload;
  } else {
    payload = failed;
  }
  webcontrol(payload);
  lcd.display();
  //autocontrol();
  delay(1000);
}

```

```
void webcontrol(String payload) {
  StaticJsonDocument<200> doc;
  DeserializationError error = deserializeJson(doc, payload);
  // Test if parsing succeeds.
  if (error) {
    Serial.print(F("deserializeJson() failed: "));
    Serial.println(error.f_str());
    return;
  }
  // Lampu
  if (doc["lampu"] == "1") {
    Serial.println("ON");
    digitalWrite(lamp, HIGH);
  } else {
    Serial.println("OFF");
    digitalWrite(lamp, LOW);
  }

  if (doc["WPump1"] == "1") {
    Serial.println("ON");
    digitalWrite(pump1, HIGH);
  } else {
    Serial.println("OFF");
    digitalWrite(pump1, LOW);
  }

  if (doc["WPump2"] == "1") {
    Serial.println("ON");
    digitalWrite(pump2, LOW);
  } else {
    Serial.println("OFF");
    digitalWrite(pump2, HIGH);
  }
}
```



```
}

if (doc["ABlower"] == "1") {
  Serial.println("ON");
  digitalWrite(fan, HIGH);
} else {
  Serial.println("OFF");
  digitalWrite(fan, LOW);
}
}

void lcddisplay() {
  lcd.clear();
  if (count == 0 || count == 1) {
    lcd.setCursor(0, 0);
    lcd.print("Temperature");
    lcd.setCursor(0, 1);
    lcd.print(tem);
    lcd.write(degreeSymbol);
    lcd.print("C");
  }
  if (count == 2 || count == 3) {
    lcd.setCursor(0, 0);
    lcd.print("Humidity");
    lcd.setCursor(0, 1);
    lcd.print(hum);
    lcd.print("%");
  }
  if (count == 4 || count == 5) {
    lcd.setCursor(0, 0);
    lcd.print("Soil Humidity");
    lcd.setCursor(0, 1);
```

```
lcd.print(soilhum);  
lcd.print("%");  
}  
count++;  
if (count > 5) {  
    count = 0;  
}  
}
```

KODE PROGRAM WEBSITE SIMITECH

HALAMAN LOGIN

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta content="width=device-width, initial-scale=1, maximum-scale=1, shrink-
to-fit=no" name="viewport">
  <title>SIMITECH 2022</title>

  <!-- General CSS Files -->
  <link rel="stylesheet" href="http://localhost/simitech/assets/bootstrap.min.css">
  <link rel="stylesheet"
href="https://use.fontawesome.com/releases/v5.7.2/css/all.css" integrity="sha384-
fmOCqbTIWIlj8LyTjo7mOUSTjsKC4pOpQbqyi7RrhN7udi9RwhKkMHpvLbH
G9Sr" crossorigin="anonymous">

  <!-- Template CSS -->
  <link rel="stylesheet" href="http://localhost/simitech/assets_stisla/css/style.css">
  <link rel="stylesheet"
href="http://localhost/simitech/assets_stisla/css/components.css">
</head>

<body style="background-image: linear-gradient(rgba(0, 0, 0, 0.527),rgba(0, 0, 0,
0.5)), url('https://img.archiexpo.com/images_ae/photo-g/160781-13619537.jpg');
background-position: center;">
  <div id="app">
    <section class="section">
      <div class="container mt-5">
        <div class="row">
          <div class="col-12 col-sm-8 offset-sm-2 col-md-6 offset-md-3 col-lg-6
offset-lg-3 col-xl-4 offset-xl-4">
            <div class="login-brand">
              </div>

            <div class="card card-primary">
              <div class="card-header">
                <h4>Form Login</h4>
              </div>
              <!-- <center>
                
              </center> -->

              <div class="card-body">
```

```

<form method="POST" action="http://localhost/simitech/login/proses">

  <div class="form-group">
    <label for="email">Username</label>
    <input id="email" type="text" class="form-control" name="email"
tabindex="1" required autofocus>
    <div class="invalid-feedback">Please fill in your username</div>
  </div>

  <div class="form-group">
    <div class="d-block">
      <label for="password" class="control-label">Password</label>
    </div>
    <input id="password" type="password" class="form-control"
name="password" tabindex="2" required>
    <div class="invalid-feedback">please fill in your password</div>
  </div>

  <div class="form-group">
    <button type="submit" class="btn btn-primary btn-lg btn-block"
tabindex="4">Login</button>
  </div>
</form>

</div>
</div>
<div class="simple-footer">
  <center>
    Copyright &copy; 2022 SIMITECH<br>
    Created By <a href="" target="_blank">Heri Setiawan - Sistem
Komputer IIB Darmajaya</a>
  </center>
</div>
</div>
</div>
</div>
</div>
</section>
</div>

<!-- General JS Scripts -->
<script src="http://localhost/simitech/assets_stisla/jquery.min.js"></script>
<script src="http://localhost/simitech/assets/popper.min.js"></script>
<script src="http://localhost/simitech/assets/bootstrap.min.js"></script>
<script src="http://localhost/simitech/assets/jquery.nicescroll.min.js"></script>
<script src="http://localhost/simitech/assets/moment.min.js"></script>
<script src="http://localhost/simitech/assets_stisla/js/stisla.js"></script>

<!-- JS Libraies -->

```

```

<!-- Template JS File -->
<script src="http://localhost/simitech/assets_stisla/js/scripts.js"></script>
<script src="http://localhost/simitech/assets_stisla/js/custom.js"></script>

<!-- Page Specific JS File -->
</body>

</html>

```

HALAMAN UTAMA (DASHBOARD)

```

<!-- Main Content -->
<div class="main-content">

<section class="section">
<div class="section-header">
<b>Selamat Datang, <?=$this->session->userdata('nama_lengkap')?</b>
<div class="section-header-breadcrumb">
<div class="breadcrumb-item"><a href="#">Dashboard</a></div>
<div class="breadcrumb-item active"><a href="#">Welcome</a></div>
</div>
</div>
<div class="section-body">
<!-- <body style="background-image: linear-gradient(rgba(0, 0, 0, 0.527),rgba(0,
0, 0, 0.5)), url('https://img.archiexpo.com/images_ae/photo-g/160781-
13619537.jpg'); background-position: center;"> -->
<div class="card">
<div class="card-wrap">
<div class="card-header">
<h4>Control</h4>
</div>
<div class="card-body bg-whitesmoke">
<div class="row">
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
<div class="card-icon bg-secondary float-right">
<span id="notif_lamp"></span>
</div>
<div class="card-wrap">
<div class="card-header">
<h4>Lampun <i class="fas fa-lightbulb"></i></h4>
</div>
<div class="card-body">
<button id="lampon" onclick="checked(this.value, 'lamp')" value="1" class="btn
btn-success">ON</button>
<button id="lampoff" onclick="checked(this.value, 'lamp')" value="0" class="btn
btn-danger">OFF</button>

```

```
</div>
</div>
</div>
</div>
```

```
<!-- Pompa Air (Tanaman) -->
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
<div class="card-icon bg-secondary float-right">
<span id="notif_pump1"></span>
</div>
<div class="card-wrap">
<div class="card-header">
<h4>Pompa Air (Tanaman) <i class="fas fa-braille"></i></h4>
</div>
<div class="card-body">
<button id="pump1on" onclick="checked(this.value, 'pump1')" value="1"
class="btn btn-success">ON</button>
<button id="pump1off" onclick="checked(this.value, 'pump1')" value="0"
class="btn btn-danger">OFF</button>
</div>
</div>
</div>
</div>
```

```
<!-- Pompa Air -->
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
<div class="card-icon bg-secondary float-right">
<span id="notif_pump2"></span>
</div>
<div class="card-wrap">
<div class="card-header">
<h4>Pompa Air (Nozzle) <i class="fas fa-shower"></i></h4>
</div>
<div class="card-body">
<button id="pump2on" onclick="checked(this.value, 'pump2')" value="1"
class="btn btn-success">ON</button>
<button id="pump2off" onclick="checked(this.value, 'pump2')" value="0"
class="btn btn-danger">OFF</button>
</div>
</div>
</div>
</div>
```

```
<!-- Sirkulasi Udara -->
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
```



```

</div>
</div>
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
<div class="card-icon bg-secondary float-right">
<i class="fa fa-tint fa-2x"></i>
</div>
<div class="card-wrap">
<div class="card-header">
<h4>Kelembaban Udara <i class="fas fa-tint"></i></h4>
</div>
<div class="card-body">
<div id="hum" class="text-center" style="background-color: #fdf3d8;
padding:1%; margin-right: 50%; margin-top: 5px; border-radius:
0.35rem;"></div>
</div>
</div>
</div>
</div>
</div>
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
<div class="card-icon bg-secondary float-right">
<i class="fa fa-water fa-2x"></i>
</div>
<div class="card-wrap">
<div class="card-header">
<h4>Kelembaban Tanah <i class="fas fa-water"></i></h4>
</div>
<div class="card-body">
<div id="soilhum" class="text-center" style="background-color: #fdf3d8;
padding:1%; margin-right: 50%; margin-top: 5px; border-radius:
0.35rem;"></div>
</div>
</div>
</div>
</div>
<div class="col-lg-4 col-md-6 col-sm-6 col-12">
<div class="card card-statistic-1">
<div class="card-icon bg-secondary float-right">
<i class="fa fa-microchip fa-2x"></i>
</div>
<div class="card-wrap">
<div class="card-header">
<h4>Mikrokontroler <i class="fas fa-microchip"></i></h4>
</div>
<div class="card-body">

```



```
<div id="mikrokontroler" class="text-center" style="background-color: #fdf3d8; padding:1%; margin-right: 50%; margin-top: 5px; border-radius: 0.35rem;"></div>
```

```
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>  
</div>
```

```
<section class="section">  
<div class="section-body">
```

```
<div class="card">  
<div class="card-wrap">  
<div class="card-header">  
<h4>Tentang Tanaman</h4>  
</div>  
<div class="card-body bg-whitesmoke">  
<p>Tomat (Lycopersicumes culentum) merupakan salah satu jenis tanaman hortikultura bernilai ekonomis tinggi, untuk itu cara menanam tomat yang baik perlu diperhatikan, dalam pertumbuhannya tanaman tomat sangat rentan terhadap kelembaban tanah.</p>  
<p class="mb-0">Pengecekan kondisi tanah sangat penting bagi pertumbuhan tomat yang harus memiliki <b>tanah optimal antara 60% - 80% agar tidak terlalu kering maupun basah</b>. Suhu yang harus cukup teratur agar tomat yang dihasilkan dapat memiliki keunggulan. Baiknya <b>suhu udara ideal yang diperlukan adalah 24-28 °C</b>, karena jika terlalu tinggi buah tomat akan cenderung berwarna kuning.</p>  
</div>  
</div>  
</div>
```

```
</div>  
</div>  
</section>
```

```
</div>
```

```
<link rel="stylesheet" href="<?=base_url()?>assets_stisla/leaflet/leaflet.css" >  
<link rel="stylesheet"  
href="<?=base_url()?>assets_stisla/leaflet/leaflet.fullscreen.css" >  
<script src="<?=base_url()?>assets_stisla/leaflet/leaflet.js"></script>
```

```

<script src="<?=base_url()?>assets_stisla/leaflet/turf.min.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/Leaflet.fullscreen.min.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/L.Control.Locate.min.js"></script>
<script src="<?=base_url()?>assets_stisla/leaflet/leaflet-measure-
path.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.markercluster.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.groupedlayercontrol.min.js"></sc
ript>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.browser.print.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.browser.print.utils.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.browser.print.sizes.js"></script>
<script src="<?=base_url()?>assets_stisla/leaflet/dom-to-image.min.js"></script>

```

HALAMAN GRAFIK

```

<!-- Main Content -->
<div class="main-content">

```

```

<section class="section">
<div class="section-header">
<b>Menu Grafik</b>
<div class="section-header-breadcrumb">
<div class="breadcrumb-item"><a href="#">Dashboard</a></div>
<div class="breadcrumb-item active"><a href="#">Grafik</a></div>
</div>
</div>
</section>

```

```

<section class="section">
<div class="section-body">

<div class="card">
<div class="card-wrap">
<div class="card-header">
<h4>Grafik Kelembaban Ruangan</h4>
</div>
<div class="card-body">
<div class="chart-area">
<div id="grafik_kelembaban"></div>
</div>

```

```
</div>
</div>
</div>
```

```
<div class="card">
<div class="card-wrap">
<div class="card-header">
<h4>Grafik Kelembaban Tanah</h4>
</div>
<div class="card-body">
<div class="chart-area">
<div id="grafik_soilhum"></div>
</div>
</div>
</div>
</div>
</div>
```

```
<div class="card">
<div class="card-wrap">
<div class="card-header">
<h4>Grafik Suhu Ruangan</h4>
</div>
<div class="card-body">
<div class="chart-area">
<div id="grafik_suhu"></div>
</div>
</div>
</div>
</div>
</div>
</div>
</section>
```

```
</div>
```

```
<link rel="stylesheet" href="<?=base_url()?>assets_stisla/leaflet/leaflet.css" >
<link rel="stylesheet"
href="<?=base_url()?>assets_stisla/leaflet/leaflet.fullscreen.css" >
<script src="<?=base_url()?>assets_stisla/leaflet/leaflet.js"></script>
<script src="<?=base_url()?>assets_stisla/leaflet/turf.min.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/Leaflet.fullscreen.min.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/L.Control.Locate.min.js"></script>
<script src="<?=base_url()?>assets_stisla/leaflet/leaflet-measure-
path.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.markercluster.js"></script>
```

```
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.groupedlayercontrol.min.js"></sc
ript>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.browser.print.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.browser.print.utils.js"></script>
<script
src="<?=base_url()?>assets_stisla/leaflet/leaflet.browser.print.sizes.js"></script>
<script src="<?=base_url()?>assets_stisla/leaflet/dom-to-image.min.js"></script>
```