

LAMPIRAN

Kode Program Node Sensor

```
#include <ESP8266WiFi.h>
```

```
#include <ESP8266HTTPClient.h>
```

```
#include <WiFiClient.h>
```

```
#include <Servo.h>
```

```
#include <NTPClient.h>
```

```
#include <WiFiUdp.h>
```

```
#include <AccelStepper.h>
```

```
#include <HX711.h>
```

```
AccelStepper stepper(AccelStepper::HALF4WIRE, D5, D6, D7, D8);
```

```
HX711 scale;
```

```
Servo servo;
```

```
WiFiUDP ntpUDP;
```

```
NTPClient timeClient(ntpUDP, "pool.ntp.org");
```

```
#define servoPin D0
```

```
#define dt    D1
```

```
#define sck   D2
```

```
#define magnetic D3
```

```
#define led   D4
```

```
const char* ssid = "Sinau Tech";
```

```
const char* password = "HURUFKECIL@321";
```

```
const char* serverSet = "http://192.168.18.119/rinoapp/public/node/set";
```

```
const char* serverPakan = "http://192.168.18.119/rinoapp/public/node/pakan";
```

```
const char* serverPintu = "http://192.168.18.119/rinoapp/public/node/pintu";
```

```
const char* serverChange = "http://192.168.18.119/rinoapp/public/node/state";
```

```
String email = "rino@gmail.com";
String pass = "12345678";

void setup() {
  scale.begin(dt, sck);
  scale.set_scale(391.627);
  scale.tare();

  servo.attach(servoPin);
  servo.write(40); // wadah pakan tertutup
  delay(1000);

  timeClient.begin();
  timeClient.setTimeOffset(25200);

  pinMode(led, OUTPUT);
  pinMode(magnetic, INPUT);

  WiFi.mode(WIFI_STA);
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED) {
    digitalWrite(led, !digitalRead(led));
    delay(100);
  }
  Serial.begin(115200);
}

void loop() {
  setValue(readLoadcell(), "Closed");
}
```

```

readJadwalPakan();
readJadwalPintu();
digitalWrite(led, !digitalRead(led));
delay(10);
}

void setValue(String loadcell, String reed) {
  Serial.println("\n\n===== SEND DATA NODE SENSOR =====");
  Serial.println(loadcell);
  WiFiClient client;
  HTTPClient http;
  http.begin(client, serverSet);
  http.addHeader("Content-Type", "application/x-www-form-urlencoded");
  String httpRequestData = "email=" + email + "&password=" + pass + "&reed="
+ reed + "&loadcell=" + loadcell;
  int httpResponseCode = http.POST(httpRequestData);
  String payload = http.getString();
  Serial.print("Response Server  : ");
  Serial.println(payload);
  Serial.print("HTTP Response code : ");
  Serial.println(httpResponseCode);
  http.end();
}

void readJadwalPakan() {
  Serial.println("\n\n===== GET DATA JADWAL PAKAN =====");
  WiFiClient client;
  HTTPClient http;
  http.begin(client, serverPakan);
  http.addHeader("Content-Type", "application/x-www-form-urlencoded");

```

```

String httpRequestData = "email=" + email + "&password=" + pass;
int httpResponseCode = http.POST(httpRequestData);
String payload = http.getString();
Serial.print("Read Jadwal Pakan : ");
Serial.println(payload);
Serial.print("HTTP Response code : ");
Serial.println(httpResponseCode);
http.end();
if (httpResponseCode == 200) {
    String waktu = cekWaktu();
    String status = waktu + "\",\"status\": \"yet\"";
    if (payload.indexOf(status) > 0) {
        changeStatus(waktu, "pakan");
        servo.write(180);
        delay(1000);
        servo.write(40);
        delay(1000);
    }
}
}

void readJadwalPintu() {
    Serial.println("\n\n===== GET DATA JADWAL PINTU =====");
    WiFiClient client;
    HTTPClient http;
    http.begin(client, serverPintu);
    http.addHeader("Content-Type", "application/x-www-form-urlencoded");
    String httpRequestData = "email=" + email + "&password=" + pass;
    int httpResponseCode = http.POST(httpRequestData);

```

```

String payload = http.getString();
Serial.print("Read Jadwal Pintu : ");
Serial.println(payload);
Serial.print("HTTP Response code : ");
Serial.println(httpResponseCode);
http.end();
if (httpResponseCode == 200) {
    String waktu = cekWaktu();
    String status = waktu + "\",\"status\": \"yet\"";
    if (payload.indexOf(status) > 0) changeStatus(waktu, "pintu");
}
}

void changeStatus(String time, String aktuator) {
    Serial.println("\n\n==== CHANGE STATUS > " + aktuator + " =====");
    WiFiClient client;
    HTTPClient http;
    http.begin(client, serverChange);
    http.addHeader("Content-Type", "application/x-www-form-urlencoded");
    String httpRequestData = "email=" + email + "&password=" + pass + "&time="
+ time + "&aktuator=" + aktuator;
    int httpResponseCode = http.POST(httpRequestData);
    Serial.print("HTTP Response code : ");
    Serial.println(httpResponseCode);
    http.end();
}

String cekWaktu() {
    timeClient.update();

```

```
String jam = (timeClient.getHours() < 10) ? "0" + (String)timeClient.getHours() :  
(String)timeClient.getHours();
```

```
String menit = (timeClient.getMinutes() < 10) ? "0" +  
(String)timeClient.getMinutes() : (String)timeClient.getMinutes();
```

```
return jam + ":" + menit;
```

```
}
```

```
String readLoadcell() {
```

```
long reading = scale.get_units(10);
```

```
return (String)reading;
```

```
}
```

Kode Program jadwal

```
<?php

namespace App\Models;

use CodeIgniter\Model;

class Jadwal extends Model {
    protected $table = 'tb_jadwal';
    protected $allowedFields = [
        'id',
        'time',
        'status',
        'aktuator'
    ];
}
```


Kode Program Login Activity

```

<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible" content="IE=edge">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Login</title>

  <script src="https://cdn.tailwindcss.com"></script>

</head>

<body class="">

  <div class="flex flex-col h-screen md:w-screen place-content-center items-center">

    <div class="p-4 w-11/12 md:w-2/4 lg:w-2/6 bg-white rounded-lg border border-gray-200 shadow-md sm:p-6 lg:p-8 dark:bg-gray-800 dark:border-gray-700">

      <form class="space-y-6" method="post" action="<?=base_url()?>/auth/user">

        <h5 class="text-xl font-medium text-gray-900 dark:text-white text-center capitalize">Sign in Sistem otomatis kandang merpati berbasis IoT</h5>

        <?php if(session()->getFlashdata('msg')):?>

          <div class="text-red-700 text-center">

            <?= session()->getFlashdata('msg') ?>

          </div>

        <?php endif;?>

      <div>

        <label for="email" class="block mb-2 text-sm font-medium text-gray-900 dark:text-gray-300">Your email</label>

        <input type="email" name="email" id="email" class="bg-gray-50 border border-gray-300 text-gray-900 text-sm rounded-lg focus:ring-blue-500 focus:border-blue-500 block w-full p-2.5 dark:bg-gray-600 dark:border-gray-500

```

```
dark:placeholder-gray-400 dark:text-white" placeholder="name@gmail.com"
required="">
    </div>
    <div>
        <label for="password" class="block mb-2 text-sm font-medium text-
gray-900 dark:text-gray-300">Your password</label>
        <input type="password" name="password" id="password"
placeholder="••••••••" class="bg-gray-50 border border-gray-300 text-gray-900
text-sm rounded-lg focus:ring-blue-500 focus:border-blue-500 block w-full p-2.5
dark:bg-gray-600 dark:border-gray-500 dark:placeholder-gray-400 dark:text-
white" required="">
    </div>
    <button type="submit" class="w-full text-white bg-blue-700 hover:bg-
blue-800 focus:ring-4 focus:outline-none focus:ring-blue-300 font-medium
rounded-lg text-sm px-5 py-2.5 text-center dark:bg-blue-600 dark:hover:bg-blue-
700 dark:focus:ring-blue-800">Login</button>
    </form>
</div>
</div>
</body>
</html>
```

Kode Program Setting

```

<!DOCTYPE html>

<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Sangkar Burung | Settings</title>
  <script src="https://cdn.tailwindcss.com"></script>
  <script src="https://kit.fontawesome.com/a3e1e6d63e.js"
crossorigin="anonymous"></script>
</head>

<body class="bg-gray-100">
  <div class="flex flex-col md:h-screen">
    <nav class="bg-white w-screen grow-0 p-4">
      <div class="container flex flex-wrap justify-between items-center mx-
auto">
        <a href="" class="flex items-center">
          <span class="text-2xl font-semibold whitespace-nowrap">SISTEM
KOMPUTER</span>
        </a>
        <button id="menuBtn" class="block md:sr-only"><i class="fa-solid fa-
bars text-2xl"></i></button>
        <div id="listMenu" class="hidden w-full md:block md:w-auto">
          <ul class="flex flex-col mt-4 md:flex-row md:space-x-8 md:mt-0
md:text-sm md:font-medium items-center space-y-3 md:space-y-0">
            <li><a href="<?= base_url() ?>" class="menu-
active">Home</a></li>
            <li><a href="<?= base_url() ?>/auth/logout"
class="menu">Logout</a></li>
          </ul>
        </div>
      </div>
    </div>
  </div>

```

```

    </div>
  </nav>
  <div class="grow bg-gray-100 dark:bg-gray-800 w-screen p-4 md:px-8
lg:px-24 md:py-8">
    <div class="grid grid-rows-3 md:grid-cols-3 md:grid-rows-1 gap-4
md:gap-6 lg:gap-8">
      <div class="flex flex-col">
        <h3 class="font-semibold text-lg md:text-xl py-2 dark:text-
white">Atur Jadwal Pakan</h3>
        <div class="bg-white/70 p-4 rounded-lg h-full shadow-md">
          <div class="flex space-y-2 justify-center">
            <form class="flex flex-col justify-center space-y-2"
method="post" action="<?=base_url()?>/home/pakan">
              <?php foreach ($pakan as $key => $value) {
                echo form_input(['type' => 'time', 'name' => $value->id,
'value' => $value->time, 'class' => 'px-3 py-1.5 text-base font-normal text-gray-
700 bg-white bg-clip-padding border border-solid border-gray-300 rounded
transition ease-in-out m-0 focus:text-gray-700 focus:bg-white focus:border-blue-
600 focus:outline-none']);
              } ?>
              <button type="submit" class="bg-green-200 text-green-800
py-2 px-4 rounded-lg font-semibold">Save</button>
            </form>
          </div>
        </div>
      </div>
    </div>
    <div class="flex flex-col">
      <h3 class="font-semibold text-lg md:text-xl py-2 dark:text-
white">Berat Burung <span class="font-light text-
sm">(gram/burung)</span></h3>
      <div class="bg-white/70 p-4 rounded-lg h-full flex items-center
justify-center shadow-md">
        <form class="flex flex-col space-y-2 justify-center" method="post"
action="<?=base_url()?>/home/berat">

```

```

        <?= form_input(['type' => 'number', 'name' => 'weight', 'value'
=> $config->weight, 'class' => 'text-center px-3 py-1.5 text-base font-normal text-
gray-700 bg-white bg-clip-padding border border-solid border-gray-300 rounded
transition ease-in-out m-0 focus:text-gray-700 focus:bg-white focus:border-blue-
600 focus:outline-none'])?>

        <button type="submit" class="bg-green-200 text-green-800 py-2
px-4 rounded-lg font-semibold">Save</button>

        </form>

    </div>

</div>

<div class="flex flex-col">

    <h3 class="font-semibold text-lg md:text-xl py-2 dark:text-
white">Jadwal Pintu Kandang</h3>

    <div class="bg-white/70 p-4 rounded-lg h-full shadow-md">

        <div class="flex space-y-2 justify-center">

            <form class="flex flex-col justify-center space-y-2" method="post"
action="<?=base_url()?>/home/pintu">

                <?=php foreach ($pintu as $key => $value) {

                    echo form_input(['type' => 'time', 'name' => $value->id,
'value' => $value->time, 'class' => 'px-3 py-1.5 text-base font-normal text-gray-
700 bg-white bg-clip-padding border border-solid border-gray-300 rounded
transition ease-in-out m-0 focus:text-gray-700 focus:bg-white focus:border-blue-
600 focus:outline-none']);

                } ?>

                <button type="submit" class="bg-green-200 text-green-800
py-2 px-4 rounded-lg font-semibold">Save</button>

            </form>

        </div>

    </div>

</div>

</div>

</div>

</div>

```

```
<script src="<?=base_url()?>/js/settings.js" defer></script>  
</body>  
</html>
```

Kode Program Home

```
<?php
```

```
namespace App\Controllers;
```

```
use App\Models\Jadwal;
```

```
use App\Models\Nodesensor;
```

```
use App\Models\Settings;
```

```
class Home extends BaseController
```

```
{
```

```
    public function __construct() {
```

```
        $this->jadwal = new Jadwal();
```

```
        $this->node = new Nodesensor();
```

```
        $this->setting = new Settings();
```

```
    }
```

```
    public function index() {
```

```
        $config = $this->setting->select('weight')->get()->getRow();
```

```
        $pakan = $this->jadwal->where('aktuator', 'pakan')->get()->getResult();
```

```
        $node = $this->node->get()->getRow();
```

```
        $data = [
```

```
            'pakan' => $pakan,
```

```
            'tanggal' => date("l, d F Y"),
```

```
            'burung' => floor($node->loadcell/$config->weight),
```

```
            'pintu' => $node->reedswitch,
```

```
            'reedswitch' => $node->reedswitch
```

```
        ];
```

```
        return view('dashboard/index', $data);
```

```
    }
```

```
    public function setting() {
```

```

$ pakan = $this->jadwal->where('aktuator', 'pakan')->get()->getResult();
$ pintu = $this->jadwal->where('aktuator', 'pintu')->get()->getResult();
$ configBeratBurung = $this->setting->select('weight')->get()->getRow();
$data = [
    'pakan' => $pakan,
    'pintu' => $pintu,
    'config' => $configBeratBurung,
];
return view('dashboard/settings', $data);
}

```

```

public function rtds() {
    $config = $this->setting->select('weight')->get()->getRow();
    $pakan = $this->jadwal->where('aktuator', 'pakan')->get()->getResult();
    $node = $this->node->get()->getRow();
    $data = [
        'pakan' => $pakan,
        'tanggal' => date("l, d F Y"),
        'burung' => floor($node->loadcell/$config->weight),
        'pintu' => $node->door,
        'reedswitch' => $node->reedswitch
    ];
    return $this->response->setJSON($data);
}

```

```

public function pakan() {
    $pakan = $this->jadwal->where('aktuator', 'pakan')->get()->getResult();
    foreach ($pakan as $value) {
        echo $this->request->getPost($value->id);
        $this->jadwal->set(['time' => $this->request->getPost($value->id)])-
>where(['id' => $value->id, 'aktuator' => 'pakan']->update());
    }
}

```



```
return redirect()->to('/home/setting');
}

public function pintu() {
    $pakan = $this->jadwal->where('aktuator', 'pintu')->get()->getResult();
    foreach ($pakan as $value) {
        echo $this->request->getPost($value->id);
        $this->jadwal->set(['time' => $this->request->getPost($value->id)])-
>where(['id' => $value->id, 'aktuator' => 'pintu'])->update();
    }
    return redirect()->to('/home/setting');
}

public function berat() {
    $this->setting->set(['weight' => $this->request->getPost('weight')]-
>update();
    return redirect()->to('/home/setting');
}

public function set($var) {
    $this->node->update(1, ['door' => $var]);
}
}
```