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LAMPIRAN

LAMPIRAN 1. *SOURCE CODE HARDWARE MASTER*

```
#include "FirebaseESP8266.h"
#include <ESP8266WiFi.h>
#include <SPI.h>
#include <Lora.h>
#include <elapsedMillis.h>

const int csPin = 15;
const int resetPin = 16;
const int irqPin = 5;

const char* ssid = "oon-nee";
const char* password = "lagallg0";

FirebaseData firebaseData;

int master_id = 10;
int slave_id[1000] ;
int slave_id_length;

int rr;
int indicator;
int masterRR;
int rrms;
int slave_water_fix;
int resend;
int stat;
int baru;
int packetSize;
int new_slave_id_length;
```

```

/////slave data
int slave_address;
int slave_destination;
int slave_waterh;
int slave_odd;
int slave_ind;
int slave_batt;
int slave_rr;
int slave_signal;
/////slave data

elapsedMillis timeElapsedRefresh;
elapsedMillis timeElapsedrr;
elapsedMillis timeElapsedResend;

void setup() {
    Lora.setPins(csPin, resetPin, irqPin);

    Serial.begin(9600);
    while (!Serial);

    Serial.println("Lora Receiver");

    if (!Lora.begin(915E6)) {
        Serial.println("Starting Lora failed!");
        while (1);
    }
    Lora.setTxPower(20);

    connectWifi();

```

```

    Firebase.begin("https://babi-d7e93.firebaseio.com/",
    "h2KWppYiNhHFUQgzDrxZSsgybUbBBR0OdJjoaHRQ");

    //pengambilan panjang data slave

    Firebase.getInt(firebaseData,
    "/master/"+String(master_id)+"/idLength");
    slave_id_length = firebaseData.intData();
    Serial.print("leng ");
    Serial.println(slave_id_length);

    //pengambilan data slave

    for (int i = 0; i < slave_id_length; i++ ){
        Firebase.getInt(firebaseData,
        "/master/"+String(master_id)+"/slaveId/"+String(i));
        slave_id[i] = firebaseData.intData();
    }
    for (int i = 0; i < slave_id_length; i++){
        Serial.println(slave_id[i]);
    }

    //pengambilan data master
    Firebase.getInt(firebaseData,
    "/master/"+String(master_id)+"/rr");
    rr = firebaseData.intData();

    Firebase.getInt(firebaseData,
    "/master/"+String(master_id)+"/indicator");
    indicator = firebaseData.intData();

    Firebase.getInt(firebaseData,
    "/master/"+String(master_id)+"/masterRR");

```

```

masterRR = firebaseData.intData();

timeElapsedRefresh = 0;

}

void loop() {

if (timeElapsedRefresh > masterRR){
Firebase.getInt(firebaseData,
"/master/"+String(master_id)+"/rr");
rr = firebaseData.intData();

Firebase.getInt(firebaseData,
"/master/"+String(master_id)+"/indicator");
indicator = firebaseData.intData();

Firebase.getInt(firebaseData,
"/master/"+String(master_id)+"/masterRR");
masterRR = firebaseData.intData();

Firebase.getInt(firebaseData,
"/master/"+String(master_id)+"/idLength");
new_slave_id_length = firebaseData.intData();

timeElapsedRefresh = 0;
}

if (new_slave_id_length != slave_id_length){
    slave_id_length = new_slave_id_length;

    for (int i = 0; i < slave_id_length; i++ ){
        Firebase.getInt(firebaseData,
"/master/"+String(master_id)+"/slaveId/"+String(i));
    }
}
}

```

```

    slave_id[i] = firebaseData.intData();
  }
  for (int i = 0; i < slave_id_length; i++){
    Serial.println(slave_id[i]);
  }
}

rrms = rr * 60 * 1000;

//slaving

if(slave_id_length > 0 && timeElapsedrr > rrms){

  for(int i = 0; i < slave_id_length; i++){
    stat = 0;
    while (resend < 3 && stat == 0){
      Lora.beginPacket();
      Lora.write(master_id);
      Lora.write(indicator);
      Lora.write(rr);
      Lora.write(slave_id[i]);
      Lora.endPacket();
      timeElapsedResend = 0;

      while(timeElapsedResend < 2000 && stat == 0){
        yield();

        packetSize = Lora.parsePacket();
        if(packetSize != 0){
          slave_address = Lora.read();

```



```

        slave_waterh = Lora.read();
        slave_odd = Lora.read();
        slave_ind = Lora.read();
        slave_batt = Lora.read();
        slave_destination = Lora.read();

        if(slave_address == slave_id[i] && slave_destination ==
master_id){

            slave_water_fix = slave_waterh*2;

            if (slave_odd == true){
                slave_water_fix ++;
            }

            Firebase.setInt(firebaseData,
"/slave/"+String(slave_id[i]+)/"status/waterh",
slave_water_fix);

            Firebase.setInt(firebaseData,
"/slave/"+String(slave_id[i]+)/"status/indicator", slave_ind);

            Firebase.setInt(firebaseData,
"/slave/"+String(slave_id[i]+)/"status/batt", slave_batt);

            Firebase.setInt(firebaseData,
"/slave/"+String(slave_id[i]+)/"status/rr", slave_rr);

            Firebase.setString(firebaseData,
"/slave/"+String(slave_id[i]+)/"status/signal",
String(Lora.packetRssi()));

            stat = 1;
        }
    }

    yield();
    if(stat == 0){
        resend ++;
    }
}

```

```

    }

    if (resend >= 3){
        Firebase.setString(firebaseData,
"/slave/"+String(slave_id[i]+)/status/signal", "disconnected");

    }
}
resend = 0;
}
timeElapseddrr = 0;

}

}

void connectWifi() {
    // Let us connect to WiFi
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED) {
        delay(500);
        Serial.print(".");
    }
    Serial.println(".....");
    Serial.println("WiFi Connected....IP Address:");
    Serial.println(WiFi.localIP());
}

```

LAMPIRAN 2. SOURE CODE HARDWARE SLAVE

```
#include <SPI.h>
#include <Lora.h>
#include <avr/wdt.h>
#include <Vcc.h>
#include <elapsedMillis.h>

#define TRIG 7
#define ECHO 6
#define IND 4

const float VccMin = 2.7;
const float VccMax = 4.2;
const float VccCorrection = 1.0/1.0;

Vcc vcc(VccCorrection);

const int csPin = 10;
const int resetPin = 5;
const int irqPin = 2;

int address = 12;
int waterh = 3;
int indicator = 1;
int rr = 1;
int rrms;
int recipient = 10;
bool odd;
int distance;
int p;
int packetSize;
int randomDelays;

int sender_id;
int indicator_req;
int rr_req;
int mode_req;
int sender_dest;

elapsedMillis timeElapsedind;
elapsedMillis timeElapsedMeasure;

void setup() {
  Serial.begin(9600);
  Serial.println("reset");

  wdt_enable(WDTO_8S);

  pinMode(TRIG, OUTPUT);
  pinMode(ECHO, INPUT_PULLUP);
  pinMode(IND, OUTPUT);
}
```

```

Lora.setPins(csPin, resetPin, irqPin);

if (!Lora.begin(915E6)) {
    while (1);
}
Lora.setTxPower(20);
}

void loop() {
int packetSize = Lora.parsePacket();

    if (packetSize != 0) {
        int sender_id = Lora.read();
        int indicator_req = Lora.read();
        int rr_req = Lora.read();
        int sender_dest = Lora.read();

        if (
            sender_id == recipient &&
            sender_dest == address){

                indicator = indicator_req;

                measure();
                Lora.beginPacket();
                Lora.write(address);
                Lora.write(waterh);
                Lora.write(odd);
                Lora.write(indicator);
                Lora.write(p);
                Lora.write(recipient);
                Lora.endPacket();

                indicator1();

            }
        }

indicator2 ();
wdt_reset();

}

void indicator2(){
    if (indicator == 2){
        if(timeElapsedind > 2000){

            digitalWrite(IND, HIGH);
            delay(50);
            digitalWrite(IND, LOW);
            timeElapsedind = 0;

        }
    }
}

```

```

    }
}

void measure(){
    float v = vcc.Read_Volts();
    p = vcc.Read_Perc(VccMin, VccMax);

    timeElapsedMeasure = 0;
    distance = 0;
    while (timeElapsedMeasure < 1000 && distance <= 20 ){

        digitalWrite(TRIG, LOW);
        delayMicroseconds(2);

        digitalWrite(TRIG, HIGH);
        delayMicroseconds(20);

        digitalWrite(TRIG, LOW);
        distance = pulseIn(ECHO, HIGH, 26000);

        distance = distance/58;
    }
    if (waterh % 2 == 0){
        odd = false;
    }

    else {
        odd = true;
    }

    waterh = distance/2;
}

void indicator1(){
    if (indicator == 1){
        digitalWrite(IND, HIGH);
        delay(50);
        digitalWrite(IND, LOW);
    }
}

```

LAMPIRAN 3. SOURE CODE SOFTWARE

```
package id.ahmadshaadiq.cobaref2.ui.dashboard;

import android.graphics.PorterDuff;
import android.os.Bundle;
import android.os.Handler;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.LinearLayout;
import android.widget.ProgressBar;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.appcompat.widget.Toolbar;
import androidx.core.content.ContextCompat;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentActivity;
import androidx.lifecycle.Observer;
import androidx.lifecycle.ViewModelProviders;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import androidx.viewpager2.widget.CompositePageTransformer;
import androidx.viewpager2.widget.MarginPageTransformer;
import androidx.viewpager2.widget.ViewPager2;

import java.util.ArrayList;
import java.util.List;

import id.ahmadshaadiq.cobaref2.MainActivity;
import id.ahmadshaadiq.cobaref2.R;
import id.ahmadshaadiq.cobaref2.data.local.entity.TravelAdapter;
import id.ahmadshaadiq.cobaref2.data.remote.response.jumlahcoronaIndonesia.ResponJumlahCorona;
import id.ahmadshaadiq.cobaref2.data.remote.response.newsresponse.Article;
import id.ahmadshaadiq.cobaref2.viewmodel.ViewModelFactory;

public class DashboardFragment extends Fragment {
    private ProgressBar progressBar;
    private DashboardViewModel dashboardViewModel;
    private DashboardAdataper adataper;
    private RecyclerView recyclerView;
    private LinearLayout layout_dots;
    List<Article> listdata;
    private ViewPager2 viewPager2;
    private TravelAdapter travelAdapter;
    private Runnable runnable = null;
    private Handler handler = new Handler();
    private TextView Konfirmasi,sembuh,dirawat,meninggal;

    // ViewModelFactory factory = ViewModelFactory.getInstance(getApplication());
    // RegisterModelView viewmodel = new
    ViewModelProvider(RegisterUserAct.this,factory).get(RegisterModelView.class);

    @NonNull
```

```

private static DashboardViewModel obtainViewModel(FragmentActivity activity) {
    // Use a Factory to inject dependencies into the ViewModel
    ViewModelFactory factory = ViewModelFactory.getInstance(activity.getApplication());
    return ViewModelProviders.of(activity, factory).get(DashboardViewModel.class);
}

public View onCreateView(@NonNull LayoutInflater inflater,
    ViewGroup container, Bundle savedInstanceState) {
    View root = inflater.inflate(R.layout.fragment_dashboard, container, false);
    init(root);

    return root;
}

private void init(View root) {
    Konfirmasi = root.findViewById(R.id.konfirmasi);
    sembuh = root.findViewById(R.id.sembuh);
    dirawat = root.findViewById(R.id.dirawat);
    meninggal = root.findViewById(R.id.meninggal);
    progressBar = root.findViewById(R.id.progress);
    travelAdapter = new TravelAdapter(getContext());
    dashboardViewModel = obtainViewModel(getActivity());
    recyclerView = root.findViewById(R.id.rvItems);
    layout_dots = root.findViewById(R.id.layout_dots);
    Toolbar toolbar = (Toolbar) root.findViewById(R.id.toolbar);
    toolbar.setTitle("News");
    ((MainActivity) getActivity()).setSupportActionBar(toolbar);
    setHasOptionsMenu(true);
    listdata = new ArrayList<>();
    adaper = new DashboardAdaper(getContext());
    recyclerView.setLayoutManager(new LinearLayoutManager(getContext()));
    recyclerView.setHasFixedSize(true);

}

@Override
public void onCreateView(@NonNull View view, @Nullable Bundle savedInstanceState) {
    super.onViewCreated(view, savedInstanceState);
    data();

    setdatatoviewPager(view);

    setCurrentItemIndicator(0);

}

private void data() {
    progressBar.setVisibility(View.VISIBLE);
    dashboardViewModel.getAllNews().observe(getViewLifecycleOwner(), new
Observer<List<Article>>() {
    @Override
    public void onChanged(List<Article> articles) {
        adaper.setListnews(articles);
        recyclerView.setAdapter(adaper);
    }
}
}

```

```

        progressBar.setVisibility(View.GONE);
    }
    });
    dashboardViewModel.getCorona().observe(getViewLifecycleOwner(), new
Observer<ResponJumlahCorona>() {
    @Override
    public void onChanged(ResponJumlahCorona responJumlahCorona) {
        konfirmasi.setText(String.valueOf(responJumlahCorona.getJumlahKasus()));
        sembuh.setText(String.valueOf(responJumlahCorona.getSembuh()));
        dirawat.setText(String.valueOf(responJumlahCorona.getPerawatan()));
        meninggal.setText(String.valueOf(responJumlahCorona.getMeninggal()));
    }
    });
}

private void setdatatoviewPager(View view) {
    viewPager2 = view.findViewById(R.id.slide);
    viewPager2.setCurrentItem(0);
    dashboardViewModel.getAllNews().observe(getViewLifecycleOwner(), new
Observer<List<Article>>() {
    @Override
    public void onChanged(List<Article> articles) {
        travelAdapter.setArticles(articles);
        viewPager2.setAdapter(travelAdapter);
        setupIndicator(travelAdapter.getItemCount());

        viewPager2.setClipToPadding(false);
        viewPager2.setClipChildren(false);
        viewPager2.setOffscreenPageLimit(3);
        viewPager2.getChildAt(0).setOverScrollMode(RecyclerView.OVER_SCROLL_NEVER);

        CompositePageTransformer compositePageTransformer = new
CompositePageTransformer();
        compositePageTransformer.addTransformer(new MarginPageTransformer(10));
        compositePageTransformer.addTransformer(new ViewPager2.PageTransformer() {
            @Override
            public void transformPage(@NonNull View page, float position) {
                float r = 1 - Math.abs(position);
                page.setScaleY(0.85f + r * 0.15f);
            }
        });

        viewPager2.setPageTransformer(compositePageTransformer);
        startAutoSlider(travelAdapter.getItemCount());
    }
    });

    viewPager2.registerOnPageChangeCallback(new ViewPager2.OnPageChangeCallback() {
    @Override
    public void onPageSelected(int position) {
        super.onPageSelected(position);
        setCurrentItemIndicator(position);
    }
    });
}

```



```

}

private void startAutoSlider(final int count) {
    runnable = new Runnable() {
        @Override
        public void run() {
            int pos = viewPager2.getCurrentItem();
            pos = pos + 1;
            if (pos >= count) pos = 0;
            viewPager2.setCurrentItem(pos);
            handler.postDelayed(runnable, 3000);
        }
    };
    handler.postDelayed(runnable, 3000);
}

private void addBottomDots(LinearLayout layout_dots, int size, int current) {
    ImageView[] dots = new ImageView[size];

    layout_dots.removeAllViews();
    for (int i = 0; i < dots.length; i++) {
        dots[i] = new ImageView(getContext());
        int width_height = 15;
        LinearLayout.LayoutParams params = new LinearLayout.LayoutParams(new
ViewGroup.LayoutParams(width_height, width_height));
        params.setMargins(10, 0, 10, 0);
        dots[i].setLayoutParams(params);
        dots[i].setImageResource(R.drawable.shape_circle_outline);
        dots[i].setColorFilter(ContextCompat.getColor(getContext(), R.color.blue_500),
PorterDuff.Mode.SRC_ATOP);
        layout_dots.addView(dots[i]);
    }

    if (dots.length > 0) {
        dots[current].setImageResource(R.drawable.shape_circle);
        dots[current].setColorFilter(ContextCompat.getColor(getContext(), R.color.grey_40),
PorterDuff.Mode.SRC_ATOP);
    }
}

private void setupIndicator(int size){
    ImageView[] indicator = new ImageView[size];
    int width_height = 15;
    LinearLayout.LayoutParams layoutParams = new LinearLayout.LayoutParams(new
ViewGroup.LayoutParams(width_height, width_height));
    layoutParams.setMargins(10,0,10,0);
    for (int i = 0; i < indicator.length; i++){
        indicator[i] = new ImageView(getContext());
        indicator[i].setImageResource(R.drawable.shape_circle_outline);
        indicator[i].setLayoutParams(layoutParams);
        layout_dots.addView(indicator[i]);
    }
}

private void setCurrentItemIndicator(int position){
    int childCount = layout_dots.getChildCount();
    for (int i = 0; i < childCount; i++){
        ImageView imageView = (ImageView) layout_dots.getChildAt(i);
        if (i == position){
            imageView.setImageResource(R.drawable.shape_circle);
        }
    }
}

```

```

        ((ImageView)
layout_dots.getChildAt(i)).setColorFilter(ContextCompat.getColor(getContext(), R.color.blue_500),
PorterDuff.Mode.SRC_ATOP);
    }else {
        imageView.setImageResource(R.drawable.shape_circle_outline);
        ((ImageView)
layout_dots.getChildAt(i)).setColorFilter(ContextCompat.getColor(getContext(), R.color.blue_500),
PorterDuff.Mode.SRC_ATOP);
    }
}
}

@Override
public void onDestroy() {
    if (runnable != null) handler.removeCallbacks(runnable);
    super.onDestroy();
}
}

```

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.core.widget.NestedScrollView
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/parent_view"

android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@android:color/white"
android:orientation="vertical">

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:background="@android:color/white"
    android:orientation="vertical">

<com.google.android.material.appbar.AppBarLayout
    android:id="@+id/appBarLayout"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:theme="@style/AppTheme.AppBarOverlay"
    app:elevation="0dp"
    app:layout_constraintTop_toTopOf="parent">

<androidx.appcompat.widget.Toolbar
    android:id="@+id/toolbar"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="@color/blue_400"
    app:contentInsetStartWithNavigation="0dp"
    app:layout_scrollFlags="noScroll"
    app:popupTheme="@style/ThemeOverlay.AppCompat.Light"
    app:theme="@style/Toolbar.Light" />

```

```

</com.google.android.material.appbar.AppBarLayout>

<ProgressBar
    android:id="@+id/progress"
    android:layout_width="40dp"
    android:layout_height="40dp"
    android:layout_gravity="center"
    android:theme="@style/ProgressBarTheme"
    android:visibility="visible" />

<androidx.viewpager2.widget.ViewPager2
    android:id="@+id/slide"
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_marginTop="20dp"
    android:layout_marginBottom="5dp"
    android:paddingStart="20dp"
    android:paddingEnd="20dp"
    app:layout_constraintTop_toBottomOf="@+id/appBarLayout" />

<LinearLayout
    android:id="@+id/layout_dots"
    android:layout_marginTop="10dp"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="horizontal"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/slide" />

<RelativeLayout
    android:layout_margin="8dp"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center_horizontal"
    android:elevation="10dp"
    android:background="@drawable/bg_blue"
    android:orientation="vertical">

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">
    <TextView
        android:id="@+id/tv_negara"
        android:textAlignment="center"
        android:fontFamily="@font/leaguespartanbold"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="8dp"
        android:text="Jumlah Corona Indonesia"
        android:textColor="@color/grey_90"
        android:textSize="12dp"
        android:textStyle="bold" />
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="70dp"

```

```

android:layout_centerInParent="true"
android:gravity="center_horizontal"
android:orientation="horizontal"
android:weightSum="12.15">

<LinearLayout
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="3"
    android:gravity="center"
    android:orientation="vertical">

    <TextView
        android:id="@+id/tv_recovered_negara4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Konfirmasi"
        android:fontFamily="@font/leaguespartanbold"
        android:textColor="@color/grey_90"
        android:textSize="12sp" />

    <TextView
        android:id="@+id/konfirmasi"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="0"
        android:textColor="@color/grey_90"
        android:textSize="14sp"
        android:textStyle="bold" />

</LinearLayout>
<View
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_marginTop="10dp"
    android:layout_marginBottom="10dp"
    android:layout_weight="0.05"
    android:background="@color/grey_50" />

<LinearLayout
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="3"
    android:gravity="center"
    android:orientation="vertical">

    <TextView
        android:id="@+id/tv_recovered_negara"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="@font/leaguespartanbold"
        android:text="Sembuh"
        android:textColor="@color/red_500"
        android:textSize="12sp" />

    <TextView
        android:id="@+id/sembuh"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="0"

```

```

        android:textColor="@color/red_500"
        android:textSize="14sp"
        android:textStyle="bold" />

</LinearLayout>
<View
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_marginTop="10dp"
    android:layout_marginBottom="10dp"
    android:layout_weight="0.05"
    android:background="@color/grey_50" />
<LinearLayout
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="3"
    android:gravity="center"
    android:orientation="vertical">

    <TextView
        android:id="@+id/tv_recovered_negara5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Dirawat"
        android:fontFamily="@font/leaguespartanbold"
        android:textColor="@color/blue_500"
        android:textSize="12sp" />

    <TextView
        android:id="@+id/dirawat"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="0"
        android:textColor="@color/blue_500"
        android:textSize="14sp"
        android:textStyle="bold" />

</LinearLayout>
<View
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_marginTop="10dp"
    android:layout_marginBottom="10dp"
    android:layout_weight="0.05"
    android:background="@color/grey_50" />
<LinearLayout
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="3"
    android:gravity="center"
    android:orientation="vertical">

    <TextView
        android:id="@+id/tv_recovered_negara3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="@font/leaguespartanbold"
        android:text="Meninggal"
        android:textColor="@color/green_500"

```

```

        android:textSize="12sp" />

        <TextView
            android:id="@+id/meninggal"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="0"
            android:textColor="@color/green_500"
            android:textSize="14sp"
            android:textStyle="bold" />

    </LinearLayout>

</LinearLayout>
</LinearLayout>

</RelativeLayout>

<androidx.recyclerview.widget.RecyclerView
    android:id="@+id/rvItems"
    android:layout_marginTop="5dp"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:clipToPadding="false"
    android:paddingBottom="@dimen/spacing_large"
    android:nestedScrollingEnabled="true"
    app:layout_constraintTop_toBottomOf="@+id/layout_dots"
    tools:layout_editor_absoluteX="16dp" />

</LinearLayout>

</androidx.core.widget.NestedScrollView>

```

3.2 DETAIL ALAT

```

package id.ahmadshaadiq.cobaref2.ui.detailalat;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.SwitchCompat;
import androidx.appcompat.widget.Toolbar;
import androidx.coordinatorlayout.widget.CoordinatorLayout;
import androidx.core.content.ContextCompat;
import androidx.core.widget.NestedScrollView;

import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;

```

```

import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.CompoundButton;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.ProgressBar;
import android.widget.TextView;
import android.widget.Toast;

import com.google.android.gms.maps.CameraUpdate;
import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.BitmapDescriptor;
import com.google.android.gms.maps.model.BitmapDescriptorFactory;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;
import com.google.android.material.snackbar.Snackbar;
import com.google.firebase.database.DataSnapshot;
import com.google.firebase.database.DatabaseError;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.database.ValueEventListener;

import id.ahmadshaadiq.cobaref2.MainActivity;
import id.ahmadshaadiq.cobaref2.R;
import id.ahmadshaadiq.cobaref2.data.local.SettingPreference;
import id.ahmadshaadiq.cobaref2.help.Comman;
import id.ahmadshaadiq.cobaref2.help.Tools;
import id.ahmadshaadiq.cobaref2.help.ViewAnimation;
import id.ahmadshaadiq.cobaref2.model.DataLapangan;
import id.ahmadshaadiq.cobaref2.model.slave;
import id.ahmadshaadiq.cobaref2.ui.setslave.SetSlaveActivity;

public class DetailAlatActivity extends AppCompatActivity implements OnMapReadyCallback {
    TextView lokasi,ketinggian,latitude,longitude,statusled,refreshrate,update;
    private EditText menit,detik;
    private Button set;
    private GoogleMap mMap;

    slave model;
    SettingPreference settingPreference;
    DatabaseReference databaseReference;
    CoordinatorLayout parent;
    private ImageView bt_toggle_input,zoomloc;
    private View lyt_expand_input;
    private NestedScrollView nested_scroll_view;
    private Button bt_save_input, bt_hide_input;
    private ProgressBar progressBar;
    int id;
    int jumlahalat;

    public static final String EXTRA_ID = "ss";

```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_detail_alat);
    init();

    Bundle extras = getIntent().getExtras();
    id = extras.getInt(EXTRA_ID,0);
    initToolBar();

    initMapFragment();
    data(id);
}

private void data(int id) {
    progressBar.setVisibility(View.VISIBLE);
    databaseReference =
    FirebaseDatabase.getInstance().getReference(Comman.SLAVE).child(String.valueOf(id));
    databaseReference.addListenerForSingleValueEvent(new ValueEventListener() {
        @Override
        public void onDataChange(@NonNull DataSnapshot dataSnapshot) {
            model = dataSnapshot.getValue(slave.class);
            setLokasi(model);
            progressBar.setVisibility(View.GONE);
        }

        @Override
        public void onCancelled(@NonNull DatabaseError databaseError) {

        }
    });
}

private void toggleSectionInput(View view) {
    boolean show = toggleArrow(view);
    if (show) {
        ViewAnimation.expand(lyt_expand_input, new ViewAnimation.AnimListener() {
            @Override
            public void onFinish() {
                Tools.nestedScrollTo(nested_scroll_view, lyt_expand_input);
            }
        });
    } else {
        ViewAnimation.collapse(lyt_expand_input);
    }
}

public boolean toggleArrow(View view) {
    if (view.getRotation() == 0) {
        view.animate().setDuration(200).rotation(180);
        return true;
    }
}

```



```

    } else {
        view.animate().setDuration(200).rotation(0);
        return false;
    }
}

private void init() {
    zoomloc = findViewById(R.id.zoomloc);
    progressBar = findViewById(R.id.progress);
    update = findViewById(R.id.updateLatLong);
    refreshrate = findViewById(R.id.refreshrate);
    lokasi = findViewById(R.id.lokasi);
    ketinggian = findViewById(R.id.ketinggian);
    latitude = findViewById(R.id.latitude);
    longitude = findViewById(R.id.longitude);
    statusled = findViewById(R.id.signal);
    parent = findViewById(R.id.parent);
    settingPreference = new SettingPreference(this);
    zoomloc.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            mMap.animateCamera(zoomingLocation(model.getLatitude(), model.getLongitude(), 18));
        }
    });
    //Action Button

    databaseReference =
    FirebaseDatabase.getInstance().getReference(Comman.DATA_JUMALAH_ALAT);
    databaseReference.addListenerForSingleValueEvent(new ValueEventListener() {
        @Override
        public void onDataChange(@NonNull DataSnapshot dataSnapshot) {
            jumlahalat = Integer.parseInt(dataSnapshot.getValue().toString());
        }

        @Override
        public void onCancelled(@NonNull DatabaseError databaseError) {

        }
    });
}

private void initToolbar() {
    Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
    // toolbar.setNavigationIcon(R.drawable.ic_cirkel);
    setSupportActionBar(toolbar);
    getSupportActionBar().setTitle(null);
    getSupportActionBar().setDisplayHomeAsUpEnabled(true);
    getSupportActionBar().setHomeButtonEnabled(true);
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    getMenuInflater().inflate(R.menu.menu_basic, menu);
    return true;
}

@Override

```

```

public boolean onOptionsItemSelected(MenuItem item) {
    if (item.getItemId() == android.R.id.home) {
        onBackPressed();
    } else {
        delete(String.valueOf(id));
    }
    return super.onOptionsItemSelected(item);
}

private void delete(String id) {

    databaseReference =
    FirebaseDatabase.getInstance().getReference(Comman.DATA_LOCATION).child(id);
    AlertDialog.Builder alert = new AlertDialog.Builder(this);
    alert.setMessage("Are you sure to delete this product");
    alert.setPositiveButton("Yes", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            databaseReference.removeValue();
            Intent intent = new Intent(DetailAlatActivity.this, MainActivity.class);
            startActivity(intent);
            finish();
        }
    });
    alert.setNegativeButton("No", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            dialog.cancel();
        }
    });
    AlertDialog alertDialog = alert.create();
    alertDialog.show();

}

private void setLokasi(final slave model) {
    update.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent update = new Intent(DetailAlatActivity.this, SetSlaveActivity.class);
            update.putExtra(SetSlaveActivity.EXTRA_DATA,model);
            startActivityForResult(update,SetSlaveActivity.REQUEST_UPDATE);
        }
    });
    refreshrate.setText(model.getStatus().getRr() + " menit");
    lokasi.setText(model.getNama());
    ketinggian.setText(model.getStatus().getWaterh() + " cm");
    latitude.setText(model.getLatitude());
    longitude.setText(model.getLongitude());
    statusled.setText(model.getStatus().getSignal());

    MarkerOptions markerOptions = new MarkerOptions();
    markerOptions.title(model.getNama())
        .snippet("Ketinggian "+ model.getStatus().getWaterh() )
        .icon(bitmapDescriptor(getApplicationContext(),
            R.drawable.ic_baseline_location))
        .position(new
    LatLng(Double.valueOf(model.getLatitude()),Double.valueOf(model.getLongitude())));
}

```



```

android:background="@color/blue_300"
android:fitsSystemWindows="true">

<com.google.android.material.appbar.AppBarLayout
    android:id="@+id/app_bar_layout"
    android:layout_width="match_parent"
    android:layout_height="400dp"
    android:fitsSystemWindows="true">

    <com.google.android.material.appbar.CollapsingToolbarLayout
        android:id="@+id/collapsing_toolbar"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:fitsSystemWindows="true"
        app:contentScrim="?attr/colorPrimary"
        app:expandedTitleTextAppearance="@style/TextAppearance.AppCompat.Title"
        app:layout_scrollFlags="scroll|enterAlwaysCollapsed"
        app:titleEnabled="false">

        <fragment
            android:id="@+id/map"
            android:name="com.google.android.gms.maps.SupportMapFragment"
            android:layout_width="match_parent"
            android:layout_height="match_parent" />

        <FrameLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content">

            <androidx.appcompat.widget.Toolbar
                android:id="@+id/toolbar"
                android:layout_width="match_parent"
                android:layout_height="?attr/actionBarSize"
                app:contentInsetStartWithNavigation="0dp"
                app:popupTheme="@style/ThemeOverlay.AppCompat.Light">

                <ImageView
                    android:layout_margin="5dp"
                    android:padding="5dp"
                    android:layout_width="100dp"
                    android:layout_height="wrap_content"
                    android:src="@drawable/logoiot"/>

            </androidx.appcompat.widget.Toolbar>

        </FrameLayout>

    </com.google.android.material.appbar.CollapsingToolbarLayout>

</com.google.android.material.appbar.AppBarLayout>
<androidx.core.widget.NestedScrollView
    android:id="@+id/nested_content"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginTop="-50dp"
    android:clipToPadding="false"
    android:scrollbars="none"

```

```

android:scrollingCache="true"
app:layout_behavior="@string/appbar_scrolling_view_behavior">

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">

    <androidx.cardview.widget.CardView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="@dimen/spacing_large"
        android:layout_marginRight="@dimen/spacing_large"
        android:background="@android:color/white"
        app:cardCornerRadius="4dp"
        app:cardElevation="4dp">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical"
            android:paddingBottom="@dimen/spacing_large"
            android:paddingLeft="@dimen/spacing_large"
            android:paddingRight="@dimen/spacing_large">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="-4dp"
                android:weightSum="10"
                android:orientation="horizontal">
                <TextView
                    android:layout_width="0dp"
                    android:layout_weight="8.5"
                    android:layout_height="?attr/actionBarSize"
                    android:gravity="center_vertical"
                    android:fontFamily="@font/leaguespartanbold"
                    android:text="Facilities"
                    android:textAppearance="@style/TextAppearance.AppCompat.Small"
                    android:textColor="@color/grey_80" />
                <ImageButton
                    android:id="@+id/zoomloc"
                    android:layout_width="0dp"
                    android:layout_weight="1.5"
                    android:layout_gravity="center"
                    android:layout_height="match_parent"
                    android:background="@drawable/bg_blue"
                    android:tint="@color/grey_50"
                    app:srcCompat="@drawable/ic_baseline_location" />
            </LinearLayout>

        </LinearLayout>

    </LinearLayout>

</LinearLayout>

```

```

android:minHeight="@dimen/spacing_xmlarge"
android:orientation="horizontal">

<ImageButton
    android:layout_width="wrap_content"
    android:layout_height="@dimen/spacing_xmlarge"
    android:background="@android:color/transparent"
    android:tint="@color/blue_300"
    app:srcCompat="@drawable/ic_baseline_location" />

<View
    android:layout_width="@dimen/spacing_middle"
    android:layout_height="0dp" />

<TextView
    android:fontFamily="@font/mmedium"
    android:id="@+id/lokasi"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center_vertical"
    android:minHeight="@dimen/spacing_xmlarge"
    android:text="Food & Cafe"
    android:textAppearance="@style/TextAppearance.AppCompat.Subhead"
    android:textColor="@color/grey_40" />

</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:minHeight="@dimen/spacing_xmlarge"
    android:orientation="horizontal">

    <ImageButton
        android:layout_width="wrap_content"
        android:layout_height="@dimen/spacing_xmlarge"
        android:background="@android:color/transparent"
        android:tint="@color/blue_300"
        app:srcCompat="@drawable/ic_ketunggian" />

    <View
        android:layout_width="@dimen/spacing_middle"
        android:layout_height="0dp" />

    <TextView
        android:fontFamily="@font/mmedium"
        android:id="@+id/ketinggian"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center_vertical"
        android:minHeight="@dimen/spacing_xmlarge"
        android:text="Ketinggian Air"
        android:textAppearance="@style/TextAppearance.AppCompat.Subhead"
        android:textColor="@color/grey_40" />

</LinearLayout>

```

```

</LinearLayout>

</androidx.cardview.widget.CardView>
<View
    android:layout_width="match_parent"
    android:layout_height="@dimen/spacing_large" />
<androidx.cardview.widget.CardView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="@dimen/spacing_large"
    android:layout_marginRight="@dimen/spacing_large"
    android:background="@android:color/white"
    app:cardCornerRadius="4dp"
    app:cardElevation="4dp">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:paddingBottom="@dimen/spacing_large"
        android:paddingLeft="@dimen/spacing_large">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:weightSum="10"
            android:orientation="horizontal">
            <TextView
                android:layout_width="0dp"
                android:layout_weight="7"
                android:layout_height="?attr/actionBarSize"
                android:gravity="center_vertical"
                android:fontFamily="@font/leaguespartanbold"
                android:text="Latitude and Longitude"
                android:textAppearance="@style/TextAppearance.AppCompat.Small"
                android:textColor="@color/grey_80" />
            <TextView
                android:id="@+id/updateLatLng"
                android:layout_width="0dp"
                android:layout_height="match_parent"
                android:layout_weight="3"
                android:layout_gravity="center"
                android:gravity="center"
                android:fontFamily="@font/mregular"
                android:textColor="@color/blue_500"
                android:text="Update"
                android:textStyle="bold"
                android:textAllCaps="false" />
        </LinearLayout>

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:minHeight="@dimen/spacing_xlarge"
            android:orientation="horizontal">

            <ImageButton
                android:layout_width="wrap_content"
                android:layout_height="@dimen/spacing_xlarge"
                android:background="@android:color/transparent"
                android:tint="@color/blue_300"

```

```

        app:srcCompat="@drawable/ic_latitude" />

        <View
            android:layout_width="@dimen/spacing_middle"
            android:layout_height="0dp" />

        <TextView
            android:fontFamily="@font/mmedium"
            android:id="@+id/latitude"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center_vertical"
            android:minHeight="@dimen/spacing_xlarge"
            android:text="Latitude"
            android:textAppearance="@style/TextAppearance.AppCompat.Subhead"
            android:textColor="@color/grey_40" />

    </LinearLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:minHeight="@dimen/spacing_xlarge"
        android:orientation="horizontal">

        <ImageButton
            android:layout_width="wrap_content"
            android:layout_height="@dimen/spacing_xlarge"
            android:background="@android:color/transparent"
            android:tint="@color/blue_300"
            app:srcCompat="@drawable/ic_longitude" />

        <View
            android:layout_width="@dimen/spacing_middle"
            android:layout_height="0dp" />

        <TextView
            android:id="@+id/longitude"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center_vertical"
            android:minHeight="@dimen/spacing_xlarge"
            android:fontFamily="@font/mmedium"
            android:text="Longitude"
            android:textAppearance="@style/TextAppearance.AppCompat.Subhead"
            android:textColor="@color/grey_40" />

    </LinearLayout>
</LinearLayout>

</androidx.cardview.widget.CardView>

<View
    android:layout_width="match_parent"
    android:layout_height="@dimen/spacing_large" />

<androidx.cardview.widget.CardView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"

```



```

android:layout_marginLeft="@dimen/spacing_large"
android:layout_marginRight="@dimen/spacing_large"
android:background="@android:color/white"
app:cardCornerRadius="4dp"
app:cardElevation="4dp">

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:paddingBottom="@dimen/spacing_large"
    android:paddingLeft="@dimen/spacing_large"
    android:paddingRight="@dimen/spacing_large">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="?attr/actionBarSize"
        android:gravity="center_vertical"
        android:text="Signal"
        android:fontFamily="@font/leaguespartanbold"
        android:textAppearance="@style/TextAppearance.AppCompat.Small"
        android:textColor="@color/grey_80" />

    <TextView
        android:id="@+id/signal"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center_vertical"
        android:text="Nyala"
        android:textStyle="bold"
        android:textAppearance="@style/TextAppearance.AppCompat.Subhead"
        android:textColor="@color/blue_400" />

</LinearLayout>

</androidx.cardview.widget.CardView>

<View
    android:layout_width="match_parent"
    android:layout_height="@dimen/spacing_large" />
<androidx.cardview.widget.CardView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="@dimen/spacing_large"
    android:layout_marginRight="@dimen/spacing_large"
    android:layout_marginBottom="10dp"
    android:background="@android:color/white"
    app:cardCornerRadius="4dp"
    app:cardElevation="8dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:background="@android:color/white"
            android:gravity="center_vertical"
            android:minHeight="?attr/actionBarSize"

```

```

        android:orientation="horizontal">

        <View
            android:layout_width="@dimen/spacing_large"
            android:layout_height="wrap_content" />
        <LinearLayout
            android:layout_weight="1"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:orientation="vertical">
            <TextView
                android:layout_height="wrap_content"
                android:layout_width="match_parent"
                android:fontFamily="@font/leaguespartanbold"

                android:text="Mengatur Refresh Rate"
                android:textAppearance="@style/TextAppearance.AppCompat.Small"
                android:textColor="@color/grey_80" />
            <TextView
                android:fontFamily="@font/mmedium"
                android:id="@+id/refreshrate"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="state"
                android:textAppearance="@style/TextAppearance.AppCompat.Small"
                android:textColor="@color/grey_80" />

        </LinearLayout>

        <ImageButton
            android:id="@+id/bt_toggle_input"
            android:layout_width="?attr/actionBarSize"
            android:layout_height="?attr/actionBarSize"
            android:background="?attr/selectableItemBackgroundBorderless"
            android:tint="@color/grey_80"
            app:srcCompat="@drawable/ic_expand_arrow" />

        </LinearLayout>
    </LinearLayout>
</androidx.cardview.widget.CardView>
</LinearLayout>

</androidx.core.widget.NestedScrollView>
<ProgressBar
    android:id="@+id/progress"
    android:layout_width="40dp"
    android:layout_height="40dp"
    android:layout_gravity="center"
    android:visibility="visible"
    android:theme="@style/ProgressBarTheme"
    android:layout_marginBottom="20dp"/>

</androidx.coordinatorlayout.widget.CoordinatorLayout>

```

LAMPIRAN 4. DATA PENNGUJIAN *PHOTOVOLTAIC*

WAKTU	ADC	TEGANGAN
16 20:42:20	771	3.77
16 20:52:20	770	3.76
16 21:2:20	770	3.76
16 21:12:21	770	3.76
16 21:22:21	770	3.76
16 21:32:21	769	3.76
16 21:42:21	769	3.76
16 21:52:21	769	3.76
16 22:2:21	769	3.76
16 22:12:21	768	3.75
16 22:22:21	768	3.75
16 22:32:21	768	3.75
16 22:42:21	768	3.75
16 22:52:21	768	3.75
16 23:2:21	767	3.75
16 23:12:21	767	3.75
16 23:22:22	767	3.75
16 23:32:22	767	3.75
16 23:42:22	766	3.74
16 23:52:22	766	3.74
17 0:2:22	766	3.74
17 0:12:22	766	3.74
17 0:22:22	766	3.74
17 0:32:22	765	3.74
17 0:42:22	765	3.74
17 0:52:22	765	3.74
17 1:2:22	765	3.74
17 1:12:22	764	3.73
17 1:22:22	764	3.73
17 1:32:23	764	3.73
17 1:42:23	764	3.73
17 1:52:23	764	3.73
17 2:2:23	763	3.73
17 2:12:23	763	3.73
17 2:22:23	763	3.73
17 2:32:23	763	3.73
17 2:42:23	763	3.73
17 2:52:23	762	3.72
17 3:2:23	762	3.72

17 3:12:23	762	3.72
17 3:22:23	762	3.72
17 3:32:23	761	3.72
17 3:42:23	761	3.72
17 3:52:24	761	3.72
17 3:55:25	761	3.72
17 4:5:25	761	3.72
17 4:15:25	761	3.72
17 4:25:25	760	3.71
17 4:35:26	760	3.71
17 4:45:26	760	3.71
17 4:55:26	760	3.71
17 5:5:26	759	3.71
17 5:15:26	759	3.71
17 5:25:26	759	3.71
17 5:35:26	759	3.71
17 5:41:30	759	3.71
17 5:51:30	759	3.71
17 6:1:30	759	3.71
17 6:11:30	759	3.71
17 6:21:30	758	3.7
17 6:31:30	758	3.7
17 6:41:30	758	3.7
17 6:51:30	758	3.7
17 7:1:31	758	3.7
17 7:11:31	758	3.7
17 7:21:31	759	3.71
17 7:31:31	759	3.71
17 7:41:31	759	3.71
17 7:51:31	760	3.71
17 8:1:31	760	3.71
17 8:11:31	761	3.72
17 8:21:31	762	3.72
17 8:31:31	763	3.73
17 8:41:31	763	3.73
17 8:51:32	765	3.74
17 9:1:32	765	3.74
17 9:11:32	767	3.75
17 9:21:32	768	3.75
17 9:31:32	771	3.77
17 9:41:32	772	3.77

17 9:51:33	774	3.78
17 10:1:33	776	3.79
17 10:11:33	778	3.8
17 10:21:33	778	3.8
17 10:31:33	782	3.82
17 10:41:33	783	3.83
17 10:51:33	785	3.84
17 11:1:34	786	3.84
17 11:11:34	790	3.86
17 11:21:34	792	3.87
17 11:31:34	794	3.88
17 11:41:34	797	3.9
17 11:51:34	798	3.9
17 12:1:35	802	3.92
17 12:11:35	804	3.93
17 12:21:35	806	3.94
17 12:31:35	809	3.95
17 12:41:35	813	3.97
17 12:51:35	815	3.98
17 13:1:36	818	4
17 13:11:36	819	4
17 13:21:36	822	4.02
17 13:31:36	823	4.02
17 13:41:36	826	4.04
17 13:51:36	826	4.04
17 14:1:37	830	4.06
17 14:11:37	830	4.06
17 14:21:37	833	4.07
17 14:31:37	835	4.08
17 14:41:37	835	4.08
17 14:51:37	836	4.09
17 15:1:37	837	4.09
17 15:11:38	837	4.09
17 15:21:38	838	4.1
17 15:31:38	839	4.1
17 15:41:38	839	4.1
17 15:51:38	839	4.1
17 16:1:38	839	4.1
17 16:11:38	839	4.1
17 16:21:38	839	4.1
17 16:31:38	839	4.1

17 16:41:39	839	4.1
17 16:51:39	839	4.1
17 17:1:39	838	4.1
17 17:6:18	838	4.1
17 17:16:18	838	4.1
17 17:26:18	837	4.09
17 17:36:19	837	4.09
17 17:46:19	837	4.09
17 17:56:19	836	4.09
17 18:6:19	836	4.09
17 18:16:19	836	4.09
17 18:26:19	835	4.08
17 18:36:19	835	4.08
17 18:46:19	834	4.08
17 18:56:19	834	4.08
17 19:6:19	834	4.08
17 19:16:19	833	4.07
17 19:26:19	833	4.07
17 19:36:19	832	4.07
17 19:46:20	832	4.07
17 19:56:20	832	4.07
17 20:6:20	831	4.06
17 20:16:20	831	4.06
17 20:26:20	831	4.06
17 20:36:20	830	4.06
17 20:46:20	830	4.06
17 20:56:20	830	4.06
17 21:6:20	829	4.05
17 21:16:20	829	4.05
17 21:26:20	829	4.05
17 21:36:20	828	4.05
17 21:46:20	828	4.05
17 21:56:20	828	4.05
17 22:6:21	827	4.04
17 22:16:21	827	4.04
17 22:26:21	827	4.04
17 22:36:21	827	4.04
17 22:46:21	826	4.04
17 22:56:21	826	4.04
17 23:6:21	826	4.04
17 23:16:21	825	4.03

17 23:26:21	825	4.03
17 23:36:21	825	4.03
17 23:46:21	824	4.03
17 23:56:21	824	4.03
18 0:6:21	824	4.03
18 0:16:21	823	4.02
18 0:26:22	823	4.02
18 0:36:22	823	4.02
18 0:46:22	823	4.02
18 0:56:22	822	4.02
18 1:6:22	822	4.02
18 1:16:22	822	4.02
18 1:26:22	821	4.01
18 1:36:22	821	4.01
18 1:46:22	821	4.01
18 1:56:22	821	4.01
18 2:6:22	820	4.01
18 2:16:22	820	4.01
18 2:26:22	820	4.01
18 2:36:22	819	4
18 2:46:22	819	4
18 2:56:23	819	4
18 3:6:23	818	4
18 3:16:23	818	4
18 3:26:23	818	4
18 3:36:23	817	3.99
18 3:46:23	817	3.99
18 3:56:23	817	3.99
18 4:6:23	817	3.99
18 4:16:23	816	3.99
18 4:26:23	816	3.99
18 4:36:23	816	3.99
18 4:46:23	815	3.98
18 4:56:23	815	3.98
18 5:6:23	815	3.98
18 5:16:23	815	3.98
18 5:26:23	814	3.98
18 5:36:24	814	3.98
18 5:46:24	814	3.98
18 5:56:24	813	3.97
18 6:6:24	813	3.97

18 6:16:24	813	3.97
18 6:26:24	812	3.97
18 6:36:24	812	3.97
18 6:46:24	812	3.97
18 6:56:24	812	3.97
18 7:6:24	811	3.96
18 7:16:24	811	3.96
18 7:26:24	811	3.96
18 7:36:24	810	3.96
18 7:46:24	810	3.96
18 7:56:24	810	3.96
18 8:6:24	810	3.96
18 8:16:25	810	3.96
18 8:26:25	812	3.97
18 8:36:25	813	3.97
18 8:46:25	814	3.98
18 8:56:25	815	3.98
18 9:6:25	818	4
18 9:16:25	819	4
18 9:26:25	822	4.02
18 9:36:26	825	4.03
18 9:46:26	828	4.05
18 9:56:26	830	4.06
18 10:6:26	832	4.07
18 10:16:26	833	4.07
18 10:26:26	834	4.08
18 10:36:27	836	4.09
18 10:46:27	837	4.09
18 10:56:27	839	4.1
18 11:6:27	841	4.11
18 11:16:27	843	4.12
18 11:26:27	845	4.13
18 11:36:27	849	4.15
18 11:46:28	851	4.16
18 11:56:28	855	4.18
18 12:6:28	860	4.2
18 12:16:28	865	4.23
18 12:26:28	868	4.24
18 12:36:28	869	4.25
18 12:46:29	870	4.25
18 12:56:29	871	4.26

18 13:6:29	872	4.26
18 13:16:29	873	4.27
18 13:26:29	874	4.27
18 13:36:29	876	4.28
18 13:46:29	876	4.28
18 13:56:30	876	4.28
18 14:6:30	876	4.28
18 14:16:30	876	4.28
18 14:26:30	871	4.26
18 14:36:30	872	4.26
18 14:46:30	873	4.27
18 14:56:30	873	4.27
18 15:6:31	873	4.27
18 15:16:31	872	4.26
18 15:26:31	871	4.26
18 15:36:31	871	4.26
18 15:46:31	870	4.25
18 15:56:31	869	4.25
18 16:6:31	868	4.24
18 16:16:31	866	4.23
18 16:26:31	865	4.23
18 16:36:31	864	4.22
18 16:46:31	863	4.22
18 16:56:31	862	4.21
18 17:6:31	860	4.2
18 17:16:32	859	4.2
18 17:26:32	858	4.19
18 17:36:32	857	4.19
18 17:46:32	856	4.18
18 17:56:32	854	4.17
18 18:6:32	853	4.17
18 18:16:32	852	4.16
18 18:26:32	851	4.16
18 18:36:32	850	4.15
18 18:46:32	864	4.22
18 18:56:32	863	4.22
18 19:6:32	862	4.21
18 19:16:32	861	4.21
18 19:26:32	861	4.21
18 19:36:32	860	4.2
18 19:46:32	859	4.2

18 19:56:33	859	4.2
18 20:6:33	858	4.19
18 20:16:33	857	4.19
18 20:26:33	857	4.19
18 20:36:33	856	4.18
18 20:46:33	855	4.18
18 20:56:33	855	4.18
18 21:6:33	854	4.17
18 21:16:33	854	4.17
18 21:26:33	853	4.17
18 21:36:33	853	4.17

LAMPIRAN 5. GAMBAR KESELURUHAN SISTEM



