

BAB 4. PRAKTEK PEMBUATAN PROYEK APLIKASI ANDROID

Daftar Isi

4.1. Aplikasi Stok Barang Sederhana SimpleStockInventory

4.2. Aplikasi Portal Berita Sederhana dengan GSON

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Barangsiapa didapati memperjual belikan materi training ini tanpa seizin dari pencipta maka pencipta berhak menuntut ganti rugi yang jumlahnya ditentukan oleh pencipta materi ini.

BAB 4. PRAKTEK PEMBUATAN PROYEK APLIKASI ANDROID

4.1. Aplikasi Stok Barang Sederhana SimpleStockInventory

Source code lengkap aplikasi Simple Stock bisa didownload di github pada alamat :

<https://github.com/ringlayer/SimpleStockInventory>

Pada bagian ini, kita akan mencoba membuat aplikasi stok barang sederhana dengan nama SimpleStockInventory.

GAMBARAN KINERJA APLIKASI

Pada saat aplikasi ini dijalankan activity pertama / launcher akan meload activity MainActivity yang akan melakukan pembacaan dari file penyimpanan data stock berupa file teks. Hasil parsing stock akan ditampilkan berupa kode, nama dan jumlah stok pada edittext multiline di MainActivity.

Pada saat MainActivity onStart ditanamkan listener callback untuk tombol “Stock-In”, tombol “Stock-Out” dan Tombol “Go”.

Ketika tombol “Stock-In” diklik akan menjalankan activity yang berisi form inputan stock masuk di mana jika kode dan nama stock yang diinput tidak ditemukan di file penyimpanan maka akan dianggap sebagai produk baru, Saat klik “Save” di form inputan stock maka data produk, kode dan jumlah stok akan langsung ditambahkan. Jika inputan kode dan nama ditemukan di file penyimpanan maka saat klik tombol “Save” akan mengupdate jumlah stok pada file penyimpanan (menambah jumlah stok).

Ketika tombol “Stock-Out” diklik akan menjalankan activity yang berisi form inputan stock keluar di mana jika kode dan nama stock yang diinput tidak ditemukan di file penyimpanan maka data tidak disimpan. Jika inputan kode dan nama ditemukan di file penyimpanan maka saat klik tombol “Save” akan mengupdate jumlah stok pada file penyimpanan (mengurangi jumlah stok).

DAFTAR ACTIVITY DAN CLASS YANG DIGUNAKAN

Activity SplashActivity

Buat activity baru dengan nama SplashActivity. Activity ini merupakan activity launcher yang berguna untuk splash screen sebelum masuk ke activity utama MainActivity. Layout untuk activity ini adalah activity_splash.xml.

Activity MainActivity.java

Layout untuk activity ini adalah activity_main.xml. Activity ini merupakan activity utama untuk menampilkan data jumlah stok.

Activity KeluarActivity

Layout untuk activity ini adalah activity_keluar.xml. Activity ini berisi form untuk input stok keluar.

Activity MasukActivity.java

Layout untuk activity ini adalah activity_masuk.xml. Activity ini berisi form untuk input stok masuk.

Kelas Util.java

Buat kelas baru dengan nama Util. Kelas ini berisi rutin untuk mengakses permissi baca tulis file system android.

BAGIAN XML

activity_splash.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.ringlayer.simplestockinventory.SplashActivity"
    android:background="@drawable/splash">
</android.support.constraint.ConstraintLayout>
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.ringlayer.simplestockinventory.MainActivity">
    <Button
        android:id="@+id/go"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="60dp"
        android:layout_marginTop="96dp"
        android:text="@string/gob"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

```

<Button
    android:id="@+id/in"
    android:layout_width="123dp"
    android:layout_height="45dp"
    android:layout_marginStart="32dp"
    android:layout_marginTop="28dp"
    android:text="@string/in"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<Button
    android:id="@+id/out"
    android:layout_width="117dp"
    android:layout_height="44dp"
    android:layout_marginEnd="84dp"
    android:layout_marginTop="28dp"
    android:text="@string/out"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/search"
    android:layout_width="169dp"
    android:layout_height="56dp"
    android:layout_marginStart="44dp"
    android:layout_marginTop="88dp"
    android:ems="10"
    android:hint="@string/search_input"
    android:inputType="textPersonName"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:background="@color/colorPrimary"
    android:textColor="@color/putih"
    android:id="@+id/data_stok"
    android:layout_width="341dp"
    android:layout_height="289dp"
    android:layout_marginBottom="56dp"
    android:layout_marginEnd="16dp"
    android:layout_marginStart="6dp"
    android:paddingTop="2dp"
    android:gravity="top"
    android:padding="10dp"
    android:ems="10"
    android:inputType="textMultiLine"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:text="Stock Data"
    app:layout_constraintHorizontal_bias="0.736"
    app:layout_constraintStart_toStartOf="parent" />
</android.support.constraint.ConstraintLayout>

```

activity_masuk.xml

```

<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.ringlayer.simplestockinventory.MasukActivity">
    <TextView
        android:id="@+id/textView7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"

```

```

        android:layout_marginTop="48dp"
        android:text="@string/in"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/masuk_kode"
    android:layout_width="313dp"
    android:layout_height="43dp"
    android:layout_marginEnd="44dp"
    android:layout_marginTop="120dp"
    android:ems="10"
    android:hint="@string/code"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/masuk_name"
    android:layout_width="313dp"
    android:layout_height="42dp"
    android:layout_marginEnd="44dp"
    android:layout_marginTop="184dp"
    android:ems="10"
    android:hint="@string/name"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/masuk_amount"
    android:layout_width="309dp"
    android:layout_height="40dp"
    android:layout_marginEnd="44dp"
    android:layout_marginTop="248dp"
    android:ems="10"
    android:hint="@string/amount"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<Button
    android:id="@+id/in_save"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="132dp"
    android:layout_marginEnd="44dp"
    android:text="@string/save"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />
<Button
    android:id="@+id/in_cancel"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="132dp"
    android:layout_marginStart="24dp"
    android:text="@string/back"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent" />
</android.support.constraint.ConstraintLayout>

```

activity_keluar.xml

```

<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
    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:layout_width="match_parent"
android:layout_height="match_parent"
tools:context="com.ringlayer.simplestockinventory.KeluarActivity">
<TextView
    android:id="@+id/textView8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="8dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="44dp"
    android:text="@string/out"
    android:textSize="20sp"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/keluar_kode"
    android:layout_width="313dp"
    android:layout_height="42dp"
    android:layout_marginEnd="44dp"
    android:layout_marginTop="96dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="@string/code"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/keluar_name"
    android:layout_width="309dp"
    android:layout_height="36dp"
    android:layout_marginEnd="44dp"
    android:layout_marginTop="160dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="@string/name"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/keluar_amount"
    android:layout_width="309dp"
    android:layout_height="wrap_content"
    android:layout_marginEnd="44dp"
    android:layout_marginTop="216dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="@string/amount"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<Button
    android:id="@+id/out_save"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="172dp"
    android:layout_marginEnd="44dp"
    android:text="@string/save"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />
<Button
    android:id="@+id/out_cancel"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="172dp"
    android:layout_marginStart="28dp"
    android:text="@string/back"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent" />

```

</android.support.constraint.ConstraintLayout>

BAGIAN SOURCE CODE

Util.java

```
package com.ringlayer.simplestockinventory;
import android.app.Activity;
import android.content.pm.PackageManager;
import android.os.Environment;
import android.os.StrictMode;
import android.support.v4.app.ActivityCompat;
import android.support.v4.content.ContextCompat;
import android.util.Log;
import java.io.BufferedReader;
import java.io.BufferedWriter;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import java.io.PrintWriter;
/**
 * Created by ringlayer on 24/11/18.
 */
public class Util {
    Activity mContext;
    public Util (Activity context)
    {
        mContext = context;
        StrictMode.VmPolicy.Builder builder = new StrictMode.VmPolicy.Builder();
        StrictMode.setVmPolicy(builder.build());
        if (android.os.Build.VERSION.SDK_INT > 9) {
            StrictMode.ThreadPolicy policy =
                new StrictMode.ThreadPolicy.Builder().permitAll().build();
            StrictMode.setThreadPolicy(policy);
        }
        public void askForPermission(String permission, Integer requestCode) {
            if (ContextCompat.checkSelfPermission(mContext, permission) !=
                PackageManager.PERMISSION_GRANTED) {
                if (ActivityCompat.shouldShowRequestPermissionRationale(mContext,
                    permission)) {
                    ActivityCompat.requestPermissions(mContext, new String[]{permission},
                        requestCode);
                } else {
                    ActivityCompat.requestPermissions(mContext, new String[]{permission},
                        requestCode);
                }
            }
        }
        public int buat_dir(String Dirname) {
            int retme = 0;
            try {
                boolean exists = false;
                exists = CheckIfDirectoryExists(Dirname);
                if (exists == false) {
                    new File(Dirname).mkdirs();
                }
            }
            catch (Exception e) {
```

```

        Log.e("error",e.toString());
    }
    return retme;
}
public boolean CheckIfDirectoryExists(String path) {
    boolean exists = false;
    try {
        File dir = new File(path);
        exists = dir.exists();
        return exists;
    }
    catch (Exception e) {
        Log.e("error",e.toString());
        return false;
    }
}
public void append_file(String path, String content)
{
    try {
        File file = new File(path);
        if (!file.exists()) {
            file.createNewFile();
        }
        FileWriter fw = new FileWriter(file,true);
        BufferedWriter bw = new BufferedWriter(fw);
        PrintWriter pw = new PrintWriter(bw);
        pw.println(content);
        pw.close();
    } catch(Exception e) {
        Log.e("error",e.toString());
    }
}
public String read(String fname){
    BufferedReader br = null;
    String line = null;
    try {
        br = new BufferedReader(new FileReader(fname));
        line = br.readLine();
        if (line == null) {
            line = "";
        }
    } catch(IOException e) {
        Log.e("error", e.toString());
        return null;
    }
    return line;
}
public Boolean write(String fname, String fcontent){
    try {
        String fpath = fname;
        File file = new File(fpath);
        if (!file.exists()) {
            file.createNewFile();
        }
        FileWriter fw = new FileWriter(file.getAbsoluteFile());
        BufferedWriter bw = new BufferedWriter(fw);
        bw.write(fcontent);
        bw.close();
        return true;
    } catch(IOException e) {
        Log.e("error",e.toString());
        return false;
    }
}
public void createFileInSDCard(String path) {
    try {
        int exists = check_file_exists(path);
        if (exists == 0) {
            File file = new File(path);

```



```

        file.createNewFile();
    }
}
catch (Exception e) {
    Log.e("error",e.toString());
}
}
public int check_file_exists(String full_path) {
    int retme = 0;
    try {
        File file = new File(full_path);
        if(file.exists()) {
            retme = 1;
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return retme;
}
/*
 * SAMPLE FILE CONTENT TO PARSE :
 * code1@@pencil@@0
 * code2@@book@@2
 */
public String[] ParseStock(String IsiFullFile) {
    String[] ParseRest = {"No stock data yet ! \n Please input some goods using
STOCK-IN BUTTON"};
    try {
        ParseRest = IsiFullFile.split("_____");
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return ParseRest;
}
public String ChangeParsedIntoBharis(String[] ParseRest) {
    String ViewMe = "";
    int i;
    try {
        if (ParseRest[0].indexOf("No stock data yet") != -1) {
            Log.e("info", "no stock data yet :(");
            ViewMe = ParseRest[0].trim();
        }
        else {
            for (i = 0; i < ParseRest.length;i++) {
                if ( (ParseRest[i].length() > 1) && (ParseRest[i].contains("@@"))) {
                    String[] parts = ParseRest[i].split("@@");
                    ViewMe += "\nProduct Code : " + parts[0] + "\n";
                    ViewMe += "Product Name : " + parts[1] + "\n";
                    ViewMe += "Stock : " + parts[2];
                    ViewMe += "\n_____ \n";
                }
            }
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return ViewMe;
}
/*
 * writeFile method taken from
 * https://stackoverflow.com/questions/36740254/how-to-overwrite-a-file-in-sdcard-in-
android
 */
void writeFile(String fileName, String data) {
    try {
        File outFile = new File(fileName);

```

```

        FileOutputStream out = new FileOutputStream(outFile, false);
        byte[] contents = data.getBytes();
        out.write(contents);
        out.flush();
        out.close();
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}
public boolean ValidateCodeNameAmount(String name, String amount) {
    boolean valid = false;
    try {
        if (name.trim().length() > 0) {
            valid = true;
        }
        if ( (amount.trim().length() > 0) && (Integer.parseInt(amount) > 0) ){
            valid = true;
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return valid;
}
}

```

Penjelasan Util.java

```
public void askForPermission(String permission, Integer requestCode)
```

Method ini digunakan untuk melakukan request permisi baca tulis.

Selain method di atas di class util.java juga terdapat beberapa method lain yang digunakan untuk operasi baca tulis pada storage android.

SplashActivity.java

```

package com.ringlayer.simplestockinventory;
import android.Manifest;
import android.content.Intent;
import android.os.Build;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class SplashActivity extends AppCompatActivity {
    public Util util = new Util(SplashActivity.this);
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_splash);
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
            util.askForPermission(Manifest.permission.WRITE_EXTERNAL_STORAGE, 1);
            util.askForPermission(Manifest.permission.READ_EXTERNAL_STORAGE, 2);
        }
        Handler handler = new Handler();
    }
}

```

```

        handler.postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent intent = new Intent(SplashActivity.this, MainActivity.class);
                startActivity(intent);
                finish();
            }
        }, 4000);
    }
}

```

Penjelasan SplashActivity.java

```

Handler handler = new Handler();
handler.postDelayed(new Runnable() {
    @Override
    public void run() {
        Intent intent = new Intent(SplashActivity.this, MainActivity.class);
        startActivity(intent);
        finish();
    }
}, 4000);

```

Rutin di atas digunakan untuk menjalankan MainActivity setelah 4 detik.

MainActivity.java

```

package com.ringlayer.simplestockinventory;
import android.Manifest;
import android.content.Intent;
import android.os.Build;
import android.os.CountDownTimer;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.Gravity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileReader;
public class MainActivity extends AppCompatActivity {
    Button in;
    Button out;
    Button go;
    EditText Esearch;
    EditText Edata_stok;
    private Toast mToastToShow;
    public Util util = new Util(MainActivity.this);
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    void ProcessMain() {
        try {
            String IsiFullFile;
            String[] ParseRest;
            String ViewMe = "No stock data yet";

```

```

        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
            util.askForPermission(Manifest.permission.WRITE_EXTERNAL_STORAGE, 1);
            util.askForPermission(Manifest.permission.READ_EXTERNAL_STORAGE, 2);
        }
        util.buat_dir(getResources().getString(R.string.sdir));
        util.createFileInSDCard(getResources().getString(R.string.sfil));
        IsiFullFile = BacaIsiFile();
        if (IsiFullFile.length() < 3) {
            Log.e("info", "writefile");
            util.writeFile(getResources().getString(R.string.sfil), ViewMe);
        }
        if (IsiFullFile.contains("@@")) {
            ParseRest = util.ParseStock(IsiFullFile);
            ViewMe = util.ChangeParsedIntoBharis(ParseRest);
        }
        Edata_stok = (EditText)findViewById(R.id.data_stok);
        Edata_stok.setText(ViewMe);
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}
/*
 * SAMPLE FILE CONTENT TO PARSE :
 * code1@@pencil@@0
 * code2@@book@@2
 */
private String BacaIsiFile() {
    String IsiFullFile = "";
    try {
        String st;
        int exists = util.check_file_exists(getResources().getString(R.string.sfil));
        if (exists == 1) {
            File file = new File(getResources().getString(R.string.sfil));
            BufferedReader br = new BufferedReader(new FileReader(file));
            while ((st = br.readLine()) != null) {
                IsiFullFile += st;
            }
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return IsiFullFile;
}
@Override
protected void onStart() {
    super.onStart();
    try {
        try {
            ProcessMain();
        }
        catch (Exception e) {
            Log.e("error", e.toString());
        }
        in = (Button) findViewById(R.id.in);
        in.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                In();
            }
        });
        out = (Button) findViewById(R.id.out);
        out.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Out();
            }
        });
        go = (Button) findViewById(R.id.go);
        go.setOnClickListener(new View.OnClickListener() {

```

```

        public void onClick(View v) {
            Go();
        }
    });
} catch (Exception e) {
    Log.e("error", e.toString());
}
}

private void showToast(String msg_to_display, int second_to_disp) {
    int toastDurationInMilliseconds = second_to_disp * 1000;
    mToastToShow = Toast.makeText(MainActivity.this, msg_to_display,
Toast.LENGTH_LONG);
    mToastToShow.setGravity(Gravity.CENTER_VERTICAL|Gravity.CENTER_HORIZONTAL, 0,
0);

    CountDownTimer toastCountDown;
    toastCountDown = new CountDownTimer(toastDurationInMilliseconds, 1000 /*Tick
duration*/) {
        public void onTick(long millisUntilFinished) {
            mToastToShow.show();
        }
        public void onFinish() {
            mToastToShow.cancel();
        }
    };
    mToastToShow.show();
    toastCountDown.start();
}

void Go() {
    try {
        Esearch = (EditText) findViewById(R.id.search);
        String kunci = Esearch.getText().toString().toLowerCase().trim();
        if (kunci.length() < 1) {
            showToast("please input product name to search !", 3);
        }
        else {
            showToast("Searching product ... please wait ...", 2);
            String IsiFullFile = BacaIsiFile();
            if (IsiFullFile.indexOf(kunci) == -1) {
                showToast("product name or code not found !", 4);
            }
            else {
                String[] ParseRest = util.ParseStock(IsiFullFile);
                DisplaySearchResult(ParseRest, kunci);
            }
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}

void DisplaySearchResult(String[] ParseRest, String kunci) {
    try {
        int i;
        String[] parts;
        String ViewMe = "No Data Found !";
        for (i = 0; i < ParseRest.length; i++) {
            if ((ParseRest[i].length() > 1) && (ParseRest[i].contains("@@"))) {
                parts = ParseRest[i].split("@@");
                if ( (parts[0].trim().equals(kunci.trim()) ) ||
(parts[1].trim().equals(kunci.trim())) ) {
                    ViewMe = "Product Code : " + parts[0] + "\n";
                    ViewMe += "Product Name : " + parts[1] + "\n";
                    ViewMe += "Stock : " + parts[2];
                    ViewMe += "\n===== \n";
                    break;
                }
            }
        }
    }
    Edata_stok = (EditText) findViewById(R.id.data_stok);
}

```

```

        Edata_stok.setText(ViewMe);
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}
void In() {
    try {
        Intent intent = new Intent(MainActivity.this, MasukActivity.class);
        startActivity(intent);
        finish();
    }
    catch (Exception e) {
        Log.e("err", e.toString());
    }
}
void Out() {
    try {
        Intent intent = new Intent(MainActivity.this, KeluarActivity.class);
        startActivity(intent);
        finish();
    }
    catch (Exception e) {
        Log.e("err", e.toString());
    }
}
}

```

Penjelasan MainActivity.java

```
void ProcessMain()
```

Method ini digunakan untuk menampilkan hasil parsing storage ke textview di layout. Hasil parsing storage berupa data stok.

```
void DisplaySearchResult(String[] ParseRest, String kunci)
```

Method ini digunakan untuk menampilkan hasil pencarian stok barang

MasukActivity.java

```

package com.ringlayer.simplestockinventory;
import android.content.Intent;
import android.os.CountDownTimer;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.Gravity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileReader;
public class MasukActivity extends AppCompatActivity {
    Button in_cancel;
    Button in_save;
}

```

```

EditText masuk_kode;
EditText masuk_name;
EditText masuk_amount;
public Util util = new Util(MasukActivity.this);
private Toast mToastToShow;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_masuk);
}
@Override
protected void onStart() {
    super.onStart();
    try {
        in_cancel = (Button) findViewById(R.id.in_cancel);
        in_cancel.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Back();
            }
        });
        in_save = (Button) findViewById(R.id.in_save);
        in_save.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Save();
            }
        });
    } catch (Exception e) {
        Log.e("error", e.toString());
    }
}
private void Back() {
    try {
        Intent intent = new Intent(MasukActivity.this, MainActivity.class);
        startActivity(intent);
        finish();
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}
protected void Save() {
    try {
        int i;
        String full_data = "";
        boolean valid = false;
        masuk_kode = (EditText) findViewById(R.id.masuk_kode);
        masuk_name = (EditText) findViewById(R.id.masuk_name);
        masuk_amount = (EditText) findViewById(R.id.masuk_amount);
        String kode = masuk_kode.getText().toString().toLowerCase().trim();
        String name = masuk_name.getText().toString().toLowerCase().trim();
        String amount = masuk_amount.getText().toString().toLowerCase().trim();
        valid = util.ValidateCodeNameAmount(name, amount);
        if (valid) {
            String IsiFullFile = BacaIsiFile();
            String[] ParseRest = util.ParseStock(IsiFullFile);
            /* check whether code or name exists */
            if ((IsiFullFile.contains(kode)) && (IsiFullFile.contains(name))) {
                Log.e("info", "UpdateProduct called");
                UpdateProduct(kode, name, amount, ParseRest);
            }
            else {
                if (IsiFullFile.contains("No stock data")) {
                    Log.e("info", "CleanUpStockData called");
                    CleanUpStockData();
                }
                Log.e("info", "AppendNewProduct called");
                AppendNewProduct(kode, name, amount);
            }
        }
    }
}

```

```

        else {
            showToast("product name and amount must be filled, minimum amount is 1",
4);
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}

private int RetStockAmount(String[] parts, String GivenAmount) {
    int OrigAmount = 0;
    int NewAmount = 0;
    try {
        Log.e("info", "parts2 at retstockamount : " + parts[2]);
        OrigAmount = Integer.parseInt(parts[2]);
        int GivenAmountInt = Integer.parseInt(GivenAmount);
        NewAmount = OrigAmount + GivenAmountInt;
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return NewAmount;
}

private void UpdateProduct(String kode, String name, String amount, String[]
ParseRest) {
    try {
        int NewAmount = 0;
        int i;
        String[] parts;
        String NewFullFile = "";
        for (i = 0; i < ParseRest.length; i++) {
            if ((ParseRest[i].length() > 1) && (ParseRest[i].contains("@@"))) {
                parts = ParseRest[i].split("@@");
                /*
                Log.e("info", "parts[0]:" + parts[0]);
                Log.e("info", "parts[1]:" + parts[1]);
                Log.e("info", "parts[2]:" + parts[2]);
                Log.e("info", "compare to kode : " + kode + " - name : " + name);
                */
                if ( (parts[0].trim().equals(kode.trim())) &&
(parts[1].trim().equals(name.trim())) ) {
                    Log.e("info", "got match kode : " + kode + " match name : " +
name);
                    NewAmount = RetStockAmount(parts, amount);
                    NewFullFile += kode + "@@" + name + "@@" +
String.valueOf(NewAmount) + "_____";
                }
                /* nope ? */
                else {
                    NewFullFile += parts[0] + "@@" + parts[1] + "@@" + parts[2] +
"_____";
                }
            }
        }
        util.writeFile(getResources().getString(R.string.sfil), NewFullFile);
        showToast("stock data updated !", 4);
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}

private void AppendNewProduct(String kode, String name, String amount) {
    try {
        String full_data = kode + "@@" + name + "@@" + amount + "_____";
        util.append_file(getResources().getString(R.string.sfil), full_data);
        showToast("new product added !", 4);
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}

```



```

    }
}
private String BacaIsiFile() {
    String IsiFullFile = "";
    try {
        String st;
        int exists = util.check_file_exists(getResources().getString(R.string.sfil));
        if (exists == 1) {
            File file = new File(getResources().getString(R.string.sfil));
            BufferedReader br = new BufferedReader(new FileReader(file));
            while ((st = br.readLine()) != null) {
                IsiFullFile += st;
            }
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return IsiFullFile;
}
private void showToast(String msg_to_display, int second_to_disp) {
    int toastDurationInMilliseconds = second_to_disp * 1000;
    mToastToShow = Toast.makeText(MasukActivity.this, msg_to_display,
    Toast.LENGTH_LONG);
    mToastToShow.setGravity(Gravity.CENTER_VERTICAL|Gravity.CENTER_HORIZONTAL, 0,
    0);
    CountDownTimer toastCountDown;
    toastCountDown = new CountDownTimer(toastDurationInMilliseconds, 1000 /*Tick
duration*/) {
        public void onTick(long millisUntilFinished) {
            mToastToShow.show();
        }
        public void onFinish() {
            mToastToShow.cancel();
        }
    };
    mToastToShow.show();
    toastCountDown.start();
}
private void CleanUpStockData() {
    try {
        util.writeFile(getResources().getString(R.string.sfil), "");
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}
}
}

```

Penjelasan MasukActivity.java

protected void Save()

Method ini digunakan untuk menyimpan data stok ke storage penyimpanan di android berupa file teks

private void UpdateProduct(String kode, String name, String amount, String[] ParseRest)

Method ini digunakan untuk mengupdate jumlah stok barang.

KeluarActivity.java

```
package com.ringlayer.simplestockinventory;
import android.content.Intent;
import android.os.CountDownTimer;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.Gravity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileReader;
public class KeluarActivity extends AppCompatActivity {
    public Util util = new Util(KeluarActivity.this);
    Button out_cancel;
    Button out_save;
    EditText keluar_kode;
    EditText keluar_name;
    EditText keluar_amount;
    private Toast mToastToShow;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_keluar);
    }
    @Override
    protected void onStart() {
        super.onStart();
        try {
            out_cancel = (Button) findViewById(R.id.out_cancel);
            out_cancel.setOnClickListener(new View.OnClickListener() {
                public void onClick(View v) {
                    Back();
                }
            });
            out_save = (Button) findViewById(R.id.out_save);
            out_save.setOnClickListener(new View.OnClickListener() {
                public void onClick(View v) {
                    Save();
                }
            });
        }
        catch (Exception e) {
            Log.e("error", e.toString());
        }
    }
    private void Back() {
        try {
            Intent intent = new Intent(KeluarActivity.this, MainActivity.class);
            startActivity(intent);
            finish();
        }
        catch (Exception e) {
            Log.e("error", e.toString());
        }
    }
    protected void Save() {
        try {
            boolean valid = false;
```

```

        keluar_kode = (EditText) findViewById(R.id.keluar_kode);
        keluar_name = (EditText) findViewById(R.id.keluar_name);
        keluar_amount = (EditText) findViewById(R.id.keluar_amount);
        String kode = keluar_kode.getText().toString().toLowerCase().trim();
        String name = keluar_name.getText().toString().toLowerCase().trim();
        String amount = keluar_amount.getText().toString().toLowerCase().trim();
        valid = util.ValidateCodeNameAmount(name, amount);
        if (valid) {
            String IsiFullFile = BacaIsiFile();
            String[] ParseRest = util.ParseStock(IsiFullFile);
            /* check whether code or name exists */
            if ((IsiFullFile.indexOf(kode) == -1) && (IsiFullFile.indexOf(name) == -
1)) {
                showToast("product name or code not found ! please use stock-in
button to input product before stock-out", 4);
            }
            else {
                UpdateProduct(kode, name, amount, ParseRest);
            }
        }
        else {
            showToast("product name and amount must be filled", 4);
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}

private void UpdateProduct(String kode, String name, String amount, String[]
ParseRest) {
    try {
        int NewAmount = 0;
        int i;
        String[] parts;
        String NewFullFile = "";
        for (i = 0; i < ParseRest.length; i++) {
            if ((ParseRest[i].length() > 1) && (ParseRest[i].contains("@@"))) {
                parts = ParseRest[i].split("@@");
                /* do code or name match our criteria ? */
                if ( (parts[0].trim().equals(kode.trim()) ) &&
(parts[1].trim().equals(name.trim())) ) {
                    NewAmount = RetStockAmount(parts, amount);
                    NewFullFile += kode + "@@" + name + "@@" +
String.valueOf(NewAmount) + "_____";
                }
                /* nope ? */
                else {
                    NewFullFile += parts[0] + "@@" + parts[1] + "@@" + parts[2] +
"_____";
                }
            }
        }
        util.writeFile(getResources().getString(R.string.sfil), NewFullFile);
        showToast("stock data updated !", 4);
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
}

private int RetStockAmount(String[] parts, String GivenAmount) {
    int OrigAmount = 0;
    int NewAmount = 0;
    try {
        OrigAmount = Integer.parseInt(parts[2]);
        int GivenAmountInt = Integer.parseInt(GivenAmount);
        if (GivenAmountInt > OrigAmount) {
            showToast("Current Stock is Smaller than out ! Operation Failed !", 4);
        }
        else {

```

```

        NewAmount = OrigAmount - GivenAmountInt;
    }
}
catch (Exception e) {
    Log.e("error", e.toString());
}
Log.e("info", "got new amount : " + Integer.toString(NewAmount));
return NewAmount;
}
private String BacaIsiFile() {
    String IsiFullFile = "";
    try {
        String st;
        int exists = util.check_file_exists(getResources().getString(R.string.sfil));
        if (exists == 1) {
            File file = new File(getResources().getString(R.string.sfil));
            BufferedReader br = new BufferedReader(new FileReader(file));
            while ((st = br.readLine()) != null) {
                IsiFullFile += st;
            }
        }
    }
    catch (Exception e) {
        Log.e("error", e.toString());
    }
    return IsiFullFile;
}
private void showToast(String msg_to_display, int second_to_disp) {
    int toastDurationInMilliseconds = second_to_disp * 1000;
    mToastToShow = Toast.makeText(KeluarActivity.this, msg_to_display,
    Toast.LENGTH_LONG);
    mToastToShow.setGravity(Gravity.CENTER_VERTICAL|Gravity.CENTER_HORIZONTAL, 0,
    0);
    CountDownTimer toastCountDown;
    toastCountDown = new CountDownTimer(toastDurationInMilliseconds, 1000 /*Tick
duration*/) {
        public void onTick(long millisUntilFinished) {
            mToastToShow.show();
        }
        public void onFinish() {
            mToastToShow.cancel();
        }
    };
    mToastToShow.show();
    toastCountDown.start();
}
}
}

```

Penjelasan KeluarActivity.java

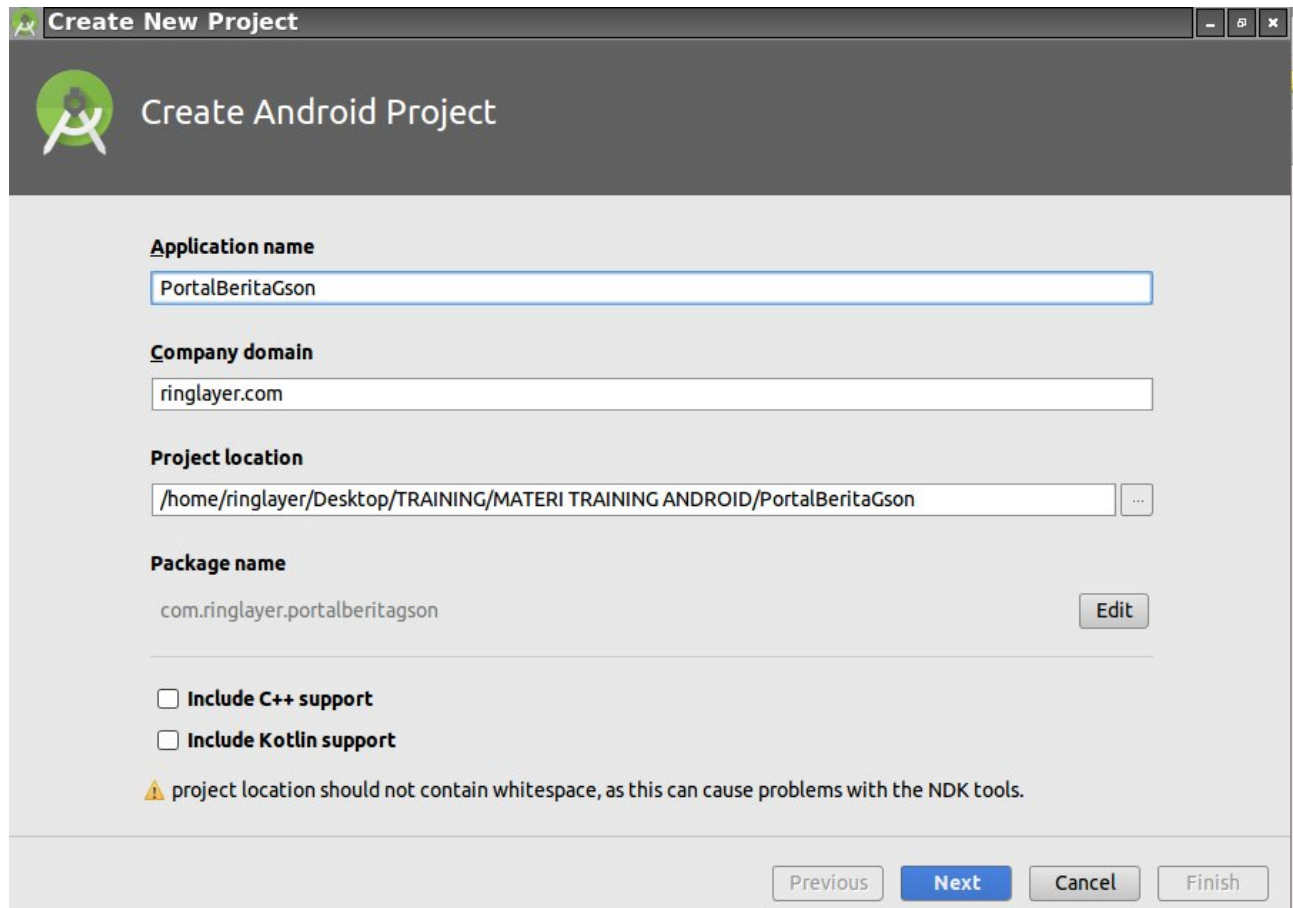
protected void Save()

Method ini digunakan untuk menyimpan data stok keluar di mana jumlah stok barang akan diupdate (dikurangi) sejumlah jumlah keluar

4.2. Aplikasi Portal Berita Sederhana dengan GSON

Contoh aplikasi selanjutnya adalah aplikasi portal berita sederhana dengan json. Kita akan menggunakan library gson dari google, library ini digunakan untuk membuat json dan melakukan deserialize data json.

Buat aplikasi baru dengan nama PortalBeritaJson



GAMBARAN KINERJA APLIKASI

Aplikasi ini akan melakukan fetch json dari url https://raw.githubusercontent.com/jasapluscom/image_resources/master/data.json

Data json tersebut kemudian akan disimpan dalam objek gson untuk kemudian ditampilkan pada EditText pada activity_main.xml.

DAFTAR ACTIVITY DAN CLASS YANG DIGUNAKAN

Ada 2 activity yang digunakan pada aplikasi ini :

SplashActivity.java

Activity ini merupakan activity launcher yang berguna untuk splash screen sebelum masuk ke activity utama MainActivity. Layout untuk activity ini adalah activity_splash.xml.

MainActivity.java

Layout untuk activity ini adalah activity_main.xml. Activity ini merupakan activity utama untuk menampilkan 4 berita berupa teks.

Class yang digunakan pada aplikasi ini :

NewsObj.java

Class ini merupakan class yang digunakan untuk menyimpan data dari json. Data json dari url akan diserialize dan tersimpan pada variabel variabel di dalam class ini.

ServisGetPage.java

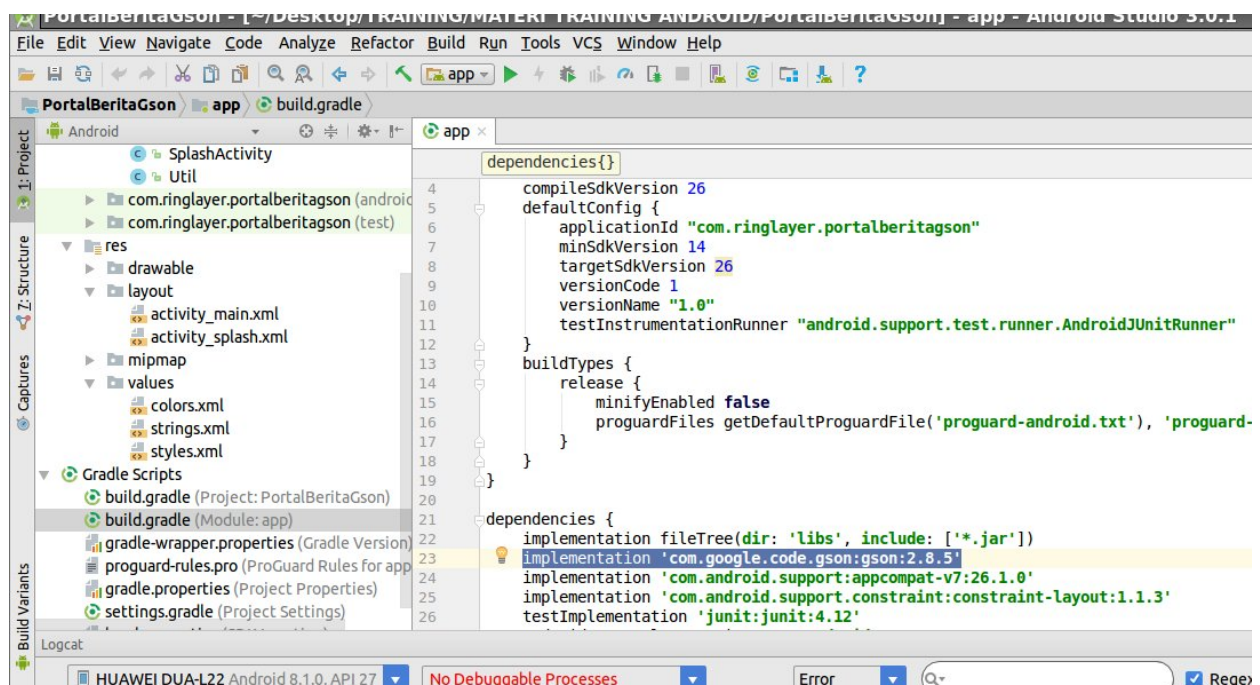
Class ini merupakan intent service yang berguna untuk melakukan fetching dari url json.

Util.java

Class ini seperti proyek proyek sebelumnya digunakan untuk melakukan request permisi pada android.

BAGIAN XML

Sebelum memulai kita perlu menambahkan library gson ke proyek. Caranya buka build.gradle (Module:app)



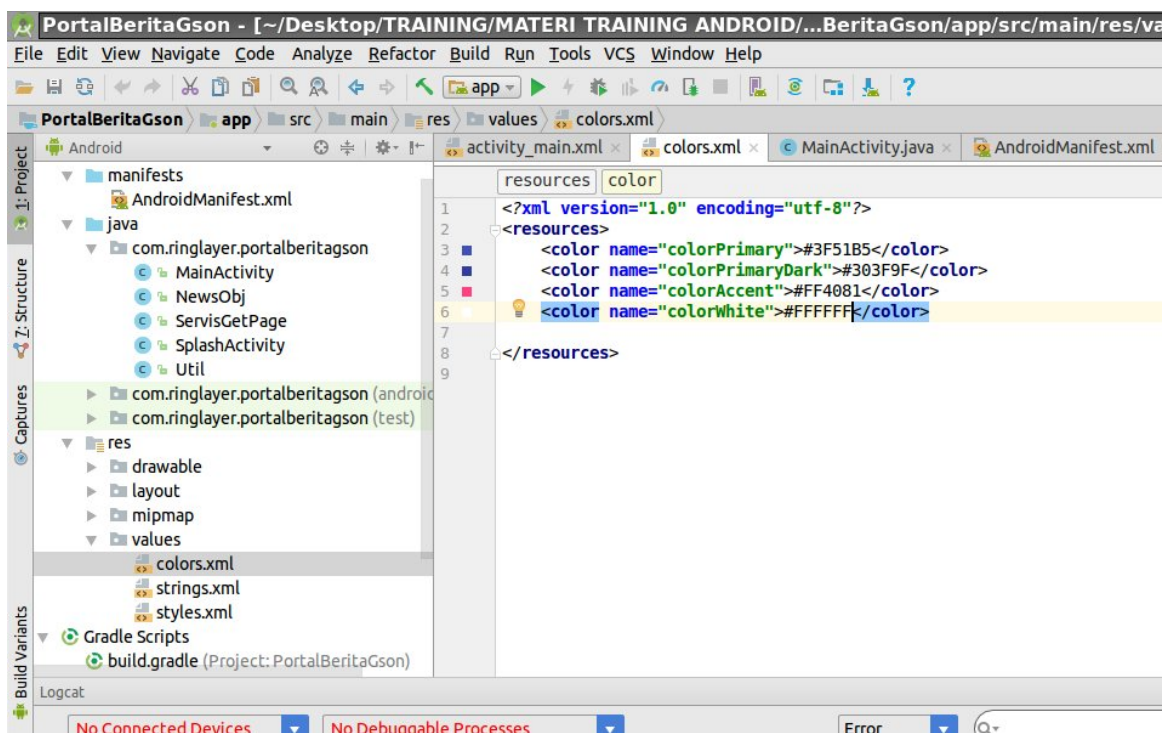
Tambahkan line ini pada bagian dependencies :

```
implementation 'com.google.code.gson:gson:2.8.5'
```

Berikut ini isi AndroidManifest.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.ringlayer.portalberitagson">
    <uses-permission android:name="android.permission.INTERNET" />
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
        </activity>
        <activity android:name=".SplashActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <service android:name=".ServisGetPage" />
    </application>
</manifest>
```

Ada beberapa resource yang kita tambahkan pada aplikasi ini .



Pada colors.xml kita tambahkan 1 warna baru untuk putih, berikut ini isi colors.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
```

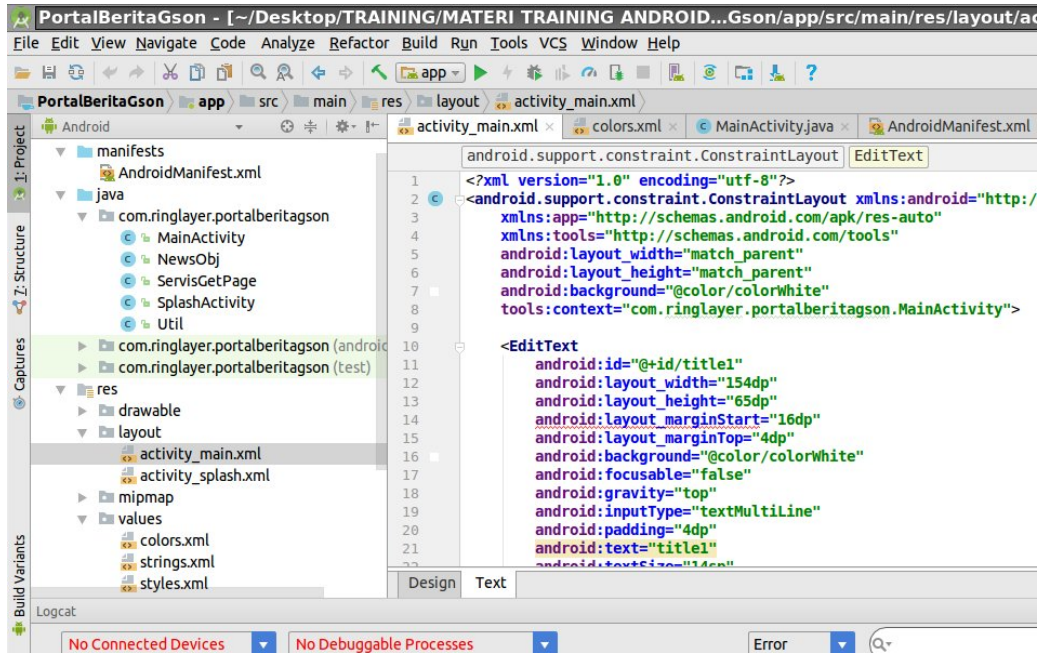


```

<color name="colorPrimary">#3F51B5</color>
<color name="colorPrimaryDark">#303F9F</color>
<color name="colorAccent">#FF4081</color>
<color name="colorWhite">#FFFFFF</color>
</resources>

```

Activity ini memiliki 2 xml pada bagian layout :



Berikut ini isi layout activity_main.xml :

```

<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
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:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/colorWhite"
tools:context="com.ringlayer.portalberitagson.MainActivity">
<EditText
    android:id="@+id/title1"
    android:layout_width="154dp"
    android:layout_height="65dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="4dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="title1"
    android:textSize="14sp"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/title2"
    android:layout_width="157dp"
    android:layout_height="68dp"
    android:layout_marginEnd="28dp"
    android:layout_marginTop="4dp"

```



```

        android:background="@color/colorWhite"
        android:focusable="false"
        android:gravity="top"
        android:inputType="textMultiLine"
        android:padding="4dp"
        android:text="title2"
        android:textSize="14sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/title3"
    android:layout_width="164dp"
    android:layout_height="73dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="248dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="title3"
    android:textSize="14sp"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/title4"
    android:layout_width="167dp"
    android:layout_height="73dp"
    android:layout_marginEnd="20dp"
    android:layout_marginTop="248dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="title4"
    android:textSize="14sp"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/content1"
    android:layout_width="164dp"
    android:layout_height="153dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="84dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="content1"
    android:textSize="14sp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/content2"
    android:layout_width="173dp"
    android:layout_height="150dp"
    android:layout_marginEnd="16dp"
    android:layout_marginTop="84dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="content2"

```

```

        android:textSize="14sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/content3"
    android:layout_width="169dp"
    android:layout_height="170dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="332dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="content3"
    android:textSize="14sp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/content4"
    android:layout_width="171dp"
    android:layout_height="172dp"
    android:layout_marginEnd="16dp"
    android:layout_marginTop="332dp"
    android:background="@color/colorWhite"
    android:focusable="false"
    android:gravity="top"
    android:inputType="textMultiLine"
    android:padding="4dp"
    android:text="content4"
    android:textSize="14sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>

```

Berikut ini isi layout activity_splash.xml

```

<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/colorPrimary"
    tools:context="com.ringlayer.portalberitagson.SplashActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="209dp"
        android:layout_height="69dp"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"
        android:layout_marginTop="200dp"
        android:text="Portal Berita Gson"
        android:textColor="@color/colorWhite"
        android:textSize="25sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.503"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>

```

BAGIAN SOURCE CODE

Berikut ini isi file MainActivity.java :

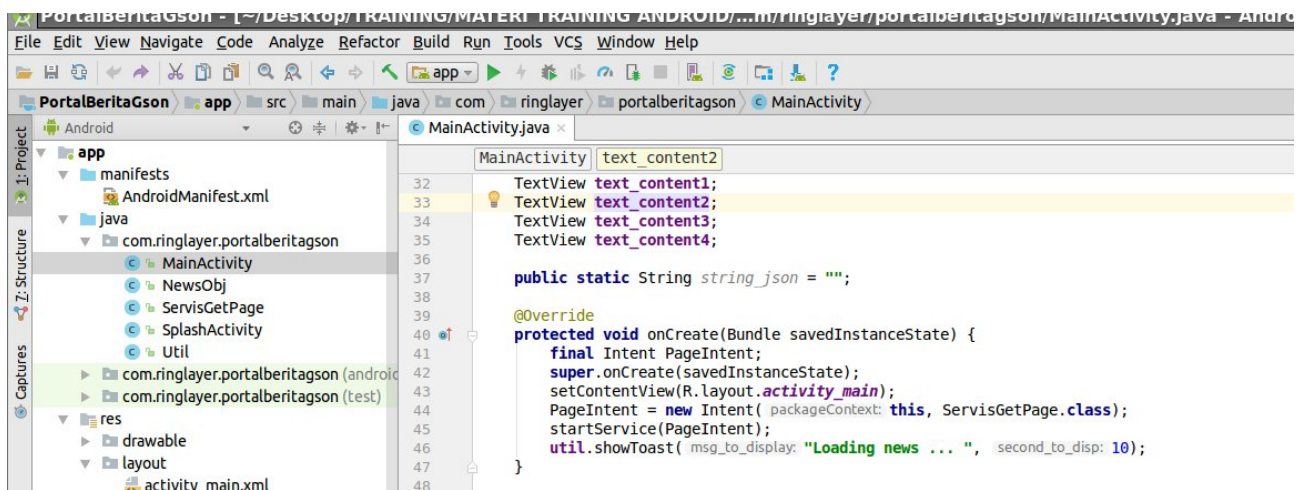
```
package com.ringlayer.portalberitagson;
import android.Manifest;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.content.IntentFilter;
import android.os.Build;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.widget.ImageView;
import android.widget.TextView;
import com.google.gson.Gson;
import com.google.gson.GsonBuilder;
import com.google.gson.reflect.TypeToken;
import java.lang.reflect.Type;
import java.util.List;
public class MainActivity extends AppCompatActivity {
    private Gson gson;
    public Util util = new Util(MainActivity.this);
    TextView text_title1;
    TextView text_title2;
    TextView text_title3;
    TextView text_title4;
    TextView text_content1;
    TextView text_content2;
    TextView text_content3;
    TextView text_content4;
    public static String string_json = "";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        final Intent PageIntent;
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        PageIntent = new Intent(this, ServisGetPage.class);
        startService(PageIntent);
        util.showToast("Loading news ... ", 10);
    }
    private BroadcastReceiver br = new BroadcastReceiver() {
        @Override
        public void onReceive(Context context, Intent intent) {
            String full_sesi = "no session";
            final Context konteks = context;
            final Intent msgIntent;
            try {
                Bundle bundle = intent.getExtras();
                if (bundle != null) {
                    String json = bundle.getString("json");
                    Log.e("[+] Splash onReceive", "GOT json " + json);
                    if ( (json.contains("title1")) && (json.contains("title2")) &&
(json.contains("title3")) && (json.contains("title4")) ) {
                        text_title1 = (TextView)findViewById(R.id.title1);
```

```

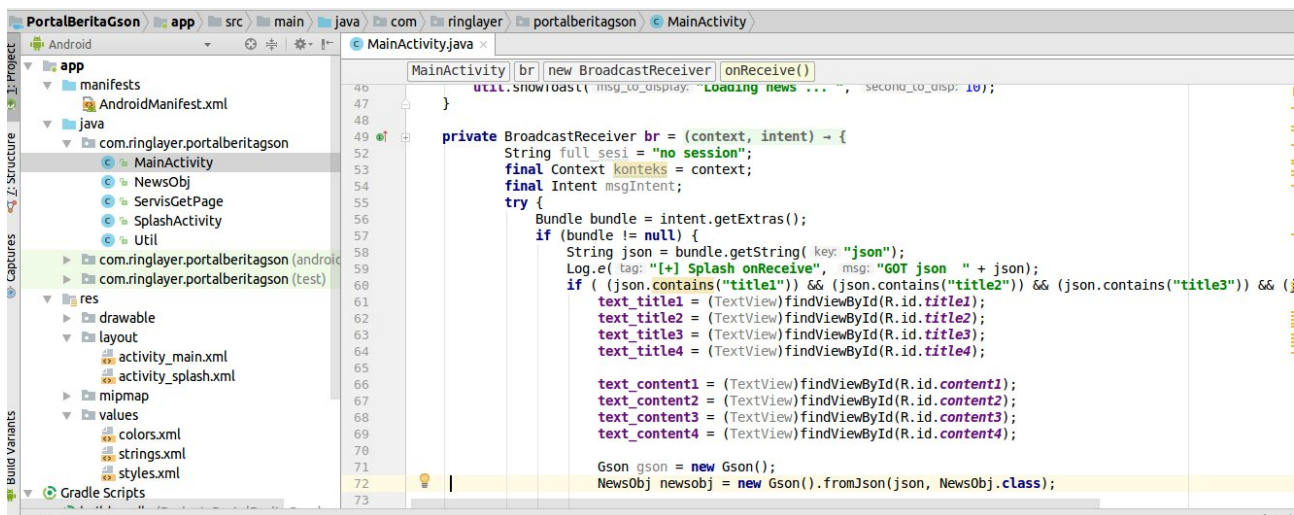
        text_title2 = (TextView)findViewById(R.id.title2);
        text_title3 = (TextView)findViewById(R.id.title3);
        text_title4 = (TextView)findViewById(R.id.title4);
        text_content1 = (TextView)findViewById(R.id.content1);
        text_content2 = (TextView)findViewById(R.id.content2);
        text_content3 = (TextView)findViewById(R.id.content3);
        text_content4 = (TextView)findViewById(R.id.content4);
        Gson gson = new Gson();
        NewsObj newsobj = new Gson().fromJson(json, NewsObj.class);
        text_title1.setText(newsobj.title1);
        text_title2.setText(newsobj.title2);
        text_title3.setText(newsobj.title3);
        text_title4.setText(newsobj.title4);
        text_content1.setText(newsobj.content1);
        text_content2.setText(newsobj.content2);
        text_content3.setText(newsobj.content3);
        text_content4.setText(newsobj.content4);
    }
    else {
        util.showToast("Failed to get json news ! check your internet
connection", 4);
    }
}
}
}
catch (Exception e) {
    Log.e("error", e.toString());
    Log.e("[-]Err", "Exception: " + Log.getStackTraceString(e));
}
}
};
@Override
protected void onResume() {
    super.onResume();
    registerReceiver(br, new IntentFilter("1"));
}
@Override
protected void onPause() {
    super.onPause();
    unregisterReceiver(br);
}
}
}

```

Penjelasan MainActivity.java



Pada method onCreate kita menjalankan Intent Servis : ServisGetPage yang digunakan untuk mengambil isi json dari internet di belakang layar.



Pada activity ini kita melakukan register broadcast receiver untuk menangkap hasil dari method publishresult pada ServisGetPage, di mana data yang dibroadcast berupa data json hasil tangkapan.

Setelah broadcast receiver menangkap variabel json dari ServisGetPage, pada MainActivity kita siapkan objek gson :

```
Gson gson = new Gson();
```

Kemudian kita lakukan deserialize yang hasilnya tersimpan pada variabel di dalam class NewsObj untuk kemudian hasilnya ditampilkan pada edittext.

```
NewsObj newsobj = new Gson().fromJson(json, NewsObj.class);
text_title1.setText(newsobj.title1);
text_title2.setText(newsobj.title2);
text_title3.setText(newsobj.title3);
text_title4.setText(newsobj.title4);
text_content1.setText(newsobj.content1);
text_content2.setText(newsobj.content2);
text_content3.setText(newsobj.content3);
text_content4.setText(newsobj.content4);
```

Berikut ini isi file NewsObj.java :

```
package com.ringlayer.portalberitagson;
/**
 * Created by ringlayer on 13/06/19.
 */
public class NewsObj {
    public String title1;
    public String title2;
    public String title3;
    public String title4;
    public String content1;
```

```

    public String content2;
    public String content3;
    public String content4;
}

```

Berikut ini isi file ServisGetPage.java

```

package com.ringlayer.portalberitagson;
import android.app.IntentService;
import android.content.Intent;
import android.os.Handler;
import android.os.IBinder;
import android.os.StrictMode;
import android.util.Log;
import java.io.BufferedReader;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.net.URL;
import java.net.URLConnection;
/**
 * Created by ringlayer on 13/06/19.
 */
public class ServisGetPage extends IntentService {
    public static final String PARAM_OUT_MSG = "";
    public ServisGetPage() {
        super("ServisGetPage");
    }
    private Handler handler;
    @Override
    protected void onHandleIntent(Intent intent) {
        try {
            String json_url =
"https://raw.githubusercontent.com/jasapluscom/image_resources/master/data.json";
            String json = getHtml(json_url);
            publishResults(json);
        } catch (Exception e) {
            Log.e("[-]ohi getpage", e.toString());
        }
    }
    @Override
    public int onStartCommand(Intent intent, int flags, int startId) {
        handler = new Handler();
        return super.onStartCommand(intent, flags, startId);
    }
    /* modified from https://stackoverflow.com/questions/2423498/how-to-get-the-html-
source-of-a-page-from-a-html-link-in-android */
    public static String getHtml(String url) {
        try {
            if (android.os.Build.VERSION.SDK_INT > 9) {
                StrictMode.ThreadPolicy policy = new
StrictMode.ThreadPolicy.Builder().permitAll().build();
                StrictMode.setThreadPolicy(policy);
                StrictMode.VmPolicy.Builder builder = new StrictMode.VmPolicy.Builder();
                StrictMode.setVmPolicy(builder.build());
            }
            URLConnection connection = (new URL(url)).openConnection();
            connection.setConnectTimeout(5000);
            connection.setReadTimeout(5000);
            connection.connect();
            InputStream in = connection.getInputStream();
            BufferedReader reader = new BufferedReader(new InputStreamReader(in));
            StringBuilder html = new StringBuilder();
            for (String line; (line = reader.readLine()) != null; ) {
                html.append(line);
            }
            in.close();

```

```

        return html.toString();
    }
    catch (Exception e) {
        Log.e("[-] getHtml", e.toString());
        return "";
    }
}
@Override
public IBinder onBind(Intent i) {
    return null;
}
private void publishResults(String json) {
    try {
        Log.e("[+] publishResults", "done");
        Intent intent = new Intent("1");
        intent.putExtra("json", json);
        sendBroadcast(intent);
    }
    catch (Exception e) {
        Log.e("publishResults", e.toString());
    }
}
}
}

```

Berikut ini isi file SplashActivity.java :

```

package com.ringlayer.portalberitagson;
import android.Manifest;
import android.content.Intent;
import android.os.Build;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class SplashActivity extends AppCompatActivity {
    public Util util = new Util(SplashActivity.this);
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_splash);
        try {
            if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
                util.askForPermission(Manifest.permission.INTERNET, 1);
            }
        }
        catch (Exception e) {
            Log.e("error", e.toString());
            Log.e("[-]Err", "Exception: " + Log.getStackTraceString(e));
        }
        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent msgIntent = new Intent(SplashActivity.this, MainActivity.class);
                startActivity(msgIntent);
                finish();
            }
        }, 4000);
    }
}

```

Berikut ini isi file Util.java :

```

package com.ringlayer.portalberitagson;
import android.app.Activity;

```



```

import android.content.Context;
import android.content.pm.PackageManager;
import android.os.CountDownTimer;
import android.os.StrictMode;
import android.support.v4.app.ActivityCompat;
import android.support.v4.content.ContextCompat;
import android.view.Gravity;
import android.widget.Toast;
/**
 * Created by ringlayer on 13/06/19.
 */
public class Util {
    Activity mContext;
    private static Context appContext;
    public Util (Activity context)
    {
        mContext = context;
        StrictMode.VmPolicy.Builder builder = new StrictMode.VmPolicy.Builder();
        StrictMode.setVmPolicy(builder.build());
        if (android.os.Build.VERSION.SDK_INT > 9) {
            StrictMode.ThreadPolicy policy =
                new StrictMode.ThreadPolicy.Builder().permitAll().build();
            StrictMode.setThreadPolicy(policy);
        }
        public void askForPermission(String permission, Integer requestCode) {
            if (ContextCompat.checkSelfPermission(mContext, permission) !=
                PackageManager.PERMISSION_GRANTED) {
                if (ActivityCompat.shouldShowRequestPermissionRationale(mContext,
                    permission)) {
                    ActivityCompat.requestPermissions(mContext, new String[]{permission},
                        requestCode);
                } else {
                    ActivityCompat.requestPermissions(mContext, new String[]{permission},
                        requestCode);
                }
            }
        }
        public void showToast(String msg_to_display, int second_to_disp) {
            final Toast mToastToShow;
            int toastDurationInMilliseconds = second_to_disp * 1000;
            mToastToShow = Toast.makeText(mContext, msg_to_display, Toast.LENGTH_LONG);
            mToastToShow.setGravity(Gravity.CENTER_VERTICAL|Gravity.CENTER_HORIZONTAL, 0,
                0);
            CountDownTimer toastCountDown;
            toastCountDown = new CountDownTimer(toastDurationInMilliseconds, 1000 /*Tick
                duration*/) {
                public void onTick(long millisUntilFinished) {
                    mToastToShow.show();
                }
                public void onFinish() {
                    mToastToShow.cancel();
                }
            };
            mToastToShow.show();
            toastCountDown.start();
        }
    }
}

```