BUKU KERJA PRAKTEK MAHASISWA

Matakuliah : Aplikasi Mobile

Minggu Ke : 10 Waktu :

Tema : Api Volley

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Dasar Teori

Volley adalah library HTTP yang mempermudah dan, yang terpenting, mempercepat networking untuk aplikasi Android.

Volley menawarkan manfaat-manfaat berikut:

- Penjadwalan otomatis permintaan jaringan.
- Beberapa koneksi jaringan serentak.
- Caching respons disk dan memori transparan dengan koherensi cache HTTP standar.
- Dukungan untuk pemrioritasan permintaan.
- API permintaan pembatalan. Anda bisa membatalkan satu permintaan, atau menetapkan blok atau cakupan permintaan untuk dibatalkan.
- Kemudahan kustomisasi, misalnya, untuk mencoba ulang dan backoff.
- Pemesanan kuat yang memudahkan pengisian UI Anda dengan benar menggunakan data yang diambil secara asinkron dari jaringan.
- Fitur proses debug dan penelusuran.

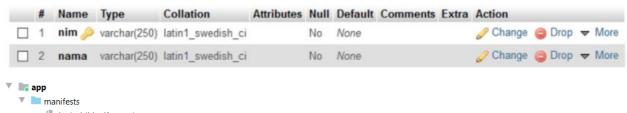
Volley terintegrasi secara mudah dengan protokol apa pun dan memberi performa terbaik dengan dukungan untuk string raw, gambar, dan JSON.

Alat dan Bahan

- a. Smart Phone
- b. Komputer/Laptop

Kegiatan Praktikum

- 1. Buat database di PHPMyAdmin
- Buat tabel baru di database dengan nama db_ci dengan 2 kolom nama dan nim
 Nim adalah primay key.



3. AndroidManifest.xml Tambahhkan internet permission dan access network di AndroidManifest.xml file.

```
<uses-permission android:name="android.permission.INTERNET"/>
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>
```

4. Tambahkan library pada build.gradle(Module:app) file

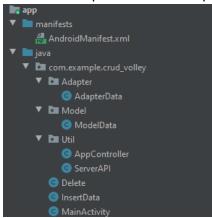
```
implementation 'androidx.appcompat:appcompat:1.2.0'
implementation 'com.google.android.material:material:1.3.0'
implementation 'androidx.constraintlayout:constraintlayout:2.0.4'
testImplementation 'junit:junit:4.+'
androidTestImplementation 'androidx.test.ext:junit:1.1.2'
androidTestImplementation 'androidx.test.espresso:espresso-core:3.3.0'
implementation 'com.android.volley:volley:1.1.0'
}
```

- 5. Tambahkan 3 package yang terdiri dari file .java yaitu :
 - Adapter
 - AdapdaterData
 - Model
 - ModelData
 - Util
 - AppController
 - ServerAPI

Dan tambahkan 3 file .java di dalam package utama:

- Delete
- InsertData

Maka akan seperti berikut tampilannya:



5. File AdapterData.java berisi sebagai berikut :

```
package com.example.crud volley.Adapter;
import android.content.Context;
import android.content.Intent;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import androidx.recyclerview.widget.RecyclerView;
import com.example.crud_volley.InsertData;
import com.example.crud volley.Model.ModelData;
import com.example.crud_volley.R;
import java.util.List;
public class AdapterData extends RecyclerView.Adapter<AdapterData.HolderData> {
   private List<ModelData> mItems ;
   private Context context;
   public AdapterData (Context context, List<ModelData> items)
       this.mItems = items;
   @Override
   public HolderData onCreateViewHolder(ViewGroup parent, int viewType) {
       View layout = LayoutInflater.from(parent.getContext()).inflate(R.layout.layout row,parent,
       HolderData holderData = new HolderData(layout);
       return holderData:
   @Override
   public void onBindViewHolder(HolderData holder, int position) {
       ModelData md = mItems.get(position);
       holder.tvusername.setText(md.getUsername());
       holder.tvgrup.setText(md.getGrup());
       holder.tvnama.setText(md.getNama());
       holder.tvpassword.setText(md.getPassword());
       holder.md = md;
   @Override
   public int getItemCount() { return mItems.size(); }
```

```
class HolderData extends RecyclerView.ViewHolder
   TextView tvusername,tvgrup,tvnama, tvpassword;
   ModelData md;
    public HolderData (View view)
       tvusername = (TextView) view.findViewById(R.id.username);
        tvgrup = (TextView) view.findViewById(R.id.grup);
        tvnama = (TextView) view.findViewById(R.id.nama);
        tvpassword = (TextView) view.findViewById(R.id.password);
        view.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
                Intent update = new Intent(context, InsertData.class);
               update.putExtra( name: "update", value: 1);
               update.putExtra( name: "username",md.getUsername());
                update.putExtra( name: "grup",md.getGrup());
                update.putExtra( name: "nama",md.getNama());
                update.putExtra( name: "password",md.getPassword());
               context.startActivity(update);
```

6. File ModelData.java berisi sebagai berikut :

```
public class ModelData {String username, grup, nama, password;

public ModelData(){}

public ModelData(String username, String grup, String nama, String password) {
    this.username = username;
    this.password = password;
    }

public String getPassword() { return password; }

public String getNama() { return nama; }

public String getNama() { return nama; }

public void setNama(String nama) { this.nama = nama; }

public String getUsername() { return username; }

public void setUsername(String username) { this.username = username; }

public String getGrup() { return grup; }

public void setGrup(String grup) { this.grup = grup; }
}
```

7. File AppController.java berisi sebagai berikut :

```
package com.example.crud_volley.Util;
import android.app.Application;
import android.text.TextUtils;
import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.toolbox.Volley;
•
public class AppController extends Application {
   private static final String TAG = AppController.class.getSimpleName();
   private static AppController instance ;
   RequestQueue mRequestQueue;
   @Override
   public void onCreate() {
       super.onCreate();
   public static synchronized AppController getInstance() { return instance; }
   private RequestQueue getRequestQueue()
           mRequestQueue = Volley.newRequestQueue(getApplicationContext());
   public <T> void addToRequestQueue(Request<T> req, String tag)
       req.setTag(TextUtils.isEmpty(tag) ? TAG : tag);
       getRequestQueue().add(req);
   public <T> void addToRequestQueue (Request<T> req)
       req.setTag(TAG);
       getRequestQueue().add(req);
   public void cancelAllRequest(Object req)
           mRequestQueue.cancelAll(req);
```

8. File ServerAPI.java berisi sebagai berikut :

```
package com.example.crud_volley.Util;

public class ServerAPI {
    public static final String URL_DATA = "http://192.168.1.4/crud/Mahasiswa/Api";
    public static final String URL_INSERT = "http://192.168.1.4/crud/Mahasiswa/ApiInsert";
    public static final String URL_DELETE = "http://192.168.1.4/crud/Mahasiswa/ApiDelete";
    public static final String URL_UPDATE = "http://192.168.1.4/crud/Mahasiswa/ApiUpdate";
}
```

Perhatian: Untuk Url diisikan sesuai dengan alamat ip computer masing-masing, untuk cek ip.

- 9. Jalankan Command Prompt (CMD)
- 10. Ketikkan ipconfig, maka akan muncul seperti berikut

11. File Delete.java berisi sebagai berikut :

```
import android.app.ProgressDialog;
import android.content.Intent;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import com.android.volley.AuthFailureError;
import com.android.volley.Request;
```

```
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.example.crud volley.Util.AppController;
import com.example.crud volley.Util.ServerAPI;
import org.json.JSONException;
import org.json.JSONObject;
import java.util.HashMap;
import java.util.Map;
public class Delete extends AppCompatActivity {
  EditText deleteID ;
  Button btnDelete:
  ProgressDialog pd;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_delete);
    deleteID = (EditText) findViewById(R.id.username_param);
    btnDelete = (Button) findViewById(R.id.btn delete);
    pd = new ProgressDialog(Delete.this);
    btnDelete.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View view) {
        deleteData();
  private void deleteData()
    pd.setMessage("Delete Data ...");
    pd.setCancelable(false);
    pd.show();
    StringRequest delReq = new StringRequest(Request.Method.POST,
ServerAPI.URL DELETE,
```

```
new Response.Listener<String>() {
           @Override
           public void onResponse(String response) {
             pd.cancel();
            Log.d("volley", "response : " + response.toString());
            try {
               JSONObject res = new JSONObject(response);
               Toast.makeText(Delete.this,"pesan: "+res.getString("message"),
Toast.LENGTH SHORT).show();
             } catch (JSONException e) {
               e.printStackTrace();
            startActivity(new Intent(Delete.this, MainActivity.class));
        new Response.ErrorListener() {
          @Override
          public void onErrorResponse(VolleyError error) {
             pd.cancel();
            Log.d("volley", "error : " + error.getMessage());
            Toast.makeText(Delete.this, "pesan: gagal menghapus data",
Toast.LENGTH SHORT).show();
      @Override
      protected Map<String, String> getParams() throws AuthFailureError {
        Map<String, String> map = new HashMap<>();
        map.put("username",deleteID.getText().toString());
        return map;
    AppController.getInstance().addToRequestQueue(delReq);
```

12. File InsertData.java berisi sebagai berikut :

```
package com.example.crud_volley;
import android.app.ProgressDialog;
import android.content.Intent;
import android.os.Bundle;
```

```
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import com.android.volley.AuthFailureError;
import com.android.volley.Request;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.example.crud volley.Util.AppController;
import com.example.crud volley.Util.ServerAPI;
import org.json.JSONException;
import org.json.JSONObject;
import java.util.HashMap;
import java.util.Map;
public class InsertData extends AppCompatActivity {
  EditText username, grup, nama, password;
  Button btnbatal,btnsimpan;
  ProgressDialog pd;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity insert data);
    /*get data from intent*/
    Intent data = getIntent();
    final int update = data.getIntExtra("update",0);
    String intent username = data.getStringExtra("username");
    String intent grup = data.getStringExtra("grup");
    String intent nama = data.getStringExtra("nama");
    String intent password = data.getStringExtra("password");
    /*end get data from intent*/
    username = (EditText) findViewById(R.id.inp username);
    grup = (EditText) findViewById(R.id.inp grup);
    nama = (EditText) findViewById(R.id.inp_nama);
    password = (EditText) findViewById(R.id.inp password);
    btnbatal = (Button) findViewById(R.id.btn cancel);
```

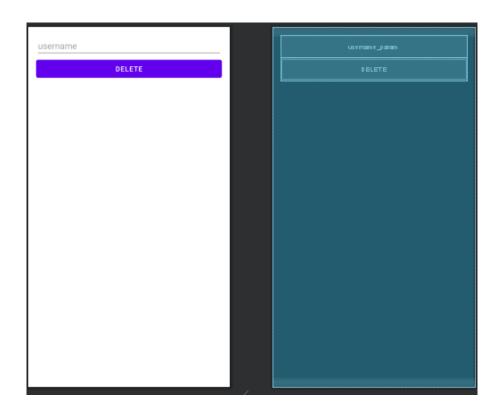
```
btnsimpan = (Button) findViewById(R.id.btn_simpan);
  pd = new ProgressDialog(InsertData.this);
  /*kondisi update / insert*/
  if(update == 1)
    btnsimpan.setText("Update Data");
    username.setText(intent username);
    username.setVisibility(View.GONE);
    grup.setText(intent grup);
    nama.setText(intent nama);
    password.setText(intent_password);
  btnsimpan.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
      if(update == 1)
        Update_data();
      }else {
        simpanData();
  btnbatal.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
      Intent main = new Intent(InsertData.this,MainActivity.class);
      startActivity(main);
private void Update data()
  pd.setMessage("Update Data");
  pd.setCancelable(false);
  pd.show();
  StringRequest updateReq = new StringRequest(Request.Method.POST,
```

```
ServerAPI.URL_UPDATE,
        new Response.Listener<String>() {
          @Override
          public void onResponse(String response) {
            pd.cancel();
            try {
               JSONObject res = new JSONObject(response);
               Toast.makeText(InsertData.this, "pesan: "+ res.getString("message"),
Toast.LENGTH SHORT).show();
            } catch (JSONException e) {
               e.printStackTrace();
            startActivity( new Intent(InsertData.this, MainActivity.class));
        new Response.ErrorListener() {
          @Override
          public void onErrorResponse(VolleyError error) {
            pd.cancel();
            Toast.makeText(InsertData.this, "pesan : Gagal Insert Data",
Toast.LENGTH SHORT).show();
      @Override
      protected Map<String, String> getParams() throws AuthFailureError {
        Map<String> map = new HashMap<>();
        map.put("username",username.getText().toString());
        map.put("grup",grup.getText().toString());
        map.put("nama",nama.getText().toString());
        map.put("password",password.getText().toString());
        return map;
    AppController.getInstance().addToRequestQueue(updateReq);
  private void simpanData()
```

```
pd.setMessage("Menyimpan Data");
    pd.setCancelable(false);
    pd.show();
    StringRequest sendData = new StringRequest(Request.Method.POST,
ServerAPI.URL_INSERT,
        new Response.Listener<String>() {
          @Override
          public void onResponse(String response) {
            pd.cancel();
            try {
               JSONObject res = new JSONObject(response);
               Toast.makeText(InsertData.this, "pesan: "+ res.getString("message"),
Toast.LENGTH SHORT).show();
            } catch (JSONException e) {
               e.printStackTrace();
            startActivity( new Intent(InsertData.this, MainActivity.class));
        new Response.ErrorListener() {
          @Override
          public void onErrorResponse(VolleyError error) {
            pd.cancel();
            Toast.makeText(InsertData.this, "pesan : Gagal Insert Data",
Toast.LENGTH_SHORT).show();
      @Override
      protected Map<String, String> getParams() throws AuthFailureError {
        Map<String, String> map = new HashMap<>();
        map.put("username",username.getText().toString());
        map.put("grup",grup.getText().toString());
        map.put("nama",nama.getText().toString());
        map.put("password",password.getText().toString());
        return map;
    AppController.getInstance().addToRequestQueue(sendData);
```

- 13. Untuk XML ada 3 penambahan yang dilakukan yaitu : 2 activity_delete
 - activity insert data
 - layout row
- 14. File acitivity delete.xml berisi sebagai berikut :

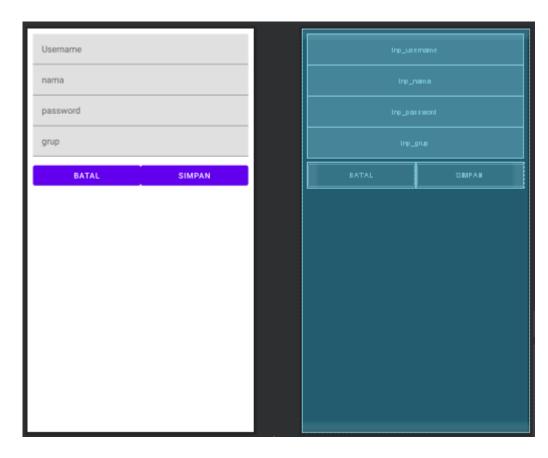
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:paddingBottom="16dp"
   android:orientation="vertical"
   android:paddingLeft="16dp"
   android:paddingRight="16dp"
   android:paddingTop="16dp"
   <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/username_param"/>
   <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
 /LinearLayout>
```



15. File acitivity insert data.xml berisi sebagai berikut:

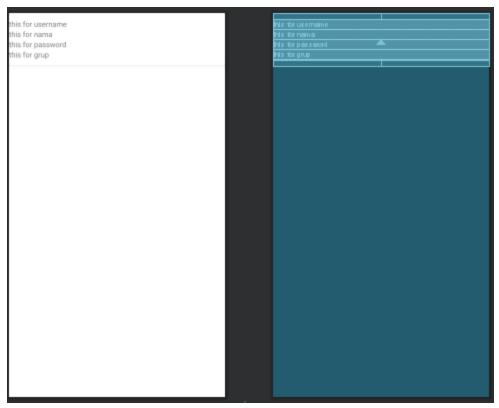
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
   android:layout width="match parent"
   android:layout height="match parent"
   android:orientation="vertical"
   android:padding="10dp">
   <com.google.android.material.textfield.TextInputLayout</pre>
        android:layout width="match parent"
        android:layout_height="wrap_content"
        <EditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/inp username"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout</pre>
        android:layout_width="match_parent"
        android:layout height="wrap content"
        <EditText
            android:layout width="match parent"
            android:layout height="wrap content"
    </com.google.android.material.textfield.TextInputLayout>
   <com.google.android.material.textfield.TextInputLayout</pre>
       android:layout_width="match_parent"
       android:layout height="wrap content"
       <EditText
            android:layout_width="match_parent"
            android:layout height="wrap content"
   </com.google.android.material.textfield.TextInputLayout>
   <com.google.android.material.textfield.TextInputLayout</pre>
       android:layout width="match parent"
       android:layout height="wrap content"
       android:id="@+id/tilgrup">
       <EditText
           android:layout width="match parent"
            android:layout_height="wrap_content"
   </com.google.android.material.textfield.TextInputLayout>
```

```
<LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_marginTop="10dp"
      android:orientation="horizontal">
      <Button
          android:layout_width="match_parent"
          android:layout_height="wrap_content"
          android:layout_weight="1"
          android:id="@+id/btn_cancel"/>
      <Button
          android:layout_width="match_parent"
          android:layout_height="wrap_content"
          android:layout_weight="1"
  </LinearLayout>
/LinearLayout>
```



16. File layout row.xml berisi sebagai berikut :

```
k?xml version="1.0" encoding="utf-8"?>
<androidx.cardview.widget.CardView xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    android:layout width="match parent"
    android:layout_height="wrap_content"
   xmlns:app="http://schemas.android.com/apk/res-auto"
    app:cardElevation="3dp"
    app:cardCornerRadius="5dp"
    android:layout_marginBottom="8dp">
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="100dp">
        <RelativeLayout
            android:layout width="match parent"
            android:layout height="wrap content"
            android:layout_centerInParent="true">
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
            <TextView
                android:layout_width="match parent"
                android:layout height="wrap content"
                android:layout below="@id/username"
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_below="@id/nama"
            <TextView
                android:layout width="match parent"
                android:layout_height="wrap_content"
                android:layout_below="@id/password"
        </RelativeLayout>
    </RelativeLayout>
</androidx.cardview.widget.CardView>
```



- 17. Sedangkan untuk MainActivity.java, activity_main.xml dan AndroidManifest.xml sebagai berikut :
 - a) MainActivity.java

```
package com.example.crud volley;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import android.app.ProgressDialog;
import android.content.Intent;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import com.android.volley.Request;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.JsonArrayRequest;
import com.example.crud_volley.Adapter.AdapterData;
import com.example.crud volley.Model.ModelData;
```

```
import com.example.crud volley.Util.AppController;
import com.example.crud volley.Util.ServerAPI;
import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;
import java.util.ArrayList;
import java.util.List;
public class MainActivity extends AppCompatActivity {
  RecyclerView mRecyclerview;
  RecyclerView.Adapter mAdapter;
  RecyclerView.LayoutManager mManager;
  List<ModelData> mItems;
  Button btnInsert, btnDelete;
  ProgressDialog pd;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    mRecyclerview = (RecyclerView) findViewById(R.id.recyclerviewTemp);
    btnInsert = (Button) findViewById(R.id.btn_insert);
    btnDelete = (Button) findViewById(R.id.btn delete);
    pd = new ProgressDialog(MainActivity.this);
    mltems = new ArrayList<>();
    loadJson();
LinearLayoutManager(MainActivity.this,LinearLayoutManager.VERTICAL,false);
    mRecyclerview.setLayoutManager(mManager);
    mAdapter = new AdapterData(MainActivity.this,mItems);
    mRecyclerview.setAdapter(mAdapter);
    btnInsert.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View view) {
        Intent intent = new Intent(MainActivity.this,InsertData.class);
        startActivity(intent);
```

```
btnDelete.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View view) {
        Intent hapus = new Intent(MainActivity.this,Delete.class);
        startActivity(hapus);
  private void loadJson()
    pd.setMessage("Mengambil Data");
    pd.setCancelable(false);
    pd.show();
      System.out.println("Mengambil Data");
    JsonArrayRequest regData = new JsonArrayRequest(Request.Method.POST,
ServerAPI.URL_DATA,null,
        new Response.Listener<JSONArray>() {
          @Override
          public void onResponse(JSONArray response) {
             System.out.println("Length :"+response.length());
             pd.cancel();
             Log.d("volley", "response : " + response.toString());
             for(int i = 0 ; i < response.length(); i++)</pre>
               try {
                 JSONObject data = response.getJSONObject(i);
                 ModelData md = new ModelData();
                 md.setUsername(data.getString("username"));
                 md.setGrup(data.getString("grup"));
                 md.setNama(data.getString("nama"));
                 md.setPassword(data.getString("password"));
                 mltems.add(md);
               } catch (JSONException e) {
                 e.printStackTrace();
             System.out.println("Length:"+response.length());
             mAdapter.notifyDataSetChanged();
```

```
},
new Response.ErrorListener() {
    @Override
    public void onErrorResponse(VolleyError error) {
        pd.cancel();
        Log.d("volley", "error : " + error.getMessage());
        }
    });

AppController.getInstance().addToRequestQueue(reqData);
}
```

b) Activity main.xml

```
k?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
    android:layout width="match parent"
   android:layout height="match parent"
   android:orientation="vertical">
    <LinearLayout
        android:layout width="match parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
        <Button
            android:layout width="match parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
    </LinearLayout>
    <androidx.recyclerview.widget.RecyclerView</pre>
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="5dp"/>
 /LinearLayout>
```

c) AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    package="com.example.crud_volley">
    <uses-permission android:name="android.permission.INTERNET"/>
    <uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>
    <application
        android:name="com.example.crud_volley.Util.AppController"
        android:allowBackup="true"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.CRUD_Volley">
        <activity android:name="com.example.crud_volley.MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity android:name="com.example.crud_volley.InsertData"/>
        <activity android:name="com.example.crud_volley.Delete"/>
 </application>
</manifest>
```

18. Tampilan hasil

