

BUKU KERJA PRAKTEK MAHASISWA



WORKSHOP APLIKASI MOBILE

Minggu Ke 8 : Volley

SEMESTER 4

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D4 TEKNIK INFORMATIKA
JURUSAN TEKNOLOGI INFORMASI
POLITEKNIK NEGERI JEMBER
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KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN PENDIDIKAN TINGGI
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BUKU KERJA PRAKTEK MAHASISWA

Matakuliah	: Workshop Aplikasi Mobile
Minggu Ke	: 8
Waktu	: 4 x 50 menit
Tema	: Volley

1. Kompetensi Dasar

- a. Mahasiswa mampu memahami konsep volley
- b. Mahasiswa mampu menerapkan volley pada android

2. Dasar Teori

Volley

Volley adalah kerangka kerja http yang menawarkan penjadwalan permintaan, penanganan permintaan secara bersamaan, cache respons berbasis disk dan memori, prioritas permintaan, dan kemampuan pembatalan permintaan di luar kotak.

Volley bisa get dan post jenis data apa pun menggunakan volley framework. Volley menawarkan penanganan respons bawaan untuk menangani string, gambar, dan respons JSON. Jika aplikasi perlu menangani jenis respons selain string, gambar, dan JSON, maka harus dituliskan permintaan khusus dengan memperluas Request class dan menerapkan metode `parseNetworkResponse ()` dan metode `deliverResponse ()`.

Volley bagus untuk mentransmisikan data aplikasi sederhana. Jika fitur aplikasi memerlukan unduhan besar, lebih baik menggunakan DownloadManager karena volley menyimpan cache untuk semua respons.

Menambahkan library volley ke proyek aplikasi dengan cara memasukkan dependensi dalam file gradle seperti "**compile 'com.android.volley:volley:1.0.0'**".

Karena permintaan dan respons http dikirimkan melalui jaringan, aplikasi yang menggunakan volley memerlukan izin untuk mengakses internet. Anda perlu meminta izin `android.permission.INTERNET` dengan menambahkannya ke file manifest.

3. Alat dan Bahan

- a. Kabel data USB type C

4. Kegiatan Praktikum

1. Buat database di PhpMyAdmin.
2. Buat tabel baru di database dengan nama User_Details_Table dengan 4 kolom id, User_Email, User_Password, User_Full_Name. ID adalah primary key.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 id	int(10)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2 User_Email	varchar(200)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/>	3 User_Password	varchar(200)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/>	4 User_Full_Name	varchar(200)	latin1_swedish_ci		No	None			Change Drop More

+ Options

				id	User_Email	User_Password	User_Full_Name
<input type="checkbox"/>	Edit	Copy	Delete	1	aqwuarvitha@gmail.com	12345678	arvita

3. Upload skrip PHP di bawah ini dengan konfigurasi database masing-masing. Dalam file DatabaseConfig.php yang harus mengatur server PhpMyAdmin HostName, Host Password, Host Host, Nama Database.

Code for DatabaseConfig.php file.

```
<?php

//Define your host here.
$HostName = "localhost";

//Define your database username here.
$HostUser = "root";

//Define your database password here.
$HostPass = "";

//Define your database name here.
$DatabaseName = "db_vollay";

?>
```

Code for User-Registration.php file.

```
<?php
if($_SERVER['REQUEST_METHOD']=='POST'){
include 'DatabaseConfig.php';

$con = mysqli_connect($HostName,$HostUser,$HostPass,$DatabaseName);

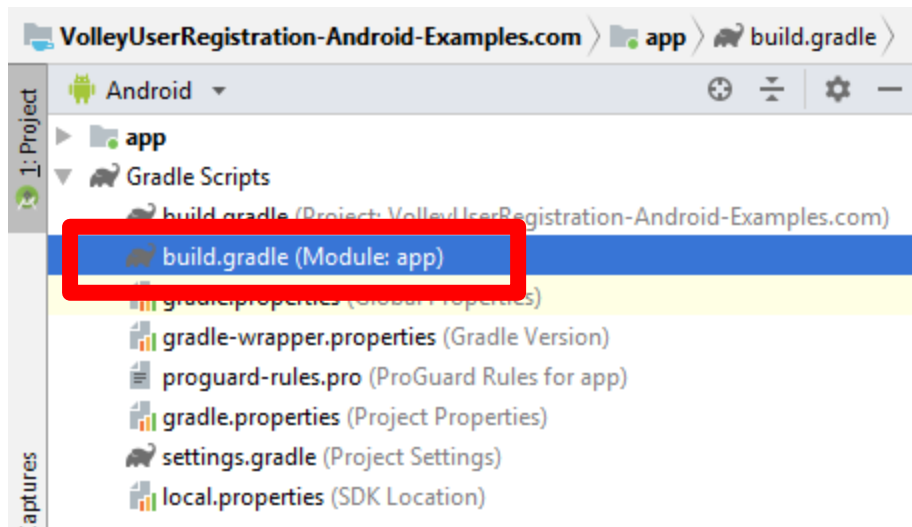
>Email = $_POST['User_Email'];
>Password = $_POST['User_Password'];
>Full_Name = $_POST['User_Full_Name'];
>CheckSQL = "SELECT * FROM User_Details_Table WHERE User_Email='$Email'";
>check = mysqli_fetch_array(mysqli_query($con,$CheckSQL));
if(isset($check)){
echo 'Email Already Exist, Please Enter Another Email.';
}
else{
>Sql_Query = "INSERT INTO User_Details_Table (User_Email,User_Password,User_Full_Name) values ('$Email','$Password','$Full_Name')";
if(mysqli_query($con,$Sql_Query))
{
echo 'User Registration Successfully';
}
else
{
echo 'Something went wrong';
}
}
mysqli_close($con);
?>
```

Masing-masing file letakkan kedalam satu folder yang bernama “volley”. Kemudian pindahkan folder tersebut ke dalam folder htdocs yang biasanya terletak di file C:\xampp\htdocs

4. Start a new android application development project.
5. Add internet permission pada AndroidManifest.xml file.

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

6. Add compile ‘com.android.volley:volley:1.1.0’ library file in build.gradle(Module:app) file.



7. Add compile 'com.android.volley:volley:1.1.0' inside dependencies block.

```

apply plugin: 'com.android.application'

android {
    compileSdkVersion 25
    buildToolsVersion "25.0.1"
    defaultConfig {
        applicationId "com.android_examples.volleyuserregistration_android_examplescom"
        minSdkVersion 15
        targetSdkVersion 25
        versionCode 1
        versionName "1.0"
        testInstrumentationRunner "android.support.test.runner.AndroidJUnitRunner"
    }
    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-rules.pro'
        }
    }
}

dependencies {
    compile fileTree(dir: 'libs', include: ['*.jar'])
    androidTestCompile('com.android.support.test.espresso:espresso-core:2.2.2', {
        exclude group: 'com.android.support', module: 'support-annotations'
    })
    compile 'com.android.support:appcompat-v7:25.3.1'
    compile 'com.android.support.constraint:constraint-layout:1.0.0-alpha8'
    compile 'com.android.volley:volley:1.1.0'
    testCompile 'junit:junit:4.12'
}

```

8. Create tiga EditText dan satu button pada activity layout file.

```

<EditText
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/EditTextFullName"
    android:layout_below="@+id/textView"
    android:layout_marginTop="20dp"
    android:hint="Enter Your Full Name"
    android:gravity="center"/>

<EditText
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/EditTextEmail"
    android:layout_below="@+id/EditTextFullName"
    android:layout_marginTop="20dp"
    android:inputType="textEmailAddress"
    android:hint="Enter Your Email"
    android:gravity="center"/>

<EditText
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/EditTextPassword"
    android:layout_below="@+id/EditTextEmail"
    android:layout_marginTop="20dp"
    android:inputType="textPassword"
    android:hint="Enter Your Password"
    android:gravity="center"/>

<Button
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Click Here To Register"
    android:layout_below="@+id/EditTextPassword"
    android:id="@+id/ButtonRegister"
    android:layout_marginTop="20dp"/>

```

9. Create button, EditText, RequestQueue, String, Boolean, ProgressDialog and HttpUrl , button objects in MainActivity.java file.

```

// Creating EditText.
EditText FullName, Email, Password ;

// Creating button;
Button Register;

```

```

// Creating Volley RequestQueue.
RequestQueue requestQueue;

// Create string variable to hold the EditText Value.
String NameHolder, EmailHolder, PasswordHolder ;

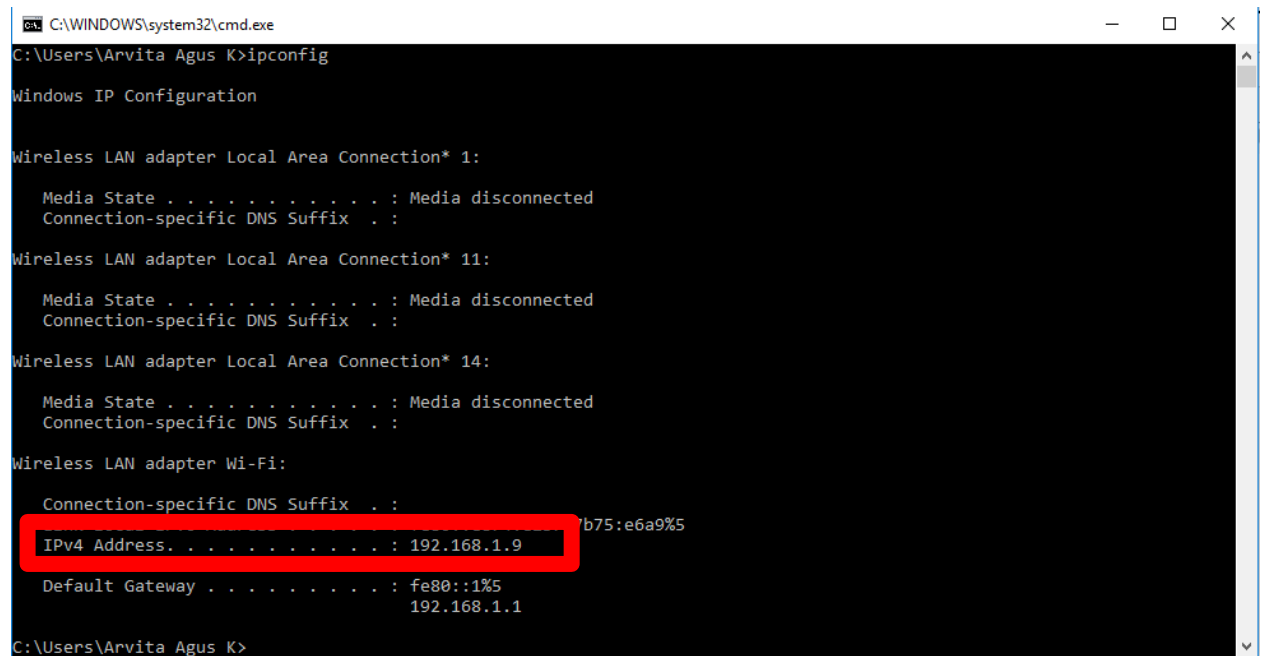
// Creating Progress dialog.
ProgressDialog progressDialog;

// Storing server url into String variable.
String HttpUrl = "http://192.168.1.9/volley/User-

```

Untuk HttpUrl diisi sesuai dengan alamat ip computer masing-masing, untuk cek ip

1. Jalankan Command Prompt (CMD)
2. Ketikkan ipconfig, maka akan muncul seperti berikut



```
C:\WINDOWS\system32\cmd.exe
C:\Users\Arvita Agus K>ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 1:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 11:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 14:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . :
    IPv4 Address. . . . . : 192.168.1.9
    Default Gateway . . . . . : fe80::1%5
                                192.168.1.1

C:\Users\Arvita Agus K>
```

10. Tetapkan ID untuk semuanya.

```
// Assigning ID's to EditText.
FullName = (EditText) findViewById(R.id.EditTextFullName);

Email = (EditText) findViewById(R.id.EditTextEmail);

Password = (EditText) findViewById(R.id.EditTextPassword);

// Assigning ID's to Button.
Register = (Button) findViewById(R.id.ButtonRegister);

// Creating Volley newRequestQueue .
requestQueue = Volley.newRequestQueue( context MainActivity.this);

// Assigning Activity this to progress dialog.
progressDialog = new ProgressDialog( context MainActivity.this);
```


11. Membuat metode untuk memeriksa EditText kosong atau tidak.

```
public void CheckEditTextIsEmptyOrNot() {  
  
    // Getting values from EditText.  
    NameHolder = FullName.getText().toString().trim();  
    EmailHolder = Email.getText().toString().trim();  
    PasswordHolder = Password.getText().toString().trim();  
  
    // Checking whether EditText value is empty or not.  
    if(TextUtils.isEmpty(NameHolder) || TextUtils.isEmpty(EmailHolder) || TextUtils.isEmpty>PasswordHolder))  
    {  
  
        // If any of EditText is empty then set variable value as False.  
        CheckEditText = false;  
    }  
    else {  
  
        // If any of EditText is filled then set variable value as True.  
        CheckEditText = true ;  
    }  
}
```

12. Adding click listener to button.

```
Register.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View view) {  
  
    }  
});
```

13. Creating UserRegistration() method.

```
public void UserRegistration(){  
  
    // Showing progress dialog at user registration time.  
    progressDialog.setMessage("Please Wait, We are Inserting Your Data on Server");  
    progressDialog.show();  
  
    // Creating string request with post method.  
    StringRequest stringRequest = new StringRequest(Request.Method.POST, HttpUrl,  
        new Response.Listener<String>() {  
            @Override  
            public void onResponse(String ServerResponse) {  
  
                // Hiding the progress dialog after all task complete.  
                progressDialog.dismiss();  
  
                // Showing Echo Response Message Coming From Server.  
                Toast.makeText( context MainActivity.this, ServerResponse, Toast.LENGTH_LONG).show();  
            }  
        },
```

```

new Response.ErrorListener() {
    @Override
    public void onErrorResponse(VolleyError volleyError) {

        // Hiding the progress dialog after all task complete.
        progressDialog.dismiss();

        // Showing error message if something goes wrong.
        Toast.makeText( context MainActivity.this, volleyError.toString(), Toast.LENGTH_LONG).show();

    }
} {
    @Override
    protected Map<String, String> getParams() {

        // Creating Map String Params.
        Map<String, String> params = new HashMap<>();

        // Adding All values to Params.
        // The first argument should be same as your MySQL database table columns.
        params.put( k: "User_Email", EmailHolder);
        params.put( k: "User_Password", PasswordHolder);
        params.put( k: "User_Full_Name", NameHolder);

        return params;

    }
};
}

```

14. Memanggil RequestQueue untuk memanggil metode stringRequest dalam fungsi UserRegistration ().

```

// Creating RequestQueue.
RequestQueue requestQueue = Volley.newRequestQueue( context MainActivity.this);

// Adding the StringRequest object into requestQueue.
requestQueue.add(stringRequest);

```

15. Memanggil metode UserRegistration () dan CheckEditTextIsEmptyOrNot () di dalam lingkup klik tombol dengan kondisi IF-Else. Jadi jika EditText kosong maka hanya menampilkan toast message pada layar.

```

// Adding click listener to button.
Register.setOnClickListener((view) → {

    CheckEditTextIsEmptyOrNot();

    if(CheckEditText){

        UserRegistration();

    }
    else {

        Toast.makeText( context MainActivity.this, text: "Please fill all form fields.", Toast.LENGTH_LONG).show();

    }

});

```

Lengkapi source code :

Code for MainActivity.java file.

```
package com.android_examples.volleyuserregistration_android_examplescom;

import android.app.ProgressDialog;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.text.TextUtils;
import android.view.View;
import android.widget.Toast;
import android.widget.EditText;
import android.widget.Button;

import java.util.HashMap;
import java.util.Map;

import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;

public class MainActivity extends AppCompatActivity {

    // Creating EditText.
    EditText FullName, Email, Password ;

    // Creating button;
    Button Register;

    // Creating Volley RequestQueue.
    RequestQueue requestQueue;
```

```

// Create string variable to hold the EditText Value.
String NameHolder, EmailHolder, PasswordHolder ;

// Creating Progress dialog.
ProgressDialog progressDialog;

// Storing server url into String variable.
String HttpUrl = "http://192.168.1.9/volley/User-Registration.php";

Boolean CheckEditText ;

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

    // Assigning ID's to EditText.
    FullName = (EditText) findViewById(R.id.EditTextFullName);

    Email = (EditText) findViewById(R.id.EditTextEmail);

    Password = (EditText) findViewById(R.id.EditTextPassword);

    // Assigning ID's to Button.
    Register = (Button) findViewById(R.id.ButtonRegister);

    // Creating Volley newRequestQueue .
    requestQueue = Volley.newRequestQueue( context: MainActivity.this);

    // Assigning Activity this to progress dialog.
    progressDialog = new ProgressDialog( context: MainActivity.this);

    // Adding click listener to button.
    Register.setOnClickListener((view) -> {

        CheckEditTextIsEmptyOrNot();

        if(CheckEditText){
            UserRegistration();
        }
        else {
            Toast.makeText( context: MainActivity.this, text: "Please fill all form fields.", Toast.LENGTH_LONG).show();
        }
    });
}

public void UserRegistration(){

    // Showing progress dialog at user registration time.
    progressDialog.setMessage("Please Wait, We are Inserting Your Data on Server");
    progressDialog.show();

    // Creating string request with post method.
    StringRequest stringRequest = new StringRequest(Request.Method.POST, HttpUrl,
        new Response.Listener<String>() {
            @Override
            public void onResponse(String ServerResponse) {

                // Hiding the progress dialog after all task complete.

```

```

        progressDialog.dismiss();

        // Showing Echo Response Message Coming From Server.
        Toast.makeText( context: MainActivity.this, ServerResponse, Toast.LENGTH_LONG).show();
    }
},
new Response.ErrorListener() {
    @Override
    public void onErrorResponse(VolleyError volleyError) {

        // Hiding the progress dialog after all task complete.
        progressDialog.dismiss();

        // Showing error message if something goes wrong.
        Toast.makeText( context: MainActivity.this, volleyError.toString(), Toast.LENGTH_LONG).show();
    }
}) {
    @Override
    protected Map<String, String> getParams() {

        // Creating Map String Params.
        Map<String, String> params = new HashMap<>();

        // Adding All values to Params.
        // The first argument should be same as your MySQL database table columns.
        params.put( k: "User_Email", EmailHolder);
        params.put( k: "User_Password", PasswordHolder);
        params.put( k: "User_Full_Name", NameHolder);

        return params;
    }
};

// Creating RequestQueue.
RequestQueue requestQueue = Volley.newRequestQueue( context: MainActivity.this);

// Adding the StringRequest object into requestQueue.
requestQueue.add(stringRequest);
}

public void CheckEditTextIsEmptyOrNot(){

    // Getting values from EditText.
    NameHolder = FullName.getText().toString().trim();
    EmailHolder = Email.getText().toString().trim();
    PasswordHolder = Password.getText().toString().trim();

    // Checking whether EditText value is empty or not.
    if(TextUtils.isEmpty(NameHolder) || TextUtils.isEmpty(EmailHolder) || TextUtils.isEmpty(PasswordHolder))
    {

        // If any of EditText is empty then set variable value as False.
        CheckEditText = false;
    }
    else {

        // If any of EditText is filled then set variable value as True.
        CheckEditText = true ;
    }
}
}
}

```

Code for activity_main.xml layout file.

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="20dp"
    tools:context="com.android_examples.volleyuserregistration_android_examplescom.MainActivity">

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Volley User Registration Form"
        android:textSize="20dp"
        android:textStyle="bold"
        android:id="@+id/textView"
        android:layout_centerHorizontal="true"
        android:gravity="center"/>

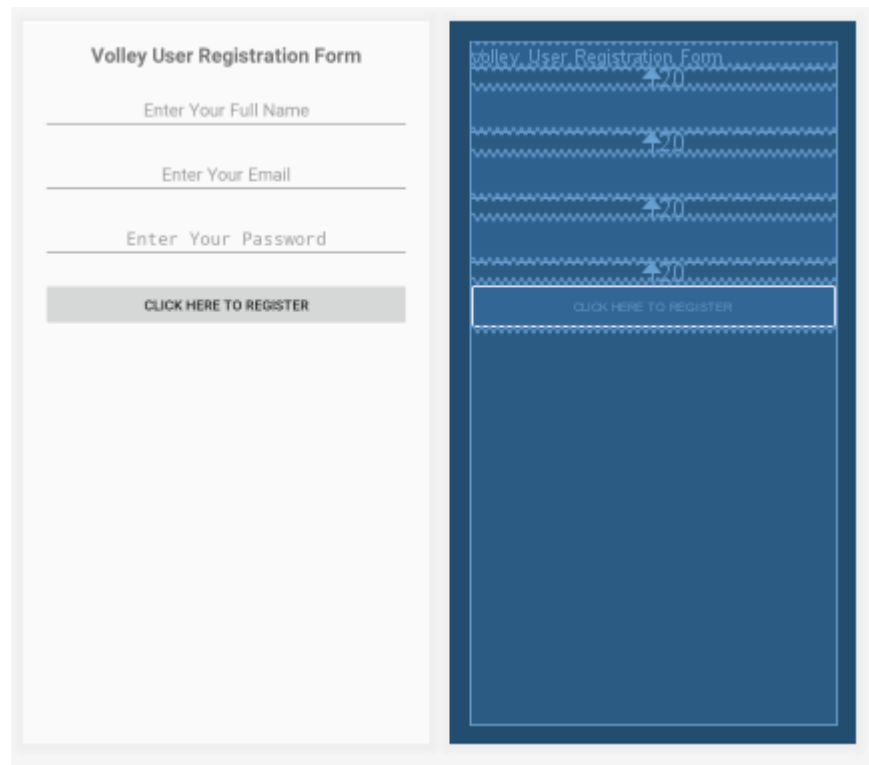
    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/EditTextFullName"
        android:layout_below="@+id/textView"
        android:layout_marginTop="20dp"
        android:hint="Enter Your Full Name"
        android:gravity="center"/>

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/EditTextEmail"
        android:layout_below="@+id/EditTextFullName"
        android:layout_marginTop="20dp"
        android:inputType="textEmailAddress"
        android:hint="Enter Your Email"
        android:gravity="center"/>

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/EditTextPassword"
        android:layout_below="@+id/EditTextEmail"
        android:layout_marginTop="20dp"
        android:inputType="textPassword"
        android:hint="Enter Your Password"
        android:gravity="center"/>

    <Button
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Click Here To Register"
        android:layout_below="@+id/EditTextPassword"
        android:id="@+id/ButtonRegister"
        android:layout_marginTop="20dp"/>

</RelativeLayout>
```



Gambar 1. Layout activity_main

Code for AndroidManifest.xml file.

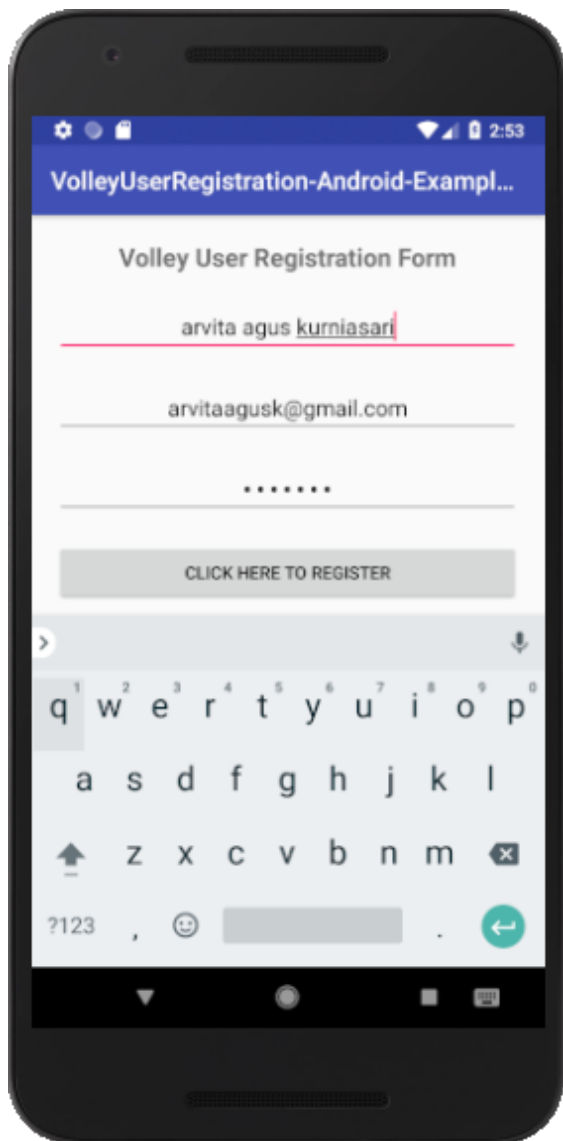
```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.android_examples.volleyuserregistration_android_examplescom">

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

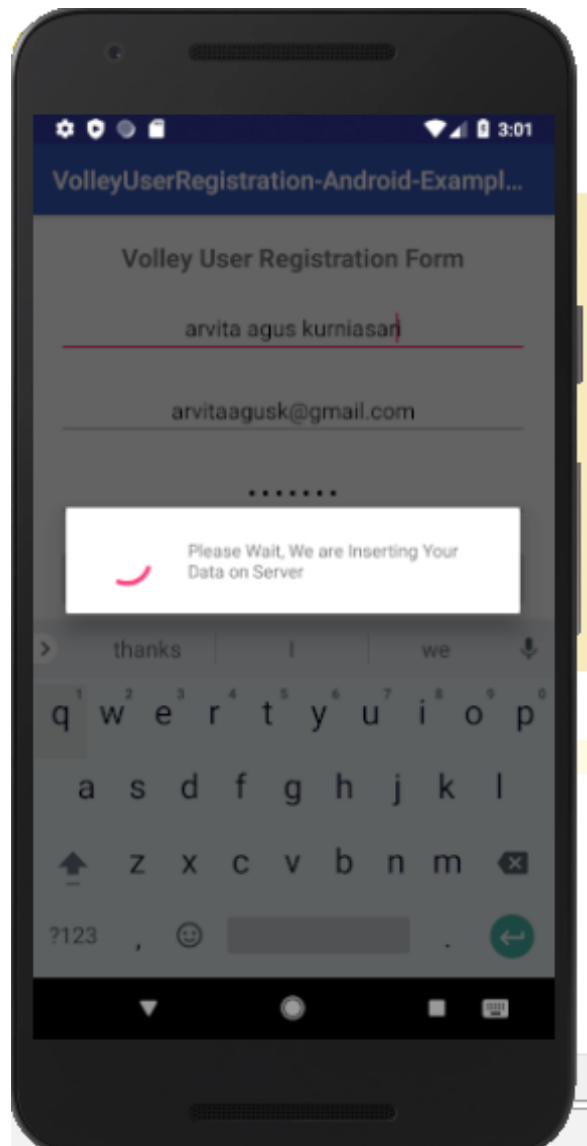
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="VolleyUserRegistration-Android-Examples.com"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```



Gambar 2. Hasil Tampilan Register (1)



Gambar 2. Hasil Tampilan Register (2)