MUMBAI EDUCATIONAL TRUST

MET INSTITUTE OF COMPUTER SCIENCE

Program Number	27
Roll Number	1545
Title of program	Making API Calls using Volley Library in Android
Program	Making API Calls using Volley Library in Android

The Volley library, developed by Google, is an HTTP library for Android applications that simplifies and accelerates network operations. Its primary use is to handle network requests efficiently, particularly for small data transfers like fetching JSON data, images, or performing API calls.

Steps to Execute

1. Create a New Android Project

- Open **Android Studio** → Click **New Project**.

- Select **Empty Activity**, give it a name (e.g., VolleyApp), choose package com.example.volley.

- Click **Finish**.

2. Add Internet Permission

- Open AndroidManifest.xml.

- Add the following permission inside <manifest>:
  <uses-permission android:name="android.permission.INTERNET"/>

3. Design Layout (UI)

- Open activity_main.xml.

- Add a TextView to display a welcome message.

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.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="@android:color/white"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to MET ICS"
        android:textSize="20sp"
        android:textColor="@android:color/black"
        android:textAlignment="center"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

4. Add Volley Dependency

- Open build.gradle (Module: app) and add:
  implementation 'com.android.volley:volley:1.2.1'
- Sync the project.

5. Write Java Code (MainActivity.java)

- Open MainActivity.java.

- Add logic to perform a **GET request** using Volley.

MainActivity.java

```java
package com.example.volleyappapp;

import static android.content.ContentValues.TAG;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;
import android.widget.Toast;

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 {
    private RequestQueue mRequestQueue;
    private StringRequest mStringRequest;
    private String url = "https://jsonplaceholder.typicode.com/posts/1";

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

        getData();
    }

    private void getData() {
        // RequestQueue initialized
        mRequestQueue = Volley.newRequestQueue(this);

        // String Request initialized
        mStringRequest = new StringRequest(Request.Method.GET, url, new
Response.Listener<String>() {
            @Override
            public void onResponse(String response) {

                Toast.makeText(getApplicationContext(), "Response :" + response.toString(),
Toast.LENGTH_LONG).show();//display the response on screen
            }
        }, new Response.ErrorListener() {
            @Override
            public void onErrorResponse(VolleyError error) {
                Log.i(TAG, "Error :" + error.toString());
            }
        });

        mRequestQueue.add(mStringRequest);
    }
```

```
}
```

Output:

Welcome to MET ICS

Response :{
"userId": 1,...