package com.example.exp7;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.AsyncTask;  
import android.os.Bundle;  
import android.util.Log;  
import android.view.View;  
import android.widget.Button;  
import android.widget.ListAdapter;  
import android.widget.ListView;  
import android.widget.SimpleAdapter;  
  
import org.json.JSONArray;  
import org.json.JSONException;  
import org.json.JSONObject;  
  
import java.io.BufferedInputStream;  
import java.io.BufferedReader;  
import java.io.IOException;  
import java.io.InputStream;  
import java.io.InputStreamReader;  
import java.net.HttpURLConnection;  
import java.net.MalformedURLException;  
import java.net.URL;  
import java.util.ArrayList;  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
 Button b;  
 ListView lv;  
 ArrayList<HashMap<String, String>>contactList;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
  
 super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);  
  
 contactList = new ArrayList<>();  
 lv= (ListView) findViewById(R.id.list);  
 b= (Button) findViewById(R.id.fetch); b.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String strUrl = "https://api.androidhive.info/contacts/"; new UrlHandler().execute(strUrl);  
 }  
 });  
 }  
  
 public class UrlHandler extends AsyncTask<String, Integer, String> {  
 @Override  
 protected void onPostExecute(String s) {  
 super.onPostExecute(s);  
 ListAdapter adapter = new SimpleAdapter(MainActivity.this, contactList, R.layout.list\_item, new String[]{ "id","name","email"},  
 new int[]{R.id.cid,R.id.cname, R.id.cemail});  
 lv.setAdapter(adapter);  
 }  
  
 @Override  
 protected String doInBackground(String... params) {  
  
  
  
 try {  
  
 String json\_response = null;  
  
 URL url = new URL(params[0]);  
 HttpURLConnection connection = (HttpURLConnection) url.openConnection(); connection.setRequestMethod("GET");  
 connection.connect();  
 InputStream in = new BufferedInputStream(connection.getInputStream()); json\_response = convertStreamToString(in);  
  
  
 if (json\_response != null) {  
 try {  
 JSONObject jsonObj = new JSONObject(json\_response);  
  
// Getting JSON Array node  
 JSONArray contacts = jsonObj.getJSONArray("contacts");  
  
// looping through All Contacts  
 for (int i = 0; i < contacts.length(); i++) {  
 JSONObject c = contacts.getJSONObject(i); String id = c.getString("id");  
 String name = c.getString("name"); String email = c.getString("email");  
  
// tmp hash map for single contact  
 HashMap<String, String> contact = new HashMap<>();  
  
// adding each child node to HashMap key => value  
 contact.put("id", id);  
 contact.put("name", name); contact.put("email", email);  
  
// adding contact to contact list  
 contactList.add(contact);  
 }  
 } catch (JSONException e) {  
 Log.e("error", "Json parsing error: " + e.getMessage());  
 }  
 } else {  
 Log.e("error", "Couldn't get json from server.");  
 }  
 } catch (MalformedURLException e) { e.printStackTrace();  
 } catch (IOException e) { e.printStackTrace();  
 }  
 return null;  
 }  
 private String convertStreamToString(InputStream is) {  
 BufferedReader reader = new BufferedReader(new InputStreamReader(is)); StringBuilder sb = new StringBuilder();  
  
 String line;  
 try {  
 while ((line = reader.readLine()) != null) {  
 sb.append(line).append('\n');  
 }  
 } catch (IOException e) { e.printStackTrace();  
 }  
 return sb.toString();  
 }  
 }  
}