**JSON Parsing Example**

**MainActivity.java**

package com.example.jsonparseexample;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.os.AsyncTask;  
import android.util.Log;  
import android.widget.ListAdapter;  
import android.widget.ListView;  
import android.widget.SimpleAdapter;  
import android.widget.Toast;  
import org.json.JSONArray;  
import org.json.JSONException;  
import org.json.JSONObject;  
import java.util.ArrayList;  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
 private String TAG = MainActivity.class.getSimpleName();  
 private 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*);  
  
 new GetContacts().execute();  
 }  
  
 private class GetContacts extends AsyncTask<Void, Void, Void> {  
 @Override  
 protected void onPreExecute() {  
 super.onPreExecute();  
 Toast.*makeText*(MainActivity.this,"Json Data is downloading",Toast.*LENGTH\_LONG*).show();  
  
 }  
  
 @Override  
 protected Void doInBackground(Void... arg0) {  
 HttpHandler sh = new HttpHandler();  
 // Making a request to url and getting response  
 String url = "http://api.androidhive.info/contacts/";  
 String jsonStr = sh.makeServiceCall(url);  
  
 Log.*e*(TAG, "Response from url: " + jsonStr);  
 if (jsonStr != null) {  
 try {  
 JSONObject jsonObj = new JSONObject(jsonStr);  
  
 // 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");  
 String address = c.getString("address");  
 String gender = c.getString("gender");  
  
 // Phone node is JSON Object  
 JSONObject phone = c.getJSONObject("phone");  
 String mobile = phone.getString("mobile");  
 String home = phone.getString("home");  
 String office = phone.getString("office");  
  
 // 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);  
 contact.put("mobile", mobile);  
  
 // adding contact to contact list  
 contactList.add(contact);  
 }  
 } catch (final JSONException e) {  
 Log.*e*(TAG, "Json parsing error: " + e.getMessage());  
 runOnUiThread(new Runnable() {  
 @Override  
 public void run() {  
 Toast.*makeText*(getApplicationContext(),  
 "Json parsing error: " + e.getMessage(),  
 Toast.*LENGTH\_LONG*).show();  
 }  
 });  
  
 }  
  
 } else {  
 Log.*e*(TAG, "Couldn't get json from server.");  
 runOnUiThread(new Runnable() {  
 @Override  
 public void run() {  
 Toast.*makeText*(getApplicationContext(),  
 "Couldn't get json from server. Check LogCat for possible errors!",  
 Toast.*LENGTH\_LONG*).show();  
 }  
 });  
 }  
  
 return null;  
 }  
  
 @Override  
 protected void onPostExecute(Void result) {  
 super.onPostExecute(result);  
 ListAdapter adapter = new SimpleAdapter(MainActivity.this, contactList,  
 R.layout.*list\_item*, new String[]{ "email","mobile"},  
 new int[]{R.id.*email*, R.id.*mobile*});  
 lv.setAdapter(adapter);  
 }  
 }  
}

**activity\_main.xml**

<?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"  
 tools:context="com.example.jsonparseexample.MainActivity">  
  
 <ListView  
 android:id="@+id/list"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content" />  
</RelativeLayout>

**list\_item.xml**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical" >  
 <TextView  
 android:id="@+id/email"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:paddingBottom="2dip"/>  
  
 <TextView  
 android:id="@+id/mobile"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textColor="#5d5d5d"  
 android:textStyle="bold" />  
</LinearLayout>

**HttpHandler.java**

package com.example.jsonparseexample;  
  
import android.util.Log;  
  
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.ProtocolException;  
import java.net.URL;  
  
public class HttpHandler {  
 private static final String *TAG* = HttpHandler.class.getSimpleName();  
  
 public HttpHandler() {  
}  
 public String makeServiceCall(String reqUrl) {  
 String response = null;  
 try {  
 URL url = new URL(reqUrl);  
 HttpURLConnection conn = (HttpURLConnection) url.openConnection();  
 conn.setRequestMethod("GET");  
 // read the response  
 InputStream in = new BufferedInputStream(conn.getInputStream());  
 response = convertStreamToString(in);  
 } catch (MalformedURLException e) {  
 Log.*e*(*TAG*, "MalformedURLException: " + e.getMessage());  
 } catch (ProtocolException e) {  
 Log.*e*(*TAG*, "ProtocolException: " + e.getMessage());  
 } catch (IOException e) {  
 Log.*e*(*TAG*, "IOException: " + e.getMessage());  
 } catch (Exception e) {  
 Log.*e*(*TAG*, "Exception: " + e.getMessage());  
 }  
 return response;  
 }  
  
 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();  
 } finally {  
 try {  
 is.close();  
 } catch (IOException e) {  
 e.printStackTrace();  
 }  
 }  
  
 return sb.toString();  
 }  
}

**AndroidManifest.xml**

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 package="com.example.jsonparseexample">  
 <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:supportsRtl="true"  
 android:theme="@style/Theme.JSONparseexample">  
 <activity  
 android:name=".MainActivity"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN" />  
  
 <category android:name="android.intent.category.LAUNCHER" />  
 </intent-filter>  
 </activity>  
 </application>  
  
</manifest>