**DAY2-Tasks**

Log.e, Log.i ,Toast, SnackBar  
Volley  
WebService Access  
Accessing UI elements in the code

**Permissions**

Beginning in Android 6.0 (API level 23), users grant permissions to apps while the app is running, not when they install the app. This approach streamlines the app install process, since the user does not need to grant permissions when they install or update the app. It also gives the user more control over the app's functionality; for example, a user could choose to give a camera app access to the camera but not to the device location. The user can revoke the permissions at any time, by going to the app's Settings screen.

System permissions are divided into two categories, *normal* and *dangerous:*

* Normal permissions do not directly risk the user's privacy. If your app lists a normal permission in its manifest, the system grants the permission automatically.
* Dangerous permissions can give the app access to the user's confidential data. If your app lists a normal permission in its manifest, the system grants the permission automatically. If you list a dangerous permission, the user has to explicitly give approval to your app.

**Note:** Beginning with Android 6.0 (API level 23), users can revoke permissions from any app at any time, even if the app targets a lower API level. You should test your app to verify that it behaves properly when it's missing a needed permission, regardless of what API level your app targets.

**Check For Permissions**

If your app needs a dangerous permission, you must check whether you have that permission every time you perform an operation that requires that permission. The user is always free to revoke the permission, so even if the app used the camera yesterday, it can't assume it still has that permission today.

**Request Permissions**

If your app needs a dangerous permission that was listed in the app manifest, it must ask the user to grant the permission. Android provides several methods you can use to request permission. Calling these methods brings up a standard Android dialog, which you cannot customize.

**Let us start the Practice**

Today we are doing an activity to consume a webservice using Volley Library

Now lets make new activities and link to dashboard .The code given below can be used to open another activity from the present UI context.

Intent in1 = **new** Intent(**context**, SearchActivity.**class**);  
 **context**.startActivity(in1);

Now open ImageAdaper.Java and uncomment the below block. Here the activity will be triggered while clicking the grid item

**if**(position==0)  
{  
 Intent in1 = **new** Intent(**context**, SearchActivity.**class**);  
 **context**.startActivity(in1);  
  
}

Now open DashboardActivity.Java and uncomment the below block

Here the activity will be triggered while clicking the menu item

**if** (id == R.id.***search***) {  
   
 Intent i=**new** Intent(DashboardActivity.**this**,SearchActivity.**class**);  
 startActivity(i);  
  
}

**Volley library** can be used for calling webservice within an app. If we are using volley library mention the following line in build.gradle

implementation 'com.android.volley:volley:1.1.0'

Advantages of using volley library:

1. Volley automatically schedule all network requests. It means that Volley will be taking care of all the network requests your app executes for fetching response or image from web.
2. Volley provides transparent disk and memory caching.
3. Volley provides powerful cancellation request API. It means that you can cancel a single request or you can set blocks or scopes of requests to cancel.
4. Volley provides powerful customization abilities.
5. Volley provides Debugging and tracing tools

While calling webservice we have to give certain permissions in Android Manifest.xml

(NOTE::::You need to put only the red colored Lines into your manifest file)

**<uses-permission android:name="android.permission.ACCESS\_NETWORK\_STATE" />**

**<uses-permission android:name="android.permission.ACCESS\_WIFI\_STATE" />  
 <uses-permission android:name="android.permission.INTERNET" />**

*Create following xml files first, which the common class will be using*

*(Note: please include required resource files to rectify errors)*

**layout\_alert.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
  
 <**LinearLayout  
 android:layout\_width="250dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:background="@drawable/alertstyle"  
 android:orientation="vertical"**>  
  
 <**TextView  
 android:id="@+id/txt\_data"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 android:gravity="center"  
 android:text="ghugh"  
 android:textColor="#8B4513"  
 android:textSize="18dp"** />  
  
 <**TextView  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="gfshdgfg"  
 android:visibility="invisible"** />  
  
 <**Button  
 android:id="@+id/btnok"  
 android:layout\_width="60dp"  
 android:layout\_height="40dp"  
 android:layout\_gravity="center"  
 android:background="@**drawable/activity\_buttonstyle**"  
  
 android:text="OK"  
 android:textColor="#ffffff"** />  
  
 <**TextView  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="gfshdgfg"  
 android:visibility="invisible"** />  
  
  
 </**LinearLayout**>  
</**LinearLayout**>

**layout\_alert\_cust.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
  
 <**LinearLayout  
 android:layout\_width="250dp"  
 android:layout\_height="150dp"  
 android:layout\_gravity="center"  
 android:orientation="vertical"**>  
  
 <**TextView  
 android:id="@+id/txt\_data"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 android:gravity="center"  
 android:text="ghugh"  
 android:textColor="#409fe8"  
 android:textSize="18dp"** />  
  
 <**TextView  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="gfshdgfg"  
 android:visibility="invisible"** />  
  
 <**Button  
 android:id="@+id/btnok"  
 android:layout\_width="60dp"  
 android:layout\_height="40dp"  
 android:layout\_gravity="center"  
 android:background="#409fe8"  
 android:text="OK"  
 android:textColor="#ffffff"** />  
 </**LinearLayout**>  
</**LinearLayout**>

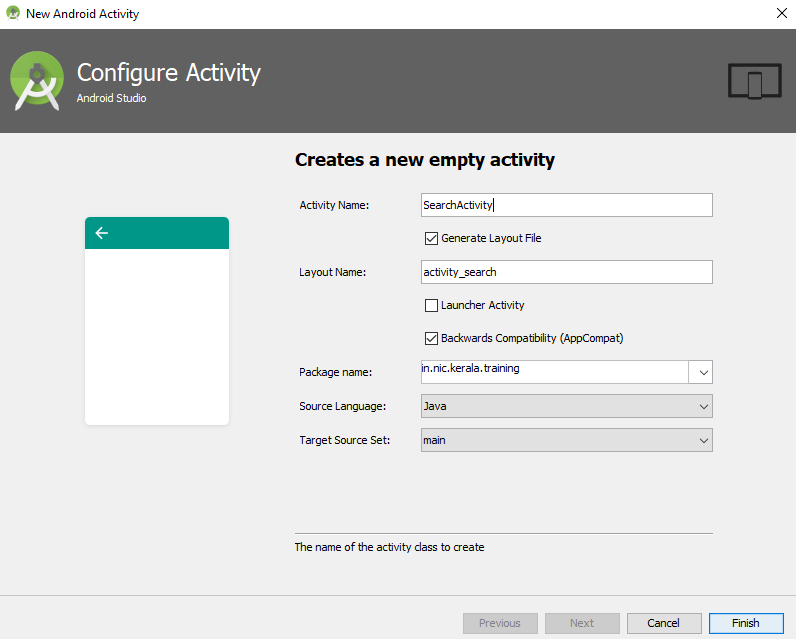
*1.Utils*

*In this class we have written some common function we are using repeatedly*

**package** in.nic.kerala.training;  
  
**import** android.app.Activity;  
**import** android.app.AlertDialog;  
**import** android.app.Dialog;  
**import** android.content.Context;  
**import** android.net.ConnectivityManager;  
**import** android.net.NetworkInfo;  
**import** android.view.View;  
**import** android.view.Window;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
  
**public class** Utils {  
 **static** Context *context*;  
 **private static** Activity *activity*;  
  
 **private static** AlertDialog *dialog*;  
 **public** Utils(Context con) {  
 *context* = con;  
 *activity* = (Activity) con;  
  
 }  
  
 **public void** alertButton(**final** String data, **final boolean** closeactivity) {  
 *activity*.runOnUiThread(**new** Runnable() {  
 **public void** run() {  
  
 **final** Dialog dialog = **new** Dialog(*activity*);  
 dialog.requestWindowFeature(Window.***FEATURE\_NO\_TITLE***);  
 dialog.setContentView(R.layout.***layout\_alert\_cust***);  
 TextView text = (TextView) dialog.findViewById(R.id.***txt\_data***);  
 text.setText(data);  
  
  
 Button dialogButton = (Button) dialog  
 .findViewById(R.id.***btnok***);  
 dialogButton.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
  
 **if** (closeactivity == **true**) {  
 dialog.dismiss();  
  
 *activity*.finish();  
 } **else** {  
 dialog.dismiss();  
  
 }  
 }  
 });  
  
 dialog.show();  
  
 }  
 });  
  
 }  
 **public void** alertSingleButton(**final** String data, **final** EditText edt) {  
 *activity*.runOnUiThread(**new** Runnable() {  
 **public void** run() {  
 **if** (*dialog* == **null**) {  
  
 **final** Dialog dialog = **new** Dialog(*activity*);  
 dialog.setContentView(R.layout.***layout\_alert***);  
 dialog.setTitle(**"Message...."**);  
  
 *// set the custom dialog components - text, image and button* TextView text = (TextView) dialog.findViewById(R.id.***txt\_data***);  
 text.setText(data);  
  
  
 Button dialogButton = (Button) dialog  
 .findViewById(R.id.***btnok***);  
 *// if button is clicked, close the custom dialog* dialogButton.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
  
 **if** (edt != **null**) {  
 dialog.dismiss();  
 edt.requestFocus();  
 } **else** {  
 dialog.dismiss();  
 }  
 }  
 });  
  
 dialog.show();  
  
 }  
 }  
 });  
 }  
  
  
  
  
 **public static boolean** isOnline(Context context) {  
  
 ConnectivityManager connectivity = (ConnectivityManager) context  
 .getSystemService(Context.***CONNECTIVITY\_SERVICE***);  
 **if** (connectivity != **null**) {  
 NetworkInfo[] info = connectivity.getAllNetworkInfo();  
 **if** (info != **null**)  
 **for** (**int** i = 0; i < info.**length**; i++)  
 **if** (info[i].getState() == NetworkInfo.State.***CONNECTED***) {  
 **return true**;  
 }  
 }  
 **return false**;  
 }  
  
  
}

Create SearchActivity

Create an Activity "SearchActivity".Here we are giving application number and phone number as input and we will get the status of application.



**Modify activity\_search.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
  
  
 <**include  
 android:id="@+id/head"  
 layout="@layout/activity\_title"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"** />  
  
  
 <**android.support.design.widget.TextInputLayout  
 android:id="@+id/input\_layout\_app"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/head"  
 android:layout\_marginTop="10dp"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginRight="10dp"**>  
  
 <**EditText  
 android:id="@+id/input\_app"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Application Number\*"** />  
  
 </**android.support.design.widget.TextInputLayout**>  
  
 <**android.support.design.widget.TextInputLayout  
 android:id="@+id/input\_layout\_mob"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/input\_layout\_app"  
 android:layout\_marginTop="10dp"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginRight="10dp"**>  
  
 <**EditText  
 android:id="@+id/input\_mob"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Mobile Number Given In The Application\*"  
 android:inputType="number"** />  
  
 </**android.support.design.widget.TextInputLayout**>  
  
 <**Button  
 android:id="@+id/btnsub"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/input\_layout\_mob"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="10dp"  
 android:background="@drawable/buttoncustom"  
 android:onClick="onSearchClick"  
 android:text="Submit"  
 android:textColor="#000000"** />  
  
 <**LinearLayout  
 android:id="@+id/details"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/btnsub"  
 android:orientation="vertical"  
 android:visibility="invisible"**>  
  
 <**TextView  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 android:background="#B2DCF8"  
 android:gravity="center"  
 android:text="Grievance Details"  
 android:textColor="#000000"  
 android:textSize="18dp"** />  
  
 <**TableLayout  
 android:id="@+id/table"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"**>  
  
 <**TableRow  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center|center\_horizontal"**>  
  
  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Application Number"  
 android:textSize="14dp"  
 android:textStyle="bold"** />  
  
 <**TextView  
 android:id="@+id/appnum"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="14dp"  
 android:textStyle="bold"** />  
 </**TableRow**>  
  
 <**TableRow  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center|center\_horizontal"**>  
  
  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Applicant Name"  
 android:textSize="14dp"  
 android:textStyle="bold"** />  
  
 <**TextView  
 android:id="@+id/appname"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="14dp"  
 android:textStyle="bold"** />  
 </**TableRow**>  
  
 <**TableRow  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center|center\_horizontal"**>  
  
  
 <**TextView  
 android:layout\_width="wrap\_content"  
  
 android:layout\_height="wrap\_content"  
 android:text="Status"  
 android:textSize="14dp"  
 android:textStyle="bold"** />  
  
 <**TextView  
 android:id="@+id/appsta"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="14dp"  
 android:textStyle="bold"** />  
 </**TableRow**>  
 </**TableLayout**>  
  
 <**TableLayout  
 android:id="@+id/tablelayout\_doc\_list"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:background="#ffffff"  
  
 android:orientation="vertical"  
 android:shrinkColumns="\*"  
 android:stretchColumns="\*"** >  
  
  
 </**TableLayout**>  
 </**LinearLayout**>  
  
 <**LinearLayout  
 android:id="@+id/in"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="49dp"  
 android:layout\_alignParentBottom="true"  
 android:background="@drawable/fooo"  
 android:orientation="horizontal"** />  
  
</**RelativeLayout**>

**In drawable put buttoncustom.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**shape xmlns:android="http://schemas.android.com/apk/res/android"  
android:shape="rectangle"**>  
*<!-- Gradient Bg for listrow -->*<**gradient  
 android:startColor="#87CEFA"  
 android:centerColor="#87CEFA"  
 android:endColor="#87CEFA"  
 android:angle="180"** />  
</**shape**>

**SearchActivity.java**

**package** in.nic.kerala.training;  
  
**import** android.app.AlertDialog;  
**import** android.app.ProgressDialog;  
**import** android.os.Bundle;  
  
**import** android.support.annotation.Nullable;  
**import** android.support.design.widget.TextInputLayout;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.util.Log;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.LinearLayout;  
**import** android.widget.TableLayout;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
**import** com.android.volley.DefaultRetryPolicy;  
**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;  
  
  
**import** org.json.JSONArray;  
**import** org.json.JSONObject;  
  
**import** java.util.Map;  
  
**public class** SearchActivity **extends** AppCompatActivity {  
 **private** EditText **inputapp**, **inputmob**;  
 **private** TextInputLayout **inputlayoutapp**, **inputlayoutmob**;  
 **private** Button **btnok**;  
 TextView **txt\_nam**, **txt\_num**, **txt\_sta**;  
 Utils **util**;  
 String **appno**, **mobno**;  
 ProgressDialog **pdialog**;  
 **private** TableLayout **tblelayout\_docList**;  
 **int certid**;  
 String **no**;  
 **static** String *url1*;  
 **private** ProgressDialog **DownloadDialog**;  
 **protected** String **fileName** = **""**;  
 RequestQueue **requestQueue**;  
 String **url**;  
 Map<String, String> **params**;  
  
 @Override  
 **protected void** onCreate(@Nullable Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_search***);  
  
 **inputapp** = (EditText) findViewById(R.id.***input\_app***);  
 **inputmob** = (EditText) findViewById(R.id.***input\_mob***);  
  
 **btnok** = (Button) findViewById(R.id.***btnsub***);  
 **txt\_num** = (TextView) findViewById(R.id.***appnum***);  
 **txt\_nam** = (TextView) findViewById(R.id.***appname***);  
 **txt\_sta** = (TextView) findViewById(R.id.***appsta***);  
 View includedLayout = findViewById(R.id.***head***);  
 **tblelayout\_docList** = (TableLayout) findViewById(R.id.***tablelayout\_doc\_list***);  
 **tblelayout\_docList**.setVisibility(View.***GONE***);  
  
 TextView txttitle = (TextView) includedLayout.findViewById(R.id.***txttitile***);  
 txttitle.setText(**"Search"**);  
 **util** = **new** Utils(SearchActivity.**this**);  
  
 }  
  
 **public void** onSearchClick(View view) {  
  
 **appno** = **inputapp**.getText().toString();  
 **mobno** = **inputmob**.getText().toString();  
 **tblelayout\_docList**.setVisibility(View.***GONE***);  
  
 **if** (**inputapp**.getText().toString().equals(**""**)) {  
 **util**.alertButton(**"Please Enter Application number"**, **false**);  
  
 } **else if** (**inputmob**.getText().toString().equals(**""**)) {  
 **util**.alertButton(**"Please Enter Mobile Number"**, **false**);  
 } **else** {  
  
 **if** (Utils.*isOnline*(SearchActivity.**this**)) {  
 **pdialog** = **new** ProgressDialog(SearchActivity.**this**);  
  
 **pdialog** = **new** ProgressDialog(SearchActivity.**this**);  
 **pdialog**.setMessage(**"Loading..."**);  
 **pdialog**.setCancelable(**false**);  
 **pdialog**.show();  
  
  
 LoadService();  
  
 } **else** {  
 **pdialog**.dismiss();  
  
 Toast.*makeText*(getApplicationContext(),  
 **"No Internet Connection!!!"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
  
 }  
  
 **private void** LoadService() {  
  
  
 **url** = **"http://103.251.43.122/pgmobapp/service/mobileapp/getstatus?mobileNo="** + **mobno** + **"&applNo="** + **appno**;  
 Log.*i*(**"URL"**,**url**);  
 **requestQueue** = Volley.*newRequestQueue*(**this**);  
 **final** StringRequest jsonObjectRequest = **new** StringRequest(Request.Method.***GET***, **url**, **new** Response.Listener<String>() {  
  
 **public void** onResponse(String response) {  
 **try** {  
 **pdialog**.dismiss();  
 JSONObject json = **new** JSONObject(response);  
  
 **if** (json.has(**"Status Response"**)) {  
 JSONObject object1 = json.getJSONObject(**"Status Response"**);  
 JSONArray object11 = object1.getJSONArray(**"Status"**);  
  
 **if** (!(object11.equals(**null**) || object11.equals(**""**))) {  
  
 **no** = (String) object11.getJSONObject(0).get(**"Application No"**);  
 String apname = (String) object11.getJSONObject(1).get(**"Applicant Name"**);  
 String stat = (String) object11.getJSONObject(2).get(**"Status"**);  
 **certid**=object11.getJSONObject(3).getInt(**"CertId"**);  
  
 System.***out***.println(**"number is"** + **no**);  
  
  
 LinearLayout table = (LinearLayout) findViewById(R.id.***details***);  
 table.setVisibility(View.***VISIBLE***);  
 **txt\_nam**.setText(**":"** + apname);  
 **txt\_sta**.setText(**":"** + stat);  
 **txt\_num**.setText(**":"** + **no**);  
 **inputapp**.setText(**""**);  
 **inputmob**.setText(**""**);  
  
 **if**(stat.equals(**"Redressed/Disposed"**)){  
 **tblelayout\_docList**.setVisibility(View.***VISIBLE***);  
  
 }  
  
 }  
 } **else** {  
  
 JSONObject st = json.getJSONObject(**"Result"**);  
 String re = (String) st.get(**"error"**);  
 AlertDialog.Builder alert = **new** AlertDialog.Builder(SearchActivity.**this**);  
 alert.setTitle(**"Message"**);  
 alert.setMessage(re);  
 alert.setPositiveButton(**"OK"**, **null**);  
 alert.show();  
 }  
 }  
  
 **catch** (Exception e) {  
  
 **pdialog**.dismiss();  
 e.printStackTrace();  
 }  
 }  
 }, **new** Response.ErrorListener() {  
 @Override  
 **public void** onErrorResponse(VolleyError e) {  
 e.printStackTrace();  
 }  
 });  
  
 jsonObjectRequest.setRetryPolicy(**new** DefaultRetryPolicy(10000,  
 DefaultRetryPolicy.***DEFAULT\_MAX\_RETRIES***,  
 DefaultRetryPolicy.***DEFAULT\_BACKOFF\_MULT***));  
 **requestQueue**.getCache().clear();  
 **requestQueue**.add(jsonObjectRequest);  
 }  
  
  
}

**TASK1  
Now Let us do another Demo with WebService. Lets us create a feedback form for a submitted application.**

**You may try to create FeedBackActivity yourself.**

Method for checking the existing Feedback status

**Web service URL details**

**http://103.251.43.122/pgmobapp/service/mobileapp/VerifyPgFeedback**

**Method** POST

Parameters  
**apNo**,**mbNo**

**Sample data to check**

**apNo: 56,57,58,59,60**

**mbNo:8943284714**

Method for submitting a new Feedback

**Web service URL details**

**http://103.251.43.122/pgmobapp/service/mobileapp/savePgFeedback**

**Method** POST

Parameters  
**apNo**, **Feedback**

**Sample data to check**

**apNo: 56,57,58,59,60**

**Feedback:YourData**

**Now uncomment the corresponding codes in ImageAdapter and Dashboard Activity to enable the proper navigation.**

Intent i=**new** Intent(DashboardActivity.**this**, FeedbackActivity.**class**);  
startActivity(i);

Above code is used for opening the FeedbackActivity from DashboardActivity

**Please try it yourself. If you are not getting an idea, please go to next page**