Android - Sending SMS

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In Android, you can use SmsManager API or devices Built-in SMS application to s SMS's. In this tutorial, we shows you two basic examples to send SMS message –

SmsManager API

```
SmsManager smsManager = SmsManager.getDefault();
smsManager.sendTextMessage("phoneNo", null, "sms message", null, null);
```

Built-in SMS application

```
Intent sendIntent = new Intent(Intent.ACTION_VIEW);
sendIntent.putExtra("sms_body", "default content");
sendIntent.setType("vnd.android-dir/mms-sms");
startActivity(sendIntent);
```

Of course, both need **SEND_SMS permission**.

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

Apart from the above method, there are few other important functions available in SmsManager class. These methods are listed below –

Sr.No.	Method & Description
1	**ArrayList<String> divideMessage(String text)** This method divides a message text into several fragments, none bigger than

	short destinationPort, byte[] data, PendingIntent sentIntent, PendingIntent deliveryIntent) This method is used to send a data based SMS to a specific application port.
4	**void sendMultipartTextMessage(String destinationAddress, String scAddress, ArrayList<String> parts, ArrayList<PendingIntent> sentIntents, ArrayList<PendingIntent> deliveryIntents)** Send a multi-part text based SMS.
5	**void sendTextMessage(String destinationAddress, String scAddress, String text, PendingIntent sentIntent, PendingIntent deliveryIntent)** Send a text based SMS.

Example

Following example shows you in practical how to use SmsManager object to send an SMS to the given mobile number.

> To experiment with this example, you will need actual Mobile device equipped with latest Android OS, otherwise you will have to struggle with emulator which may not work.

Step	Description
1	You will use Android Studio IDE to create an Android application and name it as *tutorialspoint* under a package *com.example.tutorialspoint*.
2	Modify *src/MainActivity.java* file and add required code to take care of sending sms.
3	Modify layout XML file *res/layout/activity_main.xml* add any GUI component if required. I'm adding a simple GUI to take mobile number and SMS text to be sent and a simple button to send SMS.
4	No need to define default string constants at res/values/strings.xml. Android studio takes care of default constants.

Following is the content of the modified main activity file **src/com.example.tutorialspoint/MainActivity.java**.

```
package com.example.tutorialspoint;

import android.Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.app.Activity;

import android.support.v4.app.ActivityCompat;
import android.support.v4.content.ContextCompat;
import android.telephony.SmsManager;

import android.util.Log;
import android.view.Menu;
import android.view.View;

import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity {
   private static final int MY_PERMISSIONS_REQUEST_SEND_SMS =0 ;
   Button sendBtn;
   EditText txtphoneNo;
   EditText txtMessage;
   String phoneNo;
   String message;

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

      sendBtn = (Button) findViewById(R.id.btnSendSMS);
      txtphoneNo = (EditText) findViewById(R.id.editText);
      txtMessage = (EditText) findViewById(R.id.editText2);

      sendBtn.setOnClickListener(new View.OnClickListener() {
         public void onClick(View view) {
            sendSMSMessage();
         }
      });
   }

   protected void sendSMSMessage() {
      phoneNo = txtphoneNo.getText().toString();
      message = txtMessage.getText().toString();
```

```
            }
         }
      }

      @Override
      public void onRequestPermissionsResult(int requestCode,String permissions[], int[] grantResult
         switch (requestCode) {
            case MY_PERMISSIONS_REQUEST_SEND_SMS: {
               if (grantResults.length > 0
                  && grantResults[0] == PackageManager.PERMISSION_GRANTED) {
                     SmsManager smsManager = SmsManager.getDefault();
                     smsManager.sendTextMessage(phoneNo, null, message, null, null);
                     Toast.makeText(getApplicationContext(), "SMS sent.",
                        Toast.LENGTH_LONG).show();
               } else {
                  Toast.makeText(getApplicationContext(),
                     "SMS faild, please try again.", Toast.LENGTH_LONG).show();
                  return;
               }
            }
         }

      }
   }
```

Following will be the content of **res/layout/activity_main.xml** file –

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```
<?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:paddingBottom="@dimen/activity_vertical_margin"
   android:paddingLeft="@dimen/activity_horizontal_margin"
   android:paddingRight="@dimen/activity_horizontal_margin"
   android:paddingTop="@dimen/activity_vertical_margin"
   tools:context="MainActivity">

   <TextView
      android:id="@+id/textView1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Sending SMS Example"
      android:layout_alignParentTop="true"
      android:layout_centerHorizontal="true"
      android:textSize="30dp" />
```

```
      android:layout_alignRight="@+id/imageButton"
      android:layout_alignEnd="@+id/imageButton" />

   <ImageButton
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/imageButton"
      android:src="@drawable/abc"
      android:layout_below="@+id/textView2"
      android:layout_centerHorizontal="true" />

   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/editText"
      android:hint="Enter Phone Number"
      android:phoneNumber="true"
      android:textColorHint="@color/abc_primary_text_material_dark"
      android:layout_below="@+id/imageButton"
      android:layout_centerHorizontal="true" />

   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/editText2"
      android:layout_below="@+id/editText"
      android:layout_alignLeft="@+id/editText"
      android:layout_alignStart="@+id/editText"
      android:textColorHint="@color/abc_primary_text_material_dark"
      android:layout_alignRight="@+id/imageButton"
      android:layout_alignEnd="@+id/imageButton"
      android:hint="Enter SMS" />

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Send Sms"
      android:id="@+id/btnSendSMS"
      android:layout_below="@+id/editText2"
      android:layout_centerHorizontal="true"
      android:layout_marginTop="48dp" />

</RelativeLayout>
```

Following will be the content of **res/values/strings.xml** to define two new constants –

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
   <string name="app_name">tutorialspoint</string>
</resources>
```

```
   <application
      android:allowBackup="true"
      android:icon="@drawable/ic_launcher"
      android:label="@string/app_name"
      android:theme="@style/AppTheme" >

      <activity
         android:name="com.example.tutorialspoint.MainActivity"
         android:label="@string/app_name" >

         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>

      </activity>

   </application>
</manifest>
```

Let's try to run your **tutorialspoint** application. I assume you have connected your actual Android Mobile device with your computer. To run the app from Android studio, open one of your project's activity files and click Run icon from the toolbar. Before starting your application, Android studio installer will display following window to select an option where you want to run your Android application.

connection is working fine to deliver your SMS to its recipient.

You can take a number of SMS separated by comma and then inside your program you will have to parse them into an array string and finally you can use a loop to send message to all the given numbers. That's how you can write your own SMS client. Next section will show you how to use existing SMS client to send SMS.

Using Built-in Intent to send SMS

You can use Android Intent to send SMS by calling built-in SMS functionality of the Android. Following section explains different parts of our Intent object required to send an SMS.

Intent Object - Action to send SMS

You will use **ACTION_VIEW** action to launch an SMS client installed on your Android device. Following is simple syntax to create an intent with ACTION_VIEW action.

```
Intent smsIntent = new Intent(Intent.ACTION_VIEW);
```

Intent Object - Data/Type to send SMS

To send an SMS you need to specify **smsto:** as URI using setData() method and data type will be to **vnd.android-dir/mms-sms** using setType() method as follows –

```
smsIntent.setData(Uri.parse("smsto:"));
smsIntent.setType("vnd.android-dir/mms-sms");
```

Intent Object - Extra to send SMS

Android has built-in support to add phone number and text message to send an SMS as follows –

```
smsIntent.putExtra("address"  , new String("0123456789;3393993300"));
smsIntent.putExtra("sms_body"  , "Test SMS to Angilla");
```

> Here address and sms_body are case sensitive and should be specified in small characters only. You can specify more than one number in single string but

> To experiment with this example, you will need actual Mobile device equipped with latest Android OS, otherwise you will have to struggle with emulator which may not work.

Step	Description
1	You will use Android studio IDE to create an Android application and name it as *tutorialspoint* under a package *com.example.tutorialspoint*.
2	Modify *src/MainActivity.java* file and add required code to take care of sending SMS.
3	Modify layout XML file *res/layout/activity_main.xml* add any GUI component if required. I'm adding a simple button to launch SMS Client.
4	No need to define default constants.Android studio takes care of default constants.
5	Modify *AndroidManifest.xml* as shown below
6	Run the application to launch Android emulator and verify the result of the changes done in the application.

Following is the content of the modified main activity file **src/com.example.tutorialspoint/MainActivity.java**.

```
package com.example.tutorialspoint;

import android.net.Uri;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.util.Log;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends Activity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      Button startBtn = (Button) findViewById(R.id.button);
```

```
      smsIntent.setData(Uri.parse("smsto:"));
      smsIntent.setType("vnd.android-dir/mms-sms");
      smsIntent.putExtra("address"  , new String ("01234"));
      smsIntent.putExtra("sms_body"  , "Test ");

      try {
         startActivity(smsIntent);
         finish();
         Log.i("Finished sending SMS...", "");
      } catch (android.content.ActivityNotFoundException ex) {
         Toast.makeText(MainActivity.this,
         "SMS faild, please try again later.", Toast.LENGTH_SHORT).show();
      }
   }

   @Override
   public boolean onCreateOptionsMenu(Menu menu) {
      // Inflate the menu; this adds items to the action bar if it is present.
      getMenuInflater().inflate(R.menu.main, menu);
      return true;
   }
}
```

Following will be the content of **res/layout/activity_main.xml** file –

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```
<?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:paddingLeft="@dimen/activity_horizontal_margin"
   android:paddingRight="@dimen/activity_horizontal_margin"
   android:paddingTop="@dimen/activity_vertical_margin"
   android:paddingBottom="@dimen/activity_vertical_margin"
   tools:context=".MainActivity">

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Drag and Drop Example"
      android:id="@+id/textView"
      android:layout_alignParentTop="true"
      android:layout_centerHorizontal="true"
      android:textSize="30dp" />

   <TextView
```

```
   <ImageView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/imageView"
      android:src="@drawable/abc"
      android:layout_marginTop="48dp"
      android:layout_below="@+id/textView2"
      android:layout_centerHorizontal="true" />

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Compose SMS"
      android:id="@+id/button"
      android:layout_below="@+id/imageView"
      android:layout_alignRight="@+id/textView2"
      android:layout_alignEnd="@+id/textView2"
      android:layout_marginTop="54dp"
      android:layout_alignLeft="@+id/imageView"
      android:layout_alignStart="@+id/imageView" />

</RelativeLayout>
```

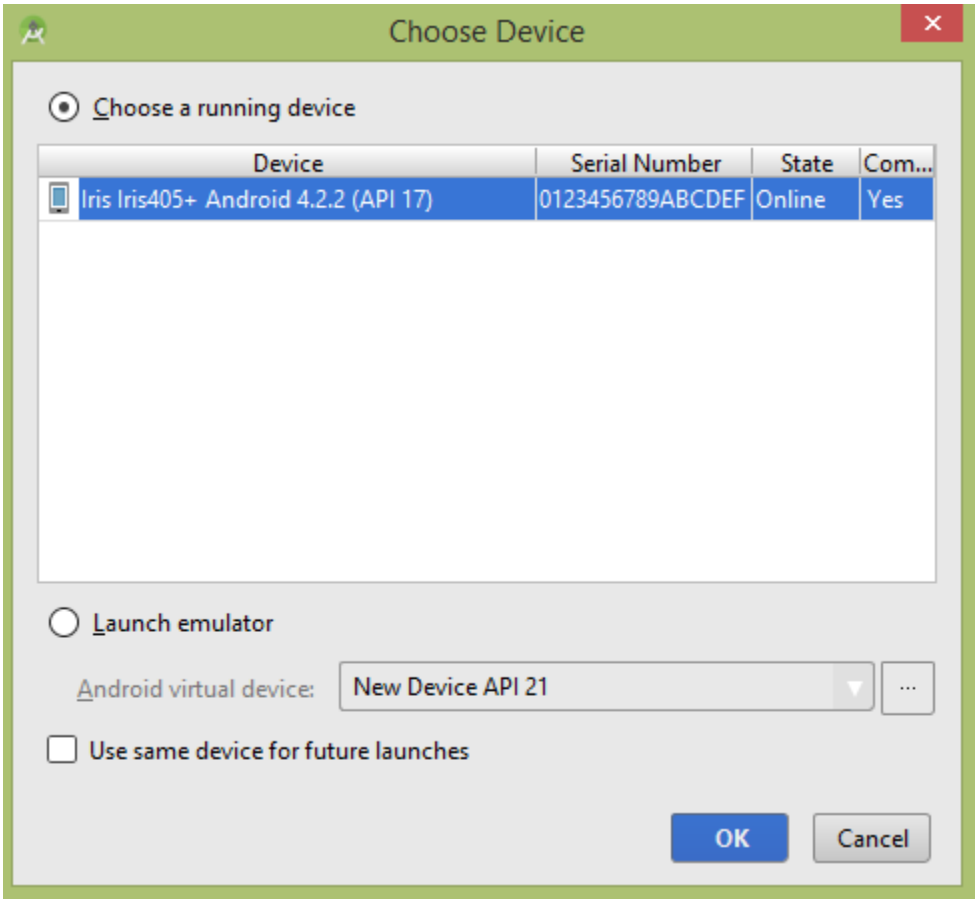
Following will be the content of **res/values/strings.xml** to define two new constants −

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
   <string name="app_name">tutorialspoint</string>
</resources>
```

Following is the default content of **AndroidManifest.xml** −

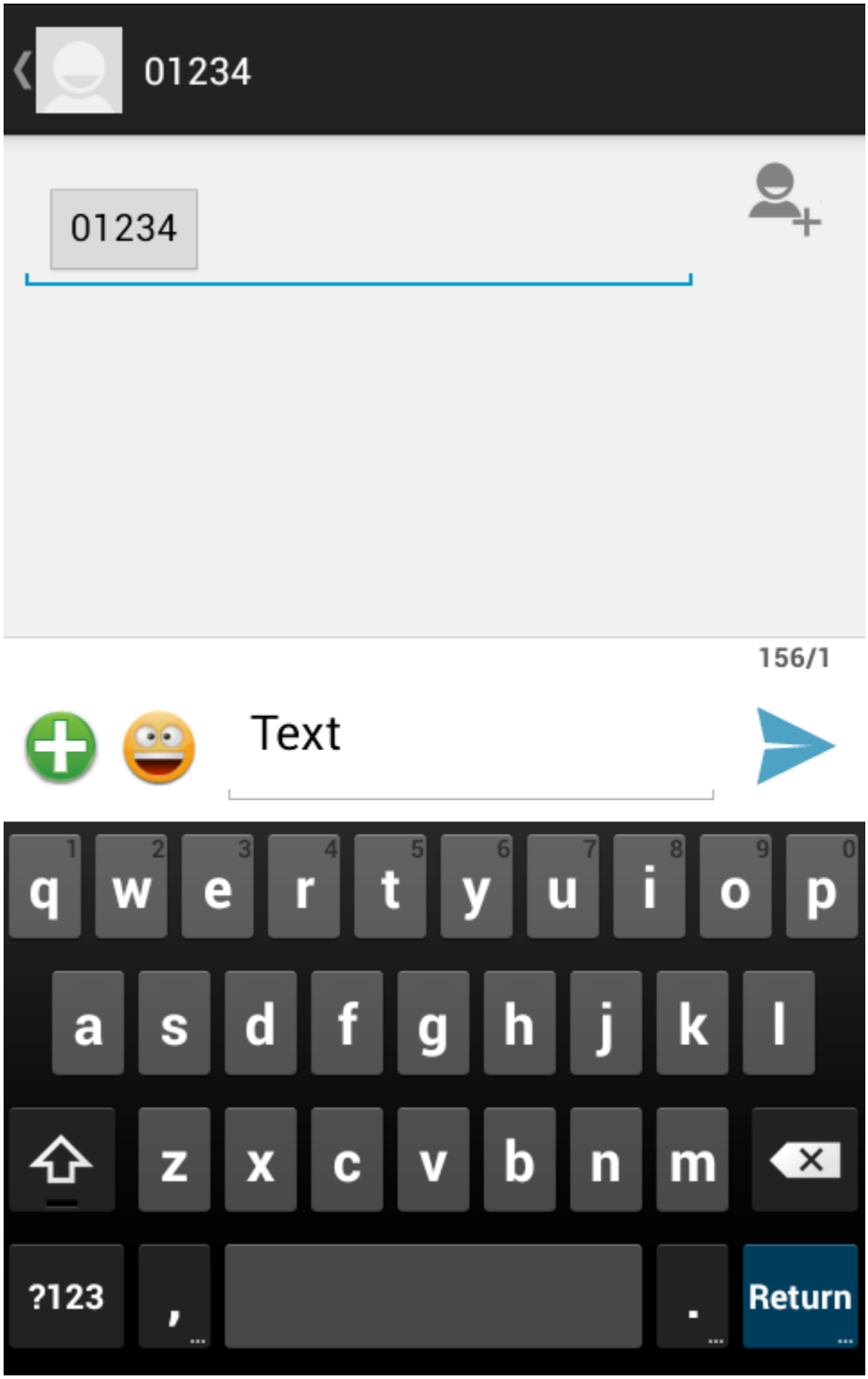
```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.example.tutorialspoint" >

   <application
      android:allowBackup="true"
      android:icon="@drawable/ic_launcher"
      android:label="@string/app_name"
      android:theme="@style/AppTheme" >

      <activity
         android:name="com.example.tutorialspoint.MainActivity"
         android:label="@string/app_name" >

         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
```

of your project's activity files and click Run icon from the toolbar. Before starting your application, Android studio will display following window to select an option where you want to run your Android application.



Select your mobile device as an option and then check your mobile device which will display following screen –

Now use **Compose SMS** button to launch Android built-in SMS clients which is shown below –



You can modify either of the given default fields and finally use send SMS button to send your SMS to the mentioned recipient.