

Activities & Intents

SEC3

ACTIVITY

- A window that contains the user interface of the application
- Applications have one or more activities
- Main purpose of an activity is to interact with the user
- Activity's life Cycle- From the moment the activity appears on the screen to the moment it is hidden, it goes through a number of stages
- Understand Activity life cycle

Activity's life Cycle

- **onCreate()**—Called when the activity is first created
- **onStart()**—Called when the activity becomes visible to the user
- **onResume()**—Called when the activity starts interacting with the user
- **onPause()**—Called when the current activity is being paused and the previous activity is being resumed
- **onStop()**—Called when the activity is no longer visible to the user
- **onDestroy()**—Called before the activity is destroyed by the system (either manually or by the system to conserve memory)
- **onRestart()**—Called when the activity has been stopped and is restarting again.

INTENTS

- Applications have one or more activities, so need to navigate from one to another.
- In Android - navigation between activities is through Intent
- Intents- “glue” that enables different activities from different applications to work together, ensuring that tasks can be performed as though they all belong to one single application

5554:Nexus_5X_API_N



5554:Nexus_5X_API_N



1. Using Android Studio, create a new Android project with an empty Activity named MainActivity; name the project UsingIntent.
2. Right-click your package name under the app>>app>>src>>main>>java folder in the Project Files windows and select New ➡ Java Class
3. Name the new class SecondActivity and click OK.

4. Add the bolded statements from the following code to the AndroidManifest.xml file.

Be sure to change all instances of "com.jfdimarzio" to whatever package name your project is using

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

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity android:name=".SecondActivity" >
            <intent-filter >
                <action android:name="com.jfdimarzio.usingintent.SecondActivity" />
                <category android:name="android.intent.category.DEFAULT" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

- 5. Make a copy of the activity_main.xml file (in the res/layout folder) by right-clicking it and selecting Copy. Then right-click the res/layout folder and select Paste. Name the file activity_second.xml.
- 6. Modify the activity_second.xml file as follows

```
activity_second.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"

    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="com.jfdimarzio.usingintent.SecondActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="This is the Second Activity!" />
</RelativeLayout>
```


- 7. In the SecondActivity.java file, add the bolded statements from the following code:

```
package com.jfdimarzio.usingintent;  
  
import android.app.Activity;  
import android.os.Bundle;  
  
public class SecondActivity extends Activity {  
    public void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_second);  
    }  
}
```

- 8. Add the bolded lines in the following code to the activity_main.xml file

```
<?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="com.jfdimarzio.usingintent.MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Main Activity!"
        android:id="@+id/textView" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Display second activity"
        android:onClick="onClick"
        android:id="@+id/button"
        android:layout_below="@+id/textView"
        android:layout_alignParentStart="true"
        android:layout_marginTop="56dp" />
</RelativeLayout>
```

- 9. Modify the MainActivity.java file as shown in the bolded lines in the following code:

```
package com.jfdimarzio.usingintent;  
  
import android.app.Activity;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
  
public class MainActivity extends Activity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
    }  
    public void onClick(View view) {  
        startActivity(new Intent("com.jfdimarzio.usingintent.SecondActivity"));  
    }  
}
```

- 10. Press Shift+F9 to debug the application on the Android emulator. When the first activity is loaded, click the button and the second activity also loads

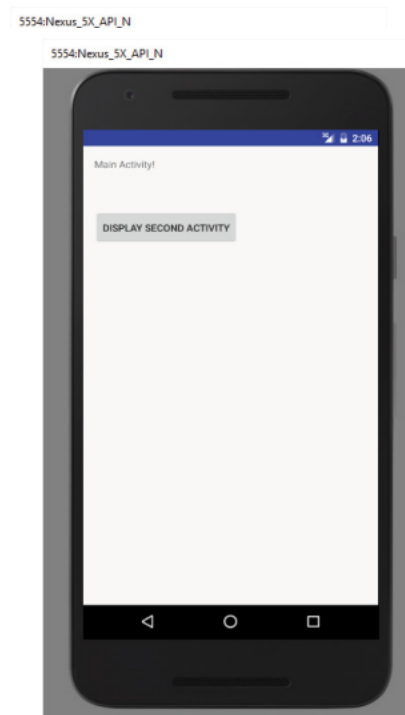


FIGURE 3-8

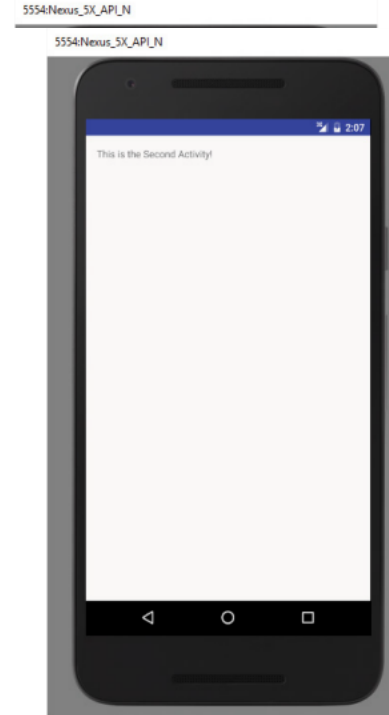


FIGURE 3-9