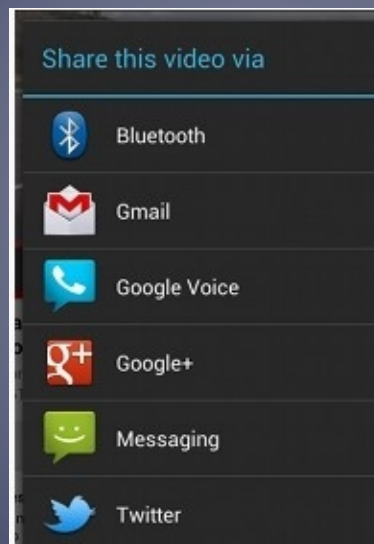


We have a video that we want to share with others, we may have multiple choice:



❖ **Caution:** It's possible that a user won't have any apps that handle the implicit intent you send to `startActivity()`. If that happens, the call will fail & your app will crash. To verify that an activity will receive the intent, call `resolveActivity()` on your Intent object. If the result is non-null, then there is at least one app that can handle the intent & it's safe to call `startActivity()`. If the result is null, you should not use the intent & if possible, you should disable the feature that issues the intent.

❖ For practice & simplicity, in our lab, we have only one application & multiple activities to show how the intent-filter can be matched.

❖ The following activity is the one that would be displayed in the screen when the app is started.

```

ImplicitIntentActivity.java
package android.implicitintent;

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

public class ImplicitIntentActivity extends Activity {

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

```

Continue...

```

Button btnA=(Button) findViewById(R.id.button1);
btnA.setOnClickListener(new OnClickListener(){

    @Override
    public void onClick(View v) {
        //set implicit intent to match activity A
        Intent intent=new Intent();
        //set action
        intent.setAction("com.wyou.action");
        //set category
        intent.addCategory("com.wyou.category");
        //set data
        intent.setData(Uri.parse("wyou://www.wyou.com/wyou"));
        if (intent.resolveActivity(getPackageManager()) != null) {
            startActivity(intent);
        }
        else{
            Toast toast=Toast.makeText(getApplicationContext(), "No Activity is matched!",
            Toast.LENGTH_SHORT);
            toast.show();
        }
    }
});

```

Continue...

```

Button btnB=(Button) findViewById(R.id.button2);
btnB.setOnClickListener(new OnClickListener(){

@Override
public void onClick(View v) {
//set implicit intent to match activity B
    intent=new Intent();
//set action
    intent.setAction("com.wyou.actionB");
//set category
    intent.addCategory("com.wyou.categoryB");
//set data
    intent.setData(Uri.parse("wyou://www.wyou.com/wyou"));

    if (intent.resolveActivity(getPackageManager()) != null) {
        startActivity(intent);
    }
    else{
        Toast toast=Toast.makeText(getApplicationContext(), "No Activity is matched!",
        Toast.LENGTH_SHORT);
        toast.show();
    }
}});
Continue...

```

```

Button btnA=(Button) findViewById(R.id.button1);
btnA.setOnClickListener(new OnClickListener(){

@Override
public void onClick(View v) {
//set implicit intent to match activity A
    Intent intent=new Intent();
//set action
    intent.setAction("com.wyou.action");
//set category
    intent.addCategory("com.wyou.category");
//set data
    intent.setData(Uri.parse("wyou://www.wyou.com/wyou"));
    if (intent.resolveActivity(getPackageManager()) != null) {
        startActivity(intent);
    }
    else{
        Toast toast=Toast.makeText(getApplicationContext(), "No Activity is matched!",
        Toast.LENGTH_SHORT);
        toast.show();
    }
}});
Continue...

```

```

Button btnC=(Button) findViewById(R.id.button3);
btnC.setOnClickListener(new OnClickListener(){

@Override
public void onClick(View v) {
//set implicit intent to match activity C
    Intent intent=new Intent();
//set action
    intent.setAction("com.wyou.action");
//set category
    intent.addCategory("com.wyou.category");
//set data to match "text/*", so this intent will invoke ActivityC
    intent.setDataAndType(Uri.parse("wyou://www.wyou.com/wyou"), "text/plain");
    if (intent.resolveActivity(getPackageManager()) != null) {
        startActivity(intent);
    }
    else{
        Toast toast=Toast.makeText(getApplicationContext(), "No Activity is matched!",
Toast.LENGTH_SHORT);
        toast.show();
    }
}});
}
Continue...

```

```

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

```

```

main.xml
<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=".ImplicitIntentActivity" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/title"
        android:textSize="25sp"
    />

```

Continue...

```

<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/textView1"
    android:layout_below="@+id/textView1"
    android:layout_marginTop="64dp"
    android:text="@string/matchA" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button1"
    android:layout_centerVertical="true"
    android:text="@string/matchB" />

```

Continue...

>

```

Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button2"
    android:layout_below="@+id/button2"
    android:layout_marginTop="49dp"
    android:text="@string/matchC" />

```

```
</RelativeLayout>
```

```

strings.xml
<?xml version="1.0" encoding="utf-8"?>
<resources>

    <string name="app_name">ImplicitIntent</string>
    <string name="action_settings">Settings</string>
    <string name="title">Implicit Intent Demo</string>

    <string name="matchA">Single Activity Matched</string>
    <string name="matchB">Multiple Activities Matched</string>
    <string name="matchC">No Activity Matched</string>
    <string name="a">Hi, I am activity A.</string>
    <string name="b">Hi, I am activity B.</string>
    <string name="c">Hi, I am activity C.</string>
    <string name="back">Back</string>

</resources>

```

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="android.implicitintent"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

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

Continue...

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

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

    <!-- ActivityA -->
    <activity
        android:name="android.implicitintent.ActivityA"
        android:label="@string/app_name" >
        <intent-filter>
            <action android:name="com.wyou.action" />

            <category android:name="android.intent.category.DEFAULT" />
            <category android:name="com.wyou.category" />
```

Continue...

```

<data
    android:host="www.wyou.com"
    android:scheme="wyou" />
</intent-filter>
</activity>

<!-- ActivityB -->
<activity
    android:name="android.intent.ActivityB"
    android:label="@string/app_name" >
    <intent-filter>
        <action android:name="com.wyou.actionB" />

        <category android:name="android.intent.category.DEFAULT" />
        <category android:name="com.wyou.categoryB" />

```

Continue...

>

```

<data
    android:host="www.wyou.com"
    android:scheme="wyou" />
</intent-filter>
</activity>
<!-- ActivityC -->
<activity
    android:name="android.intent.ActivityC"
    android:label="@string/app_name" >
    <intent-filter>
        <action android:name="com.wyou.actionB" />

        <category android:name="android.intent.category.DEFAULT" />
        <category android:name="com.wyou.categoryB" />

    <data
        android:host="www.wyou.com"

        android:scheme="wyou" />
    </intent-filter>
</activity>
</application>
</manifest>

```



- ❖ Each intent filter is defined by an `<intent-filter>` element in the app's manifest file, nested in the corresponding app component (such as an `<activity>` element). Inside the `<intent-filter>`, you can specify the type of intents to accept using one or more of these three elements:

- ❖ `<action>`

Declares the intent action accepted, in the name attribute. The value must be the literal string value of an action, not the class constant.

- ❖ `<data>`

Declares the type of data accepted, using one or more attributes that specify various aspects of the data URI (scheme, host, port, path, etc.) & MIME type.

- ❖ `<category>`

Declares the intent category accepted, in the name attribute. The value must be the literal string value of an action, not the class constant.

**Note:** In order to receive implicit intents, you must include the `CATEGORY_DEFAULT` category in the intent filter. If you do not declare this category in your intent filter, no implicit intents will resolve to your activity.

```
ActivityA.java
package android.implicitintent;

import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;

public class ActivityA extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        // TODO Auto-generated method stub
        setContentView(R.layout.activity_a);
        Button btn=(Button) findViewById(R.id.back);
        btn.setOnClickListener(new OnClickListener(){
            super.onCreate(savedInstanceState);
        });
    }

    @Override
    public void onClick(View v) {
        finish();//finish itself & return to main activity
    };
}
```

```

activity_a.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" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="63dp"
        android:layout_marginTop="39dp"
        android:text="@string/title"
        android:textSize="25sp"/>

```

Continue...

```

    TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="44dp"
        android:text="@string/a"
        android:textAppearance="?android:attr/textAppearanceLarge" />

```

```

    <Button
        android:id="@+id/back"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView2"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="32dp"
        android:text="@string/back" />

```

```

</RelativeLayout>

```

```

ActivityB.java
package android.implicitintent;

import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;

public class ActivityB extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        // TODO Auto-generated method stub
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_b);
        Button btn=(Button) findViewById(R.id.back);
        btn.setOnClickListener(new OnClickListener(){

            @Override
            public void onClick(View v) {
                finish();//finish itself & return to main activity
            }
        });
    }
}

```

```

activity_b.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" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="63dp"
        android:layout_marginTop="39dp"
        android:text="@string/title"
        android:textSize="25sp"/>

```

Continue....

```

TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView1"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="44dp"
    android:text="@string/b"
    android:textAppearance="?android:attr/textAppearanceLarge" />

```

```

<Button
    android:id="@+id/back"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="32dp"
    android:text="@string/back" />

```

```

</RelativeLayout>

```

```

ActivityC.java
package android.implicitintent;

import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;

public class ActivityC extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        // TODO Auto-generated method stub
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_c);
        Button btn=(Button) findViewById(R.id.back);
        btn.setOnClickListener(new OnClickListener(){

            @Override
            public void onClick(View v) {
                finish();//finish itself & return to main activity
            }
        });
    }
}

```

```

activity_c.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" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="63dp"
        android:layout_marginTop="39dp"
        android:text="@string/title"
        android:textSize="25sp"/>

    > Continue...

```

```

TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView1"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="44dp"
    android:text="@string/c"
    android:textAppearance="?android:attr/textAppearanceLarge" />

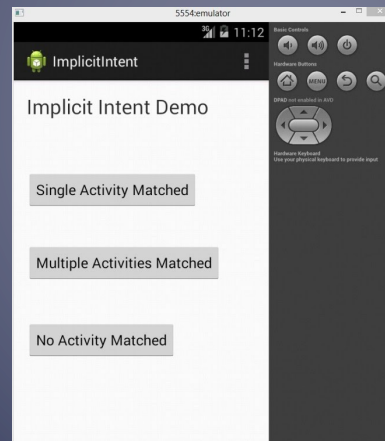
<Button
    android:id="@+id/back"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="32dp"
    android:text="@string/back" />

</RelativeLayout>

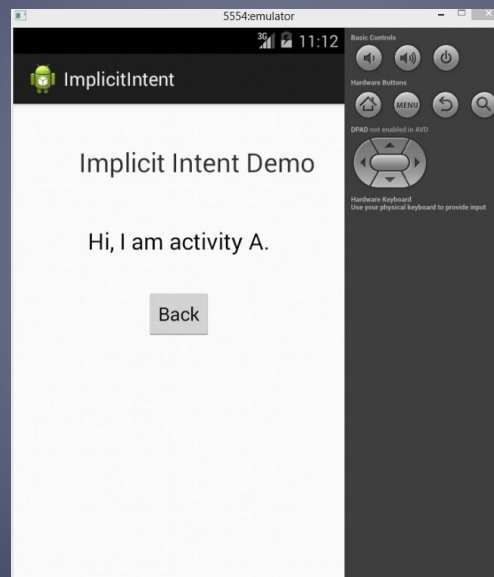
```

## Demo

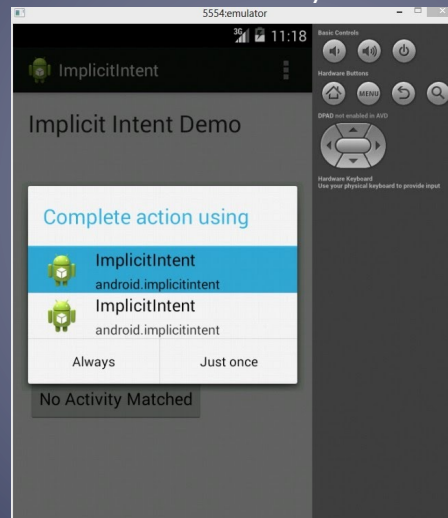
- ❖ Save & run this app.
- ❖ In the first screen, there are three buttons.



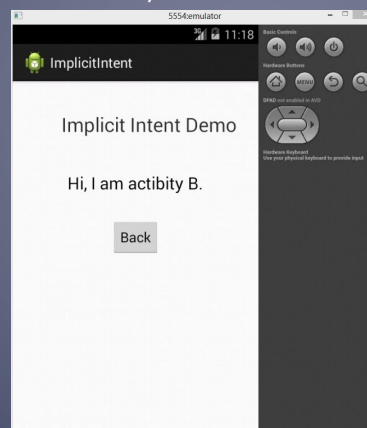
- ❖ When clicking the first button, only one activities is matched. In our lab, only ActivityA matches this intent.



- ❖ When clicking the second button, both Activity B & C are matched. So, the Android system would show a dialog for user to choose one of the activity to start.



- ❖ In the screenshot above, we can see there are two Apps showed in the dialog. Both of them named as ImplicitIntent (the name of our project), it is because the activities that match this intent are in the same app.
- ❖ If we choose the first one, it will start ActivityB.





- ❖ There is no activity that is matched with any intent.



- › Resources:
- › <http://developer.android.com/guide/components/intents-filters.html>