Intent

Intent

- It is an action that can be performed on the screen.
- Android Intent is the message that is passed between components such as activities, content providers, broadcast receivers, services etc.
- It is generally used with startActivity() method to invoke activity, broadcast receivers etc.
- Android intents are mainly used to:
    - Start the service
    - Launch an activity
    - Display a web page
    - Display a list of contacts
    - Broadcast a message
    - Dial a phone call etc.

Types of Android Intents

There are two types of intents in android: implicit and explicit.

1) Implicit Intent

•Implicit Intent doesn't specify the component. In such case, intent provides information of available components provided by the system that is to be invoked.

•For example, you may write the following code to view the webpage.

```
1. Intent intent=new Intent(Intent.ACTION_VIEW);
2. intent.setData(Uri.parse("http://www.google.com"));
3. startActivity(intent);
```

2) Explicit Intent

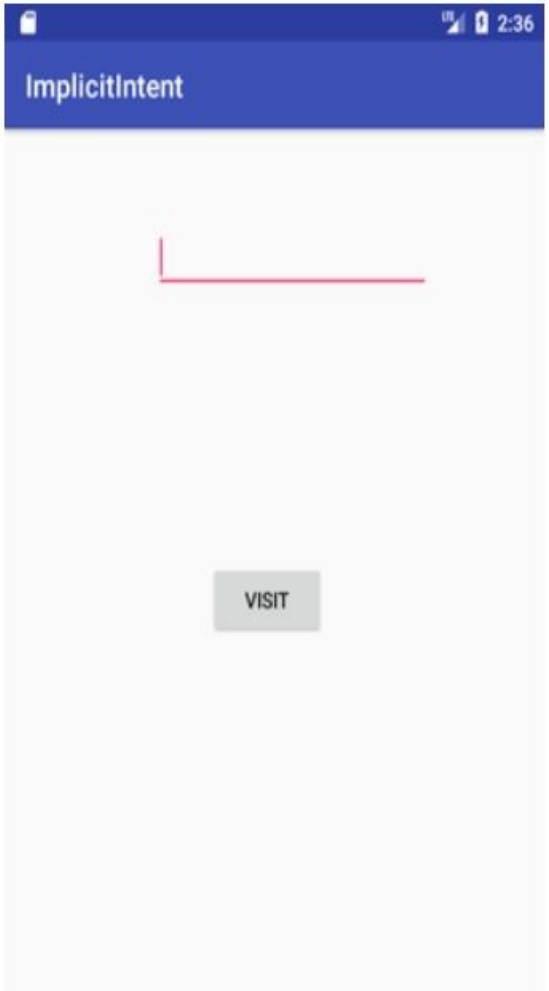
•Explicit Intent specifies the component. In such case, intent provides the external class to be invoked.

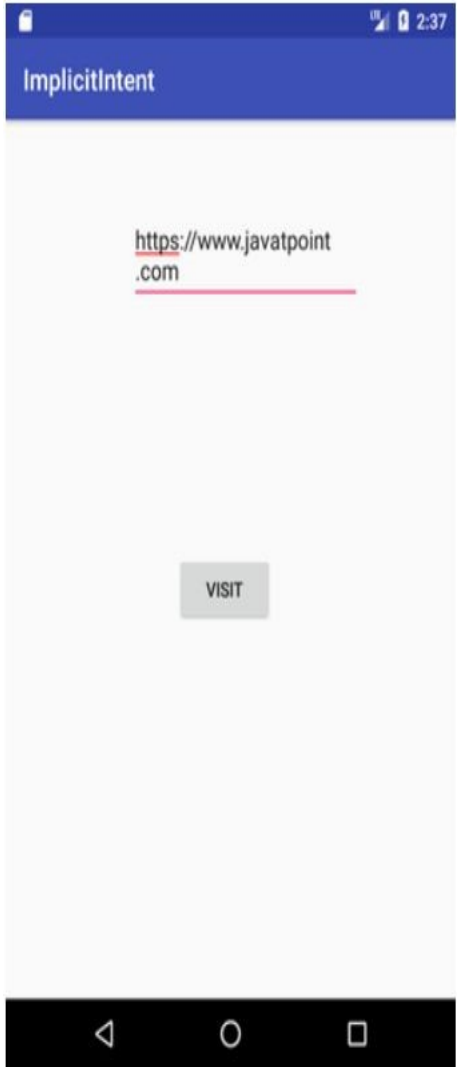
```
2. Intent i = new Intent(getApplicationContext(), ActivityTwo.class);
3. startActivity(i);
```

Implicit intents

- Implicit intents do not name a specific component like explicit intent, instead declare general action to perform, which allows a component from another app to handle.
- **Example:** When you tap the share button in any app you can see the Gmail, Bluetooth, and other sharing app options. Here user sends a request is the implicit intent request which can be handle by these Gmail, Bluetooth-like app.
- It specifies the only action to be performed and does not directly specify Android Components.
- They are used for communication across two different applications.
- Here we just mention the action in the intent and OS decides which applications are suitable to handle the task, action across two different applications.

Android Implicit Intent Example





Explicit intents

- Explicit intents are those in which the user has a clear vision and knows exactly which activity can handle the requests.
- **Example**: calling one activity from another activity

```
Intent i = new Intent(getApplicationContext(), SecondActivity.class);
```

- Explicit intent can do the specific application action which is set by the code like changing activity, downloading the file in the background, etc.
- In explicit intent, you can pass data to other activity by using the putExtra method and retrieve by using getIntent().

Example:

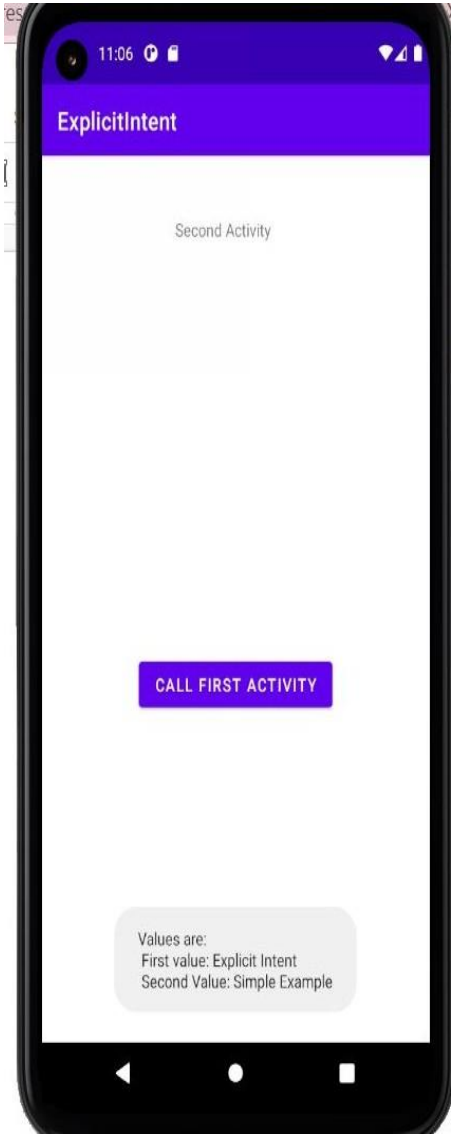
```
i.putExtra("Value1", "Android By Javatpoint");
i.putExtra("Value2", "Simple Tutorial");
```

Second Activity:

```
Bundle extras = getIntent().getExtras();
String value1 = extras.getString("Value1");
String value2 = extras.getString("Value2");
```

- Explicit intents are used for communication inside the application. Like changing activities inside the application.

Android Explicit Example



Methods

An Activity can send an *Intents* to the Android system which starts another Activity.

putExtra() adds extended data to the intent.

It has two parameters, first one specifies the name which of the extra data,and the second parameter is the data itself.

getStringExtra() fetches data which was added using putExtra() in the following way:

getIntent().getStringExtras();

getIntent() returns the intent that started this activity.

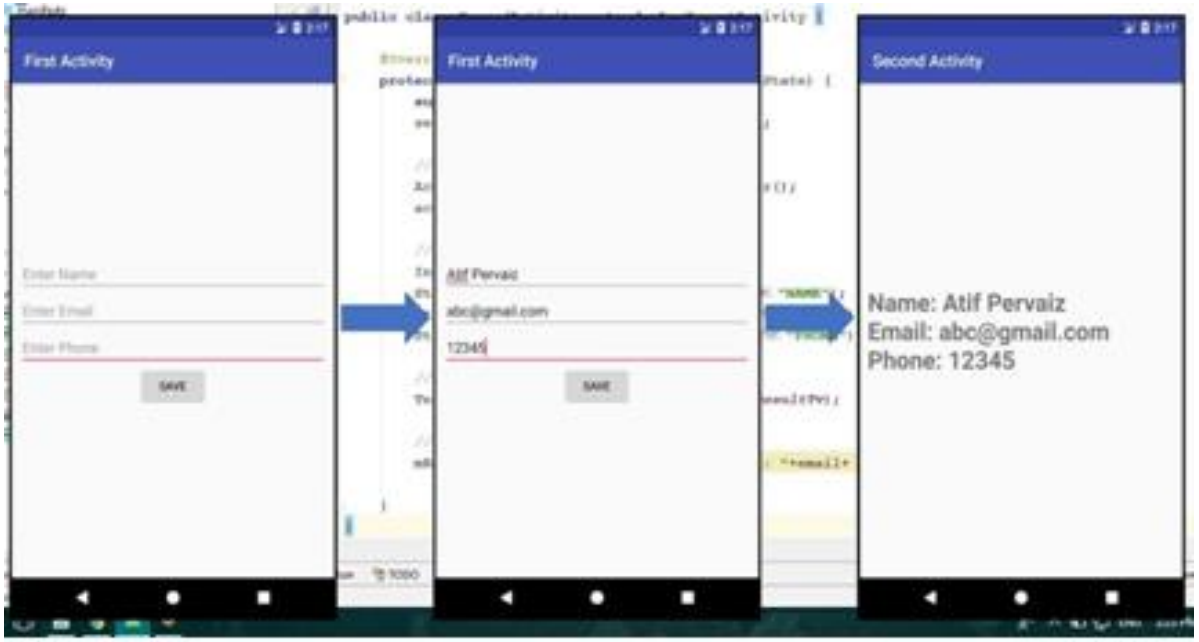
Intent.SetData(Uri) Method

Set the data this intent is operating on.

Uri.Parse(String) Method

Creates a Uri which parses the given encoded URI string.

Write a program to implement Intent to pass data from one activity to another activity(Explicit Intent)



activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/uname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:ems="10"
        android:inputType="textPersonName">
    </EditText>
    <EditText
        android:id="@+id/EmailAddress"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textEmailAddress" />
    <EditText
        android:id="@+id/Phone"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="phone" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Submit"></Button>
</LinearLayout>
```

activity_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TextView" />
</LinearLayout>
```

MainActivity.java

```
package com.example.intent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn=findViewById(R.id.button);
        final EditText name=findViewById(R.id.uname);
        final EditText email=findViewById(R.id.EmailAddress);
        final EditText phone=findViewById(R.id.Phone);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(MainActivity.this,
MainActivity2.class);
                i.putExtra("name",name.getText().toString());
                i.putExtra("email",email.getText().toString());
                i.putExtra("Phone",phone.getText().toString());
                startActivity(i);
            }
        });

    }
}
```

MainActivity2.java

```java
package com.example.intent;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        TextView showname=findViewById(R.id.textView);
        String name= getIntent().getStringExtra("name");
        String email= getIntent().getStringExtra("email");
        String Phone= getIntent().getStringExtra("Phone");
        showname.setText("Name:"+name+"\nEmail:"+email+"\nPhone:"+Phone);

    }
}
```