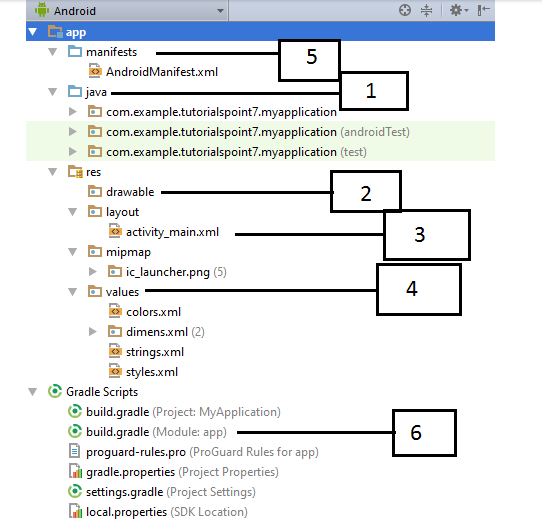
## Basic Android



|  |  |
| --- | --- |
| **Sr.No.** | **Folder, File & Description** |
| **1** | **Java** |

|  |  |
| --- | --- |
|  | This contains the **.java** source files for your project. By default, it includes an *MainActivity.java* source file having an activity class that runs when your  app is launched using the app icon. |
| **2** | **res/drawable-hdpi**  This is a directory for drawable objects that are designed for high-density screens. (hdpi stands for high-density pixel density) |
| **3** | **res/layout**  This is a directory for files that define your app's user interface. |
| **4** | **res/values**  This is a directory for other various XML files that contain a collection of resources, such as strings and colours definitions. |
| **5** | **AndroidManifest.xml**  This is the manifest file which describes the fundamental characteristics of the app and defines each of its components. |
| **6** | **Build.gradle**  This is an auto generated file which contains compileSdkVersion, buildToolsVersion, applicationId, minSdkVersion, targetSdkVersion, versionCode and versionName |

# AndroidMainFest.XML

* Describes essential details about the app, like its name, package name, version, and permissions.
* Defines each part of the app, such as activities, services, broadcast receivers, and content providers.
* Lists permissions required by the app to access device features or data.
* Specifies which components can respond to which types of intents, enabling inter- component communication.
* Declares configurations like supported device orientations, minimum and target SDK versions, hardware requirements, and more.
* Launch Activity : Specifies the main activity that serves as the entry point when the app is launched.
* Dependencies : Declares dependencies on libraries or other apps required for proper functioning.
* Security : Defines security settings such as allowing or denying access to components by other apps.
* Every Android app must have a manifest file; it's crucial for the Android system to understand and manage the app's behaviour.

1. **Creating Hello World Application**

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Hello World!" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" android:textSize="30dp"/>

</androidx.constraintlayout.widget.ConstraintLayout>

# MainActivity.java

**package** com.example.helloworldapplication;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.os.Bundle;

**public class** MainActivity **extends** AppCompatActivity {

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

}

}

1. **Creating an application that displays message based on the screen orientation.**

# AndroidManifest.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<manifest xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools)>

<application

android:allowBackup="true" android:dataExtractionRules="@xml/data\_extraction\_rules"

android:fullBackupContent="@xml/backup\_rules" android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:supportsRtl="true"

android:theme="@style/Theme.SecondProgram" tools:targetApi="31">

<activity

android:name=".NextActivity"

android:exported="false"

android:screenOrientation="landscape"

/>

<activity

android:name=".MainActivity" android:exported="true" android:screenOrientation="portrait">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER"

/>

</intent-filter>

</**activity**>

</**application**>

</**manifest**>

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<Button

android:id="@+id/button1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:layout\_marginBottom="8dp" android:layout\_marginTop="112dp" android:onClick="onClick" android:text="Launch next activity"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.612" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/editText1" app:layout\_constraintVertical\_bias="0.613" />

<TextView

android:id="@+id/editText1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_centerHorizontal="true" android:layout\_marginEnd="8dp" android:layout\_marginStart="8dp" android:layout\_marginTop="124dp" android:ems="10"

android:textSize="22dp"

android:text="This activity is portrait orientation" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.502" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

# MainActivity.java

**package** com.example.secondprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Intent; **import** android.os.Bundle; **import** android.view.View;

**public class** MainActivity **extends** AppCompatActivity {

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

}

**public void** onClick(View v) {

Intent intent = **new** Intent(MainActivity.**this**,NextActivity.**class**); startActivity(intent);

}

}

# activity\_next.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".NextActivity">

<TextView

android:id="@+id/textView" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginEnd="8dp" android:layout\_marginStart="8dp" android:layout\_marginTop="180dp" android:text="this is landscape orientation" android:textSize="22dp" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.502" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

# NextActivity.java

**package** com.example.secondprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.os.Bundle;

**public class** NextActivity **extends** AppCompatActivity {

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_next***);

}

}

1. **Creating an application to develop Login window using UI controls.**

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto)

xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity" android:orientation="vertical" android:padding="16dp">

<TextView android:id="@+id/tvTitle" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textSize="24sp" android:text="Login Form" android:layout\_gravity="center"/>

<TextView android:id="@+id/tvUserName" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textSize="20sp" android:text="User Name" />

<EditText

android:id="@+id/etUsername" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="Username" android:inputType="text" android:padding="8dp" android:layout\_marginTop="16dp" android:layout\_marginBottom="30dp"/>

<TextView android:id="@+id/tvPassword" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textSize="20sp" android:text="Password" />

<EditText

android:id="@+id/etPassword" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

android:hint="Password" android:inputType="textPassword" android:padding="8dp" android:layout\_marginTop="16dp" android:layout\_marginBottom="30dp"/>

<Button

android:id="@+id/btnLogin" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Login" android:textSize="18sp" android:layout\_marginTop="16dp"/>

</LinearLayout>

1. **Create an application to implement new activity using explicit intent and implicit intent.**

**/\* Explicit Intent: This involves navigating from one activity to another within the same application.**

**Implicit Intent: This involves triggering an action that can be handled by another application. \*/**

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity" android:orientation="vertical" android:padding="30dp">

<Button

android:id="@+id/btnExplicitContent" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Explicit Content" android:textSize="30sp" android:layout\_marginTop="30dp"></Button>

</LinearLayout>

# MainActivity.java

**package** com.example.fourthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

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

**public class** MainActivity **extends** AppCompatActivity {

Button **btnExplicitContent**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

**btnExplicitContent**=findViewById(R.id.***btnExplicitContent***);

**btnExplicitContent**.setOnClickListener(**new** View.OnClickListener() {

@Override

**public void** onClick(View view) {

Intent intent = **new** Intent(MainActivity.**this**, SecondActivity.**class**);

startActivity(intent);

}

});

}

}

# activity\_second.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".SecondActivity" android:orientation="vertical" android:padding="30dp">

<Button

android:id="@+id/btnImplicitContent" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Implicit Content" android:textSize="30sp" android:layout\_marginTop="30dp"></Button>

</LinearLayout>

# SecondActivity.java

**package** com.example.fourthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Intent;

**import** android.net.Uri; **import** android.os.Bundle; **import** android.view.View; **import** android.widget.Button;

**public class** SecondActivity **extends** AppCompatActivity {

Button **btnImplicitContent**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_second***);

**btnImplicitContent**=findViewById(R.id.***btnImplicitContent***);

**btnImplicitContent**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View view) {

Uri webpage = Uri.*parse*([**"https://www.google.com"**](http://www.google.com/)); Intent intent = **new** Intent(Intent.***ACTION\_VIEW***, webpage); startActivity(intent);

}

});

}

}

1. **Create an application that displays custom designed Opening Screen**

**/\* Right Click on Drawable resource folder -> Select New -> Click on Drawable**

**Resource File -> Type the File Name custom\_background -> Type Root element shape ->**

**Click on Ok Button \*/**

# drawable/custom\_background.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<shape xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) android:shape="rectangle">

<gradient

android:startColor="#3F51B5" android:endColor="#2196F3" android:angle="45"/>

</**shape**>

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<RelativeLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity" android:background="@drawable/custom\_backgorund">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Welcome to App" android:textSize="20sp"

android:layout\_centerInParent="true"/>

</RelativeLayout >

# MainActivity.java

**package** com.example.fifthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Intent; **import** android.os.Bundle; **import** android.os.Handler; **import** android.view.Window;

**import** android.view.WindowManager;

**public class** MainActivity **extends** AppCompatActivity {

@Override

**protected void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

*// Hide the title bar*

requestWindowFeature(Window.***FEATURE\_NO\_TITLE***);

*// Make the activity full screen*

getWindow().setFlags(WindowManager.LayoutParams.***FLAG\_FULLSCREEN***, WindowManager.LayoutParams.***FLAG\_FULLSCREEN***);

setContentView(R.layout.***activity\_main***);

Handler handler=**new** Handler(); handler.postDelayed(**new** Runnable() {

@Override

**public void** run() { Intent intent=**new**

Intent(MainActivity.**this**,MainActivity2.**class**);

startActivity(intent); finish();

}

},3000);

}

}

Create one more MainActivity2.java (activity\_main2.xml)

1. **Create an UI with all views.**
2. **Create menu in application.**

# res/menu/main\_menu.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<menu xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)>

<item

android:id="@+id/action\_settings" android:title="Settings" android:icon="@drawable/ic\_setting" />

</**menu**>

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Menu Page" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

# MainActivity.java

**package** com.example.seventhprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Intent; **import** android.os.Bundle; **import** android.view.Menu; **import** android.view.MenuItem;

**public class** MainActivity **extends** AppCompatActivity {

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

}

@Override

**public boolean** onCreateOptionsMenu(Menu menu) { getMenuInflater().inflate(R.menu.***main\_menu***, menu); **return true**;

}

@Override

**public boolean** onOptionsItemSelected(MenuItem item) {

**int** id = item.getItemId();

*// Handle item selection*

**if** (id == R.id.***action\_settings***) {

*// Open settings activity or perform desired action*

Intent intent = **new** Intent(getApplicationContext(), MainActivity2.**class**);

startActivity(intent); *// Start MainActivity2*

return true;

}

**return super**.onOptionsItemSelected(item);

}

}

# activity\_main2.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity2">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Settings Page" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

# MainActivity2.java

**package** com.example.seventhprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.os.Bundle;

**public class** MainActivity2 **extends** AppCompatActivity {

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main2***);

}

}

1. Read / Write the Local data.

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity" android:orientation="vertical">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" android:text="User Name"></TextView>

<EditText

android:id="@+id/etUserName" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

></**EditText**>

<TextView

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Password"></TextView>

<EditText

android:id="@+id/etPassword" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

></**EditText**>

<Button

android:id="@+id/btnsave" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Save" />

<Button

android:id="@+id/btnnext" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Next" />

</LinearLayout>

# MainActivity.java

**package** com.example.eigthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Context;

**import** android.content.Intent;

**import** android.content.SharedPreferences;

**import** android.os.Bundle; **import** android.view.View; **import** android.widget.Button; **import** android.widget.EditText; **import** android.widget.Toast;

**public class** MainActivity **extends** AppCompatActivity {

Button **btnsave**,**btnnext**;

EditText **etUserName**,**etPassword**;

@Override

**protected void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**btnsave**=(Button) findViewById(R.id.***btnsave***);

**btnnext** = (Button) findViewById(R.id.***btnnext***);

**etUserName** = (EditText)findViewById(R.id.***etUserName***);

**etPassword** = (EditText)findViewById(R.id.***etPassword***);

**btnsave**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View view) {

*// Writing data to SharedPreferences*

SharedPreferences sharedPreferences = getSharedPreferences(**"MyPrefs"**, Context.***MODE\_PRIVATE***);

SharedPreferences.Editor editor = sharedPreferences.edit();

editor.putString(**"username"**,

**etUserName**.getText().toString());

editor.putString(**"password"**,

**etPassword**.getText().toString());

editor.apply();

Toast.*makeText*(getApplicationContext(),**"Saved successfully"**,Toast.***LENGTH\_LONG***).show();

}

});

**btnnext**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View view) {

Intent intent = **new**

Intent(getApplicationContext(),MainActivity2.**class**);

startActivity(intent);

}

});

}

}

# activity\_main2.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto)

xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity2" android:orientation="vertical">

<Button android:id="@+id/btnFetch"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Fetch" />

<TextView

android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

android:text="User Name"></TextView>

<EditText

android:id="@+id/etUserName"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

></**EditText**>

<TextView

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Password"></TextView>

<EditText

android:id="@+id/etPassword" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

></**EditText**>

</LinearLayout>

# MainActivity2.java

**package** com.example.eigthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Context;

**import** android.content.SharedPreferences;

**import** android.os.Bundle; **import** android.view.View; **import** android.widget.Button; **import** android.widget.EditText;

**public class** MainActivity2 **extends** AppCompatActivity {

Button **btnFetch**;

EditText **etUserName**,**etPassword**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main2***);

**btnFetch** = (Button) findViewById(R.id.***btnFetch***);

**etUserName** = (EditText)findViewById(R.id.***etUserName***);

**etPassword** = (EditText)findViewById(R.id.***etPassword***);

**btnFetch**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View view) {

*// Reading data from SharedPreferences*

SharedPreferences sharedPreferences = getSharedPreferences(**"MyPrefs"**, Context.***MODE\_PRIVATE***);

String username = sharedPreferences.getString(**"username"**, **""**); String password = sharedPreferences.getString(**"password"**, **""**);

**etUserName**.setText(username); **etPassword**.setText(password);

}

});

}

}

1. Create / Read / Write data with database (SQL Lite)

# colors.xml

<**color name="colorAccent"**>#FF6200EE</**color**>

<**color name="colorPrimary"**>#FF3700B3</**color**>

<**color name="colorPrimaryDark"**>#FF3700B3</**color**>

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

android:orientation="vertical" android:gravity="center" tools:context=".MainActivity">

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="vertical" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Course Registation" android:textColor="@color/colorAccent" android:textSize="30dp"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Name"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/name" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Course"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/course" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Fee"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/fee" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:id="@+id/bt1" android:text="Ok"

android:background="@color/colorPrimary"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:id="@+id/bt2" android:text="View" android:background="@color/colorAccent"

/>

</LinearLayout>

</LinearLayout>

# MainActiviy.java

**package** com.example.ninthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Context;

**import** android.content.Intent;

**import** android.database.sqlite.SQLiteDatabase; **import** android.database.sqlite.SQLiteStatement; **import** android.os.Bundle;

**import** android.view.View; **import** android.widget.Button; **import** android.widget.EditText; **import** android.widget.Toast;

**public class** MainActivity **extends** AppCompatActivity {

EditText **ed1**,**ed2**,**ed3**; Button **b1**,**b2**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

**ed1** = findViewById(R.id.***name***); **ed2** = findViewById(R.id.***course***); **ed3** = findViewById(R.id.***fee***);

**b1** = findViewById(R.id.***bt1***);

**b2** = findViewById(R.id.***bt2***);

**b2**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v)

{

Intent i = **new**

Intent(getApplicationContext(),ViewActivity.**class**);

startActivity(i);

}

});

**b1**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

insert();

}

});

}

**public void** insert()

{

try

{

String name = **ed1**.getText().toString(); String course = **ed2**.getText().toString(); String fee = **ed3**.getText().toString();

SQLiteDatabase db = openOrCreateDatabase(**"SliteDb"**, Context.***MODE\_PRIVATE***,**null**);

db.execSQL("CREATE TABLE IF NOT EXISTS records(id INTEGER PRIMARY KEY AUTOINCREMENT,name VARCHAR,course VARCHAR,fee VARCHAR)");

String sql = **"insert into records(name,course,fee)values('"** + name + **"','"** + course + **"','"** + fee + **"')"**;

SQLiteStatement statement = db.compileStatement(sql);

statement.execute();

Toast.*makeText*(**this**,**"Record addded"**,Toast.***LENGTH\_LONG***).show(); **ed1**.setText(**""**);

**ed2**.setText(**""**);

**ed3**.setText(**""**); **ed1**.requestFocus();

}

**catch** (Exception ex)

{

Toast.*makeText*(**this**,**"Record Fail"**,Toast.***LENGTH\_LONG***).show();

}

}

}

/\* Add Student.class file (Right click on package name \*/

# Student.class

**package** com.example.ninthprogram;

**public class** Student {

String **id**; String **name**; String **course**; String **fee**;

String **titles**;

}

# activity\_view.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".ViewActivity" android:orientation="vertical">

<ListView

android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:id="@+id/lst1"

/>

</LinearLayout>

# ViewActivity.java

**package** com.example.ninthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Context; **import** android.content.Intent; **import** android.database.Cursor;

**import** android.database.sqlite.SQLiteDatabase;

**import** android.os.Bundle;

**import** android.view.View;

**import** android.widget.AdapterView; **import** android.widget.ArrayAdapter; **import** android.widget.ListView;

**import** java.util.ArrayList;

**public class** ViewActivity **extends** AppCompatActivity {

ListView **lst1**;

ArrayList<String> **titles** = **new** ArrayList<String>();

ArrayAdapter **arrayAdapter**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_view***);

SQLiteDatabase db = openOrCreateDatabase(**"SliteDb"**, Context.***MODE\_PRIVATE***,**null**);

**lst1** = findViewById(R.id.***lst1***);

**final** Cursor c = db.rawQuery(**"select \* from records"**,**null**); **int** id = c.getColumnIndex(**"id"**);

**int** name = c.getColumnIndex(**"name"**);

**int** course = c.getColumnIndex(**"course"**); **int** fee = c.getColumnIndex(**"fee"**); **titles**.clear();

**arrayAdapter** = **new** ArrayAdapter(**this**, androidx.appcompat.R.layout.*support\_simple\_spinner\_dropdown\_item*,**titles**);

**lst1**.setAdapter(**arrayAdapter**);

**final** ArrayList<Student> stud = **new** ArrayList<Student>();

**if**(c.moveToFirst())

{

**do**{

Student stu = **new** Student(); stu.**id** = c.getString(id); stu.**name** = c.getString(name); stu.**course** = c.getString(course); stu.**fee** = c.getString(fee); stud.add(stu);

**titles**.add(c.getString(id) + **" \t "** + c.getString(name) + **"**

**\t "** + c.getString(course) + **" \t "** + c.getString(fee) );

} **while**(c.moveToNext()); **arrayAdapter**.notifyDataSetChanged(); **lst1**.invalidateViews();

}

**lst1**.setOnItemClickListener(**new** AdapterView.OnItemClickListener() { @Override

**public void** onItemClick(AdapterView<?> parent, View view, **int**

position, **long** id) {

String aa = **titles**.get(position).toString(); Student stu = stud.get(position);

Intent i = **new**

Intent(getApplicationContext(),EditActivity.**class**);

* 1. putExtra(**"id"**,stu.**id**); i.putExtra(**"name"**,stu.**name**); i.putExtra(**"course"**,stu.**course**); i.putExtra(**"fee"**,stu.**fee**); startActivity(i);

}

});

}

}

# activity\_edit.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".EditActivity" android:orientation="vertical">

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="vertical" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Course Registation" android:textColor="@color/colorAccent" android:textSize="30dp"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="ID"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/id" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text="Name"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/name" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Course"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/course" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Fee"

/>

<EditText

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:ems="10" android:id="@+id/fee" android:textAlignment="center"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:orientation="horizontal" android:gravity="center">

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:id="@+id/bt1" android:text="Edit"

android:background="@color/colorPrimary"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:id="@+id/bt2" android:text="Delete" android:background="@color/colorAccent"

/>

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_weight="1" android:id="@+id/bt3" android:text="Back"

android:background="@color/colorPrimaryDark"

/>

</LinearLayout>

</LinearLayout>

# EditActivity.java

**package** com.example.ninthprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.content.Context;

**import** android.content.Intent;

**import** android.database.sqlite.SQLiteDatabase; **import** android.database.sqlite.SQLiteStatement; **import** android.os.Bundle;

**import** android.view.View; **import** android.widget.Button; **import** android.widget.EditText; **import** android.widget.Toast;

**public class** EditActivity **extends** AppCompatActivity {

EditText **ed1**,**ed2**,**ed3**,**ed4**; Button **b1**,**b2**,**b3**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_edit***);

**ed1** = findViewById(R.id.***name***); **ed2** = findViewById(R.id.***course***); **ed3** = findViewById(R.id.***fee***); **ed4** = findViewById(R.id.***id***);

**b1** = findViewById(R.id.***bt1***); **b2** = findViewById(R.id.***bt2***); **b3** = findViewById(R.id.***bt3***); Intent i = getIntent();

String t1 = i.getStringExtra(**"id"**).toString(); String t2 = i.getStringExtra(**"name"**).toString(); String t3 = i.getStringExtra(**"course"**).toString(); String t4 = i.getStringExtra(**"fee"**).toString(); **ed4**.setText(t1);

**ed1**.setText(t2); **ed2**.setText(t3); **ed3**.setText(t4);

**b2**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

try

{

String id = **ed4**.getText().toString(); SQLiteDatabase db =

openOrCreateDatabase(**"SliteDb"**,Context.***MODE\_PRIVATE***,**null**);

String sql = **"delete from records where id = "** + id + **""**; SQLiteStatement statement = db.compileStatement(sql);

statement.execute();

Toast.*makeText*(EditActivity.**this**,**"Record Deleted"**,Toast.***LENGTH\_LONG***).show();

**ed1**.setText(**""**);

**ed2**.setText(**""**);

**ed3**.setText(**""**); **ed1**.requestFocus();

}

**catch** (Exception ex)

{

Toast.*makeText*(EditActivity.**this**,**"Record Fail"**,Toast.***LENGTH\_LONG***).show();

}

}

});

**b3**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

Intent i = **new**

Intent(getApplicationContext(),ViewActivity.**class**);

startActivity(i);

}

});

**b1**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

try {

String name = **ed1**.getText().toString(); String course = **ed2**.getText().toString(); String fee = **ed3**.getText().toString(); String id = **ed4**.getText().toString();

SQLiteDatabase db = openOrCreateDatabase(**"SliteDb"**, Context.***MODE\_PRIVATE***, **null**);

String sql = **"update records set name = '"** + name + **"',course='"** + course + **"',fee='"** + fee + **"' where id= "** + id + **""**;

SQLiteStatement statement = db.compileStatement(sql);

statement.execute(); Toast.*makeText*(EditActivity.**this**, **"Record Updateddd"**,

Toast.***LENGTH\_LONG***).show();

**ed1**.setText(**""**);

**ed2**.setText(**""**);

**ed3**.setText(**""**); **ed1**.requestFocus();

} **catch** (Exception ex) {

Toast.*makeText*(EditActivity.**this**, **"Record Fail"**, Toast.***LENGTH\_LONG***).show();

}

}

});

}

}

1. Create an application to send SMS and receive SMS.

# AndroidMainfest.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<manifest xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools)>

<uses-feature

android:name="android.hardware.telephony" android:required="false" />

<uses-permission android:name="android.permission.SEND\_SMS"/>

<uses-permission android:name="android.permission.RECEIVE\_SMS"/>

<uses-permission android:name="android.permission.READ\_SMS"/>

<application

android:allowBackup="true" android:dataExtractionRules="@xml/data\_extraction\_rules" android:fullBackupContent="@xml/backup\_rules" android:icon="@mipmap/ic\_launcher" android:label="@string/app\_name" android:supportsRtl="true" android:theme="@style/Theme.NewSMS"

tools:targetApi="31">

<activity

android:name=".MainActivity" android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER"

/>

</intent-filter>

</**activity**>

</**application**>

</**manifest**>

# activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<RelativeLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

android:background="@color/white" tools:context=".MainActivity">

<EditText

android:id="@+id/editTextPhoneNumber" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="Enter phone number" android:layout\_margin="16dp"/>

<EditText

android:id="@+id/editTextMessage" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="Enter message"

android:layout\_below="@id/editTextPhoneNumber" android:layout\_margin="16dp"/>

<Button

android:id="@+id/buttonSend" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Send" android:layout\_below="@id/editTextMessage" android:layout\_alignParentEnd="true" android:layout\_marginEnd="16dp" android:onClick="sendMessage" tools:ignore="UsingOnClickInXml" />

<TextView

android:id="@+id/textViewReceivedMessages" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/buttonSend" android:layout\_marginStart="16dp" android:layout\_marginTop="16dp" android:layout\_marginEnd="16dp" android:layout\_marginBottom="16dp" android:textColor="@color/black" />

</RelativeLayout>

# MainActivity.java

**package** com.example.newsms;

**import** androidx.appcompat.app.AppCompatActivity;

**import** androidx.core.app.ActivityCompat;

**import** androidx.core.content.ContextCompat;

**import** android.content.BroadcastReceiver;

**import** android.content.Context; **import** android.content.Intent; **import** android.content.IntentFilter;

**import** android.content.pm.PackageManager;

**import** android.os.Bundle;

**import** android.telephony.SmsManager; **import** android.telephony.SmsMessage; **import** android.view.View;

**import** android.widget.EditText;

**import** android.widget.TextView;

**import** android.widget.Toast;

**import** android.Manifest;

**public class** MainActivity **extends** AppCompatActivity {

**private static final int *SMS\_PERMISSION\_CODE*** = 101;

**private** EditText **editTextPhoneNumber**; **private** EditText **editTextMessage**;

**private** TextView **textViewReceivedMessages**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

**editTextPhoneNumber** = findViewById(R.id.***editTextPhoneNumber***);

**editTextMessage** = findViewById(R.id.***editTextMessage***);

**textViewReceivedMessages** = findViewById(R.id.***textViewReceivedMessages***);

*// Request SMS permissions if not granted*

**if** (!checkSMSPermission()) { requestSMSPermission();

}

*// Register SMS receiver*

IntentFilter intentFilter = **new** IntentFilter(); intentFilter.addAction(**"android.provider.Telephony.SMS\_RECEIVED"**); registerReceiver(**smsReceiver**, intentFilter);

}

@Override

**protected void** onDestroy() { **super**.onDestroy(); unregisterReceiver(**smsReceiver**);

}

*// Button click listener for sending SMS*

**public void** sendMessage(View view) { String phoneNumber =

**editTextPhoneNumber**.getText().toString().trim();

String message = **editTextMessage**.getText().toString();

**if** (phoneNumber.isEmpty()) {

Toast.*makeText*(**this**, **"Please enter a valid phone number"**, Toast.***LENGTH\_SHORT***).show();

return;

}

try {

SmsManager smsManager = SmsManager.*getDefault*(); smsManager.sendTextMessage(phoneNumber, **null**, message, **null**, **null**); Toast.*makeText*(**this**, **"Message sent"**, Toast.***LENGTH\_SHORT***).show();

} **catch** (IllegalArgumentException e) {

Toast.*makeText*(**this**, **"Invalid phone number format"**, Toast.***LENGTH\_SHORT***).show();

} **catch** (Exception e) {

Toast.*makeText*(**this**, **"Failed to send message"**, Toast.***LENGTH\_SHORT***).show();

e.printStackTrace();

}

}

*// Check if SMS permission is granted*

**private boolean** checkSMSPermission() {

**return** ContextCompat.*checkSelfPermission*(**this**, Manifest.permission.***SEND\_SMS***) == PackageManager.***PERMISSION\_GRANTED***;

}

*// Request SMS permission*

**private void** requestSMSPermission() { ActivityCompat.*requestPermissions*(**this**, **new**

String[]{Manifest.permission.***SEND\_SMS***}, ***SMS\_PERMISSION\_CODE***);

}

*// SMS receiver*

**private final** BroadcastReceiver **smsReceiver** = **new** BroadcastReceiver() { @Override

**public void** onReceive(Context context, Intent intent) { Bundle bundle = intent.getExtras();

**if** (bundle != **null**) {

Object[] pdus = (Object[]) bundle.get(**"pdus"**);

**if** (pdus != **null**) {

**for** (Object pdu : pdus) {

SmsMessage smsMessage = SmsMessage.*createFromPdu*((**byte**[]) pdu);

String senderPhoneNumber = smsMessage.getDisplayOriginatingAddress(); String messageBody = smsMessage.getMessageBody();

**textViewReceivedMessages**.append(**"From: "** + senderPhoneNumber + **"\n"**);

textViewReceivedMessages.append("Message: " +

messageBody + **"\n\n"**);

}

}

}

}

};

}

1. Create an application to send an E-mail.

# activity\_mail.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<RelativeLayout xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextTo" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="To"/>

<EditText

android:id="@+id/editTextSubject" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextTo" android:hint="Subject"/>

<EditText

android:id="@+id/editTextMessage" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextSubject" android:hint="Message"/>

<Button

android:id="@+id/buttonSend" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextMessage" android:text="Send"/>

</RelativeLayout>

# MainActivity.java

**package** com.example.eleventhprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.annotation.SuppressLint;

**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 {

EditText **editTextTo**, **editTextSubject**, **editTextMessage**; Button **buttonSend**;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

**editTextTo** = findViewById(R.id.***editTextTo***); **editTextSubject** = findViewById(R.id.***editTextSubject***); **editTextMessage** = findViewById(R.id.***editTextMessage***); **buttonSend** = findViewById(R.id.***buttonSend***);

**buttonSend**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) { sendEmail();

}

});

}

@SuppressLint(**"QueryPermissionsNeeded"**)

**private void** sendEmail() {

String to = **editTextTo**.getText().toString().trim();

String subject = **editTextSubject**.getText().toString().trim(); String message = **editTextMessage**.getText().toString().trim();

Intent intent = **new** Intent(Intent.***ACTION\_SEND***); intent.setType(**"text/plain"**); intent.putExtra(Intent.***EXTRA\_EMAIL***, **new** String[]{to}); intent.putExtra(Intent.***EXTRA\_SUBJECT***, subject); intent.putExtra(Intent.***EXTRA\_TEXT***, message);

**if** (intent.resolveActivity(getPackageManager()) != **null**) {

startActivity(Intent.*createChooser*(intent, **"Choose an email**

**client"**));

}

}

}

1. Create a sample application with Login module (Check user name and password) on successful login change Textview “Login Successful”. On login fail alert using Toast “login fail”.

# activity\_main.xml

1. *<?***xml version="1.0" encoding="utf-8"***?>*
2. <**LinearLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)**
3. **xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-**[**auto"**](http://schemas.android.com/apk/res-auto)
4. **xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools)**
5. **android:layout\_width="match\_parent"**
6. **android:layout\_height="match\_parent"**
7. **tools:context=".MainActivity"**
8. **android:orientation="vertical"**
9. **android:padding="16dp"**> 22.
10. <**TextView android:id="@+id/tvTitle"**
11. **android:layout\_width="wrap\_content"**
12. **android:layout\_height="wrap\_content"**
13. **android:textSize="24sp"**
14. **android:text="Login Form"**
15. **android:layout\_gravity="center"**/> 29.

30.

1. <**TextView android:id="@+id/tvUserName"**
2. **android:layout\_width="wrap\_content"**
3. **android:layout\_height="wrap\_content"**
4. **android:textSize="20sp"**
5. **android:text="User Name"** /> 36.
6. <**EditText**
7. **android:id="@+id/etUsername"**
8. **android:layout\_width="match\_parent"**
9. **android:layout\_height="wrap\_content"**
10. **android:hint="Username"**
11. **android:inputType="text"**
12. **android:padding="8dp"**
13. **android:layout\_marginTop="16dp"**
14. **android:layout\_marginBottom="30dp"**/> 46.
15. <**TextView android:id="@+id/tvPassword"**
16. **android:layout\_width="wrap\_content"**
17. **android:layout\_height="wrap\_content"**
18. **android:textSize="20sp"**
19. **android:text="Password"** /> 52.
20. <**EditText**
21. **android:id="@+id/etPassword"**
22. **android:layout\_width="match\_parent"**
23. **android:layout\_height="wrap\_content"**
24. **android:hint="Password"**
25. **android:inputType="textPassword"**
26. **android:padding="8dp"**
27. **android:layout\_marginTop="16dp"**
28. **android:layout\_marginBottom="30dp"**/> 62.
29. <**Button**
30. **android:id="@+id/btnLogin"**
31. **android:layout\_width="match\_parent"**
32. **android:layout\_height="wrap\_content"**
33. **android:text="Login"**
34. **android:textSize="18sp"**
35. **android:layout\_marginTop="16dp"**/> 70.

71.

1. <**TextView android:id="@+id/tvMessage"**
2. **android:layout\_width="wrap\_content"**
3. **android:layout\_height="wrap\_content"**
4. **android:textSize="20sp"**
5. **android:text="Password"** /> 77.

78. </**LinearLayout**>

MainActivity.java

**package** com.example.thirdprogram;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.os.Bundle; **import** android.view.View; **import** android.widget.Button; **import** android.widget.EditText; **import** android.widget.TextView;

**public class** MainActivity **extends** AppCompatActivity {

EditText **etUsername**,**etPassword**; Button **btnLogin**;

TextView **tvMessage**;

@Override

**protected void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**btnLogin** = (Button) findViewById(R.id.***btnLogin***); **etUsername** = (EditText) findViewById(R.id.***etUsername***); **etPassword** = (EditText) findViewById(R.id.***etPassword***);

**tvMessage** = (TextView) findViewById(R.id.***tvMessage***);

**btnLogin**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View view) {

**if**(**etUsername**.getText().toString().equals(**""**))

{

**etUsername**.setError(**"Enter User name"**);

} **else if** (**etPassword**.getText().toString().equals(**""**)) {

**etPassword**.setError(**"Enter Password"**);

}

**else if**(**etUsername**.getText().toString().equals(**"vit"**) &&

**etPassword**.getText().toString().equals(**"vit"**))

{

**tvMessage**.setText(**"Valid Login"**);

}

else

{

**tvMessage**.setText(**"INvalid login"**);

}

}

});

}

}