

Fragments

Main.xml

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

    <Button
        android:id="@+id/button1"
        android:layout_width="142dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="119dp"
        android:layout_marginTop="172dp"
        android:layout_marginEnd="150dp"
        android:text="Fragment1"
        tools:ignore="HardcodedText" />

    <Button
        android:id="@+id/button2"
        android:layout_width="161dp"
        android:layout_height="68dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="145dp"
        android:layout_marginBottom="344dp"
        android:text="Fragment2"
        tools:ignore="HardcodedText" />

    <FrameLayout
        android:layout_width="369dp"
        android:layout_height="216dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="26dp"
        android:id="@+id/fragment_1"
        android:layout_marginBottom="110dp">

    </FrameLayout>

</RelativeLayout>
```

Main.activity.java

```
package com.example.dynamic;

import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;

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

public class MainActivity extends AppCompatActivity {

    Button btn1, btn2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn1 = findViewById(R.id.button1);
        btn2 = findViewById(R.id.button2);

        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                repalceFragment(new Fragment1());
            }
        });
        btn2.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                repalceFragment(new Fragment2());
            }
        });
    }

    private void repalceFragment(Fragment fragment) {
        FragmentManager fragmentManager = getSupportFragmentManager();
        FragmentTransaction fragmentTransaction =
fragmentManager.beginTransaction();
        fragmentTransaction.replace(R.id.fragment_1, fragment);
        fragmentTransaction.commit();
    }
}
```

Services

Main.java

```
package com.example.ser;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    String msg = "Android";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(msg, "To start ONcreate service");
    }

    public void startService(View view){
        startService(new Intent(getApplicationContext(), MyService.class));
        Toast.makeText(this, "Service on", Toast.LENGTH_SHORT).show();
    }

    public void stopService(View view){
        stopService(new Intent(getApplicationContext(), MyService.class));
        Toast.makeText(this, "Service off", Toast.LENGTH_SHORT).show();
    }
}
```

myservices

```
package com.example.ser;

import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.os.ParcelUuid;
import android.widget.Toast;

public class MyService extends Service {
    public MyService() {
    }

    @Override
    public IBinder onBind(Intent intent) {
        return null;
    }

    public int onStartCommand(Intent intent, int flags, int startId){
        Toast.makeText(this, "Started", Toast.LENGTH_SHORT).show();
        return START_STICKY;
    }

    public void onDestroy(){

        super.onDestroy();
        Toast.makeText(this, "Stopped", Toast.LENGTH_SHORT).show();
    }
}
```

mainxaml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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=".MainActivity">

    <TextView
        android:layout_width="185dp"
        android:layout_height="84dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="121dp"
        android:layout_marginBottom="647dp"
        android:text="Services"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="170dp"
        android:onClick="startService"
        android:layout_marginBottom="485dp"
        android:text="Start Services" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="169dp"
        android:onClick="stopService"
        android:layout_marginBottom="337dp"
        android:text="Stop services" />

</RelativeLayout>
```

Shared Preferences

```
package com.example.shared;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.content.Context;
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 {

    EditText ed1, ed2, ed3;
    Button b1;

    String MyPREFERENCES = "MyPrefs";
    String Name = "nameKaey";
    String Phone = "phoneKey";
    String Email = "emailKey";
    SharedPreferences sharedPreferences;

    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ed1 = findViewById(R.id.editText1);
        ed2 = findViewById(R.id.editText2);
        ed3 = findViewById(R.id.editText3);

        b1 = findViewById(R.id.button);

        sharedPreferences = getSharedPreferences(MyPREFERENCES,
Context.MODE_PRIVATE);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String n = ed1.getText().toString();
                String ph = ed2.getText().toString();
                String e = ed3.getText().toString();
                SharedPreferences.Editor editor = sharedPreferences.edit();

                editor.putString(Name, n);
                editor.putString(Phone, ph);
                editor.putString(Email, e);
                editor.commit();
                Toast.makeText(MainActivity.this, "Thanks",
Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

xmal

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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=".MainActivity">
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Shared Preference "
    android:id="@+id/textView"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:textSize="35dp"
    tools:ignore="HardcodedText,SpUsage" />
```

```
<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_marginTop="67dp"
    android:hint="Name"
    android:inputType="text"/>
```

```
<EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/editText2"
    android:layout_below="@+id/editText1"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentEnd="true"
    android:hint="Phone" />
```

```
<EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/editText3"
    android:layout_below="@+id/editText2"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentEnd="true"
    android:hint="Email" />
```

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Save"
    android:id="@+id/button"
    android:layout_below="@+id/editText3"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="50dp"
    tools:ignore="HardcodedText" />
```

```
</RelativeLayout>
```