



Android activity life cycle: Design and develop an application to demonstrate the android activity life cycle. Also demonstrate the whole process through proper diagram.

- **activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

    <EditText
        android:id="@+id/emailEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email"
        android:inputType="textEmailAddress" />

    <EditText
        android:id="@+id/passwordEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword" />

    <Button
        android:id="@+id/submitButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:layout_marginTop="16dp"/>

    <Button
        android:id="@+id/resetButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Reset"
        android:layout_marginTop="8dp"/>
```

```
<TextView
```

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```
        android:id="@+id/displayTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text=""
        android:layout_marginTop="16dp"
        android:textSize="18sp"/>
</LinearLayout>
```

- **MainActivity.java**

```
package com.example.life_cycle;

import android.os.Bundle;
import android.util.Log;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText emailEditText;
    private EditText passwordEditText;
    private TextView displayTextView;

    private static final String TAG = "life cycle";

    // Called when the activity is first created.
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(TAG, "onCreate called");
    }

    // Called when the activity becomes visible to the user.
    @Override
    protected void onStart() {
        super.onStart();
    }
}
```



```
        Log.d(TAG, "onStart called");
    }

    // Called when the activity starts interacting with the user.
    @Override
    protected void onResume() {
        super.onResume();
        Log.d(TAG, "onResume called");
    }

    // Called when the system is about to put the activity into the background.
    @Override
    protected void onPause() {
        super.onPause();
        Log.d(TAG, "onPause called");
    }

    // Called when the activity is no longer visible to the user.
    @Override
    protected void onStop() {
        super.onStop();
        Log.d(TAG, "onStop called");
    }

    // Called before the activity is destroyed.
    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d(TAG, "onDestroy called");
    }

    // Called after the activity has been stopped, just prior to it being started again.
    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d(TAG, "onRestart called");
    }
}
```

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- **Output: -**

Email

Password

Submit

Reset

- **Logcat Output: -**

```
Logcat  Logcat x
Pixel 8 Pro API 30 (emulator-5554) Android 11, API 30 package:mine
2024-09-19 20:03:22.937 9939-9939 Life cycle com.example.life_cycle D onRestart called
2024-09-19 20:03:22.985 9939-9939 Life cycle com.example.life_cycle D onStart called
2024-09-19 20:03:23.014 9939-9939 Life cycle com.example.life_cycle D onResume called
2024-09-19 20:03:24.386 9939-9962 OpenGLRenderer com.example.life_cycle I Davey! duration=1159ms; Flags=1, IntendedVsync=2131612322060, Vsync=21316785
2024-09-19 20:03:30.995 9939-9939 Life cycle com.example.life_cycle D onPause called
2024-09-19 20:03:32.513 9939-9939 Life cycle com.example.life_cycle D onStop called
2024-09-19 20:03:32.518 9939-9939 Life cycle com.example.life_cycle D onDestroy called
2024-09-19 20:03:36.409 9939-9952 mple.life_cycl com.example.life_cycle W Reducing the number of considered missed Gc histogram windows from 117 to 16
2024-09-19 20:03:36.593 9939-9954 System com.example.life_cycle W A resource failed to call dispose.
2024-09-19 20:04:10.371 9939-9939 Life cycle com.example.life_cycle D onCreate called
2024-09-19 20:04:10.380 9939-9939 Life cycle com.example.life_cycle D onStart called
2024-09-19 20:04:10.386 9939-9939 Life cycle com.example.life_cycle D onResume called
```

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