Android Activity Lifecycle

Android Activity Lifecycle is controlled by 7 methods of android.app.Activity class. The android Activity is the subclass of ContextThemeWrapper class.

An activity is the single screen in android. It is like window or frame of Java.

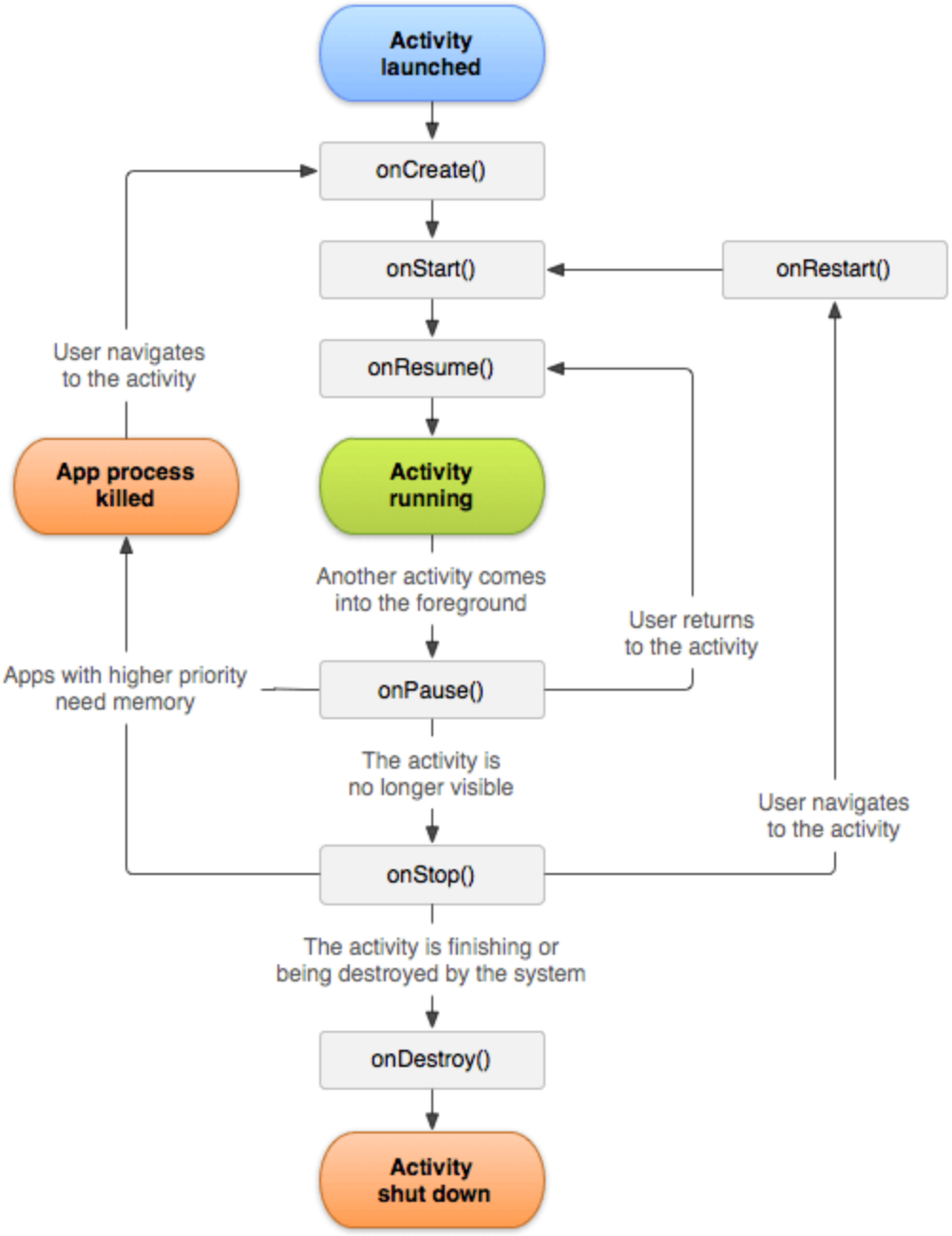
By the help of activity, you can place all your UI components or widgets in a single screen.

The 7 lifecycle method of Activity describes how activity will behave at different states.

Android Activity Lifecycle methods

Let's see the 7 lifecycle methods of android activity.

Method	Description
onCreate	called when activity is first created.
onStart	called when activity is becoming visible to the user.
onResume	called when activity will start interacting with the user.
onPause	called when activity is not visible to the user.
onStop	called when activity is no longer visible to the user.
onRestart	called after your activity is stopped, prior to start.
onDestroy	called before the activity is destroyed.



File: activity_main.xml

```
1. <?xml version="1.0" encoding="utf-8"?>
2. <android.support.constraint.ConstraintLayout xmlns:android="http://schemas.androi
   d.com/apk/res/android"
3.     xmlns:app="http://schemas.android.com/apk/res-auto"
4.     xmlns:tools="http://schemas.android.com/tools"
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="example.javatpoint.com.activitylifecycle.MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</android.support.constraint.ConstraintLayout>
```

Android Activity Lifecycle Example

It provides the details about the invocation of life cycle methods of activity. In this example, we are displaying the content on the logcat.

File: MainActivity.java

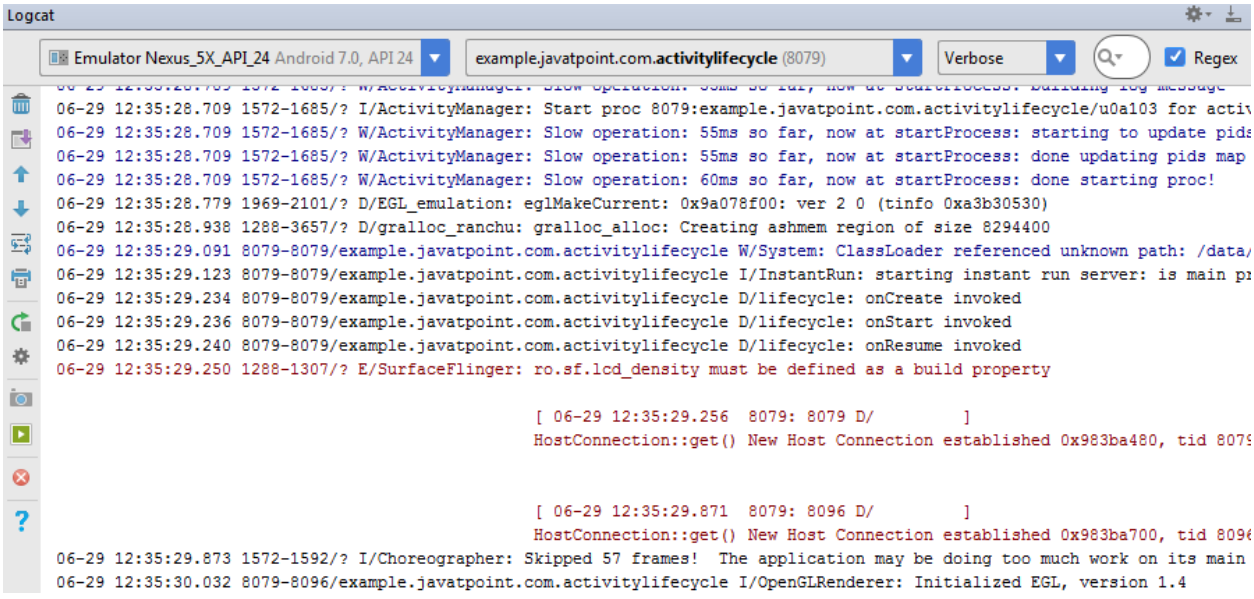
```
package example.javatpoint.com.activitylifecycle;

import android.app.Activity;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle","onCreate invoked");
    }
    @Override
```

```
16.    protected void onStart() {
17.        super.onStart();
18.        Log.d("lifecycle","onStart invoked");
19.    }
20.    @Override
21.    protected void onResume() {
22.        super.onResume();
23.        Log.d("lifecycle","onResume invoked");
24.    }
25.    @Override
26.    protected void onPause() {
27.        super.onPause();
28.        Log.d("lifecycle","onPause invoked");
29.    }
30.    @Override
31.    protected void onStop() {
32.        super.onStop();
33.        Log.d("lifecycle","onStop invoked");
34.    }
35.    @Override
36.    protected void onRestart() {
37.        super.onRestart();
38.        Log.d("lifecycle","onRestart invoked");
39.    }
40.    @Override
41.    protected void onDestroy() {
42.        super.onDestroy();
43.        Log.d("lifecycle","onDestroy invoked");
44.    }
45. }
```

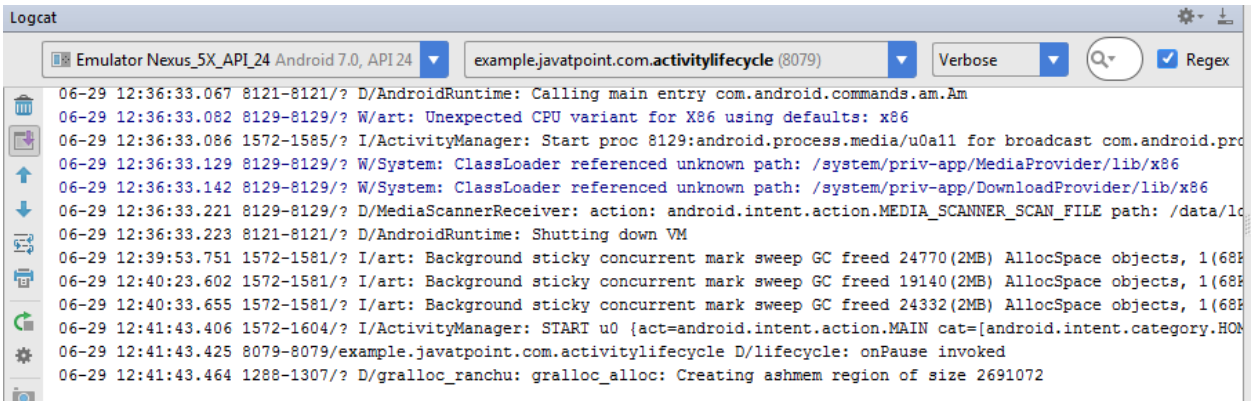
Output:

You will not see any output on the emulator or device. You need to open logcat.

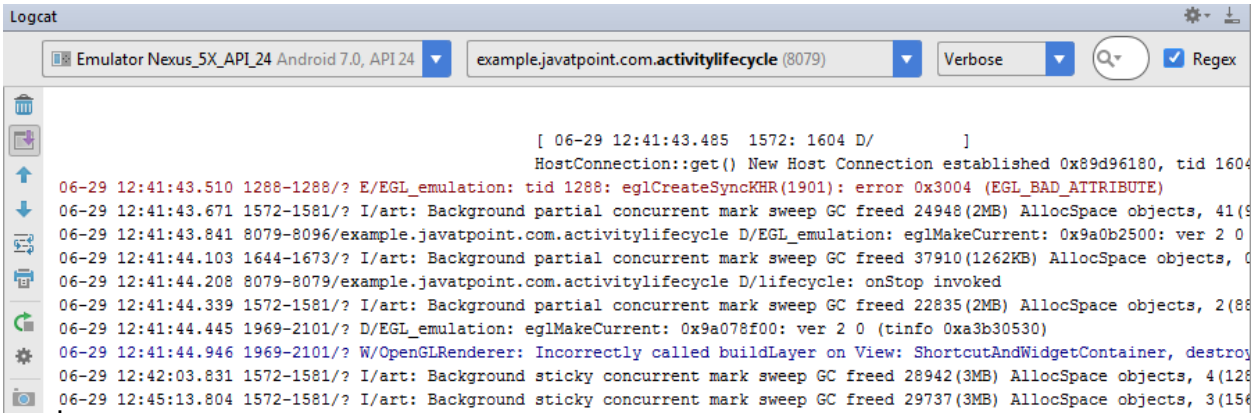
Now see on the logcat: onCreate, onStart and onResume methods are invoked.



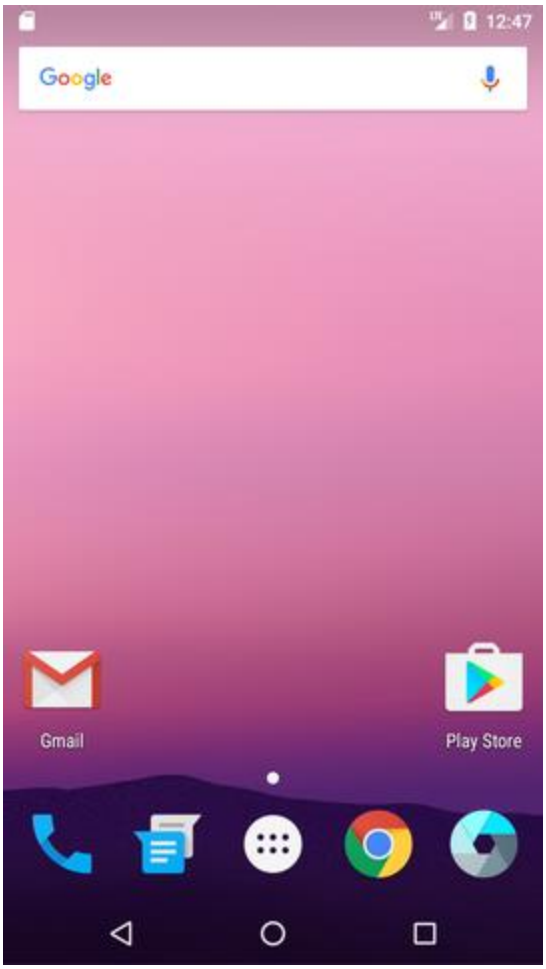
Now click on the HOME Button. You will see onPause method is invoked.



After a while, you will see onStop method is invoked.

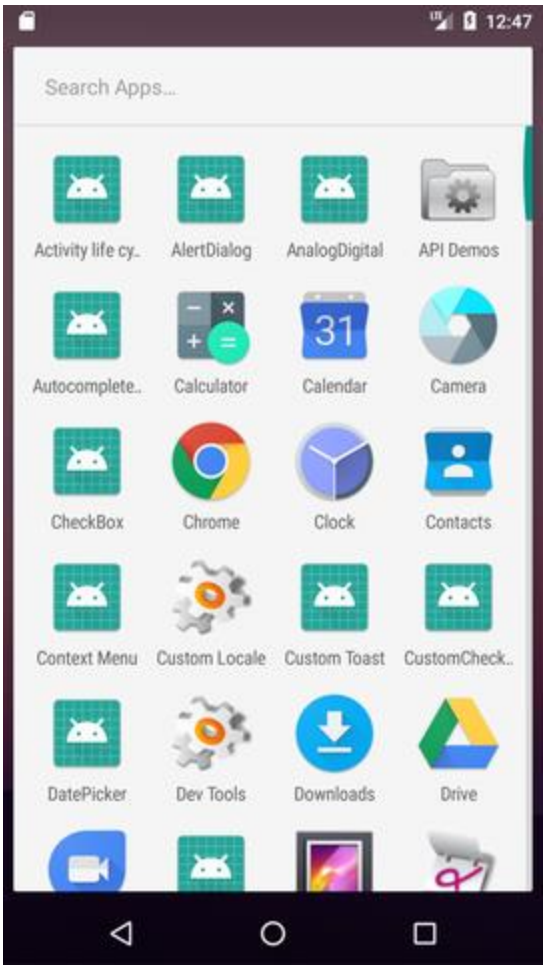


Now see on the emulator. It is on the home. Now click on the center button to launch the app again.

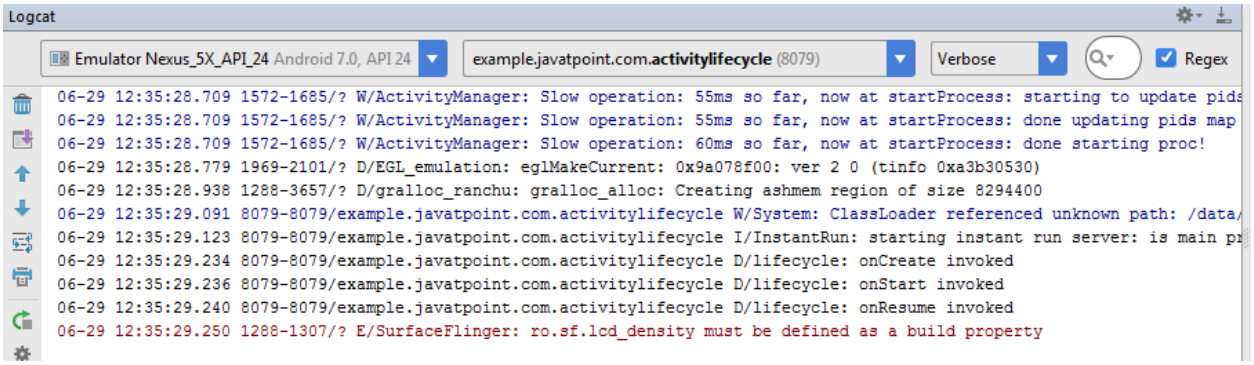


Now click on the lifecycleactivity icon.

.

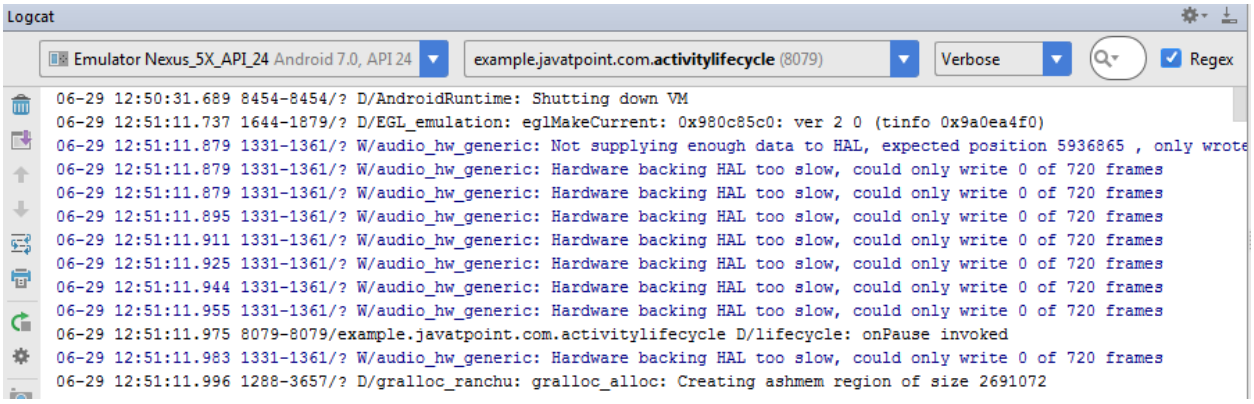


Now see on the logcat: onRestart, onStart and onResume methods are invoked.

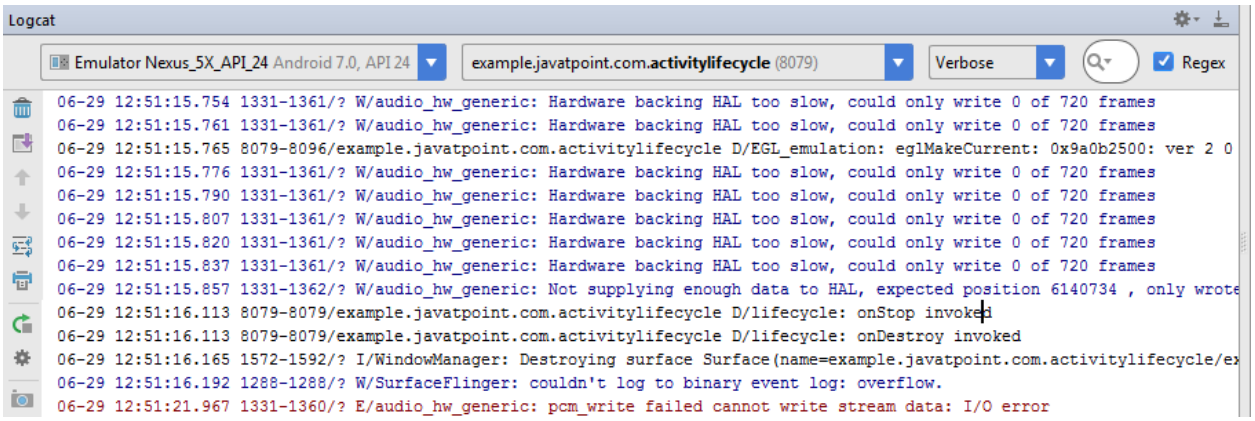


If you see the emulator, application is started again.

Now click on the back button. Now you will see onPause methods is invoked.



After a while, you will see onStop and onDestroy methods are invoked.



The onCreate() and onDestroy() methods are calling only once throughout the activity lifecycle.