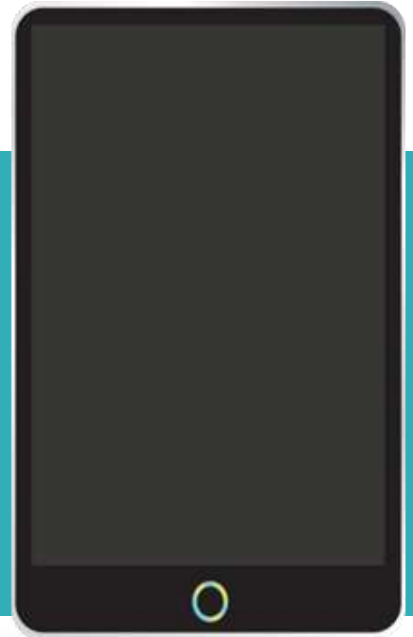


Android Activity Lifecycle

What is an Activity in Android?

- 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.



Activity in Android

Screen



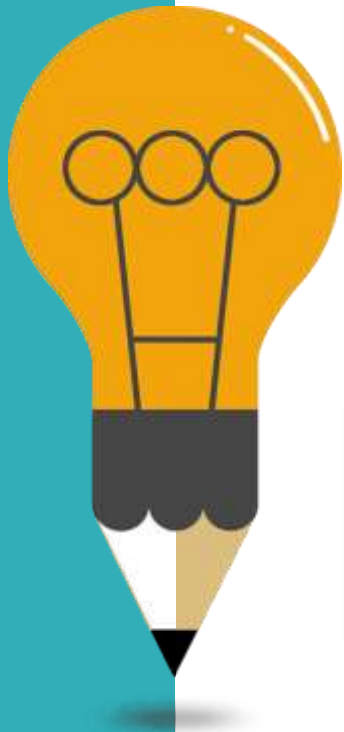
Java

Activity

XML

Layout

Different States



01

ACTIVE

When an Activity is in active state, it means it is active and running. It is visible to the user and the user is able to interact with it.

02

PAUSED

An activity being in this state means that the user can still see the Activity in the background such as behind a transparent window or a dialog box i.e it is partially visible. The user cannot interact with the Activity until he/she is done with the current view.

03

STOPPED

When a new Activity is started on top of the current one or when a user hits the Home key, the activity is brought to Stopped state. The activity in this state is invisible, but it is not destroyed.

04

DESTROYED

When a user hits a Back key or Android Runtime decides to reclaim the memory allocated to an Activity i.e in the paused or stopped state, It goes into the Destroyed state. The Activity is out of the memory and it is invisible to the user.

1 *OnCreate()*

2 *OnStart()*

3 *OnResume()*

4 *OnPause()*

5 *OnStop()*

6 *OnRestart()*

7 *OnDestroy()*

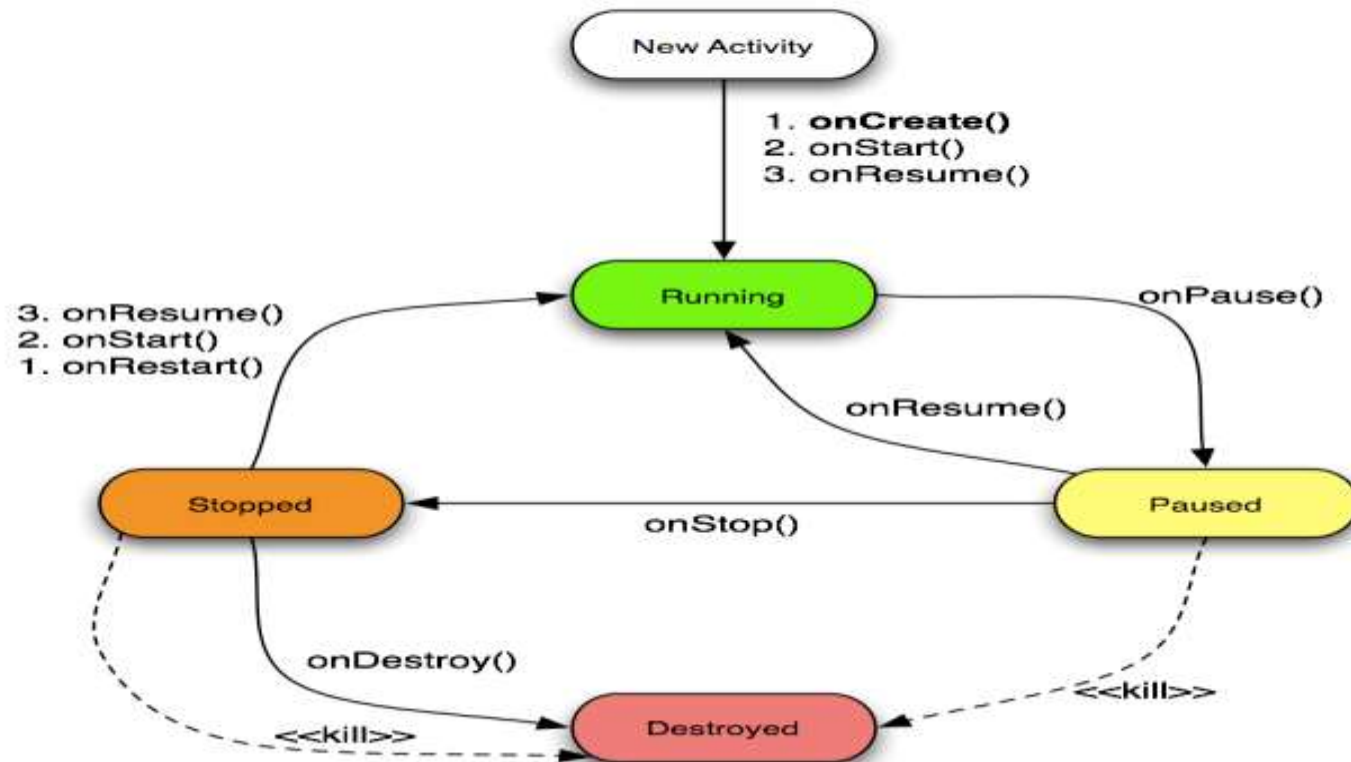
Activity Lifecycle methods



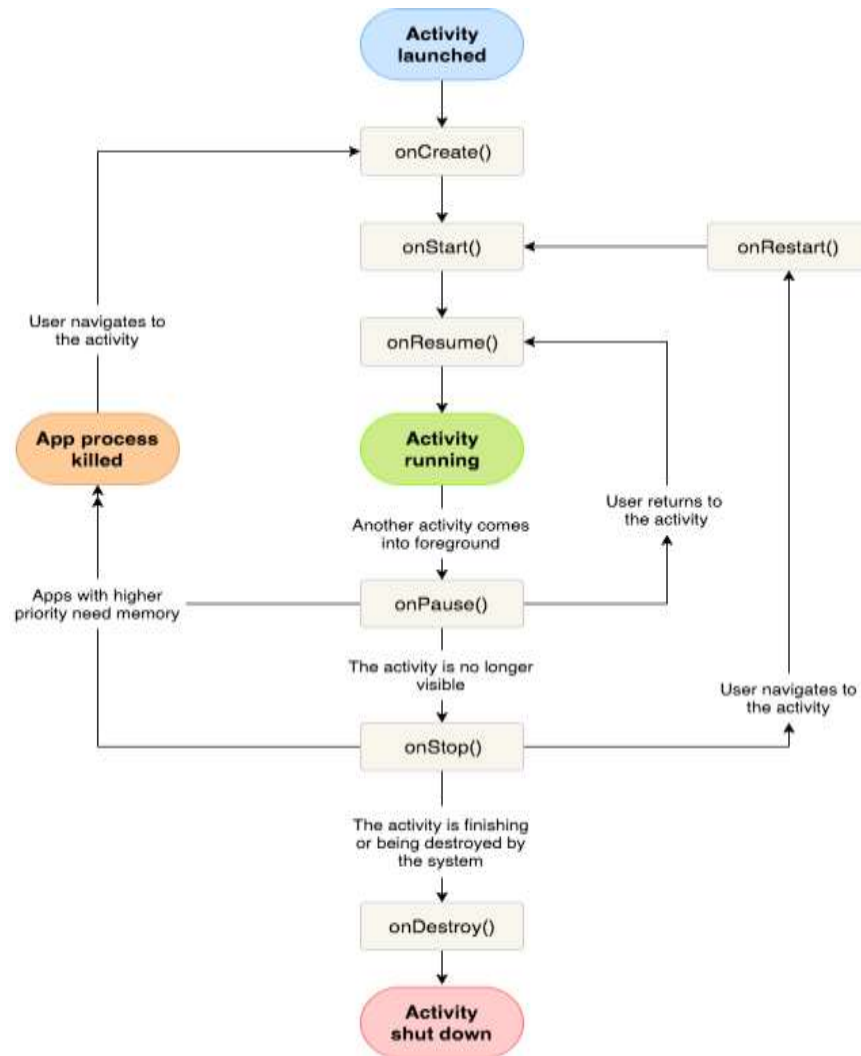
Activity Lifecycle methods

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.

Activity Lifecycle



Lifecycle Diagram




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

```
<android.support.constraint.ConstraintLayout 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="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>
```

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

protected void onStart() {

super.onStart();

Log.d("lifecycle", "onStart invoked");

}

@Override

protected void onResume() {

super.onResume();

Log.d("lifecycle", "onResume invoked");

}

@Override

protected void onPause() {

super.onPause();

Log.d("lifecycle", "onPause invoked");

}

@Override

protected void onStop() {

super.onStop();

Log.d("lifecycle", "onStop invoked");

}

@Override

protected void onRestart() {

super.onRestart();

Log.d("lifecycle", "onRestart invoked");

}

@Override

protected void onDestroy() {

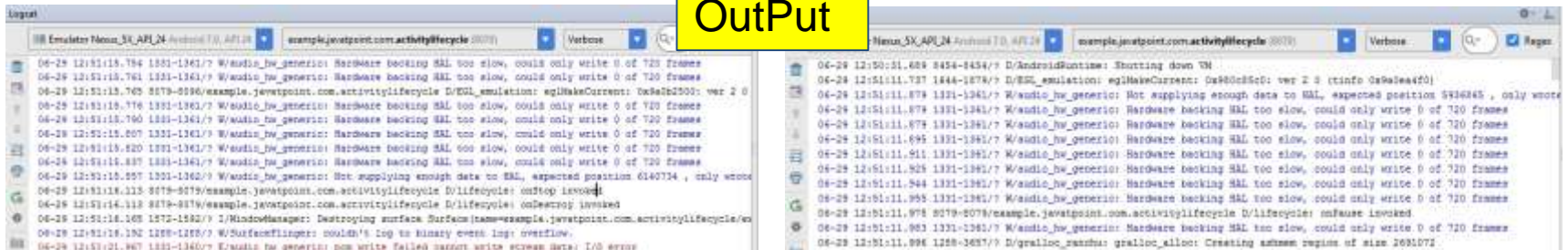
super.onDestroy();

Log.d("lifecycle", "onDestroy invoked");

}

MainActivity.java

OutPut



```
Logcat
06-29 12:51:15.754 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.761 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.769 8078-8096/example.javatpoint.com.activitylifecycle D/EGUI_emulation: eguiMakeCurrent: DataObj2000: ver 2 0
06-29 12:51:15.776 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.780 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.807 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.820 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.837 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:15.857 1331-1341/? W/audio_hw_generic: Not supplying enough data to HAL, expected position 6140734, only wrote
06-29 12:51:15.813 8078-8078/example.javatpoint.com.activitylifecycle D/lifecycle: onCreate invoked
06-29 12:51:15.818 8078-8078/example.javatpoint.com.activitylifecycle D/lifecycle: onStart invoked
06-29 12:51:16.105 1572-1592/? I/WindowManager: Destroying surface Surface{name=example.javatpoint.com.activitylifecycle/w
06-29 12:51:16.192 1288-1288/? I/SurfaceFlinger: couldn't log to binary event log: overflow
06-29 12:51:21.967 1331-1341/? W/audio_hw_generic: pcm_write failed: random write screen data: I/O error
06-29 12:50:51.628 8454-8454/? D/AndroidRuntime: Shutting down VM
06-29 12:51:11.737 1844-1878/? D/EGUI_emulation: eguiMakeCurrent: DataObj2000: ver 2 8 (info 0a9e4eaf0)
06-29 12:51:11.878 1331-1341/? W/audio_hw_generic: Not supplying enough data to HAL, expected position 5916845, only wrote
06-29 12:51:11.878 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.878 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.895 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.911 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.925 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.944 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.955 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.978 8078-8078/example.javatpoint.com.activitylifecycle D/lifecycle: onPause invoked
06-29 12:51:11.983 1331-1341/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.996 1288-1288/? D/gralloc_sandbox: gralloc_alloc: Creating ashmem region of size 26851072
```



Thank you