

*The Mostly Complete Guide to*  
**Falsehoods Android Developers Believe about Lifecycles**

[andrewbailey.dev/falsehoods](http://andrewbailey.dev/falsehoods)

**False:** Orientation changes are the only reason an Activity restarts.

**False:** There are a small number of events that can cause an Activity to restart.

**False:** android:configChanges is an effective way to support configuration changes.

**False:** It's possible to reliably prevent an Activity from restarting.

**False:** ViewModels, singletons, and static variables never get reset until the user closes my app.

**False:** Low memory is the only cause of process death.

**False:** Checking for a permission before launching an Activity or Fragment guarantees that the permission will be granted when it is created.

**False:** Fragment parameters can safely be provided through constructors or custom fields.

**False:** The only limitation on a Bundle or Intent is the kind of data it can store.

**False:** There is a safe way of passing Lambda expressions as Fragment arguments.

**False:** It is legal to perform a Fragment transaction at any point in time.

## Reasons your Activity restarts

### Configuration Changes



ORIENTATION



WINDOW SIZE



NIGHT MODE



LANGUAGE/ LOCALE



DISPLAY/TEXT SCALING



MANY MORE

- Your Activity can be recreated at any time
- Use ViewModel or onSaveInstanceState to persist data across configuration changes

#### Implementation

**Supports Config Changes**

**Supports Process Death**

onSaveInstanceState()  
 ViewModel + SavedState  
 ViewModel Only  
 Portrait-Locked  
 android:configChanges

✓

✓

✓

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### Process Death



LOW MEMORY



PERMISSION REVOKED



FUTURE BEHAVIORS

- All ViewModels, static variables, and singletons will be reset to their initial state
- Use the SavedState library with ViewModel or override onSaveInstanceState to persist user state after process recreations
- Users can return to your app in any state
- The backstack get recreated exactly as it was
- App may be recreated with fewer permissions

#### To Test Manually

- Launch app with Android Studio
- Press home button to put app in background
- Press the Stop button in Android Studio
- Relaunch app on the device

## How to perform navigation

- Use Fragment arguments Bundle or Navigation library's safeArgs instead of constructors or fields
- Keep arguments and savedInstanceState small (< 50 KB total)
- Navigate while in foreground or with commitAllowingStateLoss()
- Use ViewModel for cross-Fragment communication instead of lambda expressions