

Tasks and Back Stack

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Tasks

Tasks

A **task** is a collection of activities which are created during application operation

Organized into a stack (called the **back stack**)

<https://developer.android.com/guide/components/activities/tasks-and-back-stack.html>

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Starting a Task

Most tasks are started by launching an Activity from the device Home screen

When the application is launched, if no task exists, one is created and the Main activity becomes the root activity

If a task exists, the user is brought back to the top of the existing stack

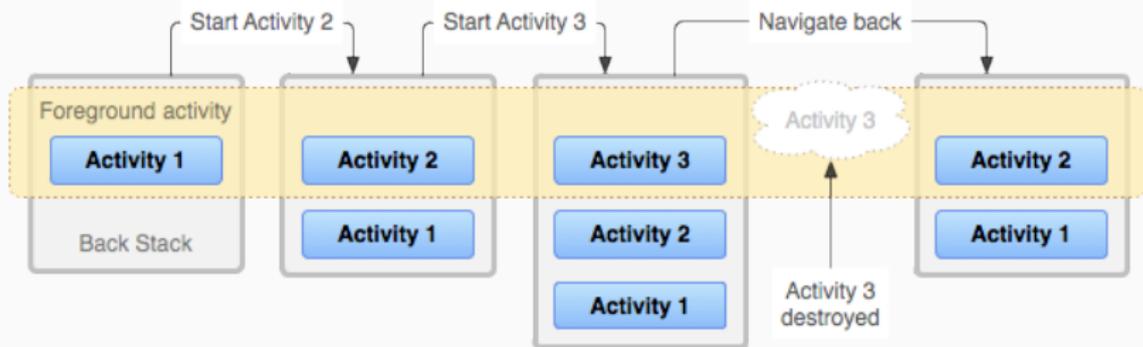
Adding to/Removing from the Stack

When a new activity is started, the activity is pushed to the top of the task back stack

When an activity is stopped, it is destroyed and popped off the top of the stack

Stack Behavior

Activities push onto stack when created

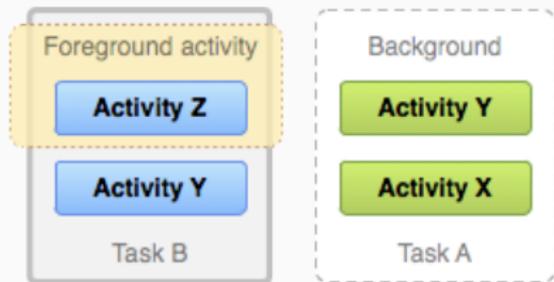


Pop off stack when destroyed

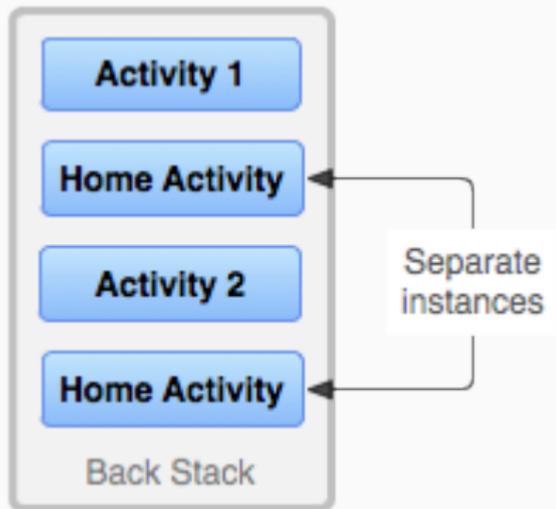
Stack Behavior

If a different application is brought to the foreground, the entire stack is pushed to the background

Can be brought back to the foreground through the launcher or overview



Stack Behavior



Activities cannot be rearranged in the stack

If an activity is instantiated in more than one location, there will be multiple instances of it in the stack

Summary

- When Activity A starts Activity B, Activity A is stopped, but the system retains its state. If the user presses the Back button while in Activity B, Activity A resumes with its state restored.
- When the user leaves a task by pressing the Home button, the current activity is stopped and its task goes into the background. The system retains the state of every activity in the task. If the user later resumes the task by selecting the launcher icon that began the task, the task comes to the foreground and resumes the activity at the top of the stack.

Summary

- If the user presses the Back button, the current activity is popped from the stack and destroyed. The previous activity in the stack is resumed. When an activity is destroyed, the system does not retain the activity's state.
- Activities can be instantiated multiple times, even from other tasks