

How to move dalvik-cache to /system partition in Android

Move the dalvik-cache from data partition to system on rooted, S-OFF android devices.

Disclaimer: I'm not responsible; it's your device, your hack, your mod.

This little how-to is for linux.

There's no guarantee it'll work.

If you ever wondered where is your free space going on your android device - or why do every single app takes up twice the space of the downloaded data - the answer is: dalvik-cache.

Dalvik is a Java Virtual Machine implementation, used in all Android devices. I've got a HTC Desire (codenamed Bravo if that's better). In this machine, the user have access to 160 MB - this includes the downloaded apps, the app data and the dalvik cache. No magic here, it's going to be full in a blink.

One way is moving the apps to the SD card, a lot of scripts exists for this already, but this had been really unstable for me - meaning a sudden power loss ment full-reinstall, including the ROM itself.

I searched for an other way: the /system partition is twice the size of the /data (the userspace), 250 MB, and it's more than half empty! Why is dalvik-cache not located here?

It's simple: security. Nowadays every manufacturer believes that officially blocking users to take full control of their devices is the way of a good device. No, it is not.

So... what to do? In a few words: make system writeable permanently, delete the `/data/dalvik-cache` folder, create `/system/dalvik-cache` folder and make a symlink from this to `/data/dalvik-cache`.

How? First: root your phone, make it S-OFF, and install your custom ROM. Then....

1. unpack your custom ROM's zip.
2. inside, you'll find a boot.img
3. download these tools, extract them^[^1]
4. copy boot.img into the extraction folder
5. run `./extractboot` as root
6. go into the out/ramdisk folder
7. modify init.rc (see below)
8. re-pack the boot.img with `./packboot`
9. upload with fastboot `fastboot flash boot boot.img`
10. pray

To hack the init.rc file: I'm using "stock" CyanogenMod 7.2.0-rc1, so the following is especially for this. Search for a line where the /system is re-mounted as read only something like this:

```
mount yaffs2 mtd@system /system ro remount
```

bash

comment this line out OR replace `ro` with `rw`.

Search for the part creating the dalvik-cache, something like this:

```
# create dalvik-cache and double-check the perms
mkdir /data/dalvik-cache 0771 system system
chown system system /data/dalvik-cache
chmod 0771 /data/dalvik-cache
```

bash

Modify it:

```
# create dalvik-cache and double-check the perms
mkdir /system/dalvik-cache 0771 system system
chown system system /system/dalvik-cache
chmod 0771 /system/dalvik-cache

ln -s /system/dalvik-cache /data/dalvik-cache
chown system system /data/dalvik-cache
chmod 0771 /data/dalvik-cache
```

bash

That' all. Please feel free to ask any questions.

Links

1. <https://www.dropbox.com/s/h004g5vrxae5upt/bootimgtools.tar.gz?dl=0>

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