ADB: Android Debug Bridge

and other Android command line tools

How ADB Works - from developer.android.com; includes all available commands

How ADB Works - from Google Git; adb overview

How ADB Works - from dummies.com / do not take it personally!

Killing the adb server - why

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Killing the adb server - why

“In some cases, you might need to terminate the adb server process and then restart it to resolve the problem (e.g., if adb does not respond to a command).

To stop the adb server, use

```
adb kill-server
```

You can then restart the server by issuing any other adb command.”

Always starting with adb devices - why

To make sure the device you are going to manipulate with is actually connected, always start with

adb devices

And then issue your next adb command

Starting an emulator from command line

emulator -list-avds - returns the list of created emulators on your machine (their names)

emulator -avd <emulator_name> - start the emulator

Connecting a physical device via TCP/IP

Note: the very first link How ADB Works has the steps as well

Steps:

1. Your phone and computer are **ON THE SAME WiFi**

2. Connect your Android phone via USB

3. adb devices

4. adb tcpip <port_number_for_server>

6. Disconnect device from USB

6. adb connect 192.168.4.198:5559 - <phone_ip>:<port_number_for_server>

7. adb disconnect - disconnects every physical device connected this way

How to find ip from command line (alternatively, search in the phone settings)

adb -d shell ip addr show wlan0

Command redirection

adb -d <command> - sends a command to **the only** connected physical device **(CONNECTED via USB)**

adb -e <command> - sends a command **to the only** connected emulator (**CONNECTED via TCP/IP**)

Note: *Once a physical device is connected via TCP/IP, use -e or -s <serial_number> command redirection option as -d sends command to devices connected via USB*

if more than one device or more than one emulator connected, use

adb -s <serial> <command>

For ex.,

adb -s **emulator-5554** install .apk

Install, update and uninstall an application

adb install Downloads/<file_name>.apk - use **your** path to .apk

`adb devices | grep device | grep -v devices | cut -f 1 | xargs -I {} adb -s {} install`

Reinstal (updated) application

adb install **-r** Downloads/<file_name>.apk - add -r before **your** path to .apk

Unistall

adb uninstall com.adjoy.standalone.test2 - use package name

How to find a package name

adb shell pm list packages - returns the list of packages installed on the device

adb shell pm list packages -f <app_name> - returns the package for the specific app

Collecting application logs

Logcat is a command-line tool for debugging Android applications

adb logcat - command to start logging

useful options:

adb logcat -c clears all the info that might be in buffer from the previous sessions

adb logcat | grep 'adjoy' - filter the log for a particular application

Note: *On Windows machine, please use* **find** *instead of* **grep - for ex., find “adjoy”**

Note: *If you need to grep more than one word, please do the following:*

adb logcat | grep -E "(adjoy|dabbl)"

adb logcat > file_name.txt - writes the log a text file (or -f <file_name>), for example,

adb logcat | grep 'adjoy' > zip_code_crash.txt

Note: *On Windows machine, please use* **find** *instead of* **grep - for ex., find “adjoy”**

adb logcat `tag:priority` - filtering by priority; for example,

adb logcat *:W

Note: *Tags are defined by an app developer, use * in a tag place*

Note: *if you use **zsh,** you need to use single quotes around the expression **'*:W'***

More about filtering from the official website

adb logcat '*:W' | grep 'adjoy' > zip_code_crash.txt

Note: *On Windows machine, please use* **find** *instead of* **grep - for ex., find “adjoy”**

Recording video from terminal/command prompt

adb shell screenrecord /sdcard/ErrorMsgRegistrationScreen.mp4

give your files a meaningful name. You may use a bug # as a file name, too.

Default recording time is 180 seconds (3 minutes). You may, however, change the that by adding following the arguments

adb shell screenrecord --time-limit <TIME> /sdcard/ErrorMsgRegistrationScreen.mp4,

instead of <TIME> placeholder, insert the needed time in seconds: --time-limit 120 will produce a 2-minute video.

Since video is saved to sdcard, we need to "pull" it from the device

adb pull /sdcard/ErrorMsgRegistrationScreen.mp4 - pulls to current working directory
adb pull /sdcard/ErrorMsgRegistrationScreen.mp4 **/Users/tanya/Desktop - pulls to a specified destination**

If no distention directory specified, the file will be stored at your current working directory (to check - pwd on Mac, cd on Windows)

To remove a file from your device, run

adb shell rm /sdcard/ErrorMsgRegistrationScreen.mp4

Recording the video in Android Studio - https://developer.android.com/studio/debug/am-video.html?hl=en

Taking a screenshot from **terminal/command prompt**

adb shell screencap /sdcard/screenshot.png - always .png! You have to say it explicitly

Example,

adb shell screencap /sdcard/full_time_screenshot.png

To pull it from device

adb pull /sdcard/screenshot.png - is destination is not specified, goes to current working directory

adb pull /sdcard/screenshot.png /Users/tanya/Desktop - pulls to the Desktop

Remember - we can also do it in the emulator settings and in Android Studio (under Logcat) with buttons.

Pull and push files from and to Android device

adb pull /sdcard/screenshot.png /Users/tanya/Desktop - pulls (copies) the file to the Desktop

adb push /Users/tanya/Desktop/profile_image.png /sdcard/ - push (copies) the file to device sdcard

Note: *You may drag and drop file from your computer to your emulator, that includes .apk files - an easy way to install the app*

Changing runtime permissions from terminal/command prompt

To find out, what runtime permissions your app is using, run

adb shell dumpsys package <package_name> | grep permission

The following (partial) output under runtime permissions

android.permission.CAMERA: granted=true

means the user is currently allowing the app to access the camera

To revoke permission, run

adb shell pm revoke <package_name> android.permission.CAMERA

To grant permission, run

adb shell pm grant <package_name> android.permission.CAMERA

The same way you can revoke and grant any **RUNTIME permission** your application may require; save time especially if working with an emulator.

Using dumpsys tool to diagnose the device (when needed)

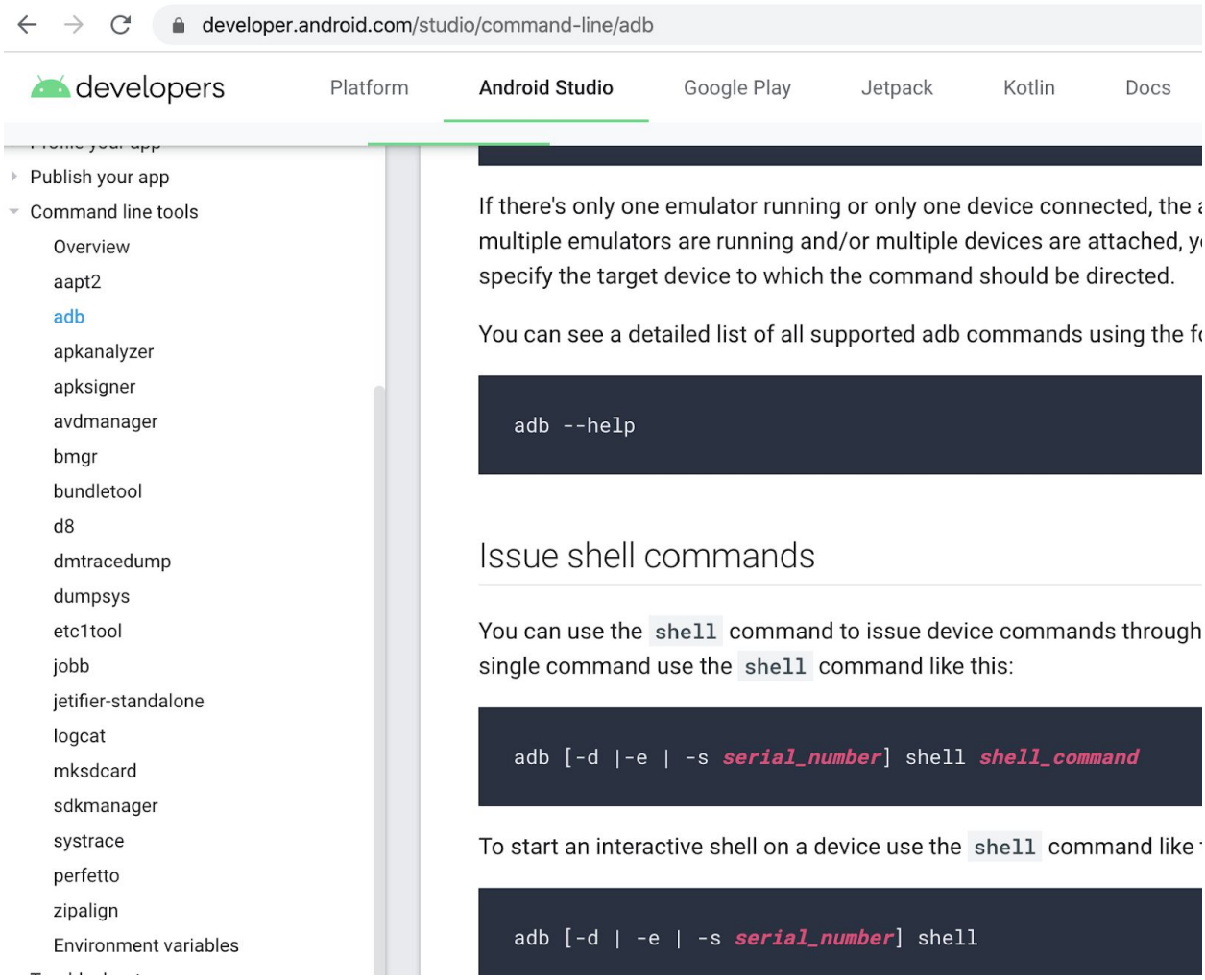
"`dumpsys` is a tool that runs on Android devices and provides information about system services"

Sometimes it could be useful to get information about a device memory or battery usage. You can do it this (and not only with dumpsys)

How to get an info related to the battery consumption, find out here
How to get an info about the memory is there

And where to look for more

Android command lines tools https://developer.android.com/studio/command-line


developer.android.com/studio/command-line/adb
developers
Platform
Android Studio
Google Play
Jetpack
Kotlin
Docs
Publish your app
Command line tools
Overview
aapt2
adb
apkanalyzer
apksigner
avdmanager
bmgr
bundletool
d8
dmtracedump
dumpsys
etc1tool
jobb
jetifier-standalone
logcat
mksdcard
sdkmanager
systrace
perfetto
zipalign
Environment variables
If there's only one emulator running or only one device connected, the a
multiple emulators are running and/or multiple devices are attached, y
specify the target device to which the command should be directed.
You can see a detailed list of all supported adb commands using the f
adb --help
Issue shell commands
You can use the shell command to issue device commands through
single command use the shell command like this:
adb [-d |-e | -s serial_number] shell shell_command
To start an interactive shell on a device use the shell command like
adb [-d | -e | -s serial_number] shell