adb (Android Debug Bridge) Android device control

CONCEPTS

adb is a client talking to a server on host port 5037, which talks to adbd on each device. If a device acts up, restart the server.

adb client your command
↓ TCP 5037
adb server on the host
↓ USB or TCP
adbd on the device

With several devices attached every command needs -s <serial>, -d or -e, or set ANDROID_SERIAL.

DEVICES & SERVER

adb devices -l
List devices with model and product

adb -s *<serial>* *<command>*
Target one device

adb -d *<command>*
Target the only USB device

adb kill-server
Stop the adb server

adb start-server
Start the adb server

adb version
Print the adb version

adb wait-for-device
Block until a device is connected

WIRELESS

adb pair *<ip>*:*<port>*
Pair with a code (Android 11+)

adb connect *<ip>*:*<port>*
Connect over Wi-Fi

adb disconnect *<ip>*:*<port>*
Drop a Wi-Fi connection

adb tcpip 5555
Switch a USB device to TCP/IP

APPS

adb install *<apk>*
Install an APK

adb install -r *<apk>*
Reinstall, keep data

APPS (cont.)

adb install -g *<apk>*
Grant all runtime permissions

adb uninstall *<package>*
Remove an app

adb shell pm list packages
List installed packages

adb shell pm list packages -3
Only third-party apps

adb shell pm clear *<package>*
Wipe app data

adb shell pm grant *<package>* *<permission>*
Grant a permission

ACTIVITY MANAGER

adb shell am start -n *<package>*/*<activity>*
Launch an activity

adb shell am start -a android.intent.action.VIEW -d *<uri>*
Open a URL or deep link

adb shell am force-stop *<package>*
Stop an app

FILES & SHELL

adb shell
Interactive device shell

adb shell *<command>*
Run one command on the device

adb push *<local>* *<remote>*
Copy a file to the device

adb pull *<remote>* [*<local>*]
Copy a file from the device

adb exec-out *<command>* **>** *<file>*
Binary-safe output to a local file

LOGS & DEBUGGING

adb logcat
Stream the log

adb logcat -c
Clear the log buffers

adb logcat -d
Dump the log and exit

adb logcat -s *<tag>*
Show only one tag

LOGS & DEBUGGING (cont.)

adb logcat *<tag>*:*<level>* ***:S**
Filter by tag and priority

adb logcat -e *<regex>*
Only lines matching a regex

adb logcat -v time
Show timestamps

adb bugreport [*<path>*]
Collect a full bug report zip

adb shell dumpsys *<service>*
Dump a system service state

SCREEN & INPUT

adb exec-out screencap -p > *<file>*.png
Take a screenshot

adb shell screenrecord /sdcard/*<file>*.mp4
Record the screen (Ctrl+C stops)

adb shell input text *<text>*
Type text

adb shell input keyevent *<code>*
Send a key press (3 home, 4 back)

PORTS & POWER

adb forward tcp:*<host>* **tcp:***<device>*
Host port to device port

adb reverse tcp:*<device>* **tcp:***<host>*
Device port to host port

adb reboot
Reboot the device

adb reboot bootloader
Reboot to the bootloader

RECIPES

Debug an app over Wi-Fi

```
# phone: Wireless debugging on
adb pair 192.168.1.20:37099
adb connect 192.168.1.20:41235
adb devices -l
```

Clean reinstall and watch it start

```
adb uninstall com.example.app
adb install -g app-debug.apk
adb logcat -c
adb shell am start -n
com.example.app/.MainActivity
adb logcat --pid=$(adb shell
pidof com.example.app)
```