

SDK Tools

android

Used for managing virtual devices, creating and updating projects, listing and updating SDK's

Dalvik Debug Monitor Server

Provides direct access to the device. Used for viewing and managing processes and threads. analyzing device memory, port forwarding and screen capture.

Draw 9-patch

Used for creating nine-patch graphics. Basically there are guides on each side of the image. Two of them are used for scaling the image horizontally and vertically, and two of them used for filling the area

emulator

Used for creating virtual android devices that running on computer. It is used to test developed applications without any physical device. It can create various virtual devices with different API's

Hierarchy viewer

Used for designing, debugging and profiling layouts and user interfaces. It is a tool for debugging and testing user interfaces across multiple devices in order to improve user interfaces.

hprof-conv (HPROF- Converter)

Used for converting HProf files to a standard format. HProf is a file that saves the heap dump of the process at the time of failure when a Java process crashes. It shows the CPU and heap usage within JVM. In Android case Dalvik generates the HProf file.

layoutopt

Similar to hierarchy viewer this tool is also used for layouts. It is for optimizing, validating and correcting the layouts and hierarchies. It validates the input layout files and suggests optimization and correction options for them.

mksdcard

This tool is used for creating virtual disk image as sd card. And we can use these virtual images to mount on virtual devices on emulator, use their virtual storage for device.

monkey

It is a program that runs on device and generates random inputs. It is used for testing the application you developed.

monkeyrunner

Basically it is similar to monkey program, but it is an API. It can be used by writing a Python code or jython script, and it can install android program, send random inputs and take screenshots of UI.

ProGuard

This tool is used for shrinking and optimizing code, faster transfer across network, making code more cryptic to harden reverse-engineering etc. It generally aims to improve program efficiency and performance.

Systrace

This tool is used for analyzing the execution of application we developed. It compares the main Android system processes execution time to the our application's processes'.

sqlite3

It is a basic database management tool. It allows user to manually write and execute SQL commands.

zipalign

This tool used for optimizing the application packaging, so system can run application more efficiently and overall system performance improves.

Platform Tools

Android Debug Bridge (adb)

This tool is the only one that is called directly. The other platform tools are usually called other SDK tools. The Bridge establishes the connection between pc and android device. By using this tool, we can pull and push files, reboot and report bugs etc.

Android Asset Packaging Tools (aapt)

This tool is used for creating and updateing archives.

DX

It generates Dalvik bytecode from java class file.

SOURCES

<https://developer.android.com/tools/help/index.html>

<http://smartapps-android.blogspot.com/2012/02/dalvik-debug-monitor-server-ddms.html>

<http://developer.att.com/developer/forward.jsp?passedItemId=5000010>

http://docwiki.cisco.com/wiki/Java_HProf_Files

<http://blog.apkudo.com/tag/hierarchy-viewer/>

<http://radleymarx.com/blog/simple-guide-to-9-patch/>

<http://www.kpbird.com/2011/08/android-layout-optimize-layoutopt.html>

<http://xiaphx.wordpress.com/2011/06/26/create-and-use-emulated-sd-card/>

<https://groups.google.com/forum/#!topic/android-developers/n7RRC9pWjvY>

<http://proguard.sourceforge.net/>

<http://java.llp2.dcc.ufmg.br/apiminer/static/docs/tools/help/systrace.html>

<http://www.sqlite.org/sqlite.html>

<http://android-developers.blogspot.com/2009/09/zipalign-easy-optimization.html>