

# dexopt flags

## Bytecode Verification

- verification v=
  - v=n VERIFY\_MODE\_NONE
  - v=r VERIFY\_MODE\_REMOTE
  - v=a VERIFY\_MODE\_ALL (default)
- optimization o=
  - o=n OPTIMIZE\_MODE\_NONE
  - o=v OPTIMIZE\_MODE\_VERIFIED (default) only optimizes classes that successfully verified
  - o=a OPTIMIZE\_MODE\_ALL
  - o=f OPTIMIZE\_MODE\_FULL
- register map m=y
- uniprocessor target u=
  - u=y DEXOPT\_UNIPROCESSOR
  - u=n DEXOPT\_SMP

```
setprop dalvik.vm.dexopt-flags=m=y,o=v,u=y
setprop dalvik.vm.dexopt-flags "m=y,o=f,v=n"
setprop dalvik.vm.dexopt-flags "m=y"
setprop dalvik.vm.dexopt-flags "v=n,o=v"
```

## dalvik

<http://milk.com/kodebase/dalvik-docs-mirror/docs/embedded-vm-control.html>

```
# dalvikvm --help
```

The following extended options are recognized:

```
-Xrunjdpw:<options>
-Xbootclasspath:bootclasspath
-Xcheck:tag (e.g. 'jni')
-XmsN (min heap, must be multiple of 1K, >= 1MB)
-XmxN (max heap, must be multiple of 1K, >= 2MB)
-XssN (stack size, >= 1KB, <= 256KB)
-Xverify:{none,remote,all}
-Xrs
-Xint (extended to accept ':portable', ':fast' and ':jit')
```

These are unique to Dalvik:

```
-Xzygote
-Xdexopt:{none,verified,all,full}
-Xnoquithandler
-Xjnigreflimit:N (must be multiple of 100, >= 200)
-Xjniopts:{warnonly,forcecopy}
```

```
-Xjnitrace:substring (eg NativeClass or nativeMethod)
-Xstacktracefile:<filename>
-Xgc:[no]precise
-Xgc:[no]preverify
-Xgc:[no]postverify
-Xgc:[no]concurrent
-Xgc:[no]verifycardtable
-XX:+DisableExplicitGC
-X[no]genregmap
-Xverifyopt:[no]checkmon
-Xcheckdexsum
-Xincludeselectdop
-Xjitop:hexopvalue[-endvalue][,hexopvalue[-endvalue]]*
-Xincludeselectmethod
-Xjitthreshold:decimalvalue
-Xjitblocking
-Xjitmethod:signature[,signature]* (eg Ljava/lang/String\;replace)
-Xjitcheckcg
-Xjitverbose
-Xjitprofile
-Xjitdisableopt
-Xjitsuspendpoll
```

## Interpreter

- portable dalvik.vm.execution-mode=int:portable
- fast dalvik.vm.execution-mode=int:fast
- JIT dalvik.vm.execution-mode=int:jit

Not all platforms have an optimized implementation. In such cases, the “fast” interpreter is generated as a series of C stubs, and the result will be slower than the “portable” version

## Extended JNI Checks

Default RO: ro.kernel.android.checkjni can be overridden by: dalvik.vm.checkjni

```
setprop dalvik.vm.checkjni true
```

To pass dalvik.vm.jniopts option as -Xjniopts argument.

```
setprop dalvik.vm.jniopts forcecopy
```

## Stack size

```
setprop dalvik.vm.extra-opts "-Xss16K"
```

```
dalvik.vm.verify-bytecode false
```

```
# DISABLE ERROR CHECKING  
ro.kernel.android.checkjni=0
```

```
dalvik.vm.checkjni=false  
dalvik.vm.dexopt-data-only=1  
dalvik.vm.heapsize=64m  
dalvik.vm.verify-bytecode=false  
dalvik.vm.lockprof.threshold=250  
dalvik.vm.dexopt-flags=m=v,o=y  
-Xverify:none -Xdexopt:verified
```

```
dalvik.vm.stack-trace-file=/data/anr/traces.txt  
dalvik.vm.jmiopts=forcecopy
```

# MAKES APPS LOAD FASTER AND FREES MORE RAM / use only one of them dalvik.vm.dexopt-flags=v=a,o=v,m=y,u=y dalvik.vm.dexopt-flags m=y,o=v,u=y dalvik.vm.dexopt-flags=m=y

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