

# Important JAVA Command Line options

(HotSpot JDK 1.6 and 1.7)

## Command Syntax

```
java [options] class [arguments]
java [options] -jar application.jar [arguments]
```

## Standard options

### -client

Starts a client VM (quick startup time)

### -server

Starts a Server VM (slower startup time, but over time runs faster)

Note: Server VM is the default for 64 bit JDK

### -classpath *classpath*

### -cp *classpath*

*classpath* is a list of jar files, directories or zip files

Note: This will override the environment variable CLASSPATH

### -Dproperty=value

Defines a system property value. Must use quotes if the value is a string and contains spaces

### -javaagent:jarpath[=options]

Loads a Java agent

### -verbose:gc

Enables verbose GC logging (logs every GC Event)

## Non Standard options

### -Xms*n*

Initial Heap Size in bytes  
Example: -Xms256m

### -Xmx*n*

Maximum Heap Size in bytes  
Example: -Xmx2048m

k – kilo bytes

m - mega bytes

g - giga bytes

### -XX:+PrintGCDetails

### -XX:+PrintGCTimeStamps

Log verbose GC information with Timestamps

### -Xloggc:*filename*

Logs verbose GC output to the filename specified

### -XX:NewRatio=*n*

Ratio of old/new generation sizes

### -XX:MaxPermSize=*n*

Maximum Permanent generation size

### -XX:-HeapDumpOnOutOfMemoryError

Dump the Heap into a file upon 'OutOfMemory' Error

### -XX:+UseG1GC

Use the Garbage First GC

### -XX:+UseParallelGC

Use Parallel GC for scavengers

### -XX:+UseParallelOldGC

Use Parallel GC for Old gen

### -XX:+UseConcMarkSweepGC

Use Concurrent Mark-Sweep for Old gen

### -XX:MaxGCPauseMillis=*n*

Attempt to limit duration of GC within *n* milliseconds

### -XX:+AggressiveOpts

Optimize for performance by enabling a set of options

## MISC

```
java -XX:+PrintFlagsFinal -version
to print all available options
```

-XX options are not stable. Both -X and -XX options are subject to change

+ after -XX enables a Boolean option

- after -XX disables a Boolean option



WORLD'S NUMBER ONE DEVELOPMENT PLATFORM

© karunsubramanian.com