GC-heap-sizes

Monitor with VisualVM

Run with :

java -Xmx20m -verbosegc Main
Check the default value for UseAdaptiveSizePolicy
jinfo -flag UseAdaptiveSizePolicy <process-id>

default : -XX:+UseAdaptiveSizePolicy

Set the ratios for Eden and Old generations

jinfo -flag NewRatio <process-id>

-XX:NewRatio=n

[if n is 2 means; old space is two times bigger than eden space]

Note : By setting the NewRatio, UseAdaptiveSizePolicy will be disabled

Try with

java -Xmx20m -XX:NewRatio=1 Main

-XX:SurvivorRatio=n

jinfo -flag SurvivorRatio <process-id>

Run with :

java -Xmx20m -XX:SurvivorRatio=5

-XX:MaxTenuringThreashold=n

jinfo -flag MaxTenuringThreshold <process-id>

StringPool-Performance

The String pool is implemented as a fixed capacity HashMap with each bucket containing a list of strings with the same hashCode.

From command-prompt:

java -XX:+PrintStringTableStatistics

Note : These Strings are loaded by the core java

Try with application:

java -XX:+PrintStringTableStatistics MainTest2

Now, Try with:

java -XX:+PrintStringTableStatistics -XX:StringTableSize=120121

Note : compare the Elapsed Time

Tuning:

java -XX:+PrintFlagsFinal MainTest2

Check the InitialHeapSize & MaxHeapSize

java -XX:+PrintStringTableStatistics -XX:StringTableSize=120121 -XX:MaxHeapSize=600m MainTest2

Note : Out of memory exception comes

Now, try with

java -XX:+PrintStringTableStatistics -XX:StringTableSize=120121

-XX:InitialHeapSize=1g

compare the Elapsed Time

Shortcut Flags

-XX:InitialHeapSize: -Xms

-XX:MaxHeapSize: -Xmx