Questions on capturing garbage collection data in WebSphere Message Broker

Question

Q1. How can you capture GC (garbage collection) activity for individual Execution Groups?
Q2. How can you capture GC activity for all the Execution Groups in a broker together?

Answer

A1. Starting with WebSphere Message Broker V6.1.0.8 and V7.0.0.1 (and in subsequent fix packs), you can run the following command to capture GC activity at an Execution Group level:
mqsichangeproperties <broker> -e <EG> -o ComIbmJVMManager -n jvmSystemProperty -v"-verbose:gc -Xverbosegclog:/tmp/gc.trc"

A2. The GC activity at the broker level can be captured in one of the following ways:

a. You can export the following environment variable in the broker service Id's profile to capture the GC information for all the Execution Groups in a broker:
export IBM_JAVA_OPTIONS=-Xverbosegclog:<directory with plenty of space>/gc.out
Restart the broker to pick up the above environment variable.
This will log the GC information in the file gc.out

b. The garbage collection activity may be captured by setting the following environment variable:
export MQSIJVERBOSE=-verbose:gc
Restart the broker to pick up the above environment variable
This will log the GC information in stdout/stderr files located in:
<C:\Documents and Settings\All Users\Application Data\IBM\MQSI\components>
\<broker name>\<EG UUID>\ (for Windows)
/var/mqsi/components/<broker name>/<EG UUID>/ (for UNIXes)

The Java™ Runtime environment takes the values for its initial, maximum and current heap sizes to calculate how frequently **garbage** collection needs to be

driven. If a large maxJVMHeapSize is set, then this means that **garbage** collection will be driven less frequently within the broker's JVM.