KODEWERK

Java Memory Leaks

Exercise 0:

Runtime Setup

Configuring setEnv

After unpacking the zip you'll need to adjust the value of JAVA_HOME as defined in the setEnv script. In this example, JAVA_HOME points to JDK 1.8.0_192 in the standard install location for OSX.

```
##### Edit this path
##### The path should point to the root directory of your Java installation
#####
export JAVA_HOME=/Library/Java/JavaVirtualMachines/jdk17.8.0.jdk/Contents/
Home/
```

For Windows Users, please be reminded that while spaces in NTFS paths are tolerated, they must be escaped when used in a bat script. For example, C:\My Documents must be escaped as C:\My\ Documents.

You can test the script by running ./setEnv.sh (setEnv in Windows). It should display the version of Java you configured the script to use.

Configuring setEnv

The jvm.config (jvm.bat for windows) contain jvm configurations. These configurations include, choice of garbage collector, size of heap, GC logging, and other configurations to support various types of investigations.

Download Tooling

The final step is to download VisualVM, MAT and Mission Control. You can find VisualVM at https://visualvm.github.io/download.html. The stand-alone version of MAT can downloaded from https://www.eclipse.org/mat/downloads.php. Eclipse users are welcome to install MAT plugin but only the stand-alone version will be covered. Java Mission Control and Flight Recorder may also be used.

If you decide to use a newer version of Java, you will want to download JMC from your favorite supplier.

Running Exercises

The application supporting each of the exercises is a webapp running in Jetty. Before running the app you will need to compile the source using the compile script included with each exercise. It is recommended that you do this in a terminal window. To start the server run the appserverStart script. There is also a jmeter script to start the load test harness server. The few things you need to know about JMeter will be demonstrated prior to the start of the first exercise.

Warning, some of the exercises may cause your CPU(s) to run at close to capacity which may make it difficult for you to terminate the application. It is helpful to not have any unnecessary applications running while performing the benchmarks. A nice to have, though not necessary, is to use two machines, one for the webinar software and the another for exercises.

Final Note

This workshops is to help you become more effective in resolving performance regressions. The exercises designed to help you work through the vagaries that we often see in theory. They are open ended so that you can have fun and explore different aspects of performance with them. They should be fun but it's not so fun when things that are suppose

to be working, don't. If you have questions or are experiencing problems, please don't be shy to ask for help. And most importantly let's have fun learning more about how to solve Java Memory Leaks.