**1. OOM errors**

heap.jar analysis with visualVM:

Graphical user interface, application

Description automatically generated

Jmap histogram:

Graphical user interface, text

Description automatically generated

Analysis of heap dump with visualVM (arraylist field in Process class generates many elements):

Graphical user interface, text, application

Description automatically generated

OQL queries with jhat:

Graphical user interface, table

Description automatically generated with medium confidence

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated

**2. Deadlock**

Deadlock dump:

Graphical user interface, text, application, email

Description automatically generated

**3. Remote JVM profiling**

Simple.jar with params:

-Dcom.sun.management.jmxremote

-Dcom.sun.management.jmxremote.port=7890

-Dcom.sun.management.jmxremote.authenticate=false

-Dcom.sun.management.jmxremote.ssl=false

Graphical user interface, chart, line chart

Description automatically generated

heap.1jar with params:

-XX:+UnlockCommercialFeatures

-XX:+FlightRecorder

Graphical user interface

Description automatically generated

**JINFO for simple.jar**

C:\Users\Yahor\_Shytsikau\Projects\java-mentoring-program\m8-monitoring>jinfo 27212

Attaching to process ID 27212, please wait...

Debugger attached successfully.

Server compiler detected.

JVM version is 25.362-b08

Java System Properties:

java.runtime.name = OpenJDK Runtime Environment

java.vm.version = 25.362-b08

sun.boot.library.path = C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\bin

java.vendor.url = https://aws.amazon.com/corretto/

java.vm.vendor = Amazon.com Inc.

path.separator = ;

file.encoding.pkg = sun.io

java.vm.name = OpenJDK 64-Bit Server VM

sun.os.patch.level =

sun.java.launcher = SUN\_STANDARD

user.script =

user.country = US

user.dir = C:\Users\Yahor\_Shytsikau\Projects\java-mentoring-program\m8-monitoring

java.vm.specification.name = Java Virtual Machine Specification

java.runtime.version = 1.8.0\_362-b08

java.awt.graphicsenv = sun.awt.Win32GraphicsEnvironment

os.arch = amd64

java.endorsed.dirs = C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\endorsed

line.separator =

java.io.tmpdir = C:\Users\YAHOR\_~1\AppData\Local\Temp\

java.vm.specification.vendor = Oracle Corporation

user.variant =

os.name = Windows 10

sun.jnu.encoding = Cp1252

java.library.path = C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\bin;C:\Windows\Sun\Java\bin;C:\Windows\system32;C:\Windows;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\bin;C:\Program Files (x86)\Microsoft SDKs\Azure\CLI2\wbin;C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Windows\System32\OpenSSH\;C:\Gradle\gradle-7.5.1\bin;C:\kube;C:\Program Files\Docker\Docker\resources\bin;C:\ProgramData\DockerDesktop\version-bin;C:\Program Files\Git\cmd;C:\helm;C:\Users\Yahor\_Shytsikau\AppData\Local\Microsoft\WindowsApps;;C:\Users\Yahor\_Shytsikau\AppData\Local\JetBrains\Toolbox\scripts;.

java.specification.name = Java Platform API Specification

java.class.version = 52.0

sun.management.compiler = HotSpot 64-Bit Tiered Compilers

os.version = 10.0

user.home = C:\Users\Yahor\_Shytsikau

user.timezone =

java.awt.printerjob = sun.awt.windows.WPrinterJob

file.encoding = Cp1252

java.specification.version = 1.8

user.name = Yahor\_Shytsikau

java.class.path = simple-1.0.0-SNAPSHOT.jar

java.vm.specification.version = 1.8

sun.arch.data.model = 64

sun.java.command = simple-1.0.0-SNAPSHOT.jar

java.home = C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre

user.language = en

java.specification.vendor = Oracle Corporation

awt.toolkit = sun.awt.windows.WToolkit

java.vm.info = mixed mode

java.version = 1.8.0\_362

java.ext.dirs = C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\ext;C:\Windows\Sun\Java\lib\ext

sun.boot.class.path = C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\resources.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\rt.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\sunrsasign.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\jsse.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\jce.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\charsets.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\lib\jfr.jar;C:\Users\Yahor\_Shytsikau\.jdks\corretto-1.8.0\_362\jre\classes

java.vendor = Amazon.com Inc.

sun.stderr.encoding = cp437

java.specification.maintenance.version = 4

file.separator = \

java.vendor.url.bug = https://github.com/corretto/corretto-8/issues/

sun.io.unicode.encoding = UnicodeLittle

sun.cpu.endian = little

sun.stdout.encoding = cp437

sun.desktop = windows

sun.cpu.isalist = amd64

VM Flags:

Non-default VM flags: -XX:CICompilerCount=4 -XX:InitialHeapSize=530579456 -XX:MaxHeapSize=8480882688 -XX:MaxNewSize=2826960896 -XX:MinHeapDeltaBytes=524288 -XX:NewSize=176685056 -XX:OldSize=353894400 -XX:+UseCompressedClassPointers -XX:+UseCompressedOops -XX:+UseFastUnorderedTimeStamps -XX:-UseLargePagesIndividualAllocation -XX:+UseParallelGC

Command line: