

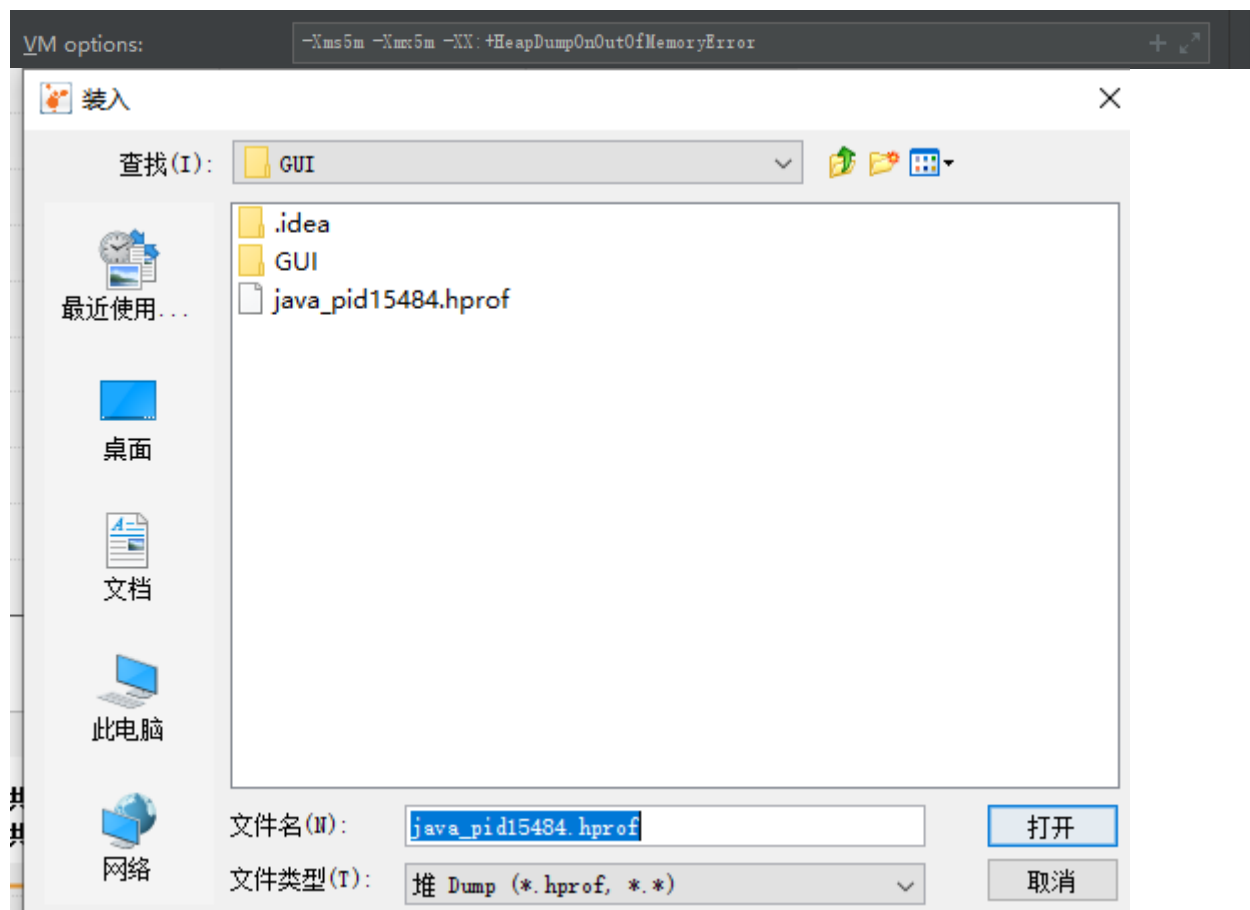
```
package main.java.Test1;

import java.util.ArrayList;
import java.util.List;

public class Heap {
    public static void main(String[] args) {
        List<ArrayList> list=new ArrayList<>();
        while(true){
            list.add(new ArrayList());
            System.gc();
        }
    }
}
```

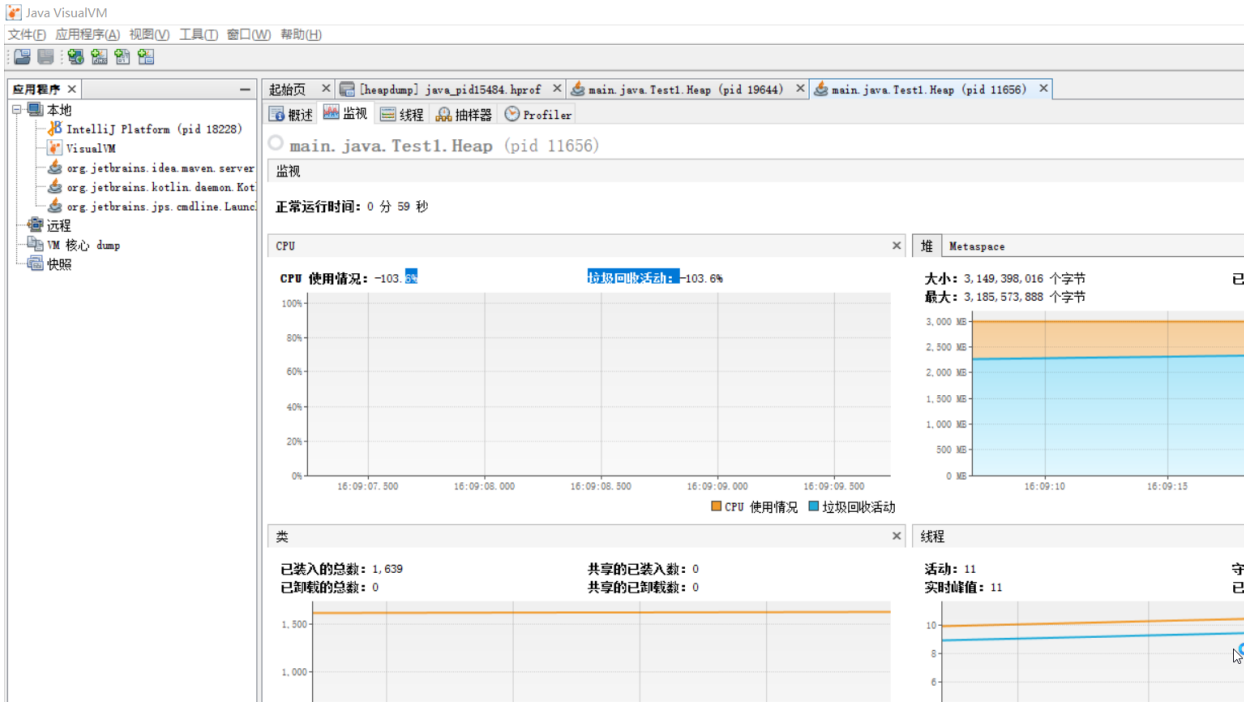
通过jvisualvm指令，直接打开jvisualvm。

1. 通过堆Dump观察产生的对象



2. 直接观察运行时内存情况与过程

可通过抽样器的内存去查看对象创建情况



main.java.Test1.TestSynchronized (pid 12472)

监视

正常运行时间: 0 分 59 秒

CPU 使用情况: -103.6% 垃圾回收活动: -103.6%

堆 Metaspace

大小: 3,149,398,016 个字节 已
最大: 3,185,573,888 个字节

线程

活动: 11
实时峰值: 11

类

已装入的总数: 1,639
已卸载的总数: 0

共享的已装入数: 0
共享的已卸载数: 0

抽样器

抽样: CPU 内存 停止

状态: 正在进行内存抽样

堆柱状图 每个线程分配

增加 快照

执行 GC 堆 D

类名	字节 [M]	字节	实例数
char[]	7...	(17.4%)	8... (10.4%)
java.lang.Object[]	7...	(16.3%)	2... (24.6%)
int[]	6...	(14.5%)	1... (1.5%)
byte[]	5...	(11.8%)	2... (3.0%)
java.io.ObjectStreamClass\$WeakClassKey	3...	(7.3%)	9... (11.7%)
java.util.TreeMap\$Entry	2...	(6.3%)	6... (8.1%)
java.lang.String	1...	(2.8%)	5... (6.0%)
java.lang.Long	8...	(1.9%)	3... (4.1%)
java.io.ObjectStreamClass	8...	(1.9%)	7... (0.9%)
java.util.HashMap	4...	(1.1%)	1... (1.2%)
java.lang.StringBuilder	4...	(1.0%)	1... (2.1%)
java.util.TreeMap	3...	(0.8%)	7... (0.9%)
java.io.SerialCallBackContext	3...	(0.8%)	1... (1.4%)
java.util.TreeMap\$KeyIterator	3...	(0.8%)	9... (1.1%)
java.lang.management.ThreadInfo	2...	(0.8%)	3... (0.3%)
java.util.HashMap\$Node[]	2...	(0.8%)	4... (0.5%)
java.lang.Class	2...	(0.8%)	1... (0.2%)
java.util.HashMap\$Node	1...	(0.4%)	6... (0.7%)
java.lang.String[]	1...	(0.4%)	5... (0.5%)
javax.management.openmbean.CompositeDataSupport	1...	(0.4%)	7... (0.9%)
javax.management.openmbean.CompositeData[]	1...	(0.4%)	9... (1.1%)
javax.management.ObjectName\$Property[]	1...	(0.3%)	4... (0.5%)
sun.rmi.transport.ConnectionInputStream	1...	(0.3%)	1... (0.2%)
java.io.DataOutputStream	1...	(0.3%)	5... (0.5%)
java.io.ObjectStreamClass\$FieldReflectorKey	1...	(0.3%)	3... (0.4%)
java.io.ObjectInputStream\$HandleTable\$HandleList[]	1...	(0.3%)	2... (0.2%)
java.io.ObjectOutputStream\$HandleTable	1...	(0.3%)	3... (0.4%)
java.lang.Boolean	1...	(0.3%)	9... (1.0%)
sun.rmi.transport.ConnectionOutputStream	1...	(0.3%)	1... (0.2%)
java.lang.reflect.Method	1...	(0.3%)	1... (0.1%)
java.util.TreeMap\$KeySet	1...	(0.2%)	7... (0.9%)
java.util.TreeMap\$EntrySet	1...	(0.2%)	7... (0.9%)
java.rmi.server.UID	2...	(0.4%)	3... (0.4%)