



## jcmd 命令: jcmd Thread.print -l 输出解析

12508:

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Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.144-b01 mixed mode):

//销毁 JAVA 虚拟机

```
"DestroyJavaVM" /*线程名称*/ #50 /*编号*/ prio=5 /*JVM 优先级*/ os_prio=0 /*操作系统优先级*/
tid=0x000000001ae13800 /*JVM 线程 ID*/ nid=0x2828 /*本地系统线程 ID*/ waiting on condition
锁的地址 [0x0000000000000000] /*状态*/
java.lang.Thread.State: RUNNABLE
/*
```

线程状态:

NEW: 未启动状态

RUNNABLE: 可运行状态: 处于可运行状态的线程正在 Java 虚拟机中执行, 但也可能是正在等待来自操作系统资源, 例如 CPU。

BLOCKED: 阻塞状态

WAITING: 等待状态: 线程调用 Object.wait()、Thread.join()、LockSupport.park() 进入等待状态, 其他线程调用 Object.notify()、Object.notifyAll()、Thread.join() 则线程继续执行。

TIMED\_WAITING: 具有指定时间的等待状态, Thread.sleep()、Object.wait()、Thread.join()、LockSupport.parkNanos()、LockSupport.parkUntil()

TERMINATED: 已终止线程的线程状态或线程已完成执行

\*/

Locked ownable synchronizers: /\*当前线程持有的锁\*/

- None /\*没有\*/ 代表当前线程没有持有锁

//tomcat nio 模式监听

```
"http-nio-8080-Acceptor" #48 daemon /*守护线程*/ prio=5 os_prio=0 tid=0x000000001ae13000
nid=0x1664 runnable [0x000000001f7af000]
```

```
java.lang.Thread.State: RUNNABLE
at sun.nio.ch.ServerSocketChannelImpl.accept0(Native Method)
at sun.nio.ch.ServerSocketChannelImpl.accept(ServerSocketChannelImpl.java:422)
at sun.nio.ch.ServerSocketChannelImpl.accept(ServerSocketChannelImpl.java:250)
- locked <0x00000000df7f4820> (a java.lang.Object)
at org.apache.tomcat.util.net.NioEndpoint.serverSocketAccept(NioEndpoint.java:463)
at org.apache.tomcat.util.net.NioEndpoint.serverSocketAccept(NioEndpoint.java:73)
at org.apache.tomcat.util.net.Acceptor.run(Acceptor.java:95)
at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

//tomcat nio 客户端轮训器

```
"http-nio-8080-ClientPoller" #47 daemon prio=5 os_prio=0 tid=0x000000001ae12000
nid=0x2d68 runnable [0x000000001f9ce000]
```

java.lang.Thread.State: RUNNABLE

全是这样的结构, 每一个这样的结构代表一个线程

```

at sun.nio.ch.WindowsSelectorImpl$SubSelector.poll0(Native Method)
at sun.nio.ch.WindowsSelectorImpl$SubSelector.poll(WindowsSelectorImpl.java:296)
at
sun.nio.ch.WindowsSelectorImpl$SubSelector.access$400(WindowsSelectorImpl.java:278)
at sun.nio.ch.WindowsSelectorImpl.doSelect(WindowsSelectorImpl.java:159)
at sun.nio.ch.SelectorImpl.lockAndDoSelect(SelectorImpl.java:86)
- locked <0x00000000df8cd4c8> (a sun.nio.ch.Util$3)
- locked <0x00000000df8cd4b8> (a java.util.Collections$UnmodifiableSet)
- locked <0x00000000df8cd368> (a sun.nio.ch.WindowsSelectorImpl)
at sun.nio.ch.SelectorImpl.select(SelectorImpl.java:97)
at org.apache.tomcat.util.net.NioEndpoint$Poller.run(NioEndpoint.java:708)
at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- None

//tomcat nio 执行线程

```

"http-nio-8080-exec-10" #46 daemon prio=5 os_prio=0 tid=0x000000001ae11800 nid=0x2614
waiting on condition [0x000000001fb7f000]
java.lang.Thread.State: WAITING (parking)
at sun.misc.Unsafe.park(Native Method)
- parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQue
uedSynchronizer.java:2039)
at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- None

```

"http-nio-8080-exec-9" #45 daemon prio=5 os_prio=0 tid=0x000000001ae10800 nid=0x2f84
waiting on condition [0x000000001f8ce000]
java.lang.Thread.State: WAITING (parking)
at sun.misc.Unsafe.park(Native Method)
- parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)

```

```
at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-8" #44 daemon prio=5 os_prio=0 tid=0x000000001ae10000 nid=0x3af4
waiting on condition [0x000000001f6ae000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
    at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-7" #43 daemon prio=5 os_prio=0 tid=0x000000001ae0f000 nid=0x4a9c
waiting on condition [0x000000001f22f000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
```

```
at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-6" #42 daemon prio=5 os_prio=0 tid=0x000000001ae0e800 nid=0x1be4
waiting on condition [0x000000001f51f000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
    at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-5" #41 daemon prio=5 os_prio=0 tid=0x000000001ae0d800 nid=0x4560
waiting on condition [0x000000001a89f000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
```

```
at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-4" #40 daemon prio=5 os_prio=0 tid=0x000000001ae0d000 nid=0x1d5c
waiting on condition [0x000000001f32e000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
    at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-3" #39 daemon prio=5 os_prio=0 tid=0x000000001ae0c000 nid=0x3e3c
waiting on condition [0x000000001ca7e000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
```

```
at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-2" #38 daemon prio=5 os_prio=0 tid=0x000000001ae0b800 nid=0x3ed4
waiting on condition [0x00000000198be000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
    at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

```
"http-nio-8080-exec-1" #37 daemon prio=5 os_prio=0 tid=0x000000001ae0a800 nid=0x390c
waiting on condition [0x000000001f12e000]
```

```
java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x00000000df8a4b60> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
```

```

at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQueuedSynchronizer.java:2039)
    at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:107)
    at org.apache.tomcat.util.threads.TaskQueue.take(TaskQueue.java:33)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- None

#### #tomcat nio 阻塞轮训器

```

"http-nio-8080-BlockPoller" #36 daemon prio=5 os_prio=0 tid=0x000000001ae0a000
nid=0x30ac runnable [0x0000000019d3e000]
    java.lang.Thread.State: RUNNABLE
        at sun.nio.ch.WindowsSelectorImpl$SubSelector.poll0(Native Method)
        at sun.nio.ch.WindowsSelectorImpl$SubSelector.poll(WindowsSelectorImpl.java:296)
        at
sun.nio.ch.WindowsSelectorImpl$SubSelector.access$400(WindowsSelectorImpl.java:278)
        at sun.nio.ch.WindowsSelectorImpl.doSelect(WindowsSelectorImpl.java:159)
        at sun.nio.ch.SelectorImpl.lockAndDoSelect(SelectorImpl.java:86)
        - locked <0x00000000df7ffbc0> (a sun.nio.ch.Util$3)
        - locked <0x00000000df7ff328> (a java.util.Collections$UnmodifiableSet)
        - locked <0x00000000df7ff170> (a sun.nio.ch.WindowsSelectorImpl)
        at sun.nio.ch.SelectorImpl.select(SelectorImpl.java:97)
        at
org.apache.tomcat.util.net.NioBlockingSelector$BlockPoller.run(NioBlockingSelector.java:313)

```

Locked ownable synchronizers:

- None

#### #Springboot2.0 默认连接池就是 Hikari

```

"HikariPool-1 housekeeper" #26 daemon prio=5 os_prio=0 tid=0x000000001b9c8800
nid=0x3e88 waiting on condition [0x000000001d12e000]
    java.lang.Thread.State: TIMED_WAITING (parking)
        at sun.misc.Unsafe.park(Native Method)
        - parking to wait for <0x0000000097e9e300> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
        at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)
        at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.awaitNanos(AbstractQueuedSynchronizer.java:2078)

```

```

at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadPoolExecutor.java:1093)
at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadPoolExecutor.java:809)
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- None

#### #mysql 废弃连接清理线程

```

"mysql-cj-abandoned-connection-cleanup" #25 daemon prio=5 os_prio=0
tid=0x000000001b970000 nid=0x444c in Object.wait() [0x000000001ccb0000]
java.lang.Thread.State: TIMED_WAITING (on object monitor)
at java.lang.Object.wait(Native Method)
at java.lang.ref.ReferenceQueue.remove(ReferenceQueue.java:143)
- locked <0x00000000098136198> (a java.lang.ref.ReferenceQueue$Lock)
at
com.mysql.cj.jdbc.AbandonedConnectionCleanupThread.run(AbandonedConnectionCleanupThread.java:85)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1149)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- <0x00000000097f62390> (a java.util.concurrent.ThreadPoolExecutor\$Worker) /\*持有所有的对象、地址\*/ 持有的锁的对象，以及锁对象的地址

#### //TomcatWebServer

```

"container-0" #24 prio=5 os_prio=0 tid=0x000000001b8a2000 nid=0x2270 waiting on condition [0x000000001cb8e000]
java.lang.Thread.State: TIMED_WAITING (sleeping)
at java.lang.Thread.sleep(Native Method)
at org.apache.catalina.core.StandardServer.await(StandardServer.java:570)
at
org.springframework.boot.web.embedded.tomcat.TomcatWebServer$1.run(TomcatWebServer.java:179)

```

Locked ownable synchronizers:

- None

#### //tomcat

```

"Catalina-utility-2" #23 prio=1 os_prio=-2 tid=0x000000001b870800 nid=0x1ec8 waiting on condition [0x000000001ab0e000]

```



```

java.lang.Thread.State: TIMED_WAITING (parking)
  at sun.misc.Unsafe.park(Native Method)
    - parking to wait for <0x0000000097e82898> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
  at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)
  at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.awaitNanos(Abstra
ctQueuedSynchronizer.java:2078)
  at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadP
oolExecutor.java:1093)
  at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadP
oolExecutor.java:809)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
  at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- None

//tomcat

```

"Catalina-utility-1" #22 prio=1 os_prio=-2 tid=0x000000001b7ec000 nid=0x8c0 waiting on
condition [0x000000001a1ae000]
  java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
      - parking to wait for <0x0000000097e82898> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
    at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQue
uedSynchronizer.java:2039)
    at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadP
oolExecutor.java:1088)
    at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadP
oolExecutor.java:809)
      at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
      at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
      at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
      at
org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:61)
    at java.lang.Thread.run(Thread.java:748)

```

Locked ownable synchronizers:

- None

#### //RMI 调度线程

```
"RMI Scheduler(0)" #15 daemon prio=5 os_prio=0 tid=0x00000000194a6000 nid=0x2764
waiting on condition [0x000000001a9ae000]
  java.lang.Thread.State: WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
      - parking to wait for <0x0000000097768df0> (a
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject)
    at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175)
    at
java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.await(AbstractQue
uedSynchronizer.java:2039)
    at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadP
oolExecutor.java:1081)
    at
java.util.concurrent.ScheduledThreadPoolExecutor$DelayedWorkQueue.take(ScheduledThreadP
oolExecutor.java:809)
      at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)
      at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1134)
      at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
      at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

#### //RMI TCP 接收监听

```
"RMI TCP Accept-0" #12 daemon prio=5 os_prio=0 tid=0x0000000018fab800 nid=0x2ce0
runnable [0x0000000019c2e000]
  java.lang.Thread.State: RUNNABLE
    at java.net.DualStackPlainSocketImpl.accept0(Native Method)
    at
java.net.DualStackPlainSocketImpl.socketAccept(DualStackPlainSocketImpl.java:131)
      at java.net.AbstractPlainSocketImpl.accept(AbstractPlainSocketImpl.java:409)
      at java.net.PlainSocketImpl.accept(PlainSocketImpl.java:199)
      - locked <0x00000000975f9110> (a java.net.SocksSocketImpl)
      at java.net.ServerSocket.implAccept(ServerSocket.java:545)
      at java.net.ServerSocket.accept(ServerSocket.java:513)
      at
sun.management.jmxremote.LocalRMIServerSocketFactory$1.accept(LocalRMIServerSocketFacto
ry.java:52)
      at
sun.rmi.transport.tcp.TCPTransport$AcceptLoop.executeAcceptLoop(TCPTransport.java:400)
      at sun.rmi.transport.tcp.TCPTransport$AcceptLoop.run(TCPTransport.java:372)
      at java.lang.Thread.run(Thread.java:748)
```

Locked ownable synchronizers:

- None

"Service Thread" #10 daemon prio=9 os\_prio=0 tid=0x0000000018306800 nid=0x40a0 runnable  
[0x0000000000000000]

java.lang.Thread.State: RUNNABLE

Locked ownable synchronizers:

- None

//C1 编译器

"C1 CompilerThread2" #9 daemon prio=9 os\_prio=2 tid=0x00000000182e1000 nid=0x20d0  
waiting on condition [0x0000000000000000]

java.lang.Thread.State: RUNNABLE

Locked ownable synchronizers:

- None

//C2 编译器

"C2 CompilerThread1" #8 daemon prio=9 os\_prio=2 tid=0x00000000182e0000 nid=0x3d8c  
waiting on condition [0x0000000000000000]

java.lang.Thread.State: RUNNABLE

Locked ownable synchronizers:

- None

//C2 编译器

"C2 CompilerThread0" #7 daemon prio=9 os\_prio=2 tid=0x00000000182df800 nid=0x2ab8  
waiting on condition [0x0000000000000000]

java.lang.Thread.State: RUNNABLE

Locked ownable synchronizers:

- None

//线程转储或“线程堆栈跟踪”显示有关应用程序活动的信息，可帮助您诊断问题并更好地优化应用程序和 JVM 性能；  
//例如，线程转储可以显示“死锁”条件的发生，这可能严重影响应用程序性能。

//您可以通过调用控制中断来创建一个线程转储（通常通过按 Ctrl-Break 或 Ctrl-\ 或 SIGQUIT 在 linux 上）。

"Monitor Ctrl-Break" #6 daemon prio=5 os\_prio=0 tid=0x00000000182a8000 nid=0x1df4  
runnable [0x00000000186ae000]

java.lang.Thread.State: RUNNABLE

at java.net.SocketInputStream.socketRead0(Native Method)  
at java.net.SocketInputStream.socketRead(SocketInputStream.java:116)  
at java.net.SocketInputStream.read(SocketInputStream.java:171)  
at java.net.SocketInputStream.read(SocketInputStream.java:141)  
at sun.nio.cs.StreamDecoder.readBytes(StreamDecoder.java:284)  
at sun.nio.cs.StreamDecoder.implRead(StreamDecoder.java:326)  
at sun.nio.cs.StreamDecoder.read(StreamDecoder.java:178)  
- locked <0x00000000977ccf28> (a java.io.InputStreamReader)

```
at java.io.InputStreamReader.read(InputStreamReader.java:184)
at java.io.BufferedReader.fill(BufferedReader.java:161)
at java.io.BufferedReader.readLine(BufferedReader.java:324)
- locked <0x00000000977ccf28> (a java.io.InputStreamReader)
at java.io.BufferedReader.readLine(BufferedReader.java:389)
at com.intellij.rt.execution.application.AppMainV2$1.run(AppMainV2.java:64)
```

Locked ownable synchronizers:

- None

#### //附加监听

```
"Attach Listener" #5 daemon prio=5 os_prio=2 tid=0x0000000017f97000 nid=0xcc0 waiting
on condition [0x0000000000000000]
java.lang.Thread.State: RUNNABLE
```

Locked ownable synchronizers:

- None

#### //信号调度

```
"Signal Dispatcher" #4 daemon prio=9 os_prio=2 tid=0x0000000017f94000 nid=0x3ba8
runnable [0x0000000000000000]
java.lang.Thread.State: RUNNABLE
```

Locked ownable synchronizers:

- None

#### //Finalizer

```
"Finalizer" #3 daemon prio=8 os_prio=1 tid=0x0000000016bbc800 nid=0x2174 in
Object.wait() [0x0000000017f6f000]
java.lang.Thread.State: WAITING (on object monitor)
at java.lang.Object.wait(Native Method)
- waiting on <0x00000000977cd500> (a java.lang.ref.ReferenceQueue$Lock)
at java.lang.ref.ReferenceQueue.remove(ReferenceQueue.java:143)
- locked <0x00000000977cd500> (a java.lang.ref.ReferenceQueue$Lock)
at java.lang.ref.ReferenceQueue.remove(ReferenceQueue.java:164)
at java.lang.ref.Finalizer$FinalizerThread.run(Finalizer.java:209)
```

Locked ownable synchronizers:

- None

```
"Reference Handler" #2 daemon prio=10 os_prio=2 tid=0x0000000016b71800 nid=0x38b4 in
Object.wait() [0x0000000017e1f000]
java.lang.Thread.State: WAITING (on object monitor)
at java.lang.Object.wait(Native Method)
- waiting on <0x00000000977cd540> (a java.lang.ref.Reference$Lock)
at java.lang.Object.wait(Object.java:502)
at java.lang.ref.Reference.tryHandlePending(Reference.java:191)
- locked <0x00000000977cd540> (a java.lang.ref.Reference$Lock)
```

```
at java.lang.ref.Reference$ReferenceHandler.run(Reference.java:153)
```

Locked ownable synchronizers:

- None

//虚拟机线程

```
"VM Thread" os_prio=2 tid=0x0000000016b6b000 nid=0x16ac runnable
```

//GC 线程

```
"GC task thread#0 (ParallelGC)" os_prio=0 tid=0x00000000023f4000 nid=0x3ac4 runnable
```

```
"GC task thread#1 (ParallelGC)" os_prio=0 tid=0x00000000023f6800 nid=0x3080 runnable
```

```
"GC task thread#2 (ParallelGC)" os_prio=0 tid=0x00000000023f8000 nid=0x47ec runnable
```

```
"GC task thread#3 (ParallelGC)" os_prio=0 tid=0x00000000023f9800 nid=0x2360 runnable
```

```
"VM Periodic Task Thread" os_prio=2 tid=0x0000000018fb8000 nid=0x3778 waiting on condition
```

//JNI 全局引用

//JNI 规范中定义了三种引用——全局引用（Global reference），局部引用（Local reference），弱全局引用（Weak global reference）。

//这算三种引用的生存期是不同的。

//全局引用的生存期为创建之后，直到程序员显式的释放它。

//局部引用的生存期为创建后，直到程序员显式的释放他们，或在当前上下文（可以理解成 Java 程序调用 Native 代码的过程）结束之后没有被 JVM 发现有 JAVA 层引用而被 JVM 回收并释放

//弱全局引用的生存期为创建之后，到程序员显式的释放他们或 JVM 认为应该回收它的时候（比如内存紧张的时候）进行回收而被释放。

JNI global references: 1635