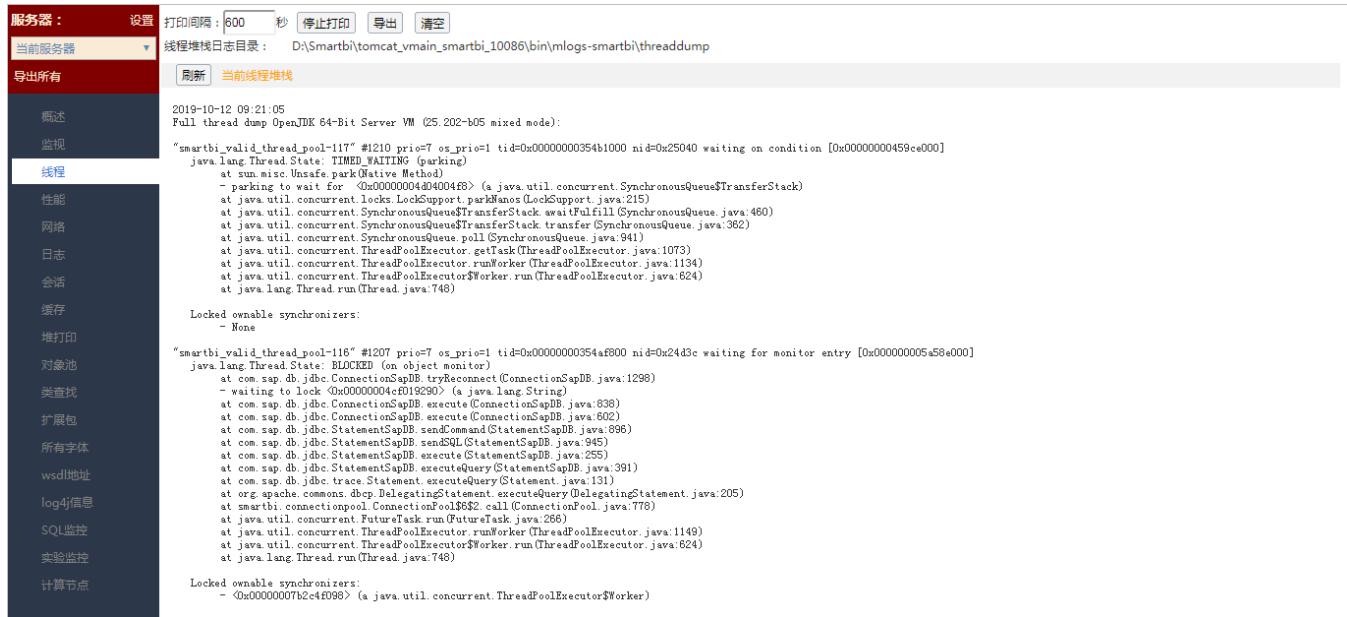


# 系统监控-线程

- 操作说明
  - 自动打印
  - 手动打印
  - 线程堆栈文件目录及获取
  - 清空线程堆栈

线程页面用于定时将JVM所有的线程堆栈打印到临时目录中，方便定位服务器运行缓慢、假死等情况。



The screenshot shows the Smartbi system's thread monitoring interface. On the left, there's a sidebar with various monitoring tabs like Overview, Monitoring, Thread, Performance, Network, Log, Session, Stack Trace, Object Pool, Audit, Extension Pack, All Fonts, WSDL Address, Log4j Information, SQL Monitoring, and Real-time Monitoring. The 'Thread' tab is selected. At the top, there are settings for print interval (600 seconds), stop printing, export, and clear. Below that, it shows the print directory: D:\Smartbi\tomcat\_vmain\_smartbi\_10086\bin\mlogs-smartbi\threaddump. The main area displays a large block of Java stack trace output from a Full thread dump of the OpenJDK 64-Bit Server VM.

```
2019-10-12 09:21:05
Full thread dump OpenJDK 64-Bit Server VM (25.202-b05 mixed mode):

"smartbi.valid_thread_pool-117" #2120 prio=7 os_prio=1 tid=0x00000000354b1000 nid=0x25040 waiting on condition [0x00000000459ce000]
    java.lang.Thread.State: TIMED_WAITING (parking)
        at sun.misc.Unsafe.park(Native Method)
        - parking to wait for  <0x00000004d04004f8> (a java.util.concurrent.SynchronousQueue$TransferStack)
        at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)
        at java.util.concurrent.locks.AbstractQueuedSynchronizer$ConditionObject.awaitUntil(AbstractQueuedSynchronizer.java:460)
        at java.util.concurrent.SynchronousQueue$TransferStack$SyncQueueNode.poll(SynchronousQueue.java:362)
        at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)
        at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1073)
        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

"smartbi.valid_thread_pool-118" #2127 prio=7 os_prio=1 tid=0x00000000354af800 nid=0x24d3c waiting for monitor entry [0x000000005a58e000]
    java.lang.Thread.State: BLOCKED (on object monitor)
        at com.sap.db.jdbc.ConnectionSapDB.tryReconnect(ConnectionSapDB.java:1298)
        - waiting to lock  <0x00000004f019290> (a java.lang.String)
        at com.sap.db.jdbc.ConnectionSapDB.execute(ConnectionSapDB.java:838)
        at com.sap.db.jdbc.ConnectionSapDB.execute(ConnectionSapDB.java:802)
        at com.sap.db.jdbc.StatementSapDB.sendCommand(StatementSapDB.java:896)
        at com.sap.db.jdbc.StatementSapDB.sendSQL(StatementSapDB.java:945)
        at com.sap.db.jdbc.StatementSapDB.execute(StatementSapDB.java:255)
        at com.sap.db.jdbc.StatementSapDB.executeQuery(StatementSapDB.java:391)
        at com.sap.db.jdbc.trace.Statement.executeQuery(Statement.java:131)
        at org.apache.commons.dbcp.DelegatingStatement.executeQuery(DelegatingStatement.java:205)
        at org.apache.commons.dbcp.ConnectionFactory.openConnection(ConnectionFactory.java:776)
        at java.util.concurrent.FutureTask.run(FutureTask.java:266)
        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:
    - <0x000000007b2c4f098> (a java.util.concurrent.ThreadPoolExecutor$Worker)
```

## 操作说明

### 自动打印

Smartbi系统在启动时会自动打印线程堆栈，默认打印间隔为10分钟，也就每隔10分钟就会在线程打印目录下生成一个线程信息文件。生成一个新线程信息文件后，会自动将生成时间距现在已超过3天的旧线程信息文件删除掉，以免占用磁盘空间过多。

自动打印设置的启动位于 **系统运维 > 系统选项 > 公共设置** 中，可设置系统自动打印。

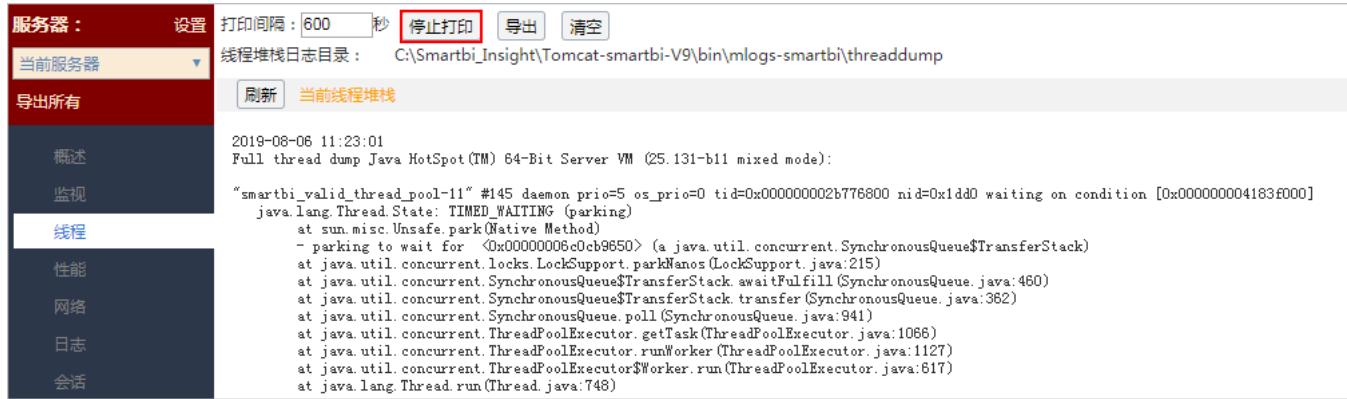
如需再次启动自动打印，请在设置为是后重启服务器，并在线程界面确认是否已开始自动打印。



## 手动打印

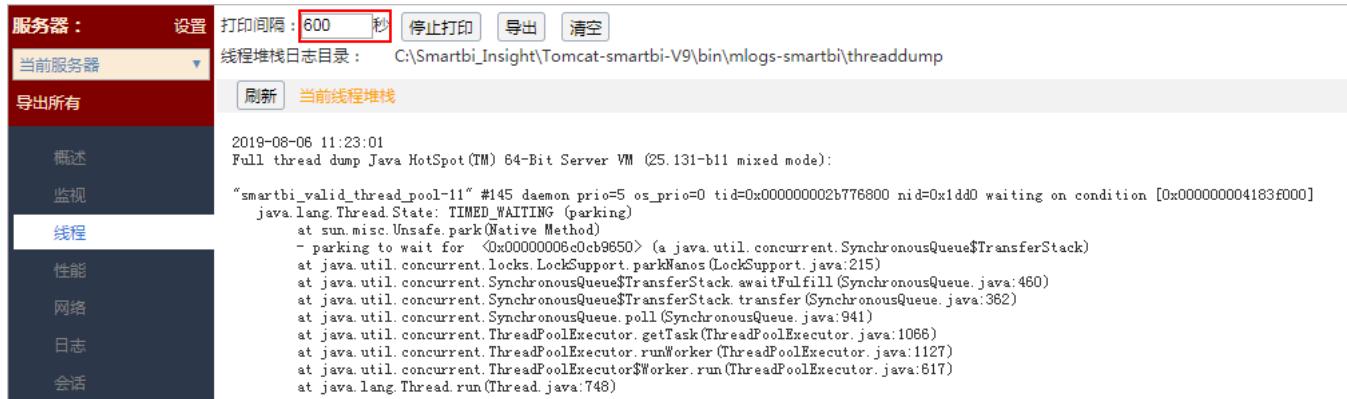
可在需要时手工执行打印线程堆栈。

(1) 进入线程界面，先检查是否存在“停止打印”按钮，若存在，则点击“停止打印”按钮停止系统的自动打印；若不存在“停止打印”按钮，只有“开始打印”按钮，才可以进行下一步。



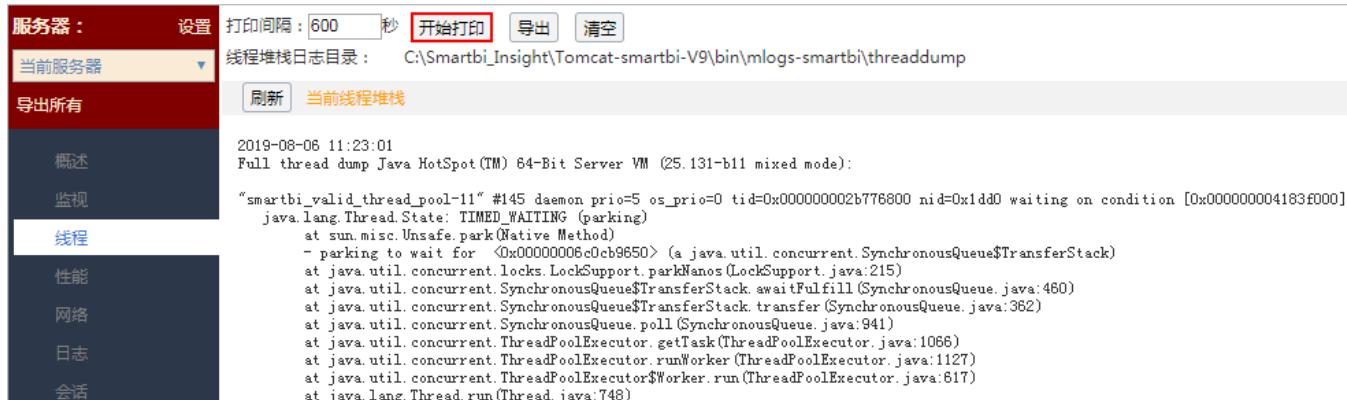
服务器： 设置 打印间隔：600 秒 停止打印 导出 清空  
当前服务器  
导出所有  
刷新 当前线程堆栈  
2019-08-06 11:23:01  
Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.131-b11 mixed mode):  
"smartbi\_valid\_thread\_pool-11" #145 daemon prio=5 os\_prio=0 tid=0x000000002b776800 nid=0x1dd0 waiting on condition [0x000000004183f000]  
java.lang.Thread.State: TIMED\_WAITING (parking)  
at sun.misc.Unsafe.park(Native Method)  
- parking to wait for <0x00000006c0cb9650> (a java.util.concurrent.SynchronousQueue\$TransferStack)  
at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)  
at java.util.concurrent.SynchronousQueue\$TransferStack.awaitIfFull(SynchronousQueue.java:460)  
at java.util.concurrent.SynchronousQueue\$TransferStack.transfer(SynchronousQueue.java:362)  
at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)  
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1066)  
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1127)  
at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617)  
at java.lang.Thread.run(Thread.java:748)

(2) 在“打印间隔”中，输入需要的打印间隔时间。



服务器： 设置 打印间隔：600 秒 停止打印 导出 清空  
当前服务器  
导出所有  
刷新 当前线程堆栈  
2019-08-06 11:23:01  
Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.131-b11 mixed mode):  
"smartbi\_valid\_thread\_pool-11" #145 daemon prio=5 os\_prio=0 tid=0x000000002b776800 nid=0x1dd0 waiting on condition [0x000000004183f000]  
java.lang.Thread.State: TIMED\_WAITING (parking)  
at sun.misc.Unsafe.park(Native Method)  
- parking to wait for <0x00000006c0cb9650> (a java.util.concurrent.SynchronousQueue\$TransferStack)  
at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)  
at java.util.concurrent.SynchronousQueue\$TransferStack.awaitIfFull(SynchronousQueue.java:460)  
at java.util.concurrent.SynchronousQueue\$TransferStack.transfer(SynchronousQueue.java:362)  
at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)  
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1066)  
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1127)  
at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617)  
at java.lang.Thread.run(Thread.java:748)

(3) 点击“开始打印”按钮，系统会按照设定的打印间隔时间自动打印线程堆栈。



服务器： 设置 打印间隔：600 秒 开始打印 导出 清空  
当前服务器  
导出所有  
刷新 当前线程堆栈  
2019-08-06 11:23:01  
Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.131-b11 mixed mode):  
"smartbi\_valid\_thread\_pool-11" #145 daemon prio=5 os\_prio=0 tid=0x000000002b776800 nid=0x1dd0 waiting on condition [0x000000004183f000]  
java.lang.Thread.State: TIMED\_WAITING (parking)  
at sun.misc.Unsafe.park(Native Method)  
- parking to wait for <0x00000006c0cb9650> (a java.util.concurrent.SynchronousQueue\$TransferStack)  
at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)  
at java.util.concurrent.SynchronousQueue\$TransferStack.awaitIfFull(SynchronousQueue.java:460)  
at java.util.concurrent.SynchronousQueue\$TransferStack.transfer(SynchronousQueue.java:362)  
at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)  
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1066)  
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1127)  
at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617)  
at java.lang.Thread.run(Thread.java:748)

## 线程堆栈文件目录及获取

打印生成的线程堆栈文件存放于“线程”界面显示的目录中。

服务器： 设置 打印间隔：600 秒 开始打印 导出 清空

线程堆栈日志目录： C:\Smartbi\_Insight\Tomcat-smartbi-V9\bin\mlogs-smartbi\threaddump

刷新 当前线程堆栈

2019-08-06 11:23:01  
Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.131-b11 mixed mode):  
"smartbi\_valid\_thread\_pool-11" #145 daemon prio=5 os\_prio=0 tid=0x000000002b776800 nid=0x1dd0 waiting on condition [0x000000004183f000]  
java.lang.Thread.State: TIMED\_WAITING (parking)  
at sun.misc.Unsafe.park(Native Method)  
- parking to wait for <0x000000060cb9650> (a java.util.concurrent.SynchronousQueue\$TransferStack)  
at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)  
at java.util.concurrent.SynchronousQueue\$TransferStack.awaitIfFull(SynchronousQueue.java:460)  
at java.util.concurrent.SynchronousQueue\$TransferStack.transfer(SynchronousQueue.java:362)  
at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)  
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1066)  
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1127)  
at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617)  
at java.lang.Thread.run(Thread.java:748)

获取线程堆栈文件的方式有以下几种：

(1) 点击“线程”界面上的“导出”按钮，会将线程堆栈目录下的所有线程堆栈文件以压缩包的形式导出。一般推荐这种方式。

服务器： 设置 打印间隔：600 秒 开始打印 导出 清空

线程堆栈日志目录： C:\Smartbi\_Insight\Tomcat-smartbi-V9\bin\mlogs-smartbi\threaddump

刷新 当前线程堆栈

2019-08-06 11:23:01  
Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.131-b11 mixed mode):  
"smartbi\_valid\_thread\_pool-11" #145 daemon prio=5 os\_prio=0 tid=0x000000002b776800 nid=0x1dd0 waiting on condition [0x000000004183f000]  
java.lang.Thread.State: TIMED\_WAITING (parking)  
at sun.misc.Unsafe.park(Native Method)  
- parking to wait for <0x000000060cb9650> (a java.util.concurrent.SynchronousQueue\$TransferStack)  
at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)  
at java.util.concurrent.SynchronousQueue\$TransferStack.awaitIfFull(SynchronousQueue.java:460)  
at java.util.concurrent.SynchronousQueue\$TransferStack.transfer(SynchronousQueue.java:362)  
at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)  
at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1066)  
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1127)  
at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617)  
at java.lang.Thread.run(Thread.java:748)

(2) 访问系统中的系统运维，点击“导出日志”按钮，将日志文件导出。在导出的压缩包中，有如下以“ThreadDumps”开头的压缩包

名称	修改日期	类型	大小
extensionsInfo.xml	2017/7/20 9:56	XML 文档	7 KB
HeapDump.log	2017/7/20 9:56	文本文档	410 KB
pools.txt	2017/7/20 9:56	文本文档	2 KB
sessionsInfo.xml	2017/7/20 9:56	XML 文档	8 KB
smartbi.log	2017/7/20 9:56	文本文档	954 KB
smartbi.log.1	2017/7/19 18:46	1 文件	10,248 KB
smartbi.log.2	2017/7/18 10:44	2 文件	10,630 KB
smartbi.log.3	2017/7/18 10:20	3 文件	10,506 KB
smartbi.log.4	2017/7/14 23:40	4 文件	10,245 KB
Smartbi.SystemProperties.log	2017/7/20 9:56	文本文档	5 KB
smartbi-config.xml	2017/7/20 9:56	XML 文档	3 KB
ThreadDump.txt	2017/7/20 9:56	文本文档	83 KB
ThreadDumps3820344039306787962.zip	2017/7/20 9:56	WinRAR ZIP 压缩...	1,939 KB
trace.xml	2017/7/20 9:56	XML 文档	1 KB
versions.txt	2017/7/20 9:56	文本文档	2 KB

该压缩包中包含系统保存的所有打印的线程堆栈文件。

(3) 若系统已经无法访问，并且需要线程堆栈文件，则可以直接进入上图中的线程堆栈目录下，即可拿到打印的线程堆栈文件。

包含到库中 ▾ 共享 ▾ 新建文件夹

名称	修改日期	类型	大小
2017-07-20_09_42_52.txt	2017/7/20 9:42	文本文档	55 KB
2017-07-20_09_40_29.txt	2017/7/20 9:40	文本文档	55 KB
2017-07-20_09_30_29.txt	2017/7/20 9:30	文本文档	53 KB
2017-07-20_09_20_29.txt	2017/7/20 9:20	文本文档	21 KB
2017-07-20_05_38_19.txt	2017/7/20 5:38	文本文档	56 KB
2017-07-20_05_28_19.txt	2017/7/20 5:28	文本文档	56 KB
2017-07-20_05_18_19.txt	2017/7/20 5:18	文本文档	56 KB
2017-07-20_05_08_19.txt	2017/7/20 5:08	文本文档	56 KB
2017-07-20_04_58_19.txt	2017/7/20 4:58	文本文档	55 KB
2017-07-20_04_48_19.txt	2017/7/20 4:48	文本文档	55 KB
2017-07-20_04_38_19.txt	2017/7/20 4:38	文本文档	55 KB
2017-07-20_04_28_19.txt	2017/7/20 4:28	文本文档	55 KB
2017-07-20_04_18_19.txt	2017/7/20 4:18	文本文档	55 KB

## 清空线程堆栈

点击“线程”界面上的“清空”按钮，可清空线程堆栈目录下的所有线程堆栈文件。

服务器：
设置
打印间隔：600 秒
开始打印
导出
清空

线程堆栈日志目录：
C:\Smartbi\_Insight\Tomcat-smartbi-V9\bin\mlogs-smartbi\threaddump

刷新
当前线程堆栈

2019-08-06 11:23:01  
 Full thread dump Java HotSpot(TM) 64-Bit Server VM (25.131-b11 mixed mode):  

```
"smartbi_valid_thread_pool-11" #145 daemon prio=5 os_prio=0 tid=0x000000002b776800 nid=0x1dd0 waiting on condition [0x000000004183f000]
java.lang.Thread.State: TIMED_WAITING (parking)
    at sun.misc.Unsafe.park(Native Method)
    - parking to wait for  <0x000000060cb9650> (a java.util.concurrent.SynchronousQueue$TransferStack)
    at java.util.concurrent.locks.LockSupport.parkNanos(LockSupport.java:215)
    at java.util.concurrent.SynchronousQueue$TransferStack.awaitFill(SynchronousQueue.java:460)
    at java.util.concurrent.SynchronousQueue$TransferStack.transfer(SynchronousQueue.java:362)
    at java.util.concurrent.SynchronousQueue.poll(SynchronousQueue.java:941)
    at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1066)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1127)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:617)
    at java.lang.Thread.run(Thread.java:748)
```