1. 查询linux设置了多少文件IO句柄，命令如下：

[root@ test ~]$ lsof|awk '{print $2}'|wc -l

4849

1. 查询了几个服务器端口网络连接情况

[root@ test ~]$ netstat -an|grep 8081|wc -l

195

[root@ test ~]$ netstat -an|grep 8082|wc -l

196

[root@ test ~]$ netstat -an|grep 8083|wc -l

195

[root@ test ~]$netstat -an|grep 8084|wc -l

197

[root@ test ~]$ netstat -an|grep 8085|wc -l

195

1. 查询服务器端口连接情况

[root@ test ~]$ lsof|awk '{print $2}'|sort|uniq -c|sort -nr|more

4120 3397

16 3514

14 3101

14 29928

12 3518

12 3516

12 3515

10 3520

10 3519

9 3517

4 987

4 97

4 96

4 95

4 93

4 92

4 91

4 90

4 9

4 83

4 82

4 81

4 80

4 8

1. 查询一下3397进程相关信息

[root@ test ~]$ps -ef |grep 3397

502 3397 29928 0 11:50 pts/0 00:00:04 java -cp netty-all-4.1.6.Final.jar:netty-pattern-clent.jar connection.Server

1. 正常连接数量超过句柄数量会报

Exception in thread "nioEventLoopGroup-2-7" java.lang.ExceptionInInitializerError

at sun.nio.ch.EPollSelectorImpl.implClose(EPollSelectorImpl.java:136)

at sun.nio.ch.SelectorImpl.implCloseSelector(SelectorImpl.java:114)

at java.nio.channels.spi.AbstractSelector.close(AbstractSelector.java:108)

at io.netty.channel.nio.NioEventLoop.cleanup(NioEventLoop.java:497)

at io.netty.util.concurrent.SingleThreadEventExecutor$5.run(SingleThreadEventExecutor.java:902)

at io.netty.util.concurrent.DefaultThreadFactory$DefaultRunnableDecorator.run(DefaultThreadFactory.java:144)

at java.lang.Thread.run(Thread.java:745)

Caused by: java.io.IOException: Too many open files

at sun.nio.ch.FileDispatcherImpl.init(Native Method)

at sun.nio.ch.FileDispatcherImpl.<clinit>(FileDispatcherImpl.java:35)

... 7 more

Exception in thread "nioEventLoopGroup-2-3" java.lang.NoClassDefFoundError: Could not initialize class sun.nio.ch.FileDispatcherImpl

at sun.nio.ch.EPollSelectorImpl.implClose(EPollSelectorImpl.java:136)

at sun.nio.ch.SelectorImpl.implCloseSelector(SelectorImpl.java:114)

at java.nio.channels.spi.AbstractSelector.close(AbstractSelector.java:108)

at io.netty.channel.nio.NioEventLoop.cleanup(NioEventLoop.java:497)

at io.netty.util.concurrent.SingleThreadEventExecutor$5.run(SingleThreadEventExecutor.java:902)

at io.netty.util.concurrent.DefaultThreadFactory$DefaultRunnableDecorator.run(DefaultThreadFactory.java:144)

at java.lang.Thread.run(Thread.java:745)

1. 句柄数量设置特别大时，如下图表现

connections: 0

connections: 1308

connections: 5880

connections: 12542

connections: 24085

connections: 35363

connections: 44523

connections: 54533

connections: 66017

connections: 75941

connections: 87274

connections: 98469

connections: 108846

connections: 114276

connections: 120276

connections: 129074

connections: 138717

connections: 147820

connections: 158158

connections: 168978

connections: 178830

connections: 189547

connections: 199956

connections: 209737

connections: 221586

connections: 232723

connections: 236943

connections: 247837

connections: 253208

connections: 255949

connections: 263695

connections: 273665

connections: 283639

connections: 294693

connections: 304487

connections: 315661

connections: 326618

connections: 337642

connections: 339864

connections: 350540

connections: 361616

connections: 372374

connections: 373885

connections: 385034

connections: 395520

connections: 405380

connections: 415955

connections: 426966

connections: 437875

connections: 447923

connections: 459102

connections: 470187

connections: 474207

connections: 476919

connections: 485472

connections: 496736

connections: 507998

connections: 518950

connections: 527992

connections: 539077

connections: 550006

connections: 561206

connections: 568651

connections: 579224

connections: 589937

connections: 592830

connections: 558844

connections: 462133

connections: 414170

connections: 346832

connections: 294288

connections: 242424

connections: 167670

connections: 117005

connections: 28469

connections: 0

connections: 0

connections: 0

connections: 0

connections: 0

connections: 0

connections: 0

connections: 0

相关的命令如下：

查看系统打开句柄最大数量

more /proc/sys/fs/file-max

查看打开句柄总数

lsof|awk '{print $2}'|wc -l

根据打开文件句柄的数量降序排列，其中第二列为进程ID：

lsof|awk '{print $2}'|sort|uniq -c|sort -nr|more

根据获取的进程ID查看进程的详情

ps -ef |grep

修改linux单进程最大文件连接数

修改linux系统参数。vi /etc/security/limits.conf 添加

\*　　soft　　nofile　　65536

\*　　hard　　nofile　　65536

修改以后保存，注销当前用户，重新登录，执行ulimit -a ,ok ,参数生效了：

修改句柄数量取自下面链接：<https://www.cnblogs.com/likehua/p/3831331.html>