Middleware magic
Come, join us and experience the magic

- Home
- Beginners Corner
- WebLogic
- WebLogic Scripting
- EJB
- JMS
- Web Services
- JMX
- Work Managers
- Proxy Plugin
- Debugging
- Ant
- Spring
- Forums

22
Feb/11

Sending Email Alert For Stuck Threads With Thread Dumps

by Ravish Mody under Alert, WLST

Ravish Mody

The most basic need for almost every 24×7 production environment to keep on monitoring the Server Health and the activities of Threads. And the very common need is to collect the Thread Dump as soon as [STUCK] Thread occurs in any of the WebLogic Server. Most of the time we do post-mortem analysis , Means when the Stuck Thread issues occurred or WebLogic Server hanged we could not collect the Thread Dumps to investigate. The Support always has this excuse.

While being in Middleware Support many times we face the same problem that the customers could not collect the thread dumps during the issue was occurring, which always delayed the resolution time and to find out the root cause of the actual issue.

To avoid above kind of issues we developed an Automatic WLST Script which has the following features in it:

Features Of This Script:

1. **Ready To Use:** The Script is ready to use, it means you need not to edit anything in the WLST script except the

email address in **line-32**.

2. **Flexibility:** You need to just change the values present in *"domains.properties"* file like how many Thread Dumps you want to collect when the issue occurs.

3. **E-Mail Alert:** The Administrator will get to know regarding the issue via an E-Mail alert immediately.

4. **Thread Dumps In Mail:** The complete Thread Dumps will we sent to the Administrator via the E-Mail so need not to worry about collecting the Thread Dumps.

5. **Independent Script:** This WLST script can run independently without the help of any Cron-Job utility provided by the operating System (But it can be associated with the Cron-Job utility as well) So it provides more flexibility to the Administrators.

Steps to Create an Email Alert For Stuck Threads With Thread Dumps

Step1) Create a Directory somewhere in your file system like : "C:\WLST"

Step2) Write a Properties file "**domains.properties**" inside "C:\WLST" like following:

```
01  server.url=t3://localhost:8004
02  admin.username=weblogic
03  admin.password=weblogic
04  monitoring.server.name=MS-3
05
06  # This ExecuteThread_Vs_HoggerThreadRatio represtents the division of ExecuteTh
07  ExecuteThread_Vs_HoggerThreadRatio=2
08
09  # Number of times the RATIO has to be checked
10  checkTimes_Number=3
11
12  # TIME INTERVAL between number of times the RATIO has to be checked (60000 mill
13  checkInterval_in_Milliseconds=60000
14
15  # Number of times the Thread Dump has to be taken
16  threadDumpTimes_Number=5
17
18  # TIME INTERVAL between each thread number has to be taken (10000 milliseconds
19  threadDumpInterval_in_Milliseconds=10000
20
21  # Number of times to send thread dumps in mail is case of stuck/hogging thread
22  sendEmail_ThreadDump_Counter=2
```

Step-3) Create a WLST Script somewhere in your file system with some name like "**Alert_StuckThread_ThreadDumps.py**" inside "C:\WLST" contents will be something like following:

```
01  ####################################################################################
02  #
03  # @author Copyright (c) 2010 - 2011 by Middleware Magic, All Rights Reserved.
04  #
05  ####################################################################################
06
07  from java.io import FileInputStream
08  import java.lang
09  import os
10
11  propInputStream = FileInputStream("domains.properties")
12  configProps = Properties()
13  configProps.load(propInputStream)
14
15  adminUrl = configProps.get("server.url")
```

```python
16  adminUser = configProps.get("admin.username")
17  adminPassword = configProps.get("admin.password")
18  monitoringServerName = configProps.get("monitoring.server.name")
19
20  executeThread_Vs_HoggerThreadRatio = configProps.get("ExecuteThread_Vs_HoggerTh
21  checkTimes_Number = configProps.get("checkTimes_Number")
22  checkInterval_in_Milliseconds = configProps.get("checkInterval_in_Milliseconds"
23  threadDumpTimes_Number = configProps.get("threadDumpTimes_Number")
24  threadDumpInterval_in_Milliseconds = configProps.get("threadDumpInterval_in_Mil
25  sendEmail_ThreadDump_Counter = configProps.get("sendEmail_ThreadDump_Counter")
26
27  i = 0
28  y = int(checkTimes_Number)
29
30  #############   This method would send the Alert Email with Thread Dump   #######
31  def sendMailThreadDump():
32      os.system('/bin/mailx -s   "ALERT: CHECK Thread Dumps as Hogger Thread Count
33      print '*********   ALERT MAIL HAS BEEN SENT   ***********'
34      print ''
35
36  #############   This method is checking the Hogger Threads Ratio   #############
37  def alertHoggerThreads(executeTTC , hoggerTC):
38      print 'Execute Threads : ', executeTTC
39      print 'Hogger Thread Count : ', hoggerTC
40      print 'executeThread_Vs_HoggerThreadRatio :', executeThread_Vs_HoggerThread
41      if hoggerTC != 0:
42          ratio=(executeTTC/hoggerTC)
43          print 'Ratio : ' , ratio
44          print ''
45          if (int(ratio) <= int(executeThread_Vs_HoggerThreadRatio)):
46              print ' !!!! ALERT !!!! Stuck Threads are on its way.....'
47              print ''
48              message =  'ExecuteThreads Count= ' + str(executeTTC) + '   Hogging
49              cmd = "echo " + message +" > rw_file"
50              os.system(cmd)
51              genrateThreadDump()
52          else:
53              print '++++++++++++++++++++++++++++++++++++++'
54              print 'Everything is working fine till now'
55              print '++++++++++++++++++++++++++++++++++++++'
56      else:
57          print '++++++++++++++++++++++++++++++++++++++'
58          print 'Everything is working fine till now'
59          print '++++++++++++++++++++++++++++++++++++++'
60
61  #############   This method is Taking the Thread Dumps ################
62  def genrateThreadDump():
63      b = int(sendEmail_ThreadDump_Counter)
64      a = 0
65      p = 0
66      q = int(threadDumpTimes_Number)
67      serverConfig()
68      cd ('Servers/'+ monitoringServerName)
69      while (p < q):
70          if a < b:
71              print 'Taking Thread Dump : ', p
72              threadDump()
73              cmd = "cat Thread_Dump_MS-3.txt >> All_ThreadDump.txt"
74              os.system(cmd)
75              print 'Thread Dump Collected : ', p ,' now Sleeping for ', int(thre
```

```
76                 print ''
77                 Thread.sleep(int(checkInterval_in_Milliseconds))
78                 b = b - 1
79                 p = p + 1
80         sendMailThreadDump()
81         cmd = "rm -f All_ThreadDump.txt"
82         os.system(cmd)
83         serverRuntime()
84
85     connect(adminUser,adminPassword,adminUrl)
86     serverRuntime()
87     cd('ThreadPoolRuntime/ThreadPoolRuntime')
88
89     while (i < y):
90         executeTTC=cmo.getExecuteThreadTotalCount();
91         hoggerTC=cmo.getHoggingThreadCount();
92         alertHoggerThreads(executeTTC , hoggerTC)
93         print 'Sleeping for ', int(checkInterval_in_Milliseconds) , ' ...'
94         print ''
95         Thread.sleep(int(checkInterval_in_Milliseconds))
96         i = i + 1
```

Step-4) Open a command prompt and then run the "setWLSEnv.cmd" or "setWLSEnv.sh" to set the CLASSPATH and PATH variables. Better you do echo %CLASSPATH% or echo $CLASSPATH to see whether the CLASSPATH is set properly or not. If you see an Empty Classpath even after running the "setWLSEnv.sh" then please refer to the Note mentioned at **Step3)** in the Following post: **http://middlewaremagic.com/weblogic/?page_id=1492**

Step-5) Now run the WLST Script in the same command prompt using the following command:

```
1  java   weblogic.WLST  Alert_StuckThread_ThreadDumps.py
```

You will see the following kind of results in the command prompt

```
01  $ java weblogic.WLST Alert_StuckThread_ThreadDumps.py
02
03  Initializing WebLogic Scripting Tool (WLST) ...
04
05  Welcome to WebLogic Server Administration Scripting Shell
06
07  Type help() for help on available commands
08
09  Connecting to t3://localhost:8004 with userid weblogic ...
10  Successfully connected to managed Server 'MS-3' that belongs to domain 'Domain_
11
12  Warning: An insecure protocol was used to connect to the
13  server. To ensure on-the-wire security, the SSL port or
14  Admin port should be used instead.
15
16  Location changed to serverRuntime tree. This is a read-only tree with ServerRun
17  For more help, use help(serverRuntime)
18
19  Execute Threads :   5
20  Hogger Thread Count :   2
21  executeThread_Vs_HoggerThreadRatio : 2
22  Ratio :   2
23
24   !!!! ALERT !!!! Stuck Threads are on its way.....
25
```
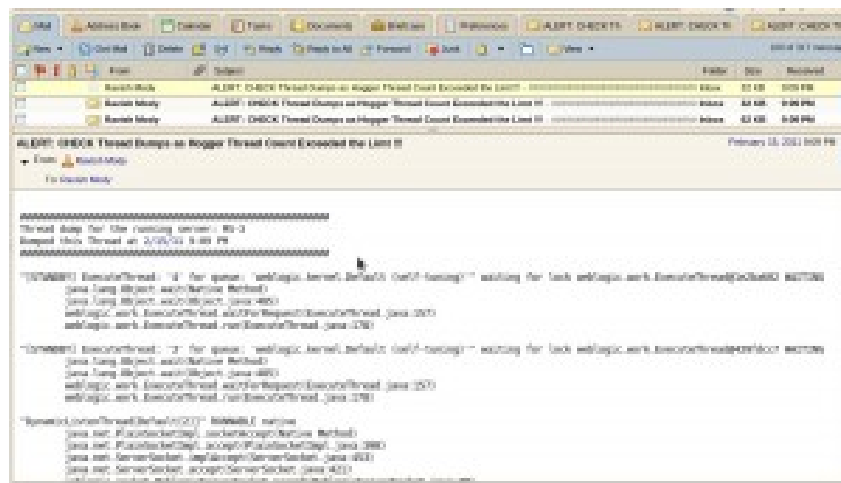
```
26  Taking Thread Dump :    0
27  Thread dump for the running server: MS-3
28  "[STANDBY] ExecuteThread: '4' for queue: 'weblogic.kernel.Default (self-tuning)
29      java.lang.Object.wait(Native Method)
30      java.lang.Object.wait(Object.java:485)
31      weblogic.work.ExecuteThread.waitForRequest(ExecuteThread.java:157)
32      weblogic.work.ExecuteThread.run(ExecuteThread.java:178)
33
34  "[STANDBY] ExecuteThread: '3' for queue: 'weblogic.kernel.Default (self-tuning)
35      java.lang.Object.wait(Native Method)
36      java.lang.Object.wait(Object.java:485)
37      weblogic.work.ExecuteThread.waitForRequest(ExecuteThread.java:157)
38      weblogic.work.ExecuteThread.run(ExecuteThread.java:178)
39
40  "DynamicListenThread[Default[2]]" RUNNABLE native
41      java.net.PlainSocketImpl.socketAccept(Native Method)
42      java.net.PlainSocketImpl.accept(PlainSocketImpl.java:390)
43      java.net.ServerSocket.implAccept(ServerSocket.java:453)
44      java.net.ServerSocket.accept(ServerSocket.java:421)
45      weblogic.socket.WeblogicServerSocket.accept(WeblogicServerSocket.java:38)
46      weblogic.server.channels.DynamicListenThread$SocketAccepter.accept(DynamicL
47      weblogic.server.channels.DynamicListenThread$SocketAccepter.access$200(Dyna
48      weblogic.server.channels.DynamicListenThread.run(DynamicListenThread.java:1
49      java.lang.Thread.run(Thread.java:619)
50
51  "[STUCK] ExecuteThread: '1' for queue: 'weblogic.kernel.Default (self-tuning)'"
52      sun.misc.FloatingDecimal.doubleValue(FloatingDecimal.java:1531)
53      java.lang.Double.parseDouble(Double.java:510)
54      jsp_servlet.__index._jspService(__index.java:71)
55      weblogic.servlet.jsp.JspBase.service(JspBase.java:34)
56      weblogic.servlet.internal.StubSecurityHelper$ServletServiceAction.run(StubS
57      weblogic.servlet.internal.StubSecurityHelper.invokeServlet(StubSecurityHelp
58      weblogic.servlet.internal.ServletStubImpl.execute(ServletStubImpl.java:292)
59      weblogic.servlet.internal.ServletStubImpl.execute(ServletStubImpl.java:175)
60      weblogic.servlet.internal.WebAppServletContext$ServletInvocationAction.run(
61      weblogic.security.acl.internal.AuthenticatedSubject.doAs(AuthenticatedSubje
62      weblogic.security.service.SecurityManager.runAs(Unknown Source)
63      weblogic.servlet.internal.WebAppServletContext.securedExecute(WebAppServlet
64      weblogic.servlet.internal.WebAppServletContext.execute(WebAppServletContext
65      weblogic.servlet.internal.ServletRequestImpl.run(ServletRequestImpl.java:14
66      weblogic.work.ExecuteThread.execute(ExecuteThread.java:201)
67      weblogic.work.ExecuteThread.run(ExecuteThread.java:173)
```

NOTE: This script is using mailx (i.e. but Windows box does not have mailx utility) so please do check if your mailx is configured properly or else script would run properly but the mail would not be sent.

Alert Email

.

Regards,

Ravish Mody

[Alert](), [Hogger Thread](), [Stcuk Threads](), [WLST]()

41 Comments for this entry

 praveen
February 24th, 2011 on 7:12 pm

Hi Ravish,

Below error I am getting while executing this script.

Warning: An insecure protocol was used to connect to the
server. To ensure on-the-wire security, the SSL port or
Admin port should be used instead.

Location changed to serverRuntime tree. This is a read-only tree with ServerRunt
imeMBean as the root.
For more help, use help(serverRuntime)

Execute Threads : 6
Hogger Thread Count : 0
executeThread_Vs_HoggerThreadRatio : 2
Problem invoking WLST – Traceback (innermost last):
File "D:\Research\WLST_For_TreadDumps\Alert_StuckThread_ThreadDumps.py", line
85, in ?
File "D:\Research\WLST_For_TreadDumps\Alert_StuckThread_ThreadDumps.py", line
41, in alertHoggerThreads
ZeroDivisionError: integer division or modulo

Please let me know what was causing this error ?

thanks,

Praveen

Ravish Mody
February 24th, 2011 on 7:53 pm

Hi Praveen,

The issue which you had faced was due to the Hogger Thread Count was equal to "0″ (which we had not checked) and we are using that hogger thread count (hoggerTC) to get the ratio (i.e. ratio= (executeTTC/hoggerTC)) to check if the script has to send an mail or not and as the denominator is equal to zero that's why you are getting the "ZeroDivisionError: integer division or modulo" error.

In short you found a bug in our script 🙂 , which has been fixed now.

Thank you Praveen to help us by finding a bug in above script.

We Share **20 Bonus Magic Points** with you for suggesting the great enhancement. Thank you once again for your keen observation and sharing enhancements.

Keep Sharing… 😃

sumit
February 26th, 2011 on 1:11 pm

Ravish,

Rather than depending on the ration why we are not directly counting the stuck threads. With JMX we can use something like this.
sourcecode language="java" wraplines="false"

```
ThreadPoolRuntimeMBean threadPoolRuntimeMBean = serverRuntimeBean.getThreadPoolRuntime();
Integer stuckThreadCount = 0;
ExecuteThread executeThreadArray[] = threadPoolRuntimeMBean.getExecuteThreads();
if(executeThreadArray != null){
boolean isStuck = false;
for(ExecuteThread executeThread :executeThreadArray){
if(executeThread.isStuck()){
stuckThreadCount++;
Date currentRequestStartTime = new Date(executeThread.getCurrentRequestStartTime());
logger.error("Name : " + executeThread.getName() + ", CurrentRequest : " +
executeThread.getCurrentRequest()
+ ", CurrentRequestStartTime : " + currentRequestStartTime +
", ApplicationName : " + executeThread.getApplicationName());
isStuck = true;
}
}
if(isStuck){
JVMRuntimeMBean jvmRuntimeMBean = serverRuntimeBean.getJVMRuntime();
logger.error(jvmRuntimeMBean.getThreadStackDump());
}
}
```

/sourcecode

I have pasted the code snippet that i use for monitoring purpose in my tool. I have not tested will the same logic works with "py". I will do and update.

Thanks
Sumit

[TopMagicUsers](#)

- *JaySenSharma*
  [February 26th, 2011 on 6:24 pm](#)

Hi Sumit,
Thank you for sharing the JMX code snippet to find out the Stuck Threads. I will try to implement it.
The WLST Script we posted in the above article provides us the details proactively. Like before getting actual STUCK Thread scenario as well it can trigger an alarm. The only thing we need to keep in mind that we choose the Correct Ration of Hogger Threads Vs Execute Threads.
So the WLST Script will WARN us that there may be something wrong please check….

Thanks once again for sharing the JMX way of doing this. Magic Team shares 30 Bonus Magic Points with you 😃
.
.
Keep Sharing 😃
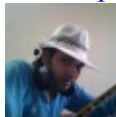Thanks
Jay SenSharma

[TopMagicUsers](#)

- *sumit*
  [February 26th, 2011 on 7:33 pm](#)

Jay,

This will give us pre-information only when Hogger thread is not zero. But when the threads are stuck at that time it may be possible that Hogger thread count is 0 and we may never able to collect the actual thread dump and alert.

Thanks
Sumit

[TopMagicUsers](#)

- *JaySenSharma*
  [February 26th, 2011 on 9:26 pm](#)

Hi Sumit,
I have never seen HoggerThread=0 at the time of STUCK Thread situation. Can u simulate this? Let us know if you have any testcase for that?
.
.
Keep Posting 😃

Thanks
Jay SenSharma

[TopMagicUsers](#)

sumit
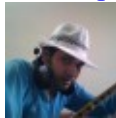[February 26th, 2011 on 10:01 pm](#)

Jay,

I remember one scenario which i tried few months bak. I made the log server un reachable . So initially there were hogger threads . But after few hours all the threads were in the stuck mode and there was no hogger thread . At that time totally the WL was using around 400 threads.

But this is the scenario when where we already the above code has collected the dump. However i will think on to simulate where the HTC=0 and still have stuck thread

Thanks for the Bonus point.But it is not reflected in the total point 😃

Thanks
Sumit

[TopMagicUsers](#)

[JaySenSharma](#)
[February 26th, 2011 on 11:19 pm](#)

Hi Sumit,
Any thread cannot be declared as STUCK until it has been passed through the Hogger Thread State. Hogger Threads is actually a state. A thread is called in this Hogging state when it keep on performing the same task for a long time and These kind of threads are the Major Suspect of becoming STUCK Threads later…Means Hogger Threads becomes the STUCK Thread.
It is like a Child can not become Old without being passed through Young Age. Same Thing is here a Thread Cannot be directly declared as Stuck Thread without being in the state of Hoggers.
So the above WLST script gives you the options to be Alarmed Even before the Actual Stuck Thread situation occured.
But if you want to be alarmed only when the Threads have become STUCK then I will consider it as a **"Post Mortem Analysis"** .

So You can chose between
1). Getting alert before the things goes out of control.
OR
2). Getting alert after the things goes out of control

.
.
Keep Posting 😃
Thanks
Jay SenSharma

[TopMagicUsers](#)

kiranb.naik

May 12th, 2011 on 12:26 pm

Hi,

Thanks for the script. I tried to implement this it worked fine for admin servers….. this script checks hogging thread related to admin server and then it takes thread dump either admin or managed server depending on what we mention in the script. But If i want to check hogging threads related to managed server directly and then going for checking ratio and proceed further for threaddump if observed hogging threads.

Please let me know is there any way to do this. Thanks.

TopMagicUsers

- *vinobabu2001*
  May 21st, 2011 on 11:52 am

Hi Jay,

You have also send a Alert Mail in Windows System for downloading the below mentioned opensource tool "sendEmail".

http://caspian.dotconf.net/menu/Software/SendEmail/

But you know only Mail Exchange server ip address.

You have to use the same script in windows system you have to modify the 32th line in "Alert_StuckThread_ThreadDumps.py" python script.

Example:-

192.168.1.10 –> Exchange Mail server IP Address.

D:\sendmail-vinoth\sendEmail.exe -f Weblogic.monitoring@test.com -t vinothbabu.s@test.com -s 192.168.1.10 -u Weblogic Server JDBC Stastics Report < D:\sendmail-vinoth\All_ThreadDump.txt

Regards,
S.vinoth babu

TopMagicUsers

- *Ravish Mody*
  May 21st, 2011 on 2:57 pm

Hi S.vinoth babu,

Thank you for sharing this great information, now people with Windows box can also use the same scripts. However I was not able to test it at my end because the my Windows version is not yet supported with SendEmail.

Still is a worth trying this software on the supported versions of SendEmail, hence Magic Team would love to share **30 Magic Points** with you for sharing such a great information.

Keep Posting 😃
Regards,
Ravish Mody

[TopMagicUsers](#)

sathya

[May 30th, 2011 on 4:26 am](#)

Hello Ravish,Jay

The above code snippet, Will monitor the Admin server for Hogging Thread and If there are any Hogging Thread present, we are taking a TD of the Managed server and forwarding it on mail….

What if admin Server is good and Hogging Thread are observed on Managed server?

Thanks
Sathya

[TopMagicUsers](#)

sathya

[May 30th, 2011 on 6:19 am](#)

Hello Ravish,Jay..

In free time, Have made few changes to the Above code to monitor all Nodes in a Domain

Script
=====================================

```
from java.io import FileInputStream
import java.lang
import os
import smtplib

propInputStream = FileInputStream("/home/cgnr3dev/scripts/domain.properties")
configProps = Properties()
configProps.load(propInputStream)

adminUrl = configProps.get("admin.url")
adminUser = configProps.get("admin.username")
adminPassword = configProps.get("admin.password")
monitoringServerName = configProps.get("monitoring.server.name")

executeThread_Vs_HoggerThreadRatio = configProps.get("ExecuteThread_Vs_HoggerThreadRatio")
checkTimes_Number = configProps.get("checkTimes_Number")
checkInterval_in_Milliseconds = configProps.get("checkInterval_in_Milliseconds")
threadDumpTimes_Number = configProps.get("threadDumpTimes_Number")
threadDumpInterval_in_Milliseconds = configProps.get("threadDumpInterval_in_Milliseconds")
sendEmail_ThreadDump_Counter = configProps.get("sendEmail_ThreadDump_Counter")
totalServersToMonitor = configProps.get("total.number.of.servers")
y = int(checkTimes_Number)
############## This method is checking the Hogger Threads Ratio #################
def alertHoggerThreads(executeTTC , hoggerTC, serverName):
    print 'Execute Threads : ', executeTTC
    print 'Hogger Thread Count : ', hoggerTC
    print 'executeThread_Vs_HoggerThreadRatio :', executeThread_Vs_HoggerThreadRatio
    if hoggerTC != 0:
```

```
                    ratio=(executeTTC/hoggerTC)
                        print 'Ratio : ' , ratio
                            print ''
                    if (int(ratio) rw_file''
                        os.system(cmd)
                    genrateThreadDump(serverName)
                            else:
        print '++++++++++++++++++++++++++++++++++++++'
                print 'Everything is working fine till now'
        print '++++++++++++++++++++++++++++++++++++++'
                            else:
        print '++++++++++++++++++++++++++++++++++++++'
                print 'Everything is working fine till now'
        print '++++++++++++++++++++++++++++++++++++++'


        ############## This method is Taking the Thread Dumps #################
                    def genrateThreadDump(serverName):
                    b = int(sendEmail_ThreadDump_Counter)
                            a = 0
                            p = 0
                    q = int(threadDumpTimes_Number)
                            serverConfig()
                    cd ('Servers/'+ serverName)
                        while (p < q):
                    if a > All_ThreadDump.txt''
                        os.system(cmd)
print 'Thread Dump Collected : ', p ,' now Sleeping for ', int(threadDumpInterval_in_Milliseconds) , '
                            Seconds …'
                            print ''
            Thread.sleep(int(checkInterval_in_Milliseconds))
                            b = b – 1
                            p = p + 1
                    cmd = "rm -f All_ThreadDump.txt"
                        os.system(cmd)
                        serverRuntime()

            #connect(adminUser,adminPassword,adminUrl)
                        #serverRuntime()
            #cd('ThreadPoolRuntime/ThreadPoolRuntime')
                totalServers = int(totalServersToMonitor)
                            i=1
                    while (i > serverState_file''
                        #os.system(cmd)
                            i = i + 1


            ======================================


                        domain.properties

                    admin.username=CNETPREAdmin
                    admin.password=XXXXXX
                    admin.url=t3s://169.185.246.55:31071
            ExecuteThread_Vs_HoggerThreadRatio=2
                    total.number.of.servers=3
                    checkTimes_Number=25
            sendEmail_ThreadDump_Counter=2
                    threadDumpTimes_Number=5
```

checkInterval_in_Milliseconds=10000
threadDumpInterval_in_Milliseconds=10000
server.name.1=CNETPREServer
server.url.1=t3s://169.185.246.55:31071
host.name.1=cgnrapp1d

server.name.2=CNETPRENode1
server.url.2=t3://169.185.246.55:31074
host.name.2=cgnrapp1d

server.name.3=CNETPRENode2
server.url.3=t3://169.185.246.55:31078
host.name.3=cgnrapp1d

check.interval=0
connectionPool.alert.limit=12

===

Thanks
Sathya

[TopMagicUsers](#)

Lakshmi Srikanth
[September 20th, 2011 on 10:11 am](#)

Hi Ravish,

I'm getting the following error. Can you please comment?

Error
———

===== END OF THREAD DUMP ===============

The Thread Dump for server jmsFarmManagedServer1
has been successfully written to Thread_Dump_jmsFarmManagedServer1.txt
cat: Thread_Dump_jmsManagedServer1.txt: No such file or directory
Thread Dump Collected : 1 now Sleeping for 2000 Seconds …

Null message body; hope that's ok
********* ALERT MAIL HAS BEEN SENT ***********

Sleeping for 2000 …

At the end when i look at "Thread_Dump_jmsFarmManagedServer1.txt", it contains only one thread dump…

Any suggestions as to where i'm missing….

[TopMagicUsers](#)

Lakshmi Srikanth
[September 20th, 2011 on 10:17 am](#)

To be precise, it is not able to cat the "Thread_Dump_jmsFarmManagedServer1.txt" saying "No such file or

directory" and because of which it cannot write to "All_ThreadDump.txt".

At the end there is no content in "All_ThreadDump.txt", so it says "Null message body; hope that's ok"…

[TopMagicUsers](#)

- *[Ravish Mody](#)*
  [September 20th, 2011 on 10:37 am](#)

Hi Laskshmi Srikanth,

It looks like you have given a wrong file name to be "cat" from which can be seen from the below output

=======================
has been successfully written to Thread_Dump_jmsFarmManagedServer1.txt
cat: Thread_Dump_jmsManagedServer1.txt: No such file or directory
=======================

Thread-dump is been written in "**Thread_Dump_jmsFarmManagedServer1.txt**" and you are trying to cat "**Thread_Dump_jmsManagedServer1.txt**" file which is different (i.e. missing **"Farm"** in the file-name) hence it throws " No such file or directory" error. Just fix this with giving the correct name and it should work just fine.

Regards,
Ravish Mody

[TopMagicUsers](#)

- *Lakshmi Srikanth*
  [September 20th, 2011 on 11:25 am](#)

Good catch Ravish..

I fixed that part but still it creates only one thread dump in "Thread_Dump_jmsFarmManagedServer1.txt" and doesn't even mail the thread dump.

In the above logic we have "All_ThreadDump.txt" which doesn't even get created, there by no mail is being sent out.

[TopMagicUsers](#)

- *Lakshmi Srikanth*
  [September 20th, 2011 on 11:34 am](#)

Below given is the output.

===== END OF THREAD DUMP ===============

The Thread Dump for server jmsFarmManagedServer1
has been successfully written to Thread_Dump_jmsFarmManagedServer1.txt
********* ALERT MAIL HAS BEEN SENT **********

Thread Dump Collected : 1 now Sleeping for 2000 Seconds …

Sleeping for 2000 …

[TopMagicUsers](#)

[*Ravish Mody*](#)
[September 20th, 2011 on 3:55 pm](#)

Hi Lakshmi Srikanth,

I believe the all the thread dumps must be getting created but thing I think your "mailx" might not be working. Regarding the "All_ThreadDump.txt" not getting generated we delete the file to save the disk space once we collect the given number of thread dumps. Hence to see if all the thread dumps are getting generated you can comment out the **line 81 and 82** in the above code, this way we can make out where is the exact problem.

Regards,
Ravish Mody

[TopMagicUsers](#)

Lakshmi Srikanth
[September 20th, 2011 on 8:17 pm](#)

Yes, when i commented out those lines it did work. But still the mail doesn't go out.

When i do just use mailx command from my shell it works but not from python command prompt. It gives exit status as zero but no mail.

[TopMagicUsers](#)

[*Ravish Mody*](#)
[September 20th, 2011 on 8:55 pm](#)

Hi Lakshmi Srikanth,

To narrow down the issue answer the below questions

- On which OS are you running this WLST script?
- Have you made any changes to the above script? If yes, then send us the script and the properties files on contact@middlewaremaigc.com
- Are you running this script with the same permission by which just the mailx command worked from the shell prompt?
- Is the Email-ID given correctly ?

Regards,
Ravish Mody

[TopMagicUsers](#)

Lakshmi Srikanth
[September 20th, 2011 on 11:55 pm](#)

It worked Ravish.. there was a typo in the e-mail address..

Thanks for your help…

You guys are Excellent…

Good site for WebLogic Admins…

[TopMagicUsers](#)

moshe
[January 26th, 2012 on 6:18 am](#)

Hi,

We get the following error.
Can any one help.

-bash-3.2$ java weblogic.WLST Alert_StuckThread_ThreadDumps.py

Initializing WebLogic Scripting Tool (WLST) …

Welcome to WebLogic Server Administration Scripting Shell

Type help() for help on available commands

Problem invoking WLST – Traceback (innermost last):
(no code object) at line 0
File "/eas/home/oracle/sbatra/Alert_StuckThread_ThreadDumps.py", line 89
b = b – 1
^
SyntaxError: inconsistent dedent

Regards,
Moshe.S

[TopMagicUsers](#)
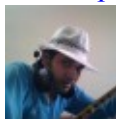
muffin_top
[January 27th, 2012 on 4:59 pm](#)

Hi,

Being a WLST newbie… Can I ask a stupid question?

The domains.properties script is for connecting to the Admin Server or just one of the Managed Servers?

I have two production domains each containing two managed servers and an admin server. Would I have to right a script for each managed servers?

Thanks,

[TopMagicUsers](#)

[JaySenSharma](#)
[January 28th, 2012 on 4:55 pm](#)

Hi muffin_top,

You can write only a single WLST Script to monitor all your Domains and Managed Servers using a For Loop inside the WLST Script and by mentioning the following kind of entries inside your domains.properties file:

server.url.1=t3://domainOneManagedServerHost:8004
admin.username.1=weblogic
admin.password.1=weblogic
monitoring.server.name.1=ServerOne

server.url.2=t3://domainTwoManagedServerHost:8005
admin.username.2=weblogic
admin.password.2=weblogic
monitoring.server.name.2=ServerTwo

server.url.3=t3://domain_ThreeManagedServerHost:8006
admin.username.3=weblogic
admin.password.3=weblogic
monitoring.server.name.3=ServerThree

server.url.4=t3://domain_FourManagedServerHost:8007
admin.username.4=weblogic
admin.password.4=weblogic
monitoring.server.name.4=ServerFour

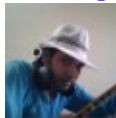The for loop example you can see in the following link: http://middlewaremagic.com/weblogic/?p=4956

.

.

Keep Posting 😃
Thanks
Jay SenSharma

[TopMagicUsers](#)

- *[JaySenSharma](#)*
[January 28th, 2012 on 5:05 pm](#)

Hi Moshe,

In the WLST Script control statements the Alignment (indentation) is most important. Indentation means the Spaces before the Statement. Because the "if" block and the "for" loop starts and ends based on the indentation. So make sure that the statement $b = b - 1$ has the right indentation. Means make sure that the following two statements are present inside the **if a<b :** block

$$b = b - 1$$
$$p = p + 1$$

.

.

Keep Posting 😃
Thanks
Jay SenSharma

[TopMagicUsers](#)

- *muffin_top*

February 7th, 2012 on 6:52 pm

Hi,

What's the best way to have this script running all the time?

Would you have a cronjob running the command – java weblogic.WLST Alert_StuckThread_ThreadDumps.py?

Thanks,

TopMagicUsers

JaySenSharma
February 8th, 2012 on 2:43 am

Hi muffin_top,

It is not a good practice to run the WLST script continuously, because it will consume a lot of server resources so running the WLST Script using a Cron Job in a feasible interval is a good practice.
.
.
Keep Posting 😃
Thanks
Jay SenSharma

TopMagicUsers

muffin_top
February 8th, 2012 on 6:15 pm

Thanks for the info on using the For loop… Just need to get head around it now. Will post back with results… in a few weeks 😃 !

TopMagicUsers

muffin_top
February 9th, 2012 on 2:33 pm

Hi,

While using a for loop to iterate through the three server instances in the domain, the script fails on this line:
cmd = "cat Thread_Dump_MS-3.txt >> All_ThreadDump.txt"

It's trying to cat the file 'Thread_Dump_MS-3.txt' that does not exist. How do I pass in the servername to the cat command, i.e. "cat Thread_Dump_servername". I can use the variable 'monitoringServerName' but cannot get it to work.

Thanks,

TopMagicUsers

- *Ravish Mody*
  February 9th, 2012 on 5:24 pm

Hi muffin_top,

To create a file name with respect to your server name you can try replacing the line

```
1  cmd = "cat Thread_Dump_MS-3.txt &gt;&gt; All_ThreadDump.txt"
```

with

```
1  cmd = "cat Thread_Dump_"+monitoringServerName+".txt  &gt;&gt; All_ThreadDu
```

Regards,
Ravish Mody

TopMagicUsers

- *muffin_top*
  February 9th, 2012 on 6:12 pm

Yep, just managed to work that out before seeing your post.
I have the script working great now. It checks the admin server and both managed servers in turn using a while loop. Had trouble using a for loop.

Now, my problem is that on some managed servers I can have in excess of 20 Execute Threads which causes the script to generate a thread dump when not needed. is this to do with with the weblogic tuning settings?

I can post script and config file if it will help anyone?

Thanks,

TopMagicUsers

- *Kiran*
  March 14th, 2012 on 12:36 pm

Hi Jay / Ravish ,

How are the thread states NEW , RUNNABLE , BLOCKED/WAITING FOR MONITOR ENTRY , WAITING , TIMED WAITING , SLEEPING /WAITING ON CONDITION & TERMINATED .
different from the STANDBY , STUCK [EXECUTE THREAD] .
A thread state can only be NEW , RUNNABLE , BLOCKED/WAITING FOR MONITOR ENTRY , WAITING , TIMED WAITING , SLEEPING /WAITING ON CONDITION & TERMINATED . If so then what are these STANDBY , STUCK [EXECUTE THREAD] called ? Please clarify ?

-Kiran

TopMagicUsers

- *muffin_top*
  [April 10th, 2012 on 6:18 pm](#)

  Hi,

  I still cannot work out how to not generate an alert when I have a high number of execute threads.

  For instance, one of my managed servers has 17 TTC and 4 HTC. This would generate an alert using this script but I know this is not going to cause a stuck thread.

  Help!

  Thanks,
  Craig

  [TopMagicUsers](#)

- *mvicente*
  [November 27th, 2012 on 5:49 pm](#)

  Hi,

  Is it possible to adapt de script to get de STUCK threads of a managed server? The script only works with threads in the AdminServer.

  [TopMagicUsers](#)

- *pragathi*
  [December 12th, 2012 on 12:18 am](#)

  I enhanced the main function of code using the original code posted by Ravish.

  this will connect to the admin server get the list of managed servers and for each instance on that domain including the admin server collects the details of Threadpool runtime. and the rest is same compare the ratio and send email accordingly

  Please let me know if you have any issues

  from java.io import FileInputStream
  import java.lang
  import os

  propInputStream = FileInputStream("domains.properties")
  configProps = Properties()
  configProps.load(propInputStream)

  adminUrl = configProps.get("server.url")
  adminUser = configProps.get("admin.username")
  adminPassword = configProps.get("admin.password")
  #monitoringServerName = configProps.get("monitoring.server.name")

  executeThread_Vs_HoggerThreadRatio = configProps.get("ExecuteThread_Vs_HoggerThreadRatio")
  checkTimes_Number = configProps.get("checkTimes_Number")

```
checkInterval_in_Milliseconds = configProps.get("checkInterval_in_Milliseconds")
threadDumpTimes_Number = configProps.get("threadDumpTimes_Number")
threadDumpInterval_in_Milliseconds = configProps.get("threadDumpInterval_in_Milliseconds")
sendEmail_ThreadDump_Counter = configProps.get("sendEmail_ThreadDump_Counter")

i = 0
y = int(checkTimes_Number)

############## This method would send the Alert Email with Thread Dump #################
def sendMailThreadDump():
os.system('usr/bin/mailx -s "ALERT: CHECK Thread Dumps as Hogger Thread Count Exceeded the Limt !!! "
me@mail.com < All_ThreadDump.txt')
print '********* ALERT MAIL HAS BEEN SENT ***********'
print ''

############## This method is checking the Hogger Threads Ratio #################
def alertHoggerThreads(executeTTC , hoggerTC):
print 'Execute Threads : ', executeTTC
print 'Hogger Thread Count : ', hoggerTC
print 'executeThread_Vs_HoggerThreadRatio :', executeThread_Vs_HoggerThreadRatio
if hoggerTC != 0:
ratio=(executeTTC/hoggerTC)
print 'Ratio : ' , ratio
print ''
if (int(ratio) rw_file"
os.system(cmd)
genrateThreadDump()
else:
print '+++++++++++++++++++++++++++++++++++++++++'
print 'Everything is working fine till now'
print '+++++++++++++++++++++++++++++++++++++++++'
else:
print '+++++++++++++++++++++++++++++++++++++++++'
print 'Everything is working fine till now'
print '+++++++++++++++++++++++++++++++++++++++++'

############## This method is Taking the Thread Dumps #################
def genrateThreadDump():
b = int(sendEmail_ThreadDump_Counter)
a = 0
p = 0
q = int(threadDumpTimes_Number)
serverConfig()
print monitoringServerName
cd ('Servers/'+ monitoringServerName)
while (p < q):
if a > All_ThreadDump.txt"
os.system(cmd)
print 'Thread Dump Collected : ', p ,' now Sleeping for ', int(threadDumpInterval_in_Milliseconds) , '
Seconds …'
print ''
Thread.sleep(int(checkInterval_in_Milliseconds))
b = b − 1
p = p + 1
sendMailThreadDump()
cmd = "rm -f All_ThreadDump.txt"
os.system(cmd)
```

```
serverRuntime()

connect(adminUser,adminPassword,adminUrl)
servers = cmo.getServers()
domainRuntime()
for monitorserver in servers:
i = 0
monitoringServerName=monitorserver.getName()
cd('/ServerRuntimes/' + monitoringServerName)
serverName=cmo.getName();
#print serverName
cd('ThreadPoolRuntime/ThreadPoolRuntime')
while (i < 3):
print monitoringServerName
CompleteTRC=cmo.getCompletedRequestCount();
ExecuteThreadIdleCount=cmo.getExecuteThreadIdleCount();
print 'ExecuteThreadIdleCount:', ExecuteThreadIdleCount
print 'CompletedRequestCount:', CompleteTRC
executeTTC=cmo.getExecuteThreadTotalCount();
hoggerTC=cmo.getHoggingThreadCount();
alertHoggerThreads(executeTTC , hoggerTC)
print 'Sleeping for ', int(checkInterval_in_Milliseconds) , ' …'
print ''
Thread.sleep(int(checkInterval_in_Milliseconds))
i = i + 1
cd('../../../..')
```

[TopMagicUsers](#)

- *princess*
  [December 14th, 2012 on 10:20 pm](#)

Ravish,

Can you please explain based on what you took the Execute thread count Vs Hogging thread count as 2?

[TopMagicUsers](#)

- *Big_daddy_S*
  [May 7th, 2013 on 1:19 am](#)

There is a simpler way to do this, use WLST to connect to the MS you are interested in and get the ratio as above, if the ratio is above whatever threshold you want use exit() to kick back a non-zero exit code to your script and if that code is found use jstack piped into mailx to shoot out the thread dumps. The WLST portion goes down to about 7 lines and the shell part is about 10 lines.

[TopMagicUsers](#)

- *Shanky99*
  [August 12th, 2013 on 3:46 pm](#)

Hi Ravish,Jay,
For this line in script,

cd ('Servers/'+ monitoringServerName)

I am getting this below error,
Problem invoking WLST – Traceback (innermost last):
TypeError: cannot concatenate 'str' and 'NoneType' objects

could you please help?

Regards,
Shashank

TopMagicUsers

- *lreddy13*
August 21st, 2013 on 6:43 pm

Jay/Pragathi/sathya,

Modified scripts provided by pragathi and sathya are returning below syntax error. I tried all means but invein can you please
shed some light on where i am making the mistake. Thanks in advance for your help.

Problem invoking WLST – Traceback (innermost last):
(no code object) at line 0
File
"/opt/bea/weblogic92/user_projects/domains/wlst/stuckthreads/modified/Alert_StuckThread_ThreadDumps.py.",
line 42
if (int(ratio) rw_file"
                          ^
SyntaxError: invalid syntax

############## This method is checking the Hogger Threads Ratio #################
def alertHoggerThreads(executeTTC , hoggerTC, serverName):
        print 'Execute Threads : ', executeTTC
        print 'Hogger Thread Count : ', hoggerTC
print 'executeThread_Vs_HoggerThreadRatio :', executeThread_Vs_HoggerThreadRatio
                        if hoggerTC != 0:
                        ratio=(executeTTC/hoggerTC)
                        print 'Ratio : ' , ratio
                              print ''
                        if(int(ratio)rw_file"
                        os.system(cmd)
                    genrateThreadDump(serverName)
                            else:
        print '++++++++++++++++++++++++++++++++++++++.
            print 'Everything is working fine till now.
        print '++++++++++++++++++++++++++++++++++++++.
                            else:
        print '++++++++++++++++++++++++++++++++++++++.
            print 'Everything is working fine till now.
        print '++++++++++++++++++++++++++++++++++++++.

TopMagicUsers

- *sowroop926*
  [October 1st, 2013 on 5:04 am](#)

Hi Ravish-

Do you have any wlst script for capturing Active Threads in BPEl engine level. In 11g, there is no way we can capture the active threads in engine level. Even though i navigated in EM console, there is no accurate information to know the active threads.

Please Help,
Teja

[TopMagicUsers](#)

Leave a Reply

You must be [logged in](#) to post a comment.

[RSS feed for this post (comments)](#) · [TrackBack URI](#)

| Search keywords | [Search] |

🏆 [Testimonials](#)

- kkinney

Ravish, Thanks a lot. It was really helpful. I know this is the right place to look for weblogic stuff instead of

🔗 [Middleware Magic – JBoss](#)

- [How to list all the deployments belongs to any server group in WildFly8.2 using java code ?](#) March 30, 2015
  Hi, Here is another example of using the ModelControllerClient API which can be used to retrived the details of theRead the Rest... […]
- [How to find Server State in WildFly 8.2 using ModelControllerClient ?](#) March 30, 2015
  Hi, Many times it is desired to findout the Server state using the Java based APIs so that based onRead the Rest... […]
- [JBoss AS 7 Clustering on OpenShift](#) July 16, 2013
  Hi, High availability and fail-over are very important feature for any kind of infrastructure. As the name suggests the servicesRead the Rest... […]

• Receive FREE Updates

FREE Email updates of our new posts   Enter your email address: [_____]

[Subscribe]

BY FEEDBURNER

- **Magic Account…**

  - [Register](#)
  - [Log in](#)
  - [Entries RSS](#)
  - [Comments RSS](#)
  - [WordPress.org](#)

- **Top Magic Users**

  - [swordfish (Magic-1210)](#)
  - [sumit (Magic-945)](#)
  - [sathya (Magic-780)](#)
  - [Kiran (Magic-715)](#)
  - [amalia (Magic-605)](#)
  - [Deepak Verma (Magic-600)](#)
  - [Mauricio (Magic-545)](#)
  - [kiran reddy (Magic-510)](#)
  - [vinobabu2001 (Magic-510)](#)
  - [manishy (Magic-445)](#)

- **Magic Archives**

  [Select Month   ▼]

- **Recent Tech. Discussion**

  - Vikas on [WebLogic](#)
  - saesh on [Resetting Admin UserName And Password](#)
  - saesh on [Resetting Admin UserName And Password](#)
  - saesh on [Resetting Admin UserName And Password](#)
  - Satish Kumar Subramanian on [JMS Demo using WebLogic Uniform Distributed Queue (UDQ)](#)
  - Stupify on [WebLogic](#)
  - sri69 on [Installation / Upgrade](#)
  - navi041217 on [Get Rid Of "Unresolved WebApp library references"](#)
  - Satish Kumar Subramanian on [JMS Demo using WebLogic Uniform Distributed Queue (UDQ)](#)
  - sai kumar on [Ant](#)
  - Vikas on [Resetting Admin UserName And Password](#)
  - neeasav on [Sending Email Alert for Application Current State](#)
  - lovingaditya28@gmail.com on [Resetting Admin UserName And Password](#)
  - rodmax on [Forums](#)

- pramod_kmr73 on [Miscellaneous](#)

- ## Sitemeter Status

- ## ClusterMap 7-Nov-2011 till Date

- ## ClusterMap 6-Nov-2010 till 7-Nov-2011

Tags

[Alert](#) [ANT](#) [DataSource](#) [debugging](#) [Deploy](#) [EJB](#) [EJB3](#) [Java Heap](#) [JAXWS](#) [JDBC](#) [JMS](#) [JMX](#) [JVM](#) [JVM Tuning](#) [MDB](#) [Monitoring](#) [NodeManager](#) [Plan.xml](#) [Queue](#) [Security](#) [tuning](#) [WebService](#) [WLST](#) [WorkManager](#)