Subject: *SOLVED* Java: Could not reserve enough space for object heap
Posted by hm2k on Mon, 02 Oct 2006 16:01:40 GMT
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I am running CentOS on the hardware node with OpenVZ, running a Fedora VPS.

I am trying to run software that uses Java, and I keep getting the following error:

Quote:-bash-3.00# /usr/java/jre1.5.0_06/bin/java -version
Error occurred during initialization of VM
Could not reserve enough space for object heap
Could not create the Java virtual machine.

How can I fix this?

Thanks.

Subject: Re: Java: Could not reserve enough space for object heap
Posted by dim on Mon, 02 Oct 2006 16:05:02 GMT
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Check this article, probably it helps:
http://wiki.openvz.org/Resource_shortage

Subject: Re: Java: Could not reserve enough space for object heap
Posted by hm2k on Mon, 02 Oct 2006 16:13:49 GMT
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Thanks, but I am already aware of this and am looking for more specific information.

As you can see below, this VPS has not yet reached its limits.

Quote:-bash-3.00# cat /proc/user_beancounters
Version: 2.5

```
      uid  resource          held    maxheld    barrier      limit    failcnt
      102: kmemsize       3573946    4756589    4752512    4936012         67
         lockedpages          0          0         32         32          0
         privvmpages      94869     133646     491520     535750          0
         shmpages            91       1099      28192      28192          0
         dummy                0          0          0          0          0
         numproc            114        122        265        265          0
         physpages        56692      80856          0 2147483647          0
         vmguarpages          0          0      26144 2147483647          0
         oomguarpages     56693      80857     996144 2147483647          0
         numtcpsock          24         55        280        280          0
```

```
numflock          4       20      100      100        0
numpty            1        2       16       16        0
numsiginfo        0       11      256      256        0
tcpsndbuf         0   318604   319488   524288       15
tcprcvbuf         0   191608   319488   524288        0
othersockbuf  26300   131940   132096   336896     3117
dgramrcvbuf       0    32524   132096   132096        0
numothersock     22       49      280      280        0
dcachesize   284917   385941  2048576  2097728        0
numfile        1059     1485     2048     2048        0
dummy             0        0        0        0        0
dummy             0        0        0        0        0
dummy             0        0        0        0        0
numiptent        43       43      256      256        0
```

If I have clearly missed something please let me know, otherwise please provide me with more specific information.

Thanks.

Subject: Re: Java: Could not reserve enough space for object heap
Posted by dim on Mon, 02 Oct 2006 16:40:45 GMT
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Quote:-bash-3.00# cat /proc/user_beancounters
Version: 2.5

```
uid  resource        held    maxheld    barrier     limit    failcnt
102: kmemsize      3573946   4756589   4752512   4936012         67
```

failcnt = 67

Subject: Re: Java: Could not reserve enough space for object heap
Posted by hm2k on Mon, 02 Oct 2006 19:32:03 GMT
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My mistake, that was the wrong VPS...

-bash-3.00# cat /proc/user_beancounters
Version: 2.5

```
uid  resource        held    maxheld    barrier     limit    failcnt
104: kmemsize      3943800   4160542   9753527   9752512          0
     lockedpages         0         0        32        32          0
```

```
privvmpages      23222     38193     69152     73575         2
shmpages          2441      3417      8192      8192         0
dummy                0         0         0         0         0
numproc             53        58       256       256         0
physpages        14000     16202         0 2147483647         0
vmguarpages          0         0      6144 2147483647         0
oomguarpages     14004     16202      6144 2147483647         0
numtcpsock           8        12        80        80         0
numflock             4        10       100       110         0
numpty               1         1        16        16         0
numsiginfo           0         3       256       256         0
tcpsndbuf            0     24508    319488    524288         0
tcprcvbuf            0     10116    319488    524288         0
othersockbuf     22280     27124    132096    336896         0
dgramrcvbuf          0      2228    132096    132096         0
numothersock        15        21        80        80         0
dcachesize      237062    270354   1048576   1097728         0
numfile           3239      3501      4086      4086         0
dummy                0         0         0         0         0
dummy                0         0         0         0         0
dummy                0         0         0         0         0
numiptent           10        10       128       128         0
```

Subject: Re: Java: Could not reserve enough space for object heap
Posted by jacobwm on Mon, 02 Oct 2006 19:50:57 GMT
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This is most likely due to the fact that java requires contiguous blocks of memory when it starts up at least equal to your memory settings in java.

It's difficult to guarantee there are large enough contiguous blocks available in a VPS.

I found that out with an app we run that requires 2GB+ of RAM ... our solution was to move to 64-bit OS and buy lots of RAM. Contiguous block errors aren't eliminated but they are certianly reduced.

Subject: Re: Java: Could not reserve enough space for object heap
Posted by hm2k on Mon, 02 Oct 2006 20:52:37 GMT
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Or it could be that privvmpages is hitting its limits.

Subject: Re: Java: Could not reserve enough space for object heap
Posted by frankfischer on Mon, 02 Oct 2006 21:13:05 GMT
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I really don't belive that there is a problem with the contiguous memory blocks - I'm running openVz on serveral different hardware nodes using centOS 4.[3|4] (vps and host OS) 32-bit. These VPS run resource intensive java-apps like zimbra, alfresco, JBoss Portal and so on without any problems. Serveral smaller tomcat apps are running on theses servers, too. No problems since more than eight months.
Ensure that your memory setting of the VM correspondent with the memory settings of the VPS and remeber that the OS itself needs some memory.

Regards,

Frank

Subject: Re: Java: Could not reserve enough space for object heap
Posted by ckpeter on Tue, 03 Oct 2006 03:24:50 GMT
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I have had this problem in the past. The reason why Java complains is because on start up, it sees that the machine has more than 2 GB of RAM, so it starts up in server mode, which tries to allocate all the memory, which then fails because it is inside a VPS.

You can manually specify -Xmx256m on the command line every time you start Java to avoid Java trying to allocate all the memory.

If you want something more seamless, go under the /usr/java/jdk/jre/lib/i386, delete server, and symlink server to client. This is a sneaky way of changing the server VM to the client VM, but it works very well (as long as you don't need the server VM).

Subject: Re: Java: Could not reserve enough space for object heap
Posted by hm2k on Tue, 03 Oct 2006 13:06:42 GMT
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-bash-3.00# /usr/java/jre1.5.0_06/bin/java -version -Xmx256m
Error occurred during initialization of VM
Could not reserve enough space for object heap
Could not create the Java virtual machine.

Still not working...

resource	held	maxheld	barrier	limit	failcnt
privvmpages	23499	38193	69152	73575	6

The held and failcnt has increased since I have run it a couple of times since, however nothing else has changed, no limits or barriers appear to have been reached, even though the failcnt has increased.

What could be the problem?

Subject: Re: Java: Could not reserve enough space for object heap
Posted by Vasily Tarasov on Tue, 03 Oct 2006 13:12:20 GMT
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Quote:The held and failcnt has increased since I have run it a couple of times since, however nothing else has changed, no limits or barriers appear to have been reached, even though the failcnt has increased.

You should set barrier/limit so high, that no failcounters will appear! Just try to increase barrier/limit to extremely big value, run java, than mark maxheld. And set barrier/limit for example to (maxheld + 0.25 * maxheld).

Subject: Re: Java: Could not reserve enough space for object heap
Posted by ckpeter on Tue, 03 Oct 2006 15:14:14 GMT
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hm2k wrote on Tue, 03 October 2006 08:06-bash-3.00# /usr/java/jre1.5.0_06/bin/java -version -Xmx256m
Error occurred during initialization of VM
Could not reserve enough space for object heap
Could not create the Java virtual machine.

Still not working...

resource	held	maxheld	barrier	limit	failcnt
privvmpages	23499	38193	69152	73575	6

The held and failcnt has increased since I have run it a couple of times since, however nothing else has changed, no limits or barriers appear to have been reached, even though the failcnt has increased.

What could be the problem?

It looks like your total limit is about 256 MB for the VPS. Did you try lower value of -Xmx? Try -Xmx32m. Remember too that the value specified is only for the Java heap (the actual JVM memory usage will be higher), so you can't just specify a value that is at the limit of your VPS's memory allocation.

Subject: Re: Java: Could not reserve enough space for object heap
Posted by hm2k on Tue, 03 Oct 2006 15:37:42 GMT
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```
 privvmpages      23499     297144     369152     373575         7
```

It works now I increased the privvmpages.

```
-bash-3.00# /usr/java/jre1.5.0_06/bin/java -version
java version "1.5.0_06"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.5.0_06-b05)
Java HotSpot(TM) Server VM (build 1.5.0_06-b05, mixed mode)
```

Subject: Re: Java: Could not reserve enough space for object heap
Posted by tischercd on Sun, 26 Aug 2007 11:28:48 GMT
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Hi

I am the same problem and java not work

```
[root@server bin]# ./java -version -Xmx32m
Error occurred during initialization of VM
Could not reserve enough space for object heap
Could not create the Java virtual machine.
```

```
# cat /proc/user_beancounters
resource     held  maxheld   barrier   limit     failcnt
privvmpages 88170    88214    131072  139264   514635127
```

I am runing vps in centos 4.5 on 64-bit amd.

Any solution

Subject: Re: Java: Could not reserve enough space for object heap
Posted by locutius on Mon, 27 Aug 2007 00:20:30 GMT
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```
-bash-3.00# cat /proc/user_beancounters
Version: 2.5
      uid  resource          held    maxheld    barrier      limit    failcnt
      104: kmemsize        3943800    4160542    9753527    9752512          0
           lockedpages           0          0         32         32          0
```

```
privvmpages     23222     38193     69152     73575         2
shmpages         2441      3417      8192      8192         0
dummy               0         0         0         0         0
numproc            53        58       256       256         0
physpages       14000     16202         0 2147483647         0
vmguarpages         0         0      6144 2147483647         0
oomguarpages    14004     16202      6144 2147483647         0
numtcpsock          8        12        80        80         0
numflock            4        10       100       110         0
numpty              1         1        16        16         0
numsiginfo          0         3       256       256         0
tcpsndbuf           0     24508    319488    524288         0
tcprcvbuf           0     10116    319488    524288         0
othersockbuf    22280     27124    132096    336896         0
dgramrcvbuf         0      2228    132096    132096         0
numothersock       15        21        80        80         0
dcachesize     237062    270354   1048576   1097728         0
numfile          3239      3501      4086      4086         0
dummy               0         0         0         0         0
dummy               0         0         0         0         0
dummy               0         0         0         0         0
numiptent          10        10       128       128         0
```

privvmpages is the amount of memory than can be allocated by processes, it does not account memory use

vmguarpages is the memory guaranteed for use, and it is woefully low at 6144 (looks like the default config for pong)

oomguarpages is accounting the actual memory use and you can see it far exceeds vmguarpages

guys plz read up in the wiki on /proc/user_beancounters

AND WARNING! dont take the default config and try to adjust it up for a Java machine because there is zero match to your hardware. use vzsplit 8 or 16 or more ways to discover your hardware capabilities

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Subject: Re: Java: Could not reserve enough space for object heap
Posted by ttest on Sun, 09 Mar 2008 19:49:32 GMT
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There's a more elegant way to modify the default VM type that's used on Linux. This can be set in /etc/java-1.5.0-sun/jvm.cfg

Mine now looks like:

#-client IF_SERVER_CLASS -server
-client KNOWN
-server KNOWN
-hotspot ALIASED_TO -client
-classic WARN
-native ERROR
-green ERROR

Greets

Christian