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
