
ORA-04031 heap dump / unable to allocate ... shared memory

- **Product:** Aleph
 - **Product Version:** 20, 21, 22, 23
 - **Relevant for Installation Type:** Dedicated-Direct, Direct, Local, Total Care
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Description

Various server and ue_nn daemon logs have errors such as this:

```
Oracle error: update_cursor13 z30  
ORA-04031: unable to allocate 32 bytes of shared memory ("shared pool"  
over a period of 20 minutes.
```

Looking at the /exlibris/app/oracle/diag/rdbms/aleph22/aleph22/trace/alert_aleph22.log file, we see an occurrence of the "ORA-04031 heap dump being written to trace file" error message, followed by a 20-minute period in which about 100 "unable to allocate 32 bytes of shared memory" messages are written.

These are some excerpts from the log:

```
Sat Nov 29 15:16:34 2014  
ORA-04031 heap dump being written to trace file /exlibris/app/oracle/diag/rdbms/  
aleph22/aleph22/trace/aleph22_ora_9052.trc  
Errors in file /exlibris/app/oracle/diag/rdbms/aleph22/aleph22/trace/  
aleph22_ora_9052.trc (incident=150473):  
ORA-04031: unable to allocate 32 bytes of shared memory ("shared pool","select /*+  
index(z410 z410_i...", "SQLA", "tmp")  
...  
[about 100 occurrences of "unable to allocate 32 bytes"]  
...  
ORA-04031: unable to allocate 32 bytes of shared memory ("shared pool","select  
f.file#, f.block#, f...", "SQLA", "tmp")  
Sat Nov 29 15:35:10 2014
```

<that's the last ORA-04031 error message>

Resolution

As shown in the analysis in Additional Information below, it seems that the updates which showed errors in the batch job logs and the ue_nn daemons *were* eventually successful.

This is a known Oracle bug. It's described at https://support.oracle.com/epmos/fac...ylh6jwz_73#REF .

The workaround is setting "_enable_shared_pool_durations = false" in the init file and restarting Oracle.

Additional Information

Looking at the odn01 run_e_21.29644 log, we see that all of the error messages occurred during the processing of two doc records:

```
HANDLING DOC NO. - SYS01.007587357 2017-03-14 14:59:01
```

```
...
```

```
HANDLING DOC NO. - SYS01.007861825 2017-03-14 15:02:41
```

The above are the only HANDLING occurrences for these bib records on 2017-03-14.

Checking the sys00 z00p with util f/4 I see this:

```
Doc Number : 007587357
```

```
Timestamp : 201703141959074
```

```
Status : UPDATED
```

and

```
Doc Number : 007861825
```

```
Timestamp : 201703142002425
```

```
Status : UPDATED
```

This indicates to me that these updates of the z00p by ue_21 *were* eventually successful.

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- **Article last edited:** 12-Mar-2017