How to troubleshoot OOM issues

Last updated by | Vitor Tomaz | Feb 24, 2023 at 3:32 AM PST

Contents

The steps below will help you troubleshoot Out of Memory events.

Start on 1.

1. Narrow down the issue

First narrow down the timestamp when the issue happened. For this you can as the customer for a specific timeline and double check on the Error Log

```
MonSQLSystemHealth
| where LogicalServerName =~"server_name"
| where TIMESTAMP > ago(3h)
| where message contains "memory"
| project TIMESTAMP, message
```

2. Check memory clerks

Check the memory clerks and look for spikes. On ASC go to **Performance** -> **Memory** -> **Top Memory Clerk Consumption Over Time**

Note that for some clerks, memory consumption should not be that high - for example, CACHESTORE_PHDR should not be high since it only keeps temporary memory cache.

For guidance, check this section of the TSG **Troubleshoot Out Of Memory errors**

If the top memory clerk is MEMORYCLERK_SQLQERESERVATIONS go to 3.

If it is OBJECTSTORE_LOCK_MANAGER go to 4.

If it is CACHESTORE_COLUMNSTOREOBJECTPOOL or MEMORYCLERK_SQLBUFFERPOOL go to 5

If it is another, go to 6

3. MEMORYCLERK_SQLQERESERVATIONS

MEMORYCLERK_SQLQERESERVATIONS is used for sort and hashing. High memory grants could indicate tuning opportunities. Check the TSG Query fails with OOM - high SQLQERESERVATION memory clerk

4. OBJECTSTORE_LOCK_MANAGER

OBJECTSTORE_LOCK_MANAGER is used by Lock manager. Check this TSG

5. CACHESTORE_COLUMNSTOREOBJECTPOOL and MEMORYCLERK_SQLBUFFERPOOL

CACHESTORE_COLUMNSTOREOBJECTPOOL and MEMORYCLERK_SQLBUFFERPOOL are by definition the highest consumers. Like so, high consumption might not be an indication of a problem. Check for any other spikes on other memory clerks.

Query tuning and/or increase SLO might be a solution when memory is a problem.

6. Other clerks

Check for the memory clerk description on memory clerks. From here, given the description assess if there might be a possibility of a memory leak or any other situation.

You can use also this TSG.

How good have you found this content?