Sage X3 MongoDB Replica Set and Syracuse Cluster

Mike Shaw — 5th October 2022

Sage

Contents

Install and configure MongoDB Replica Set and Syracuse Cluster

Monitoring and testing

Common issues and further reading

Install and configure MongoDB Replica Set and Syracuse Cluster

What is a ... ?

MongoDB Replica Set

Group of "mongod" processes that maintain the same data set.

One process is elected as PRIMARY which can write data, the rest are SECONDARY.

Syracuse Cluster

More than one Syracuse node sharing the same MongoDB database.

Why are we interested in...?

MongoDB Replica Set

Provides High Availability.

Syracuse Cluster

Provides High Availability and performance.

Building the system

Review the Build diary "2022 R2 - Create MongoDB Replica Set and Syracuse Cluster" which covers the basic steps needed. https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/index-page-build-diaries

Monitoring and Testing

MongoDb

MongoDB shell commands

- rs.conf()
- rs.status()

Sage Support Investigation Scripts

- mzRunMongoStat
- mzRunMongoTop
- mzServerStatusRun
- mzSessionsRun

MongoDb

mzServerStatusRun.cmd: memory allocations output (formatted)


```
mzServerStatus020822_1132.out

374                                    "aggressive_memory_decommit" : 0,
375                                    "pageheap_committed_bytes" : 108068864,
376                                    "pageheap_scavenge_count" : 1,
377                                    "pageheap_commit_count" : 83,
378                                    "pageheap_total_commit_bytes" : 109142016,
379                                    "pageheap_decommit_count" : 1,
380                                    "pageheap_total_decommit_bytes" : 1073152,
381                                    "pageheap_reserve_count" : 72,
382                                    "pageheap_total_reserve_bytes" : 108068864,
383                                    "spinlock_total_delay_ns" : 3575900,
384                                    "release_rate" : 1,
385                                    "formattedString" : "------------------------------------------------\
386        MALLOC:       101980704 (   97.3 MiB) Bytes in use by application\
387        MALLOC: +       2109440 (    2.0 MiB) Bytes in page heap freelist\
388        MALLOC: +       2791184 (    2.7 MiB) Bytes in central cache freelist\
389        MALLOC: +        158208 (    0.2 MiB) Bytes in transfer cache freelist\
390        MALLOC: +       1029328 (    1.0 MiB) Bytes in thread cache freelists\
391        MALLOC: +       4980736 (    4.8 MiB) Bytes in malloc metadata\
392        MALLOC:       ------------\
393        MALLOC: =     113049600 (  107.8 MiB) Actual memory used (physical + swap)\
394        MALLOC: +             0 (    0.0 MiB) Bytes released to OS (aka unmapped)\
395        MALLOC:       ------------\
396        MALLOC: =     113049600 (  107.8 MiB) Virtual address space used\
397        MALLOC:\
398        MALLOC:            2971               Spans in use\
399        MALLOC:              51               Thread heaps in use\
400        MALLOC:            4096               Tcmalloc page size\n----------------------------------------
           address space but no physical memory.\n"
401                                    }
```

MongoDb

Try out failure scenarios

- e.g. Login to X3 then kill the mongodb process for the PRIMARY node

Check the mongodb.log file

Syracuse

Syracuse log files are the normal first port of call for monitoring or diagnosing issues.

Configure via Administration, Administration, Settings, Global settings

- How to increasing logging levels for diagnosing issues https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/how-to-increasing-logging-levels-for-diagnosing-issues

- Should I change the default Syracuse logging in my production system https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/should-i-change-the-default-syracuse-logging-in-my-production-system

Syracuse

Sage Support Investigation Scripts

- mzExecuteURLrun

Common issues and further reading

Previous presentations

- Index page: Sage X3 Technical Support Tips and Tricks (September 2021) https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/index-page-sage-x3-technical-support-tips-and-tricks-september-2021

  - SSL certificates on Syracuse & MongoDB

  - MongoDB administration and upgrade

  - Investigation Scripts

- Index page: Sage X3 Technical Support Tips and Tricks (March 2021) https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/sage-x3-technical-support-tips-and-tricks---march-2021-index

  - Syracuse logging

Knowledgebase articles

- MongoDB is stopping unexpectedly and randomly
  https://support.na.sage.com/selfservice/viewdocument.do?externalId=116352

- MongoDB Log file growth – dbMessage Collection
  https://support.na.sage.com/selfservice/viewdocument.do?externalId=96105

- MongoDB data is growing in size
  https://support.na.sage.com/selfservice/viewdocument.do?externalId=108818

- MongoDB service does not autostart after upgrade to MongoDB 4.2
  https://support.na.sage.com/selfservice/viewdocument.do?externalId=112304

Blog articles

- Index page: High Availability with Sage X3
  https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/index-page-high-availability-with-sage-x3

- Performance tuning Sage X3: Index
  https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/performance-tuning-sage-x3-index

Summary

Install and configure MongoDB Replica Set and Syracuse Cluster

Monitoring and testing

Common issues and further reading

Thank you!

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