



AEROSPIKE

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# Monitoring

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## Objectives

At the end of this module, you will be able to use:

- Aerospike Management Console
- asmonitor
- asloglatency



**Aerospike Management Console (AMC)**

## Aerospike Management Console (AMC)

The AMC is a web interface to managing/monitoring the Aerospike database.

- Cluster summary
- Node info
- Storage info
- Definitions
- Jobs
- Alerts
- Cross Datacenter Replication (XDR) stats
- Latency stats
- Backup/restore
- Edit configuration

AMC Community Edition is for Monitoring only.

AMC Enterprise Edition includes management functions.

This class is intended for AMC Community Edition, but we do cover a few Enterprise Edition features.

## AMC - Dashboard

The AMC Dashboard provides many of the high level health statistics. This is often used in NOCs to see if there are any problems with the Aerospike clusters.

A listing of different plug-ins is also available at:

<http://www.aerospike.com/docs/operations/monitor/>

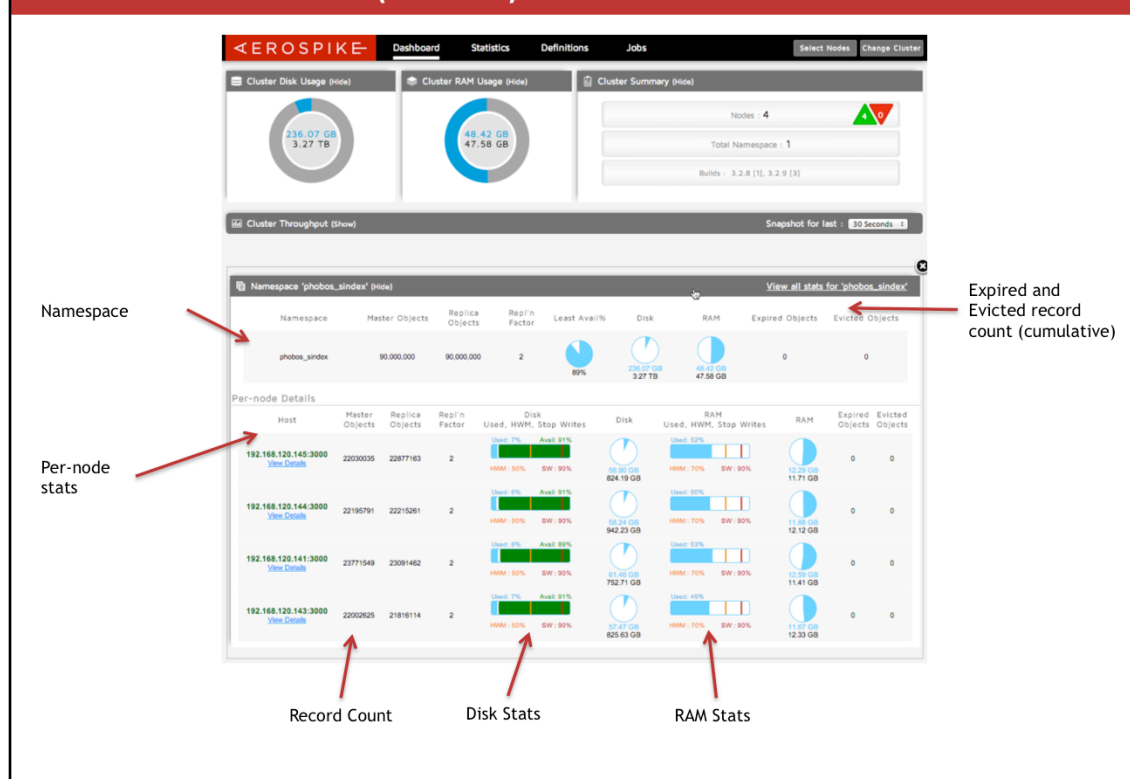


This interface is sometimes used in NOCs.

From the TOP:

- The Disk and RAM usage are marked in blue as a fraction of the total available space.
- The Cluster Summary shows the number of nodes (total) as well as how many are up (GREEN) and down (RED), a count of the number of namespaces, and the current build number. Be careful as it is possible that individual nodes may be on a different version.
- The Alerts Activity panel is only available in the Enterprise Edition. It is missing in the Community Edition.

## AMC – Dashboard (bottom)



In the Namespace panel, you see the high level information for each namespace.

The Per-node section will show the detail for each node in the cluster.

One special thing to note is that the expired and evicted record counts are cumulative, so you should look at the number increasing rather than the static value.

## AMC - Statistics

The statistics page shows all statistics and configuration variables related to:

- Nodes
- Namespaces
- Secondary Indexes

These statistics show how these are being used.

These interfaces can be used to quickly find where there are differences in the cluster.



## AMC – Statistics: Nodes

The screenshot shows the AEROSPIKE AMC interface for the 'Statistics: Nodes' page. Red arrows and numbers 1 through 4 point to specific UI elements:

- 1: Points to the 'Statistics' tab in the top navigation bar.
- 2: Points to the 'Nodes' radio button under 'View Attributes For (hide)'.
- 3: Points to the search input field in the 'Statistics & Config (hide)' section.
- 4: Points to the 'Refresh Interval (Seconds)' dropdown menu.

The main table displays statistics for four nodes. The first column lists attribute names, and the subsequent columns show values for each node.

Attribute Name	192.168.120.145.3000	192.168.120.144.3000	192.168.120.141.3000	192.168.120.143.3000
accounting_patch	N/A	N/A	N/A	N/A
address	192.168.120.145.3000	192.168.120.144.3000	192.168.120.141.3000	192.168.120.143.3000
allow-inline-transactions	true	true	true	true
auto-dun	false	false	false	false
auto-unbun	false	false	false	false
batch-max-requests	5000	5000	5000	5000
batch-priority	200	200	200	200
batch-threads	4	4	4	4
batch-errors	0	0	0	0
batch-initiate	544876	435946	329803	507814

You can quickly find differences between different nodes. While this is not always an indication of a problem, you can quickly find where the differences are.

There are hundreds of values. So if you know what value you want, enter in a search string in box (3) and hit enter. It will filter on just the ones that match the pattern.

## AMC – Statistics: Namespaces

The screenshot shows the AEROSPIKE web interface with the 'Statistics' tab selected. The page displays a table of statistics for various namespaces. Red arrows and numbers 1 through 5 point to specific UI elements:

- 1: Select "Statistics" (points to the Statistics tab in the top navigation bar)
- 2: Select "Namespaces" (points to the Namespace radio button in the 'View Attributes For' section)
- 3: Select Namespace (points to the 'Select Namespace' dropdown menu, which currently shows 'phobos\_index')
- 4: Search for attributes (points to the 'Statistics & Config (hide)' section, which includes a search bar for attributes)
- 5: Change refresh interval (points to the 'Refresh Interval (Seconds)' input field, which is set to 5)

The table below shows the statistics for four namespaces:

Attribute Name	192.168.120.145.3000	192.168.120.144.3000	192.168.120.141.3000	192.168.120.143.3000
1 allow_versions	false	false	false	false
2 available-bi-nanos	32761	32761	32761	32761
3 available_pct	91	91	89	91
4 cold-start-evict-id	4294967295	4294967295	4294967295	4294967295
5 conflict-resolution-policy	generation	generation	generation	generation
6 current-time	136227906	136227906	136227906	136227907
7 data-in-memory	false	false	false	false
8 data-used-bytes-memory	0	0	0	0
9 default-ttl	345600	345600	345600	345600
10 defrag-lam-pct	50	50	50	50

Very similar to the Nodes, the Namespaces page shows statistics for the namespaces. You must select the namespace (3).

## AMC – Statistics: Secondary Indexes

Select "Statistics"

Select "Secondary Index"

Select secondary index

Select index

Search for attributes

Change refresh interval

Statistics & Config (hide)

Attribute Name	192.168.120.145:3000	192.168.120.144:3000	192.168.120.141:3000	192.168.120.143:3000
1 avg_record_size	N/A	N/A	N/A	N/A
2 avg_selectivity	N/A	N/A	N/A	N/A
3 data-max-memory	18446744073709551615	18446744073709551615	18446744073709551615	18446744073709551615
4 data_memory_used	N/A	N/A	N/A	N/A
5 g_data_memory_used	N/A	N/A	N/A	N/A
6 gc-max-units	1000	1000	1000	1000
7 gc-period	1000	1000	1000	1000
8 histogram	false	false	false	false
9 lbr_memory_used	2304437432	2293911200	2425802648	2231595976
10 ignore-not-sync	true	true	true	true

You can also see the attributes for secondary indexes. In this case you must select both the namespace and the secondary index (3).

## AMC - Definitions

The Definitions page shows how the following are defined:

- Namespaces
- User Defined Functions (UDFs)

## AMC – Definitions: Namespaces

The screenshot shows the Aerospike AMC interface with the 'Definitions' tab selected. Red arrows and numbers 1 through 6 point to specific UI elements:

- 1: 'Definitions' tab in the top navigation bar.
- 2: 'Namespace' dropdown menu.
- 3: 'phobos\_index' selected in the 'Select Namespace' dropdown.
- 4: 'Secondary Index (hide)' section header.
- 5: 'Sets (hide)' section header.
- 6: 'Storage (hide)' section header.

Below the 'Secondary Index (hide)' section, there is a table with the following data:

Index Name	Bin	Set	Bin Type	Synced on all nodes?
str_100_idx	str_100_bin	longevity	TEXT	YES
str_uniq_idx	str_uniq_bin	longevity	TEXT	YES
int_uniq_idx	int_uniq_bin	longevity	INT SIGNED	YES

Below the 'Sets (hide)' section, there is a table with the following data:

Set	Objects	Stop Writes Count	Evict HWM Count	Delete	Enable XDR
longevity	48863011	0	0	false	use-default

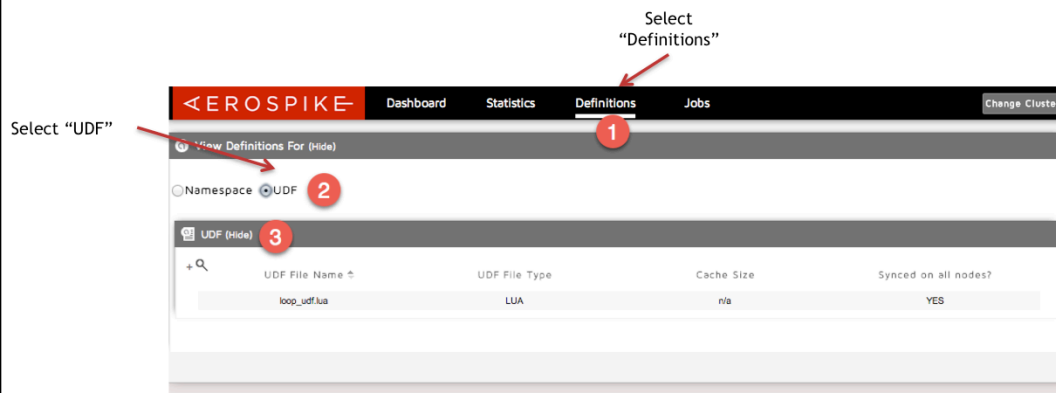
Below the 'Storage (hide)' section, there is a table with the following data:

Storage	Devices	Synced on all nodes?
device	/dev/sdb, /dev/sdc, /dev/sdd, /dev/sde	YES

On the Definitions: Namespaces page, you can see statistics for Secondary Indexes, Sets, and what storage is attached to the namespace.

Of particular importance for Secondary Indexes is whether or not the index is synchronized on all nodes. This refers to Secondary Indexes only. If they are not synchronized, queries based on the secondary index will fail with an error.

## AMC – Definitions: User Defined Functions



User Defined Functions (UDFs) are code that are run on the Aerospike server rather than the client (similar to stored procedures).

UDFs are managed automatically by the Aerospike database, but must be registered. Once it has been registered, it will be internally distributed to all nodes in the cluster. If there has been a problem the the "Synced on all nodes?" column will show "NO"

## AMC - Jobs

The Jobs page allows you to see what jobs are currently running on the server.

Because most queries are fast, you will only be able to see very long running ones.

## AMC – Jobs

The screenshot shows the <EROSPIKE> web interface. The top navigation bar includes links for Dashboard, Statistics, Definitions, and Jobs. The Jobs link is highlighted with a red circle and the number 1, with an arrow pointing to it from the text "Select 'Jobs'". Below the navigation bar, there is a section titled "Running Jobs (Hide)" with a red circle and the number 2 next to it. Below this section is a table with columns: Host, Port, Job ID, Progress, Status, Memory, Namespace, Run Time, Module, and Type. Each column has a corresponding input field. A red arrow points from the text "Currently running jobs will be shown." to the "Running Jobs (Hide)" section.

Select "Jobs"

2

1

Currently running jobs will be shown.

Jobs like scans and queries may show up in the Jobs page. Be aware that many queries are very short duration and may not show up on this interface.

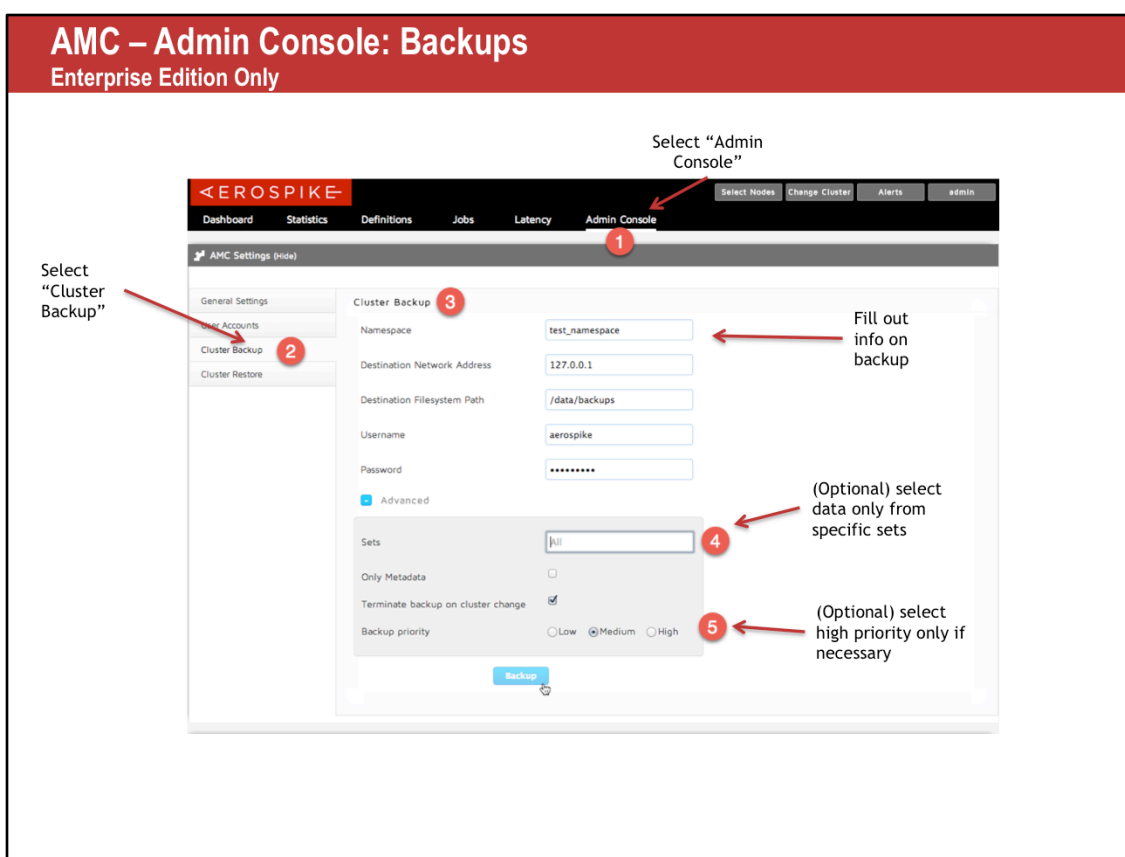


## AMC – Admin Console

Enterprise Edition Only

The AMC admin console gives you added functionality to manage a cluster.

- Backup a cluster
- Restore a cluster
- Dynamically change configuration node variables
- Dynamically change configuration namespace variables
- View Cross Datacenter Replication (XDR) stats



Backups are done on a namespace by namespace basis and will be done on the AMC server.

The export will be in human readable format, but is not consistent. It is possible for a record to appear more than once. This normally fixes itself during the restore process. But if you will be importing the backup file into another system you should know that records may have multiple entries with different generations.

As an option, you can specify to only backup specific sets.

We generally recommend using medium priority, which places a lower load on the cluster, but still should complete in a reasonable time. Use "High" if you must have the backup and are willing to take the risk of them impacting traffic. Use "Low" if you don't want to impact traffic and are ok with the backup taking a long time.

Performance will depend on how much data, how many nodes, etc, but it will take a long time.

## AMC – Admin Console: Restore

Enterprise Edition Only

Select "Admin Console"

Select "Cluster Backup"

Fill out info on restore

(Optional) Change namespace name

(Optional) Alter the number of threads only if you need to restore quickly.

(Optional) Rarely used.

The restoration works in reverse of the backup.

One important note is that if you are restoring because an application error has lead to corruption of data, you can select to "Ignore Generation Number". This will let you restore the old data without wiping out everything. Otherwise, you will usually want to leave this unselected.

## AMC – Admin Console: Change Node Variables

Enterprise Edition Only

Select "Admin Console"

Select "Nodes"

Edit variables

Changes will be made dynamically (if possible) to all nodes in the cluster.

Attribute Name	Value	192.168.120.151:3000	192.168.120.146:3000	192.168.120.149:3000	192.168.120.148:3000
1 auto-dun	New Value	0	0	0	0
2 address	New Value	192.168.120.151:3000	192.168.120.146:3000	192.168.120.149:3000	192.168.120.148:3000
3 auto-dun	New Value	false	false	false	false
4 auto-dun	New Value	false	false	false	false
5 batch-max-requests	New Value	5000	5000	5000	5000
6 batch-priority	New Value	200	200	200	200
7 batch-threads	New Value	4	4	4	4
8 driftag-queue-escape	New Value	10	10	10	10
9 driftag-queue-hwm	New Value	20	20	20	20
10 driftag-queue-len	New Value	5	5	5	5
11 driftag-queue-priority	New Value	1	1	1	1
12 dump-message-above-size	New Value	134217728	134217728	134217728	134217728
13 enable-adr	New Value	true	true	true	true
14 fabric-port	New Value	3001	3001	3001	3001
15 fu-health-bad-pct	New Value	0	0	0	0
16 fu-health-good-pct	New Value	50	50	50	50
17 fu-health-msg-per-burst	New Value	0	0	0	0
18 fu-health-msg-timeout	New Value	200	200	200	200
19 heartbeat-address	New Value	239.2.0.1	239.2.0.1	239.2.0.1	239.2.0.1
20 heartbeat-interval	New Value	150	150	150	150

With the Enterprise Edition AMC you can make changes to the node configuration dynamically. That is, the AMC can change the value of many variables while the server is still operating.

## AMC – Admin Console: Change Namespace Vars Enterprise Edition Only

Select "Admin Console"

Select "Namespaces"

Edit variables

Changes will be made dynamically (if possible) to all nodes in the cluster.

Attribute	Name	Value	192.168.120.151.3000	192.168.120.146.3000	192.168.120.149.3000	192.168.120.148.3000
1	allow-version	New Value	N/A	N/A	N/A	N/A
2	data-in-memory	New Value	true	true	true	true
3	default-tt	New Value	0	0	0	0
4	driftag-term-pct	New Value	50	50	50	50
5	driftag-max-blocks	New Value	5000	5000	5000	5000
6	driftag-period	New Value	1	1	1	1
7	driftag-startup-minimum	New Value	0	0	0	0
8	evict-pct	New Value	N/A	N/A	N/A	N/A
9	file	New Value	/shared/acid_test.data	/shared/acid_test.data	/shared/acid_test.data	/shared/acid_test.data
10	filesize	New Value	21474836480	21474836480	21474836480	21474836480
11	high-water-disk-pct	New Value	80	80	80	80
12	high-water-memory-pct	New Value	80	80	80	80
13	high-water-pct	New Value	N/A	N/A	N/A	N/A
14	load-at-startup	New Value	true	true	true	true
15	low-water-pct	New Value	0	0	0	0
16	max-tt	New Value	0	0	0	0
17	memory-size	New Value	21474836480	21474836480	21474836480	21474836480
18	name	New Value	test	test	test	test
19	node	New Value	192.168.120.151.3000	192.168.120.146.3000	192.168.120.149.3000	192.168.120.148.3000
20	node_value	New Value	on	on	on	on

You can do likewise dynamically change the Namespace variables.

## AMC – Admin Console: Change XDR Vars

Enterprise Edition Only

Select "XDR"

Select "Admin Console"

View Attributes (hide)

Nodes Namespace XDR Select XDR Port 3004 Connect

Config Editor (hide)

Page 1 of 2

Attribute Name	Value	192.168.120.151:3000	192.168.120.146:3000	192.168.120.149:3000	192.168.120.148:3000
1 address	New Value	192.168.120.151:3000	192.168.120.146:3000	192.168.120.149:3000	192.168.120.148:3000
2 enable-xdr	New Value	N/A	N/A	N/A	N/A
3 forward-xdr-writes	New Value	N/A	N/A	N/A	N/A
4 node_status	New Value	on	on	on	on
5 stop-writes-road	New Value	N/A	N/A	N/A	N/A
6 xdr-batch-num-retry	New Value	0	0	0	0
7 xdr-batch-retry-sleep	New Value	0	0	0	0
8 xdr-check-data-before-delete	New Value	false	false	false	false
9 xdr-compression-threshold	New Value	N/A	N/A	N/A	N/A
10 xdr-forward-with-genscheck	New Value	N/A	N/A	N/A	N/A
11 xdr-holkey-maskip	New Value	5	5	5	5
12 xdr-into-timeout	New Value	N/A	N/A	N/A	N/A
13 xdr-local-port	New Value	3000	3000	3000	3000
14 xdr-mw-timeout	New Value	0	0	0	0
15 xdr-mw-batch-size	New Value	100	100	100	100
16 xdr-ship-batch-size	New Value	100	100	100	100
17 xdr-ship-delay	New Value	0	0	0	0
18 xdr-ship-enabled	New Value	true	true	true	true
19 xdr-threads	New Value	3	3	3	3
20 xdr-timeout	New Value	30000	30000	30000	30000

Changes will be made dynamically (if possible) to all nodes in the cluster.

You can also dynamically alter the XDR variables.



**asmonitor**

## asmonitor

asmonitor is a command line tool used to track the health of an Aerospike cluster.

Typical syntax:

```
■ asmonitor [-h <host>[:<port>]] [-p <port>]
```

This will put you into the asmonitor command line.

While there are other options for the asmonitor, we will just try connecting to an instance.

The asmonitor does not need to be on the same host. You need only give asmonitor one host/IP address and it will connect to the other nodes in the cluster.

Just entering asmonitor without any parameters will put you into the local Aerospike node on port 3000.



## asmonitor – Commonly Used Commands

Command: `help`

Displays the full syntax of the asmonitor command.

## asmonitor – Commonly Used Commands

Command: info

Displays cluster info similar to the dashboard on the AMC.

```
Monitor> info
===NODES===
2014-08-18 16:04:12.503857
Sorting by IP, in Ascending order:
ip:port      Build  Cluster  Cluster  Free  Free  Migrates  Node  Principal  Replicated  Sys
              .    Size    Visibility Disk  Mem      .    ID        ID        Objects   Free
              .    .      .          pct  pct      .    .        .        .        Mem
v13.citrusleaf.local  3.3.15  3      true    93   88   (0,0)  BB96CDE06CA0568  BB979DF04CA0568  46,743,148  94
v14.citrusleaf.local  3.3.15  3      true    93   87   (0,0)  BB968DF04CA0568  BB979DF04CA0568  48,463,949  94
v15.citrusleaf.local  3.3.15  3      true    92   87   (0,0)  BB979DF04CA0568  BB979DF04CA0568  48,791,285  94
Number of nodes displayed: 3

===NAMESPACE===
Total (unique) objects in cluster for phobos_index : 71,999,191
Note: Total (unique) objects is an under estimate if migrations are in progress.

ip/namespace      Avail  Evicted  Objects  Repl  Stop  Used  Used  Used  Used  hwm  hwm
                  Pct    Objects      .    Factor Writes Disk Disk  Mem  Mem  Disk Mem
v15.citrusleaf.local/phobos_index  89      0  23,998,732  2  false  63.92 G  8  2.91 G  13  50  70
v14.citrusleaf.local/phobos_index  89      0  24,153,960  2  false  63.49 G  7  2.89 G  13  50  70
v13.citrusleaf.local/phobos_index  89      0  23,846,499  2  false  61.24 G  7  2.79 G  12  50  70
Number of rows displayed: 3
```

The most important things to note here are:

- The number of object are replicated.
- If the number of migrates is non-zero, the cluster is in a dynamic state.
- There are counters for the number of evicted objects, if this is increasing, the system is short on configured resources.

## asmonitor – Commonly Used Commands

Command: `stat`

Displays node stats for each node in the cluster. Often used with the "-v" flag to filter the output, which can be very long.

```
Monitor> stat -v system
=====192.168.120.143:3000=====
system_free_mem_pct      94
system_swapping          false
=====192.168.120.144:3000=====
system_free_mem_pct      94
system_swapping          false
=====192.168.120.145:3000=====
system_free_mem_pct      94
system_swapping          false
```

There are hundreds of possible variables and just entering "stat" will show all values for all nodes in the cluster.

It is often easier to filter for just the variables you are interested in. Use the "-v" option and a pattern to filter on just those variables.

## asmonitor – Commonly Used Commands

Command: latency

Displays latency stats for how long requests take to be filled as measured on the server. This may differ significantly from the client latency measures. There are additional parameters to take a look back at a specific time or gather other metrics. Useful for determining throughput.

```
Monitor> latency
====writes_master====
              timespan  ops/sec  >1ms  >8ms  >64ms
192.168.120.143:3000  23:20:29-GMT->23:20:39    995.5    17.42    0.01    0.00
192.168.120.144:3000  23:20:28-GMT->23:20:38    995.0    20.90    0.28    0.00
192.168.120.145:3000  23:20:31-GMT->23:20:41    988.2    23.39    0.78    0.00

====writes_reply====
              timespan  ops/sec  >1ms  >8ms  >64ms
192.168.120.143:3000  23:20:29-GMT->23:20:39    995.5    17.42    0.01    0.00
192.168.120.144:3000  23:20:28-GMT->23:20:38    995.0    20.90    0.28    0.00
192.168.120.145:3000  23:20:31-GMT->23:20:41    988.2    23.39    0.78    0.00

====reads====
              timespan  ops/sec  >1ms  >8ms  >64ms
192.168.120.143:3000  23:20:29-GMT->23:20:39   2296.5     0.85    0.00    0.00
192.168.120.144:3000  23:20:28-GMT->23:20:38   2348.2     0.94    0.00    0.00
192.168.120.145:3000  23:20:31-GMT->23:20:41   2342.8     0.97    0.00    0.00

====udf====
              timespan  ops/sec  >1ms  >8ms  >64ms
192.168.120.143:3000  23:20:29-GMT->23:20:39     0.0    0.00    0.00    0.00
192.168.120.144:3000  23:20:28-GMT->23:20:38     0.0    0.00    0.00    0.00
192.168.120.145:3000  23:20:31-GMT->23:20:41     0.0    0.00    0.00    0.00

====proxy====
              timespan  ops/sec  >1ms  >8ms  >64ms
192.168.120.143:3000  23:20:29-GMT->23:20:39     0.0    0.00    0.00    0.00
192.168.120.144:3000  23:20:28-GMT->23:20:38     0.0    0.00    0.00    0.00
192.168.120.145:3000  23:20:31-GMT->23:20:41     0.0    0.00    0.00    0.00

====query====
              timespan  ops/sec  >1ms  >8ms  >64ms
192.168.120.143:3000  23:20:29-GMT->23:20:39     0.0    0.00    0.00    0.00
192.168.120.144:3000  23:20:28-GMT->23:20:38     0.0    0.00    0.00    0.00
192.168.120.145:3000  23:20:31-GMT->23:20:41     0.0    0.00    0.00    0.00
```

One of the most commonly used asmonitor commands is to measure latency.

Note that these are latencies as measured on the server, it is not possible to measure the client latencies from the Aerospike nodes. This command also shows the throughput for each node/type.

This command gives you the latencies for all nodes in the cluster for different measures:

**writes\_master:** These are the latency times for responds to writes from the master. Unless you have actively configured for asynchronous writes, this will be the same as the latency to any replica.

**writes\_reply:** These are the latency times for replica writes. This is normally the same as for writes\_master, unless you have configured differently.

**reads:** These are the latency times for reads. Aerospike does reads from a single node.

**udf:** The latency times for UDFs to run.

**proxy:** In cases where the cluster state is dynamic (nodes added/removed) it is possible that the node not have the data. Aerospike will automatically proxy the request for the client. These latency times are just for proxied requests.

**query:** The latency times for queries using secondary indexes.

## asmonitor – Commonly Used Commands

Command: `collectinfo` (not usually run from the `asmonitor` command line)

Sometimes you need to gather information for Aerospike support. This can be done using the `collectinfo` command. Note that you must have `sudo/root` privileges.

```
[root@v15 ~]# sudo asmonitor -e "collectinfo"

Enter help for commands

3 hosts in cluster: 192.168.120.143:3000,192.168.120.144:3000,192.168.120.145:3000
Data collection for collect_asdcheck in progress..
Data collection for collect_params in progress..
Data collection for collect_logininfo in progress..
Data collection for collect_readlogs in progress..
sh: line 1: 0: command not found
Data collection for collect_sys in progress..
Data collection for collect_shell in progress..
sh: dpkg: command not found
running shell command: tar -czvf /tmp/as_log_1408404265.16.log.tgz /tmp/as_log_1408404265.16.log
tar: Removing leading `/' from member names
/tmp/as_log_1408404265.16.log

FILE /tmp/as_log_1408404265.16.log and /tmp/as_log_1408404265.16.log.tgz saved. Please send it to support@aerospike.com
END OF ASCOLLECTINFO
```



**asloglatency**

## asloglatency

asloglatency is a command line tool used find the latency of the server in log files for specific types of transactions.

Typical syntax

```
> asloglatency -h <histogram> -l <log_file> -f <time_from> -d <duration>
```

Option	Default	Description									
-l	/var/log/aerospike/aerospike.log	Log file to read from. Can be used to read from logs that have been rotated out.									
-h	[none]	(required) One of read, writes_master, writes_reply, udf, proxy, query									
-t	10	Analysis slice interval in seconds or time format. Time format is "HH:MM:SS"									
-f	tail	Time_from may be in either form "Aug 6 2014 22:10:13", "-3600", "-1:00:00". Default is to tail the file.									
-d		Maximum duration from which to analyze. Duration is in either form "3600" or "HH:MM:SS"									
-n	3	Number of buckets to display.									
-e	3	Show the 0-th and then every e-th bucket. Lower numbers show finer granularity.  Examples: <table><tr><th>n</th><th>e</th><th>will show (ms)</th></tr><tr><td>3</td><td>3</td><td>1,8,64</td></tr><tr><td>7</td><td>1</td><td>1,2,4,8,16,32,64</td></tr></table>	n	e	will show (ms)	3	3	1,8,64	7	1	1,2,4,8,16,32,64
n	e	will show (ms)									
3	3	1,8,64									
7	1	1,2,4,8,16,32,64									

asloglatency will show the latencies taken from log files. These may be a considerable time in the past. This is very useful for seeing:

- when a problem started
- did the problem occur suddenly or over a long period of time

## asloglatency - example

Suppose there was an issue in read latency 12 hours ago that lasted for an hour. You wish to review the read latencies from 12 hours ago to 10 hours ago. You can issue the command:

```
> asloglatency -h reads -f -12:00:00 -d 2:00:00
```

```
reads
Aug 6, 2014 01:58:58
% > (ms)
slice-to (sec)      1      8      64  ops/sec
-----
01:59:08    10    1.13    0.04    0.00   4661.8
01:59:18    10    1.13    0.04    0.00   4661.8
01:59:28    10    1.13    0.04    0.00   4661.8
...
03:58:58    10    1.13    0.04    0.00   4661.8
03:59:08    10    1.13    0.04    0.00   4661.8
-----
avg                0.97    0.04    0.00   4188.0
max                1.34    0.05    0.00   4661.8
```



## Summary

What we have covered:

- Aerospike Management Console
- asmonitor
- asloglatency