

Monitoring Elasticsearche

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System-level

- CPU
- disk
 - iowait
 - capacity
- RAM

Cluster health

- cluster/health
- green
- yellow
- red

GUIs

- Cerebro
- Kibana
 - `xpack.monitoring.collection.enabled: true`

overview
nodes
rest
more

15sec
Production [green]

reglendo-es-cluster

7 nodes

54 indices

533 shards

3,265,599,833 docs


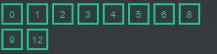

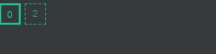
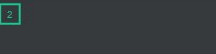
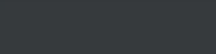
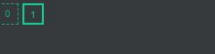



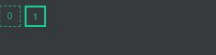
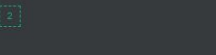
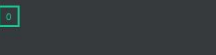
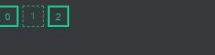
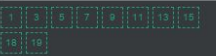
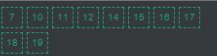
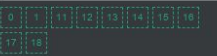
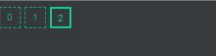
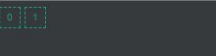
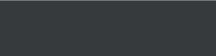
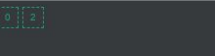



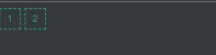
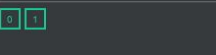
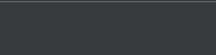
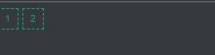
3.92TB

filter indices by name or aliases











closed (0)
 special (23)

filter nodes by name

1-7 of 31

	bidding-2018-12-v1 bidding-2018-12 shards: 20 * 2 docs: 365,777,239 size: 628.72GB	bidding-2019-01-v1 bidding-2019-01 shards: 20 * 2 docs: 262,877,111 size: 484.19GB	bidding-2019-02-v1 bidding-2019-02 shards: 20 * 2 docs: 0 size: 5.10KB	elements-product-v13 elements-product shards: 3 * 3 docs: 32,803,133 size: 9.27GB	inibid-v2 inibid shards: 3 * 2 docs: 0 size: 783.00b	kibana_sample_data_ecommerce shards: 1 * 1 docs: 4,675 size: 4.74MB	product-v14 product shards: 3 * 3 docs: 617,969,281 size: 93.23GB
<div style="display: flex; justify-content: space-between;"> heap disk cpu load </div>							
<div style="display: flex; justify-content: space-between;"> heap disk cpu load </div>							
<div style="display: flex; justify-content: space-between;"> heap disk cpu load </div>							
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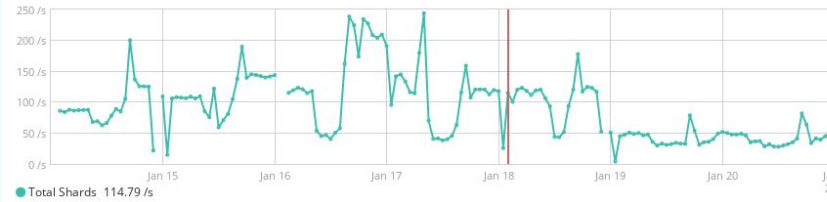
★ master
 ☰ data
 🗑️ ingest
 ⚙️ coordinating

name ^	load	process cpu %	heap usage %	disk usage %	uptime
 d JVM: 1.8.0_191 ES: 6.5.4	8.41	32% os cpu: 34%	36% used: 10.8gb max: 29.8gb	58% available: 746.52GB total: 1.73TB	17d
 d JVM: 1.8.0_191 ES: 6.5.4	13.72	73% os cpu: 75%	34% used: 10.2gb max: 29.8gb	59% available: 727.12GB total: 1.73TB	17d
 d JVM: 1.8.0_191 ES: 6.5.4	7.20	39% os cpu: 40%	57% used: 17.2gb max: 29.8gb	58% available: 739.41GB total: 1.73TB	17d
 d JVM: 1.8.0_191 ES: 6.5.4	7.43	27% os cpu: 27%	53% used: 15.9gb max: 29.8gb	57% available: 764.07GB total: 1.73TB	17d
 m  🗑️ JVM: 1.8.0_191 ES: 6.5.4	8.41	0% os cpu: 33%	18% used: 1.8gb max: 9.8gb	58% available: 746.52GB total: 1.73TB	17d
 m  🗑️ JVM: 1.8.0_191 ES: 6.5.4	13.72	1% os cpu: 70%	54% used: 5.3gb max: 9.8gb	59% available: 727.11GB total: 1.73TB	17d
 m  🗑️ JVM: 1.8.0_191 ES: 6.5.4	7.20	1% os cpu: 47%	50% used: 4.9gb max: 9.8gb	58% available: 739.41GB total: 1.73TB	17d

Overview Nodes Indices CCR

Nodes: 7 Indices: 54 Memory: 70.8 GB / 149.0 GB Total Shards: 533 Unassigned Shards: 0 Documents: 3,267,561,517 Data: 3.9 TB Green

Search Rate (/s)



Search Latency (ms)



Indexing Rate (/s)



Indexing Latency (ms)



Shard Activity

68 in total Completed recoveries 1 - 20 of 68

Index	Stage	Total Time	Source / Destination	Files	Bytes	Translog
.monitoring-kibana-6-2019.01.20 Shard: 0 / Replica Recovery type: Peer	Done	0:00:00	d > d	100.0% 1 / 1	100.0% 230.0 B / 230.0 B	100.0% 2 / 2
monitoring-kibana-6-2019.01.20						

kibana

- Discover
- Visualize
- Dashboard
- Timelion
- Canvas
- Machine Learning
- Infrastructure
- Logs
- APM
- Dev Tools
- Monitoring
- Management

Default













Collapse

Nodes: **7** Indices: **54** Memory: **59.8 GB / 149.0 GB** Total Shards: **533** Unassigned Shards: **0** Documents: **3,267,633,283** Data: **3.9 TB**

● Green

7 in total

Name ↑	Status	CPU Usage	CPU Throttling	JVM Memory	Disk Free Space	Shards
81. :9310	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	79% ↑ <small>84% max 74% min</small>	761.1 GB ↓ <small>868.6 GB max 671.4 GB min</small>	134
81. :9310	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	90% ↑ <small>98% max 75% min</small>	744.5 GB ↓ <small>847.2 GB max 712.3 GB min</small>	133
81. :9310	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	77% ↑ <small>84% max 74% min</small>	752.8 GB ↑ <small>862.9 GB max 654.7 GB min</small>	133
81. :9310	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	79% ↑ <small>91% max 74% min</small>	772.4 GB ↓ <small>941.2 GB max 756.0 GB min</small>	133
81. :9300	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	76% ↑ <small>77% max 28% min</small>	760.9 GB ↓ <small>868.6 GB max 671.3 GB min</small>	0
81. :9300	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	64% ↑ <small>64% max 55% min</small>	744.5 GB ↓ <small>847.0 GB max 713.1 GB min</small>	0
81. :9300	● Online	N/A <small>N/A max N/A min</small>	0 ↓ <small>0 max 0 min</small>	62% ↑ <small>62% max 34% min</small>	753.0 GB ↑ <small>862.9 GB max 654.7 GB min</small>	0

-  Discover
-  Visualize
-  Dashboard
-  Timelion
-  Canvas
-  Machine Learning
-  Infrastructure
-  Logs
-  APM
-  Dev Tools
-  Monitoring
-  Management

Overview Nodes Indices CCR

Nodes: 7 Indices: 54 Memory: 70.0 GB / 149.0 GB Total Shards: 533 Unassigned Shards: 0 Documents: 3,267,720,005 Data: 3.9 TB ● Green

Q Filter Indices...		34 in total		System indices		1 - 20 of 34 < >	
Name ↑	Status	Document Count	Data	Index Rate	Search Rate	Unassigned Shards	
bidding-2018-11-v1	Deleted / Closed	0	596.5 GB	0 /s	37.65 /s	N/A	
bidding-2018-12-v1	Green	365.8m	1.2 TB	0 /s	11.05 /s	0	
bidding-2019-01-v1	Green	263m	940.4 GB	162.67 /s	8.66 /s	0	
bidding-2019-02-v1	Green	0	10.2 KB	0 /s	0.06 /s	0	
elements-product-v13	Green	32.5m	28.0 GB	181.34 /s	3.6 /s	0	
inibid-v2	Green	0	1.5 KB	0 /s	0 /s	0	
kibana_sample_data_ecommerce	Green	4.7k	4.7 MB	0 /s	0 /s	0	
product-v14	Green	617.7m	268.9 GB	947.25 /s	12.04 /s	0	
shark-b-2019-w02-v1	Deleted / Closed	0	57.8 GB	0 /s	1.06 /s	N/A	
shark-b-2019-w03-v1	Green	455.3m	119.6 GB	11.33 /s	0.16 /s	0	
shark-b-2019-w04-v1	Green	0	5.1 KB	0 /s	0.16 /s	0	
shark-b-2019-w05-v1	Green	0	5.1 KB	0 /s	0.16 /s	0	
shark-b-2019-w06-v1	Green	0	5.1 KB	0 /s	0.16 /s	0	
shark-b-2019-w07-v1	Green	0	5.1 KB	0 /s	0.16 /s	0	
shark-b-2019-w08-v1	Green	0	5.1 KB	0 /s	0.07 /s	0	
shark-c-2019-w02-v1	Deleted / Closed	0	162.9 GB	0 /s	4.41 /s	N/A	
shark-c-2019-w03-v2	Green	556.4m	302.1 GB	43.56 /s	0.17 /s	0	

kibana

- Discover
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- Management
- Default
- Collapse

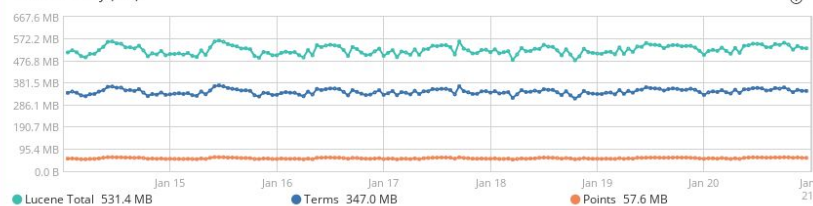
-
- Discover
- Visualize
- Dashboard
- Timelion
- Canvas
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- Default
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Overview **Advanced**

Total: **256.0 GB** Primaries: **86.8 GB** Documents: **617.5m** Total Shards: **9** Unassigned Shards: **0**

Health: Green

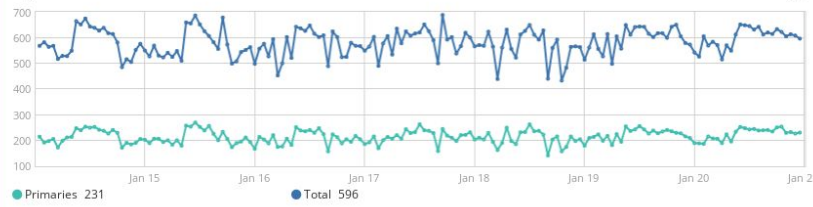
Index Memory (MB)



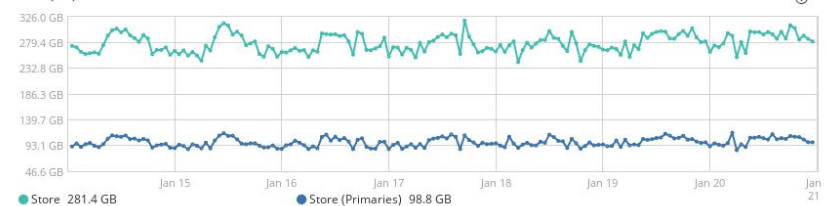
Search Rate (/s)



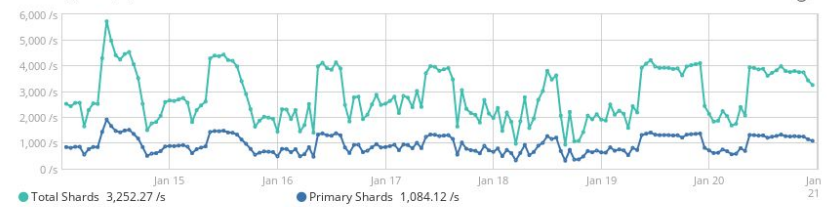
Segment Count



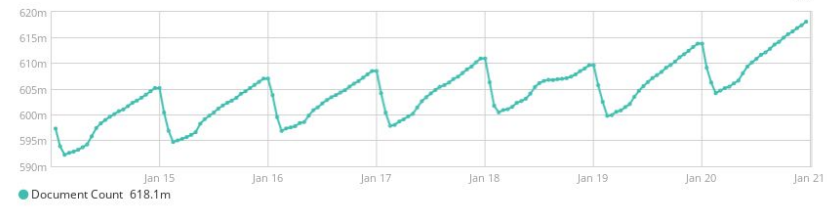
Disk (GB)



Indexing Rate (/s)



Document Count



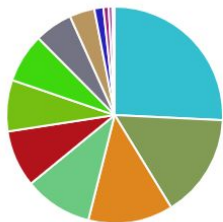
DIY monitoring

- write speed
 - thx to RabbitMQ
 - index/update/conflicts
 - per index/worker
- index-level stats

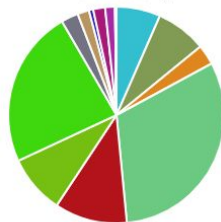
Zobrazit: INDEX | UPDATE | CONFLICT | ERROR | TOTAL 1min | 5min | 10min | 30min | 60min



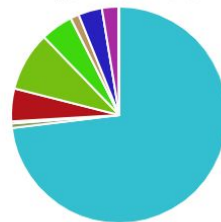
docs_count



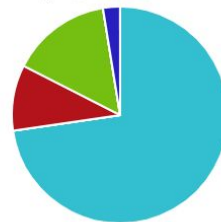
store_size_in_bytes



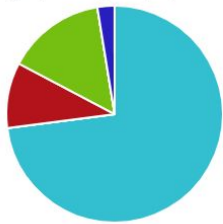
indexing_index_time_in_millis



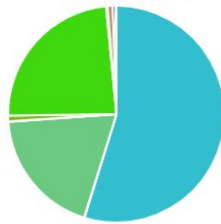
get_time_in_millis



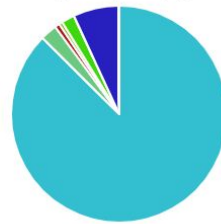
get_exists_time_in_millis



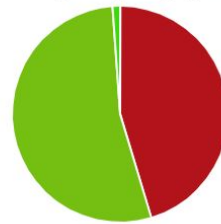
search_query_time_in_millis



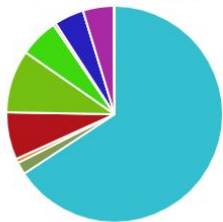
search_fetch_time_in_millis



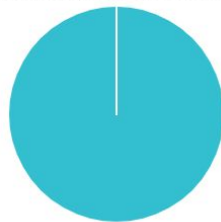
search_scroll_time_in_millis



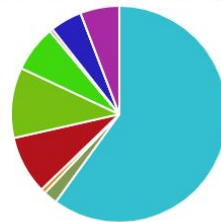
merges_total_time_in_millis



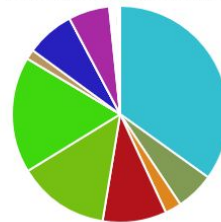
merges_total_stopped_time_in_millis



merges_total_throttled_time_in_millis



refresh_total_time_in_millis



index	DOCS.COUNT	docs.deleted	store.size_in_bytes	indexing.index_total	indexing.index_time_in_millis	indexing.index_current	indexing.index_failed	indexing.delete_total
ALL	7 185 502 003	1 323 389 142	4 301 111 602 437	7 371 733 932	17 255 124 384	9	20 735 990	24
product-v14	1 850 697 564	802 186 302	282 758 086 948	2 763 104 259	12 610 379 859	9	219 929	0
shark-c-2019-w03-v2	1 112 853 070	0	324 363 436 713	52 728 520	115 960 175	0	0	0
shark-b-2019-w03-v1	910 547 814	0	128 424 026 752	13 706 984	54 267 449	0	0	0
bidding-2018-12-v1	731 554 478	10	1 349 168 663 577	0	0	0	0	0
sources-2018-12-v2	608 913 923	229 176 837	466 748 927 477	912 321 576	842 202 338	0	6 732 864	0
sources-2019-01-v2	550 850 866	215 606 065	376 477 878 177	1 403 182 666	1 520 864 834	0	13 764 714	0
bidding-2019-01-v1	526 229 208	158	1 011 766 275 477	467 139 580	833 129 260	0	0	0
source-scrapers-2018-12-v1	407 597 824	0	110 338 905 843	0	0	0	0	0
source-scrapers-2019-01-v1	269 259 891	3	74 688 240 066	236 849 741	219 637 874	0	0	0
elements-product-v13	97 478 103	33 963 618	27 382 588 320	545 862 146	613 136 418	0	18 482	0
source-feed-2018-12-v1	55 111 420	27 725 180	76 560 655 569	0	0	0	0	0
source-feed-2019-01-v1	39 842 141	14 654 685	62 815 890 949	892 735 511	421 900 775	0	0	0
.monitoring-es-6-2019.01.14	2 956 722	10 872	1 145 153 628	10 943 615	3 078 004	0	0	0
.monitoring-es-6-2019.01.13	2 946 602	11 130	1 136 544 033	11 014 441	2 028 037	0	0	0
.monitoring-es-6-2019.01.18	2 861 202	11 118	1 111 820 963	10 890 841	2 747 838	0	0	0

Elasticsearch APIs

- [_cluster/stats](#)
- [_nodes/stats](#)
- [{index}/_stats](#)
- [_cluster/pending_tasks](#)

Unnamed slide

- write-checks (`index.blocks.read_only_allow_delete`)
- Beats
- Monitoring cluster

Sources

- <https://www.datadoghq.com/blog/monitor-elasticsearch-performance-metrics/>
- <https://www.datadoghq.com/blog/collect-elasticsearch-metrics/>
- <https://www.elastic.co/guide/en/elastic-stack-overview/6.5/how-monitoring-works.html>

Otázky?





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