

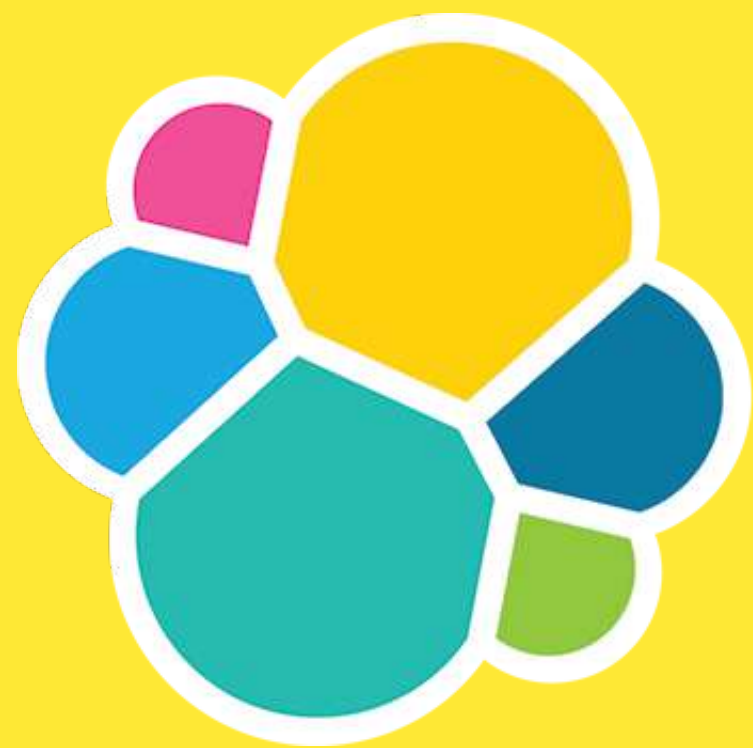


elasticsearch

SKALIEREN FÜR LOGS, METRIKEN UND TRACES

PHILIPP KRENN

@XERAA



elastic

DEVELOPER



AGENDA

LIFECYCLE MANAGEMENT

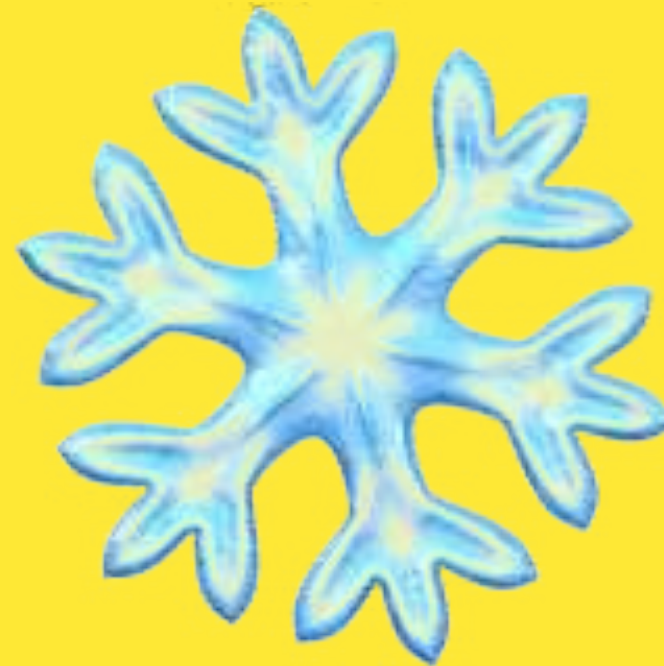
COLD STORAGE

ROLLUPS

Start the Demo Setup

LIFECYCLE MANAGEMENT

INDEX LIFECYCLE MANAGEMENT (ILM)



FEATURES & ORDER

<https://github.com/elastic/elasticsearch/blob/7.9/x-pack/plugin/core/src/main/java/org/elasticsearch/xpack/core/ilm/TimeseriesLifecycleType.java>

```
static final List<String> ORDERED_VALID_HOT_ACTIONS = Arrays.asList(
    SetPriorityAction.NAME, UnfollowAction.NAME, RolloverAction.NAME,
    ForceMergeAction.NAME);
static final List<String> ORDERED_VALID_WARM_ACTIONS = Arrays.asList(
    SetPriorityAction.NAME, UnfollowAction.NAME, ReadOnlyAction.NAME,
    AllocateAction.NAME, ShrinkAction.NAME, ForceMergeAction.NAME);
static final List<String> ORDERED_VALID_COLD_ACTIONS = Arrays.asList(
    SetPriorityAction.NAME, UnfollowAction.NAME, AllocateAction.NAME,
    FreezeAction.NAME, SearchableSnapshotAction.NAME);
static final List<String> ORDERED_VALID_DELETE_ACTIONS = Arrays.asList(
    WaitForSnapshotAction.NAME, DeleteAction.NAME);
```

TIMING

MIN_AGE: INDEX AGE OR ROLLOVER DATE

PREVIOUS PHASE MUST HAVE FINISHED

WHAT ABOUT ELASTIC CURATOR?

SNAPSHOT LIFECYCLE MANAGEMENT (SLM)



PS: 7.0 IMPROVEMENT

INDEX.SEARCH.IDLE.AFTER: 30S

IFF DEFAULT INDEX.REFRESH_INTERVAL

COLD STORAGE

**RATIO HEAP : STORAGE
INDEX > FROZEN INDEX > CLOSED INDEX**

FROZEN INDEX

READ-ONLY

NO MEMORY

THROTTLED THREAD POOL

1 PARALLEL SEARCH / NODE

100 IN QUEUE

PRE_FILTER_SHARD_SIZE

ADDITIONAL ROUND TRIP

SKIP IMPOSSIBLE SHARDS

DATE RANGE FILTER

SEARCHABLE SNAPSHOTS

ROLLUPS



think of the bytes

Demo

CONCLUSION

CODE

<https://github.com/xeraa/scale-elasticsearch-workshop>

RECAP

LIFECYCLE MANAGEMENT

COLD STORAGE

ROLLUPS

gcp.data.highio.1

Data Ingest Master

An I/O optimized Elasticsearch instance.

Fault tolerance

☐ 1 zone ☒ 2 zones ☐ 3 zones

RAM per Node



Nodes [?] RAM per Zone = 4 GB

Summary

4 GB RAM 120 GB storage × 1 node × 2 zones = 8 GB RAM 240 GB storage

> User setting overrides

gcp.data.highstorage.1

Data Ingest Master

A storage optimized Elasticsearch instance.

Fault tolerance

☐ 1 zone ☒ 2 zones ☐ 3 zones

RAM per Node



Nodes [?] RAM per Zone = 4 GB

Summary

4 GB RAM 400 GB storage × 1 node × 2 zones = 8 GB RAM 800 GB storage

> User setting overrides

Machine Learning 1 configuration

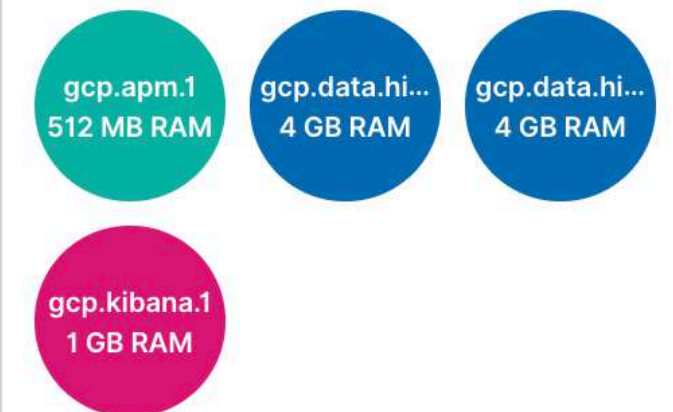
gcp.ml.1 Machine Learning

Summary

Version	v7.1.1
ES data memory	16 GB
ES data storage	1.02 TB
Total memory	17.5 GB
Total storage	1.02 TB
Hourly rate	\$0.7328 [?]
Monthly rate	\$534.94 [?]

Architecture

Zone 1



Zone 2



- gcp.apm.1
- gcp.data.highio.1
- gcp.data.highstorage.1
- gcp.kibana.1

Questions?

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