

Entregable 1

Tuve un pequeño problema por ese tanto lío de código, pero al final se ve como cargo los dos .jar

```
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/cluster-practica-m?authuser=0&hl=en_US&project...
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/duster-practica-m?authuser=0&hl=en_U...
SSH-in-browser
UPLOAD FILE
DOWNLOAD FILE

gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/elasticsearch-hadoop-8.14.1.jar
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/:

gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/:
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster.properties
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/nodes_exclude.xml
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/nodes_include

gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-m/:
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-m/dataproc-post-hdfs-startup-script_component-stats
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-m/dataproc-post-hdfs-startup-script_output
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-m/dataproc-startup-script_component-stats
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-m/dataproc-startup-script_output

gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-w-0/:
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-w-0/dataproc-startup-script_component-stats
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-w-0/dataproc-startup-script_output

gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-w-1/:
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-w-1/dataproc-startup-script_component-stats
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/cluster-practica-w-1/dataproc-startup-script_output

gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/goog-reserved-auto-secondary/:
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/google-cloud-dataproc-metainfo/be5a611e-190c-4244-b3be-2814478149aa/goog-reserved-auto-secondary/cluster.properties
adrilopezrobles@cluster-practica-m:~$ gsutil cp gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/jars/elastic/elasticsearch-hadoop-8.14.1.jar .
CommandException: No URLs matched: gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/jars/elastic/elasticsearch-hadoop-8.14.1.jar
adrilopezrobles@cluster-practica-m:~$ gsutil ls gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/** | grep "\.jar"
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/commons-httpclient-3.1.jar
gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/elasticsearch-hadoop-8.14.1.jar
adrilopezrobles@cluster-practica-m:~$ ^C
adrilopezrobles@cluster-practica-m:~$ gsutil cp gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/jars/elastic/elasticsearch-hadoop-8.14.1.jar .
Copying gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/jars/elastic/elasticsearch-hadoop-8.14.1.jar...
/ [1 files] [ 2.1 MiB/ 2.1 MiB]
Operation completed over 1 objects/2.1 MiB.
adrilopezrobles@cluster-practica-m:~$ gsutil cp gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/jars/elastic/commons-httpclient-3.1.jar .
Copying gs://dataproc-staging-europe-southwest1-222239909445-90xrbasr/jars/elastic/commons-httpclient-3.1.jar...
/ [1 files] [297.8 KiB/297.8 KiB]
Operation completed over 1 objects/297.8 KiB.
adrilopezrobles@cluster-practica-m:~$
```

Entregable 2

```
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/elastic-practica?authuser=0&hl=en_US&projectNu...
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/elastic-practica?authuser=0&hl=en_U...
SSH-in-browser
UPLOAD FILE DOWNLOAD FILE
GNU nano 4.8 /etc/elasticsearch/elasticsearch.yml Modified
#
# Elasticsearch performs poorly when the system is swapping the memory.
#
# ----- Network -----
#
# By default Elasticsearch is only accessible on localhost. Set a different
# address here to expose this node on the network:
#
#network.host: 192.168.0.1
#
# By default Elasticsearch listens for HTTP traffic on the first free port it
# finds starting at 9200. Set a specific HTTP port here:
#
#http.port: 9200
#
# For more information, consult the network module documentation.
#
# ----- Discovery -----
#
# Pass an initial list of hosts to perform discovery when this node is started:
# The default list of hosts is ["127.0.0.1", "[::1]"]
#
#discovery.seed_hosts: ["host1", "host2"]
#
# Bootstrap the cluster using an initial set of master-eligible nodes:
#
#cluster.initial_master_nodes: ["node-1", "node-2"]
#
# For more information, consult the discovery and cluster formation module documentation.
#
# ----- Various -----
#
# Allow wildcard deletion of indices:
#
#action.destructive_requires_name: false
#
#----- BEGIN SECURITY AUTO CONFIGURATION -----
#
# The following settings, TLS certificates, and keys have been automatically
# generated to configure Elasticsearch security features on 17-03-2025 18:02:17
#
# -----
#
# Enable security features
xpack.security.enabled: false
#
xpack.security.enrollment.enabled: true
#
# Enable encryption for HTTP API client connections, such as Kibana, Logstash, and Agents
xpack.security.http.ssl:
  enabled: false
  keystore.path: certs/http.p12
#
# Enable encryption and mutual authentication between cluster nodes
xpack.security.transport.ssl:
  enabled: true
  verification_mode: certificate
  keystore.path: certs/transport.p12
  truststore.path: certs/transport.p12
# Create a new cluster with the current node only
# Additional nodes can still join the cluster later
cluster.initial_master_nodes: ["elastic-practica"]
#
# Allow HTTP API connections from anywhere
# Connections are encrypted and require user authentication
http.host: 0.0.0.0
#
# Allow other nodes to join the cluster from anywhere
# Connections are encrypted and mutually authenticated
transport.host: 0.0.0.0
#
#----- END SECURITY AUTO CONFIGURATION -----
^G Get Help ^O Write Out ^W Where Is ^R Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text M-] To Bracket
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line M-E Redo M-C Copy Text ^Q Where Was
```

Dejo otra con la consola por si acaso

```
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/elastic-practica?authuser=0&hl=en_US&projectNu...
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/elastic-practica?authuser=0&hl=en_U...
SSH-in-browser
[+] UPLOAD FILE [v] DOWNLOAD FILE [i] [k] [s] [g]

- default
- file
# policy:
#   type: size-limit
#   size: 256mb
# strategy:
#   type: numeric
#   max: 10
# layout:
#   type: json

# Logs queries sent to Elasticsearch.
#logging.loggers:
# - name: elasticsearch.query
#   level: debug

# Logs http responses.
#logging.loggers:
# - name: http.server.response
#   level: debug

# Logs system usage information.
#logging.loggers:
# - name: metrics.ops
#   level: debug

# Enables debug logging on the browser (dev console)
#logging.browser.root:
# level: debug

# ===== System: Other =====
# The path where Kibana stores persistent data not saved in Elasticsearch. Defaults to data
#path.data: data

# Specifies the path where Kibana creates the process ID file.
pid.file: /run/kibana/kibana.pid

# Set the interval in milliseconds to sample system and process performance
# metrics. Minimum is 100ms. Defaults to 5000ms.
#ops.interval: 5000

# Specifies locale to be used for all localizable strings, dates and number formats.
# Supported languages are the following: English (default) "en", Chinese "zh-CN", Japanese "ja-JP", French "fr-FR".
#i18n.locale: "en"

# ===== Frequently used (Optional)=====

# ===== Saved Objects: Migrations =====
# Saved object migrations run at startup. If you run into migration-related issues, you might need to adjust these settings.

# The number of documents migrated at a time.
# If Kibana can't start up or upgrade due to an Elasticsearch 'circuit breaking exception',
# use a smaller batchSize value to reduce the memory pressure. Defaults to 1000 objects per batch.
#migrations.batchSize: 1000

# The maximum payload size for indexing batches of upgraded saved objects.
# To avoid migrations failing due to a 413 Request Entity Too Large response from Elasticsearch.
# This value should be lower than or equal to your Elasticsearch cluster's 'http.max_content_length'
# configuration option. Default: 100mb
#migrations.maxBatchSizeBytes: 100mb

# The number of times to retry temporary migration failures. Increase the setting
# if migrations fail frequently with a message such as 'Unable to complete the [...] step after
# 15 attempts, terminating'. Defaults to 15
#migrations.retryAttempts: 15

# ===== Search Autocomplete =====
# Time in milliseconds to wait for autocomplete suggestions from Elasticsearch.
# This value must be a whole number greater than zero. Defaults to 1000ms
#unifiedSearch.autocomplete.valueSuggestions.timeout: 1000

# Maximum number of documents loaded by each shard to generate autocomplete suggestions.
# This value must be a whole number greater than zero. Defaults to 100_000
#unifiedSearch.autocomplete.valueSuggestions.terminateAfter: 100000
server.host: 0.0.0.0
adrilopezrobles@elastic-practica:~$ sudo nano /etc/elasticsearch/elasticsearch.yml
adrilopezrobles@elastic-practica:~$
```

Entregable 3

```
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/cluster-practica-m?authuser=0&hl=en_US&project...
ssh.cloud.google.com/v2/ssh/projects/proyecto-arquitectura-453119/zones/europe-southwest1-b/instances/duster-practica-m?authuser=0&hl=e...
SSH-in-browser
UPLOAD FILE
DOWNLOAD FILE
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1025-gcp x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/pro

System information as of Mon Mar 17 18:24:46 UTC 2025

System load:  0.14           Processes:           156
Usage of /:   37.6% of 48.27GB Users logged in:       0
Memory usage: 97%          IPv4 address for ens4: 10.204.0.11
Swap usage:   0%

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
  just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

New release '24.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Mon Mar 17 16:36:27 2025 from 35.235.246.32
adrilopezrobles@cluster-practica-m:~$ sudo sed -i '$d' /etc/hive/conf.dist/hive-site.xml
adrilopezrobles@cluster-practica-m:~$ sudo sed -i '$a \<property>\n<name>es.nodes</name>\n<value>34.175.213.115</value>\n</property>\n' /etc/hive/conf.dist/hive-site.xml
adrilopezrobles@cluster-practica-m:~$ sudo sed -i '$a \<property>\n<name>es.port</name>\n<value>9200</value>\n</property>\n' /etc/hive/conf.dist/hive-site.xml
adrilopezrobles@cluster-practica-m:~$ sudo sed -i '$a \<property>\n<name>es.nodes.wan.only</name>\n<value>>true</value>\n</property>\n' /etc/hive/conf.dist/hive-site.xml
adrilopezrobles@cluster-practica-m:~$ sudo sed -i '$a \<property>\n<name>hive.aux.jars.path</name>\n<value>/usr/lib/hive/lib/elasticsearch-hadoop-8.14.1.jar,/usr/lib/hive/lib/commons-httpclient-3.1.jar</value>\n</property>\n</configuration>' /etc/hive/conf.dist/hive-site.xml
adrilopezrobles@cluster-practica-m:~$ sudo cp elasticsearch-hadoop-8.14.1.jar /usr/lib/hive/lib/
adrilopezrobles@cluster-practica-m:~$ sudo cp commons-httpclient-3.1.jar /usr/lib/hive/lib/
adrilopezrobles@cluster-practica-m:~$ sudo systemctl restart hive-server2
adrilopezrobles@cluster-practica-m:~$
```

Entregable 4

```
ssh.cloud.google.com/h2/ssh/projects/projecto-arquitectura-453119/zones/europe-southwest1-b/instances/cluster-practica-m7authuser=08hl=en_US&projectNumber=222239909445&useAdminProxy=true - Google Chrome
ssh.cloud.google.com/h2/ssh/projects/projecto-arquitectura-453119/zones/europe-southwest1-b/instances/cluster-practica-m7authuser=08hl=en_US&projectNumber=222239909445&useAdminProxy=true

SSH-in-browser
[UPLOAD FILE] [DOWNLOAD FILE] [CHAT] [SETTINGS]

$ curl -X POST "34.175.213.115:9200/_bulk" -H 'Content-Type: application/json' -d '{
  "index": { "_index": "alumnos", "_id": "3" } },
  { "id": 3, "name": "Carlos", "last_name": "González" },
  { "index": { "_index": "alumnos", "_id": "4" } },
  { "id": 4, "name": "Maria", "last_name": "López" },
  { "index": { "_index": "alumnos", "_id": "5" } },
  { "id": 5, "name": "Sofia", "last_name": "Martínez" },
  { "index": { "_index": "alumnos", "_id": "7" } },
  { "id": 7, "name": "Sofia", "last_name": "Ramírez" },
  { "index": { "_index": "alumnos", "_id": "8" } },
  { "id": 8, "name": "Pedro", "last_name": "Hernández" }
}'

{"errors":false,"took":196,"items":[{"_index":{"_index":"alumnos","_id":"3","_version":1,"result":"created","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":1,"_primary_term":1,"status":201}}},{_index":{"_index":"alumnos","_id":"4","_version":1,"result":"created","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":2,"_primary_term":1,"status":201}}},{_index":{"_index":"alumnos","_id":"5","_version":1,"result":"created","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":3,"_primary_term":1,"status":201}}},{_index":{"_index":"alumnos","_id":"7","_version":1,"result":"created","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":4,"_primary_term":1,"status":201}}},{_index":{"_index":"alumnos","_id":"8","_version":1,"result":"created","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":5,"_primary_term":1,"status":201}}]}]

$ curl -X GET "http://34.175.213.115:9200/alumnos/_search?pretty"

{"took": 299,
 "timed_out": false,
 "_shards": {
   "total": 1,
   "successful": 1,
   "skipped": 0,
   "failed": 0
 },
 "hits": {
   "total": {
     "value": 6,
     "relation": "eq"
   },
   "max_score": 1.0,
   "hits": [
     {
       "_index": "alumnos",
       "_id": "6",
       "_score": 1.0,
       "_source": {
         "_type": "New Document",
         "content": "This is a new document for the master class",
         "tag": {
           "general",
           "testing"
         }
       }
     },
     {
       "_index": "alumnos",
       "_id": "3",
       "_score": 1.0,
       "_source": {
         "_id": 3,
         "name": "Carlos",
         "last_name": "González"
       }
     },
     {
       "_index": "alumnos",
       "_id": "4",
       "_score": 1.0,
       "_source": {
         "_id": 4,
         "name": "Maria",
         "last_name": "López"
       }
     },
     {
       "_index": "alumnos",
       "_id": "5",
       "_score": 1.0,
       "_source": {
         "_id": 5,
         "name": "Sofia",
         "last_name": "Martínez"
       }
     },
     {
       "_index": "alumnos",
       "_id": "7",
       "_score": 1.0,
       "_source": {
         "_id": 7,
         "name": "Sofia",
         "last_name": "Ramírez"
       }
     },
     {
       "_index": "alumnos",
       "_id": "8",
       "_score": 1.0,
       "_source": {
         "_id": 8,
         "name": "Pedro",
         "last_name": "Hernández"
       }
     }
   ]
 }
```

Entregable 5

