

# Creación de Conexión entre Hive y un Index de ElasticSearch

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## PARTE 1 - Configuración ES-Hadoop

1- Creamos un cluster llamado CLuster-Hadoop-project:

Clústeres							
<a href="#">+ CREATE CLUSTER</a> <a href="#">ACTUALIZAR</a> ▶ INICIAR ■ DETENER 🗑 BORRAR REGIONES ▾ + 5 ALERTAS RECC							
Filtro Busca el clúster por propiedades y presiona Intro ?     No							
❗ El servidor no pudo completar tu solicitud.							
<input type="checkbox"/>	Nombre ↑	Estado	Región	Zona	Total de nodos trabajadores	¿Tiene VMs flexibles?	Eliminación pro
<input type="checkbox"/>	<a href="#">cluster-hadoop-project</a>	✅ En ejecución	europe-west10	europe-west10-a	2	No	Desactivado

2- Creamos un Bucket llamado **Bucket-paraelastic**:

Buckets							
<a href="#">+ CREAR</a> <a href="#">ACTUALIZAR</a> <a href="#">IR A RUTA</a> <a href="#">APRENDIZAJE</a>							
❗ Review the soft delete settings on your buckets. Billing for soft deleted objects began on September 1st. MÁS INFORMACIÓN ADMINISTRA POLÍTICAS DE BORRAR DE FORMA NO DEFINITIVA							
Filtro Filtrar depósitos ?							
<input type="checkbox"/>	Nombre ↑	Fecha de creación	Tipo de ubicación	Ubicación	Clase de almacenamiento predeterminada ?	Última modificación	Acceso público
<input type="checkbox"/>	<a href="#">bucket-paraelastic</a>	3 nov 2024 20:44:08	Multi-region	us	Standard	3 nov 2024 20:44:08	No público
<input type="checkbox"/>	<a href="#">dataproc-staging-europe-west10-731439...</a>	3 nov 2024 20:38:24	Region	europe-west10	Standard	3 nov 2024 20:38:24	Sujeto a LCA de
<input type="checkbox"/>	<a href="#">dataproc-temp-europe-west10-7314398...</a>	3 nov 2024 20:38:25	Region	europe-west10	Standard	3 nov 2024 20:38:25	Sujeto a LCA de

3- Extraemos el contenido del zip que hemos descargado previamente, y **subimos** ambos **jar (commons y elasticsearch-hadoop)** a nuestro **bucket** en google storage dentro del directorio **Jar** :

Detalles del bucket

IR A RUTA

ACTUALIZAR

APRENDIZAJE

bucket-paraelastic

Ubicación

us (varias regiones en Estados Unidos)

Clase de almacenamiento

Standard

Acceso público

No público

Protección

Borrar de forma no definitiva

OBJETOS

CONFIGURACIÓN

PERMISOS

PROTECCIÓN

CICLO DE VIDA

OBSERVABILIDAD

INFORMES DE INVENTARIO

OPERACIONES

Navegador de carpetas

bucket-paraelastic

jar/

Depósitos > bucket-paraelastic > jar

CREAR CARPETA

SUBIR

TRANSFERIR LOS DATOS

OTROS SERVICIOS

Filtrar solo por prefijo de nombre

Filtro Filtrar objetos y carpetas

Mostrar Solo objetos activos

<input type="checkbox"/>	Nombre	Tamaño	Tipo	Fecha de creación	Clase de almacenamiento	Últi
<input type="checkbox"/>	commons-httpclient-3.1.jar	297.9 KB	application/octet-stream	3 nov 2024 20:44:46	Standard	3 ni
<input type="checkbox"/>	elasticsearch-hadoop-8.14.1.jar	2.1 MB	application/octet-stream	3 nov 2024 20:44:47	Standard	3 ni

4- Descargamos los **jar** desde el **bucket** al **filesystem** del cluster.

```
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

fdezeta@cluster-hadoop-project-m:~$ gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar
-bash: gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar: No such file or directory
fdezeta@cluster-hadoop-project-m:~$ gduutil cp gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar

Command 'gduutil' not found, did you mean:

  command 'gsutil' from snap google-cloud-cli (499.0.0)
  command 'gsutil' from snap google-cloud-sdk (499.0.0)
  command 'gsutil' from deb gsutil (3.1-1)

See 'snap info <snapname>' for additional versions.

fdezeta@cluster-hadoop-project-m:~$ gsutil cp gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar
CommandException: Wrong number of arguments for "cp" command.
fdezeta@cluster-hadoop-project-m:~$ gsutil cp gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar .
Copying gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar...
/ [1 files][297.8 KiB/297.8 KiB]
Operation completed over 1 objects/297.8 KiB.
fdezeta@cluster-hadoop-project-m:~$ gsutil cp gs://bucket-paraelastic/jar/elasticsearch-hadoop-8.14.1.jar .
Copying gs://bucket-paraelastic/jar/elasticsearch-hadoop-8.14.1.jar...
- [1 files][ 2.1 MiB/ 2.1 MiB]
Operation completed over 1 objects/2.1 MiB.
```

PARTE 2 - Configuración server Elasticsearch

5- Creamos una nueva **Virtual Machine** para elastic llamada (**elastic-hadoop-fran**):

INSTANCIAS

OBSERVABILIDAD

PROGRAMAS DE LAS INSTANCIAS

Instancias de VM

Filtro

Ingresar el nombre o el valor de la propiedad

<input type="checkbox"/>	Estado	Nombre ↑	Zona	Recomendaciones	En uso por	IP interna	IP externa	Conectar
<input type="checkbox"/>		<a href="#">cluster-hadoop-project-m</a>	europa-west10-a			10.214.0.2 (nic0)	34.32.44.0 (nic0)	SSH ▾ ⋮
<input type="checkbox"/>		<a href="#">cluster-hadoop-project-w-0</a>	europa-west10-a			10.214.0.3 (nic0)	34.32.34.77 (nic0)	SSH ▾ ⋮
<input type="checkbox"/>		<a href="#">cluster-hadoop-project-w-1</a>	europa-west10-a			10.214.0.4 (nic0)	34.32.21.68 (nic0)	SSH ▾ ⋮
<input type="checkbox"/>		<a href="#">elastic-hadoop-fran</a>	us-central1-a			10.128.0.2 (nic0)	<a href="#">34.28.56.61</a> (nic0)	SSH ▾ ⋮

## 6- Configuramos la instancia de Elasticsearch, descarga e instalación de Elasticsearch.

```
2024-11-03 20:06:06 (13.0 MB/s) - 'elasticsearch-8.14.1-amd64.deb' saved [588542328/588542328]

--2024-11-03 20:06:06-- https://artifacts.elastic.co/downloads/kibana/kibana-8.14.1-amd64.deb
Resolving artifacts.elastic.co (artifacts.elastic.co)... 34.120.127.130, 2600:1901:0:1d7::
Connecting to artifacts.elastic.co (artifacts.elastic.co)|34.120.127.130|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 341037104 (325M) [application/vnd.debian.binary-package]
Saving to: 'kibana-8.14.1-amd64.deb'

kibana-8.14.1-amd64.deb      100%[=====>] 325.24M  4.54MB/s   in 63s

2024-11-03 20:07:10 (5.16 MB/s) - 'kibana-8.14.1-amd64.deb' saved [341037104/341037104]

fdezeta@elastic-hadoop-fran:~$ sudo dpkg -i elasticsearch-8.14.1-amd64.deb
Selecting previously unselected package elasticsearch.
(Reading database ... 70354 files and directories currently installed.)
Preparing to unpack elasticsearch-8.14.1-amd64.deb ...
Creating elasticsearch group... OK
Creating elasticsearch user... OK
Unpacking elasticsearch (8.14.1) ...
Setting up elasticsearch (8.14.1) ...
----- Security autoconfiguration information -----

Authentication and authorization are enabled.
TLS for the transport and HTTP layers is enabled and configured.

The generated password for the elastic built-in superuser is : liNk1zmuIEcA3i0VpRQm

If this node should join an existing cluster, you can reconfigure this with
'/usr/share/elasticsearch/bin/elasticsearch-reconfigure-node --enrollment-token <token-here>'
after creating an enrollment token on your existing cluster.

You can complete the following actions at any time:

Reset the password of the elastic built-in superuser with
'/usr/share/elasticsearch/bin/elasticsearch-reset-password -u elastic'.

Generate an enrollment token for Kibana instances with
'/usr/share/elasticsearch/bin/elasticsearch-create-enrollment-token -s kibana'.
```

## 7- Descarga e instalación de Kibana.

```
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/us-central1-a/instances/elastic-hadoop-fran?authuser=0&...

SSH en el navegador SUBIR ARCHIVO DESCARGAR ARCHIVO

Generate an enrollment token for Elasticsearch nodes with
'/usr/share/elasticsearch/bin/elasticsearch-create-enrollment-token -s node'.

-----

### NOT starting on installation, please execute the following statements to configure elasticsearch service to
start automatically using systemd
sudo systemctl daemon-reload
sudo systemctl enable elasticsearch.service
### You can start elasticsearch service by executing
sudo systemctl start elasticsearch.service
fdezeta@elastic-hadoop-fran:~$ sudo dpkg -i kibana-8.14.1-amd64.deb
Selecting previously unselected package kibana.
(Reading database ... 71702 files and directories currently installed.)
Preparing to unpack kibana-8.14.1-amd64.deb ...
Unpacking kibana (8.14.1) ...
Setting up kibana (8.14.1) ...
Creating kibana group... OK
Creating kibana user... OK
Kibana is currently running with legacy OpenSSL providers enabled! For details and instructions on how to disabl
e see https://www.elastic.co/guide/en/kibana/8.14/production.html#openssl-legacy-provider
Created Kibana keystore in /etc/kibana/kibana.keystore
fdezeta@elastic-hadoop-fran:~$ sudo sed -i -e '$aserver.host: 0.0.0.0' /etc/kibana/kibana.yml
fdezeta@elastic-hadoop-fran:~$ sudo cat /etc/kibana/kibana.yml
# For more configuration options see the configuration guide for Kibana in
# https://www.elastic.co/guide/index.html

# ===== System: Kibana Server =====
# Kibana is served by a back end server. This setting specifies the port to use.
#server.port: 5601

# Specifies the address to which the Kibana server will bind. IP addresses and host names are both valid values.
# The default is 'localhost', which usually means remote machines will not be able to connect.
# To allow connections from remote users, set this parameter to a non-loopback address.
#server.host: "localhost"

# Enables you to specify a path to mount Kibana at if you are running behind a proxy.
# Use the 'server.rewriteBasePath' setting to tell Kibana if it should remove the basePath
# from requests it receives, and to prevent a deprecation warning at startup.
# This setting cannot end in a slash.
```

## 8- Inicio de los servicios de Elastic Search y Kibana :

```
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/us-central1-a/instances/elastic-hadoop-fran?authuser=0&hl=es_41...
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/us-central1-a/instances/elastic-hadoop-fran?authuser=0&...

SSH en el navegador

# 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
fdezeta@elastic-hadoop-fran:~$ sudo nano /etc/elasticsearch/elasticsearch.yml
fdezeta@elastic-hadoop-fran:~$ sudo service elasticsearch restartsudo service elasticsearch restart
elasticsearch: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service elasticsearch restartsudo service elasticsearch restart
elasticsearch: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service elasticsearch restart
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restartsudo service kibana restart
kibana: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restar
kibana: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restart
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restart
fdezeta@elastic-hadoop-fran:~$
```

## 9- Comprobación tras la instalación del server de Hadoop de los servicios de ElasticSearch y Kibana.

```
← → No es seguro 34.28.56.61:9200
formato al texto

{
  "name": "elastic-hadoop-fran",
  "cluster_name": "elasticsearch",
  "cluster_uuid": "1vQcFvB5Vqd34CBWYVFA",
  "version": {
    "number": "8.14.1",
    "build_flavor": "default",
    "build_type": "deb",
    "build_hash": "93a57a1a76f556d8aee6a90d1a95b06187501319",
    "build_date": "2024-06-10T23:35:17.114581191Z",
    "build_snapshot": false,
    "lucene_version": "9.10.0",
    "minimum_wire_compatibility_version": "7.17.0",
    "minimum_index_compatibility_version": "7.0.0"
  },
  "tagline": "You Know, for Search"
}
```

```
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/europe-west10-a/instances/cluster-hadoop-project-m?authuser=0...
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/europe-west10-a/instances/cluster-hadoop-project-m?aut...

SSH en el navegador

fdezeta@cluster-hadoop-project-m:~$ gduutil cp gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar
Command 'gduutil' not found, did you mean:
  command 'gsutil' from snap google-cloud-cli (499.0.0)
  command 'gsutil' from snap google-cloud-sdk (499.0.0)
  command 'gsutil' from deb gsutil (3.1.1-1)

See 'snap info <snapname>' for additional versions.
fdezeta@cluster-hadoop-project-m:~$ gsutil cp gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar
CommandException: Wrong number of arguments for "cp" command.
fdezeta@cluster-hadoop-project-m:~$ gsutil cp gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar .
Copying gs://bucket-paraelastic/jar/commons-httpclient-3.1.jar...
  [1 files] [297.8 KiB/297.8 KiB]
Operation completed over 1 objects/297.8 KiB.
fdezeta@cluster-hadoop-project-m:~$ gsutil cp gs://bucket-paraelastic/jar/elasticsearch-hadoop-8.14.1.jar .
Copying gs://bucket-paraelastic/jar/elasticsearch-hadoop-8.14.1.jar...
  [1 files] [ 2.1 MiB/ 2.1 MiB]
Operation completed over 1 objects/2.1 MiB.
fdezeta@cluster-hadoop-project-m:~$ curl -I http://34.32.44.0:9200
curl: (7) Failed to connect to 34.32.44.0 port 9200 after 0 ms: Couldn't connect to server
fdezeta@cluster-hadoop-project-m:~$ curl -I http://34.28.56.61:9200
curl: (7) Failed to connect to 34.28.56.61 port 9200 after 115 ms: Couldn't connect to server
fdezeta@cluster-hadoop-project-m:~$ curl -I http://IP_Elastic_server:9200
curl: (6) Could not resolve host: IP_Elastic_server
fdezeta@cluster-hadoop-project-m:~$ curl -I http://34.28.56.61:9200

curl: (28) Failed to connect to 34.28.56.61 port 9200 after 131043 ms: Couldn't connect to server
fdezeta@cluster-hadoop-project-m:~$
fdezeta@cluster-hadoop-project-m:~$
fdezeta@cluster-hadoop-project-m:~$ curl -I http://34.28.56.61:9200
HTTP/1.1 200 OK
X-elastic-product: Elasticsearch
content-type: application/json
content-length: 514
fdezeta@cluster-hadoop-project-m:~$
```

### PARTE 3 - Configuración en Cluster Hadoop de Conexión con ES

10- Una vez que ya hemos creado y configurado el server **Elasticsearch** y tenemos los ficheros en el master del **cluster Dataproc**, ya podemos **cargar los jars en la configuración de HIVE**. Para ello, debemos modificar el hive-site.xml.

```
# Maxi fdezeta@cluster-hadoop-project-m:~$
# This fdezeta@cluster-hadoop-project-m:~$
#unifi fdezeta@cluster-hadoop-project-m:~$ sudo sed -i '$d' /etc/hive/conf.dist/hive-site.xml
server fdezeta@cluster-hadoop-project-m:~$ sudo sed -i '$a \ <property>\n      <name>es.nodes</name>\n      <value>http://
fdezeta@cluster-hadoop-project-m:~$ sudo sed -i '$a \ <property>\n      <name>es.port</name>\n      <value>9200</va
fdezeta@cluster-hadoop-project-m:~$ sudo sed -i '$a \ <property>\n      <name>es.nodes.wan.only</name>\n      <valu
fdezeta@cluster-hadoop-project-m:~$ sudo sed -i '$a \ <property>\n      <name>hive.aux.jars.path</name>\n      <valu
fdezeta@cluster-hadoop-project-m:~$ sudo sed -i '$a \ <property>\n      <name>hive.aux.jars.path</name>\n      <valu
fdezeta@cluster-hadoop-project-m:~$ sudo cp elasticsearch-hadoop-8.14.1.jar /usr/lib/hive/lib/
fdezeta@cluster-hadoop-project-m:~$ sudo cp commons-httpclient-3.1.jar /usr/lib/hive/lib/
fdezeta@cluster-hadoop-project-m:~$ sudo service hive-server2 restart
fdezeta@cluster-hadoop-project-m:~$
```

#### ¿Qué hacen exactamente estos comandos?

Utilizan el editor de flujo **sed** para transformar el fichero hive-site.xml, con la opción **-i**, que modifica el archivo "in-place".

En el primer comando, '\$d' representa el final del archivo. Elimina la última línea.

En el segundo comando, '\$a...' indica añadir una línea al final del archivo. La línea que añadimos, es el cambio en la configuración, diciéndole los jars que tiene que utilizar ahora.

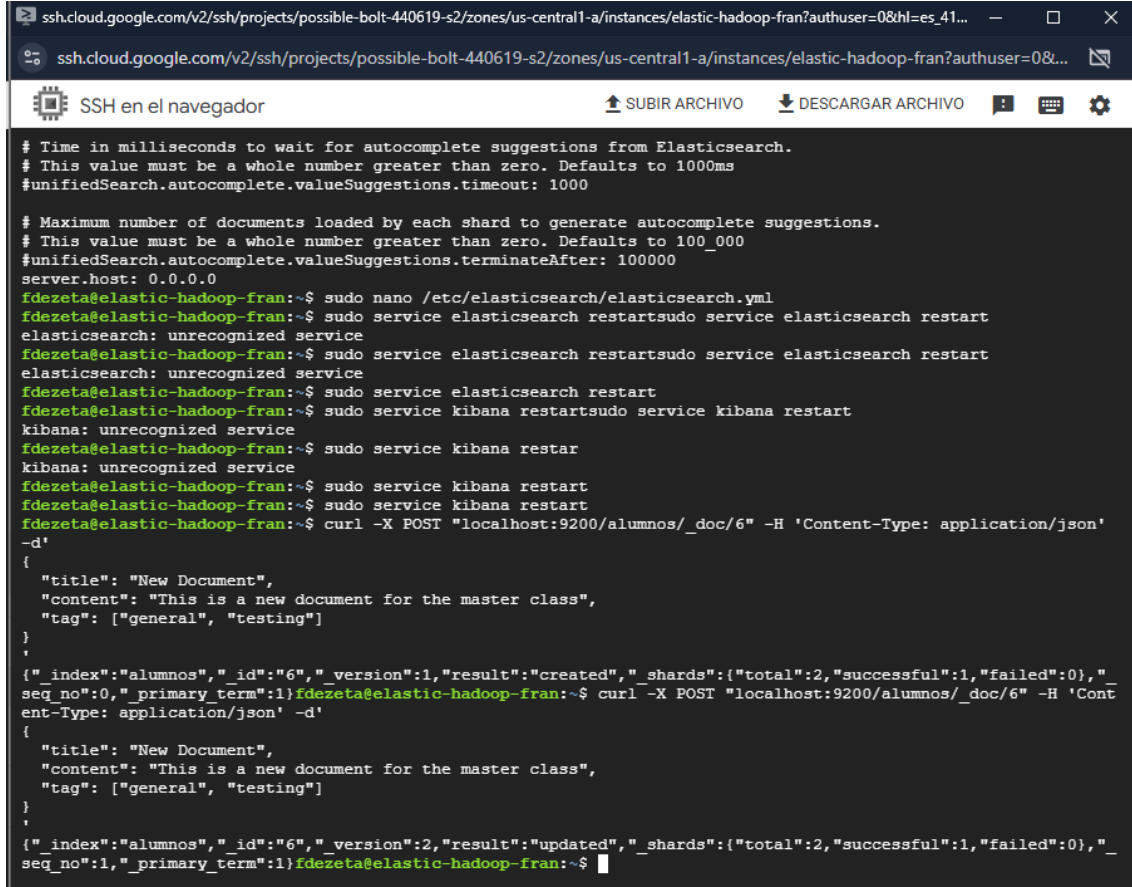
[/etc/hive/conf.dist/hive-site.xml](#) es la ruta donde se encuentra el archivo de configuración (esto puede variar).

El último comando, colocará los jar de elasticsearch y kibana en la ruta correcta.

Tras esto, debemos **reiniciar hive** para que se apliquen los cambios.

## PARTE 4 - A conectar datos!

11- Ahora, desde nuestro **server Elasticsearch**, vamos a crear un índice sobre el que después trabajaremos en el cluster Hadoop:



```
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/us-central1-a/instances/elastic-hadoop-fran?authuser=0&hl=es_41...
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/us-central1-a/instances/elastic-hadoop-fran?authuser=0&hl=es_41...

SSH en el navegador SUBIR ARCHIVO DESCARGAR ARCHIVO

# 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
fdezeta@elastic-hadoop-fran:~$ sudo nano /etc/elasticsearch/elasticsearch.yml
fdezeta@elastic-hadoop-fran:~$ sudo service elasticsearch restartsudo service elasticsearch restart
elasticsearch: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service elasticsearch restartsudo service elasticsearch restart
elasticsearch: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service elasticsearch restart
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restartsudo service kibana restart
kibana: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restart
kibana: unrecognized service
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restart
fdezeta@elastic-hadoop-fran:~$ sudo service kibana restart
fdezeta@elastic-hadoop-fran:~$ curl -X POST "localhost:9200/alumnos/_doc/6" -H 'Content-Type: application/json' -d'
{
  "title": "New Document",
  "content": "This is a new document for the master class",
  "tag": ["general", "testing"]
}
{"_index":"alumnos","_id":"6","_version":1,"result":"created","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":0,"_primary_term":1}fdezeta@elastic-hadoop-fran:~$ curl -X POST "localhost:9200/alumnos/_doc/6" -H 'Content-Type: application/json' -d'
{
  "title": "New Document",
  "content": "This is a new document for the master class",
  "tag": ["general", "testing"]
}
{"_index":"alumnos","_id":"6","_version":2,"result":"updated","_shards":{"total":2,"successful":1,"failed":0},"_seq_no":1,"_primary_term":1}fdezeta@elastic-hadoop-fran:~$
```

12- Finalmente, en **nuestro cluster Hadoop**, vamos a agregar documentos al index alumnos recién creado:

```
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/europe-west10-a/instances/cluster-hadoop-project-m?authuser=0...
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/europe-west10-a/instances/cluster-hadoop-project-m?aut...

SSH en el navegador SUBIR ARCHIVO DESCARGAR ARCHIVO

{ "id": 3, "name": "Carlos", "last_name": "González" }
{ "index": { "index": "alumnos", "id": "4" } }
{ "id": 4, "name": "María", "last_name": "López" }
{ "index": { "index": "alumnos", "id": "5" } }
{ "id": 5, "name": "Luis", "last_name": "Martínez" }
{ "index": { "index": "alumnos", "id": "7" } }
{ "id": 7, "name": "Sofía", "last_name": "Ramírez" }
{ "index": { "index": "alumnos", "id": "8" } }
{ "id": 8, "name": "Pedro", "last_name": "Hernández" }

>
> ^C
fdezeta@cluster-hadoop-project-m:~$ curl -X POST "34.28.56.61:9200/_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": "María", "last_name": "López" }
> { "index": { "index": "alumnos", "id": "5" } }
> { "id": 5, "name": "Luis", "last_name": "Martínez" }
> { "index": { "index": "alumnos", "id": "7" } }
> { "id": 7, "name": "Sofía", "last_name": "Ramírez" }
> { "index": { "index": "alumnos", "id": "8" } }
> { "id": 8, "name": "Pedro", "last_name": "Hernández" }
> '
{"errors":false,"took":67,"items":[{"index":{"index":"alumnos","id":"3","version":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":2,"primary_term":1,"status":201}},{"index":{"index":"alumnos","id":"4","version":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":3,"primary_term":1,"status":201}},{"index":{"index":"alumnos","id":"5","version":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":4,"primary_term":1,"status":201}},{"index":{"index":"alumnos","id":"7","version":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":5,"primary_term":1,"status":201}},{"index":{"index":"alumnos","id":"8","version":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":6,"primary_term":1,"status":201}}]}fdezeta@cluster-hadoop-project-m:~$
```

13- Podemos comprobar que efectivamente se ha creado con una sencilla consulta:

Hagamos una consulta para ahora para ver los datos insertados:

```
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/europe-west10-a/instances/cluster-hado...
ssh.cloud.google.com/v2/ssh/projects/possible-bolt-440619-s2/zones/europe-west10-a/instances/cluster-h...

SSH en el navegador SUBIR ARCHIVO DESCARGAR ARCHIVO

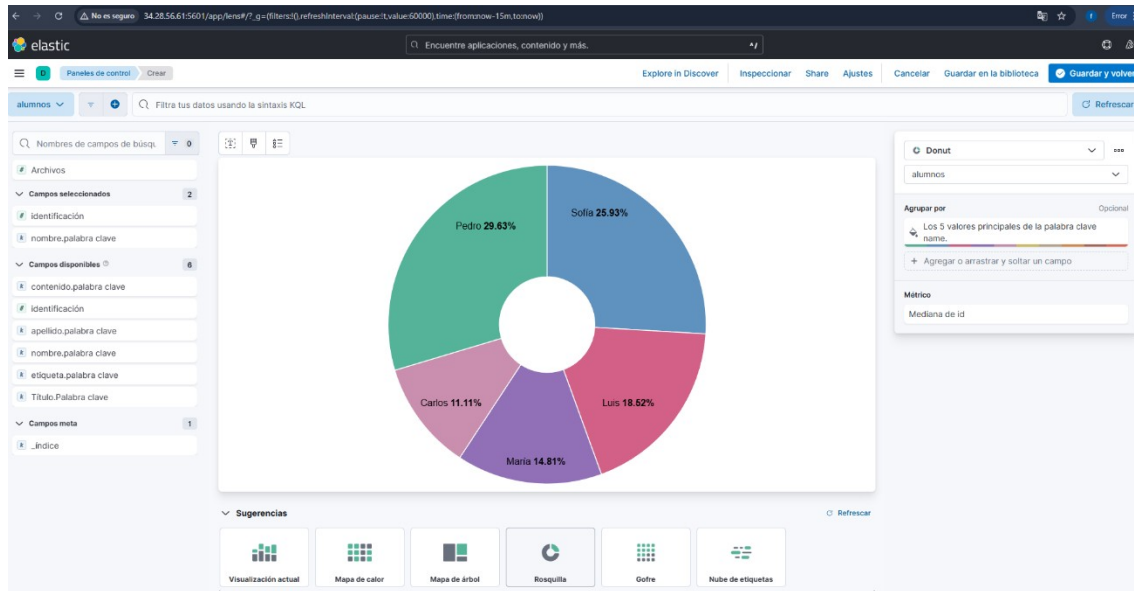
rsion":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":5,"primary_term":1,"status":201}},{"index":{"index":"alumnos","id":"8","version":1,"result":"created","shards":{"total":2,"successful":1,"failed":0},"seq_no":6,"primary_term":1,"status":201}}]}fdezeta@cluster-hadoop-project-m:~$ curl -X GET "http://34.28.56.61:9200/alumnos/_search?pretty"
{
  "took" : 8,
  "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" : {
          "title" : "New Document",
          "content" : "This is a new document for the master class",
          "tag" : [
            "general",
            "testing"
          ]
        }
      },
      {
        "_index" : "alumnos",
        "_id" : "3",
        "_score" : 1.0,
        "_source" : {
```



## PARTE 5 – KIBANA

14- Por último vamos a hacer un gráfico Horizontal y otro gráfico de anillo con algunos datos del índice Alumnos que hemos creado , para ello accederemos a Kibana para comprobar que todo funciona perfectamente.

### GRÁFICO DE ANILLO



### GRÁFICO DE BARRAS HORIZONTAL

