

PARTE 1

Captura de pantalla de la consola SSH del cluster Hadoop una vez finalizada la configuración y carga.

```
schgabi980@cluster-practica-bd-arq-m:~$  
schgabi980@cluster-practica-bd-arq-m:~$ gsutil cp gs://bucket-eshadoop-practica/elasticsearch-hadoop-8.14.1.jar  
.  
Copying gs://bucket-eshadoop-practica/elasticsearch-hadoop-8.14.1.jar...  
/ [1 files][ 2.1 MiB/ 2.1 MiB]  
Operation completed over 1 objects/2.1 MiB.  
schgabi980@cluster-practica-bd-arq-m:~$ gsutil cp gs://bucket-eshadoop-practica/commons-httpclient-3.1.jar .  
Copying gs://bucket-eshadoop-practica/commons-httpclient-3.1.jar...  
/ [1 files][297.8 KiB/297.8 KiB]  
Operation completed over 1 objects/297.8 KiB.  
schgabi980@cluster-practica-bd-arq-m:~$ █
```

PARTE 2

Captura de pantalla de la consola del server Elastic donde se vea la configuración de elastic, desde 'Enable security features' hasta el final (el fichero elasticsearch.yml) abierta.(Recordad: Comando sudo cat...)

```
# 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: ["elasticsearch-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 -----  
schgabi980@elasticsearch-practica:~$ █
```

PARTE 3

Captura de pantalla del proceso de configuración en Cluster Hadoop de Conexión con ES completo.

```
schgabi980@cluster-practica-bd-arq-m:~$ gcloud auth list

Credentialed Accounts
ACTIVE  ACCOUNT
       128845811888-compute@developer.gserviceaccount.com
*       schgabi980@gmail.com

To set the active account, run:
$ gcloud config set account `ACCOUNT`

schgabi980@cluster-practica-bd-arq-m:~$ 
schgabi980@cluster-practica-bd-arq-m:~$ sudo sed -i '$d' /etc/hive/conf.dist/hive-site.xml
schgabi980@cluster-practica-bd-arq-m:~$ sudo sed -i '$a \ <property>\n    <name>es.node
s</name>\n    <value>34.32.218.181</value>\n  </property>\n' /etc/hive/conf.dist/hive-site.xml
schgabi980@cluster-practica-bd-arq-m:~$ sudo sed -i '$a \ <property>\n    <name>es.port
</name>\n    <value>9200</value>\n  </property>\n' /etc/hive/conf.dist/hive-site.xml
schgabi980@cluster-practica-bd-arq-m:~$ sudo sed -i '$a \ <property>\n    <name>es.node
s.wan.only</name>\n    <value>>true</value>\n  </property>\n' /etc/hive/conf.dist/hive-site.xml
schgabi980@cluster-practica-bd-arq-m:~$ sudo sed -i '$a \ <property>\n    <name>hive.aux.jars.path</name>\n    <value>/usr/lib/hive/lib/elasticsearch-hadoop-8.14.1.jar,/usr/lib/hive/lib/commons-httpclient-3.1.jar</value>\n  </property>\n</configuration>' /etc/hive/conf.dist/hive-site.xml
schgabi980@cluster-practica-bd-arq-m:~$ sudo cp elasticsearch-hadoop-8.14.1.jar /usr/lib/hive/lib/
schgabi980@cluster-practica-bd-arq-m:~$ sudo cp commons-httpclient-3.1.jar /usr/lib/hive/lib/
schgabi980@cluster-practica-bd-arq-m:~$ sudo service hive-server2 restart
schgabi980@cluster-practica-bd-arq-m:~$
```

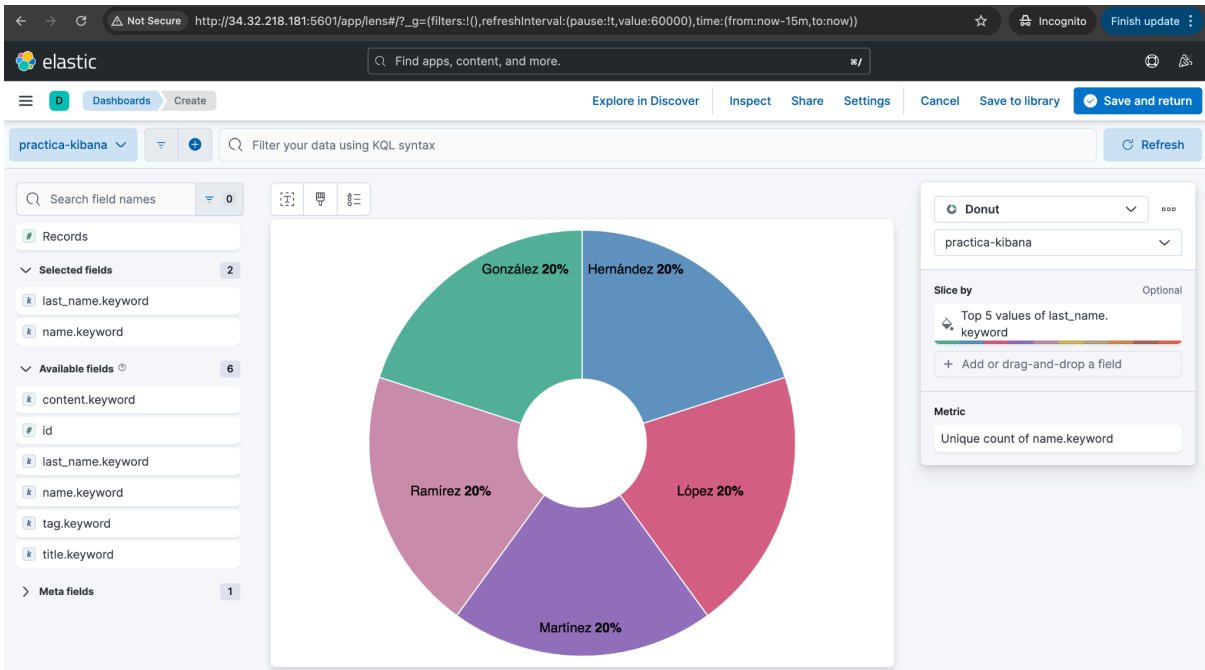
PARTE 4

Captura de pantalla de la consola del cluster Hadoop con el resultado la consulta.

```
schgabi980@elasticsearch-practica:~$ curl -X GET "http://34.32.218.181:9200/alumnos/_search?pretty"
{
  "took" : 86,
  "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" : {
          "id" : 3,
          "name" : "Carlos",
          "last_name" : "González"
        }
      },
      {
        "_index" : "alumnos",
        "_id" : "4",
        "_score" : 1.0,
        "_source" : {
          "id" : 4,
          "name" : "María",
          "last_name" : "López"
        }
      },
      {
        "_index" : "alumnos",
        "_id" : "5",
        "_score" : 1.0,
        "_source" : {
          "id" : 5,
          "name" : "Luis",
          "last_name" : "Martinez"
        }
      },
      {
        "_index" : "alumnos",
        "_id" : "7",
        "_score" : 1.0,
        "_source" : {
          "id" : 7,
          "name" : "Sofía",
          "last_name" : "Ramirez"
        }
      },
      {
        "_index" : "alumnos",
        "_id" : "8",
        "_score" : 1.0,
        "_source" : {
          "id" : 8,
          "name" : "Pedro",
          "last_name" : "Hernández"
        }
      }
    ]
  }
}
schgabi980@elasticsearch-practica:~$
```

PARTE 5

Opcional. Captura de pantalla de la consola de Kibana con alguna visualización sencilla



También realicé la siguiente tabla con Kibana, como ej de lo que se podría buscar obtener si el dataset fuese más extenso:

| Top 5 values of last_name.keyv | Carlos › Count of name.keyword | Luis › Count of name.keyword | María › Count of name.keyword | Pedro › Count of name.keyword | Sofía › Count of name.keyword |
|--------------------------------|--------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| González | 1 | - | - | - | - |
| Martínez | - | 1 | - | - | - |
| López | - | - | 1 | - | - |
| Hernández | - | - | - | 1 | - |
| Ramírez | - | - | - | - | 1 |
| Sum: 1 | Sum: 1 | Sum: 1 | Sum: 1 | Sum: 1 | Sum: 1 |