

Installation Elasticsearch

ElasticSearch est un projet open source développé en Java sous licence Apache2. Le projet a été présenté par son créateur, Shay Banon, comme le successeur du framework Compass (un framework de mapping objet/moteur de recherche partageant des similitudes avec Hibernate Search).

La première version a été mise à disposition du public en février 2010. Depuis, le projet tient un rythme soutenu de releases à raison d'une version tous les un ou deux mois.

[Guide elasticsearch](#)

Installation *Elasticsearch* v 6.7.0

La configuration de mon système:

OS	RAM	Disque
Linux Ubuntu 18.04.1 LTS	2.5 Go	21.0 Go

1. Vérifier la versions de Java

```
essadeq@ubuntu:~$ java -version
openjdk version "1.8.0_312"
OpenJDK Runtime Environment (build 1.8.0_312-8u312-b07-0ubuntu1~18.04-b07)
OpenJDK 64-Bit Server VM (build 25.312-b07, mixed mode)
```

Si vous avez pas Java installé sur votre system, vous pouvez l'installer par la commande

```
sudo apt update
sudo apt install openjdk-8-jdk openjdk-8-jre
```

2. Télécharger elasticsearch v6.7.0 (pour java 8) lien:
<https://artifacts.elastic.co/downloads/elasticsearch/elasticsearch-6.7.0.tar.gz>

```
essadeq@ubuntu:~$ sudo wget https://artifacts.elastic.co/downloads/elasticsearch
/elasticsearch-6.7.0.tar.gz
[sudo] password for essadeq:
--2022-05-14 02:48:26-- https://artifacts.elastic.co/downloads/elasticsearch/el
asticsearch-6.7.0.tar.gz
Resolving artifacts.elastic.co (artifacts.elastic.co)... 34.120.127.130, 2600:19
01:0:1d7::
Connecting to artifacts.elastic.co (artifacts.elastic.co)|34.120.127.130|:443...
connected.
HTTP request sent, awaiting response... 200 OK
Length: 149006122 (142M) [application/x-gzip]
Saving to: 'elasticsearch-6.7.0.tar.gz'

elastic  5%[>                ]  7.71M  665KB/s  eta 2m 52s
```

Si vous possédez une autre version de Java, vous devez installer la version élastique compatible:

3. Décompresser le fichier tar.gz

```
essadeq@ubuntu:~$ tar -xzf elasticsearch-6.7.0.tar.gz
elasticsearch-6.7.0/
elasticsearch-6.7.0/lib/
elasticsearch-6.7.0/lib/elasticsearch-6.7.0.jar
elasticsearch-6.7.0/lib/elasticsearch-x-content-6.7.0.jar
elasticsearch-6.7.0/lib/elasticsearch-cli-6.7.0.jar
elasticsearch-6.7.0/lib/elasticsearch-core-6.7.0.jar
elasticsearch-6.7.0/lib/elasticsearch-security-6.7.0.jar
```

4. Ouvrir le fichier de configuration `/config/elasticsearch.yml` avec le mode Root (administrateur)

```
essadeq@ubuntu:~$ sudo nano elasticsearch-6.7.0/config/elasticsearch.yml
essadeq@ubuntu:~$
```

5. Ajouter la configuration au fichier de configuration `/config/elasticsearch.yml`

conf:

```
cluster.name: < nom du cluster pour l'ensemble des nœuds élastique >
node.name: < nom du nœud que vous souhaitez démarrer (doit être unique pour un
cluster)>
path.data: < où stocker les données ?>
path.logs: < les logs ?>
bootstrap.memory_lock: < verrouiller la mémoire ?>
network.host: localhost
http.port: < Port http (9200)>
! action.destructive_requires_name: true
index.number_of_shards: < nombre de serveurs (défaut 1)>
index.number_of_replicas: < de serveurs de réplication pour la tolérance aux pannes
(défaut 0) >
```

exemple:

```
cluster.name: bdcc-cluster
node.name: "bdcc2"
path.data: /opt/elasticsearch/data
path.logs: /opt/elasticsearch/log
bootstrap.memory_lock: true
network.host: localhost
http.port: 9200
action.destructive_requires_name: true
```

6. Vérifier que vous avez ces fichiers avant de continuer.

```
essadeq@ubuntu:~$ cd elasticsearch-6.7.0/bin/
essadeq@ubuntu:~/elasticsearch-6.7.0/bin$ ls
elasticsearch          elasticsearch-service-x64.exe
elasticsearch.bat      elasticsearch-setup-passwords
elasticsearch-certgen  elasticsearch-setup-passwords.bat
elasticsearch-certgen.bat elasticsearch-shard
elasticsearch-certutil elasticsearch-shard.bat
elasticsearch-certutil.bat elasticsearch-sql-cli
elasticsearch-cli      elasticsearch-sql-cli-6.7.0.jar
elasticsearch-cli.bat  elasticsearch-sql-cli.bat
elasticsearch-croneval elasticsearch-syskeygen
elasticsearch-croneval.bat elasticsearch-syskeygen.bat
```

6. Déplacer et renommer le répertoire vers `/opt/elasticsearch`.

```
essadeq@ubuntu:~$ mv elasticsearch-6.7.0 /opt/elasticsearch
mv: cannot move 'elasticsearch-6.7.0' to '/opt/elasticsearch': Permission denied
essadeq@ubuntu:~$ sudo mv elasticsearch-6.7.0 /opt/elasticsearch
[sudo] password for essadeq:
essadeq@ubuntu:~$
```

6. Ouvrir le fichier `.profile`.

```
essadeq@ubuntu:~$ source ~/.profile
essadeq@ubuntu:~$
```

6. Ajouter les variables suivantes.

```
export ES_HOME=/opt/elasticsearch
export PATH=$PATH:$ES_HOME/bin
```

```
## added by @EL AAMIRI
export SPARK_HOME=/opt/spark
export PATH=$PATH:$SPARK_HOME/bin:$SPARK_HOME/sbin
export PYSARK_PYTHON=/usr/bin/python3

## elasticsearch
export ES_HOME=/opt/elasticsearch
export PATH=$PATH:$ES_HOME/bin
```

7. Charger le fichier .profile et tester par

```
echo $ES_HOME
```

Il faut que vous recevoire la valeur déjà citée dans .proile

```
essadeq@ubuntu:~$ source ~/.profile
essadeq@ubuntu:~$ echo $ES_HOME
/opt/elasticsearch
essadeq@ubuntu:~$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr
park/bin:/opt/spark/sbin:/opt/elasticsearch/bin
essadeq@ubuntu:~$
```

8. N'oubliez pas de créer les repertoires `data/` et `log/` dans `/opt/elasticsearch`

```
essadeq@ubuntu:~$ cd /opt/elasticsearch/config/
essadeq@ubuntu:/opt/elasticsearch/config$ nano elasticsearch.yml
essadeq@ubuntu:/opt/elasticsearch/config$ cd ..
essadeq@ubuntu:/opt/elasticsearch$ ls
bin  config  lib  LICENSE.txt  logs  modules  NOTICE.txt  plugins  README.te
essadeq@ubuntu:/opt/elasticsearch$ mkdir data
essadeq@ubuntu:/opt/elasticsearch$ mkdir log
```

9. Vériier les droits d'accès vers `/opt/elasticsearch/elaticseach.keystore` , et ajouter les droits de l'écriture et de l'exécution.

```
essadeq@ubuntu:~$ ls -al /opt/elasticsearch/config/elasticsearch.keystore
-rwxrwx--x 1 root root 207 May 14 03:24 /opt/elasticsearch/config/elasticsearch.keystore
essadeq@ubuntu:~$ sudo chmod +rwx /opt/elasticsearch/config/elasticsearch.keystore
essadeq@ubuntu:~$ ls -al /opt/elasticsearch/config/elasticsearch.keystore
-rwxrwxr-x 1 root root 207 May 14 03:24 /opt/elasticsearch/config/elasticsearch.keystore
```

10. Lancez elasticsearch


```

essadeq@ubuntu:~$ elasticsearch
OpenJDK 64-Bit Server VM warning: Cannot open file logs/gc.log due to Permission denied

[2022-05-14T05:31:12,567][WARN ][o.e.b.JNANatives ] [bdcc2] Unable to lock JVM Memory: error=12, reason=Cannot allocate memory
[2022-05-14T05:31:12,590][WARN ][o.e.b.JNANatives ] [bdcc2] This can result in part of the JVM being swapped out.
[2022-05-14T05:31:12,592][WARN ][o.e.b.JNANatives ] [bdcc2] Increase RLIMIT_MEMLOCK, soft limit: 16777216, hard limit: 16777216
[2022-05-14T05:31:12,593][WARN ][o.e.b.JNANatives ] [bdcc2] These can be adjusted by modifying /etc/security/limits.conf, for e
ample:
# allow user 'essadeq' mlockall
essadeq soft memlock unlimited

```

11. Verifier le lancement via `jps`

```

essadeq@ubuntu:~$ jps
2805 Jps
2682 Elasticsearch

```

11. Tester votre premier requête `curl`

```

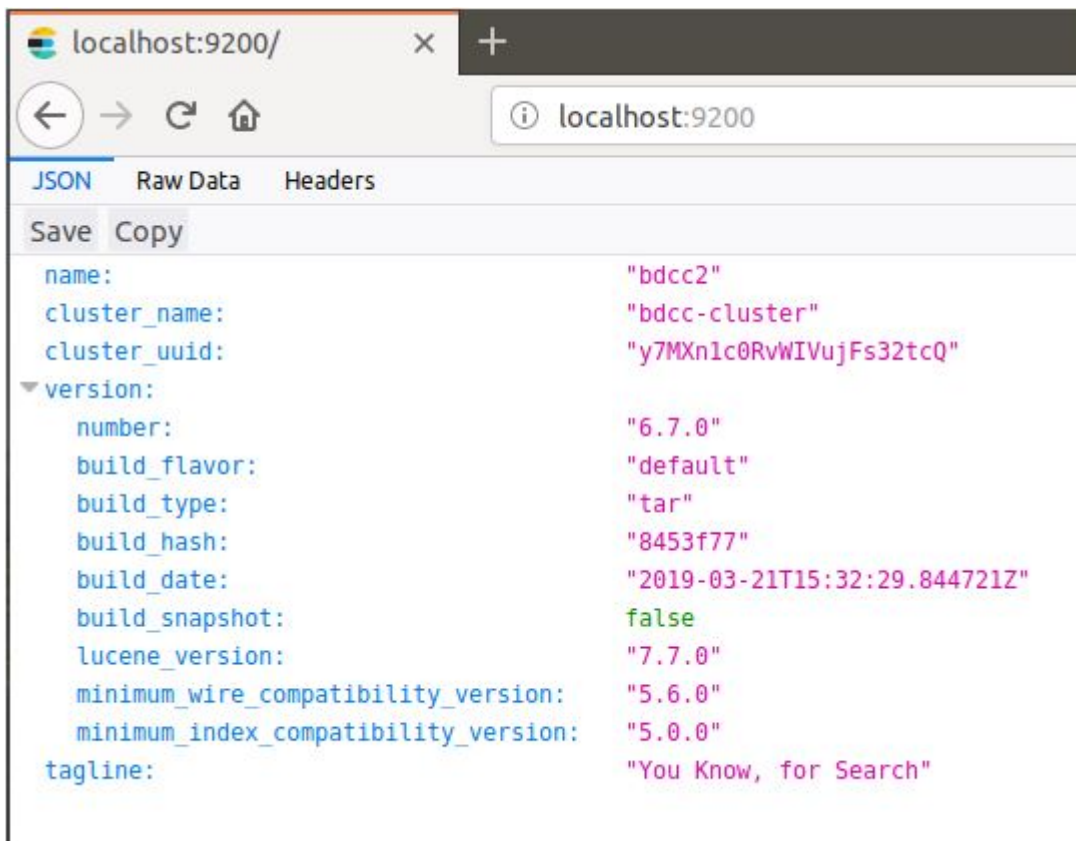
essadeq@ubuntu:~$ curl http://localhost:9200
{
  "name" : "bdcc2",
  "cluster_name" : "bdcc-cluster",
  "cluster_uuid" : "y7MXn1c0RvWIVujFs32tcQ",
  "version" : {
    "number" : "6.7.0",
    "build_flavor" : "default",
    "build_type" : "tar",
    "build_hash" : "8453f77",
    "build_date" : "2019-03-21T15:32:29.844721Z",
    "build_snapshot" : false,
    "lucene_version" : "7.7.0",
    "minimum_wire_compatibility_version" : "5.6.0",
    "minimum_index_compatibility_version" : "5.0.0"
  },
  "tagline" : "You Know, for Search"
}
essadeq@ubuntu:~$

```

Vous avez pas `curl` ? installez le, par

```
sudo apt install curl
```

11. Ou bien tester la même requête dans votre navigateur.



Maintenant, Elasticsearch est bien installé. Pour pouvoir gérer le cluster, on va utiliser une interface graphique, `elasticsearch-head`.

Installation `elasticsearch-head` (Optionnel)

`elasticsearch-head` est 'front-end' (une interface) faite pour gérer, visualiser, et passer des requêtes à elasticsearch.

[elasticsearch-head sur github](#)

1. Installez nodejs

```
root@ubuntu:/home/essadeq# apt-get install node
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package node
root@ubuntu:/home/essadeq# apt-get install nodejs
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libc-ares2 libhttp-parser2.7.1 libuv1 nodejs-doc
The following NEW packages will be installed:
```

2. Installez npm

```
root@ubuntu:/home/essadeq# apt-get install npm
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
```

3. Installez Verifier votre installation

```
root@ubuntu:/home/essadeq# npm --version
3.5.2
root@ubuntu:/home/essadeq# node --version
v8.10.0
root@ubuntu:/home/essadeq# git version
git version 2.17.1
root@ubuntu:/home/essadeq#
```

4. Faire clone via git du 'repository' : <https://github.com/mobz/elasticsearch-head#running-with-built-in-server>

```
root@ubuntu:/home/essadeq# git clone https://github.com/mobz/elasticsearch-head.git
Cloning into 'elasticsearch-head'...
remote: Enumerating objects: 4377, done.
remote: Counting objects: 100% (40/40), done.
remote: Compressing objects: 100% (27/27), done.
remote: Total 4377 (delta 12), reused 34 (delta 12), pack-reused 4337
Receiving objects: 100% (4377/4377), 2.54 MiB | 310.00 KiB/s, done.
Resolving deltas: 100% (2429/2429), done.
root@ubuntu:/home/essadeq#
```

5. Vous deplacez vers le dossier elasticsearch-head , et executer npm install

```
root@ubuntu:/home/essadeq# cd elasticsearch-head
root@ubuntu:/home/essadeq/elasticsearch-head# npm install
loadDevDep:http-proxy → r || ||
WARN engine karma@1.3.0: wanted: {"node":"0.10 || 0.12 || 4 || 5 || 6"} (current
loadDep:rimraf → request || ||
```

6. Lancez le serveur nodejs

```

root@ubuntu:/home/essadeq/elasticsearch-head# npm run start

> elasticsearch-head@0.0.0 start /home/essadeq/elasticsearch-head
> grunt server

(node:13634) ExperimentalWarning: The http2 module is an experimental API.
Running "connect:server" (connect) task
Waiting forever...
Started connect web server on http://localhost:9100

```

7. N'oubliez pas de lancer elasticsearch

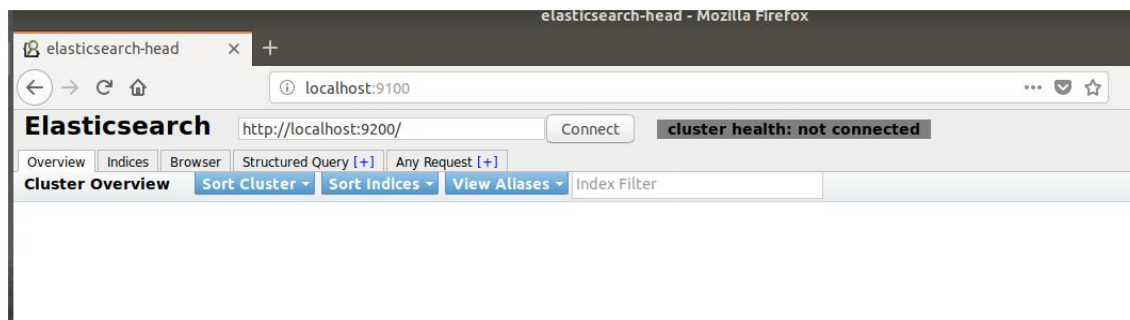
```

essadeq@ubuntu:~$ elasticsearch
OpenJDK 64-Bit Server VM warning: Cannot open file logs/gc.log due to Permission denied

[2022-05-14T09:58:23,561][WARN ][o.e.b.JNANatives           ] [bdcc2] Unable to lock JVM Mem
[2022-05-14T09:58:23,574][WARN ][o.e.b.JNANatives           ] [bdcc2] This can result in par
[2022-05-14T09:58:23,585][WARN ][o.e.b.JNANatives           ] [bdcc2] Increase RLIMIT_MEMLO
[2022-05-14T09:58:23,586][WARN ][o.e.b.JNANatives           ] [bdcc2] These can be adjusted
ample:
# allow user 'essadeq' mlockall
essadeq soft memlock unlimited

```

8. Visitez l'adresse `http://localhost:9100/` sur votre navigateur.



9. Vous pouvez observer que on peut pas connecter au cluster via 'elasticsearch-head', on peut régler ce problème on ajoutant les propriétés suivantes au fichier `elasticsearch.yml`.

```

http.cors.enabled: true
http.cors.allow-origin: "*"

```

```

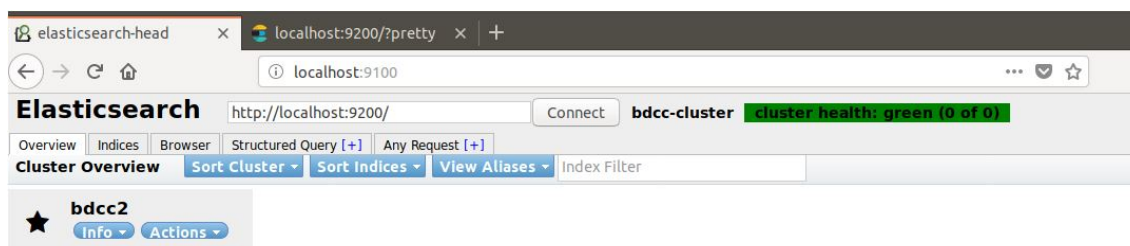
essadeq@ubuntu:/opt/elasticsearch$ sudo nano config/elasticsearch.yml
[sudo] password for essadeq:
essadeq@ubuntu:/opt/elasticsearch$

```

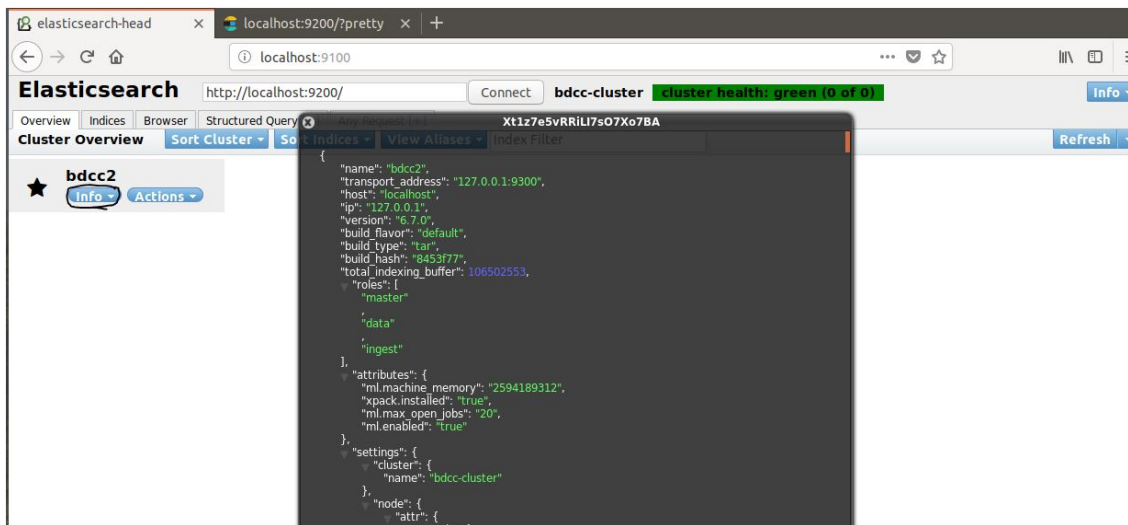


```
#  
#action.destructive_requires_name: true  
  
cluster.name: bdcc-cluster  
node.name: "bdcc2"  
path.data: /opt/elasticsearch/data  
path.logs: /opt/elasticsearch/log  
bootstrap.memory_lock: true  
network.host: localhost  
http.port: 9200  
action.destructive_requires_name: true  
http.cors.enabled: true  
http.cors.allow-origin: "*"
```

10. Et voilà on est connecter à notre cluster



11. Voici les inormations de notres cluster



==FIN installation==