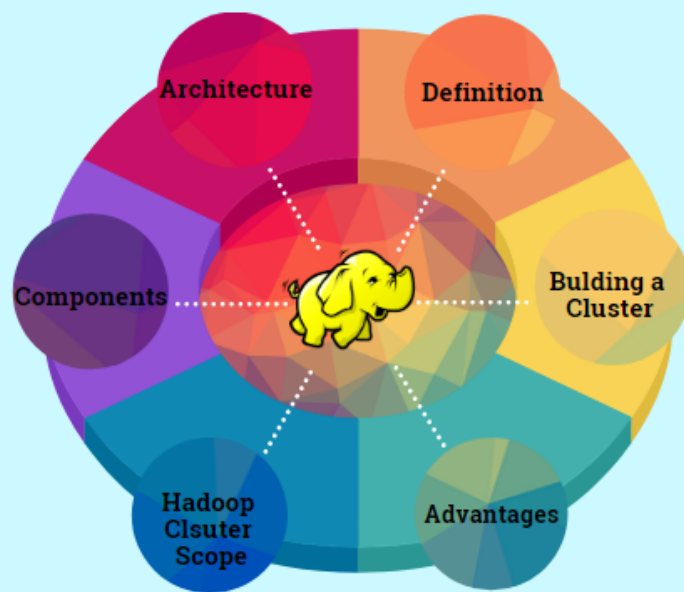


# Práctica 2.2

## Clúster Hadoop

### What is Hadoop Cluster



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## Creacion de Clusters

Partimos de la máquina configurada en pseudo cluster de la práctica anterior. Esta primera máquina virtual será el **Master Node**. Cambia el nombre de la máquina a **hadoop-master**

```
hostnamectl set-hostname hadoop-master
```

```
alvarol@alvarol-virtual-machine:~$ hostnamectl set-hostname hadoop-master
==== AUTHENTICATING FOR org.freedesktop.hostname1.set-static-hostname ====
Authentication is required to set the statically configured local hostname, as well as the pretty hostname.
Authenticating as: alvarol,, (alvarol)
Password:
==== AUTHENTICATION COMPLETE ====
alvarol@alvarol-virtual-machine:~$
```

- Clona la máquina virtual tantas veces como nodos vayas a utilizar en el cluster. Al realizar la clonación, recuerda generar nuevas direcciones MAC para evitar conflictos a nivel de red.
- Comprueba las direcciones IP de cada una de las máquinas y edita el fichero **/etc/hosts** de cada máquina para que contenga los nombres de todos los nodos del cluster:

```
192.168.13.30 hadoop-master
192.168.13.31 hadoop-slave1
192.168.13.32 hadoop-slave2
```

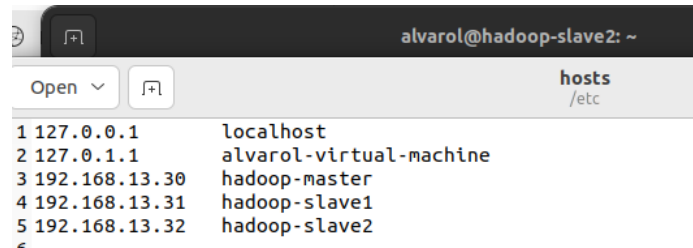
## Maestro

```
Open ▾ ⓘ *hosts /etc
1 127.0.0.1 localhost
2 127.0.1.1 alvarol-virtual-machine
3 192.168.13.30 hadoop-master
4 192.168.13.31 hadoop-slave1
5 192.168.13.32 hadoop-slave2
```

## Esclavo1

```
alvarol@hadoop-slave1: ~
Open ▾ ⓘ hosts /etc
1 127.0.0.1 localhost
2 127.0.1.1 alvarol-virtual-machine
3 192.168.13.30 hadoop-master
4 192.168.13.31 hadoop-slave1
5 192.168.13.32 hadoop-slave2
```

## Esclavo2



- En cada uno de los nodos esclavo cambia el nombre de la máquina a **hadoop-slaveX**

```
hostnamectl set-hostname hadoop-slave1  
  
hostnamectl set-hostname hadoop-slave2
```

- En cada Slave Node, genera una nueva clave SSH, y copiala al Master Node usando **ssh-copy-id**. De esta forma el Master Node podrá ejecutar comandos en los Slave Nodes:

```
ssh-keygen -t rsa  
  
ssh-copy-id ivan@hadoop-master -f
```

- Ahora vamos a borrar y volver a crear las distintas carpetas en cada Slave Node: (+info: <https://stackoverflow.com/questions/34967491/datanode-error-namesystem-getdatanode>)

## Esclavo1

```
alvarol@hadoop-slave1:~$ sudo rm -rf /mnt/hadoop  
[sudo] password for alvarol:  
alvarol@hadoop-slave1:~$ sudo mkdir /mnt/hadoop  
alvarol@hadoop-slave1:~$ sudo mkdir /mnt/hadoop/data  
alvarol@hadoop-slave1:~$ sudo mkdir /mnt/hadoop/name  
alvarol@hadoop-slave1:~$ sudo mkdir /mnt/hadoop/namesecondary  
alvarol@hadoop-slave1:~$ sudo mkdir /mnt/hadoop/tmp  
alvarol@hadoop-slave1:~$ sudo chown alvarol:alvarol /mnt/hadoop/ /mnt/hadoop/data/ /mnt/hadoop/name /mnt/hadoop/namesecondary/ /mnt/hadoop/tmp/  
alvarol@hadoop-slave1:~$
```

## Esclavo2

```
alvarol@hadoop-slave2:~$ sudo rm -rf /mnt/hadoop/  
[sudo] password for alvarol:  
alvarol@hadoop-slave2:~$ sudo mkdir /mnt/hadoop  
alvarol@hadoop-slave2:~$ sudo mkdir /mnt/hadoop/data  
alvarol@hadoop-slave2:~$ sudo mkdir /mnt/hadoop/name  
alvarol@hadoop-slave2:~$ sudo chown alvarol:alvarol /mnt/hadoop/ /mnt/hadoop/data/ /mnt/hadoop/name /mnt/hadoop/namesecondary/ /mnt/hadoop/tmp/  
alvarol@hadoop-slave2:~$
```

- En el Master Node, añade la siguiente propiedad al fichero  
/usr/share/hadoop/etc/hadoop/core-site.xml

```
<property>
  <name>fs.defaultFS</name>
  <value>hdfs://hadoop-master:9000</value>
</property>
```

```
<configuration>
  <property>
    <name>hadoop.tmp.dir</name>
    <value>/mnt/hadoop/tmp</value>
  </property>
  <property>
    <name>fs.defaultFS</name>
    <value>hdfs://hadoop-master:9000</value>
  </property>
</configuration>
```

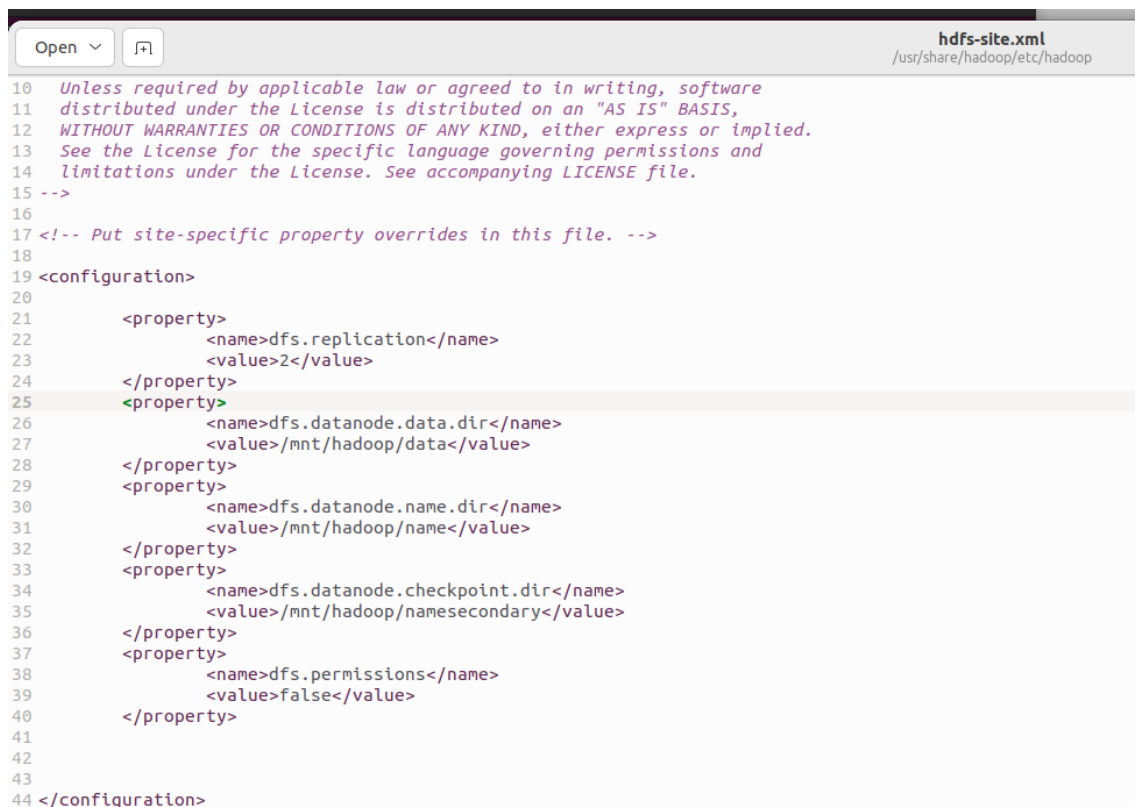
- Añade la siguiente propiedad a core-site.xml para que Hadoop almacene los  
archivos temporales en el nuevo directorio.

```
<property>
  <name>hadoop.tmp.dir</name>
  <value>/mnt/hadoop/tmp</value>
</property>
```

```
<configuration>
  <property>
    <name>hadoop.tmp.dir</name>
    <value>/mnt/hadoop/tmp</value>
  </property>
  <property>
    <name>fs.defaultFS</name>
    <value>hdfs://hadoop-master:9000</value>
  </property>
  <property>
    <name>hadoop.tmp.dir</name>
    <value>/mnt/hadoop/tmp</value>
  </property>
</configuration>
```

- En el Master Node, añade los siguientes parámetros a **/usr/share/hadoop/etc/hadoop/hdfs-site.xml**

```
<property>
  <name>dfs.replication</name>
  <value>2</value>
</property>
<property>
  <name>dfs.datanode.data.dir</name>
  <value>/mnt/hadoop/data</value>
</property>
<property>
  <name>dfs.datanode.name.dir</name>
  <value>/mnt/hadoop/name</value>
</property>
<property>
  <name>dfs.datanode.checkpoint.dir</name>
  <value>/mnt/hadoop/namesecondary</value>
</property>
<property>
  <name>dfs.permissions</name>
  <value>>false</value>
</property>
```



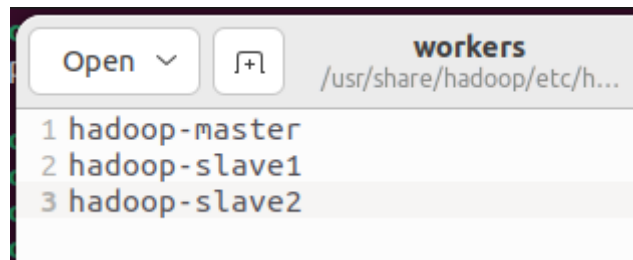
```
10 Unless required by applicable law or agreed to in writing, software
11 distributed under the License is distributed on an "AS IS" BASIS,
12 WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
13 See the License for the specific language governing permissions and
14 limitations under the License. See accompanying LICENSE file.
15 -->
16
17 <!-- Put site-specific property overrides in this file. -->
18
19 <configuration>
20
21   <property>
22     <name>dfs.replication</name>
23     <value>2</value>
24   </property>
25   <property>
26     <name>dfs.datanode.data.dir</name>
27     <value>/mnt/hadoop/data</value>
28   </property>
29   <property>
30     <name>dfs.datanode.name.dir</name>
31     <value>/mnt/hadoop/name</value>
32   </property>
33   <property>
34     <name>dfs.datanode.checkpoint.dir</name>
35     <value>/mnt/hadoop/namesecondary</value>
36   </property>
37   <property>
38     <name>dfs.permissions</name>
39     <value>>false</value>
40   </property>
41
42
43
44 </configuration>
```

- Añade el nombre de los Slave Nodes al fichero

**/usr/share/hadoop/etc/hadoop/workers. Si no se añade hadoop-master, ésta máquina solo actuara en modo gestión.**

```
hadoop-slave1
hadoop-slave2
```

Editamos el fichero.



Visualizamos el fichero para comprobar que se han realizado los cambios correctamente.

```
administrador@hadoop-master:~$ cat /usr/share/hadoop/etc/hadoop/workers
hadoop-master
hadoop-slave1
hadoop-slave2
```

- Desde el Master Node, copia la configuración a cada uno de los nodos usando **scp**:

```
scp /usr/share/hadoop/etc/hadoop/* hadoop-slave1:/usr/share/hadoop/etc/hadoop/
```

```
alvaro@hadoop-master:~$ scp /usr/share/hadoop/etc/hadoop/* hadoop-slave1:/usr/share/hadoop/etc/hadoop/
The authenticity of host 'hadoop-slave1 (192.168.13.31)' can't be established.
ED25519 key fingerprint is SHA256:bjupt2p5blzyNu5xT0BJrcZKRHHJeXRqVcO+oZHntXk.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:1: [hashed name]
  ~/.ssh/known_hosts:4: [hashed name]
  ~/.ssh/known_hosts:5: [hashed name]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'hadoop-slave1' (ED25519) to the list of known hosts.
capacity-scheduler.xml          100% 9213    1.5MB/s   00:00
configuration.xml               100% 1335    372.3KB/s 00:00
container-executor.cfg         100% 2567    588.6KB/s 00:00
core-site.xml                   100% 1066    454.3KB/s 00:00
hadoop-env.cmd                  100% 3999    1.4MB/s   00:00
hadoop-env.sh                   100% 16KB    1.6MB/s   00:00
hadoop-metrics2.properties     100% 3321    537.9KB/s 00:00
hadoop-policy.xml               100% 11KB    1.8MB/s   00:00
hadoop-user-functions.sh.example 100% 3414    686.0KB/s 00:00
hdfs-rbf-site.xml               100% 683     180.5KB/s 00:00
hdfs-site.xml                   100% 1456    540.5KB/s 00:00
https-env.sh                    100% 1484    315.2KB/s 00:00
https-log4j.properties         100% 1657    678.0KB/s 00:00
https-site.xml                  100% 620     136.0KB/s 00:00
kms-acls.xml                     100% 3518    608.7KB/s 00:00
kms-env.sh                      100% 1351    215.9KB/s 00:00
kms-log4j.properties           100% 1860    811.1KB/s 00:00
kms-site.xml                    100% 682     80.4KB/s  00:00
log4j.properties               100% 13KB    4.5MB/s   00:00
mapred-env.cmd                  100% 951     285.3KB/s 00:00
mapred-env.sh                   100% 1764    438.3KB/s 00:00
mapred-queues.xml.template     100% 4113    1.7MB/s   00:00
mapred-site.xml                 100% 1105    87.0KB/s  00:00
scp: local "/usr/share/hadoop/etc/hadoop/shellprofile.d" is not a regular file
scp: failed to upload file /usr/share/hadoop/etc/hadoop/shellprofile.d to /usr/share/hadoop/etc/hadoop/
ssl-client.xml.example          100% 2316    714.7KB/s 00:00
ssl-server.xml.example          100% 2697    352.1KB/s 00:00
user-ec_policies.xml.template   100% 2681    871.5KB/s 00:00
user-env.sh                     100% 12      10.4KB/s  00:00
```

```
scp /usr/share/hadoop/etc/hadoop/* hadoop-slave2:/usr/share/hadoop/etc/hadoop/
```

```
alvarol@hadoop-master:~$ scp /usr/share/hadoop/etc/hadoop/* hadoop-slave2:/usr/share/hadoop/etc/hadoop/
capacity-scheduler.xml          100% 9213      1.7MB/s   00:00
configuration.xml               100% 1335      487.5KB/s 00:00
container-executor.cfg          100% 2567      783.5KB/s 00:00
core-site.xml                   100% 1066      317.9KB/s 00:00
hadoop-env.cmd                  100% 3999      1.2MB/s   00:00
hadoop-env.sh                   100% 16KB       2.6MB/s   00:00
hadoop-metrics2.properties      100% 3321      868.9KB/s 00:00
hadoop-policy.xml               100% 11KB       3.5MB/s   00:00
hadoop-user-functions.sh.example 100% 3414      1.5MB/s   00:00
hdfs-rbf-site.xml               100% 683       283.2KB/s 00:00
hdfs-site.xml                   100% 1456      524.0KB/s 00:00
httpfs-env.sh                   100% 1484      373.5KB/s 00:00
httpfs-log4j.properties         100% 1657      410.9KB/s 00:00
httpfs-site.xml                 100% 620       138.7KB/s 00:00
kms-acls.xml                    100% 3518      1.1MB/s   00:00
kms-env.sh                      100% 1351      722.4KB/s 00:00
kms-log4j.properties            100% 1860      1.5MB/s   00:00
kms-site.xml                    100% 682       172.2KB/s 00:00
log4j.properties                100% 13KB       4.3MB/s   00:00
mapred-env.cmd                  100% 951       213.5KB/s 00:00
mapred-env.sh                   100% 1764      174.5KB/s 00:00
mapred-queues.xml.template       100% 4113      890.7KB/s 00:00
mapred-site.xml                 100% 1105      250.4KB/s 00:00
scp: local "/usr/share/hadoop/etc/hadoop/shellprofile.d" is not a regular file
scp: failed to upload file /usr/share/hadoop/etc/hadoop/shellprofile.d to /usr/share/hadoop/etc/hadoop/
ssl-client.xml.example           100% 2316      696.8KB/s 00:00
ssl-server.xml.example           100% 2697      826.4KB/s 00:00
user_ec_policies.xml.template    100% 2681      954.3KB/s 00:00
workers                          100% 42        12.7KB/s  00:00
yarn-env.cmd                     100% 2250      913.3KB/s 00:00
yarn-env.sh                      100% 6329      1.7MB/s   00:00
yarnservice-log4j.properties     100% 2591      745.6KB/s 00:00
yarn-site.xml                    100% 1192      480.1KB/s 00:00
alvarol@hadoop-master:~$
```

- Da formato al volumen HDFS ejecutando

```
/usr/share/hadoop/bin/hdfs namenode -format
```



- Lanza el servicio DFS ejecutando `/usr/share/hadoop/sbin/start-dfs.sh`

```
/usr/share/hadoop/sbin/start-dfs.sh
```

- Ejecuta **jps** tanto en el **Master Node** como en los **Slave Nodes** para verificar que los servicios adecuados se están ejecutando.

```
alvarol@hadoop-master:~$ /usr/share/hadoop/sbin/start-dfs.sh
Starting namenodes on [hadoop-master]
hadoop-master: Warning: Permanently added 'hadoop-master' (ED25519) to the list of known hosts.
Starting datanodes
Starting secondary namenodes [hadoop-master]
alvarol@hadoop-master:~$ jps
2448 NameNode
2744 SecondaryNameNode
2927 Jps
```

- Para terminar, conectate con el navegador al **http://hadoop-master:9870** para verificar que todos los nodos forman parte del sistema de archivos HDFS

Vemos los procesos de los esclavos:

```
alvarol@hadoop-slave1:~$ jps
2560 Jps
2490 DataNode
alvarol@hadoop-slave1:~$

alvarol@hadoop-slave2:~$ jps
2535 DataNode
2606 Jps
alvarol@hadoop-slave2:~$
```

Si nos dirigimos a la web desde el master podemos observar que hay más capacidad de almacenamiento y el número nodos del cluster en este caso 3.

Configured Capacity:	57.07 GB
Configured Remote Capacity:	0 B
DFS Used:	72 KB (0%)
Non DFS Used:	43.54 GB
DFS Remaining:	10.56 GB (18.5%)
Block Pool Used:	72 KB (0%)
DataNodes usages% (Min/Median/Max/stdDev):	0.00% / 0.00% / 0.00% / 0.00%
Live Nodes	3 (Decommissioned: 0, In Maintenance: 0)
Dead Nodes	0 (Decommissioned: 0, In Maintenance: 0)
Decommissioning Nodes	0
Entering Maintenance Nodes	0
Total Datanode Volume Failures	0 (0 B)
Number of Under-Replicated Blocks	0
Number of Blocks Pending Deletion (including replicas)	0
Block Deletion Start Time	Wed Mar 15 19:19:40 +0100 2023

Si da algún error por el cual no se ven todos los nodos. Prueba a realizar estos comandos en todos los nodos y en el master tendría que volver hacer el -format anterior.

```
sudo rm -rf /mnt/hadoop/  
sudo mkdir /mnt/hadoop/  
sudo mkdir /mnt/hadoop/data  
sudo mkdir /mnt/hadoop/name  
sudo mkdir /mnt/hadoop/namesecondary  
sudo mkdir /mnt/hadoop/tmp  
sudo chown alvarol:alvarol /mnt/hadoop/ /mnt/hadoop/data/ /mnt/hadoop/name  
/mnt/hadoop/namesecondary /mnt/hadoop/tmp
```

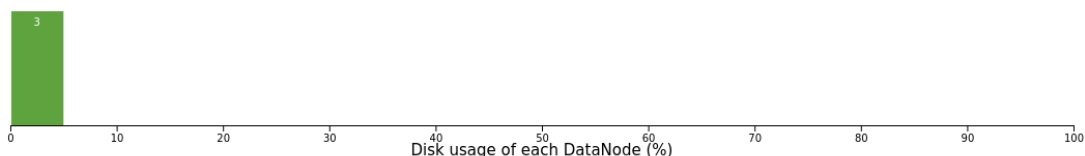
Visualizamos en la web el disco que tiene el cluster

## DFS Storage Types

Storage Type	Configured Capacity	Capacity Used	Capacity Remaining	Block Pool Used	Nodes In Service
DISK	57.07 GB	72 KB (0%)	10.56 GB (18.5%)	72 KB	3

También podemos ver el nombre de los nodos y más detalles sobre cada uno de ellos.

### Datanode usage histogram



### In operation

DataNode State

All

Show 25 entries

Search:

Node	Http Address	Last contact	Last Block Report	Used	Non DFS Used	Capacity	Blocks	Block pool used	Version
<div>✓/default-rack/hadoop-slave1:9866</div> <div>(192.168.13.31:9866)</div>	<a href="http://hadoop-slave1:9864">http://hadoop-slave1:9864</a>	2s	2m	24 KB	14.41 GB	19.02 GB	<div> <div></div> <div></div> </div> 0	24 KB (0%)	3.3.4
<div>✓/default-rack/hadoop-master:9866</div> <div>(192.168.13.30:9866)</div>	<a href="http://hadoop-master:9864">http://hadoop-master:9864</a>	0s	2m	24 KB	14.66 GB	19.02 GB	<div> <div></div> <div></div> </div> 0	24 KB (0%)	3.3.4
<div>✓/default-rack/hadoop-slave2:9866</div> <div>(192.168.13.32:9866)</div>	<a href="http://hadoop-slave2:9864">http://hadoop-slave2:9864</a>	1s	2m	24 KB	14.47 GB	19.02 GB	<div> <div></div> <div></div> </div> 0	24 KB (0%)	3.3.4

Showing 1 to 3 of 3 entries

Previous

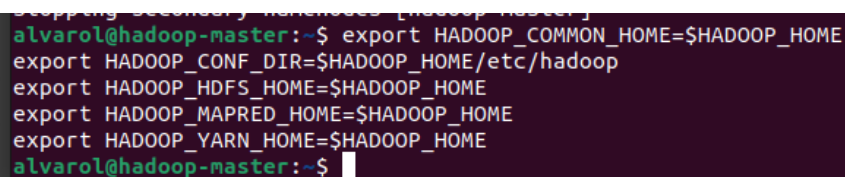
1

Next

## Cluster Hadoop en configuración multi-nodo YARN

- En el Master Node, añade las siguiente variables de entorno a tu **.profile**, e inicia sesión de nuevo para que se carguen correctamente:

```
export HADOOP_COMMON_HOME=$HADOOP_HOME
export HADOOP_CONF_DIR=$HADOOP_HOME/etc/hadoop
export HADOOP_HDFS_HOME=$HADOOP_HOME
export HADOOP_MAPRED_HOME=$HADOOP_HOME
export HADOOP_YARN_HOME=$HADOOP_HOME
```



```
alvarol@hadoop-master:~$ export HADOOP_COMMON_HOME=$HADOOP_HOME
alvarol@hadoop-master:~$ export HADOOP_CONF_DIR=$HADOOP_HOME/etc/hadoop
alvarol@hadoop-master:~$ export HADOOP_HDFS_HOME=$HADOOP_HOME
alvarol@hadoop-master:~$ export HADOOP_MAPRED_HOME=$HADOOP_HOME
alvarol@hadoop-master:~$ export HADOOP_YARN_HOME=$HADOOP_HOME
alvarol@hadoop-master:~$
```

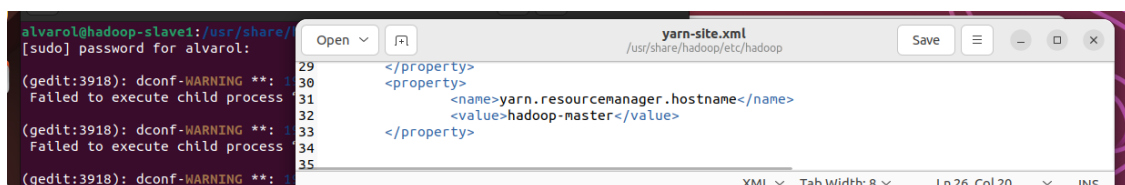
- Arranca hadoop de nuevo:

```
$ /usr/share/hadoop/sbin/start-dfs.sh
```

- En cada uno de los Slave Nodes, añade la siguiente propiedad al fichero **yarn-site.xml**

```
<property>
<name>yarn.resourcemanager.hostname</name>
<value>hadoop-master</value>
</property>
```

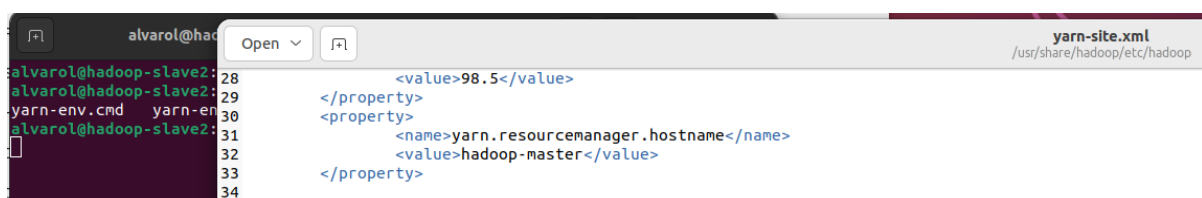
Esclavo1



The image shows a terminal window on the left with the command `[sudo] password for alvarol:` and some warning messages. On the right, an XML editor window titled `yarn-site.xml` shows the following content:

```
29 </property>
30 <property>
31   <name>yarn.resourcemanager.hostname</name>
32   <value>hadoop-master</value>
33 </property>
34
35
```

Esclavo2



The image shows a terminal window on the left with the command `yarn-env.cmd yarn-en`. On the right, an XML editor window titled `yarn-site.xml` shows the following content:

```
28 <value>98.5</value>
29 </property>
30 <property>
31   <name>yarn.resourcemanager.hostname</name>
32   <value>hadoop-master</value>
33 </property>
34
```

- Arranca YARN ejecutando `/usr/share/hadoop/sbin/start-yarn.sh` y verifica en `http://localhost:8088` que los nodos se han añadido al cluster correctamente

**Nodes of the cluster**

Cluster Metrics

Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Used Resources	Total Resources	Reserved Resources	Physical Memory
0	0	0	0	0	<memory:0 B, vCores:0>	<memory:24 GB, vCores:24>	<memory:0 B, vCores:0>	74

Cluster Nodes Metrics

Active Nodes	Decommissioning Nodes	Decommissioned Nodes	Lost Nodes	Unhealthy Nodes	Rebooted Nodes
3	0	0	0	0	0

Scheduler Metrics

Scheduler Type	Scheduling Resource Type	Minimum Allocation	Maximum Allocation	Maximum Cluster Application
Capacity Scheduler	[memory-mb (unit=Mi), vcores]	<memory:1024, vCores:1>	<memory:8192, vCores:4>	0

Show 20 entries

Node Labels	Rack	Node State	Node Address	Node HTTP Address	Last health-update	Health-report	Containers	Allocation Tags	Mem Used	Mem Avail	Phys Mem Used %	VCores Used
/default-rack	RUNNING	hadoop-slave1:42035	hadoop-slave1:8042	Wed Mar 15 19:42:00 +0100 2023	0	0 B	8 GB	67	0			
/default-rack	RUNNING	hadoop-master:41795	hadoop-master:8042	Wed Mar 15 19:42:07 +0100 2023	0	0 B	8 GB	88	0			
/default-rack	RUNNING	hadoop-slave2:38815	hadoop-slave2:8042	Wed Mar 15 19:42:00 +0100 2023	0	0 B	8 GB	65	0			

Showing 1 to 3 of 3 entries

Vemos si desde el master que servicio están activos.

```
alvarol@hadoop-master:~$ jps
6048 Jps
4930 NameNode
5706 NodeManager
5068 DataNode
5581 ResourceManager
5277 SecondaryNameNode
alvarol@hadoop-master:~$
```

Y en los esclavos.

```
alvarol@hadoop-slave1:/usr/share/hadoop/etc/hadoop$ jps
3843 DataNode
4026 NodeManager
4143 Jps
alvarol@hadoop-slave1:/usr/share/hadoop/etc/hadoop$
```

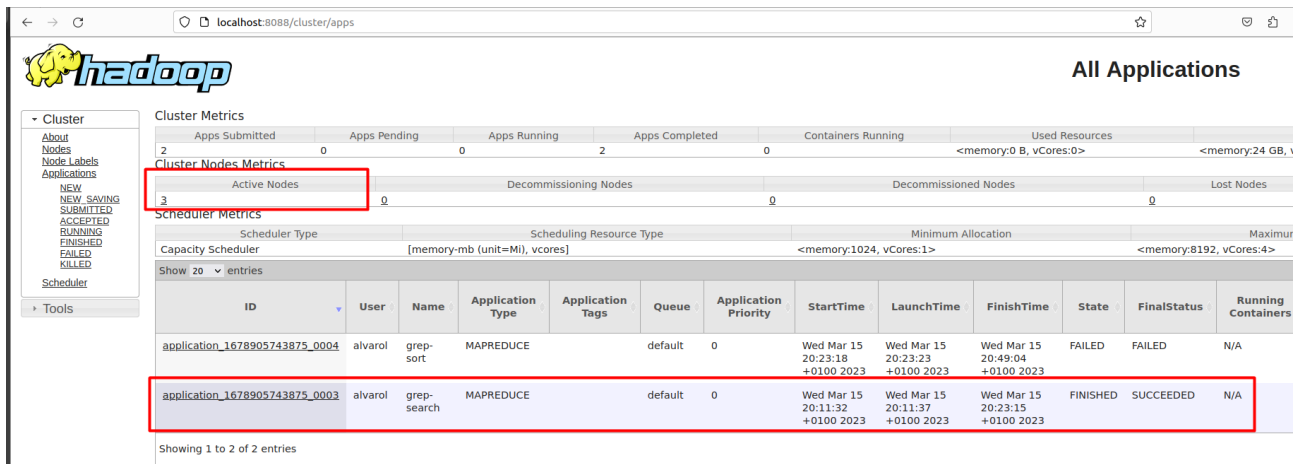
Creamos una carpeta en Hdfs y subimos El Quijote para poder realizar la prueba.

```
alvarol@hadoop-master:~$ /usr/share/hadoop/bin/hdfs dfs -mkdir /input
alvarol@hadoop-master:~$ /usr/share/hadoop/bin/hdfs dfs -put /home/alvarol/ElQuijote.txt /input
alvarol@hadoop-master:~$ /usr/share/hadoop/bin/hdfs dfs -ls /input
Found 1 items
-rw-r--r--  2 alvarol supergroup    2198936 2023-03-15 20:10 /input/ElQuijote.txt
alvarol@hadoop-master:~$
```

## Realizamos la prueba del mapreduce

```
alvarol@hadoop-master: $ /usr/share/hadoop/bin/hadoop jar /usr/share/hadoop/share/hadoop/mapreduce/hadoop-mapreduce-examples-3.3.4.jar grep /input /grep_example 'Sancho'
```

Observamos que se está realizando el proceso desde la web



The screenshot shows the Hadoop web interface at `localhost:8088/cluster/apps`. The page title is "All Applications". On the left, there is a sidebar with navigation links: "Cluster", "About", "Nodes", "Node Labels", "Applications", "NEW", "NEW SAVING", "SUBMITTED", "ACCEPTED", "RUNNING", "FINISHED", "FAILED", "KILLED", "Scheduler", and "Tools".

The main content area displays "Cluster Metrics" and "Cluster Nodes Metrics". The "Cluster Nodes Metrics" table shows 3 Active Nodes, 0 Decommissioning Nodes, 0 Decommissioned Nodes, and 0 Lost Nodes. The "Cluster Metrics" table shows 2 Apps Submitted, 0 Apps Pending, 0 Apps Running, 2 Apps Completed, 0 Containers Running, and Used Resources of <memory:0 B, vCores:0> and <memory:24 GB, vCores:4>.

Below these metrics is a table of applications. The table has columns: ID, User, Name, Application Type, Application Tags, Queue, Application Priority, StartTime, LaunchTime, FinishTime, State, FinalStatus, and Running Containers. Two applications are listed:

ID	User	Name	Application Type	Application Tags	Queue	Application Priority	StartTime	LaunchTime	FinishTime	State	FinalStatus	Running Containers
application_1678905743875_0004	alvarol	grep-sort	MAPREDUCE		default	0	Wed Mar 15 20:23:18 +0100 2023	Wed Mar 15 20:23:23 +0100 2023	Wed Mar 15 20:49:04 +0100 2023	FAILED	FAILED	N/A
application_1678905743875_0003	alvarol	grep-search	MAPREDUCE		default	0	Wed Mar 15 20:11:32 +0100 2023	Wed Mar 15 20:11:37 +0100 2023	Wed Mar 15 20:23:15 +0100 2023	FINISHED	SUCCEEDED	N/A

Showing 1 to 2 of 2 entries