

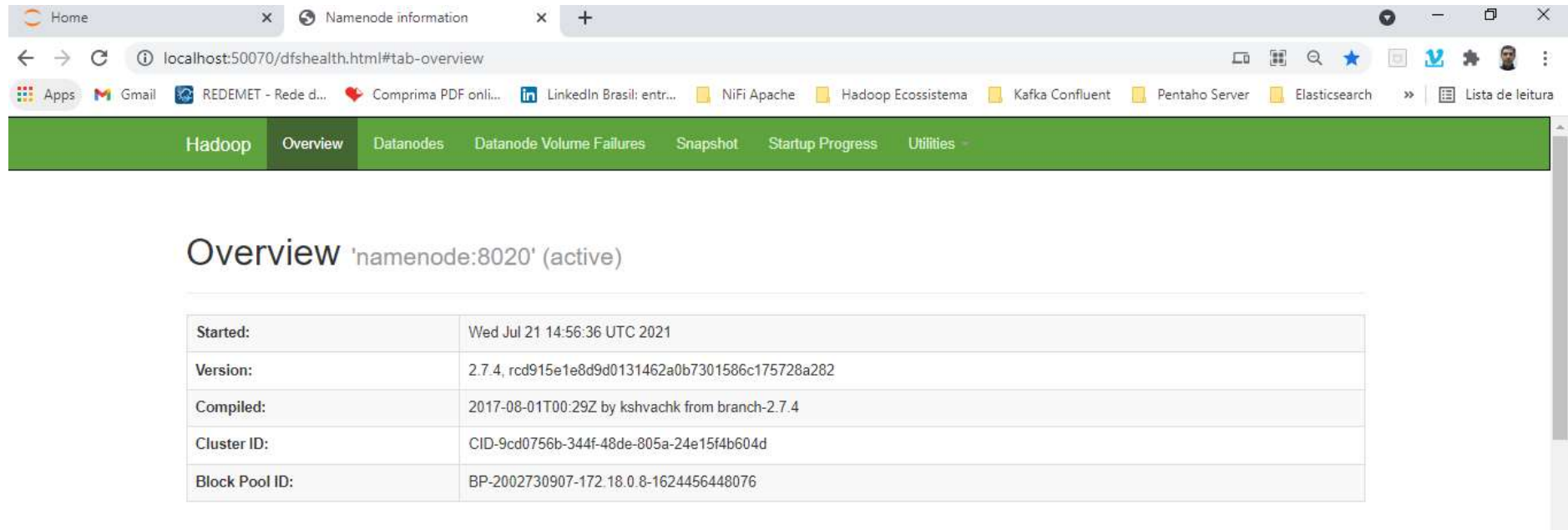
Acessando o NameNode via Browser

<http://localhost:50070/dfshealth.html#tab-overview>

Overview

Hadoop foi inicializado.

Versão do Hadoop 2.7.4, compilado em 01/08/2017



The screenshot shows a web browser window with the URL `localhost:50070/dfshealth.html#tab-overview`. The browser's address bar and tabs are visible at the top. Below the browser window, a green navigation bar contains the following links: **Hadoop**, **Overview**, **Datanodes**, **Datanode Volume Failures**, **Snapshot**, **Startup Progress**, and **Utilities**. The main content area displays the title "Overview 'namenode:8020' (active)" followed by a table with the following information:

Started:	Wed Jul 21 14:56:36 UTC 2021
Version:	2.7.4, rcd915e1e8d9d0131462a0b7301586c175728a282
Compiled:	2017-08-01T00:29Z by kshvachk from branch-2.7.4
Cluster ID:	CID-9cd0756b-344f-48de-805a-24e15f4b604d
Block Pool ID:	BP-2002730907-172.18.0.8-1624456448076

O Sumário mostra que a segurança e o modo de segurança estão desligados, além várias informações relativas à ocupação dos dados, por exemplo, tem apenas um DataNode disponível.

Summary

Security is off.

Safemode is off.

1691 files and directories, 600 blocks = 2291 total filesystem object(s).

Heap Memory used 31.69 MB of 80.5 MB Heap Memory. Max Heap Memory is 889 MB.

Non Heap Memory used 49.24 MB of 50.19 MB Committed Non Heap Memory. Max Non Heap Memory is -1 B.

Configured Capacity:	488.28 GB
DFS Used:	721.01 MB (0.14%)
Non DFS Used:	379.31 GB
DFS Remaining:	108.27 GB (22.17%)
Block Pool Used:	721.01 MB (0.14%)
DataNodes usages% (Min/Median/Max/stdDev):	0.14% / 0.14% / 0.14% / 0.00%
Live Nodes	1 (Decommissioned: 0)
Dead Nodes	0 (Decommissioned: 0)
Decommissioning Nodes	0
Total Datanode Volume Failures	0 (0 B)
Number of Under-Replicated Blocks	600
Number of Blocks Pending Deletion	0
Block Deletion Start Time	21/07/2021 11:56:36

O NameNode contém as informações do fsimage e o EditLog

NameNode Journal Status

Current transaction ID: 171792

Journal Manager	State
FileJournalManager(root=/hadoop/dfs/name)	EditLogFileOutputStream(/hadoop/dfs/name/current/edits_inprogress_00000000000000171647)

NameNode Storage

Storage Directory	Type	State
/hadoop/dfs/name	IMAGE_AND_EDITS	Active

Hadoop, 2017.

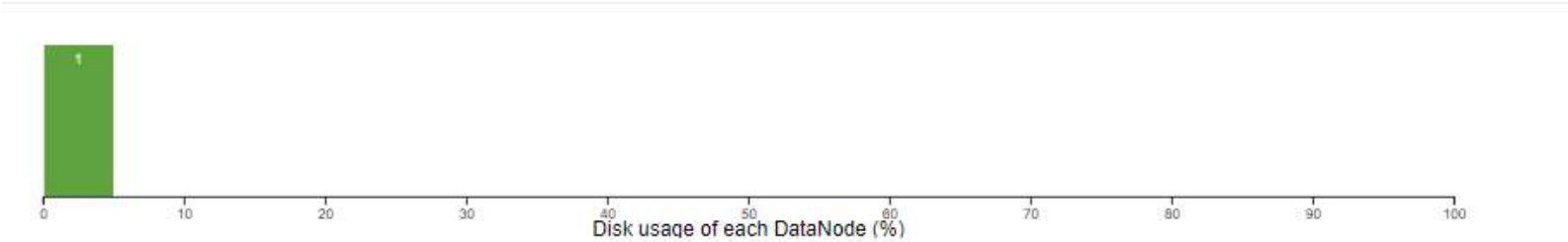
Abaixo a localização do Journal Status do NameNode.

fsimage contém arquivos internos do Hadoop, gravam os metadados sobre o funcionamento do NameNode.

```
root@namenode:/# cd /hadoop/dfs/name/current/
root@namenode:/hadoop/dfs/name/current# ls -la
total 48232
drwxr-xr-x 1 root root    4096 Jul 21 14:56 .
drwxrwxrwx 1 root root    4096 Jun 23 13:55 ..
-rw-r--r-- 1 root root     203 Jul 21 14:56 VERSION
-rw-r--r-- 1 root root 1048576 Jun 23 14:07 edits_0000000000000000001-0000000000000000013
-rw-r--r-- 1 root root 1048576 Jun 23 19:56 edits_0000000000000000014-0000000000000001909
-rw-r--r-- 1 root root 1048576 Jun 23 20:08 edits_000000000000000001910-0000000000000001910
-rwxrwxrwx 1 root root 1048576 Jun 25 14:54 edits_000000000000000001911-0000000000000002041
-rwxrwxrwx 1 root root 1048576 Jun 25 15:37 edits_000000000000000002042-0000000000000002124
-rwxrwxrwx 1 root root 1048576 Jun 25 17:48 edits_000000000000000002125-0000000000000002125
-rw-r--r-- 1 root root 1048576 Jun 25 18:49 edits_000000000000000002126-0000000000000002314
-rw-r--r-- 1 root root 1048576 Jun 28 20:36 edits_000000000000000002315-0000000000000002841
-rw-r--r-- 1 root root 1048576 Jun 29 21:22 edits_000000000000000002842-0000000000000003698
-rw-r--r-- 1 root root 1048576 Jun 30 19:15 edits_000000000000000003699-0000000000000003832
-rw-r--r-- 1 root root 3145728 Jul  5 14:13 edits_000000000000000003833-00000000000000025781
-rwxrwxrwx 1 root root 1048576 Jul  8 18:57 edits_0000000000000000025782-00000000000000025782
-rw-r--r-- 1 root root 10485760 Jul  8 21:57 edits_0000000000000000025783-00000000000000084313
-rw-r--r-- 1 root root 15728640 Jul 15 20:06 edits_00000000000000084314-0000000000000171217
-rw-r--r-- 1 root root 1048576 Jul 15 20:59 edits_0000000000000171218-0000000000000171218
-rw-r--r-- 1 root root 1048576 Jul 15 21:45 edits_0000000000000171219-0000000000000171219
-rw-r--r-- 1 root root 1048576 Jul 16 19:23 edits_0000000000000171220-0000000000000171472
-rw-r--r-- 1 root root 1048576 Jul 18 02:58 edits_0000000000000171473-0000000000000171592
-rw-r--r-- 1 root root 1048576 Jul 20 16:01 edits_0000000000000171593-0000000000000171593
-rw-r--r-- 1 root root 1048576 Jul 20 20:42 edits_0000000000000171594-0000000000000171646
-rw-r--r-- 1 root root 1048576 Jul 21 16:49 edits_inprogress_0000000000000171647
-rw-r--r-- 1 root root 115764 Jul 20 20:30 fsimage_0000000000000171593
-rw-r--r-- 1 root root 62 Jul 20 20:30 fsimage_0000000000000171593.md5
-rw-r--r-- 1 root root 115567 Jul 21 14:56 fsimage_0000000000000171646
-rw-r--r-- 1 root root 62 Jul 21 14:56 fsimage_0000000000000171646.md5
-rw-r--r-- 1 root root 7 Jul 21 14:56 seen_txid
root@namenode:/hadoop/dfs/name/current# |
```

Datanode Information

Datanode usage histogram



In operation

Node	Last contact	Admin State	Capacity	Used	Non DFS Used	Remaining	Blocks	Block pool used	Failed Volumes	Version
datanode-50010 (172.21.0.8:50010)	1	In Service	488.28 GB	721.01 MB	379.31 GB	108.27 GB	600	721.01 MB (0.14%)	0	2.7.4

Decomissioning

Node	Last contact	Under replicated blocks	Blocks with no live replicas	Under Replicated Blocks In files under construction
------	--------------	-------------------------	------------------------------	--

Não tem falhas nos volumes do DataNode

[Hadoop](#)

[Overview](#)

[Datanodes](#)

[Datanode Volume Failures](#)

[Snapshot](#)

[Startup Progress](#)

[Utilities](#)

Datanode Volume Failures

There are no reported volume failures.

Hadoop, 2017.

Snapshot Summary

Snapshottable directories: 0

Path	Snapshot Number	Snapshot Quota	Modification Time	Permission	Owner	Group
------	-----------------	----------------	-------------------	------------	-------	-------

Snapshotted directories: 0

Snapshot ID	Snapshot Directory	Modification Time
-------------	--------------------	-------------------

Startup Progress

Elapsed Time: 2 mins, 12 sec, Percent Complete: 100%

Phase	Completion	Elapsed Time
Loading fsimage /hadoop/dfs/name/current/fsimage_0000000000000171593 113.05 KB	100%	9 sec
inodes (0/0)	100%	
delegation tokens (0/0)	100%	
cache pools (0/0)	100%	
Loading edits	100%	0 sec
/hadoop/dfs/name/current/edits_0000000000000171594-0000000000000171646 1 MB (53/53)	100%	
Saving checkpoint	100%	3 sec
inodes /hadoop/dfs/name/current/fsimage.ckpt_0000000000000171646 (0/0)	100%	
delegation tokens /hadoop/dfs/name/current/fsimage.ckpt_0000000000000171646 (0/0)	100%	
cache pools /hadoop/dfs/name/current/fsimage.ckpt_0000000000000171646 (0/0)	100%	
Safe mode	100%	1 mins, 31 sec
awaiting reported blocks (602/602)	100%	

- Browse the file system
- Logs

Browse Directory

/

Go!

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
drwxr-xr-x	root	supergroup	0 B	21/07/2021 11:59:07	0	0 B	hbase
drwxrwxr-x	root	supergroup	0 B	04/07/2021 16:42:53	0	0 B	tmp
drwxr-xr-x	root	supergroup	0 B	15/07/2021 11:17:43	0	0 B	user

```

root@namenode:~# hdfs fsck /user/feliciani/bigdata -files -blocks
Connecting to namenode via http://namenode:50070/fsck?ugi=root&files=1&blocks=1&path=%2Fuser%2Ffeliciani%2Fbigdata
FSCK started by root (auth:SIMPLE) from /172.21.0.5 for path /user/feliciani/bigdata at Wed Jul 21 18:10:48 UTC 2021
/user/feliciani/bigdata <dir>
/user/feliciani/bigdata/u.data 1979173 bytes, 1 block(s): Under replicated BP-2002730907-172.18.0.8-1624456448076:blk_1073769069_28255. Target Repl
icas is 3 but found 1 replica(s).
0. BP-2002730907-172.18.0.8-1624456448076:blk_1073769069_28255 len=1979173 repl=1

Status: HEALTHY
Total size: 1979173 B
Total dirs: 1
Total files: 1
Total symlinks: 0
Total blocks (validated): 1 (avg. block size 1979173 B)
Minimally replicated blocks: 1 (100.0 %)
Over-replicated blocks: 0 (0.0 %)
Under-replicated blocks: 1 (100.0 %)
Mis-replicated blocks: 0 (0.0 %)
Default replication factor: 3
Average block replication: 1.0
Corrupt blocks: 0
Missing replicas: 2 (66.666664 %)
Number of data-nodes: 1
Number of racks: 1
FSCK ended at Wed Jul 21 18:10:48 UTC 2021 in 0 milliseconds

The filesystem under path '/user/feliciani/bigdata' is HEALTHY
root@namenode:~# |

```

Um comando muito interessante é o fsck para fazer um File System Check.

Pode-se verificar:

- Conexão do namenode via http
- /user/Feliciani/bigdata é um diretório
- Contém 1 arquivo u.data com 1.9 MB, contido em 1 Bloco, que o default são 3 réplicas, mas foi feita apenas uma réplica. (Estou usando meu notebook, portanto apenas um DataNade)
- Várias informações de STATUS, por exemplo, não existem blocos corrompidos, número de DataNodes e número de Racks.

```

root@namenode:~# hdfs fsck /user/feliciani/bigdata -files -blocks
Connecting to namenode via http://namenode:50070/fsck?ugi=root&files=1&blocks=1&path=%2Fuser%2Ffeliciani%2Fbigdata
FSCK started by root (auth:SIMPLE) from /172.21.0.5 for path /user/feliciani/bigdata at Wed Jul 21 18:34:35 UTC 2021
/user/feliciani/bigdata <dir>
/user/feliciani/bigdata/ratings.csv 533444411 bytes, 4 block(s): Under replicated BP-2002730907-172.18.0.8-1624456448076:blk_1073769070_28256. Target Replicas is 3 but found 1 replica(s).
Under replicated BP-2002730907-172.18.0.8-1624456448076:blk_1073769071_28257. Target Replicas is 3 but found 1 replica(s).
Under replicated BP-2002730907-172.18.0.8-1624456448076:blk_1073769072_28258. Target Replicas is 3 but found 1 replica(s).
Under replicated BP-2002730907-172.18.0.8-1624456448076:blk_1073769073_28259. Target Replicas is 3 but found 1 replica(s).
0. BP-2002730907-172.18.0.8-1624456448076:blk_1073769070_28256 len=134217728 repl=1
1. BP-2002730907-172.18.0.8-1624456448076:blk_1073769071_28257 len=134217728 repl=1
2. BP-2002730907-172.18.0.8-1624456448076:blk_1073769072_28258 len=134217728 repl=1
3. BP-2002730907-172.18.0.8-1624456448076:blk_1073769073_28259 len=130791227 repl=1

/user/feliciani/bigdata/u.data 1979173 bytes, 1 block(s): Under replicated BP-2002730907-172.18.0.8-1624456448076:blk_1073769069_28255. Target Replicas is 3 but found 1 replica(s).
0. BP-2002730907-172.18.0.8-1624456448076:blk_1073769069_28255 len=1979173 repl=1

Status: HEALTHY
Total size: 535423584 B
Total dirs: 1
Total files: 2
Total symlinks: 0
Total blocks (validated): 5 (avg. block size 107084716 B)
Minimally replicated blocks: 5 (100.0 %)
Over-replicated blocks: 0 (0.0 %)
Under-replicated blocks: 5 (100.0 %)
Mis-replicated blocks: 0 (0.0 %)
Default replication factor: 3
Average block replication: 1.0
Corrupt blocks: 0
Missing replicas: 10 (66.666664 %)
Number of data-nodes: 1
Number of racks: 1
FSCK ended at Wed Jul 21 18:34:35 UTC 2021 in 138 milliseconds

```

- Após colocar outro arquivo (ratings.csv) com 535 MB houve a gravação em 4 blocos com 128 MB cada, com apenas 1 réplica.
- Cada Bloco contém endereço e comprimento específico.

Relaciona o outro arquivo (u.data) que contém apenas um bloco.

O Status mostra agora 5 blocos no total.