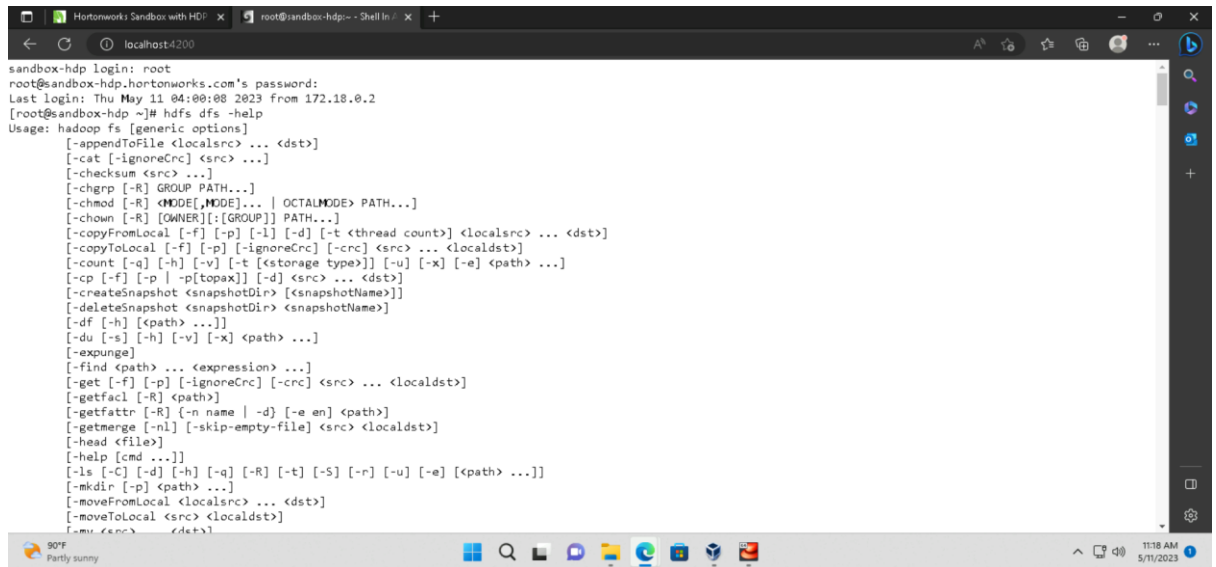


Nama : Komang Niko Romano Prodi
NIM : 222011356
Kelas : 3SD1
No Absen : 06

Teknologi Big Data (TBD)

Modul 3 : DISTRIBUTED FILE SYSTEM DENGAN HDFS

1. -help



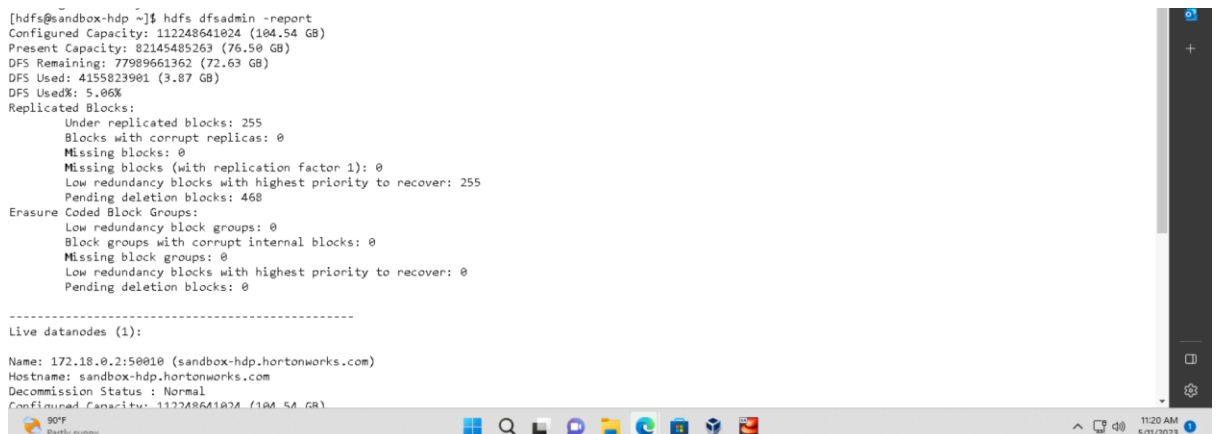
```
sandbox-hdp login: root
root@sandbox-hdp.hortonworks.com's password:
Last login: Thu May 11 04:00:08 2023 from 172.18.0.2
[root@sandbox-hdp ~]# hdfs dfs -help
Usage: hadoop fs [generic options]

[-appendToFile <localsrc> ... <dst>]
[-cat [-ignoreCrc] <src> ...]
[-checksum <src> ...]
[-chgrp [-R] GROUP PATH...]
[-chmod [-R] <MODE>[,<MODE>...] [-OCTALMODE] PATH...]
[-chown [-R] [OWNER][[:GROUP]] PATH...]
[-copyFromLocal [-f] [-p] [-l] [-d] [-t <thread count>] <localsrc> ... <dst>]
[-copyToLocal [-f] [-p] [-ignoreCrc] [-crc] <src> ... <localdst>]
[-count [-q] [-h] [-v] [-t <storage type>]] [-u] [-x] [-e] <path> ...]
[-cp [-f] [-p] [-p[topax]] [-d] <src> ... <dst>]
[-createSnapshot <snapshotDir> <snapshotName>]
[-deleteSnapshot <snapshotDir> <snapshotName>]
[-df [-h] [<path> ...]]
[-du [-s] [-h] [-v] [-x] <path> ...]
[-expunge]
[-find <path> ... <expression> ...]
[-get [-f] [-p] [-ignoreCrc] [-crc] <src> ... <localdst>]
[-getfacl [-R] <path>]
[-getfattr [-R] [-n name | -d] [-e en] <path>]
[-getmerge [-nl] [-skip-empty-file] <src> <localdst>]
[-head <file>]
[-help [cmd ...]]
[-ls [-C] [-d] [-h] [-q] [-R] [-t] [-S] [-r] [-u] [-e] [<path> ...]]
[-mkdir [-p] <path> ...]
[-moveFromLocal <localsrc> ... <dst>]
[-moveToLocal <src> <localdst>]
[-mv <src> ... <dst>]
```

2. Mengubah Role menjadi superuser

```
sandbox-hdp login: root
root@sandbox-hdp.hortonworks.com's password:
Last login: Thu May 11 04:16:48 2023 from 172.18.0.2
[root@sandbox-hdp ~]# su - hdfs
Last login: Thu May 11_04:13:08 UTC 2023
```

3. -report



```
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -report
Configured Capacity: 112248641024 (104.54 GB)
Present Capacity: 82145485263 (76.50 GB)
DFS Remaining: 77989661362 (72.63 GB)
DFS Used: 4155823901 (3.87 GB)
DFS Used%: 5.06%
Replicated Blocks:
  Under replicated blocks: 255
  Blocks with corrupt replicas: 0
  Missing blocks: 0
  Missing blocks (with replication factor 1): 0
  Low redundancy blocks with highest priority to recover: 255
  Pending deletion blocks: 468
Erasure Coded Block Groups:
  Low redundancy block groups: 0
  Block groups with corrupt internal blocks: 0
  Missing block groups: 0
  Low redundancy blocks with highest priority to recover: 0
  Pending deletion blocks: 0
-----
Live datanodes (1):

Name: 172.18.0.2:50010 (sandbox-hdp.hortonworks.com)
Hostname: sandbox-hdp.hortonworks.com
Decommission Status : Normal
Configured Capacity: 112248641024 (104.54 GB)
```

```
Name: 172.18.0.2:50010 (sandbox-hdp.hortonworks.com)
Hostname: sandbox-hdp.hortonworks.com
Decommission Status : Normal
Configured Capacity: 112248641024 (104.54 GB)
DFS Used: 4155823901 (3.87 GB)
Non DFS Used: 23151726307 (21.56 GB)
DFS Remaining: 77989661362 (72.63 GB)
DFS Used%: 3.70%
DFS Remaining%: 69.48%
Configured Cache Capacity: 0 (0 B)
Cache Used: 0 (0 B)
Cache Remaining: 0 (0 B)
Cache Used%: 100.00%
Cache Remaining%: 0.00%
Xceivers: 17
Last contact: Thu May 11 04:19:21 UTC 2023
Last Block Report: Thu May 11 03:58:05 UTC 2023
Num of Blocks: 1838
```

4. -safemode

```
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -safemode
Usage: hdfs dfsadmin [-safemode enter | leave | get | wait | forceExit]
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -safemode enter
Safe mode is ON
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -safemode leave
Safe mode is OFF
[hdfs@sandbox-hdp ~]$
```

5. -finalizeUpgrade

```
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -finalizeUpgrade
Finalize upgrade successful
[hdfs@sandbox-hdp ~]$
```

6. -refreshNodes

```
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -refreshNodes
Refresh nodes successful
[hdfs@sandbox-hdp ~]$ █
```

7. -printTopology

```
[hdfs@sandbox-hdp ~]$ hdfs dfsadmin -printTopology
Rack: /default-rack
172.18.0.2:50010 (sandbox-hdp.hortonworks.com)

[hdfs@sandbox-hdp ~]$
```

8. Envvar

```
[hdfs@sandbox-hdp ~]$ hdfs envvars
JAVA_HOME='/usr/lib/jvm/java'
HADOOP_HDFS_HOME='/usr/hdp/3.0.1.0-187/hadoop-hdfs'
HDFS_DIR='./'
HDFS_LIB_JARS_DIR='lib'
HADOOP_CONF_DIR='/usr/hdp/3.0.1.0-187/hadoop/conf'
HADOOP_TOOLS_HOME='/usr/hdp/3.0.1.0-187/hadoop'
HADOOP_TOOLS_DIR='share/hadoop/tools'
HADOOP_TOOLS_LIB_JARS_DIR='share/hadoop/tools/lib'
[hdfs@sandbox-hdp ~]$
```

9. Usecase

a. Mengambil file dari internet

```
[hdfs@sandbox-hdp ~]$ wget https://www.stats.govt.nz/assets/Uploads/Annual-enterprise-survey/Annual-enterprise-survey-2020-financial-year-provisional/Download-data/annual-enterprise-survey-2020-financial-year-provisional-csv.csv
--2023-05-11 04:29:01-- https://www.stats.govt.nz/assets/Uploads/Annual-enterprise-survey/Annual-enterprise-survey-2020-financial-year-provisional/Download-data/annual-enterprise-survey-2020-financial-year-provisional-csv.csv
Resolving www.stats.govt.nz (www.stats.govt.nz)... 45.60.15.104
Connecting to www.stats.govt.nz (www.stats.govt.nz)[45.60.15.104]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5881081 (5.6M) [text/csv]
Saving to: 'annual-enterprise-survey-2020-financial-year-provisional-csv.csv'

100%[=====] 5,881,081 4.17MB/s in 1.3s

2023-05-11 04:29:04 (4.17 MB/s) - 'annual-enterprise-survey-2020-financial-year-provisional-csv.csv' saved [5881081/5881081]

[hdfs@sandbox-hdp ~]$
```

b. Pengecekan file

Cek file di local mesin dan

```
[hdfs@sandbox-hdp ~]$ ls
annual-enterprise-survey-2020-financial-year-provisional-csv.csv
[hdfs@sandbox-hdp ~]$ hadoop fs -ls
Found 1 items
drwx----- - hdfs hdfs 0 2018-11-29 19:21 .Trash
[hdfs@sandbox-hdp ~]$ hadoop fs -mkdir practice
[hdfs@sandbox-hdp ~]$
```

Membuat folder Practice

```
[hdfs@sandbox-hdp ~]$ ls
annual-enterprise-survey-2020-financial-year-provisional-csv.csv
[hdfs@sandbox-hdp ~]$ hadoop fs -ls
Found 1 items
drwx----- - hdfs hdfs          0 2018-11-29 19:21 .Trash
[hdfs@sandbox-hdp ~]$ hadoop fs -mkdir practice
[hdfs@sandbox-hdp ~]$
```

Rename file

```
[hdfs@sandbox-hdp ~]$ mv annual-enterprise-survey-2020-financial-year-provisional-csv.csv sample.csv
[hdfs@sandbox-hdp ~]$ ls
sample.csv
[hdfs@sandbox-hdp ~]$ █
```

Menyimpan file ke dalam

```
[hdfs@sandbox-hdp ~]$ hadoop fs -ls
Found 2 items
drwx----- - hdfs hdfs          0 2018-11-29 19:21 .Trash
drwxr-xr-x - hdfs hdfs          0 2023-05-11 04:30 practice
[hdfs@sandbox-hdp ~]$ hadoop fs -ls practice
[hdfs@sandbox-hdp ~]$ █

[hdfs@sandbox-hdp ~]$ hadoop fs -ls practice
[hdfs@sandbox-hdp ~]$ hadoop fs -rm practice/sample.csv
rm: `practice/sample.csv': No such file or directory
[hdfs@sandbox-hdp ~]$ hadoop fs -rm /practice/sample.csv
rm: `/practice/sample.csv': No such file or directory
[hdfs@sandbox-hdp ~]$ hadoop fs -rm practice
rm: `practice': Is a directory
[hdfs@sandbox-hdp ~]$ hadoop fs -rm practice/sample.csv
rm: `practice/sample.csv': No such file or directory
[hdfs@sandbox-hdp ~]$
```

10. Penugasan

The image displays two screenshots related to a Hadoop environment setup and management.

Terminal Screenshot: The terminal shows the login process for a user named 'root' on a host named 'sandbox-hdp'. The user is prompted for a password and then logs in. The terminal output shows the user's current directory and the contents of the '/etc/passwd' file. The output lists several users and their corresponding groups, including 'root', 'hadoop', 'hdfs', 'yarn', 'livy', 'mapred', 'spark', 'tez', 'user', and 'warehouse'. The terminal also shows the user's current directory and the contents of the '/etc/passwd' file.

Ambari Screenshot: The Ambari web interface shows the 'Files View' for the 'root' user. The interface displays a table of files and folders in the current directory. The table has columns for Name, Size, Last Modified, Owner, Group, Permission, Erasure Coding, and Encrypted. The table shows a single file named 'new' with a size of 0 bytes, last modified on 2023-05-09 at 10:48, owned by 'root', and grouped by 'hdfs'. The file's permissions are 'drwxr-xr-x'.

