

- a) Create a directory /hadoop/hdfs/ in HDFS

```
hdfs dfs -mkdir -p /hadoop/hdfs/
```

The screenshot shows a terminal window titled "hadoop@hadoop-VirtualBox: ~/hdfstask1". The command entered is "hdfs dfs -mkdir -p /hadoop/hdfs/". The output shows a warning message about the NativeCodeLoader and then confirms the directory was created. Below the terminal, there is a file browser interface for HDFS. The address bar says "/hadoop". The table lists a single directory entry:

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
drwxr-xr-x	hadoop	supergroup	0 B	6/30/2024, 4:25:22 PM	0	0 B	hdfs

Hadoop, 2018.

- b) Create a temp directory in Hadoop. Run HDFS command to delete “temp” directory.

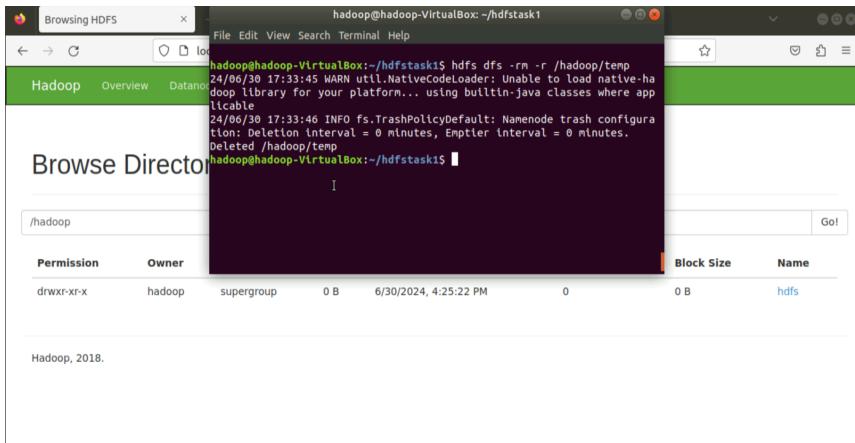
```
hdfs dfs -mkdir /hadoop/temp
```

```
hdfs dfs -rm -r /hadoop/temp
```

The screenshot shows a terminal window titled "hadoop@hadoop-VirtualBox: ~/hdfstask1". The command entered is "hdfs dfs -mkdir /hadoop/temp". The output shows a warning message about the NativeCodeLoader and then confirms the directory was created. Below the terminal, there is a file browser interface for HDFS. The address bar says "/hadoop". The table lists two directory entries:

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
drwxr-xr-x	hadoop	supergroup	0 B	6/30/2024, 4:25:22 PM	0	0 B	hdfs
drwxr-xr-x	hadoop	supergroup	0 B	6/30/2024, 4:29:01 PM	0	0 B	temp

Hadoop, 2018.



- c) List all the files/directories for the given hdfs destination path.

`hdfs dfs -ls /hadoop/`

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -ls /hadoop/
24/06/30 17:35:44 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 1 items
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:25 /hadoop/hdfs
```

- d) Command that will list the directories in /hadoop folder.

`hdfs dfs -ls /hadoop/`

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -ls /hadoop/
24/06/30 17:35:44 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 1 items
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:25 /hadoop/hdfs
```

- e) Command to list recursively all files in hadoop directory and all subdirectories in hadoop directory

`hdfs dfs -ls -R /hadoop/`

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -ls -R /hadoop/
24/06/30 17:43:33 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:43 /hadoop/hdfs
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:43 /hadoop/hdfs/directory
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:40 /hadoop/hdfs/task
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:40 /hadoop/hdfs/task2
```

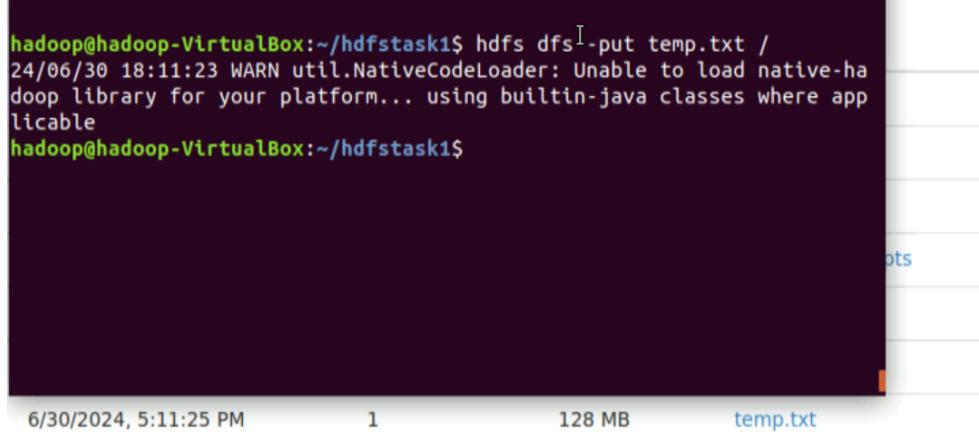
- f) List all the directory inside /hadoop/hdfs/ directory which starts with 'dir'.

`hdfs dfs -ls -d /hadoop/hdfs/dir*`

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -ls -d /hadoop/hdfs/dir*
24/06/30 17:50:38 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
drwxr-xr-x - hadoop supergroup 0 2024-06-30 17:43 /hadoop/hdfs/directory
```

- g) Create a temp.txt file. Copies this file from local file system to HDFS

```
nano temp.txt  
hdfs dfs -put temp.txt /
```

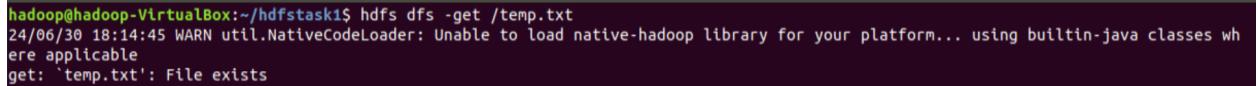


```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -put temp.txt /  
24/06/30 18:11:23 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
hadoop@hadoop-VirtualBox:~/hdfstask1$
```

6/30/2024, 5:11:25 PM 1 128 MB temp.txt

- h) Copies the file from HDFS to local file system.

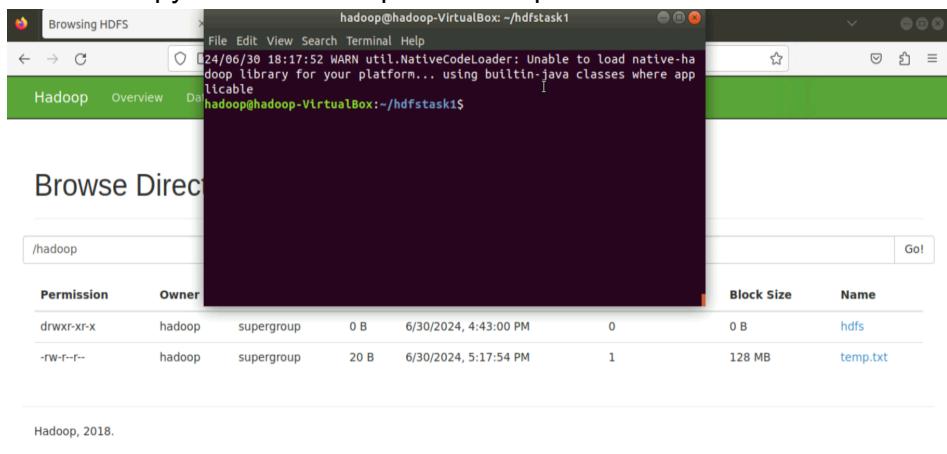
```
hdfs dfs -get temp.txt
```



```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -get /temp.txt  
24/06/30 18:14:45 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
get: 'temp.txt': File exists
```

- i) Command to copy from local directory with the source being restricted to a local file reference.

```
hdfs dfs -copyFromLocal temp.txt /hadoop
```



Permission	Owner	Group	Size	Last Modified	Block Size	Name
drwxr-xr-x	hadoop	supergroup	0 B	6/30/2024, 4:43:00 PM	0	hdfs
-rw-r--r--	hadoop	supergroup	20 B	6/30/2024, 5:17:54 PM	1	temp.txt

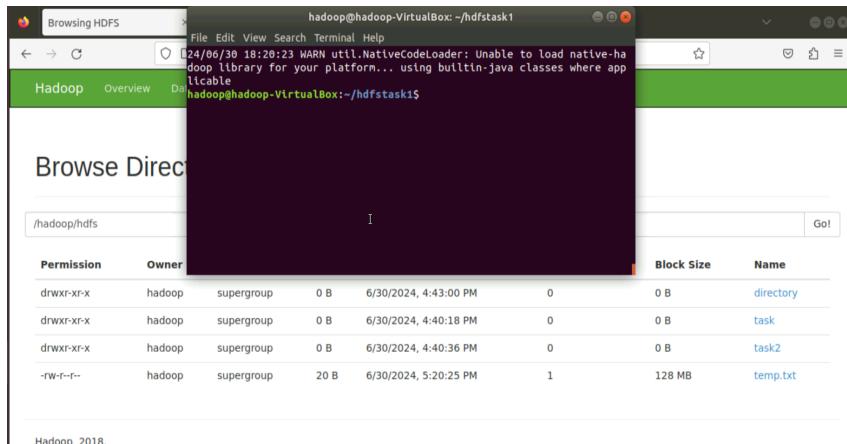
Hadoop, 2018.

- j) Command to copies to local directory with the source being restricted to a local file reference.

Same as previous one

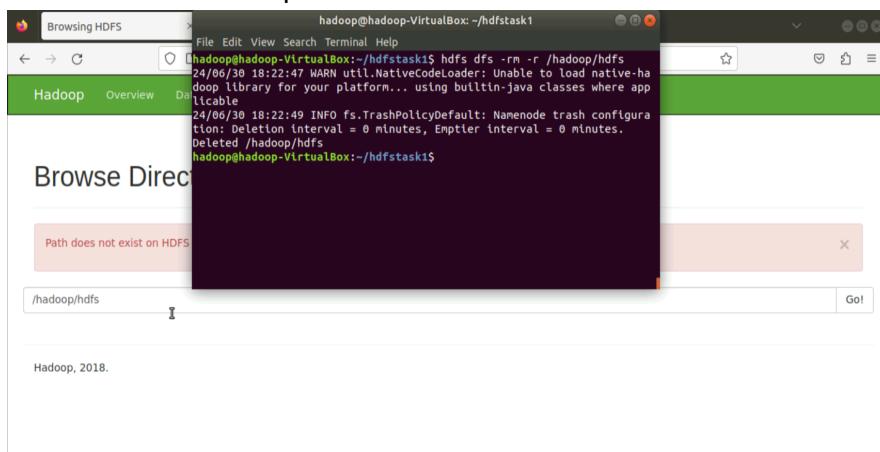
- k) Command to move from local directory source to Hadoop directory.

hdfs dfs -moveFromLocal temp.txt /hadoop/hdfs



- l) Deletes the directory and any content under it recursively.

hdfs dfs -rm -r /hadoop/hdfs



- m) List the files and show Format file sizes in a human-readable fashion.

hdfs dfs -ls -h /hadoop



- n) Take a source file and outputs the file in text format on the terminal.

```
hdfs dfs -text /hadoop/temp.txt
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -text /hadoop/temp.txt
24/06/30 18:27:40 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Hola This is a Test
```

- o) Display the content of the HDFS file test on your /user/hadoop2 directory.

```
hdfs dfs -cat /user/hadoop2/test
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -mkdir -p /user/hadoop2
24/06/30 18:29:45 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
hadoop@hadoop-VirtualBox:~/hdfstask1$ sudo nano test.txt
[sudo] password for hadoop:
Sorry, try again.
[sudo] password for hadoop:
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -put test.txt /user/hadoop2/
24/06/30 18:31:06 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -cat /user/hadoop2/test.txt
24/06/30 18:31:38 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
MAN WITH A MISSION
hadoop@hadoop-VirtualBox:~/hdfstask1$
```

- p) Append the content of a local file test1 to a hdfs file test2.

```
hdfs dfs -appendToFile test1.txt /user/hadoop2/test.txt
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ sudo nano test1.txt
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -appendToFile test1.txt /user/hadoop2/test.txt
24/06/30 18:34:11 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
hadoop@hadoop-VirtualBox:~/hdfstask1$
```

- q) Show the capacity, free and used space of the filesystem

```
hdfs dfs -df -h /
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -df -h /
24/06/30 18:36:00 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Filesystem           Size   Used  Available  Use%
hdfs://localhost:9000 19.6 G  172.0 K    10.3 G   0%
hadoop@hadoop-VirtualBox:~/hdfstask1$
```

- r) Shows the capacity, free and used space of the filesystem. Add parameter Formats the sizes of files in a human-readable fashion.

```
hdfs dfs -df -h /
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -df -h /
24/06/30 18:48:02 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Filesystem          Size   Used  Available  Use%
hdfs://localhost:9000  19.6 G  172 K    10.3 G   0%
```

- s) Show the amount of space, in bytes, used by the files that match the specified file pattern.

```
hdfs dfs -du -s /user/hadoop2/test*
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -du -s /user/hadoop2/test*
24/06/30 18:48:43 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
28  /user/hadoop2/test.txt
```

- t) Show the amount of space, in bytes, used by the files that match the specified file pattern. Formats the sizes of files in a human-readable fashion.

```
hdfs dfs -du -s -h /user/hadoop2/test*
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -du -s -h /user/hadoop2/test*
24/06/30 18:49:46 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
28  /user/hadoop2/test.txt
```

- u) Check the health of the Hadoop file system.

```
hdfs dfsadmin -report
```

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfsadmin -report
24/06/30 18:51:05 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Configured Capacity: 21001486336 (19.56 GB)
Present Capacity: 11041648640 (10.28 GB)
DFS Remaining: 11041472512 (10.28 GB)
DFS Used: 176128 (172 KB)
DFS Used%: 0.00%
Under replicated blocks: 1
Blocks with corrupt replicas: 0
Missing blocks: 0
Missing blocks (with replication factor 1): 0
-----
Live datanodes (1):
Name: 127.0.0.1:50010 (localhost)
Hostname: hadoop-VirtualBox
Decommission Status : Normal
Configured Capacity: 21001486336 (19.56 GB)
DFS Used: 176128 (172 KB)
Non DFS Used: 8869425152 (8.26 GB)
DFS Remaining: 11041472512 (10.28 GB)
DFS Used%: 0.00%
DFS Remaining%: 52.57%
Configured Cache Capacity: 0 (0 B)
Cache Used: 0 (0 B)
Cache Remaining: 0 (0 B)
Cache Used%: 100.00%
Cache Remaining%: 0.00%
```

- v) Command to turn off the safemode of Name Node.

hdfs dfsadmin -safemode leave

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfsadmin -safemode leave
24/06/30 18:52:15 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Safe mode is OFF
```

- w) HDFS command to format NameNode.

hdfs namenode -format

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs namenode -format
24/06/30 18:53:16 INFO namenode.NameNode: STARTUP_MSG:
*****STARTUP_MSG: Starting NameNode
STARTUP_MSG: host = hadoop-VirtualBox/127.0.1.1
STARTUP_MSG: args = [-format]
STARTUP_MSG: version = 2.7.6
STARTUP_MSG: classpath = /usr/local/hadoop/etc/hadoop:/usr/local/hadoop/share/hadoop/common/lib/commons-beanutils-1.7.0.jar:/usr/local/hadoop/share/hadoop/common/lib/iets3t-0.9.0.jar:/usr/local/hadoop/share/hadoop/common/lib/commons-beanutils-core-1.8.0.jar:/usr/l...
```

- x) Create a file named hdfstest.txt and change it number of replications to 3.

nano hdfstest.txt

hdfs dfs -put hdfstest.txt /

hdfs dfs -setrep 3 hdfstest.txt

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ nano hdfstest.txt
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -put hdfstest.txt /
24/06/30 18:57:09 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -setrep 3 hdfstest.txt
24/06/30 18:57:34 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
setrep: 'hdfstest.txt': No such file or directory
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -setrep 3 /hdfstest.txt
24/06/30 18:57:52 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Replication 3 set: /hdfstest.txt
hadoop@hadoop-VirtualBox:~/hdfstask1$
```

- y) Write command to display number of replicas for hdfstest.txt file.

hdfs dfs -stat %r /hdfstest.txt

```
hadoop@hadoop-VirtualBox:~/hdfstask1$ hdfs dfs -stat %r /hdfstest.txt
24/06/30 19:33:40 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
3
```

- z) Write command to Display the status of file “hdfstest.txt” like block size, filesize in bytes.

```
hdfs dfs -stat "%b %o %r %n %y %u %g" /hdfstest.txt
```

```
hadoop@hadoop-VirtualBox:~/hdfstask$ hdfs dfs -stat "%b %o %r %n %y %u %g" /hdfstest.txt
24/06/30 19:36:05 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
29 134217728 3 hdfstest.txt 2024-06-30 15:57:11 hadoop supergroup
```

- aa) Write HDFS command to change file permission from
rw – r – r to rwx-rw-x for hdfstest.txt.

```
hdfs dfs -chmod 777 hdfstest.txt
```