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Class : LY IS 3

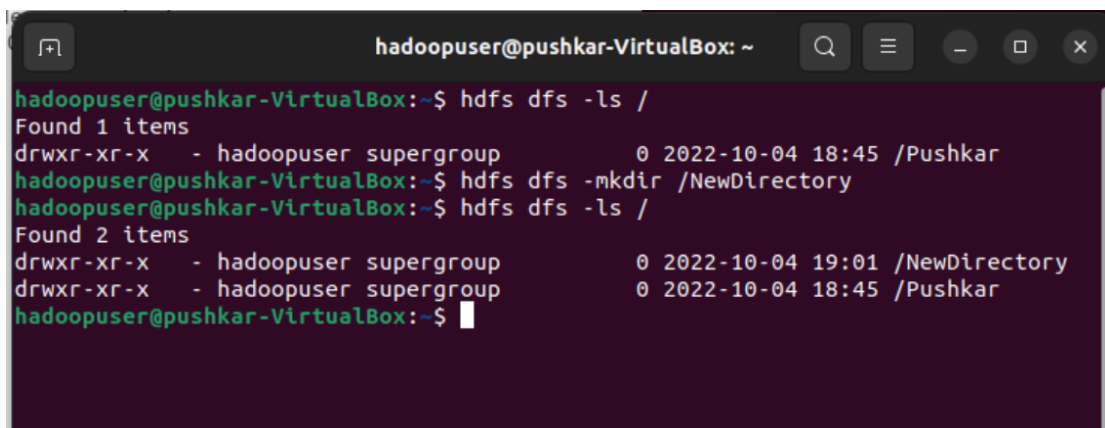
Objective: To understand the commands used in hadoop for file management

Theory :

1. Create a directory in HDFS at given path(s).

Usage: `hadoop fs -mkdir <paths>`

Example: `hadoop fs -mkdir /user/saurzcode/dir1 /user/saurzcode/dir2`

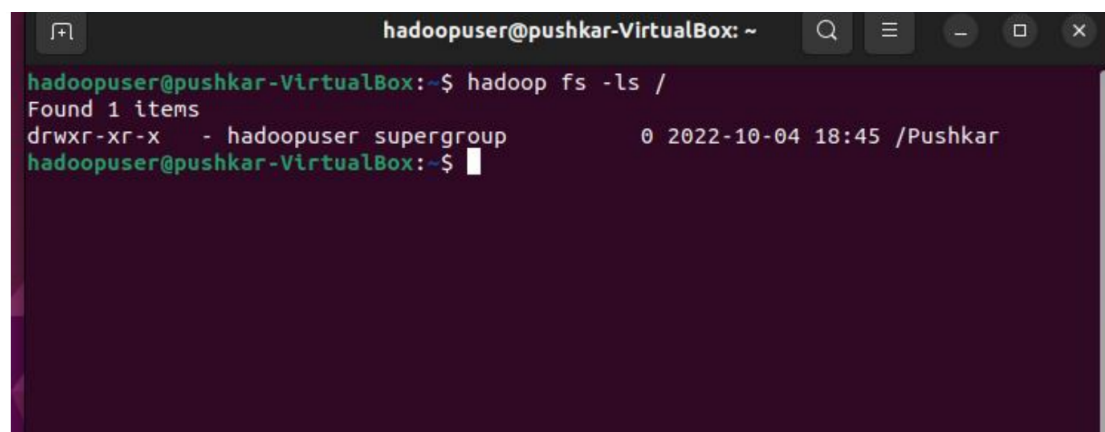
A terminal window titled 'hadoopuser@pushkar-VirtualBox: ~' showing the execution of HDFS commands. The user runs 'hdfs dfs -ls /' and sees one item, '/Pushkar'. Then they run 'hdfs dfs -mkdir /NewDirectory'. Finally, they run 'hdfs dfs -ls /' and see two items: '/NewDirectory' and '/Pushkar'.

```
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /
Found 1 items
drwxr-xr-x  - hadoopuser supergroup          0 2022-10-04 18:45 /Pushkar
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -mkdir /NewDirectory
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /
Found 2 items
drwxr-xr-x  - hadoopuser supergroup          0 2022-10-04 19:01 /NewDirectory
drwxr-xr-x  - hadoopuser supergroup          0 2022-10-04 18:45 /Pushkar
hadoopuser@pushkar-VirtualBox:~$
```

2. List the contents of a directory.

Usage : `hadoop fs -ls <args>`

Example: `hadoop fs -ls /user/saurzcode`

A terminal window titled 'hadoopuser@pushkar-VirtualBox: ~' showing the execution of the 'hadoop fs -ls /' command. The output shows one item, '/Pushkar'.

```
hadoopuser@pushkar-VirtualBox:~$ hadoop fs -ls /
Found 1 items
drwxr-xr-x  - hadoopuser supergroup          0 2022-10-04 18:45 /Pushkar
hadoopuser@pushkar-VirtualBox:~$
```

3. Upload and download a file in HDFS.

Upload:

hadoop fs -put:

Copy single src file, or multiple src files from local file system to the Hadoop data file system

Usage: `hadoop fs -put <localsrc> ... <HDFS_dest_Path>`

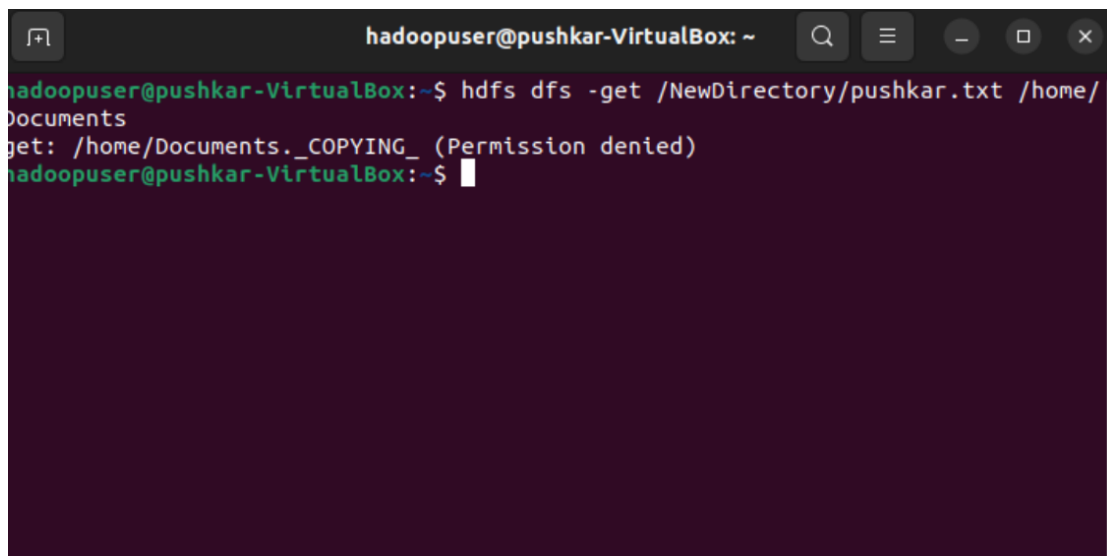
Example: `hadoop fs -put /home/saurzcode/Samplefile.txt /user/saurzcode/dir3/`

Download: hadoop fs -get:

Copies/Downloads files to the local file system

Usage: `hadoop fs -get <hdfs_src> <localdst>`

Example: `hadoop fs -get /user/saurzcode/dir3/Samplefile.txt /home/`

A terminal window titled 'hadoopuser@pushkar-VirtualBox: ~' with standard window controls. The terminal shows a command 'hdfs dfs -get /NewDirectory/pushkar.txt /home/' being entered. The output is 'get: /home/Documents._COPYING_ (Permission denied)'. The prompt returns to 'hadoopuser@pushkar-VirtualBox:~\$' with a cursor.

```
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -get /NewDirectory/pushkar.txt /home/  
Documents  
get: /home/Documents._COPYING_ (Permission denied)  
hadoopuser@pushkar-VirtualBox:~$
```

4. See contents of a file

Same as unix cat command:

Usage: `hadoop fs -cat <path[filename]>`

Example: `hadoop fs -cat /user/saurzcode/dir1/abc.txt`

```
hadoopuser@pushkar-VirtualBox: ~  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -touch /NewDirectory/pushkar.txt  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /NewDirectory  
Found 1 items  
-rw-r--r-- 1 hadoopuser supergroup 0 2022-10-04 19:08 /NewDirectory/  
pushkar.txt  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -cat /NewDirectory/pushkar.txt  
hadoopuser@pushkar-VirtualBox:~$
```

5. Copy a file from source to destination

This command allows multiple sources as well in which case the destination must be a directory.

Usage: `hadoop fs -cp <source> <dest>`

Example: `hadoop fs -cp /user/saurzcode/dir1/abc.txt /user/saurzcode/dir2`

```
hadoopuser@pushkar-VirtualBox: ~  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -cat /trial.txt  
cat: '/trial.txt': No such file or directory  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -touch /trial.txt  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /  
Found 4 items  
drwxrwxrwx - hadoopuser supergroup 0 2022-10-04 19:24 /NewDir2  
drwxrwxrwx - hadoopuser supergroup 0 2022-10-04 19:23 /NewDirectory  
drwxr-xr-x - hadoopuser supergroup 0 2022-10-04 18:45 /Pushkar  
-rw-r--r-- 1 hadoopuser supergroup 0 2022-10-04 19:28 /trial.txt  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -cp /trial.txt /NewDir2/  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /NewDir2  
Found 1 items  
-rw-r--r-- 1 hadoopuser supergroup 0 2022-10-04 19:29 /NewDir2/trial  
.txt  
hadoopuser@pushkar-VirtualBox:~$
```

6. Copy a file from/To Local file system to HDFS copyFromLocal

Usage: `hadoop fs -copyFromLocal <localsrc> URI`

Example: `hadoop fs -copyFromLocal /home/saurzcode/abc.txt
/user/saurzcode/abc.txt`

Similar to put command, except that the source is restricted to a local file reference.

copyToLocal

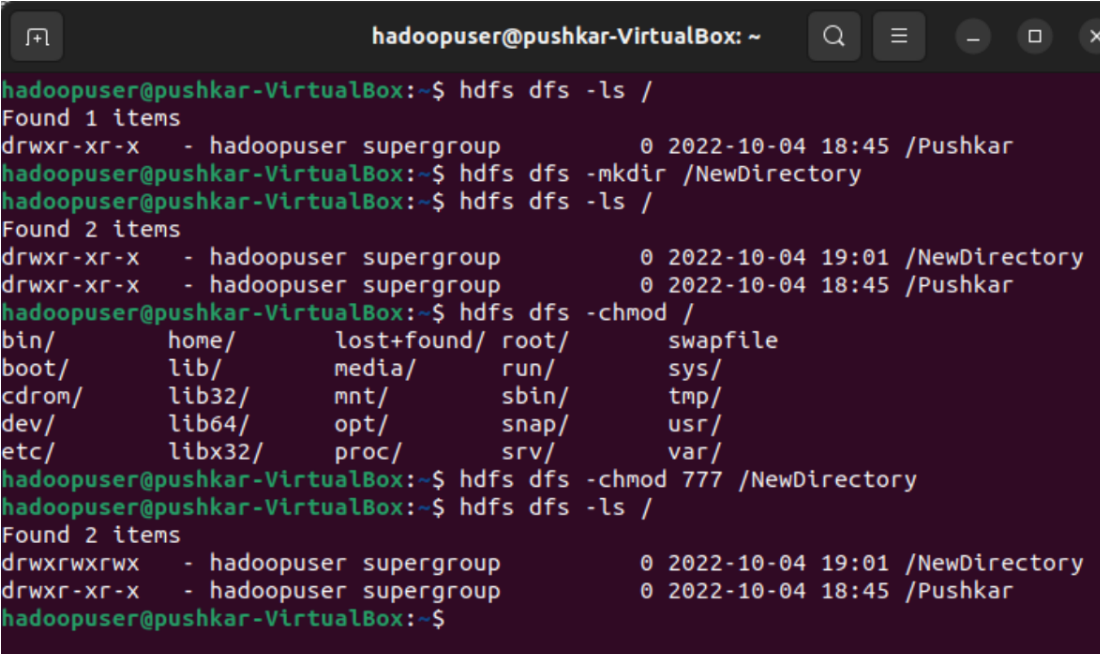
Usage:

```
hadoop fs -copyToLocal [-ignorecrc] [-crc] URI <localdst>
```

Similar to get command, except that the destination is restricted to a local file reference.

7. chmod

It is used to assign the read, write, and execute permission for any directory and files



```
hadoopuser@pushkar-VirtualBox: ~  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /  
Found 1 items  
drwxr-xr-x - hadoopuser supergroup 0 2022-10-04 18:45 /Pushkar  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -mkdir /NewDirectory  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /  
Found 2 items  
drwxr-xr-x - hadoopuser supergroup 0 2022-10-04 19:01 /NewDirectory  
drwxr-xr-x - hadoopuser supergroup 0 2022-10-04 18:45 /Pushkar  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -chmod /  
bin/      home/      lost+found/ root/      swapfile  
boot/     lib/        media/      run/       sys/  
cdrom/    lib32/      mnt/        sbin/      tmp/  
dev/      lib64/      opt/        snap/      usr/  
etc/      libx32/     proc/       srv/       var/  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -chmod 777 /NewDirectory  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /  
Found 2 items  
drwxrwxrwx - hadoopuser supergroup 0 2022-10-04 19:01 /NewDirectory  
drwxr-xr-x - hadoopuser supergroup 0 2022-10-04 18:45 /Pushkar  
hadoopuser@pushkar-VirtualBox:~$
```

8. touch

This command is used to create a new directory and file into the Hadoop cluster

It basically create a empty file and directory.

```
hadoopuser@pushkar-VirtualBox: ~  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -touch /NewDirectory/pushkar.txt  
hadoopuser@pushkar-VirtualBox:~$ hdfs dfs -ls /NewDirectory  
Found 1 items  
-rw-r--r--    1 hadoopuser supergroup          0 2022-10-04 19:08 /NewDirectory/  
pushkar.txt  
hadoopuser@pushkar-VirtualBox:~$
```

9. Display the last few lines of a file.

Similar to tail command in Unix.

Usage : `hadoop fs -tail <path[filename]>`

Example: `hadoop fs -tail /user/saurzcode/dir1/abc.txt`

10. Display the aggregate length of a file.

Usage : `hadoop fs -du <path>`

Example: `hadoop fs -du /user/saurzcode/dir1/abc.txt`