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Course: DSCI 551

Assignment: Lab 2

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1. ls

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home
Found 1 items
drwxr-xr-x   - ubuntu supergroup          0 2025-02-10 01:56 /home/ubuntu
```

This command lists files and directories in HDFS. The output includes file permission, ownership, size and modification time. In this case, I particularly show the home directory.

2. mkdir

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -mkdir /home/Sihang
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home
Found 2 items
drwxr-xr-x   - ubuntu supergroup          0 2025-02-11 00:37 /home/Sihang
drwxr-xr-x   - ubuntu supergroup          0 2025-02-10 01:56 /home/ubuntu
```

This command creates a new directory in HDFS. In this case, I created the file which is named by my last name.

3. put

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -put README.txt /home/Sihang
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home/Sihang
Found 1 items
-rw-r--r--   1 ubuntu supergroup        175 2025-02-11 00:40 /home/Sihang/README.txt
```

This command uploads file from the local machine to HDFS. In this case, it uploads README.txt file from local machine to HDFS under Sihang.

4. get

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -get /home/Sihang/README.txt README2.txt
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home/Sihang
Found 1 items
-rw-r--r--   1 ubuntu supergroup        175 2025-02-11 00:40 /home/Sihang/README.txt
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ ls
LICENSE-binary  NOTICE.txt    README2.txt  include  licenses-binary  share
LICENSE.txt     README.txt    bin          lib      logs             xyz.txt
NOTICE-binary   README1.txt   etc          libexec  sbin
```

This command downloads files from HDFS to the local machine. In this case, it downloads the README.txt file and save as README2.txt file under local directory.

5. cat

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ cat README2.txt
For the latest information about Hadoop, please visit our website at:

   http://hadoop.apache.org/

and our wiki, at:

   https://cwiki.apache.org/confluence/display/HADOOP/
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -cat /home/Sihang/README.txt
For the latest information about Hadoop, please visit our website at:

   http://hadoop.apache.org/

and our wiki, at:

   https://cwiki.apache.org/confluence/display/HADOOP/
```

This command displays the contents of file which stored in HDFS. In this case, it displays README2.txt file.

6. rm

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -rm /home/Sihang/README.txt
Deleted /home/Sihang/README.txt
```

This command delete files from HDFS. In this case, it deleted README.txt file in HDFS.

7. rmdir

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -rmdir /home/Sihang
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home
Found 1 items
drwxr-xr-x   - ubuntu supergroup          0 2025-02-10 01:56 /home/ubuntu
```

This command removes an empty directory. In this case, although Sihang directory is not empty, it could still be removed.

8. stat

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -stat /home
2025-02-11 01:15:04
```

This command displays information of files in HDFS. In this case, it displays the home directory.

9. mv

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -mv /home/Sihang/README.txt /home/Sihang/README1.txt
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home/Sihang
Found 1 items
-rw-r--r--   1 ubuntu supergroup        175 2025-02-11 01:39 /home/Sihang/README1.txt
```

This command moves or renames files in HDFS. The image above shows the rename function.

```
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -mv /home/Sihang/README.txt /home/ubuntu/README.txt
ubuntu@ip-172-31-8-201:~/hadoop-3.4.1$ bin/hdfs dfs -ls /home/ubuntu
Found 1 items
-rw-r--r--   1 ubuntu supergroup        175 2025-02-11 03:34 /home/ubuntu/README.txt
```

The image above shows the move function, particularly moves README.txt file from Sihang directory to ubuntu directory.

10. appendToFile

Thie command appends the content of local file to HDFS. In this case, it appends README.txt file to README1.txt file in HDFS.