

# Big Data Analytics (2CS702)

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Practical 1	
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**AIM : To Setup a single node Hadoop cluster and apply HDFS commands on single node Hadoop Cluster.**

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Start Yarn Resource Manager and DFS from the command prompt executing below command:

```
%HADOOP_HOME%/sbin/start-all.cmd
```

**HDFS commands :**

**1. JPS :** Used to check the Hadoop services are up and running

```
15424 DataNode
40304 NameNode
22376 ResourceManager
25528 Jps
9528 NodeManager
```

**2. ls :** ls command is useful to list down all the files and folders present in the path

**3. mkdir:** Used to create a directory in a distributed file system.

**4. touchz :** Used to create an empty file

## 5. chmod :

- Used to change the permission of the file.
- Default value is 644 which means it gives read and write permissions to user, group and others.

## 6. copyFromLocal or put :

Used to copy files and folders from local file system to the distributed system.

```
C:\Users\tejas>hdfs dfs -ls /lab
Found 2 items
-rw-r--r--  3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt
-rw-r--r--  3 tejas supergroup      184 2022-09-16 12:54 /lab/lab3ac.txt

C:\Users\tejas>hdfs dfs -copyToLocal /lab/23.txt
copyToLocal: `23.txt': File exists

C:\Users\tejas>
C:\Users\tejas>hdfs dfs -copyFromLocal "C:\Users\tejas\Desktop\fm.txt" /lab
2022-09-30 11:53:17,999 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false

C:\Users\tejas>hdfs dfs -ls /lab
Found 3 items
-rw-r--r--  3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt
-rw-r--r--  3 tejas supergroup     2262 2022-09-30 11:53 /lab/fm.txt
-rw-r--r--  3 tejas supergroup      184 2022-09-16 12:54 /lab/lab3ac.txt

C:\Users\tejas>
```

## 7. copyToLocal or get

Used to copy files/folders from distributed file system to local file system.

```
C:\Users\tejas>hdfs dfs -ls /lab
Found 3 items
-rw-r--r--  3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt
-rw-r--r--  3 tejas supergroup     2262 2022-09-30 11:53 /lab/fm.txt
-rw-r--r--  3 tejas supergroup      184 2022-09-16 12:54 /lab/lab3ac.txt

C:\Users\tejas>hdfs dfs -copyToLocal /lab/23.txt "C:\Users\tejas"
copyToLocal: `C:/Users/tejas/23.txt': File exists

C:\Users\tejas>hdfs dfs -copyFromLocal "C:\Users\tejas\Desktop\lab3ac.txt" /lab
copyFromLocal: `C:/Users/tejas/Desktop/lab3ac.txt': No such file or directory

C:\Users\tejas>hdfs dfs -copyFromLocal "C:\Users\tejas\Desktop\lab3ac.txt" /lab
copyFromLocal: `/lab/lab3ac.txt': File exists

C:\Users\tejas>hdfs dfs -copyToLocal /lab/lab3ac.txt "C:\Users\tejas\Desktop"
2022-09-30 11:58:09,738 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false

C:\Users\tejas>hdfs dfs -ls /lab
Found 3 items
-rw-r--r--  3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt
-rw-r--r--  3 tejas supergroup     2262 2022-09-30 11:53 /lab/fm.txt
-rw-r--r--  3 tejas supergroup      184 2022-09-16 12:54 /lab/lab3ac.txt

C:\Users\tejas>
```

**8. cp** : Used to copy files in distributed file system.

```
C:\Users\tejas>hdfs dfs -ls /
Found 2 items
drwxr-xr-x - tejas supergroup      0 2022-09-16 12:09 /la
drwxr-xr-x - tejas supergroup      0 2022-09-16 12:27 /lab

C:\Users\tejas>hdfs dfs -ls /lab
Found 1 items
-rw-r--r-- 3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt

C:\Users\tejas>hdfs dfs -ls /la
C:\Users\tejas>hdfs dfs -cp /lab/23.txt /la
2022-09-16 12:34:32,834 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false
2022-09-16 12:34:32,969 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remoteHostTrusted = false

C:\Users\tejas>hdfs dfs -ls /ls
ls: '/ls': No such file or directory

C:\Users\tejas>hdfs dfs -ls /la
Found 1 items
-rw-r--r-- 3 tejas supergroup      829 2022-09-16 12:34 /la/23.txt

C:\Users\tejas>
```

**9. mv** : Used to move files within distributed file system.

```
C:\Users\tejas>hdfs dfs -ls /la
Found 1 items
-rw-r--r-- 3 tejas supergroup      829 2022-09-16 12:34 /la/23.txt

C:\Users\tejas>hdfs dfs -touchz /lab/demo1.txt

C:\Users\tejas>hdfs dfs -ls /lab
Found 2 items
-rw-r--r-- 3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt
-rw-r--r-- 3 tejas supergroup      0 2022-09-16 12:38 /lab/demo1.txt

C:\Users\tejas>hdfs dfs -mv /lab/demo1.txt /la

C:\Users\tejas>hdfs dfs -ls /la
Found 2 items
-rw-r--r-- 3 tejas supergroup      829 2022-09-16 12:34 /la/23.txt
-rw-r--r-- 3 tejas supergroup      0 2022-09-16 12:38 /la/demo1.txt

C:\Users\tejas>
```

**10. cat** : Used to display content of the file.

```
C:\Users\tejas>hdfs dfs -moveFromLocal C:/Users/tejas/lab3ac.txt /lab
2022-09-16 12:54:25,390 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localhostTrusted
= false, remoteHostTrusted = false

C:\Users\tejas>hdfs dfs -ls /lab
Found 2 items
-rw-r--r--  3 tejas supergroup      829 2022-09-16 12:27 /lab/23.txt
-rw-r--r--  3 tejas supergroup     184 2022-09-16 12:54 /lab/lab3ac.txt

C:\Users\tejas>hdfs dfs -cat /lab/lab3ac.txt
2022-09-16 12:55:08,000 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localhostTrusted
= false, remoteHostTrusted = false
In our File Handling section you will learn how to open, read, write, and delete files.
In our database section you will learn how to access and work with MySQL and MongoDB databases:
C:\Users\tejas>
```

**11. du :** Used to display the size of each file in the directory

```
C:\Users\tejas>hdfs dfs -du /la
829  2487  /la/23.txt
0      0    /la/demo1.txt
```