

Execution of HDFS Commands for interaction with Hadoop Environment.

Example Scenario for Execution:

1. **Start Hadoop (make sure to use the correct user, in this case hduser):**

\$ start-all.sh

```
hadoop@bmscece-HP-Elite-Tower-600-G9-Desktop-PC:~$ start-all.sh
WARNING: Attempting to start all Apache Hadoop daemons as hadoop in 10 seconds.
WARNING: This is not a recommended production deployment configuration.
WARNING: Use CTRL-C to abort.
Starting namenodes on [localhost]
localhost: namenode is running as process 15924. Stop it first and ensure /tmp/
hadoop-hadoop-namenode.pid file is empty before retry.
Starting datanodes
localhost: datanode is running as process 16070. Stop it first and ensure /tmp/
hadoop-hadoop-datanode.pid file is empty before retry.
Starting secondary namenodes [bmscece-HP-Elite-Tower-600-G9-Desktop-PC]
bmscece-HP-Elite-Tower-600-G9-Desktop-PC: secondarynamenode is running as proce
ss 16276. Stop it first and ensure /tmp/hadoop-hadoop-secondarynamenode.pid fil
e is empty before retry.
Starting resourcemanager
resourcemanager is running as process 16601. Stop it first and ensure /tmp/hado
op-hadoop-resourcemanager.pid file is empty before retry.
Starting nodemanagers
localhost: nodemanager is running as process 16731. Stop it first and ensure /t
mp/hadoop-hadoop-nodemanager.pid file is empty before retry.
```

2. **Create Directory in HDFS (create a directory named /bda_hadoop):**

\$ hdfs dfs -mkdir /bda_hadoop

```
hadoop@bmscece-HP-Elite-Tower-600-G9-Desktop-PC:~$ hdfs dfs -mkdir /bda_hadoop
```

3. **List Contents of HDFS Root (list the files and directories at the root of HDFS):**

\$ hadoop fs -ls /

```
hadoop@bmscece-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -ls /
Found 15 items
drwxr-xr-x - hadoop supergroup 0 2023-04-27 12:49 /Hadoop
drwxr-xr-x - hadoop supergroup 0 2025-04-15 14:27 /abc
drwxr-xr-x - hadoop supergroup 0 2025-04-15 14:39 /bda_hadoop
drwxr-xr-x - hadoop supergroup 0 2023-05-17 10:00 /count
drwxr-xr-x - hadoop supergroup 0 2023-05-22 10:14 /deept
drwxr-xr-x - hadoop supergroup 0 2023-05-15 14:51 /dir
drwxr-xr-x - hadoop supergroup 0 2023-04-27 12:44 /hadoop
drwxr-xr-x - hadoop supergroup 0 2023-05-04 12:59 /inputbda
drwxr-xr-x - hadoop supergroup 0 2023-05-22 14:53 /output3
drwxr-xr-x - hadoop supergroup 0 2023-05-04 13:01 /outputbda
drwxr-xr-x - hadoop supergroup 0 2023-05-15 14:36 /pankaj
drwxr-xr-x - hadoop supergroup 0 2023-04-27 12:20 /sample
drwxr-xr-x - hadoop supergroup 0 2023-05-19 11:49 /temp01input
drwxr-xr-x - hadoop supergroup 0 2023-05-19 11:57 /temp02input
drwxr-xr-x - hadoop supergroup 0 2023-05-12 12:02 /tempinput
```

4. **Put Local File into HDFS (copy a local file from /home/hduser/Desktop/bda_local.txt to HDFS as /bda_hadoop/file.txt):**

\$ hdfs dfs -put /home/hadoop/Desktop/Welcome.txt /bda_hadoop/file.txt

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hdfs dfs -put /home/hadoop/Desktop/Welcome.txt /bda_hadoop/file.txt
```

5. Display Contents of the File (display the contents of the file /bda_hadoop/file.txt on HDFS):

```
$ hdfs dfs -cat /bda_hadoop/file.txt
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hdfs dfs -cat /bda_hadoop/file.txt
Welcome
```

6. Copy File from Local File System to HDFS (using copyFromLocal to copy a local file into HDFS):

```
$ hdfs dfs -copyFromLocal /home/hadoop/Desktop/Tee/bda_hadoop/file_cp_local.txt
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hdfs dfs -copyFromLocal /home/hadoop/Desktop/Tee /bda_hadoop/file_cp_local.txt
```

7. Retrieve a File from HDFS to Local (use get to copy a file from HDFS to the local filesystem):

```
$ hdfs dfs -get /bda_hadoop/file.txt /home/hadoop/Downloads/downloaded_file.txt
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hdfs dfs -get /bda_hadoop/file.txt /home/hadoop/Downloads/downloaded_file.txt
```

8. Move Directory in HDFS (move the directory /bda_hadoop to /abc in HDFS):

```
$ hadoop fs -mv /bda_hadoop /abc
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -mv /bda_hadoop /abc
```

9. Verify Directory Move (check that the directory /bda_hadoop has been successfully moved to /abc):

```
$ hadoop fs -ls /abc
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -ls /abc
Found 3 items
-rw-r--r-- 1 hadoop supergroup 70 2023-05-11 14:35 /abc/Tee
-rw-r--r-- 1 hadoop supergroup 9 2025-04-15 14:27 /abc/WC.txt
drwxr-xr-x - hadoop supergroup 0 2025-04-15 14:42 /abc/bda_hadoop
```

10. Copy Directory in HDFS:

Copy a file from /abc/bda_hadoop/file.txt to another location, say /abc/file_copy.txt:

```
$ hadoop fs -cp /abc/bda_hadoop/file.txt /abc/file_copy.txt
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -cp /abc/bda_hadoop/file.txt /abc/file_copy.txt
```

Copy an entire directory (e.g., /abc/bda_hadoop) to /copy_bda_hadoop:

```
$ hadoop fs -cp /abc/bda_hadoop /copy_bda_hadoop
```

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -cp /abc/bda_hadoop /copy_bda_hadoop
```

Verify Copy:

Directory:

\$ `hadoop fs -ls /copy_bda_hadoop`

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -ls /copy_bda_hadoop
Found 2 items
-rw-r--r--  1 hadoop supergroup          9 2025-04-15 14:47 /copy_bda_hadoop/file.txt
-rw-r--r--  1 hadoop supergroup       70 2025-04-15 14:47 /copy_bda_hadoop/file_cp_local.txt
```

File:

\$ `hadoop fs -cat /abc/file_copy.txt`

```
hadoop@bmscecse-HP-Elite-Tower-600-G9-Desktop-PC:~$ hadoop fs -cat /abc/file_copy.txt
Welcome
```