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### BDI-EXPERIMENT-03

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#### Experiment no. 03 HDFS Commands

Aim :- Execution of HDFS commands in Horton works sandbox

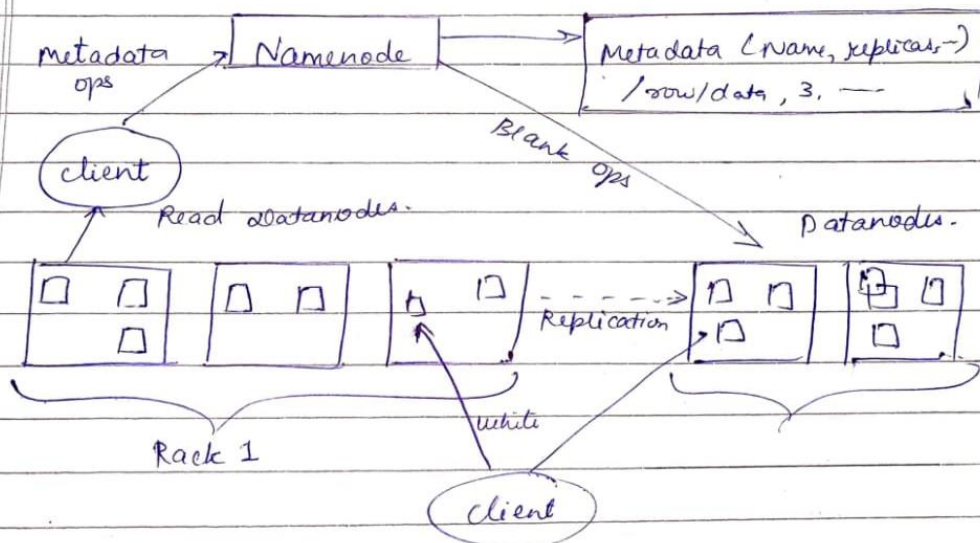
##### Theory :-

- 1) `pwd` :- To display the current directory path.
- 2) `hadoop fs -ls /` :- This command lists the contents of the root directory in HDFS. It will show the files and directories present at the root level of the HDFS file system.
- 3) `hadoop fs -ls -R /` :- This command lists the contents of the root directory recursively i.e. it will also list the contents of subdirectories and their subdirectories in a tree-like format - It provides a comprehensive view of the entire directory structure starting from the root.
- 4) `hadoop fs -mkdir /any` :- This command creates a new directory named `any` in the root directory.
- 5) `hadoop fs -touchz /any /sample.txt` :-  
This command creates an empty file named `"sample.txt"` in the `"any"` directory.
- 6) `hadoop fs -cat /any /names.txt` :- This command displays the contents of a file named `"names.txt"`. It will print the contents to the console. If the file does not exist it will show error message.
- 7) `hadoop fs -du -s /any` :- This command calculates the total size of all files and directories in the `"/any"` directory and displays the results in bytes. If the directory contains subdirectories, their sizes are not included in the total.

8) `hadoop fs -stat/anay` → This command is use to retrieve file status.

9) `hadoop fs -setrep 5/anay` → This command sets the replication factor of all files in the "anay" directory to 5.

Hadoop is an open source framework for distributed storage and processing of large datasets across clusters of computers. It utilizes a distributed file system (HDFS) for storage and MapReduce for processing. Hadoop's scalability, fault tolerance & ability to handle big data make it popular for data-intensive applications.



Conclusion :-

Therefore, we have executed HDFS command in Horton works sandbox.

## Code and Output:

### ls command:

```
[root@sandbox ~]# hdfs dfs -ls /
Found 12 items
drwxrwxrwx   - yarn   hadoop           0 2016-10-25 08:10 /app-logs
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:54 /apps
drwxr-xr-x   - yarn   hadoop           0 2016-10-25 07:48 /ats
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 08:01 /demo
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:48 /hdp
drwxr-xr-x   - mapred hdfs            0 2016-10-25 07:48 /mapred
drwxrwxrwx   - mapred hadoop           0 2016-10-25 07:48 /mr-history
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:47 /ranger
drwxrwxrwx   - spark  hadoop           0 2024-01-31 04:10 /spark-history
drwxrwxrwx   - spark  hadoop           0 2016-10-25 08:14 /spark2-history
drwxrwxrwx   - hdfs   hdfs            0 2016-10-25 08:11 /tmp
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 08:11 /user
```

```
[root@sandbox ~]# hdfs dfs -ls /
Found 13 items
drwxrwxrwx   - yarn   hadoop           0 2016-10-25 08:10 /app-logs
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:54 /apps
drwxr-xr-x   - yarn   hadoop           0 2016-10-25 07:48 /ats
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 08:01 /demo
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:48 /hdp
drwxr-xr-x   - mapred hdfs            0 2016-10-25 07:48 /mapred
drwxrwxrwx   - mapred hadoop           0 2016-10-25 07:48 /mr-history
drwxr-xr-x   - root   hdfs            0 2024-01-31 04:11 /prayag
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:47 /ranger
drwxrwxrwx   - spark  hadoop           0 2024-01-31 04:12 /spark-history
drwxrwxrwx   - spark  hadoop           0 2016-10-25 08:14 /spark2-history
drwxrwxrwx   - hdfs   hdfs            0 2016-10-25 08:11 /tmp
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 08:11 /user
[root@sandbox ~]#
```

```
[root@sandbox ~]# hdfs dfs -ls -R /prayag
-rw-r--r--    1 root hdfs            0 2024-01-31 04:15 /prayag/myfile.txt
[root@sandbox ~]#
```



### mkdir command:

```
[root@sandbox ~]# hdfs dfs -mkdir /prayag1
[root@sandbox ~]# hdfs dfs -ls /prayag1
[root@sandbox ~]# hdfs dfs -ls /
Found 14 items
drwxrwxrwx   - yarn   hadoop           0 2016-10-25 08:10 /app-logs
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:54 /apps
drwxr-xr-x   - yarn   hadoop           0 2016-10-25 07:48 /ats
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 08:01 /demo
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:48 /hdp
drwxr-xr-x   - mapred hdfs            0 2016-10-25 07:48 /mapred
drwxrwxrwx   - mapred hadoop           0 2016-10-25 07:48 /mr-history
drwxr-xr-x   - root   hdfs            0 2024-02-07 03:18 /prayag
drwxr-xr-x   - root   hdfs            0 2024-02-07 03:21 /prayag1
drwxr-xr-x   - hdfs   hdfs            0 2016-10-25 07:47 /ranger
drwxrwxrwx   - spark  hadoop           0 2024-02-07 03:22 /spark-history
drwxrwxrwx   - spark  hadoop           0 2016-10-25 08:14 /spark2-history
drwxrwxrwx   - hdfs   hdfs            0 2016-10-25 08:11 /tmp
drwxr-xr-x   - hdfs   hdfs            0 2024-02-07 03:18 /user
[root@sandbox ~]#
```

### touchz

#### command:

```
[root@sandbox ~]# hdfs dfs -touchz /prayag/myfile.txt
[root@sandbox ~]# hdfs dfs -ls /
```

```
[root@sandbox ~]# hdfs dfs -ls /prayag
Found 2 items
-rw-r--r--    1 root    hdfs            0 2024-02-07 03:44 /prayag/myfile.txt
-rw-r--r--    3 raj_ops hdfs           13 2024-02-07 03:26 /prayag/prayag.txt
```

### cat

#### command:

```
[root@sandbox ~]# hdfs dfs -ls /prayag
Found 1 items
-rw-r--r--    3 raj_ops hdfs           13 2024-02-07 03:26 /prayag/prayag.txt
[root@sandbox ~]# hdfs dfs -cat/prayag.txt
-cat/prayag.txt: Unknown command
[root@sandbox ~]# hdfs dfs -cat /prayag.txt
Hello Prayag! [root@sandbox ~]#
```

### cp command:

```
[root@sandbox ~]# hdfs dfs -mkdir /prayag_copied
[root@sandbox ~]# hdfs dfs -cp/prayag/prayag_copied
-cp/prayag/prayag copied: Unknown command
[root@sandbox ~]# hdfs dfs -cp /prayag/prayag_copied
-cp: Not enough arguments: expected 2 but got 1
Usage: hadoop fs [generic options] -cp [-f] [-p | -p[topax]] <src> ... <dst>
[root@sandbox ~]# hdfs dfs -cp /prayag /prayag_copied
[root@sandbox ~]# hdfs dfs -ls /prayag copied
Found 1 items
drwxr-xr-x   - root hdfs          0 2024-02-07 03:35 /prayag_copied/prayag
[root@sandbox ~]# hdfs dfs -ls /prayag
Found 1 items
-rw-r--r--   3 raj ops hdfs       13 2024-02-07 03:26 /prayag/prayag.txt
[root@sandbox ~]#
```

### mv

#### command:

```
[root@sandbox ~]# hdfs dfs -mv /prayag/myfile.txt /prayag_copied
[root@sandbox ~]# hdfs dfs -ls /prayag
Found 1 items
-rw-r--r--   3 raj ops hdfs       13 2024-02-07 03:26 /prayag/prayag.txt
[root@sandbox ~]#
```

### rmr command:

```
[root@sandbox ~]# hdfs dfs -rm -r /prayag_copied
24/02/07 03:49:02 INFO fs.TrashPolicyDefault: Moved: 'hdfs://sandbox.hortonworks.com:8020/prayag_copied' to trash
orks.com:8020/user/root/.Trash/Current/prayag_copied
[root@sandbox ~]# hdfs dfs -ls /prayag_copied
ls: `/prayag-copied': No such file or directory
[root@sandbox ~]#
```

### du

#### command:

```
[root@sandbox ~]# hdfs dfs -du /prayag
13  /prayag/prayag.txt
[root@sandbox ~]#
```

### dus

#### command:

```
[root@sandbox ~]# hdfs dfs -dus /prayag
dus: DEPRECATED: Please use 'du -s' instead.
13  /prayag
[root@sandbox ~]#
```

**stat command:**

```
[root@sandbox ~]# hdfs dfs -stat /prayag
2024-02-07 03:46:08
[root@sandbox ~]#
```

**Setrep**

**command:**

```
[root@sandbox ~]# hdfs dfs -setrep -R 4 /prayag
Replication 4 set: /prayag/prayag.txt
[root@sandbox ~]# hdfs dfs -ls /prayag
Found 1 items
-rw-r--r--  4 raj_ops hdfs      13 2024-02-07 03:26 /prayag/prayag.txt
[root@sandbox ~]#
```