

## Addition commands on Hadoop

08 March 2025 23:53

Submitted by Kuhan k

Roll no : 2024MCS110028

```
kuhan@kuhan-virtual-machine: /opt/hadoop-3.4.0
File Edit View Search Terminal Help
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ hadoop fs -ls /
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Found 1 items
drwxr-xr-x  - kuhan supergroup          0 2025-03-08 23:30 /data
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ hdfs fsck /
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Connecting to namenode via http://localhost:9870/fscck?ugi=kuhan&path=%2F
FSCK started by kuhan (auth:SIMPLE) from /127.0.0.1 for path / at Sat Mar 08 23:52:39 IST 2025

/data/file.txt: Under replicated BP-343335988-127.0.1.1-1741432315287:blk_1073741827_1003. Target Replicas is 3 but found 1 live replica(s), 0 decommissioned repl
ica(s), 0 decommissioning replica(s).

Status: HEALTHY
Number of data-nodes: 1
Number of racks:      1
Total dirs:           2
Total symlinks:        0

Replicated Blocks:
Total size:    136 B
Total files:    1
Total blocks (validated): 1 (avg. block size 136 B)
Minimally replicated blocks: 1 (100.0 %)
Over-replicated blocks: 0 (0.0 %)
Under-replicated blocks: 1 (100.0 %)
Mis-replicated blocks: 0 (0.0 %)
Default replication factor: 1
Average block replication: 1.0
Missing blocks: 0
Corrupt blocks: 0
Missing replicas: 2 (66.666664 %)
Blocks queued for replication: 0
```

```
Erasure Coded Block Groups:
Total size:    0 B
Total files:    0
Total block groups (validated): 0
Minimally erasure-coded block groups: 0
Over-erasure-coded block groups: 0
Under-erasure-coded block groups: 0
Unsatisfactory placement block groups: 0
Average block group size: 0.0
Missing block groups: 0
Corrupt block groups: 0
Missing internal blocks: 0
Blocks queued for replication: 0
FSCK ended at Sat Mar 08 23:52:39 IST 2025 in 5 milliseconds

The filesystem under path '/' is HEALTHY
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ hadoop fs -stat %r /data/file.txt
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
3
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ hadoop version
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Hadoop 3.4.0
Source code repository git@github.com:apache/hadoop.git -r bd8b77f398f626bb7791783192ee7a5dfaee760
Compiled by root on 2024-03-04T06:35Z
Compiled on platform linux-x86_64
Compiled with protoc 3.21.12
From source with checksum f7fe694a3613358b38812ae9c31114e
This command was run using /opt/hadoop-3.4.0/share/hadoop/common/hadoop-common-3.4.0.jar
```

```
This command was run using /opt/hadoop-3.4.0/share/hadoop/common/hadoop-common-3.4.0.jar
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ jps
3043 ResourceManager
3156 NodeManager
2788 SecondaryNameNode
2630 DataNode
5911 Jps
2522 NameNode
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ hadoop fs -du -h /data
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
136 408 /data/file.txt
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ hadoop fs -df -h
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Filesystem              Size Used Available Use%
hdfs://localhost:9000  33.7 G 48 K   13.8 G    0%
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$
```

```

nfs3:77 localnfs1:3000 - 99.77 0 - 40 K - 1910 0 - 0%
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ sbin/stop-yarn.sh
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
WARNING: YARN_CONF_DIR has been replaced by HADOOP_CONF_DIR. Using value of YARN_CONF_DIR.
Stopping nodemanagers
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
WARNING: YARN_CONF_DIR has been replaced by HADOOP_CONF_DIR. Using value of YARN_CONF_DIR.
Stopping resourcemanager
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
WARNING: YARN_CONF_DIR has been replaced by HADOOP_CONF_DIR. Using value of YARN_CONF_DIR.
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ jps
2788 SecondaryNameNode
2630 DataNode
6217 Jps
2522 NameNode
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ sbin/stop-dfs.sh
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Stopping namenodes on [localhost]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Stopping datanodes
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Stopping secondary namenodes [kuhan-virtual-machine]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ jps
6650 Jps
kuhan@kuhan-virtual-machine:/opt/hadoop-3.4.0$ █

```

## 1. HDFS File Operations

List files and directories

```
hadoop fs -ls /
```

Create a directory

```
hadoop fs -mkdir /data
```

Upload a file to HDFS

```
hadoop fs -put localfile.txt /data/
```

Download a file from HDFS

```
hadoop fs -get /data/file.txt .
```

View the contents of a file

```
hadoop fs -cat /data/file.txt
```

Move/Rename a file in HDFS

```
hadoop fs -mv /data/file.txt /backup/
```

Copy a file in HDFS

```
hadoop fs -cp /data/file.txt /backup/file_copy.txt
```

Delete a file

```
hadoop fs -rm /data/file.txt
```

Delete a directory recursively

```
hadoop fs -rm -r /data/
```

Hadoop Cluster Management

Start HDFS and YARN

```
sbin/start-dfs.sh
```

```
sbin/start-yarn.sh
```

Stop HDFS and YARN

```
sbin/stop-dfs.sh
```

```
sbin/stop-yarn.sh
```

Check running Hadoop processes

```
jps
```

Check Hadoop version

```
hadoop version
```

HDFS File System Monitoring

Check HDFS file system usage

```
hadoop fs -du -h /data
```

Check available disk space

`hadoop fs -df -h`

Check file replication factor  
`hadoop fs -stat %r /data/file.txt`

Change file replication factor  
`hadoop fs -setrep -w 3 /data/file.txt`

Check file system health  
`hdfs fsck /`