# HDFS File System Shell Guide

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1. Overview

The FileSystem (FS) shell is invoked by `bin/hadoop fs <args>`. All FS shell commands take path URIs as arguments. The URI format is `scheme://authority/path`. For HDFS the scheme is `hdfs`, and for the local filesystem the scheme is `file`. The scheme and authority are optional. If not specified, the default scheme specified in the configuration is used. An HDFS file or directory such as `/parent/child` can be specified as `hdfs://namenodehost/parent/child` or simply as `parent/child` (given that your configuration is set to point to `hdfs://namenodehost`). Most of the commands in FS shell behave like corresponding Unix commands. Differences are described with each of the commands. Error information is sent to `stderr` and the output is sent to `stdout`.

1.1. cat

Usage: `hadoop fs -cat URI [URI …]`

Copies source paths to `stdout`.

Example:

- `hadoop fs -cat hdfs://nn1.example.com/file1
  hdfs://nn2.example.com/file2`
- `hadoop fs -cat file:///user/hadoop/file3
  /user/hadoop/file4`

Exit Code:
Returns 0 on success and -1 on error.

1.2. chgrp

Usage: `hadoop fs -chgrp [-R] GROUP URI [URI …]`

Change group association of files. With `-R`, make the change recursively through the directory structure. The user must be the owner of files, or else a super-user. Additional information is in the HDFS Admin Guide: Permissions.

1.3. chmod

Usage: `hadoop fs -chmod [-R] <MODE[,MODE]… | OCTALMODE> URI [URI …]`

Change the permissions of files. With `-R`, make the change recursively through the directory structure. The user must be the owner of the file, or else a super-user. Additional information is in the HDFS Admin Guide: Permissions.
1.4. chown
Usage: hadoop fs -chown [-R] [OWNER]:[GROUP] URI [URI ]
Change the owner of files. With -R, make the change recursively through the directory structure. The user must be a super-user. Additional information is in the HDFS Admin Guide: Permissions.

1.5. copyFromLocal
Usage: hadoop fs -copyFromLocal <localsrc> URI
Similar to put command, except that the source is restricted to a local file reference.

1.6. copyToLocal
Usage: hadoop fs -copyToLocal [-ignorecrc] [-crc] URI <localdst>
Similar to get command, except that the destination is restricted to a local file reference.

1.7. count
Usage: hadoop fs -count [-q] <paths>
Count the number of directories, files and bytes under the paths that match the specified file pattern. The output columns are:
DIR_COUNT, FILE_COUNT, CONTENT_SIZE FILE_NAME.
The output columns with -q are:
QUOTA, REMAINING_QUATA, SPACE_QUOTA, REMAINING_SPACE_QUOTA,
DIR_COUNT, FILE_COUNT, CONTENT_SIZE, FILE_NAME.
Example:
• hadoop fs -count hdfs://nn1.example.com/file1
dfs://nn2.example.com/file2
• hadoop fs -count -q hdfs://nn1.example.com/file1

Exit Code:
Returns 0 on success and -1 on error.

1.8. cp
Usage: hadoop fs -cp URI [URI ...] <dest>

Copy files from source to destination. This command allows multiple sources as well in which case the destination must be a directory.
Example:
- hadoop fs -cp /user/hadoop/file1 /user/hadoop/file2
- hadoop fs -cp /user/hadoop/file1 /user/hadoop/file2
  /user/hadoop/dir

Exit Code:
Returns 0 on success and -1 on error.

1.9. du

Usage: hadoop fs -du URI [URI ...]

Displays aggregate length of files contained in the directory or the length of a file in case its just a file.
Example:
`hadoop fs -du /user/hadoop/dir1 /user/hadoop/file1`
`hdfs://nn.example.com/user/hadoop/dir1`

Exit Code:
Returns 0 on success and -1 on error.

1.10. dus

Usage: hadoop fs -dus <args>

Displays a summary of file lengths.

1.11. expunge

Usage: hadoop fs -expunge

Empty the Trash. Refer to **HDFS Architecture** for more information on Trash feature.

1.12. get

Usage: hadoop fs -get [-ignorecrc] [-crc] <src> <localdst>

Copy files to the local file system. Files that fail the CRC check may be copied with the
-ignorecrc option. Files and CRCs may be copied using the -crc option.
Example:

- hadoop fs -get /user/hadoop/file localfile
- hadoop fs -get hdfs://nn.example.com/user/hadoop/file localfile

Exit Code:

Returns 0 on success and -1 on error.

1.13. getmerge

Usage: hadoop fs -getmerge <src> <localdst> [addnl]

Takes a source directory and a destination file as input and concatenates files in src into the destination local file. Optionally addnl can be set to enable adding a newline character at the end of each file.

1.14. ls

Usage: hadoop fs -ls <args>

For a file returns stat on the file with the following format:

permissions number_of_replicas userid groupid filesize modification_date modification_time filename

For a directory it returns list of its direct children as in unix. A directory is listed as:

permissions userid groupid modification_date modification_time dirname

Example:

hadoop fs -ls /user/hadoop/file1

Exit Code:

Returns 0 on success and -1 on error.

1.15. lsr

Usage: hadoop fs -lsr <args>

Recursive version of ls. Similar to Unix ls -R.
### 1.16. mkdir

**Usage:** hadoop fs -mkdir <paths>

Takes path uri's as argument and creates directories. The behavior is much like unix mkdir -p creating parent directories along the path.

**Example:**

- hadoop fs -mkdir /user/hadoop/dir1 /user/hadoop/dir2
- hadoop fs -mkdir hdfs://nn1.example.com/user/hadoop/dir hdfs://nn2.example.com/user/hadoop/dir

**Exit Code:**

Returns 0 on success and -1 on error.

### 1.17. moveFromLocal

**Usage:** dfs -moveFromLocal <localsrc> <dst>

Similar to **put** command, except that the source localsrc is deleted after it's copied.

### 1.18. moveToLocal

**Usage:** hadoop fs -moveToLocal [-crc] <src> <dst>

Displays a "Not implemented yet" message.

### 1.19. mv

**Usage:** hadoop fs -mv URI [URI …] <dest>

Moves files from source to destination. This command allows multiple sources as well in which case the destination needs to be a directory. Moving files across filesystems is not permitted.

**Example:**

- hadoop fs -mv /user/hadoop/file1 /user/hadoop/file2
- hadoop fs -mv hdfs://nn.example.com/file1 hdfs://nn.example.com/file2 hdfs://nn.example.com/file3 hdfs://nn.example.com/dir1
Returns 0 on success and -1 on error.

1.20. put

Usage: hadoop fs -put <localsrc> ... <dst>

Copy single src, or multiple srcs from local file system to the destination filesystem. Also reads input from stdin and writes to destination filesystem.

- hadoop fs -put localfile /user/hadoop/hadoopfile
- hadoop fs -put localfile1 localfile2 /user/hadoop/hadoopdir
- hadoop fs -put localfile
  hdfs://nn.example.com/hadoop/hadoopfile
- hadoop fs -put - hdfs://nn.example.com/hadoop/hadoopfile
  Reads the input from stdin.

Exit Code:
Returns 0 on success and -1 on error.

1.21. rm

Usage: hadoop fs -rm [-skipTrash] URI [URI ...]

Delete files specified as args. Only deletes non empty directory and files. If the -skipTrash option is specified, the trash, if enabled, will be bypassed and the specified file(s) deleted immediately. This can be useful when it is necessary to delete files from an over-quota directory. Refer to rmr for recursive deletes.

Example:

- hadoop fs -rm hdfs://nn.example.com/file
  /user/hadoop/emptydir

Exit Code:
Returns 0 on success and -1 on error.

1.22. rmr

Usage: hadoop fs -rmr [-skipTrash] URI [URI ...]

Recursive version of delete. If the -skipTrash option is specified, the trash, if enabled, will be bypassed and the specified file(s) deleted immediately. This can be useful when it is necessary to delete files from an over-quota directory.
Example:
• hadoop fs -rmr /user/hadoop/dir
• hadoop fs -rmr hdfs://nn.example.com/user/hadoop/dir

Exit Code:
Returns 0 on success and -1 on error.

1.23. setrep

Usage: hadoop fs -setrep [-R] <path>

Changes the replication factor of a file. -R option is for recursively increasing the replication factor of files within a directory.

Example:
• hadoop fs -setrep -w 3 -R /user/hadoop/dir1

Exit Code:
Returns 0 on success and -1 on error.

1.24. stat

Usage: hadoop fs -stat URI [URI …]

Returns the stat information on the path.

Example:
• hadoop fs -stat path

Exit Code:
Returns 0 on success and -1 on error.

1.25. tail

Usage: hadoop fs -tail [-f] URI

Displays last kilobyte of the file to stdout. -f option can be used as in Unix.

Example:
• hadoop fs -tail pathname

Exit Code:
Returns 0 on success and -1 on error.

1.26. test

Usage: hadoop fs -test -[ezd] URI

Options:
-e check to see if the file exists. Return 0 if true.
-z check to see if the file is zero length. Return 0 if true.
-d check to see if the path is directory. Return 0 if true.

Example:
• hadoop fs -test -e filename

1.27. text

Usage: hadoop fs -text <src>

Takes a source file and outputs the file in text format. The allowed formats are zip and TextRecordInputStream.

1.28. touchz

Usage: hadoop fs -touchz URI [URI …]

Create a file of zero length.

Example:
• hadoop -touchz pathname

Exit Code:
Returns 0 on success and -1 on error.