# Hadoop FS Shell Guide

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1. FS Shell

The FileSystem (FS) shell is invoked by `bin/hadoop fs <args>`. All the 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:///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 hdfs://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:
filename <number of replicas> filesize modification_date
modification_time permissions userid groupid
For a directory it returns list of its direct children as in unix. A directory is listed as:
dirname <dir> modification_time modification_time permissions
userid groupid
Example:
hadoop fs -ls /user/hadoop/file1 /user/hadoop/file2
hdfs://nn.example.com/user/hadoop/dir1 /nonexistentfile
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

Exit Code:

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 URI [URI ...]

Delete files specified as args. Only deletes non empty directory and files. 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 URI [URI ...]

Recursive version of delete.

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 return 1 if the path is directory else return 0.

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.