

UNIX Reference Card

Warnings!!

When a file has been **DELETED** it can only be restored from a backup. The original is gone!

When a file is **OVERWRITTEN** it has been changed forever! It can only be restored from a backup.

Directory Abbreviations

~ home directory (tilde)
 ~*username* another user's home directory
 . current working directory
 .. parent of current working directory

Communication

ssh [*options*] *hostname*
 Ssh (Secure Shell) a program for logging into a remote host. Replaces telnet, rlogin, and rsh
options:
 -l *login_name* specifies the user to log in on the remote machine

scp [*options*] *user@host1:file1 user@host2:file2*
 Secure copy files between hosts on a network; uses ssh for data transfer.
options:
 -p preserve modification times
 -r recursively copy entire directories

Comparison

diff [*options*] *file1 file2*
 Compare two text files.
options:
 -a treat all files as text files
 -b ignore repeating blanks and end-of-line blanks; treat successive blanks as one
 -i ignore case in text comparison
 -q output only whether files differ

File Management

cat [*options*] [*files*]
 Read one or more *files* and print them on standard output. Use the > operator to combine several files into a new file; use >> to append files to an existing file.
options:
 -n print the number of the output line to the line's left
 -s squeeze out extra blank lines

cd [*dir*]
 Change working directory to *dir*; default is the users home directory.

chgrp *newgroup files*
 Change the group of one or more *files* to *newgroup*. *newgroup* is either a group ID number of a group name. Only the owner can change the group.
options:
 -c print information about those files that are affected
 -R recursively apply changes to subdirectories

chmod [*options*] *mode files*
 Change the access *mode* (permissions) of one or more *files*. Only the owner of a file or a privileged user may change its mode.
options:
 -c print information about affected files
 -R recursively apply changes to subdirectories
mode:
 can be numeric
 4 read
 2 write
 1 execute
 or an expression of the form *who opcode permission*. *who* is optional (if missing, default is **a**)
who
 u user
 g group
 o other
 a all (default)
opcode
 + add permission
 - remove permission
 = assign permission
permission
 r read
 w write
 x execute
 X set execution permission only if executable by user

cp [*options*] *file1 file2*
cp [*options*] *files directory*
 Copy *file1* to *file2*, or copy one or more *files* to the same names under *directory*.
options:
 -a preserves attributes of original files
 -f remove existing files in the destination
 -i prompt before overwriting destination files
 -r recursively copy directories
 -s make symbolic links instead of copying

file [*options*] *files*
 Classify the named *files* according to the type of data they contain.

less [*options*] [*filename*]
 A program for browsing or paging through files or other output. Can use arrow keys for scrolling forward or backward.
options:
 see **man** pages for options (type: **man less**)

ln [*options*] *sourcenam* [*destname*]
ln [*options*] *sourcenames destdirectory*
 Create links for files, allowing them to be accessed by different names.
options:
 -b backup files before removing originals
 -i prompt for permission before removing files
 -s create a symbolic link. This lets you see the name of the link when you run **ls -l** (otherwise there is now way to know the name that a file is linked to).

ls [*options*] [*names*]
 List the contents of a directory. If no *names* are given, the files in the current directory are listed.
options:
 -a list all files, including hidden files
 -c list files by status change time
 -l long format listing (permissions, owner, size, modification time)

mkdir [*options*] *directories*
 Create one or more directories.
options:
 -m *mode* set the access *mode* for new directories. See **chmod** for *mode* formats.
 -p create intervening parent directories if they don't exist

more [*options*] [*files*]
 Display the content of the named *files* one screen at a time. See less for an alternative.
options:
 see **man** pages for options (type: **man more**)

pwd
 Print the full pathname of the current working directory.

scp [*options*] *user@host1:file1 user@host2:file2*
 Secure copy files between hosts on a network; uses ssh for data transfer.
options:
 -p preserve modification times
 -r recursively copy entire directories

mv [*options*] *sources target*
 Move or rename files and directories. The *source* and *target* determine the result.

<i>source</i>	<i>target</i>	<i>result</i>
file	<i>name</i>	rename file as <i>name</i>
file	existing	overwrite existing file
	file	with source file
directory	<i>name</i>	rename directory as <i>name</i>
directory	existing	move directory to be a
directory	subdirectory of	existing directory

options:
 -b back up files before moving
 -f force the move
 -i query user before removing files

rm [options] files

Delete one or more *files*. Once a file or directory has been removed it can only be retrieved from a backup!

options:

- d remove directories, even if they are not empty
- f remove files without prompting
- i prompt for file removal
- r recursively remove an entire directory and its contents, including subdirectories. *Be very careful with this option.*

Miscellaneous

! Repeat the last command

!string Repeat the last command beginning with *string*.

cal [-jy] [[month] year]

Print a 12-month calendar for the given *year* or a one-month calendar of the given *month* and year. No arguments, print a calendar for the current month.

options:

- j display Julian dates
- y display entire current year

clear

Clear the terminal display

history

Display list of most recently executed commands

kill [option] IDs

Send a signal to terminate one or more process *IDs*.

options:

- l list all signals
- signal the signal number (from **ps -f**) or name (from **kill -l**). You can kill just about any process with a signal number of 9.

man command

Display information from the online reference manuals.

jobs [options] job_id

Display status of jobs in the current session. Simply specifying jobs returns the status of all stopped jobs, running background jobs, and all suspended jobs.

options:

- l provide more information about each job listed
- p display only the process IDs for the process group leaders of the selected jobs

whereis command

Locate a *command*; display the full pathname for the *command*.

which [commands]

List which files would be executed if the named *commands* had been run.

Searching

egrep [options] [regex] [files]

grep [options] [regex] [files]

Search one or more *files* for lines that match a regular expression *regex*. To include characters such as +, ?, |, (,), blank spaces, etc. enclose these expressions in quotes. See **man** pages for the differences between **egrep**, **fgrep**, and **grep**.

options:

- c print only a count of matched lines
- i ignore case
- l list filenames but not matched lines
- n print lines and their line numbers
- v print all lines that do not match *regex*

find [pathnames] [conditions]

Useful for finding particular files. **find** descends the directory tree beginning at each *pathname* and locates files that meet the specified *conditions*.

options:

- name *pattern* find files whose name matches *pattern*
- print print the matching files and directories using their full pathnames

see **man** pages for options (type: **man find**)

Storage

compress [options] [files] – compress file

uncompress [options] [files] – uncompress compressed file

compress reduces the size of the named *files*. When possible the resulting compressed file will have the file extension **.Z**.

Compressed files can be restored using **uncompress**.

options:

- d uncompress file, same as **uncompress**
- v prints the percentage reduction
- V prints the version of compress

gzip [options] [files] – compress file

gunzip [options] [files] – uncompress gzipped file

GNU compression utility. Renames compressed files *filename.gz*. Uncompress with **gunzip**.

options:

- d uncompress file, same as **gunzip**
- r recursively compress or decompress files within a directory
- v print name and percent size reduction for each file

tar [options] [tarfile] [other-files]

Copy *files* to or restore *files* from an archive. If any files are directories, **tar** acts on the entire subtree.

options:

- c create a new archive
- d compare the files stored in tarfile with other-files
- r append other-files to the end of an existing archive
- t print the names of files in archive
- v verbose, print filenames as they are added or extracted
- x extract *other-files* from archive, or extract all files if *other-files* not specified

System Status

Control-C

Stop (interrupt) job running in the foreground

Control-Z

Suspend job running in the foreground

date [options] [+format] [date]

Print the current date and time. You may specify a display *format*.

options:

see **man** pages for options (type: **man date**)

df [options] [name]

Report the amount of free disk space available on all mounted file systems or on a given *name*.

options:

-k print sizes in kilobytes

du [options] [directories]

Print disk used by each named directory and its subdirectories.

options:

- k print sizes in kilobytes
- s print only the grand total for each directory

env [option] [variable=value ...] [command]

Display the current environment or, if an environment *variable* is specified, set it to a new *value* and display the modified environment.

option:

-u unset the specified *variable*

ps [options]

Report on active processes.

options:

- a list all processes except processes not associated with the terminal
- e list all processes
- l produce long format listing
- u *list* list for usernames in *list*

quota [option]

Display disk usage and limits

option:

-v report quotas even if they haven't been exceeded

Contact Information

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WWW: http://www.msi.umn.edu

http://www.msi.umn.edu/user_support