Command Line Cheat Sheet

CIM 439/639

Help

`man command`
- display the 'manual page' for a command

`command --help`
- display a command's help screen

Directories

`pwd`
- Display the present working directory

`cd directory`
- Change to specified directory

`cd ..`
- Change to parent directory

`cd` or `cd ~`
- Return to home folder

`ls`
- List files in present working directory

`ls directory`
- List files in specified directory

`ls -la`
- List files in a detailed format, including hidden files

`mkdir directory`
- Create a new directory

Directory Paths

`.`
- Current directory

`..`
- Parent directory

`~`
- Home directory

`/path/to/files/`
- Absolute path
- Always begins at root (`/`)

`path/to/directory`
- Relative path
- Always begins at present working directory

Files

`touch file`
- Create a file if it does not exist
- Update file modification time

WARNING! The following commands may be destructive, overwriting existing files! *Use with caution!*

`mv file-old file-new`
- Rename filename (old) to filename (new)

`mv file directory`
- Move specified file into specified directory

`cp file directory`
- Copy specified file into specified directory

`cp -r directory-1 directory-2`
- Copy directory-1 into directory-2

Deleting

WARNING! Deleting a file or directory using any of the following commands is *PERMANENT*. There is no way to recover deleted files!

`rm file`
- Delete specified file

`rm -r directory`
- Delete specified directory

`rm -f file`
- Force delete the specified file

`rm -rf directory`
- Force delete the specified directory

`rm -rf *`
- **NEVER TYPE THIS COMMAND.** It will delete EVERYTHING!

Editors

`nano` or `nano file`
- To quit: `ctrl-x` (`^x`)

`emacs` or `emacs file`
- To quit: `ctrl-x` then `ctrl-c` (`^x ^c`)

`vi` or `vi file`
- To quit: type `:`, then `q!`

Output

`echo “string”`
- Show contents of the string on the screen (a.k.a "standard output")

`cat file`
- Show the contents of the specified file

`less file`
- Show the contents of the specified file, paginated
- `space` to scroll forward one page
- `b` to scroll backward one page
- `q` to quit

`head file`
- Display the first 10 lines of the specified file

`command > file`
- Direct output from the command to the file
- May overwrite the content of an existing file!

`command >> file`
- Append output from the command to the specified file

`command-1 | command-2`
- Direct the output from command-1 to command-2

Search

`find directory -name "file"`
- Find files with the given name inside the specified directory

`grep "string" file`
- Search for text provided in specified file

`grep -rl "string" directory`
- Search for text provided in all files within the specified directory

Wildcards

`*`
- match any (zero or more characters)
- `*all` will match "all", "ball", "call", "small".

`?`
- match a single character
- `?all` would match "ball", "call" but not "all", "small"

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Permissions

Because users share a system, files and directory have metadata as to who can read (`r`), write to (`w`) or execute (`x`) a file. Unix/Linux systems classify those who can access files as the user (you) (`u`), a group (`g`) or other/everyone (`o`).

Commands

`chmod permission file`
- Change the permission of a file/directory

`chmod –R permission directory`
- Change the permission of a directory (and the files within)

`chown user file`
- Change the ownership of a file/directory
- Include `–R` to include contents within a directory

Symbolic Method

`who +/– permission`

Examples:

`u+rw`
- Give the user read and write access (no execute)

`o+rx`
- Give all read, execute access (no write)

`o–rw`
- Revoke read, write access for all

Octal Method

We can also indicate permissions for each group by adding numbers. Read, write and execute are represented by numbers:

`4`: read
`2`: write
`1`: execute

The permission is three digits (`xxx`) with the hundreds column representing the user, tens representing groups and the ones representing all.

Examples:

`755`
- User has all access. group and others can read and execute.

`600`
- User has read, write access; group and others have no access.

`644`
- User has read, write access; group and others can only read.

Network Utilities

`ping host`
- Ping host, display stats
- `^c` to exit

`whois domain`
- Display domain name data

`curl –0 url/to/file`
- Download file via http(s) or ftp

`ssh username@host`
- Connect via secure shell to host; log in using username
- May require a 'public key'

`scp path/to/file user@host:/remote/path`
- (Secure) Copy file to remote

Utilities

`whoami`
- In case you forgot :)

`clear`
- Clears the screen

`wc`
- Word count; lines, words, characters

`uniq`
- List unique output

`sort`
- Sort output alphabetically

`sort –n`
- Sort output numerically

Quick Tips

- Use the `TAB` key to autocomplete paths.
- Use `↑` (arrow up) and `↓` (arrow down) to cycle through the commands recently used.
- `ctrl–a` (`^a`) will move your cursor to the start of the line.
- `ctrl–e` (`^e`) will move your cursor to the end of the line.
- `ctrl–k` (`^k`) deletes all text ahead of the cursor.
- `ctrl–l` (`^l`) clears the screen
- `ctrl–c` (`^c`) aborts a command

What do I use to…?

create a file? `touch` or `nano` (or your editor of choice)

view contents of a file? `cat` or `less`

view contents of a directory? `ls`

navigate to…? `cd`

move a file or directory? `mv`

copy a file? `cp`

copy a directory? `cp –r`

delete a file? `rm`

delete a directory? `rmdir`