UNIX Commands

Week 1 - Tutorial

man

- Manual Pages -- > help
- The first command to remember
  - `$ man ls` -> To read about ls command and its options
- Contains info about almost everything :-)
  - other commands
  - system calls
  - c/library functions
  - other utils, applications, configuration files
- To read about man itself type:

```
$ man man
```

uname

- Displays the OS of the machine
- `$ uname`

  `$ uname –r` displays OS version

  `$ uname –n` displays user

Who

- List all the users who have logged in unix.
  - If it is client-server, lists all the users
  - If it is a stand-alone, list the single user
  - `$ who`

Who am i

- List about you.

  -
    ```
    $ who am i
    ```

shell

- To list all possible shells, depending on implementation:

```
$ cat /etc/shells
```

- To change to a different shell
  - `$ <shellname>`

exit / logout

- Exit from your login session.
- `$ exit`
- `$ logout`

passwd

- Change your login password.
- A very good idea after you got a new one.
- It’s usually a paranoid program asking your password to have at least 6 chars in the password, at least two alphabetical and one numerical characters. Some other restrictions (e.g. dictionary words or previous password similarity) may apply.
- Depending on a privilege, one can change user’s and group passwords as well as real name, login shell, etc.
- `$ man passwd`

date

- Displays dates
- `$ date`
- Options will display in various formats
- `$ date -u`
  - in GMT
- To know all the options and significance
- `$ man date`

cal

- Calendar
  - for month
  - entire year
- Years range: 1 - 9999
- No year 0
- Calendar was corrected in 1752 - removed 11 days

`$ cal`	current month
`$ cal 2 2000`	Feb 2000, leap year
`$ cal 2 2100`	not a leap year
`$ cal 2 2400`	leap year
`$ cal 9 1752`	11 days skipped
`$ cal 0`	error
`$ cal 2002`	whole year

clear

- Clears the screen
- There’s an alias for it: Ctrl+L
- Example sequence:
  - `$ cal`
  - `$ clear`
  - `$ cal`
  - `Ctrl+L`

sleep

- “Sleeping” is doing nothing for some time.
- Usually used for delays in shell scripts.
- `$ sleep 2` 2 seconds pause

echo

- Print the given text on the screen
- Can be given in ' ', " "
- Without quotes also it can be given
  - `$ echo message or echo "<message>" or echo 'message'`

banner

- To print enlarged characters
  - `$banner “<message>”`

Command Grouping

- Semicolon: “;”
- Often grouping acts as if it were a single command, so an output of different commands can be redirected to a file:
- `$ (date; cal; date) > out.txt`

ls

- List directory contents
- For all options, see man ls for details.
- `$ ls`
  - all files except those starting with a "."
- `$ ls -a`
  - all
- `$ ls -A`
  - all without "." and ".."

- `$ ls -F`
  - append "/" to dirs and "*" to executables
- `$ ls -l`
  - long format
- `$ ls -al`
  - Long listing of all files(includes hidden file)
- `$ ls -lt`
  - sort by modification time (latest - earliest)
- `$ ls -ltr`
  - reverse

wc

- Counts the lines words and characters of a file name
- `$ wc <file-name>`
- `$man wc` to see the options

Pipe (|)

- Pipe is used to redirect the output of one to another
- `$ ls | wc –l`
- The output of ls command will be taken as the input of the next command wc
- Ls will list the files and that is taken as input of wc -l which counts the number of lines of the ls command

cat

- Display and concatenate files.
- `$ cat`
  - Will read from STDIN and print to STDOT every line you enter.
- `$ cat file1 [file2] ...`
  - Will concatenate all files in one and print them to STDOUT
- `$ cat > filename`
  - Will take whatever you type from STDIN and will put it into the file `filename`
- To exit `cat` or `cat > filename` type Ctrl+D to indicate EOF (End of File).

more / less

- Pagers to display contents of large files page by page or scroll line by line up and down.
- Have a lot of viewing options and search capability.
- Interactive. To exit: ‘q’

less

- `less` ("less is more") a bit more smart than the `more` command
- to display contents of a file:
  - `$ less filename`
- To display line numbers:
  - `$ less -N filename`
- To display a prompt:
  - `$ less -P"Press 'q' to quit" filename`
- Combine the two:
  - `$ less -NP"Blah-blah-blah" filename`
- For more information:
  - `$ man less`

touch

- By *touching* a file you either create it if it did not exists (with 0 length).
- Or you update it’s last modification and access times.
- There are options to override the default behavior.
- `$ touch file`
- `$ man touch`

alias

- Defines a new name for a command / file
- `$ alias`
  - with no arguments lists currently active aliases
- `$ alias newcommand oldcommand`
  - defines a `newcommand`
- `$ alias cl cal 2003`
- `$ cl`

cp

- Copies files / directories.
- `$ cp [options] <source> <destination>`
- `$ cp file1 file2`
- `$ cp file1 [file2] … /directory`
- Useful option: `-i` to prevent overwriting existing files and prompt the user to confirm.

mv

- Moves or renames files/directories.
- `$ mv <source> <destination>`
  - The <source> gets removed
- `$ mv file1 dir/`
- `$ mv file1 file2`
  - rename
- `$ mv file1 file2 dir/`
- `$ mv dir1 dir2`

Hidden files

- To create hidden files
  - `$ touch .<filename>`
- To create multiple hidden files
  - `$ touch .<fn1> .<fn2>`
- To list the hidden files
  - `$ls -a`
- To convert ordinary file into hidden file
  - `$ mv <filename> .<filename>`

rm

- Removes file(s) and/or directories.
- `$ rm file1 [file2] ...`
- `$ rm -r dir1 [dir2] ...`
- `$ rm -r file1 dir1 dir2 file4 ...`

mkdir

- Creates a directory.
- `$ mkdir newdir`
- Often people make an alias of `md` for it.

cd

- Changes your current directory to a new one.
- `$ cd /some/other/dir`
  - Absolute path
- `$ cd subdir`
  - Assuming `subdir` is in the current directory.
- `$ cd`
  - Returns you to your home directory.

pwd

- Displays personal working directory, i.e. your current directory.
- `$ pwd`

rmdir

- Removes a directory.
- `$ rmdir dirname`
- Equivalent:
  - `$ rm -r dirname`

ln

- Symbolic link or a “shortcut” in M$ terminology.
- `$ ln –s <real-name> <fake-name>`

bc

- Calculator on
- `$ bc`
- Now, do calculations as you want