Intro to the Command Line

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Overview

- General philosophy
- Basic commands
- More philosophy
- Advanced (basic) techniques

```
jfass@nickel:~$ ssh cabernet
 HPC-14 currently consists of 66 nodes \
 with 2248 CPUs and 11.03TB RAM. Type
 sinfo for more info.
Ubuntu 14.04.2 LTS 4.4.0-67-generic x86 64
***** 2016-05-11 *****
Memory has been enabled as a consumable resource. If your job will be
using more than 2G/CPU, you will need to use --mem-per-cpu= in your job
scripts or your job will be automatically killed by the scheduler.
***** 2017-03-03 *****
As of March 13 2017 we will be requiring the --time option for all jobs.
Shortly thereafter we will be reducing the grace period from 8 days to
1 hour. Contact sysadmin@genomecenter.ucdavis.edu with any questions.
Last login: Wed Jun 14 09:35:04 2017 from nickel.genomecenter.ucdavis.edu
groups: cannot find name for group ID 1103844286
jfass@cabernet:~$
```

```
jfass@nickel:~$ ssh cabernet
                    .genomecenter.ucdavis.edu
[\ldots]
jfass@cabernet:~$
```

```
jfass@nickel:~$ ssh cabernet
                    .genomecenter.ucdavis.edu
[ \dots ]
jfass@cabernet:~$ <ctrl>-1
```

```
jfass@cabernet:~$
```

<ctrl>-l or -k ...
Clears terminal, start at top

See also: reset

```
jfass@cabernet:~$
```

```
<-- prompt (includes $ and one
space after)

Infinite* possible
configurations, in this case:

<uname>@<hostname>:<pwd>$<space>

(pwd = present working directory)
```

Command Line Basics

```
jfass@cabernet:~$ <type command here>
```

Follow command with <enter>

Command Line Basics - Getting Out!

```
jfass@cabernet:~$ wrong command <control-c>
jfass@cabernet:~$ # looks like this:
jfass@cabernet:~$ wrong command ^C
jfass@cabernet:~$
jfass@cabernet:~$ sleep 1000
^C
jfass@cabernet:~$
```

<control-c>: escape from
entering a command ...

... kill a running command

Command Line Basics - Getting Out!

```
jfass@cabernet:~$ R
[\ldots]
> <control-d>
Save workspace image? [y/n/c]: n
jfass@cabernet:~$
```

Escape from some interactive sessions (R, python, ...)

Command Line Basics - Getting Out!

```
jfass@cabernet:~$ yes | more
[\ldots]
<q>
jfass@cabernet:~$
```

```
q = quit:
Escape from paginators!
(less, man, etc.)
```

Command Line Basics - Where Am I?

```
jfass@cabernet:~$ 1s
[\ldots]
jfass@cabernet:~$ pwd
[...]
```

list

present working directory

Command Line Basics - Options!

```
jfass@cabernet:~$ ls -R
[\ldots]
[\ldots]
<control-c>
```

```
list recursively
What did I just do???
```

Command Line Basics - Read The Manual (RTM)!

```
jfass@cabernet:~$ man ls
[\ldots]
<q>
```

man <command>

Command Line Basics - Options, options, options!

```
jfass@cabernet:~$ ls -1
jfass@cabernet:~$ ls -a
jfass@cabernet:~$ ls -la
jfass@cabernet:~$ ls -ltrha
```

man <command>

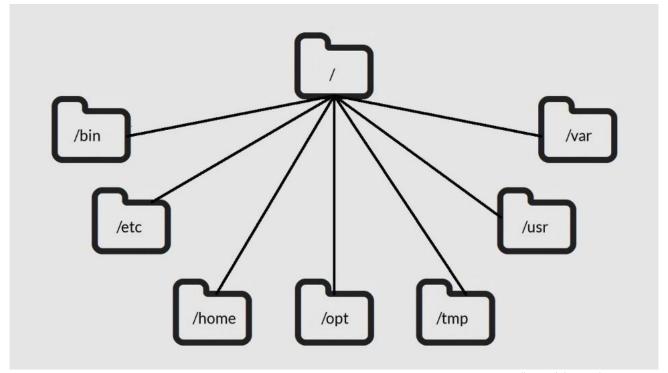
Command Line Basics - Directory Structure

```
jfass@cabernet:~$ ls -R
[\ldots]
./R/x86 64-pc-linux-gnu-library/3.3/BH/include
[\ldots]
<control-c>
```

'/' separates directories

Names can include many characters, but avoid spaces and other weird stuff.

Command Line Basics - Directory Structure



www.linuxtrainingacademy.com

Command Line Basics - '.' and '..'

```
jfass@cabernet:~$ ls -a
.bash_history
[...]
```

```
'.' = pwd
'..' = up one level
```

Command Line Basics - Absolute/Relative Address

```
jfass@cabernet:~$ ls /home/jfass/
[\ldots]
jfass@cabernet:~$ ls ../jfass/
[same ...]
```

```
'.' = pwd
'..' = up one level
```

Command Line Basics - <Tab> Completion

```
jfass@cabernet:~$ ls /home/jfas<tab>
jfass@cabernet:~$ ls /home/jfass/
```

<tab> will literally save
your life. Hours of it.

A single <tab> auto-completes when it's possible (when only a single possible completion exists).

Command Line Basics - <Tab> Completion

```
jfass@cabernet:~$ ls /home/j<tab>
jfass@cabernet:~$ ls /home/j
jfass@cabernet:~$ ls /home/j<tab><tab>
jacob/ [...]
jagadish/
jagomez/
                                             jwbucha/
[\ldots]
```

<tab> will literally save
your life. Hours of it.

Two <tab>s in a row will show you all the possible completions.

Command Line Basics - <Tab> Completion

```
jfass@cabernet:~$ ls /h<tab>
jfass@cabernet:~$ ls /home/<tab>
jfass@cabernet:~$ ls /home/<tab>
jfass@cabernet:~$ ls /home/j<tab>
jfass@cabernet:~$ ls /home/j<tab>
jfass@cabernet:~$ ls /home/jf<tab>
jfass@cabernet:~$ ls /home/jfass/
```

```
Use it!
Watch out for RSI ...
```