

Bash is your friend.

(hopefully not the only one)

Environment Variables

```
$ env
```

```
$ echo $PATH
```

```
$ export $PATH=$PATH:/my/path
```

```
$ unset $SOME_VARIABLE
```

Aliases

```
$ alias my_alias='echo "focus!"'
```

```
$ my_alias
```

```
$ unalias my_alias
```

Useful aliases

```
alias jupiter='ssh -X s0786143@jupiter1'
```

```
alias ls='ls -al'
```

```
alias rm='rm -i'
```

```
alias df='df -h'
```

```
alias psx='ps aux | grep '
```

```
alias ..='cd ..'
```

Special variable `$PS1`

Bash prompt helps you quickly learn about your environment:

- Username
- Host
- Current working directory
- Time

The variable defining prompt is called `$PS1`

Saving customizations

`.profile` – read by non-interactive shells (like your Window Manager)

`.bashrc` – read by bash

`.bash_profile` – read by both

Saving customizations

`.profile` – put all your variables here (like `$PATH` etc.)

`.bashrc` – put your bash customization here (like aliases, `$PS1` etc.)

`.bash_profile` – read `.bashrc` and `.profile` inside

History

- Ctrl+R – starts the search
- Enter – executes the command
- Ctrl+J – gets back to command line
- `history` – lists previously executed commands
- `!22` – executes command number 22

Outputs

- Useful for logging
- Standard output (stdout) `1> my.log`
- Standard error (stderr) `2> my.log`
- Both `&> my.log`
- Append `>> my.log`

Pipes and redirecting

- Run two command in a sequence:

```
cmd1 && cmd2 && cmd3
```

```
cmd1 || cmd2 || cmd3
```

- Sending output of one command as an input to another:

```
history | grep "my_simulation"
```

Superpowers!

- How to execute one command as a root:

```
sudo cmd
```

- How to become a root:

```
su -
```

- What if root does not have a password?

```
sudo su -
```

Find files

```
find <where> <what> -exec '{}'\;
```

```
find . -name foo -print
```

Arguments:

-perm

-user

-type

Find in file

```
grep "query" file.txt
```

Recursive:

```
grep "query" file.txt -r -H
```

Loops

```
for subject in "s01" "s02" "s03"  
do  
    echo $subject  
done
```

Oneliner

```
for subject in "s01" "s02"  
    "s03"; do echo $subject; done
```

Conditionals

```
if $subject_no > 2  
do  
    echo $subject_no  
done
```

Script variables

```
#!/bin/bash
```

```
MY_VAR = "whatever"
```

```
echo $MY_VAR
```


Script arguments

```
#!/bin/bash
```

```
# all arguments  
echo $@
```

```
#selected arguments
```

```
echo $1 $2 $3
```

More...

www.tldp.org/LDP/abs/html

IntResComp

- Mailing list:

<https://mlist.is.ed.ac.uk/list/info/intrescomp>

- Wiki:

<https://www.wiki.ed.ac.uk/display/intrescomp>

- Google calendar:

<http://goo.gl/wvrui>