Bash is your friend.

(hopefully not the only one)

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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 ..'
```

Saving customizations

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

`.bashrc` – read by bash

`.bash_profile` – read by both

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` – 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