



## BASH

## BASH: VARIABLES, OUTPUT

## GIT

## Navigating

```
cd name_of_directory
cd ..      # Go up one
cd ~       # Go to home
pwd        # Where am I?
```

## Listing files

```
ls          # List files
ls -a       # See hidden
ls -l       # See more info
ls -R       # Recursive
```

## Moving and renaming

```
mv file.txt new_name.txt
mv file.txt ../new/place/
```

## Copying

```
cp file.txt file_backup.txt
cp -r directory/ backup/
```

## Deleting

```
rm file.txt
rmdir empty_directory/
rm -r full_directory/
```

## Creating

```
mkdir my_directory
touch empty_file.py
```

## Reading data from file

```
cat filename.txt
cat file1 file2 file3
```

## Redirecting output into file

```
ls -R > all_files.txt
cat a.html b.html > c.html
```

## Running file as bash script

```
# Save commands to script.sh
bash script.sh
```

## BASH TRICKS

**Auto complete** Start typing then hit <Tab>. Hit twice for options.

## Wildcards

```
rm *.jpg # Delete jpg files
```

## Advanced piping

```
# Search process for "chrome"
ps -e | grep chrome
find . | grep .py$ # find py files
```

## Setting and viewing variables

```
PLANET="world"
echo "Hello $PLANET"
env # Show ALL variables
```

## Run command with variable set

```
DEBUG=true npm start
```

## BASH: HISTORY

## History commands

```
cd - # go back a directory
history # view all commands
!! # last command you typed
sudo !! # ditto, but as sudo
```

## Shortcut: Last command &lt;Up&gt;

**Shortcut: Search through history**  
<Ctrl+R> then start typing, <Ctrl+R> to cycle back, <Enter> to run.

## BASH: PROCESS MANAGEMENT

## Job control

```
npm start & # run process in BG
ps # show processes
jobs # show background processes
fg # foreground last process
<Ctrl+Z> # pause process, put in bg
# keep bg process [1] running forever
disown %1
```

## Viewing all processes

```
ps -e # show all processes
ps -ejH # show process trees
ps -e | grep python # filtering
```

## Killing processes

```
kill 4264 # kill process by PID
killall python # kill process by name
killall -9 python # force kill by name
```

## Starting (local) repo

```
git init
```

## Adding and committing

```
git add -A # Add to staging
git commit -m "Fixed :)"
```

## Finding out status

```
git status
git log
```

## Learning about past

```
git log # Q to quit
git show f85bfcf
git diff f85bfcf master
git checkout f85bfcf
```

## Branch workflow

```
git branch my-stuff
git checkout my-stuff
# Do some work...
git add -A
git commit -m "did stuff"
git checkout master
git merge my-stuff
```

Interacting with remotes  
(e.g. GitHub, Heroku)

```
git remote -v # check remotes
git pull # get updates
# Do some work...
git add -A
git commit -m "it works!"
git push # share updates
```