KICKSTART CODING

BASH & GIT

Bash Basics

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
```

Bash tricks

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

Redirecting output into file

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

Piping output Hook commands up

```
# Pipe output to "grep" filter
python start.py | grep "http"
node run.js | tail # Only end
```

Wildcard expansions

```
rm *.jpg # Delete jpg files
rm ./**/*.jpg # ** matches dirs
```

Running file as bash script

```
# Save a sequence of commands to
# file with "#!/bin/bash" at top
bash scrpt.sh # Always works
./scrpt.sh # Works if executable
```

Bash: Variables, Output

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 <Up>

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

Bash: Process management

Multiple commands

```
c1 ; c2 # run c2 after c1
c1 && c2 # run c2 if c1 succeeds
c1 || c2 # run c2 if c1 fails
c1 & c2 # run both at once
```

Job control

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

Viewing all processes

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

Killing processes

```
kill 4264 # kill process by PID
killall python # ...or by name
kill -9 4264 # -9 "forces" kill
```

Git

Starting (local) repo

```
git init
```

Starting with repo from GitHub

```
# Using HTTP (prompt for pw)
git clone https://github.com/U/R
# Using SSH (requires setup)
git clone git@github.com:U/R.git
```

Adding and committing

```
git add -A # "Stage" all
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
# After you do some work...
git add -A
git commit -m "New logo :)"
git checkout master
git merge my-stuff
```

Interacting with remotes

(e.g. GitHub, Heroku)

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

Bash: Searching

find: Search by filename

```
# Using wildcard for search by
find . -name ’*.py’ # extension
find . -name views.py # Exact
find . -iname iNFo # Any case
# Find modified in last 7 days
find . -mtime 7 -iname info
```

grep: Search contents of files

```
# Search templates for "free"
grep -r free ./templates/
grep -lr free . #...list names
grep -ir ToDo . # Ignore case
# Using Regular Expressions
grep -er ’(http|ftp)s?:’ .
```

Useful CLI tricks for macOS and GNU/Linux   kickstartcoding.com   A cheatsheet by Kickstart Coding