

COMMAND LINE INTERFACES

The Basics

“COMMAND-LINE INTERFACES ARE OFTEN PREFERRED BY MORE ADVANCED COMPUTER USERS, AS THEY OFTEN PROVIDE A MORE CONCISE AND POWERFUL MEANS TO CONTROL A PROGRAM OR OPERATING SYSTEM.”

–Wikipedia

CLI VS GUI

BOTH HAVE THEIR USES!

WHERE AM I?

Windows - Command Prompt

```
Ca_ Command Prompt
C:\>cd Program Files (x86)
C:\Program Files (x86)>cd snom
C:\Program Files (x86)\snom>cd snomONE
C:\Program Files (x86)\snom\snomONE>cd recordings
C:\Program Files (x86)\snom\snomONE\recordings>dir
Volume in drive C is OS
Volume Serial Number is 6E0D-AFD6

Directory of C:\Program Files (x86)\snom\snomONE\recordings

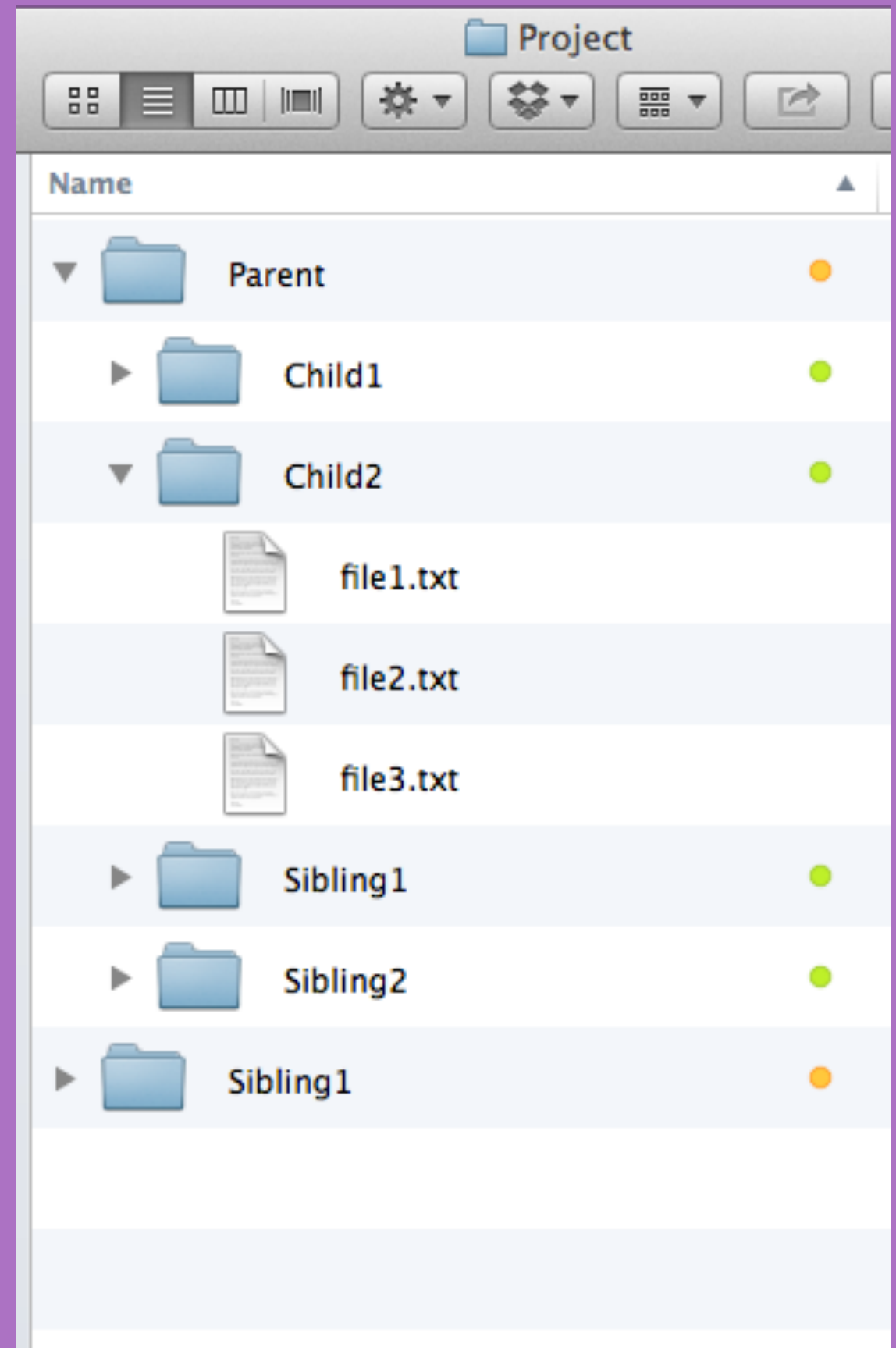
09/09/2010  01:53 PM    <DIR>          .
09/09/2010  01:53 PM    <DIR>          ..
09/06/2010  09:07 PM    <DIR>          20100906
09/07/2010  05:25 PM    <DIR>          20100907
09/09/2010  06:05 AM             1 index.txt
09/07/2010  05:01 PM    <DIR>          pbx.company.com
09/09/2010  01:44 PM             60,844 personal23-1.wav
09/09/2010  01:52 PM             59,244 personal23-2.wav
09/09/2010  01:53 PM             32,684 personal23-3.wav
09/09/2010  01:44 PM             64,364 personal24-1.wav
```

Mac - Bash

```
tkessler — bash — 80x16
Last login: Thu Jan  3 10:59:03 on ttys000
Tophers-Laptop:~ tkessler$ history
 1 history
 2 cd /
 3 ls
 4 cd /Users/tkessler/Library/LaunchAgents/
 5 ls
 6 pico update.plist
 7 sudo launchctl list
 8 launchctl list
 9 launchctl list | grep update
10 launchctl unload update.plist
11 history
Tophers-Laptop:~ tkessler$
```

DIRECTORIES OR FOLDERS?

Same thing, but...
Let's call them directories for now.



DIRECTORIES FROM THE CLI

- Current directory .
- Parent directory ..

```
1. dwoodiwiss@Darrens-MacBoo
dwoodiwiss @_ project/ (master) $ ls -al
total 448
drwxr-xr-x  40 dwoodiwiss  staff   1360 Nov 15 20:24 .
drwxr-xr-x   7 dwoodiwiss  staff    238 Jul  7 21:07 ..
-rw-r--r--@   1 dwoodiwiss  staff 15364 Nov 15 20:24 .DS_Store
drwxr-xr-x  17 dwoodiwiss  staff   578 Nov 21 10:30 .git
-rw-r--r--   1 dwoodiwiss  staff   118 Jul  1 12:07 .gitignore
-rw-r--r--   1 dwoodiwiss  staff   236 Jun  3 17:25 .htaccess
drwxr-xr-x  11 dwoodiwiss  staff   374 Jun 22 16:08 .idea
-rw-r--r--   1 dwoodiwiss  staff    10 May 27 17:24 .ruby-gemset
-rw-r--r--   1 dwoodiwiss  staff     6 May 27 17:24 .ruby-version
-rw-r--r--   1 dwoodiwiss  staff   289 May 27 17:24 Capfile
-rw-r--r--   1 dwoodiwiss  staff   204 Jun  3 19:02 Gemfile
-rw-r--r--   1 dwoodiwiss  staff  1759 Jun  3 19:02 Gemfile.lock
-rw-r--r--   1 dwoodiwiss  staff    74 Jun  3 19:02 Guardfile
-rw-r--r--   1 dwoodiwiss  staff   390 Jul 15 20:03 PRODUCTION-.htac
-rw-r--r--   1 dwoodiwiss  staff    55 Sep 25 16:20 PRODUCTION-robot
-rw-r--r--   1 dwoodiwiss  staff   374 Jul  2 17:24 STAGING-.htacce
-rw-r--r--   1 dwoodiwiss  staff    34 May 27 17:24 STAGING-robots.t
drwxr-xr-x   4 dwoodiwiss  staff   136 Jul  2 16:44 config
-rw-rw-rw-@   1 dwoodiwiss  staff    53 Sep 25 16:05 google6f2f273a04
drwx-----@   9 dwoodiwiss  staff   306 Sep  5 17:34 hackday
-rw-r--r--   1 dwoodiwiss  staff   395 May 27 17:24 index.php
-rw-r--r--   1 dwoodiwiss  staff 19929 May 27 17:24 license.txt
-rw-r--r--   1 dwoodiwiss  staff  9177 Jun 22 16:08 readme.html
-rw-r--r--   1 dwoodiwiss  staff    34 May 27 17:24 robots.txt
-rw-r--r--   1 dwoodiwiss  staff  4663 May 27 17:24 wp-activate.php
drwxr-xr-x  88 dwoodiwiss  staff  2992 Jul  7 21:07 wp-admin
-rw-r--r--   1 dwoodiwiss  staff   271 May 27 17:24 wp-blog-header.p
-rw-r--r--   1 dwoodiwiss  staff  3522 May 27 17:24 wp-comments-post
```

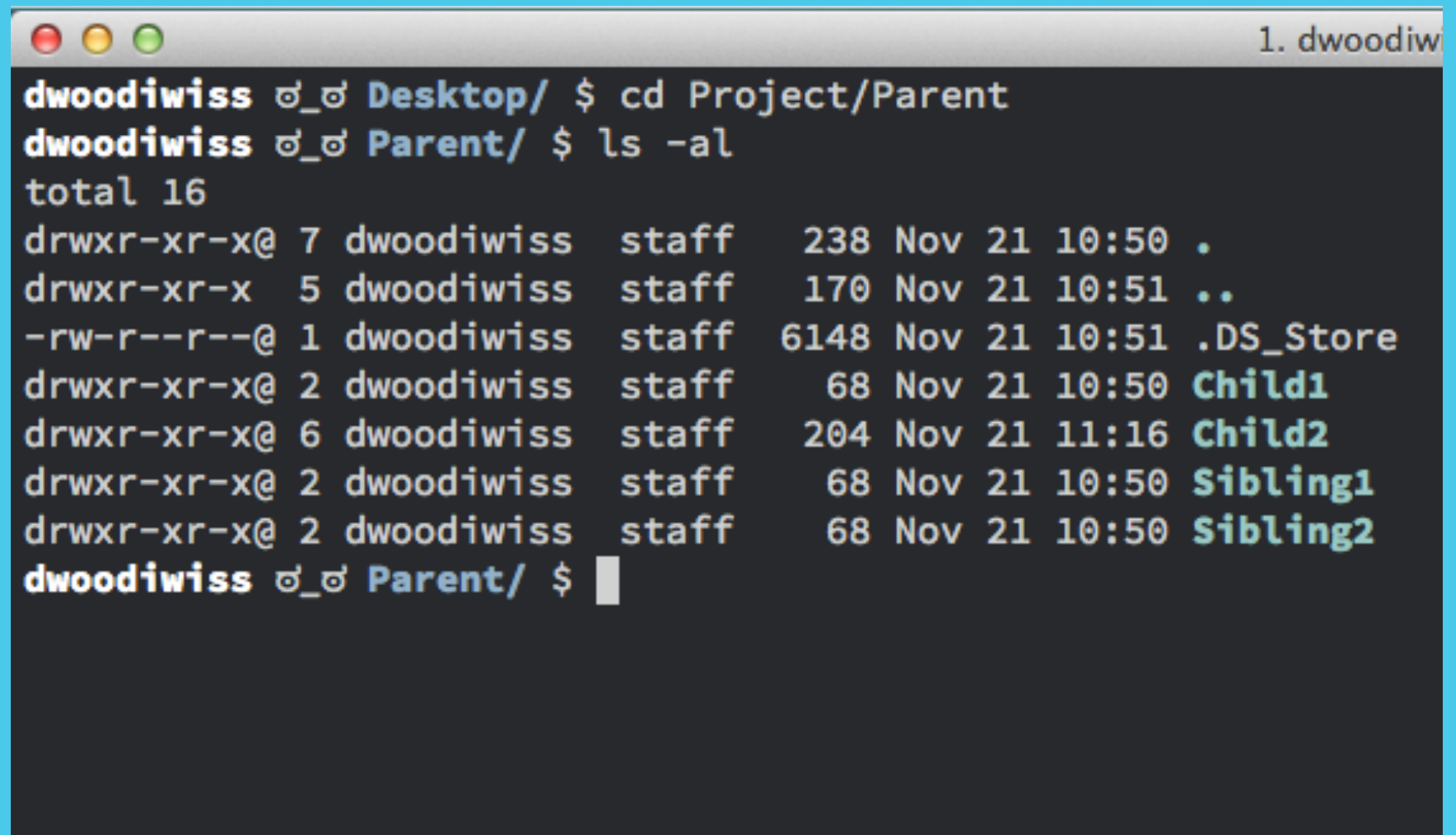

DIRECTORIES FROM THE CLI

- Current directory .
- Parent directory ..

```
1. dwoodiwiss@Darrens-MacBoo
dwoodiwiss @_ project/ (master) $ ls -al
total 448
drwxr-xr-x  40 dwoodiwiss  staff   1360 Nov 15 20:24 .
drwxr-xr-x   7 dwoodiwiss  staff    238 Jul  7 21:07 ..
-rw-r--r--   1 dwoodiwiss  staff    1584 Nov 15 20:24 .DS_Store
drwxr-xr-x  17 dwoodiwiss  staff    578 Nov 21 10:30 .git
-rw-r--r--   1 dwoodiwiss  staff    118 Jul  1 12:07 .gitignore
-rw-r--r--   1 dwoodiwiss  staff    236 Jun  3 17:25 .htaccess
drwxr-xr-x  11 dwoodiwiss  staff    374 Jun 22 16:08 .idea
-rw-r--r--   1 dwoodiwiss  staff     10 May 27 17:24 .ruby-gemset
-rw-r--r--   1 dwoodiwiss  staff     6 May 27 17:24 .ruby-version
-rw-r--r--   1 dwoodiwiss  staff    289 May 27 17:24 Capfile
-rw-r--r--   1 dwoodiwiss  staff    204 Jun  3 19:02 Gemfile
-rw-r--r--   1 dwoodiwiss  staff   1759 Jun  3 19:02 Gemfile.lock
-rw-r--r--   1 dwoodiwiss  staff     74 Jun  3 19:02 Guardfile
-rw-r--r--   1 dwoodiwiss  staff    390 Jul 15 20:03 PRODUCTION-.htac
-rw-r--r--   1 dwoodiwiss  staff     55 Sep 25 16:20 PRODUCTION-robot
-rw-r--r--   1 dwoodiwiss  staff    374 Jul  2 17:24 STAGING-.htacce
-rw-r--r--   1 dwoodiwiss  staff     34 May 27 17:24 STAGING-robots.t
drwxr-xr-x   4 dwoodiwiss  staff    136 Jul  2 16:44 config
-rw-rw-rw-@   1 dwoodiwiss  staff     53 Sep 25 16:05 google6f2f273a04
drwx-----@   9 dwoodiwiss  staff    306 Sep  5 17:34 hackday
-rw-r--r--   1 dwoodiwiss  staff    395 May 27 17:24 index.php
-rw-r--r--   1 dwoodiwiss  staff  19929 May 27 17:24 license.txt
-rw-r--r--   1 dwoodiwiss  staff   9177 Jun 22 16:08 readme.html
-rw-r--r--   1 dwoodiwiss  staff     34 May 27 17:24 robots.txt
-rw-r--r--   1 dwoodiwiss  staff   4663 May 27 17:24 wp-activate.php
drwxr-xr-x  88 dwoodiwiss  staff   2992 Jul  7 21:07 wp-admin
-rw-r--r--   1 dwoodiwiss  staff    271 May 27 17:24 wp-blog-header.p
-rw-r--r--   1 dwoodiwiss  staff   3522 May 27 17:24 wp-comments-post
```


MOVING AROUND

- change directory
- cd path

A terminal window with a dark background and light text. The window title bar shows three colored buttons (red, yellow, green) on the left and the text '1. dwoodiwi' on the right. The terminal content shows a user named 'dwoodiwi' at a 'Desktop/' prompt, typing 'cd Project/Parent'. The prompt changes to 'Parent/'. Then, the user types 'ls -al', and the terminal displays a detailed listing of files and directories in the current directory. The listing includes permissions, file size, owner, group, date, time, and filename. The files listed are '.', '..', '.DS_Store', 'Child1', 'Child2', 'Sibling1', and 'Sibling2'. The prompt returns to 'Parent/' with a cursor at the end.

```
dwoodiwi @ Desktop/ $ cd Project/Parent
dwoodiwi @ Parent/ $ ls -al
total 16
drwxr-xr-x@ 7 dwoodiwi staff 238 Nov 21 10:50 .
drwxr-xr-x  5 dwoodiwi staff 170 Nov 21 10:51 ..
-rw-r--r--@ 1 dwoodiwi staff 6148 Nov 21 10:51 .DS_Store
drwxr-xr-x@ 2 dwoodiwi staff  68 Nov 21 10:50 Child1
drwxr-xr-x@ 6 dwoodiwi staff 204 Nov 21 11:16 Child2
drwxr-xr-x@ 2 dwoodiwi staff  68 Nov 21 10:50 Sibling1
drwxr-xr-x@ 2 dwoodiwi staff  68 Nov 21 10:50 Sibling2
dwoodiwi @ Parent/ $
```

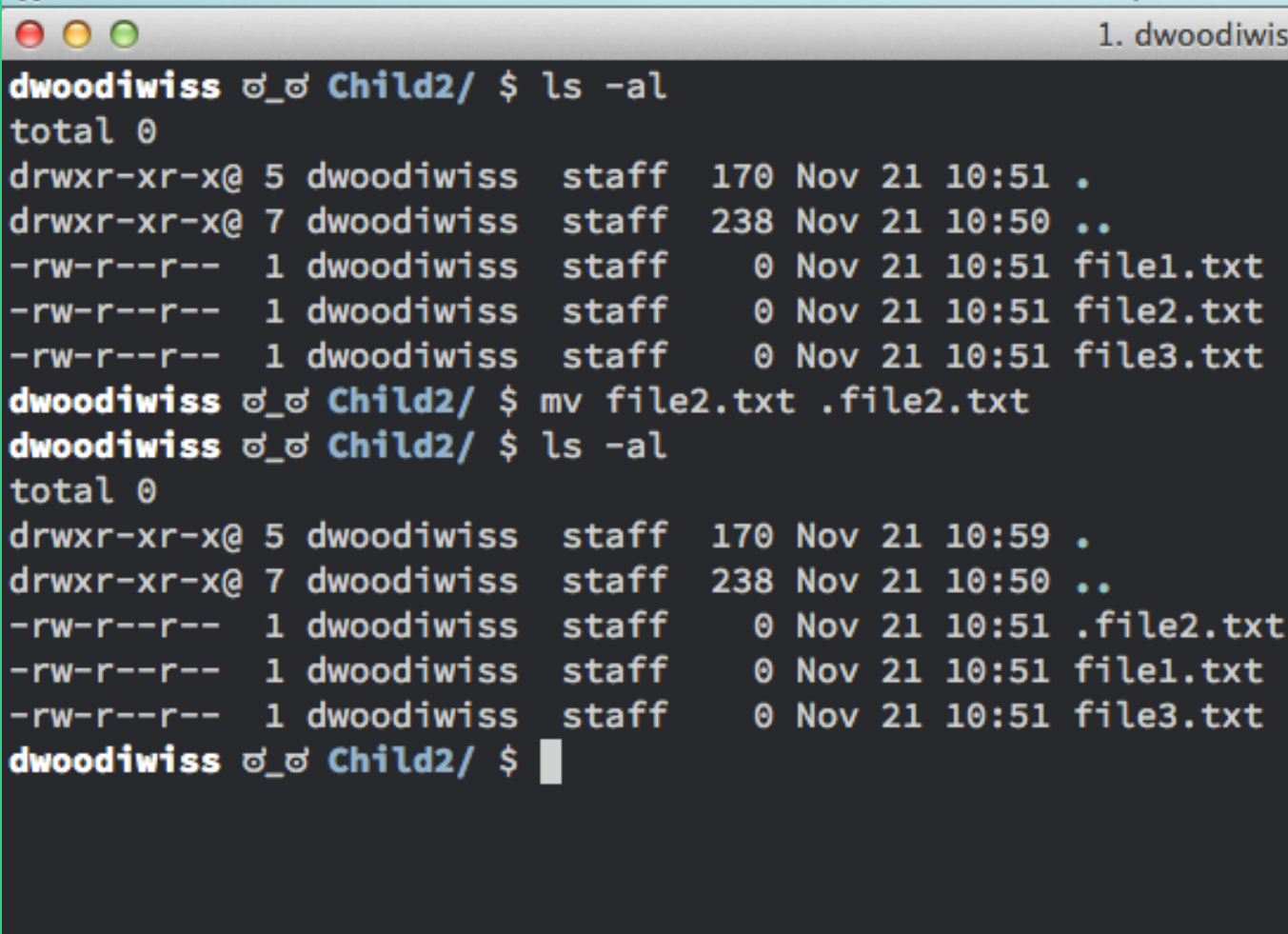
LIST / SHOW FILES

- Unix - ls
- CMD - dir
- Options
 - ls -a
 - dir /a:h

```
1. dwoodiwiss@Darrens-MacBoo
dwoodiwiss 0_0 project/ (master) $ ls -al
total 448
drwxr-xr-x  40 dwoodiwiss  staff   1360 Nov 15 20:24 .
drwxr-xr-x   7 dwoodiwiss  staff    238 Jul  7 21:07 ..
-rw-r--r--@  1 dwoodiwiss  staff  15364 Nov 15 20:24 .DS_Store
drwxr-xr-x  17 dwoodiwiss  staff    578 Nov 21 10:30 .git
-rw-r--r--   1 dwoodiwiss  staff    118 Jul  1 12:07 .gitignore
-rw-r--r--   1 dwoodiwiss  staff    236 Jun  3 17:25 .htaccess
drwxr-xr-x  11 dwoodiwiss  staff    374 Jun 22 16:08 .idea
-rw-r--r--   1 dwoodiwiss  staff     10 May 27 17:24 .ruby-gemset
-rw-r--r--   1 dwoodiwiss  staff     6 May 27 17:24 .ruby-version
-rw-r--r--   1 dwoodiwiss  staff    289 May 27 17:24 Capfile
-rw-r--r--   1 dwoodiwiss  staff    204 Jun  3 19:02 Gemfile
-rw-r--r--   1 dwoodiwiss  staff   1759 Jun  3 19:02 Gemfile.lock
-rw-r--r--   1 dwoodiwiss  staff     74 Jun  3 19:02 Guardfile
-rw-r--r--   1 dwoodiwiss  staff    390 Jul 15 20:03 PRODUCTION-.htac
-rw-r--r--   1 dwoodiwiss  staff     55 Sep 25 16:20 PRODUCTION-robot
-rw-r--r--   1 dwoodiwiss  staff    374 Jul  2 17:24 STAGING-.htacce
-rw-r--r--   1 dwoodiwiss  staff     34 May 27 17:24 STAGING-robots.t
drwxr-xr-x   4 dwoodiwiss  staff    136 Jul  2 16:44 config
-rw-rw-rw-@  1 dwoodiwiss  staff     53 Sep 25 16:05 google6f2f273a04
drwx-----@  9 dwoodiwiss  staff    306 Sep  5 17:34 hackday
-rw-r--r--   1 dwoodiwiss  staff    395 May 27 17:24 index.php
-rw-r--r--   1 dwoodiwiss  staff  19929 May 27 17:24 license.txt
-rw-r--r--   1 dwoodiwiss  staff   9177 Jun 22 16:08 readme.html
-rw-r--r--   1 dwoodiwiss  staff     34 May 27 17:24 robots.txt
-rw-r--r--   1 dwoodiwiss  staff   4663 May 27 17:24 wp-activate.php
drwxr-xr-x  88 dwoodiwiss  staff   2992 Jul  7 21:07 wp-admin
-rw-r--r--   1 dwoodiwiss  staff    271 May 27 17:24 wp-blog-header.p
-rw-r--r--   1 dwoodiwiss  staff   3522 May 27 17:24 wp-comments-post
-rw-r--r--   1 dwoodiwiss  staff   4205 Sep 25 16:15 wp-config.php
drwxr-xr-x   8 dwoodiwiss  staff    272 Jul  7 20:51 wp-content
-rw-r--r--   1 dwoodiwiss  staff   2718 May 27 17:24 wp-cron.php
drwxr-xr-x 116 dwoodiwiss  staff   3944 Jul  7 10:14 wp-includes
-rw-r--r--   1 dwoodiwiss  staff   1997 May 27 17:24 wp-links-opml.ph
-rw-r--r--   1 dwoodiwiss  staff   2408 May 27 17:24 wp-load.php
-rw-r--r--   1 dwoodiwiss  staff  29217 Jun 22 16:08 wp-login.php
-rw-r--r--   1 dwoodiwiss  staff   7723 May 27 17:24 wp-mail.php
```

MOVE

- `mv ./file2.txt ./file2.txt`
- `move .\file2.txt .\file2.txt`

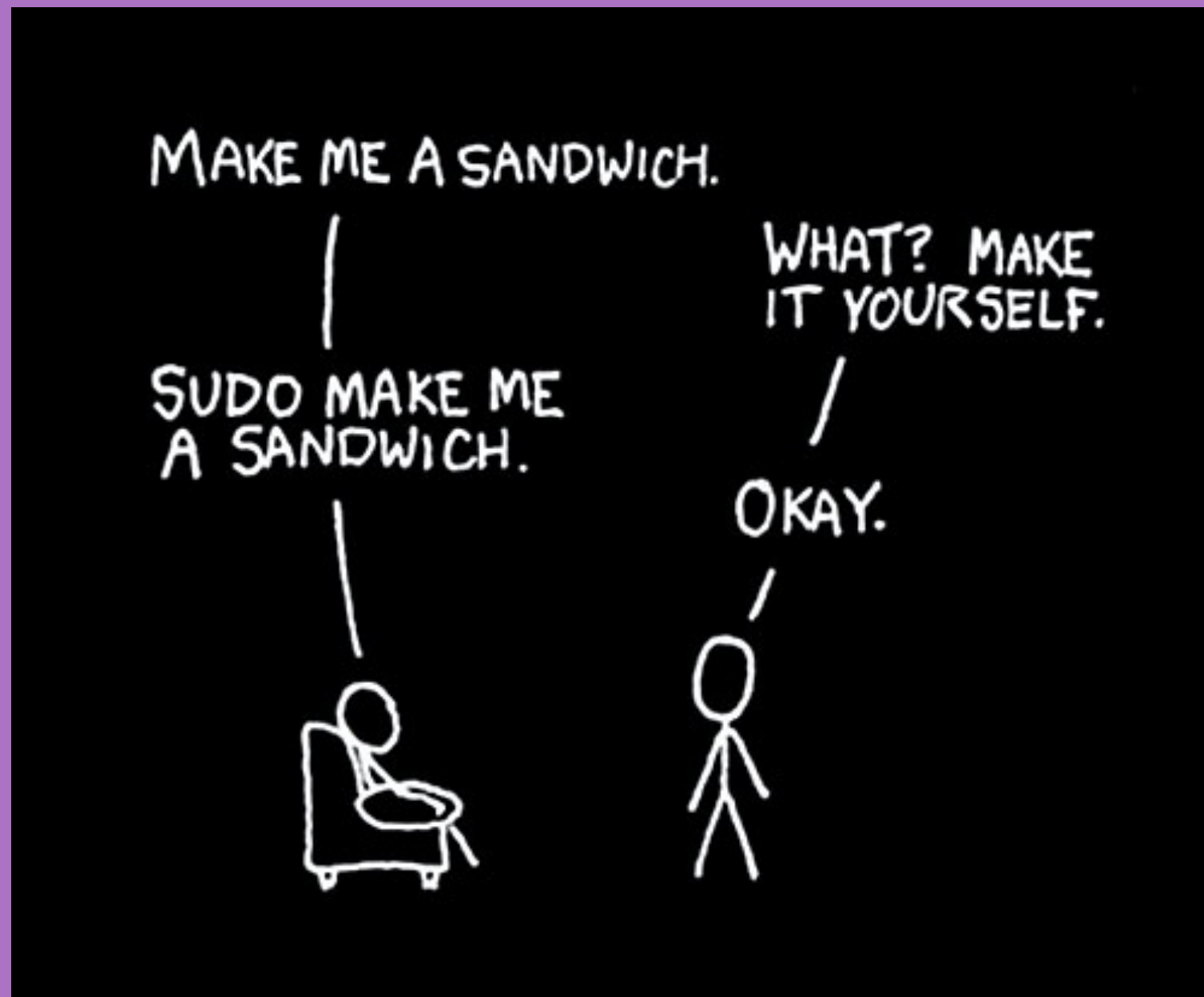
A terminal window titled "1. dwoodiwis" showing a series of commands and their outputs. The user is in the directory "Child2/". The first command is "ls -al", which lists the directory contents: a "." entry, a ".." entry, and three files: "file1.txt", "file2.txt", and "file3.txt". The second command is "mv file2.txt .file2.txt", which moves "file2.txt" to ".file2.txt". The third command is another "ls -al", which shows the updated directory contents: the "." and ".." entries, and the files ".file2.txt", "file1.txt", and "file3.txt". The terminal window has a dark background with light-colored text.

```
1. dwoodiwis
dwoodiwiss @_ Child2/ $ ls -al
total 0
drwxr-xr-x@ 5 dwoodiwiss  staff  170 Nov 21 10:51 .
drwxr-xr-x@ 7 dwoodiwiss  staff  238 Nov 21 10:50 ..
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file1.txt
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file2.txt
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file3.txt
dwoodiwiss @_ Child2/ $ mv file2.txt .file2.txt
dwoodiwiss @_ Child2/ $ ls -al
total 0
drwxr-xr-x@ 5 dwoodiwiss  staff  170 Nov 21 10:59 .
drwxr-xr-x@ 7 dwoodiwiss  staff  238 Nov 21 10:50 ..
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 .file2.txt
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file1.txt
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file3.txt
dwoodiwiss @_ Child2/ $
```

COPY

- `cp ./file2.txt ./file4.txt`
- `copy \.file2.txt \.file4.txt`

```
1. dwoodiwiss@  
dwoodiwiss @_ Child2/ $ ls -al  
total 0  
drwxr-xr-x@ 5 dwoodiwiss  staff  170 Nov 21 10:59 .  
drwxr-xr-x@ 7 dwoodiwiss  staff  238 Nov 21 10:50 ..  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 .file2.txt  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file1.txt  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file3.txt  
dwoodiwiss @_ Child2/ $ cp .file2.txt ./file4.txt  
dwoodiwiss @_ Child2/ $ ls -al  
total 0  
drwxr-xr-x@ 6 dwoodiwiss  staff  204 Nov 21 11:16 .  
drwxr-xr-x@ 7 dwoodiwiss  staff  238 Nov 21 10:50 ..  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 .file2.txt  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 11:16 .file4.txt  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file1.txt  
-rw-r--r--  1 dwoodiwiss  staff    0 Nov 21 10:51 file3.txt  
dwoodiwiss @_ Child2/ $
```



SUDO / RUNAS

Use with caution.

The Google logo is rendered in its classic multi-colored font (blue 'G', red 'O', yellow 'O', blue 'g', green 'l', red 'e') with a 3D effect, appearing to float above the background. The letters have a slight shadow and a gradient, giving them a three-dimensional appearance.

Google

Is a clever idea.
Especially when using `sudo, rm -rf ...`

QUESTIONS?