

An Introduction to the Linux Command Line

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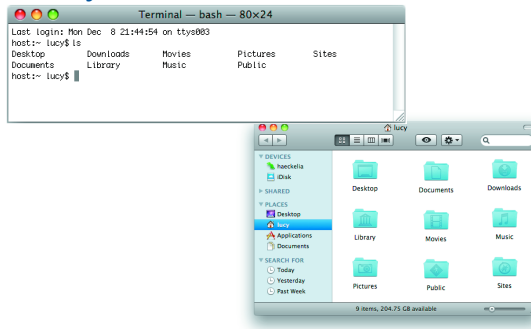
Don't be intimidated!



Last login: Thu Jul 25 12:03:00 on tty003
This host: FUJIAN-SQL-MAC11- gitzas

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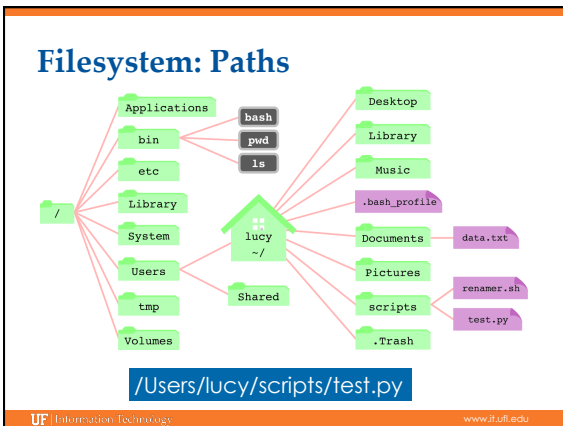
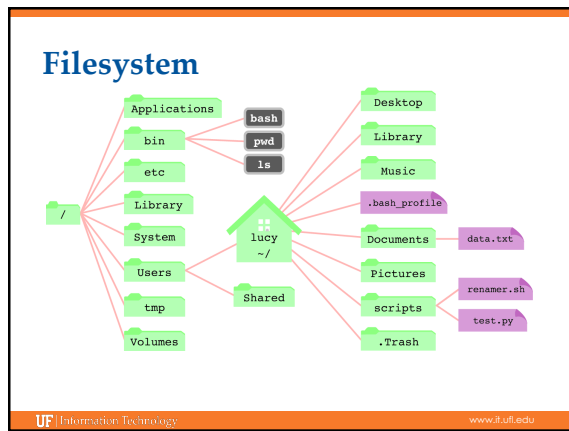
Filesystem



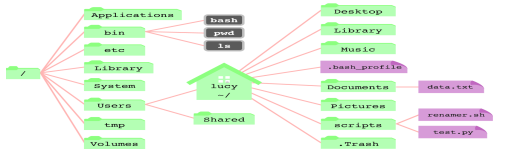
```

Terminal — bash — 80x24
Last login: Mon Dec 8 21:44:54 on tty003
host~ lucy$ ls
Desktop  Downloads  Movies  Pictures  Sites
Documents  Library  Music  Public
host~ lucy$
    
```

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Filesystem: ls & cd



```

[magitz@gator1 scripts]$ ls
renamer.sh  test.py
[magitz@gator1 scripts]$ cd ../Documents/
[magitz@gator1 Documents]$ ls
data.txt
[magitz@gator1 Documents]$
    
```

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The command prompt

```

[usermagitz@hostgator1 current directoryscripts]$ ls
renamer.sh test.py
[magitz@gator1 scripts]$ cd ../Documents/
[magitz@gator1 Documents]$ ls
data.txt
[magitz@gator1 Documents]$ █

```

Filesystem: Basic commands

- pwd: Present Working Directory
- ls: List--show contents of directory
- cd: Change Directory
- mkdir: Make directory
- rm: Remove a file (rm -r for directories)
- rmdir: Remove directory

There is no
trashcan!
(or backups)



- cp: Copy a file: cp data.txt ../analysis/
- mv: Move a file: mv data.txt ../analysis/

Command arguments

- Modify how a command works
 - Used from the most basic command like ls, to most applications you will run

```

[magitz@gator1 scripts]$ ls
renamer.sh test.py
[magitz@gator1 scripts]$ ls -l
total 0
-rw-rw-r-- 1 magitz ufhpc 0 Jul 25 12:22 renamer.sh
-rw-rw-r-- 1 magitz ufhpc 0 Jul 25 12:22 test.py
[magitz@gator1 scripts]$ ls -la
total 8
drwxrwxr-x 2 magitz ufhpc 4096 Jul 25 12:22 .
drwxrwxr-x 4 magitz ufhpc 4096 Jul 25 12:25 ..
-rw-rw-r-- 1 magitz ufhpc 0 Jul 25 12:22 renamer.sh
-rw-rw-r-- 1 magitz ufhpc 0 Jul 25 12:22 test.py
[magitz@gator1 scripts]$ █

```

Linux permissions

Indicates a directory (d) or a file (-)
 Group (set of users)
 drwxrwxrwx
 Other users (everyone else)
 User (owner) permissions

- Change with: chmod o-rwx file
 - ls -l shows permission details
- ```

-rw-rw-r-- 1 magitz ufhpc 0 Jul 25 12:22 renamer.sh
 u g o user group

```

## Viewing text files

- more and less: show contents of a file, less has more features (search, scroll up, etc.)
- head: show start of file (10 lines by default)
  - head -n 20 file.txt
- tail: show end of file (10 lines by default)
- grep: search for text in file
  - grep Gainesville weather.txt
- Text editors: nano, vi, vim, emacs, etc.

## Redirecting output

- The ">" can be used to redirect output:
  - grep Gainesville weather.txt > GNV.txt
  - ls -l > file\_lits.txt
  - **Caution:** > will overwrite the specified file!
- You can append to a file with ">>"

## Connecting commands

- ▶ The pipe, "|", can be used to send, or pipe, the output of one command to the input of another:
  - `ls -l | grep Jun > files_modified_in_June`

Tip: Don't use spaces in file or directory names

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## Tools

ssh client to connect to [hipergator.hpc.ufl.edu](http://hipergator.hpc.ufl.edu)

e.g.: Terminal, PuTTY

SFTP client to move files to/from your computer

e.g.: Cyberduck, FileZilla

Text editor to prepare files

Especially on Windows, be sure to convert DOS line breaks to Unix, and *don't use Word*

Both have SFTP built in

e.g.: TextWrangler, Notepad++

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## SSH Clients

Mac/Linux: Terminal

Windows: PuTTY

ssh user@hipergator.hpc.ufl.edu

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## PuTTY

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## FileZilla

Tutorial at: <http://wiki.hpc.ufl.edu/doc/FileZilla>

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## Text Editors

- ▶ **Not** Microsoft Word or other word processor
- ▶ Contextual coloring
- ▶ Built-in SFTP Client
- ▶ Regular expression find/replace
- ▶ **Unix line breaks**

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