

An Introduction to the Linux Command Line

Matt Gitzendanner: magitz@ufl.edu

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Don't be intimidated!

```

Last login: Thu Jul 25 22:03:00 on tty903
This host is:
FUW@FUW-MAC11:~$
  
```

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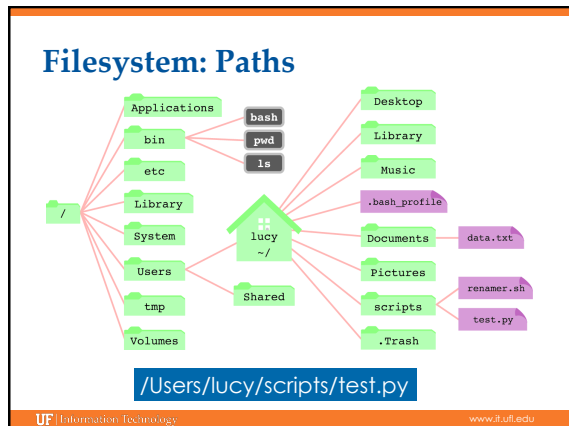
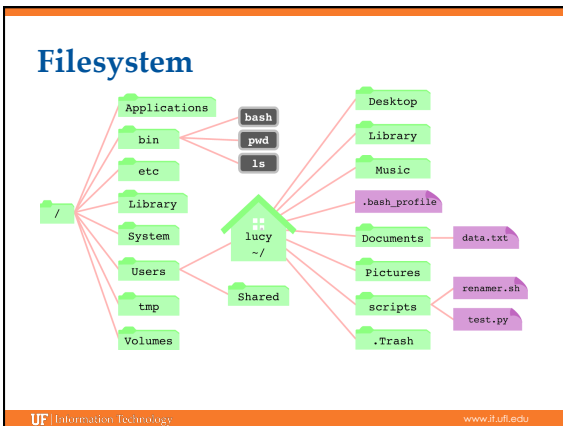
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Filesystem

```

Terminal — bash — 80x24
Last login: Mon Dec  8 21:44:54 on ttys003
host~ lucy$ ls
Desktop  Downloads  Movies      Pictures     Sites
Documents Library     Music       Public
host~ lucy$
  
```

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Filesystem: ls & cd

```

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

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The command prompt

```

user host current directory
[magit@gator1 scripts]$ ls
renamer.sh test.py
[magit@gator1 scripts]$ cd ../Documents/
[magit@gator1 Documents]$ ls
data.txt
[magit@gator1 Documents]$
    
```

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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/

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Command arguments

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

```

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

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Linux permissions

Indicates a directory (d) or a file (-)

Group (set of users)

Other users (everyone else)

User (owner) permissions

drwxrwxrwx

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

```

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

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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.

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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 ">>"

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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 submit.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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