Systemic Fileism

“Systemic fileism does not exist.”
-Shen Bapiro

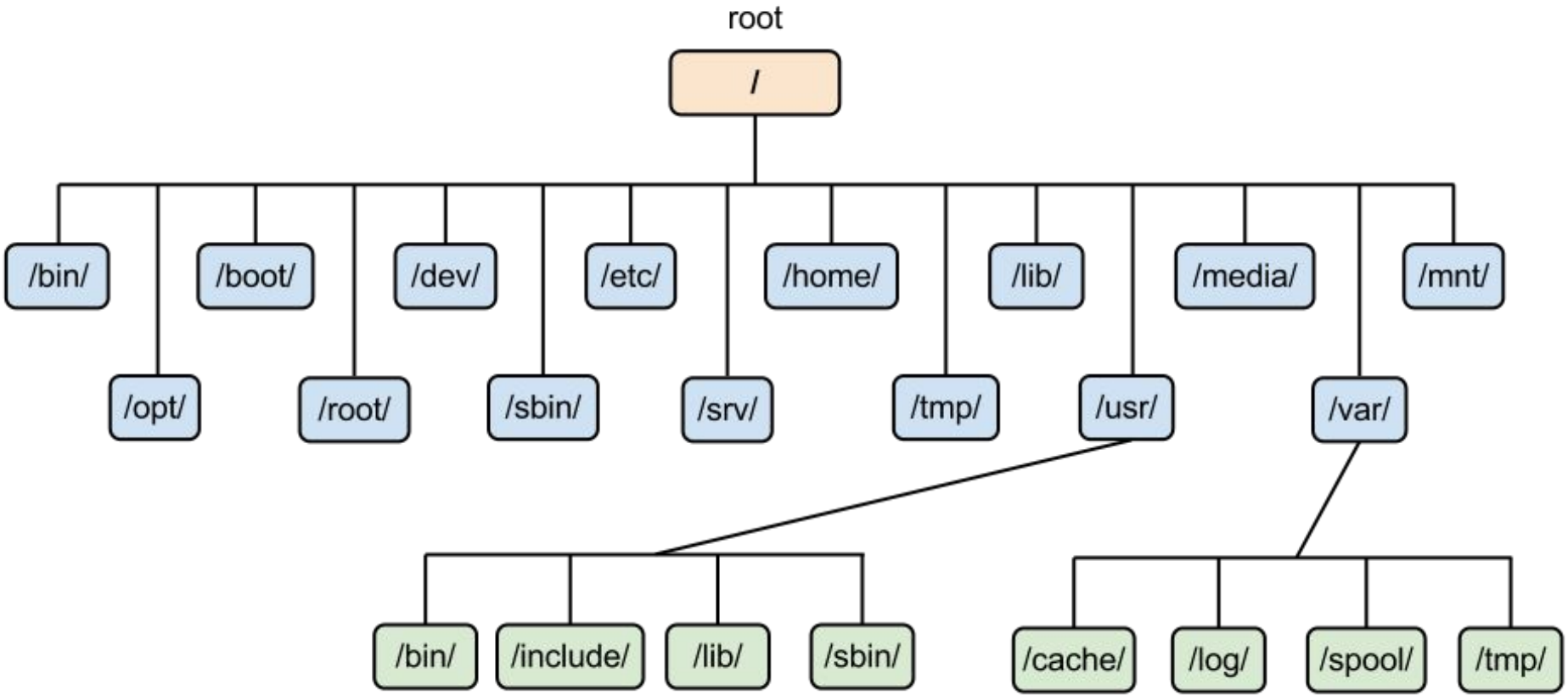
Linux Files in General

How fileism becomes systemic

- What is a file?
- Where are files stored?
- How do I access files?

Linux Filesystem

- Everything is a file
  - This includes directories, commands, disks, external devices, skins, etc.
- Begins with the “root” directory
  - /
  - Not to be confused with /root


root
/
/bin/
/boot/
/dev/
/etc/
/home/
/lib/
/media/
/mnt/
/opt/
/root/
/sbin/
/srv/
/tmp/
/usr/
/var/
/bin/
/include/
/lib/
/sbin/
/cache/
/log/
/spool/
/tmp/

Specific Files

Some individual files can be fileist, but society as a whole is not fileist

We’re just burning through the directories, there’s no questions here

Some File Types

- 3 main file types to worry about
  - Directories- contain information about contained files
  - Links / Symlinks- shortcuts to other files
  - Files- files that contain information
- (Note- these types are separate from .txt, .exe, .sh, .osz, etc.)

/home and /root

- Home directories start in /home
- Where a user starts there terminal
- Each user gets a directory here
- Root has its own home directory at /root

/bin, /sbin, /usr/bin, and /usr/sbin

- /bin and /usr/bin store normal commands/programs
- Include ls, cd, pwd, file, nano, sudo, passwd, etc.
- These can be run by anyone

- /sbin and /usr/sbin store system commands
- Include useradd, userdel, chpasswd, service, etc.
- These can only be run by root

(Don’t worry about these commands just yet, you’ll learn what they do throughout cyberpatriot)

/etc

- The “**E**very**t**hing **C**onfig”
- Configures everything (what else?)
- Stores configuration files for pretty much everything
- This is the directory you will be modifying the most in CyberPatriot

/opt and /var

- /var- variable files that the system uses regularly
  - This is a storage for servers and the system such
  - Will also find log files here
- /opt- optional files
  - This is storage for third-party software
  - e.g. sublime text lives here (Allen thinks it’s superior kids)

/dev, /mnt, and /media

- /dev is a storage for device files
  - This includes internal hard disks and filesystem files
  - Represents the actual architecture of the computer itself
- /mnt is a mount point for filesystems
  - This is where you would mount a flash drive or external hard drive
- /media is a storage for external devices
  - This is where a phone’s file system or a flash drive’s file system resides
  - These would then be mounted into /mnt

Miscellaneous directories

- /boot- managing startup
  - this will be important *much, much* later
- /lib and /lib64- library files needed by system and users (data, documentation for programs)
- /lost+found- where files of failed processes go (trash)
- /proc- virtual file systems used by processes
- /misc- miscellaneous purposes
- /tmp- temporary files from processes; files are created and deleted constantly
  - this might be useful much later
- /srv- directory with data files that are used by other servers
- /sys- don’t worry about this one like at all

Basic Command Navigation

Some basic commands to get started with

ls, cd, pwd

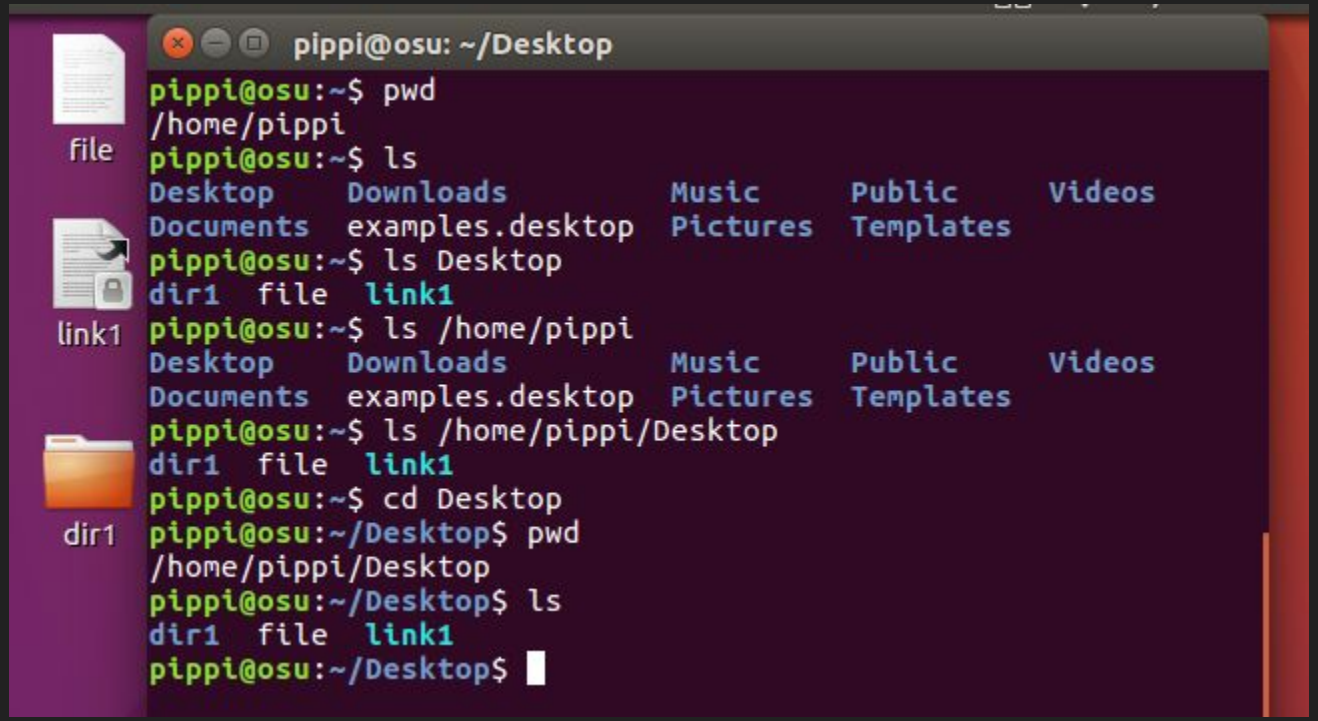
Some introductory commands

- ls <PATH>- list the files in that path (or that file if the path is a file)
- cd <PATH>- changes the current working directory to the path, throws an error if the path is a file
- pwd- print the current working directory

File Paths

- Absolute file paths begin from the root directory
  - e.g. /tmp, /home/yuzu/Desktop/osu!ctb, /etc/passwd
  - Always start with /
- Relative file paths start with the current directory
  - e.g. tmp, Desktop, passwd
  - Do not start with /

Quick demo


file
link1
dir1
pippi@osu: ~/Desktop
pippi@osu:~$ pwd
/home/pippi
pippi@osu:~$ ls
Desktop Downloads Music Public Videos
Documents examples.desktop Pictures Templates
pippi@osu:~$ ls Desktop
dir1 file link1
pippi@osu:~$ ls /home/pippi
Desktop Downloads Music Public Videos
Documents examples.desktop Pictures Templates
pippi@osu:~$ ls /home/pippi/Desktop
dir1 file link1
pippi@osu:~$ cd Desktop
pippi@osu:~/Desktop$ pwd
/home/pippi/Desktop
pippi@osu:~/Desktop$ ls
dir1 file link1
pippi@osu:~/Desktop$

Filesystem Shortcuts

- .. - previous directory
  - e.g. what is /home/maria/Desktop/.. equivalent to?
  - e.g. what is /bin/.. equivalent to?
  - e.g. what is /etc/ssh/.. equivalent to?
- . - current directory
  - e.g. what is /home/maria/Desktop/. equivalent to?
  - e.g. what is /bin/. equivalent to?
  - e.g. what is /etc/ssh/. equivalent to?

More on filesystem shortcuts

- These can also be used to start relative paths!
  - e.g. ./Desktop
  - e.g. ../maria/Desktop/osu!mania
  - e.g. ./script.sh
  - e.g. ./osu!
  - e.g. ../auth.log
- ~ - this user’s home directory
  - This probably points to /home/user on your vm
  - Usually it points to /home/<your username>

Another demo