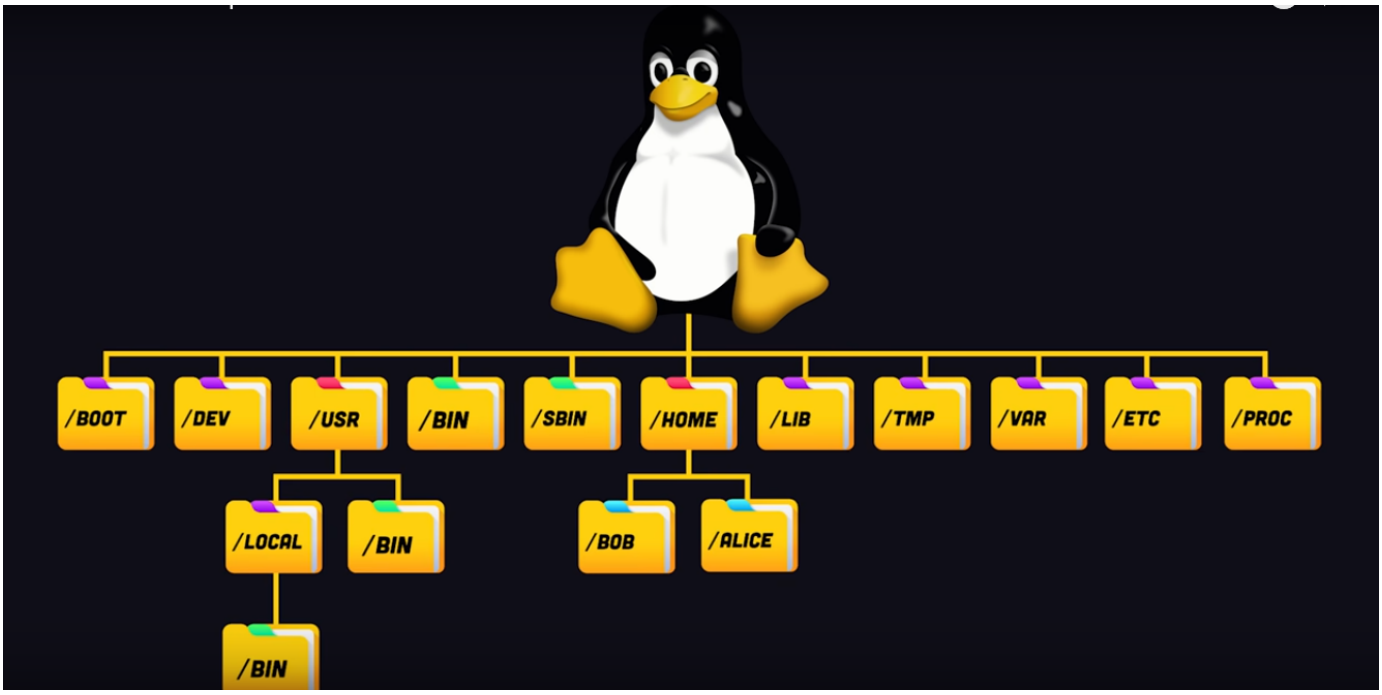
File system

links

- official standard by linux foundation https://refspecs.linuxfoundation.org/fhs.shtml (last one was released in june 3 2015)
  - https://refspecs.linuxfoundation.org/FHS_3.0/fhs-3.0.pdf pdf version
- https://linuxhandbook.com/linux-directory-structure/
- https://www.linux.com/training-tutorials/linux-filesystem-explained/
- https://cybersophia.net/training/linux-directory-structure-explained/
- https://www.howtogeek.com/117435/htg-explains-the-linux-directory-structure-explained/
- 2 meanings
  - system thatdefine how to staord and retreive data
  - the layout of directories on your storage media(that's what matters for us now)

the linux filesystem

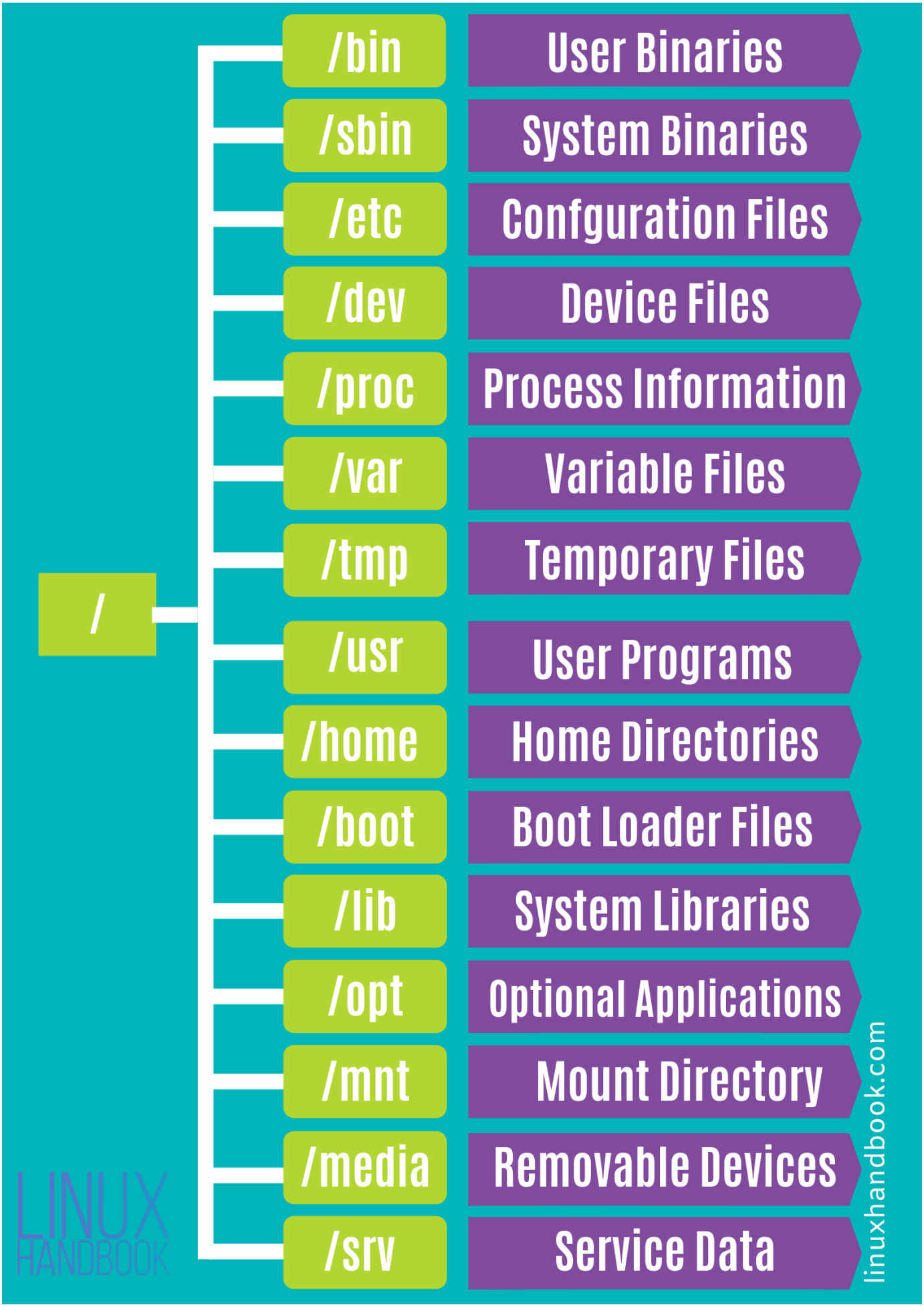


0. */*
   - here it all beggins!
   - the root directory(not to be confused with the /root)
   - the top level directory on linux
     `sudo rm -rf /` what can happen? **DONT DO THAT**

1. **/bin** :
    - executables files that are essential for the system
    - you know your ls command it's here! (do `ls |grep ls`)
2. **/sbin**:
    - same as /bin but it can be run only by (super user) or root
3. **/lib and /lib64**
    - Libraries are basically codes that can be used by the executable binaries. The /lib directory holds the libraries needed by the binaries in /bin and /sbin directories.
    - Libraries needed by the binaries in the /usr/bin and /usr/sbin are located in the directory /usr/lib.
4. **/boot**:
    - things that are needed to boot the system (like the linux kernel itself)
    - **DO NOT TOUCH IT**
5. **/usr**
    - he /usr directory contains applications and files used by users, as opposed to applications and files used by the system. For example, non-essential applications are located inside the /usr/bin directory instead of the /bin directory and non-essential system administration binaries are located in the /usr/sbin directory instead of the /sbin director
      -You will also find bin, sbin and lib directories in /usr. What is the difference with their root-hanging cousins? Not much nowadays. Originally, the /bin directory (hanging off of root) would contain very basic commands, like ls, mv and rm; the kind of commands that would come pre-installed in all UNIX/Linux installations, the bare minimum to run and maintain a system. /usr/bin on the other hand would contain stuff the users would install and run to use the system as a work station, things like word processors, web browsers, and other apps.
    - [ ] make sure that this statment make sence
6. **/etc**
    - used for systemwide configuration files:
    - if you have a webserver, then your configuratoin will be stored here.
    - you need to backup your /etc directory in case something happens to your server
7. **/home**
    - Contains personal directories for the users. The home directory contains the user data and user-specific configuration files. As a user, you'll put your personal files, notes, programs etc in your home directory.
    - **/home/user** :
        - so yeah there is a root user but he is not in the /home, well, he is in /root
8. **/media** and **/mnt**

- used for mounting external hard drive or other things!
- you can also mount a netwok share thing here too.
- ***/mnt***: for "permenant" storage attachment (you kindof want to keep them mounted)
- ***/media***: more for temporary storage
  - your usb stick for example

9. **/opt** : store other things!
   - optional and third party software
     - things that are not availible in the distribution's repositories!
   - for example games
10. **/tmp**
    - temporary files and directories that will be deleted when system restarts
11. **/dev** (i don't think i'll include this)
    - devices files
    - contains special files, including those relating to the devices. These are virtual files, not physically on the disk.



navigate and remove

- `ls`
- `cat`
- `mkdir`
- `touch`
- `rm`
- `rm -r `: delete a directory!
- `mv`: rename and move files