Linux

# Commands

* Pgrep process grep >pgrep
* Edit chron jobs >crontab -e
* List files/ directories >ls (-l also lists perms)
* Up arrow replay last command
* Edit file >nano file.ext
* List processes >top
* Kill processes >kill PID
* Make directory >md
* Copy >cp
* Create empty file >touch file.ext
* Help info on commands >command -man
* Change ownership >chown
* Modify permissions >chmod
* Find files >find
* Search in files >grep
* Install apps >apt-get
* Clear terminal >clear
* Start services >sudo systemctl start <servicename>
* Tar for decompress >tar /path/file which creates bundle folder where files extract
* Manual for programs >man <program name>

# IDE

* Py Charm
* Install Git >apt-get install git git-extras
  + See <https://www.youtube.com/watch?v=wBp0Rb-ZJak> @3:23
* Meteor site creator

# Utilities/Services

* Curl needs to be installed >apt-get install curl
* Apache2 >apt-get apache2
  + Start apache >sudo systemctl start apache2
  + Perms on /var/www will be root and neeed to have this command run to modify them >sudo chown -R <user>:<user> /var/www (-R is recursive)
  + Update the config /etc/apache2/envars and change the apache\_run\_user and apache\_run\_group from root >sudo nano /etc/apache2/envars
  + restart service systemctl restart apache2

# Directories

* User files >/home/<user>
* Config files >/etc

| **Directory** | **Content** |
| --- | --- |
| /bin | Common programs, shared by the system, the system administrator and the users. |
| /boot | The startup files and the kernel, vmlinuz. In some recent distributions also grub data. Grub is the GRand Unified Boot loader and is an attempt to get rid of the many different boot-loaders we know today. |
| /dev | Contains references to all the CPU peripheral hardware, which are represented as files with special properties. |
| /etc | Most important system configuration files are in /etc, this directory contains data similar to those in the Control Panel in Windows |
| /home | Home directories of the common users. |
| /initrd | (on some distributions) Information for booting. Do not remove! |
| /lib | Library files, includes files for all kinds of programs needed by the system and the users. |
| /lost+found | Every partition has a lost+found in its upper directory. Files that were saved during failures are here. |
| /misc | For miscellaneous purposes. |
| /mnt | Standard mount point for external file systems, e.g. a CD-ROM or a digital camera. |
| /net | Standard mount point for entire remote file systems |
| /opt | Typically contains extra and third party software. |
| /proc | A virtual file system containing information about system resources. More information about the meaning of the files in proc is obtained by entering the command **man *proc*** in a terminal window. The file proc.txt discusses the virtual file system in detail. |
| /root | The administrative user's home directory. Mind the difference between /, the root directory and /root, the home directory of the *root* user. |
| /sbin | Programs for use by the system and the system administrator. |
| /tmp | Temporary space for use by the system, cleaned upon reboot, so don't use this for saving any work! |
| /usr | Programs, libraries, documentation etc. for all user-related programs. |
| /var | Storage for all variable files and temporary files created by users, such as log files, the mail queue, the print spooler area, space for temporary storage of files downloaded from the Internet, or to keep an image of a CD before burning it. |

# Users

* Add user >sudo adduser <name>
* Switch user >su <name>
* Add user to sudo (must be in as sudo user) >sudo adduser <name> sudo
* Delete user >sudo deluser <name>
* Chg password>sudo passwd <user>
* Add group >sudo groupadd <name>
* Add user to group sudo adduser <user name> <group name>

# TIPS

* Host file is located in /etc/hosts >sudo nano /etc/hosts

# Networking

* Ping
* ifconfig = Windows ipconfig
* tcp dump is packet capture. Need to install sudo apt-get install tcpdump >tcpdump
  + switches -c <number> tells number of packets to capture
  + -I <NIC name from ifconfig> tells which adapter to capture from
  + Append port to end if you want to capture just on one port >sudo tcpdump port 80
* Netstat shows connections
  + >netstat -nr shows n shows ip instead of name -r is showing kernel routing table
  + >netstat -ta shows list of all connections
* Change host name
  + >sudo hostnamectl set -hostname <name>
  + >sudo nano /etc/host and add the name with loopback address
  + Restart the hostname service > sudo service hostname restart
* Install tracrt
  + >sudo apt-get install traceroute
  + >traceroute <domain name>
* Nmap maps network and shows ports open on each
  + Sudo apt-get install nmap
  + >nmap <ip> will show what ports are listening from that IP
  + >nmap -v <ip> is verbose
  + >nmap 192.168.0.1-100 will scan all ips in that range
  + Lots of other switches can be used
* SSH
  + >ssh <user@remote host name>
  + Enter password
  + Type exit to leave remote host
* Install ssh server
  + >sudo apt-get install openssh-server
  + Edit the port >sudo nano /etc/ssh/sshd\_config
  + Change port to 2212
  + Set permitrootlogin to no
  + Add line Allowusers <usernames>
  + Restart ssh service

# Helpful links

* <https://www.youtube.com/watch?v=wBp0Rb-ZJak>