**Chown User/ Groups/ Permissions/APT**

* + to see UID and GID (user ID/Group ID): run: id sysadmin
  + id rob (or username) shows you that users UID/GID
  + ls -l will show all the use permissions/groups/other
  + use APT to install programs/updates

**Add Users:** sudo adduser robsulr

**Delete Users:** sudo userdel rob

*All user/group info is stored in the /ETC directory in a txt file like user accounts and group accounts*

*NOTE: be familiar with the passwd file and the group file in the ETC directory*

*Example: /etc/passwd (passwd is a text file that lists all user info*

To view the passwd file: sudo vi passwd

Change a password: sudo passwd rob

**Groups: CHOWN or CHGRP**

* Groups give or restrict users access to things on the network
* Too see whos in a group: group rob (userid)
* Too see a list of ALL the groups (and whos in each group): /etc nano group

**Create a group:** sudo groupadd marketing (or what ever group you are creating)

**Delete a group:** sudo groupdel marketing

**Add a user to a group:** sudo adduser rob marketing sudo usermod -G engineers sam

**Delete a user from a group:** sudo deluser rob marketing

*NOTE: Deleting a USER = userdel Deleting a GROUP user = deluser*

***To view who is in what group: /etc/group or sudo vi group***

***Permissions: CHMOD and usermod***

sudo usermod -aG guns\_and\_roses rob

here you are giving rob sudo command over the group guns\_and-roses

**Change USER system UID and GID**

Sudo groupmod -g

Sudo usermod -u

*Numerical Shorthand*

Another way to use chmod is to provide the permissions you wish to give to the owner, group, and others as a three-digit number. The leftmost digit represents the permissions for the owner. The middle digit represents the permissions for the group members. The rightmost digit represents the permissions for the others.

The digits you can use and what they represent are listed here:

• 0: (000) No permission.

• 1: (001) Execute permission.

• 2: (010) Write permission.

• 3: (011) Write and execute permissions.

• 4: (100) Read permission.

• 5: (101) Read and execute permissions.

• 6: (110) Read and write permissions.

• 7: (111) Read, write, and execute permissions

**Example:** sudo chmod 751 sysadmin -R

drwxr-x--x 20 sysadmin sysadmin 4096 Jul 13 13:58 sysadmin

***NOTE: the -R is recursive. Meaning everything inside the file or folder are standardized or set to the same permissions you have set. If you don’t use -R you might not be able to run certain files or scripts.***

***Change owner Permission:*** *chown*

Example: max is the owner of the Downloads folder. I want to give rob ownership of that folder/file.

* drwxr-xr-x 2 max max 4096 Nov 15 2019 Downloads
* RUN: sudo chown -R rob Downloads
* this will change owner ship from Max to Rob
* drwxr-xr-x 2 rob max 4096 Nov 15 2019 Downloads
* **sudo chown rob:slash engineers**
* **sudo chown root:root vagrant**
* sudo chown <owner>:<group> <the name of group you are changing ownership of>
* Note: the : is the secret. Sudo chown rob: downloads or …. Sudo chown :max downloads

***Change Group Permission:*** *chgrp*

Example: max is the owner of the Downloads Group. I want to give the top\_gun\_fanclub group ownership of that folder/file.

RUN: sudo chgrp -R top\_gun\_fanclub Downloads

drwxr-xr-x 2 rob top\_gun\_fanclub 4096 Nov 15 2019 Downloads

NOTE: again..you can do same thing with CHOWN and use the :

**Deleting user directory**

**sudo rm -rf <directoryname>**