You can do it lets go.

Tuesday, May 31, 2022 2:30 PM

→ OS – linux (linus towalds)
→ linux = windows DS commands
~ – tilda
cd ~ → home directory.
` → backtick.
! → Bang in linux.
→ comment out
$ → variable
^ → correct sign
& → To put process in background
– → To provide options
:wq! → save the file.
| → Combine the commands
\ → To define a path
< → input for output
>> → appending the file
> → rewriting the file.
/ → for linux
R ctrl → enter vm.
Sai @ centos vm ~]#
↓ username host name prompt symbol.
Ctrl + c → To get your prompt back.
linux → To connect to other systems
putty, deluxe cut
Terminal
SSH from linux to linux
→ if config ; ip addr, man ip.
→ du – → root
→ ifup ens03 → adapter connection

File system

/boot → boot loader
/root → root user home directory
/dev → system devices
/etc → configuration files.
/bin → /usr/bin → Everyday user commands
/sbin → " sbin → system commands
/opt → optional add on applications
/proc → running processes
/lib → usr/lib → library (c) files needed by commands and apps
strace – e open pwd
/tmp → directory for temporary files
/home → " " user
/var → system logs
/run → system daemons that start early
/mnt → To mount external filesystem
/media → for cdrom mounts.
→ cd → change directory
→ pwd → print working directory ↓ current location
→ ls → listing.
cd .. → one step back
cd ../.. → two " "
Root account → Sai
/ → Root directory → primary directory.
/root → root home directory ↓ for user

Absolute path → cd /var/log/samba
relative path → cd /var
cd log
cd samba
is the diff.

starts with
d → directory
l → link
– → regular file
c → special or device file
s → Socket
p → named pipe
b → block device.

→ find/. -name "apple"
→ locate kramer
find uses iteration
locate u have to use update db
→ slow but accurate
→ fast but is lost

passwd usrad
↓ Changes password

ls – L
↓ command ↳ option
ls – L boot → name of the file.
ls argument

man ls
↳ you can find all about the command.

permission
r, w, x 3 permissions
read, write, execute

Levels
u, g, o
user, group, other

chmod ← command for permissions.

ls – L
To display the type of permission
file has
– rwx rwx rwx

chmod g – w jerry
↓ group ↓ remove write ↳ for jerry file
↳ a – all

chmod g + w jerry
↓ add ↳ write
↳ group

permission using numeric mode
0 – no permission
1 – Execute
2 – write
3 – E + W
4 – R
5 → R + E
6 → R + W
7 → R + W + E

chmod 764 sam
↓ u ↓ g ↓ o

File ownership
2 owners
user and group
chown → changes ownership of a file
chgrp → " group "
" " "
–R Recursive ownership change.
chown root sai
↓ giving ownership to root ↳ from user

Access control list :
setfacl → to give
getfacl → to know who you gave to.
⇒ setfacl -m u: user : rwx /path/to/file.
↓ Sai
g : group
↓ for group

help
what is pwd → less help
pwd --help → only help
man pwd → all help

chm Tab
ls j < Tab >
cd Des < Tab >
Tab Complete the command (like search bar suggestion)

↑ → up arrow runs the last command

add a file.
vi → vi editor
Redirect command > or >>
echo > or >>
echo "I love you" > jerry
>> → Creates in new line.
↓ adds the text to this file.
ls -ltr > jerry
copies everything in ls -ltr view into jerry file.
date >> jerry
adds the date into new file.
} redirect

3 redirects in linux
standard input, stdin, file descriptor number 0
" output, stdout, " " " 1
" error, stderr, " " " 2

ls – la ⇒ gives you hidden file

cat < listings
↓ feeds file to a file.
↳

telnet localhost 2> errorfile
↓ stores the error in error file.

Tee Command
Basically like a T pipe.
uses to both store & display output of the command at a same time.
echo "I love u" | tee jerry.
save I love u in jerry file and displays as well.
to add a new line here use | tee – a jerry

wc -c jerry
↳ To see the number of characters in the file.

ls – ltr | tee jerry
copies these to this file and views it.
⇒ ls – ltr | more
↓ shows one page at a time
pipe – |
↳ It takes a command

cp – copy
cp george david
↓ copies this ↓ to here and creates a new file named if not there.

rm → removes a file
rm jerry.
mv → moves and renames
mv puddy / tmp
moves
mv puddy apple
changes file name puddy to apple.
mkdir → Create a directory
rmdir → Remove " "
rm – r → " " "
rm – rf → Remove forcefully

chgrp → change group
chgrp root puddy
chown → change ownership
chown root puddy
cat → view
more → 1 page at a time
less → >> 1 " " " "
head -2 message → shows first 2 lines
tail -2 " ⇒ " last " "

cut
awk
grep & egrep
sort
uniq
wc
} Text processor commands.

cut -c1 jerry → all the first letters of words in jerry file
cut -c1-5 jerry → first five letters of all words in jerry file.
cut -c1-3, 6-8 jerry
1 to 3 letters & 6 to 8 letters
cut -b1-3 jerry
by byte size.

⇒ user : apple : ball : cat
↓ colon field ↓ 2 " ↓ 3.
cut -d: -f 3 jerry
it will give 3rd field of all fields in the file
cut -d: -f 3-4 jerry
gives 3rd & 4th field.

vi editor.
i – insert
Esc – Escape
x – replace, x – delete one word.
d – delete, u – undo
:q! – quit without saving
:wq! – save and quit.
or
shift zz
/keyword → finds in the vi editor

sed:
replace a string with a new string.
performs operations on lines.
→ sed -i 's/Kenny/lenny/g' jerry
inserts lenny instead of Kenny in jerry file.
→ sed 's/apple//g' jerry
removes apple in jerry file
→ sed '/love/d' jerry
removes all love in jerry file.
all love words
→ sed '/^$/d' jerry
removes empty files.
→ sed 'Id' jerry
removes 1st line
To remove more lines
'1,2,3 d' like that.
→ sed 's/\t\/g' jerry
↓ substitute ↓ globally
removes tab spaces.
→ sed -n 12,18 P jerry
shows 12 to 18 lines in jerry file.
→ sed 12, 18 d jerry
shows everything except 12-18.
→ sed G jerry
puts spaces b/w lines.

user account management

→ useradd spiderman
Creates spiderman user
→ id spiderman
gives id
→ groupadd superheroes
Creates a group.
you can find groups in /etc/group.
→ userdel -r spiderman
deletes the user
→ groupdel superheroes
deletes the group.
→ usermod -G superheroes spiderman.
adds spiderman user to group superheroes.
→ chgrp -G " "
actually spiderman is a user and also forms a group with himself when you create a user, but when you use usermod to add him to superheroes his still part of his own group and doesn't join superheroes.
so, we use chgrp to force him to join superheroes.
→ /etc/passwd
shows the encrypted passwords of the usernames.
→ /etc/shadow
shows the expiries of passwords
Advanced useradding.
useradd -g superheroes
-s bin/bash
-c "Ironman character"
-m -d /home/ironman ironman
Creates a user, adds to superheroes group
, adds to a shell
, description
, adds to a directory
names user as ironman.

passwd ironman
→ Creates a password for ironman username.

/etc/login.defs
you can set parameters for password aging here.
change [-d last day] [-m mindays]
[-M maxdays] [-w warndays]
[-I Inactive] [-E Expire date]
user
This command to change the password aging parameters for user

df – disk usage of file system.
df -h → df stand.
↓ appropriate for human appearance.
→ dmesg → gives system warnings.
→ iostat → gives input output details.
iostat 1 → refresh the data.
→ netstat -snv → networks & their related properties.
→ free – shows physical memory, free space, space of swap.
→ cat /proc/cpuinfo
→ there info of cpu can be found.
→ cat/proc/meminfo
memory of PC can be found.

→ log monitoring
directory is /var/log
boot.log → shows log of booting.
Cron → " " " Cron command
chronyd → NTP.
maillog → shows log of email.
secure log → " " " log in & logout of every user & machine.
messages log → shows every info of every log

system maintenance
shutdown → turns off root PC
init → same like shutdown but has 0-6 levels
reboot → reboots PC
halt → halts PC.

change hostname
hostnamectl set-hostname (newyork)
↑ changes to this.
directory is /etc/sysconfig/network

system info
directory is /etc/redhat-release.
↓ shows linux version.
⇒ uname -a
gives the details of our linux PC
⇒ dmidecode
gives more about and detailed info about our linux PC.

arch
↓ gives how many bits your linux PC is?

Terminal key commands
right ctrl → get into linux PC
↓ host key
ctrl + U → clear a command
ctrl + C → stop/kill a command
" + Z → suspend " "
ctrl + d → exit from interactive program.
↓ like if you are inside
↳ ftp

special permissions
for files & directories
setuid → bit tells linux to run a program with effective user id instead of executer
setgid → same but for a group
stickybit → only root delete files.
u can't them use directly
have to used with chmod
setuid → chmod u+s xyz.sh
setgid → chmod g+s xyz.sh
To remove the special permissions use u-s g-s.

in besides file authority u will find
rwx s rwx rwx
↓ special permission set user & root bit granted.

sticky bit
It is assigned in last bit of permission
rwx rwx rwx t
↓ This is sticky bit.
so u can't delete it
use it for accidental delete protection.
chmod +t xyz.sh
↓ for sticky bit
↓ syntax.