NETWORKING & SYSTEM ADMINISTRATION LAB

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Roll No: 20
Batch: RMCA- A
Date: 08/04/2022

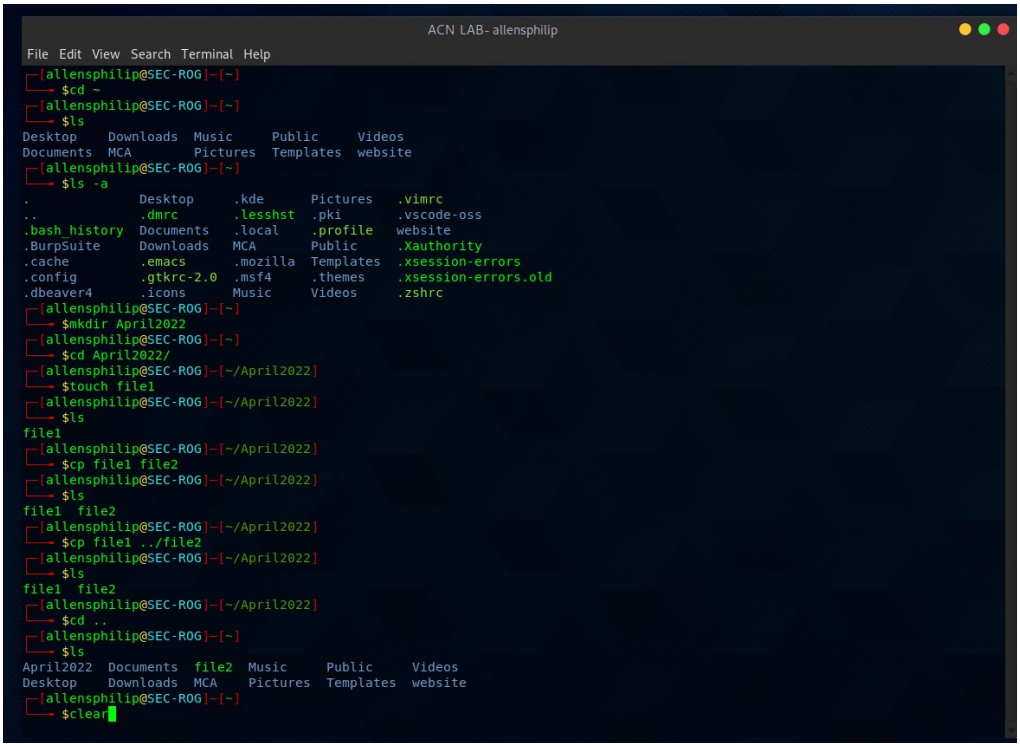
Combained Experiments

Procedure

Experiment 1

1. Login to your home directory
2. List contents of your current working directory
3. List all contents of your current working directory, including hidden files
4. Make a directory called April2022 inside your current working directory
5. Change to the directory April2022
6. Create an empty file name file1
7. Make a copy of file1 to file2
8. Copy file1 from the current working directory and save it as the name file2 in one directory up from the current directory
9. Clear the terminal window

Output


ACN LAB- allensphilip
File Edit View Search Terminal Help
[allensphilip@SEC-ROG]-[~]
$cd ~
[allensphilip@SEC-ROG]-[~]
$ls
Desktop Downloads Music Public Videos
Documents MCA Pictures Templates website
[allensphilip@SEC-ROG]-[~]
$ls -a
. Desktop .kde Pictures .vimrc
.. .dmrc .lesshst .pki .vscode-oss
.bash_history Documents .local .profile website
.BurpSuite Downloads MCA Public .Xauthority
.cache .emacs .mozilla Templates .xsession-errors
.config .gtkrc-2.0 .msf4 .themes .xsession-errors.old
.dbeaver4 .icons Music Videos .zshrc
[allensphilip@SEC-ROG]-[~]
$mkdir April2022
[allensphilip@SEC-ROG]-[~]
$cd April2022/
[allensphilip@SEC-ROG]-[~/April2022]
$touch file1
[allensphilip@SEC-ROG]-[~/April2022]
$ls
file1
[allensphilip@SEC-ROG]-[~/April2022]
$cp file1 file2
[allensphilip@SEC-ROG]-[~/April2022]
$ls
file1 file2
[allensphilip@SEC-ROG]-[~/April2022]
$cp file1 ../file2
[allensphilip@SEC-ROG]-[~/April2022]
$ls
file1 file2
[allensphilip@SEC-ROG]-[~/April2022]
$cd ..
[allensphilip@SEC-ROG]-[~]
$ls
April2022 Documents file2 Music Public Videos
Desktop Downloads MCA Pictures Templates website
[allensphilip@SEC-ROG]-[~]
$clear

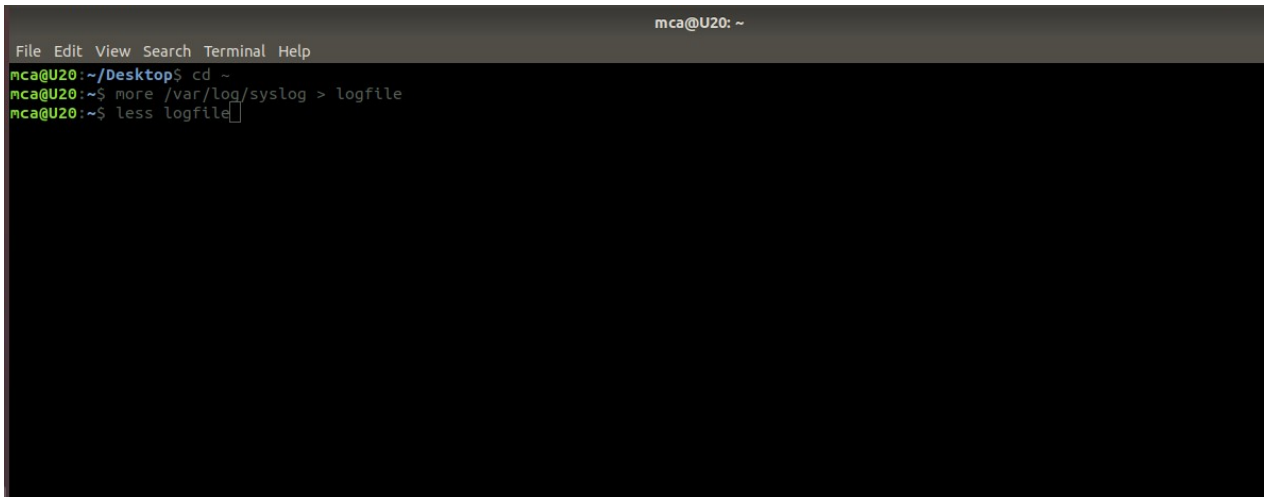
Experiment 2

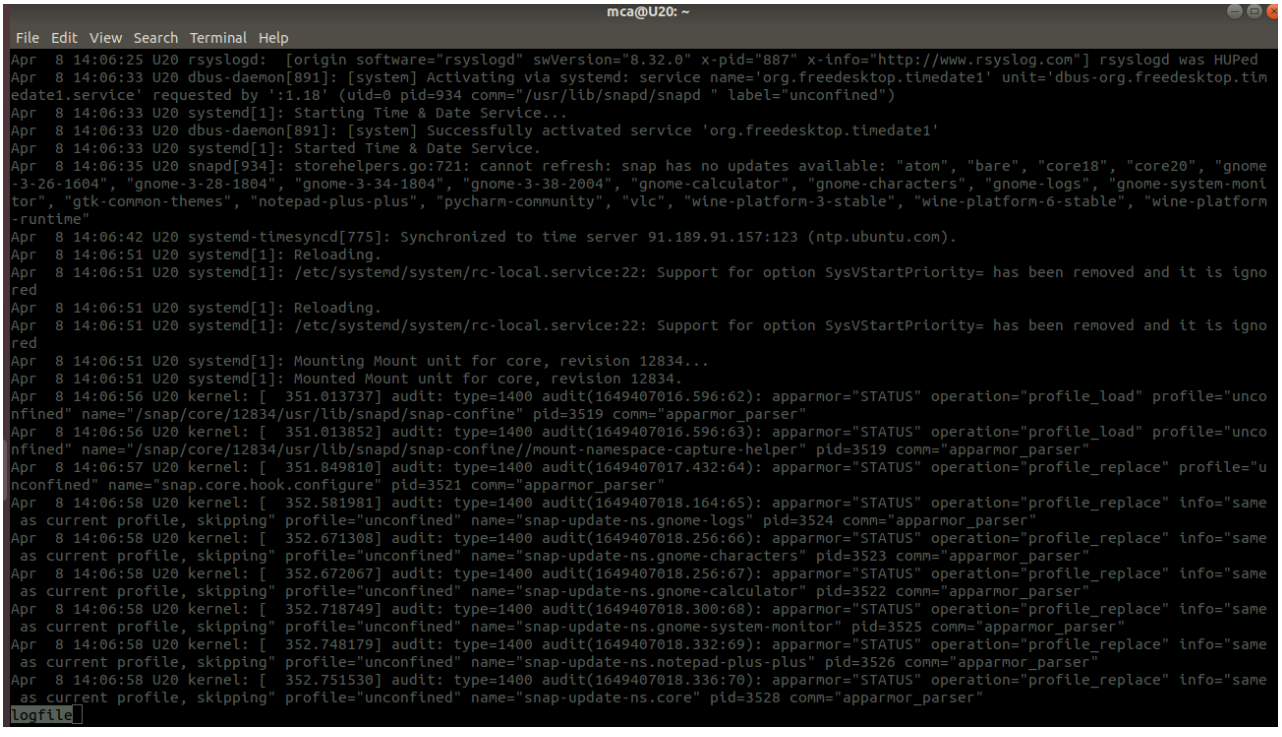
1. Login to your home directory

2. Writes the contents of syslog (located in the /var/log/ directory) onto the screen a page at a time.

3. Read documentation on a command: less

Output





Experiment 3

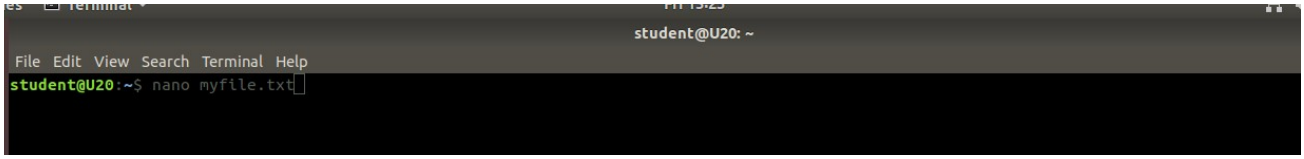
1. Create an untitled document myfile.txt using anyone editor
2. Place the following text in myfile.txt and save it

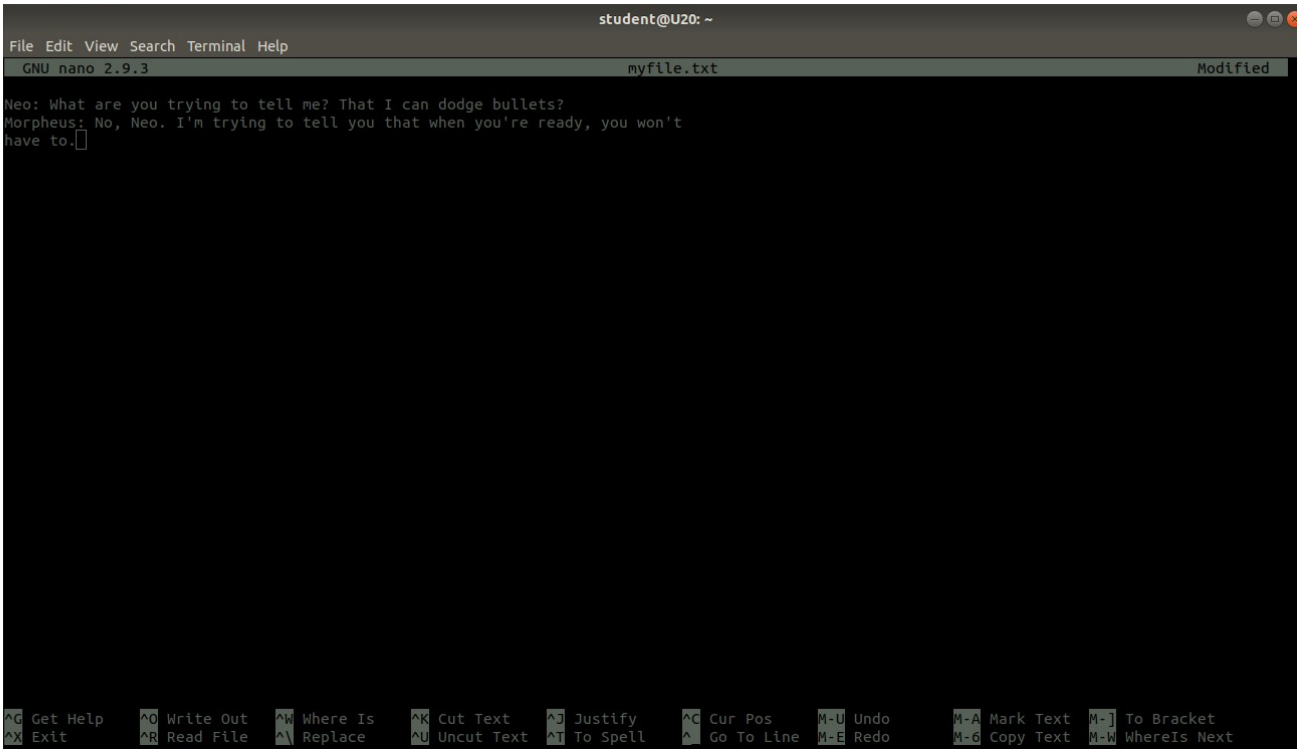
Neo: What are you trying to tell me? That I can dodge bullets?

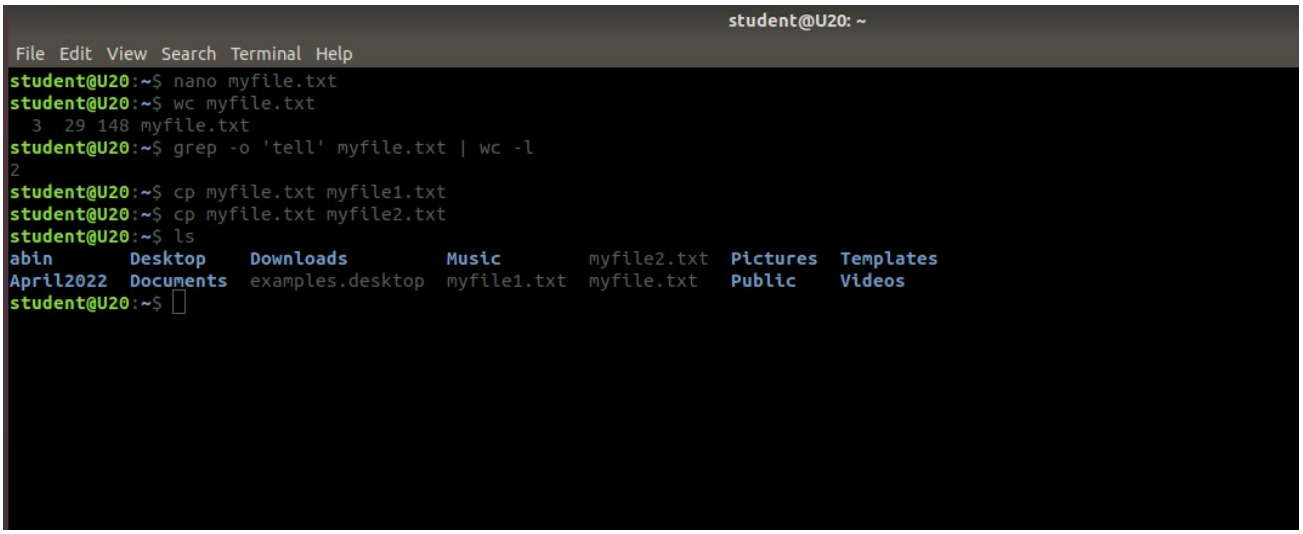
Morpheus: No, Neo. I'm trying to tell you that when you're ready, you won't have to.

3. Count the number of characters, words, and lines in the file
4. Find the occurrence of the word “tell” in the file
5. Make two copies of myfile.txt with names myfile1.txt and myfile2.txt
6. List all the filenames with the word file in the present working directory.

Output


student@U20: ~
File Edit View Search Terminal Help
student@U20:~$ nano myfile.txt


student@U20: ~
File Edit View Search Terminal Help
GNU nano 2.9.3 myfile.txt Modified
Neo: What are you trying to tell me? That I can dodge bullets?
Morpheus: No, Neo. I'm trying to tell you that when you're ready, you won't
have to.
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text M-] To Bracket
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line M-E Redo M-6 Copy Text M-W WhereIs Next


student@U20: ~
File Edit View Search Terminal Help
student@U20:~$ nano myfile.txt
student@U20:~$ wc myfile.txt
3 29 148 myfile.txt
student@U20:~$ grep -o 'tell' myfile.txt | wc -l
2
student@U20:~$ cp myfile.txt myfile1.txt
student@U20:~$ cp myfile.txt myfile2.txt
student@U20:~$ ls
abin Desktop Downloads Music myfile2.txt Pictures Templates
April2022 Documents examples.desktop myfile1.txt myfile.txt Public Videos
student@U20:~$

Experiment 4

1. Add a user named “roger

2. Create a password for the roger

3. Login using the new account.

4. Repeat step 1) to 2) to create 3 other users.

5. Examine the home directory of each user under /home/.

6. Examine the following files and see what’s added for the users/groups you created.

Try to understand the new additions

i) /etc/passwd

ii) /etc/shadow

iii) /etc/group

7. Create two groups: managers, staff

8. Add roger to the “managers” group; add other users you have created to the “staff” group.

9. Add Roger to a new group called “committee”.

10. Check users and groups information and see if they are in the right groups

11. Create a new user: BBrown, Primary group: Faculty, Other groups: web-author, coordinator, Temporary password: bob (the user needs to change it when login for the first time)

Experiment 5

1. Enable access to the remote system (IP: 192.168.6.94) without entering a password.

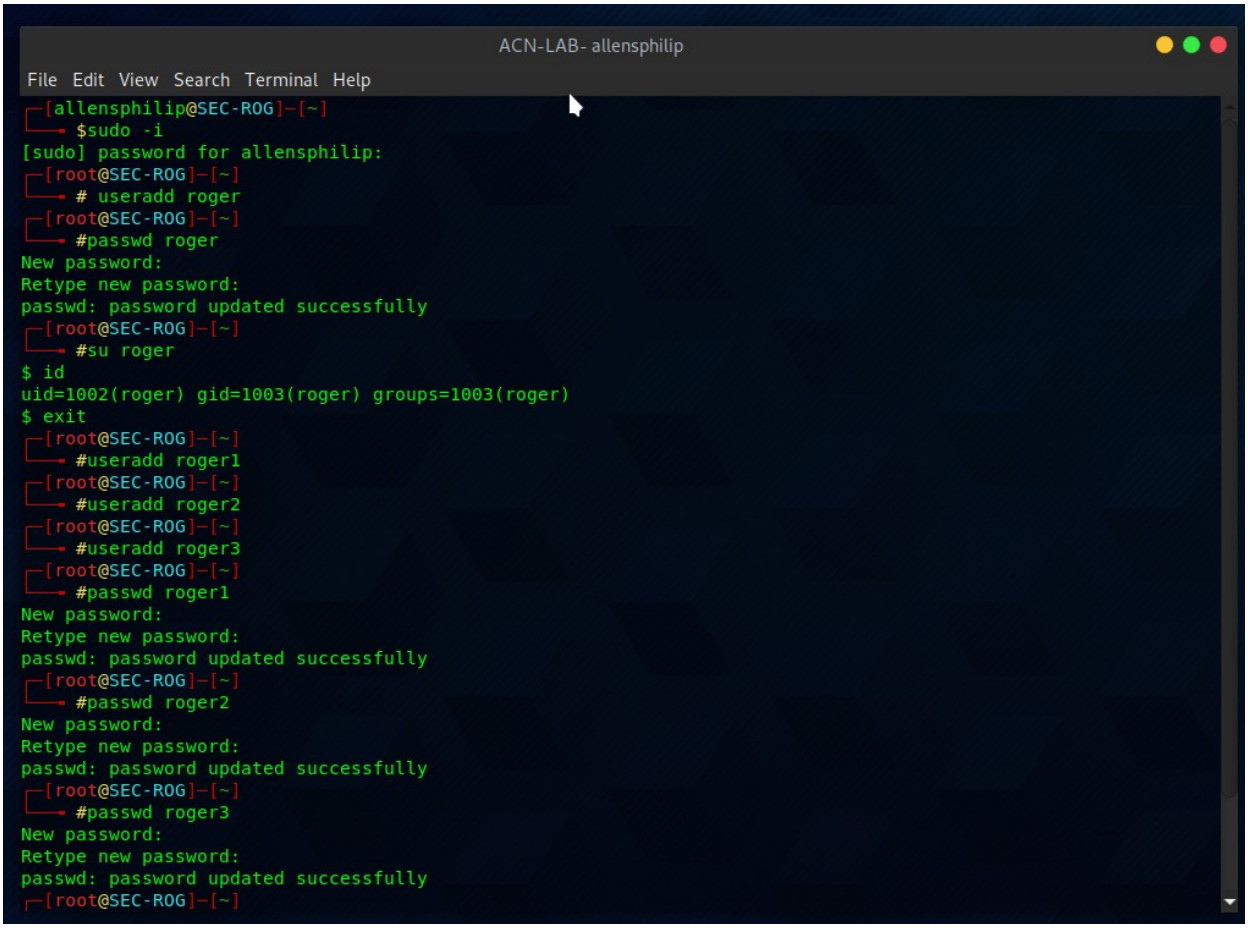
2. Create a file in your name in a remote system (IP: 192.168.6.94) using the terminal.

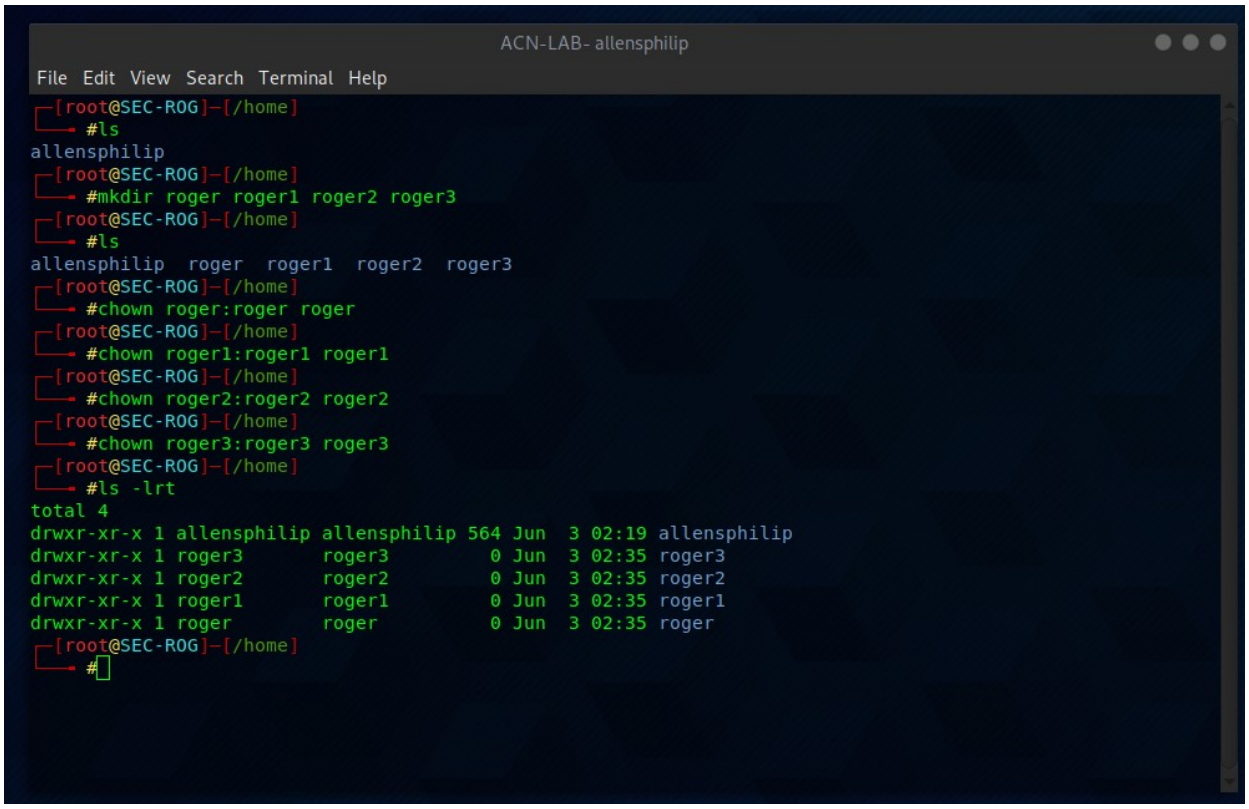
3. Learn scp command using the appropriate command. And download a file named 204Lab.txt from the remote system (IP: 192.168.6.94) to your own

system.

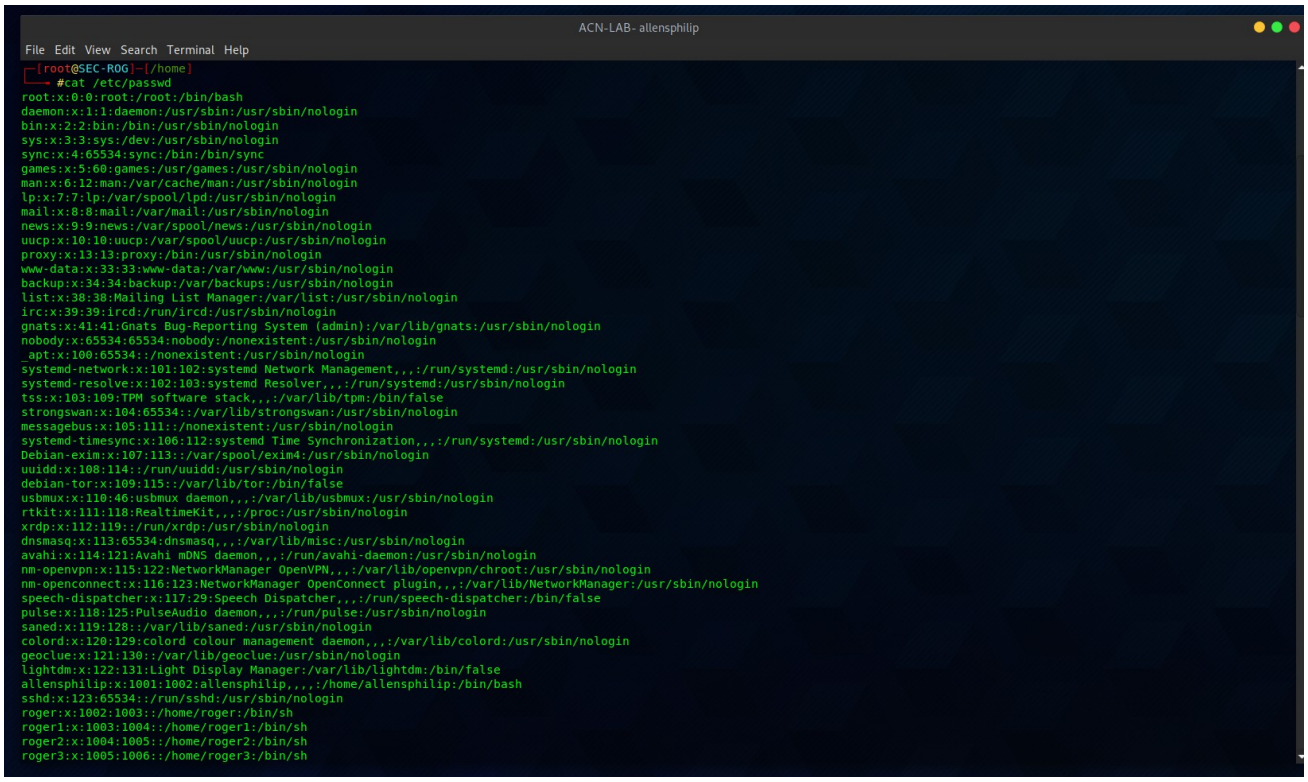
Output

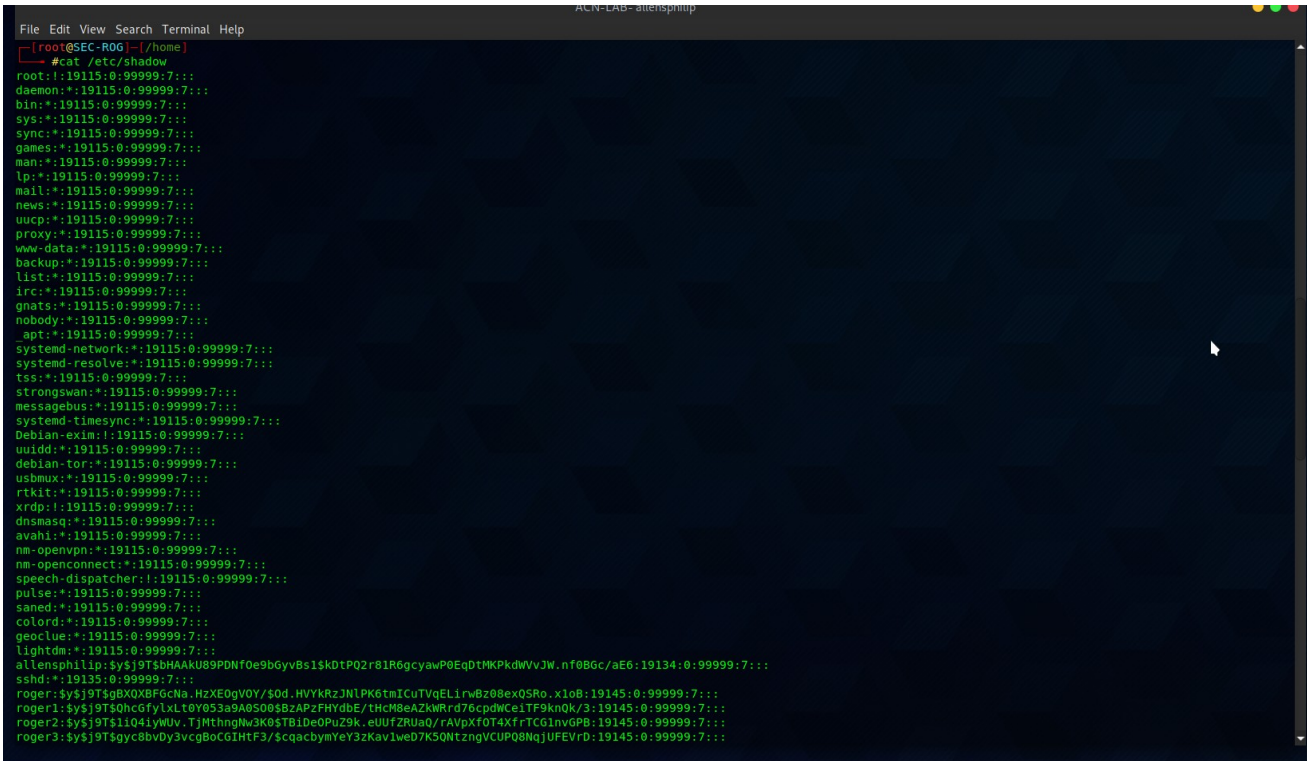
[1-5]

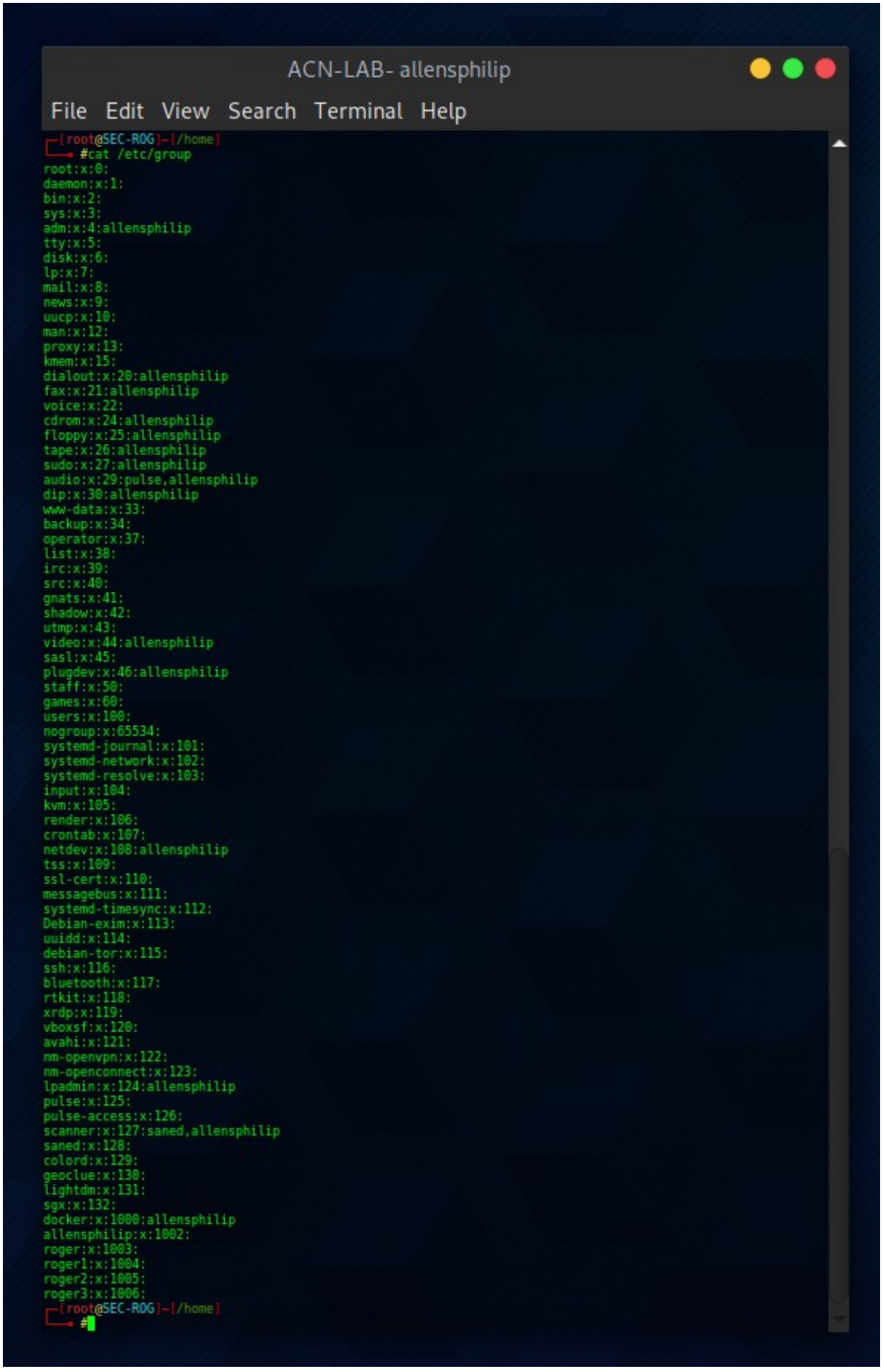




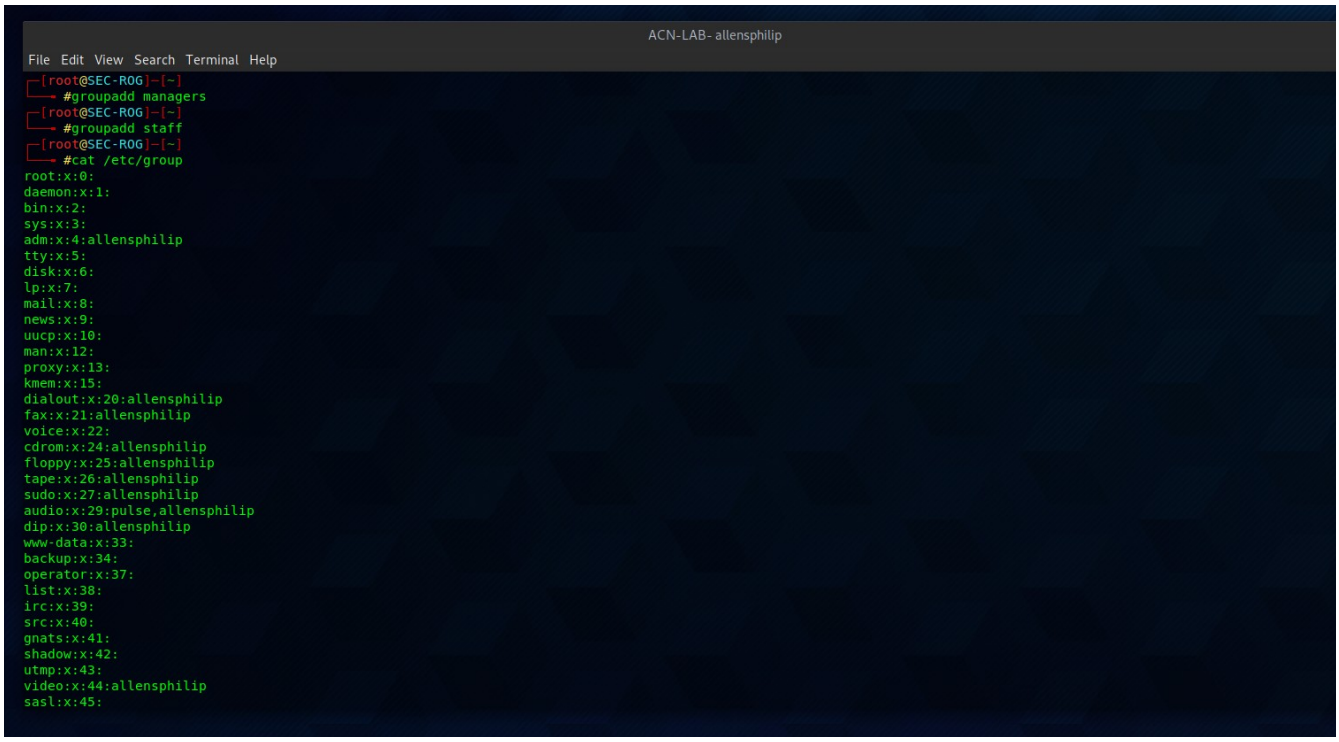
[6]

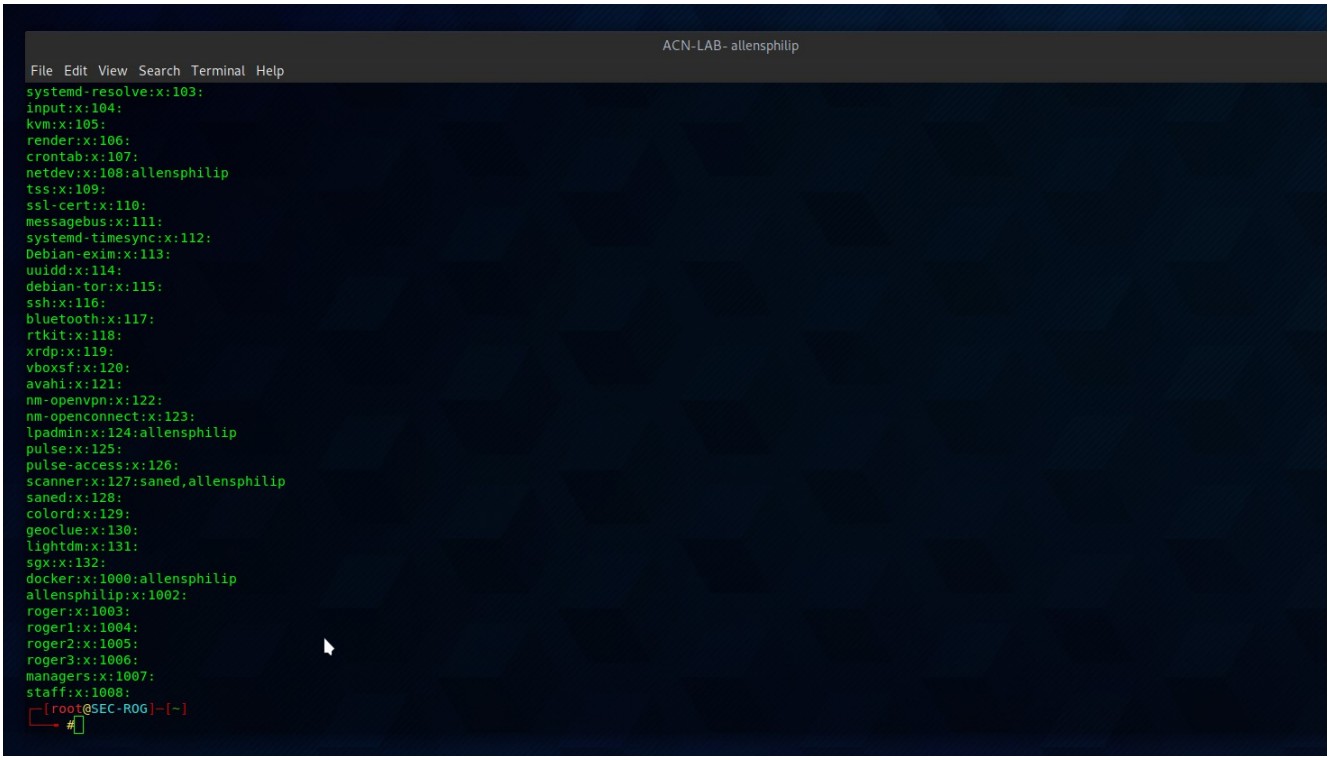

ACN-LAB- allensphilip
File Edit View Search Terminal Help
[root@SEC-ROG]-[/home]
#cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
_apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-network:x:101:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:102:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
tss:x:103:109:TPM software stack,,,:/var/lib/tpm:/bin/false
strongswan:x:104:65534::/var/lib/strongswan:/usr/sbin/nologin
messagebus:x:105:111::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:106:112:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
Debian-exim:x:107:113::/var/spool/exim4:/usr/sbin/nologin
uuidd:x:108:114::/run/uuidd:/usr/sbin/nologin
debian-tor:x:109:115::/var/lib/tor:/bin/false
usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:111:118:RealtimeKit,,,:/proc:/usr/sbin/nologin
xrdp:x:112:119::/run/xrdp:/usr/sbin/nologin
dnsmasq:x:113:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
nm-openvpn:x:115:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
nm-openconnect:x:116:123:NetworkManager OpenConnect plugin,,,:/var/lib/NetworkManager:/usr/sbin/nologin
speech-dispatcher:x:117:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
pulse:x:118:125:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
saned:x:119:128::/var/lib/saned:/usr/sbin/nologin
colord:x:120:129:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:121:130::/var/lib/geoclue:/usr/sbin/nologin
lightdm:x:122:131:Light Display Manager:/var/lib/lightdm:/bin/false
allensphilip:x:1001:1002:allensphilip,,,:/home/allensphilip:/bin/bash
sshd:x:123:65534::/run/sshd:/usr/sbin/nologin
roger:x:1002:1003::/home/roger:/bin/sh
roger1:x:1003:1004::/home/roger1:/bin/sh
roger2:x:1004:1005::/home/roger2:/bin/sh
roger3:x:1005:1006::/home/roger3:/bin/sh


File Edit View Search Terminal Help
[root@SEC-ROG]-[/home]
#cat /etc/shadow
root:!:19115:0:99999:7:::
daemon:*:19115:0:99999:7:::
bin:*:19115:0:99999:7:::
sys:*:19115:0:99999:7:::
sync:*:19115:0:99999:7:::
games:*:19115:0:99999:7:::
man:*:19115:0:99999:7:::
lp:*:19115:0:99999:7:::
mail:*:19115:0:99999:7:::
news:*:19115:0:99999:7:::
uucp:*:19115:0:99999:7:::
proxy:*:19115:0:99999:7:::
www-data:*:19115:0:99999:7:::
backup:*:19115:0:99999:7:::
list:*:19115:0:99999:7:::
irc:*:19115:0:99999:7:::
gnats:*:19115:0:99999:7:::
nobody:*:19115:0:99999:7:::
_apt:*:19115:0:99999:7:::
systemd-network:*:19115:0:99999:7:::
systemd-resolve:*:19115:0:99999:7:::
tss:*:19115:0:99999:7:::
strongswan:*:19115:0:99999:7:::
messagebus:*:19115:0:99999:7:::
systemd-timesync:*:19115:0:99999:7:::
Debian-exim:!:19115:0:99999:7:::
uuidd:*:19115:0:99999:7:::
debian-tor:*:19115:0:99999:7:::
usbmux:*:19115:0:99999:7:::
rtkit:*:19115:0:99999:7:::
xrdp:!:19115:0:99999:7:::
dnsmasq:*:19115:0:99999:7:::
avahi:*:19115:0:99999:7:::
nm-openvpn:*:19115:0:99999:7:::
nm-openconnect:*:19115:0:99999:7:::
speech-dispatcher:!:19115:0:99999:7:::
pulse:*:19115:0:99999:7:::
saned:*:19115:0:99999:7:::
colord:*:19115:0:99999:7:::
geoclue:*:19115:0:99999:7:::
lightdm:*:19115:0:99999:7:::
allensphilip:yj9T$bHAAkU89PDNfOe9bGyvBs1$kDtPQ2r81R6gcyawP0EqDtMKPkdWVvJW.nf0BGc/aE6:19134:0:99999:7:::
sshd:*:19135:0:99999:7:::
roger:yj9T$gBXQXBFGcNa.HzXEOgVOY/$Od.HVYkRzJNlPK6tmICuTVqELirwBz08exQSRo.x1oB:19145:0:99999:7:::
roger1:yj9T$QhcGfylxLt0Y053a9A0SO0$BzAPzFHYdbE/tHcM8eAZkWRrd76cpdWCeiTF9knQk/3:19145:0:99999:7:::
roger2:yj9T$1iQ4iyWUv.TjMthngNw3K0$TBiDeOPuZ9k.eUUfZRUaQ/rAVpXfOT4XfrTCG1nvGPB:19145:0:99999:7:::
roger3:yj9T$gyc8bvDy3vcgBoCGIHtF3/$cqacbymYeY3zKav1weD7K5QNtzngVCUPQ8NqjUFEVrD:19145:0:99999:7:::

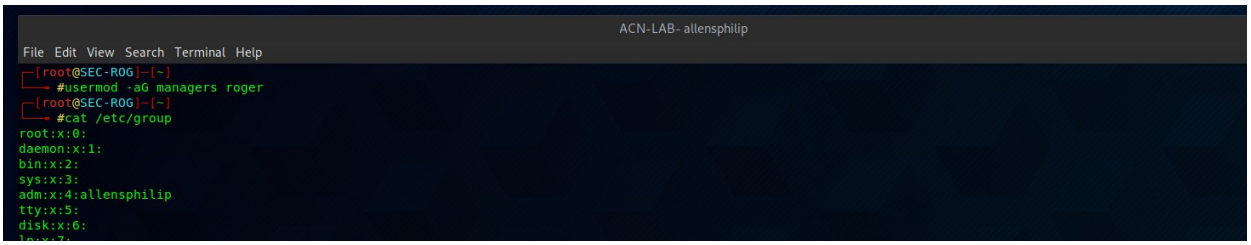

ACN-LAB- allensphilip
File Edit View Search Terminal Help
[root@SEC-ROG]-[/home]
#cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:allensphilip
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:allensphilip
fax:x:21:allensphilip
voice:x:22:
cdrom:x:24:allensphilip
floppy:x:25:allensphilip
tape:x:26:allensphilip
sudo:x:27:allensphilip
audio:x:29:pulse,allensphilip
dip:x:30:allensphilip
www-data:x:33:
backup:x:34:
operator:x:37:
list:x:38:
irc:x:39:
src:x:40:
gnats:x:41:
shadow:x:42:
utmp:x:43:
video:x:44:allensphilip
sasl:x:45:
plugdev:x:46:allensphilip
staff:x:50:
games:x:60:
users:x:100:
nogroup:x:65534:
systemd-journal:x:101:
systemd-network:x:102:
systemd-resolve:x:103:
input:x:104:
kvm:x:105:
render:x:106:
crontab:x:107:
netdev:x:108:allensphilip
tss:x:109:
ssl-cert:x:110:
messagebus:x:111:
systemd-timesync:x:112:
Debian-exim:x:113:
uuidd:x:114:
debian-tor:x:115:
ssh:x:116:
bluetooth:x:117:
rtkit:x:118:
xrdp:x:119:
vboxsf:x:120:
avahi:x:121:
nm-openvpn:x:122:
nm-openconnect:x:123:
lpadmin:x:124:allensphilip
pulse:x:125:
pulse-access:x:126:
scanner:x:127:saned,allensphilip
saned:x:128:
colord:x:129:
geoclue:x:130:
lightdm:x:131:
sgx:x:132:
docker:x:1000:allensphilip
allensphilip:x:1002:
roger:x:1003:
roger1:x:1004:
roger2:x:1005:
roger3:x:1006:
[root@SEC-ROG]-[/home]
#

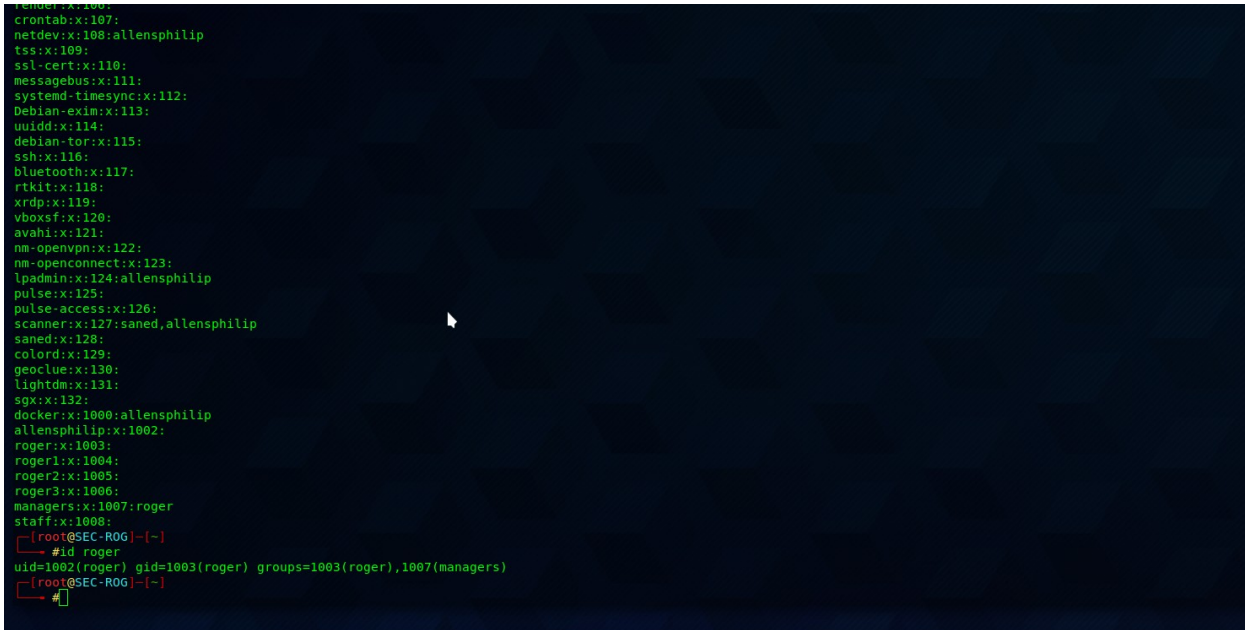
[7]


ACN-LAB- allensphilip
File Edit View Search Terminal Help
[root@SEC-ROG]-[~]
#groupadd managers
[root@SEC-ROG]-[~]
#groupadd staff
[root@SEC-ROG]-[~]
#cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:allensphilip
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:allensphilip
fax:x:21:allensphilip
voice:x:22:
cdrom:x:24:allensphilip
floppy:x:25:allensphilip
tape:x:26:allensphilip
sudo:x:27:allensphilip
audio:x:29:pulse,allensphilip
dip:x:30:allensphilip
www-data:x:33:
backup:x:34:
operator:x:37:
list:x:38:
irc:x:39:
src:x:40:
gnats:x:41:
shadow:x:42:
utmp:x:43:
video:x:44:allensphilip
sasl:x:45:


ACN-LAB- allensphilip
File Edit View Search Terminal Help
systemd-resolve:x:103:
input:x:104:
kvm:x:105:
render:x:106:
crontab:x:107:
netdev:x:108:allensphilip
tss:x:109:
ssl-cert:x:110:
messagebus:x:111:
systemd-timesync:x:112:
Debian-exim:x:113:
uuidd:x:114:
debian-tor:x:115:
ssh:x:116:
bluetooth:x:117:
rtkit:x:118:
xrdp:x:119:
vboxsf:x:120:
avahi:x:121:
nm-openvpn:x:122:
nm-openconnect:x:123:
lpadmin:x:124:allensphilip
pulse:x:125:
pulse-access:x:126:
scanner:x:127:saned,allensphilip
saned:x:128:
colord:x:129:
geoclue:x:130:
lightdm:x:131:
sgx:x:132:
docker:x:1000:allensphilip
allensphilip:x:1002:
roger:x:1003:
roger1:x:1004:
roger2:x:1005:
roger3:x:1006:
managers:x:1007:
staff:x:1008:
[root@SEC-ROG]-[~]
#

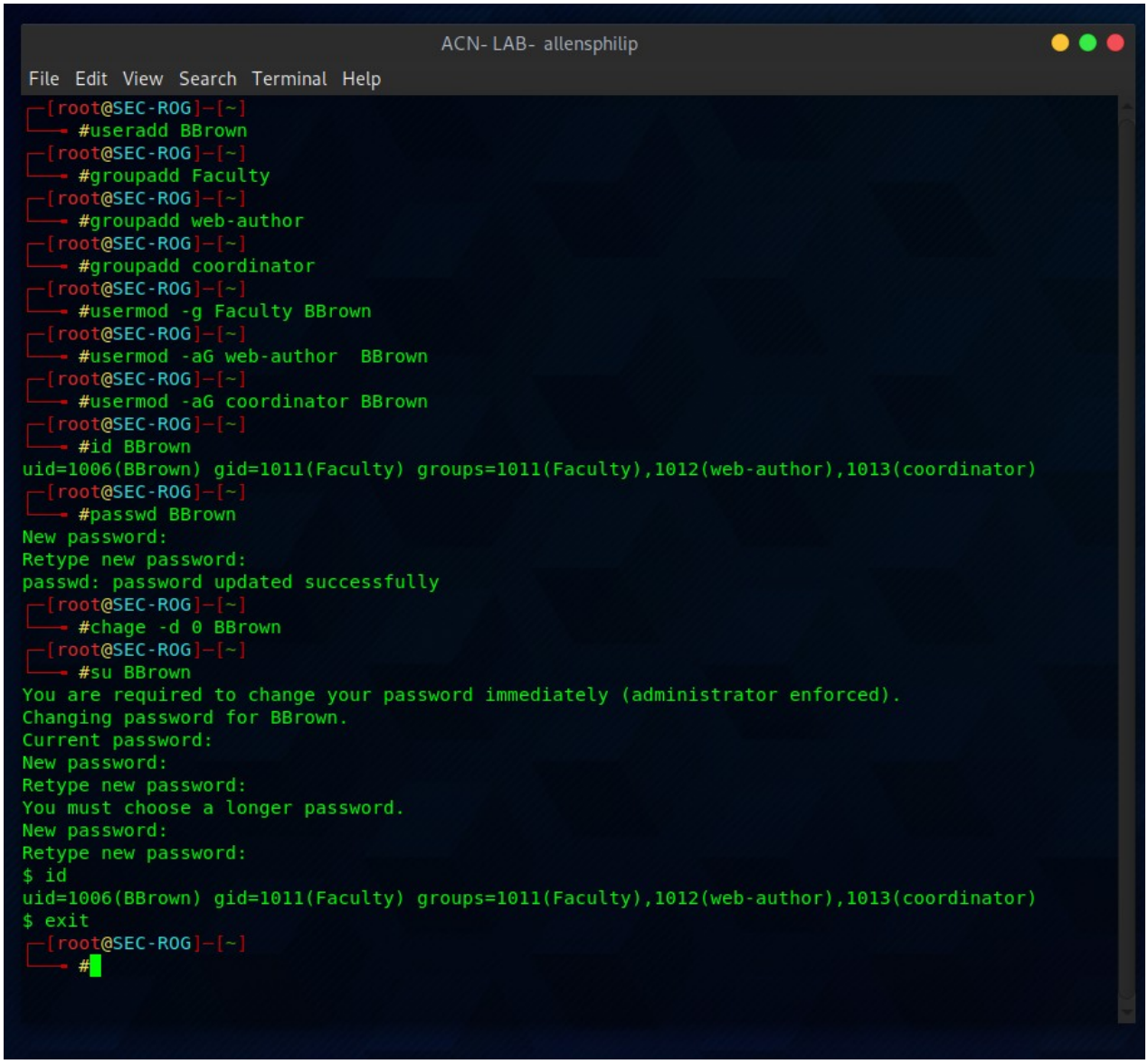
[8- 10]


ACN-LAB- allensphilip
File Edit View Search Terminal Help
#usermod -aG managers roger
#cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:allensphilip
tty:x:5:
disk:x:6:


crontab:x:107:
netdev:x:108:allensphilip
tss:x:109:
ssl-cert:x:110:
messagebus:x:111:
systemd-timesync:x:112:
Debian-exim:x:113:
uuidd:x:114:
debian-tor:x:115:
ssh:x:116:
bluetooth:x:117:
rtkit:x:118:
xrdp:x:119:
vboxsf:x:120:
avahi:x:121:
nm-openvpn:x:122:
nm-openconnect:x:123:
lpadmin:x:124:allensphilip
pulse:x:125:
pulse-access:x:126:
scanner:x:127:saned,allensphilip
saned:x:128:
colord:x:129:
geoclue:x:130:
lightdm:x:131:
sgx:x:132:
docker:x:1000:allensphilip
allensphilip:x:1002:
roger:x:1003:
roger1:x:1004:
roger2:x:1005:
roger3:x:1006:
managers:x:1007:roger
staff:x:1008:
#id roger
uid=1002(roger) gid=1003(roger) groups=1003(roger),1007(managers)


ACN-LAB- allensphilip
File Edit View Search Terminal Help
#usermod -aG staff roger1
#usermod -aG staff roger2
#usermod -aG staff roger3
#id roger1
uid=1003(roger1) gid=1004(roger1) groups=1004(roger1),1008(staff)
#id roger2
uid=1004(roger2) gid=1005(roger2) groups=1005(roger2),1008(staff)
#id roger3
uid=1005(roger3) gid=1006(roger3) groups=1006(roger3),1008(staff)
#groupadd committee
#usermod -aG committee roger
#id roger
uid=1002(roger) gid=1003(roger) groups=1003(roger),1007(managers),1009(committee)

[_11_]

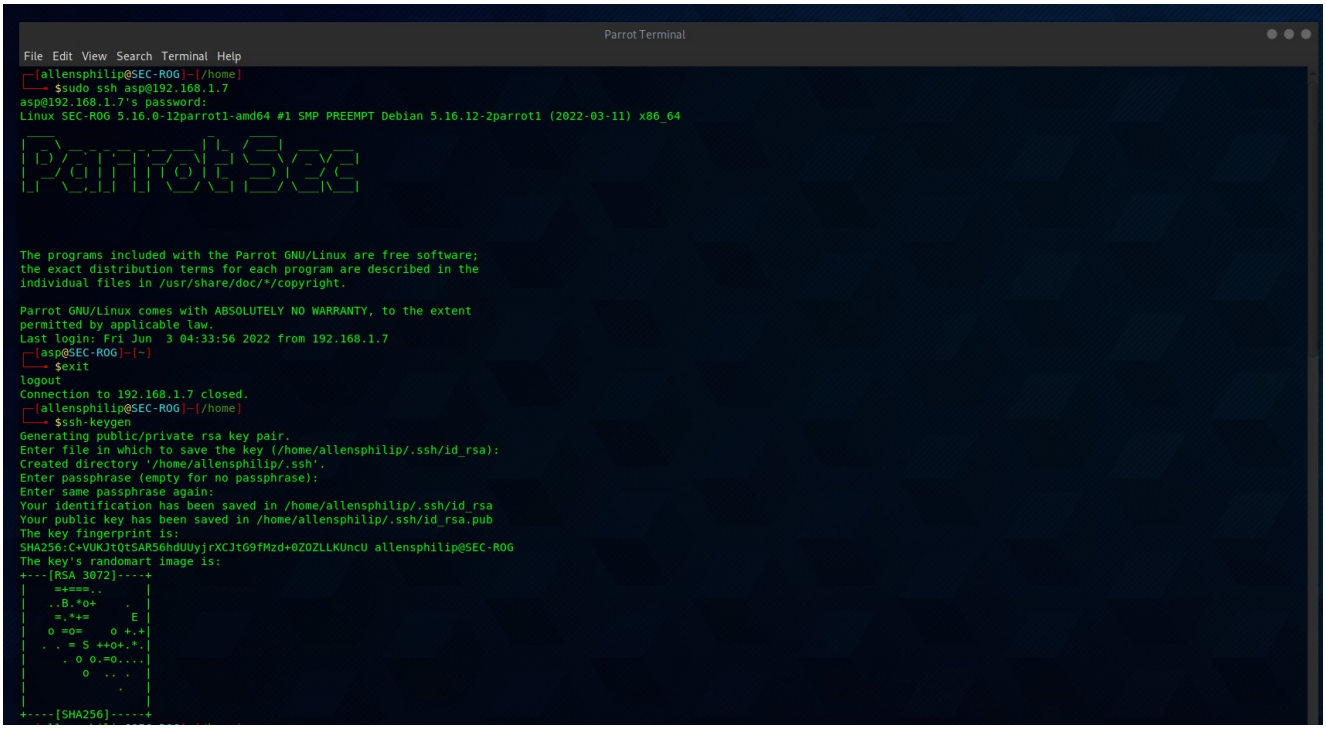

ACN- LAB- allensphilip
File Edit View Search Terminal Help
[root@SEC-ROG]-[~]
#useradd BBrown
[root@SEC-ROG]-[~]
#groupadd Faculty
[root@SEC-ROG]-[~]
#groupadd web-author
[root@SEC-ROG]-[~]
#groupadd coordinator
[root@SEC-ROG]-[~]
#usermod -g Faculty BBrown
[root@SEC-ROG]-[~]
#usermod -aG web-author BBrown
[root@SEC-ROG]-[~]
#usermod -aG coordinator BBrown
[root@SEC-ROG]-[~]
#id BBrown
uid=1006(BBrown) gid=1011(Faculty) groups=1011(Faculty),1012(web-author),1013(coordinator)
[root@SEC-ROG]-[~]
#passwd BBrown
New password:
Retype new password:
passwd: password updated successfully
[root@SEC-ROG]-[~]
#chage -d 0 BBrown
[root@SEC-ROG]-[~]
#su BBrown
You are required to change your password immediately (administrator enforced).
Changing password for BBrown.
Current password:
New password:
Retype new password:
You must choose a longer password.
New password:
Retype new password:
$ id
uid=1006(BBrown) gid=1011(Faculty) groups=1011(Faculty),1012(web-author),1013(coordinator)
$ exit
[root@SEC-ROG]-[~]
#

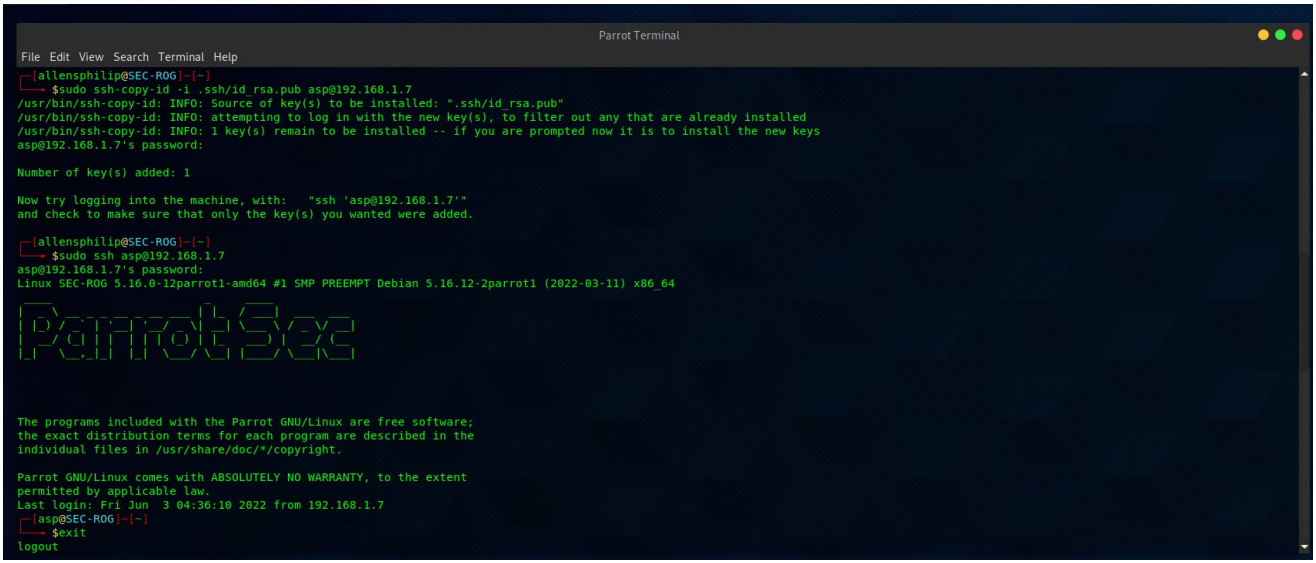
Experiment 5

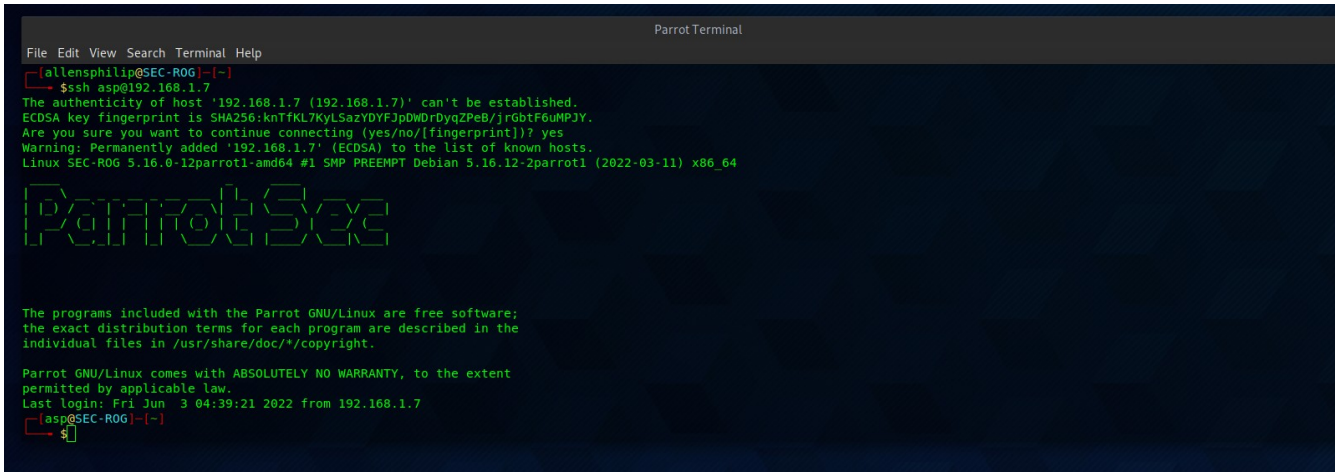
1. Enable access to the remote system (IP: 192.168.1.7) without entering a password.
2. Create a file in your name in a remote system (IP: 192.168.1.7) using the terminal.
3. Learn scp command using the appropriate command. And download a file named 204Lab.txt from the remote system (IP: 192.168.6.94) to your own system.

Output

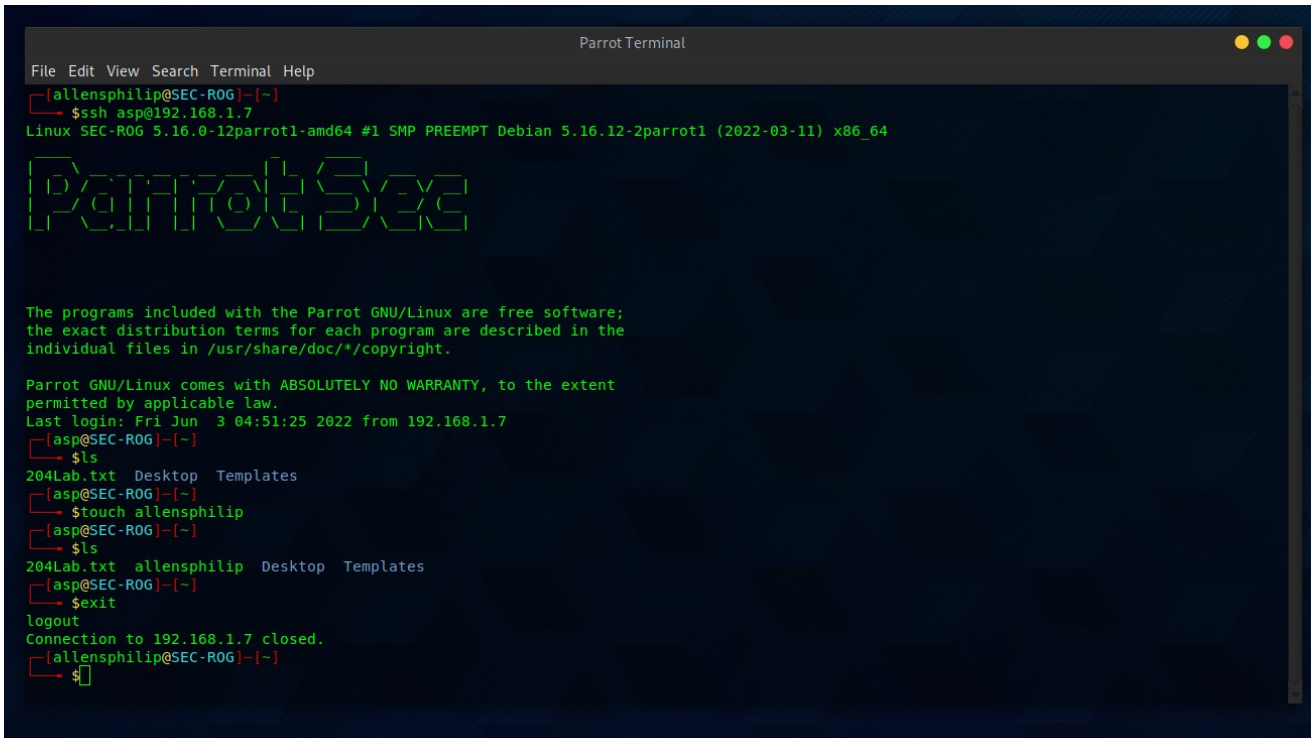
[1]



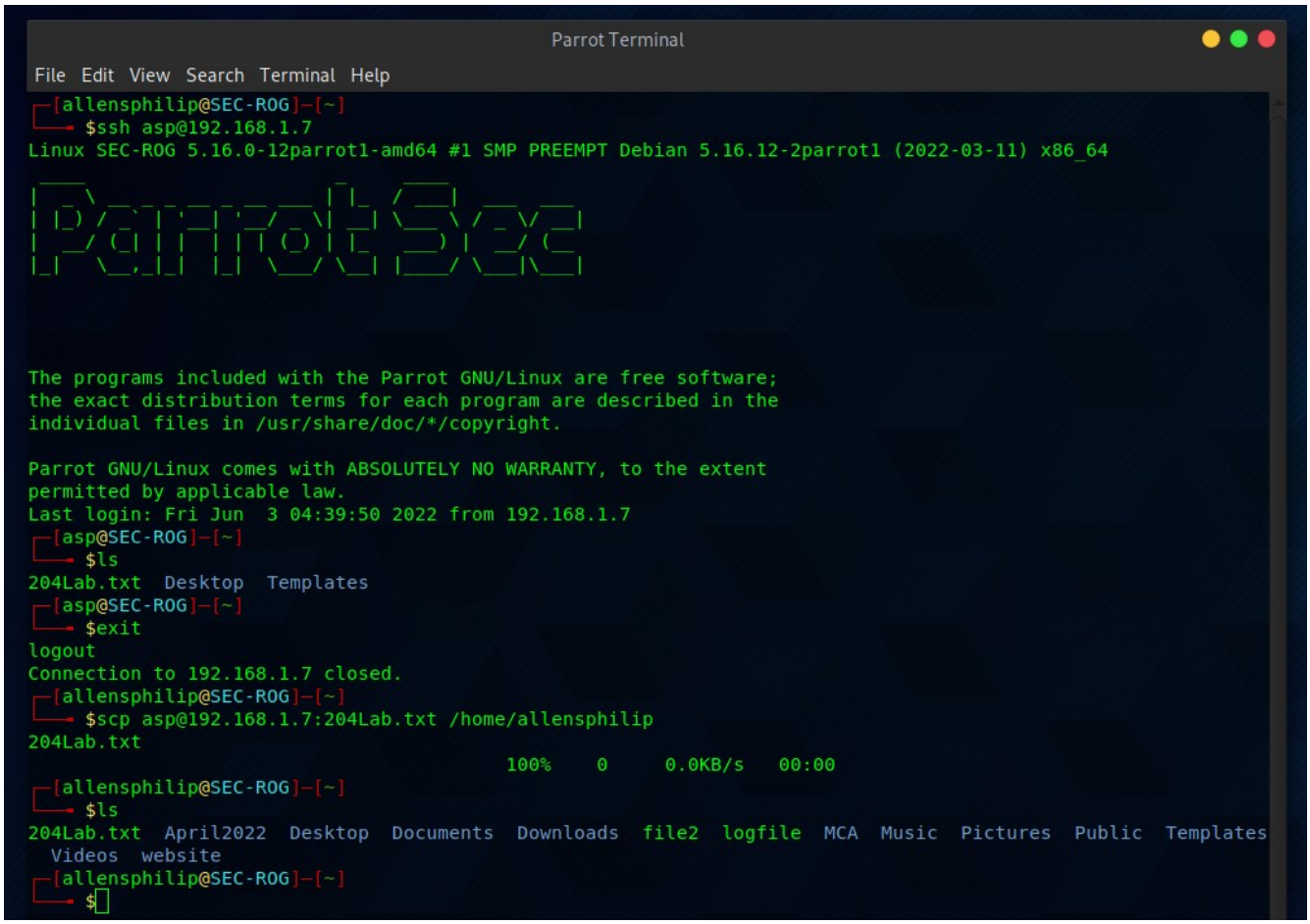



Parrot Terminal
File Edit View Search Terminal Help
[allensphilip@SEC-ROG]-[~]
$ssh asp@192.168.1.7
The authenticity of host '192.168.1.7 (192.168.1.7)' can't be established.
ECDSA key fingerprint is SHA256:knTfKL7KyLSazYDYFJpDWDrDyqZPeB/jrGbtF6uMPJY.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.1.7' (ECDSA) to the list of known hosts.
Linux SEC-ROG 5.16.0-12parrot1-amd64 #1 SMP PREEMPT Debian 5.16.12-2parrot1 (2022-03-11) x86_64
The programs included with the Parrot GNU/Linux are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Parrot GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Fri Jun 3 04:39:21 2022 from 192.168.1.7
[asp@SEC-ROG]-[~]
$

[2]


Parrot Terminal
File Edit View Search Terminal Help
[allensphilip@SEC-ROG]-[~]
$ssh asp@192.168.1.7
Linux SEC-ROG 5.16.0-12parrot1-amd64 #1 SMP PREEMPT Debian 5.16.12-2parrot1 (2022-03-11) x86_64
The programs included with the Parrot GNU/Linux are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Parrot GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Fri Jun 3 04:51:25 2022 from 192.168.1.7
[asp@SEC-ROG]-[~]
$ls
204Lab.txt Desktop Templates
[asp@SEC-ROG]-[~]
$touch allensphilip
[asp@SEC-ROG]-[~]
$ls
204Lab.txt allensphilip Desktop Templates
[asp@SEC-ROG]-[~]
$exit
logout
Connection to 192.168.1.7 closed.
[allensphilip@SEC-ROG]-[~]
$

[3]


Parrot Terminal
File Edit View Search Terminal Help
[allensphilip@SEC-ROG]-[~]
$ssh asp@192.168.1.7
Linux SEC-ROG 5.16.0-12parrot1-amd64 #1 SMP PREEMPT Debian 5.16.12-2parrot1 (2022-03-11) x86_64
The programs included with the Parrot GNU/Linux are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Parrot GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Fri Jun 3 04:39:50 2022 from 192.168.1.7
[asp@SEC-ROG]-[~]
$ls
204Lab.txt Desktop Templates
[asp@SEC-ROG]-[~]
$exit
logout
Connection to 192.168.1.7 closed.
[allensphilip@SEC-ROG]-[~]
$scp asp@192.168.1.7:204Lab.txt /home/allensphilip
204Lab.txt
100% 0 0.0KB/s 00:00
[allensphilip@SEC-ROG]-[~]
$ls
204Lab.txt April2022 Desktop Documents Downloads file2 logfile MCA Music Pictures Public Templates
Videos website
[allensphilip@SEC-ROG]-[~]
$