

**NETWORKING & SYSTEM ADMINISTRATION LAB****Name: ALLEN S PHILIP****Roll No: 20****Batch: RMCA- A****Date: 01-04-2022****Experiment No.: 6****Aim**

Learn Basic Linux commands

**Procedure****1. read**

Read command is used to read a value from user to store to a variable.

Syntax:~\$ read <variable\_name>

**2. echo**

Used to print or display value of a variable

Syntax:~\$ echo [option] “ ” or echo [option] \$<variable\_name>

Options- -n, -E, -e,

**3. du**

Used to display the disk usage of a file or directory.

Syntax:~\$ du [option] <file\_name>/<folder\_name>

Option- -a, -c,

**4. find**

Used to search files

Syntax:~\$ find <file\_name>

**5. sudo**

It stands for Super User. It provides commands administrator power

Syntax:~\$ sudo <command> [option]

**6. useradd**

Used to add a new user.

Syntax:~\$ sudo useradd <user\_name>

**7. usermod**

Used to modify the user id.

Syntax:~\$ sudo usermod [option] <new\_id> <user\_name>

**8. userdel**

Used to delete a user

Syntax:~\$ del [option]

**9. passwd**

Used to set a password to newly created user or modify the password of an existing user

Syntax:~\$ sudo passwd <user\_name>

**10. id**

Used to print the current user details.

Syntax:~\$ id

**11. su**

Used to access root. Su user\_name to switch user

Syntax:~\$ su <user\_name>

**12. tar**

Used to create archive, unpack and display content in an archive

Syntax:~\$ tar [option] <archive\_name>

<name\_of\_files\_to\_be\_added\_or\_\*\_to\_add\_all>

Options- -cvf, -xvf, -tvf

**13. grep**

Used to search a certain pattern in a file.

Syntax:~\$ grep [option] <pattern> <file\_name>

Options- -v, -i

**14. Expr**

Used to evaluate an expression.

Syntax:~\$ expr <operand\_1> <operator> <operand\_2>

Operator- +, -, \\*, /

## Output

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Activities Terminal Apr 1 16:07
student@U20: ~/Documents

student@U20:~/Documents$ read a
12
student@U20:~/Documents$ echo $a
12
student@U20:~/Documents$ du
4      ./TXT/NEW2
4      ./TXT/NEW
16     ./TXT
4      ./NEW
24
student@U20:~/Documents$ find TXT.txt
TXT.txt
student@U20:~/Documents$ sudo useradd allensphilip
[sudo] password for student:
student@U20:~/Documents$ sudo passwd allensphilip
New password:
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
passwd: password unchanged
student@U20:~/Documents$ sudo passwd allensphilip
New password:
Retype new password:
passwd: password updated successfully
student@U20:~/Documents$ 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:MailList Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/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
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:/home/syslog:/usr/sbin/nologin
apt:x:105:65534:/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,:/var/lib/tpm:/bin/false
uiddd:x:107:114:/run/uiddd:/usr/sbin/nologin
tcpdump:x:108:115:/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,:/proc:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin

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Activities Terminal Apr 1 16:09
student@U20: ~/Documents

New password:
Retype new password:
passwd: password updated successfully
student@U20:~/Documents$ 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:MailList Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/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
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:/home/syslog:/usr/sbin/nologin
apt:x:105:65534:/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,:/var/lib/tpm:/bin/false
uiddd:x:107:114:/run/uiddd:/usr/sbin/nologin
tcpdump:x:108:115:/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:111:117:RealtimeKit,,:/proc:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
cups-pk-helper:x:113:120:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,:/run/speech-dispatcher:/bin/false
avahi:x:115:121:Avahi mDNS daemon,,:/var/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin
saned:x:117:123:/var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:119:7:HP LP system user,,:/run/hplip:/bin/false
whoopsie:x:120:125:/nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:122:127:/var/lib/geoclue:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,:/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534:/run/gnome-initial-setup:/bin/false
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
sssd:x:126:131:SSSD system user,,:/var/lib/sss:/usr/sbin/nologin
student:x:1000:1000:student,,:/home/student:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
allenz:x:1001:1001:/home/allenz:/bin/sh
kk:x:1002:1002:kk,,:/home/kk:/bin/bash
kkl:x:1003:1003:/home/kkl:/bin/sh
allensphilip:x:1004:1004:/home/allensphilip:/bin/sh

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Activities Terminal Apr 1 16:09
student@U20: ~/Documents

student@U20:~/Documents$ sudo usermod -u 2005 allensphilip
student@U20:~/Documents$ 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:/usr/sbin:/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
nobody:x:6:12:nobody:/var/cache/nobody:/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:MailList Manager:/var/list:/usr/sbin/nologin
lirc:x:39:39:lirc:/var/run/lirc:/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
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:nonexistent:/usr/sbin/nologin
syslog:x:104:110:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,/var/lib/tpm:/bin/false
utdd:x:107:114:/run/utdd:/usr/sbin/nologin
tcpdump:x:108:115:nonexistent:/usr/sbin/nologin
avahi-autotpd:x:109:116:Avahi autotpd daemon,,/var/lib/avahi-autotpd:/usr/sbin/nologin
usbnmux:x:110:46:usbnmux daemon,,/var/lib/usbnmux:/usr/sbin/nologin
rtkit:x:111:117:Realtimekit,,/proc:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,/var/lib/ntsc:/usr/sbin/nologin
cups-pk-helper:x:113:120:user for cups-pk-helper service,,/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:114:29:Speech Dispatcher,,/run/speech-dispatcher:/bin/false
avahi:x:115:121:Avahi mDNS daemon,,/var/run/avahi-daemon:/usr/sbin/nologin
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,/usr/sbin/nologin
saned:x:117:123:/var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,/var/lib/openvpn/chronot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,/run/hplip:/bin/false
whoopie:x:120:125:nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,/var/lib/colord:/usr/sbin/nologin
geoclue:x:122:127:/var/lib/geoclue:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534:/run/gnome-initial-setup:/bin/false
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
sssd:x:126:131:SSSD system user,,/var/lib/sss:/usr/sbin/nologin
student:x:1000:1000:student,,/home/student:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
allen:x:1001:1001:/home/allen:/bin/sh
kk:x:1002:1002:kk,,/home/kk:/bin/bash
kkl:x:1003:1003:/home/kkl:/bin/sh
allensphilip:x:2005:1004:/home/allensphilip:/bin/sh
student@U20:~/Documents$ su allensphilip
Password:
$ exit

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Activities Terminal Apr 1 16:10
student@U20: ~/Documents

kernoops:x:116:65534:Kernel Oops Tracking Daemon,,/usr/sbin/nologin
saned:x:117:123:/var/lib/saned:/usr/sbin/nologin
nm-openvpn:x:118:124:NetworkManager OpenVPN,,/var/lib/openvpn/chronot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,/run/hplip:/bin/false
whoopie:x:120:125:nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,/var/lib/colord:/usr/sbin/nologin
geoclue:x:122:127:/var/lib/geoclue:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534:/run/gnome-initial-setup:/bin/false
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
sssd:x:126:131:SSSD system user,,/var/lib/sss:/usr/sbin/nologin
student:x:1000:1000:student,,/home/student:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
allen:x:1001:1001:/home/allen:/bin/sh
kk:x:1002:1002:kk,,/home/kk:/bin/bash
kkl:x:1003:1003:/home/kkl:/bin/sh
allensphilip:x:2005:1004:/home/allensphilip:/bin/sh
student@U20:~/Documents$ su allensphilip
Password:
$ exit
student@U20:~/Documents$ sudo su allensphilip
$ id
uid=2005(allensphilip) gid=1004(allensphilip) groups=1004(allensphilip)
$ su student
Password:
student@U20:~/Documents$ touch a b c v g h j n o
student@U20:~/Documents$ ls
a b c g h j n NEW o TXT TXT.txt v
student@U20:~/Documents$ tar -cvf all.tar *
a
b
c
g
h
j
n
NEW/
NEW/file2.txt
NEW/file1.txt
o
TXT/
TXT/TXT.txt
TXT/NEW2/
TXT/NEW2/file2.txt
TXT/NEW2/file1.txt
TXT/NEW/
TXT/NEW/file2.txt
TXT/NEW/file1.txt
TXT/a.txt
TXT.txt
v
student@U20:~/Documents$ ls
a all.tar b c g h j n NEW o TXT TXT.txt v
student@U20:~/Documents$ rm a b c g h j n o
student@U20:~/Documents$ ls
all.tar NEW TXT TXT.txt v

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Activities Terminal Apr 1 16:17
student@U20: ~/Documents
student@U20:~/Documents$ ls
all.tar
student@U20:~/Documents$ tar -xvf all.tar
a
b
c
g
h
j
n
NEW/
NEW/file2.txt
NEW/file1.txt
o
TXT/
TXT/TXT.txt
TXT/NEW2/
TXT/NEW2/file2.txt
TXT/NEW2/file1.txt
TXT/NEW/
TXT/NEW/file2.txt
TXT/NEW/file1.txt
TXT/a.txt
TXT.txt
v
student@U20:~/Documents$ ls
a all.tar b c g h j n NEW o TXT TXT.txt v
student@U20:~/Documents$ tar -tvf all.tar
-rw-rw-r-- student/student 0 2022-04-01 16:02 a
-rw-rw-r-- student/student 0 2022-04-01 16:02 b
-rw-rw-r-- student/student 0 2022-04-01 16:02 c
-rw-rw-r-- student/student 0 2022-04-01 16:02 g
-rw-rw-r-- student/student 0 2022-04-01 16:02 h
-rw-rw-r-- student/student 0 2022-04-01 16:02 j
-rw-rw-r-- student/student 0 2022-04-01 16:02 n
drwxrwxr-x student/student 0 2022-03-30 03:33 NEW/
-rw-rw-r-- student/student 0 2022-03-30 03:33 NEW/file2.txt
-rw-rw-r-- student/student 0 2022-03-30 03:33 NEW/file1.txt
-rw-rw-r-- student/student 0 2022-04-01 16:02 o
drwxrwxr-x student/student 0 2022-03-30 03:40 TXT/
-rw-rw-r-- student/student 86 2022-03-30 03:40 TXT/TXT.txt
drwxrwxr-x student/student 0 2022-03-30 03:35 TXT/NEW2/
-rw-rw-r-- student/student 0 2022-03-30 03:35 TXT/NEW2/file2.txt
-rw-rw-r-- student/student 0 2022-03-30 03:35 TXT/NEW2/file1.txt
drwxrwxr-x student/student 0 2022-03-30 03:33 TXT/NEW/
-rw-rw-r-- student/student 0 2022-03-30 03:33 TXT/NEW/file2.txt
-rw-rw-r-- student/student 0 2022-03-30 03:33 TXT/NEW/file1.txt
-rwxr-xr-x student/student 0 2022-03-30 03:35 TXT/a.txt
-rw-rw-r-- student/student 0 2022-03-30 03:31 TXT.txt
-rw-rw-r-- student/student 0 2022-04-01 16:02 v
student@U20:~/Documents$ nano TXT.txt
student@U20:~/Documents$ grep aabb TXT.txt
aabb
student@U20:~/Documents$ expr 10 + 2
expr: syntax error: unexpected argument '+2'
student@U20:~/Documents$ expr 10 + 2

```

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Activities Terminal Apr 1 16:17
student@U20: ~/Documents
n
NEW/
NEW/file2.txt
NEW/file1.txt
o
TXT/
TXT/TXT.txt
TXT/NEW2/
TXT/NEW2/file2.txt
TXT/NEW2/file1.txt
TXT/NEW/
TXT/NEW/file2.txt
TXT/NEW/file1.txt
TXT/a.txt
TXT.txt
v
student@U20:~/Documents$ ls
a all.tar b c g h j n NEW o TXT TXT.txt v
student@U20:~/Documents$ tar -tvf all.tar
-rw-rw-r-- student/student 0 2022-04-01 16:02 a
-rw-rw-r-- student/student 0 2022-04-01 16:02 b
-rw-rw-r-- student/student 0 2022-04-01 16:02 c
-rw-rw-r-- student/student 0 2022-04-01 16:02 g
-rw-rw-r-- student/student 0 2022-04-01 16:02 h
-rw-rw-r-- student/student 0 2022-04-01 16:02 j
-rw-rw-r-- student/student 0 2022-04-01 16:02 n
drwxrwxr-x student/student 0 2022-03-30 03:33 NEW/
-rw-rw-r-- student/student 0 2022-03-30 03:33 NEW/file2.txt
-rw-rw-r-- student/student 0 2022-03-30 03:33 NEW/file1.txt
-rw-rw-r-- student/student 0 2022-04-01 16:02 o
drwxrwxr-x student/student 0 2022-03-30 03:40 TXT/
-rw-rw-r-- student/student 86 2022-03-30 03:40 TXT/TXT.txt
drwxrwxr-x student/student 0 2022-03-30 03:35 TXT/NEW2/
-rw-rw-r-- student/student 0 2022-03-30 03:35 TXT/NEW2/file2.txt
-rw-rw-r-- student/student 0 2022-03-30 03:35 TXT/NEW2/file1.txt
drwxrwxr-x student/student 0 2022-03-30 03:33 TXT/NEW/
-rw-rw-r-- student/student 0 2022-03-30 03:33 TXT/NEW/file2.txt
-rw-rw-r-- student/student 0 2022-03-30 03:33 TXT/NEW/file1.txt
-rwxr-xr-x student/student 0 2022-03-30 03:35 TXT/a.txt
-rw-rw-r-- student/student 0 2022-03-30 03:31 TXT.txt
-rw-rw-r-- student/student 0 2022-04-01 16:02 v
student@U20:~/Documents$ nano TXT.txt
student@U20:~/Documents$ grep aabb TXT.txt
aabb
student@U20:~/Documents$ expr 10 + 2
expr: syntax error: unexpected argument '+2'
student@U20:~/Documents$ expr 10 + 2
12
student@U20:~/Documents$ expr 10 - 5
5
student@U20:~/Documents$ expr 10 / 5
2
student@U20:~/Documents$ expr 2 \* 10
20
student@U20:~/Documents$

```