

NAME : CH.YESWANTH  
ROLL NO :422131  
SECTION :A

## UNIX ASSIGNMENT 07

2. Write a shell script that list the memory usage and cpu usage of multiple machines.

### SECOND.SH

```
#!/bin/bash
```

```
machines=("student@192.168.24.147" "student@192.168.24.123")
```

```
for machine in "${machines[@]"; do  
    echo "Memory and CPU usage for $machine:"
```

```
    echo "Memory Usage:"  
    ssh "$machine" 'free -m'
```

```
    echo "CPU Usage:"  
    ssh "$machine" 'mpstat'
```

```
    echo  
done
```

```

yesh@yesh:~/Desktop/UNIX$ ./second.sh
Memory and CPU usage for student@192.168.24.147:
Memory Usage:
student@192.168.24.147's password:

```

	total	used	free	shared	buff/cache	available
Mem:	7718	2123	3579	12	2014	5310
Swap:	2047	0	2047			

```

CPU Usage:
student@192.168.24.147's password:
Linux 5.15.0-101-generic (da-OptiPlex-7070)    05/04/24    _x86_64_    (8 CPU)

03:13:05 PM IST  CPU    %usr    %nice    %sys %iowait    %irq    %soft    %steal    %guest    %gnice    %idle
03:13:05 PM IST  all     0.53     0.02     0.16    0.79     0.00     0.00     0.00     0.00     0.00     98.50

Memory and CPU usage for student@192.168.24.123:
Memory Usage:
student@192.168.24.123's password:

```

	total	used	free	shared	buff/cache	available
Mem:	7757	1367	4961	18	1429	6079
Swap:	2047	0	2047			

```

CPU Usage:
student@192.168.24.123's password:
Linux 4.15.0-213-generic (nit-OptiPlex-7070)  Friday 05 April 2024    _x86_64_    (8 CPU)

03:13:28 IST  CPU    %usr    %nice    %sys %iowait    %irq    %soft    %steal    %guest    %gnice    %idle
03:13:28 IST  all     0.64     0.00     0.62    0.25     0.00     0.00     0.00     0.00     0.00     98.48

yesh@yesh:~/Desktop/UNIX$ █

```

1. Write shell script for commands :

more,nl,nice,passwd,pr,rlogin,rcp,rsh,talk,telnet,tput,ty,uname,wc,who,write

## MORE COMMAND

```
yesh@yesh: ~/Desktop/UNIX
Lucas Robinson
yesh@yesh:~/Desktop/UNIX$ more file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
```

```
yesh@yesh: ~/Desktop/UNIX
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
--More--(38%)
```

```
yesh@yesh: ~/Desktop/UNIX
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
--More--(77%)
```

```
yesh@yesh:~/Desktop/UNIX$ more -n 20 file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
--More--(20%)
```

```
yesh@yesh:~/Desktop/UNIX$ more +10 file1.txt
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
```

## NL COMMAND

```
yesh@yesh:~/Desktop/UNIX$ nl file1.txt
 1 Emma Smith
 2 Liam Johnson
 3 Olivia Williams
 4 Noah Jones
 5 Ava Brown
 6 William Davis
 7 Sophia Miller
 8 James Wilson
 9 Isabella Moore
10 Benjamin Taylor
11 Mia Anderson
12 Mason Thomas
13 Charlotte Jackson
14 Elijah White
15 Amelia Harris
16 Oliver Martin
17 Harper Thompson
18 Jacob Garcia
19 Evelyn Martinez
20 Lucas Robinson
21 Emma Smith
22 Liam Johnson
23 Olivia Williams
24 Noah Jones
25 Ava Brown
26 William Davis
27 Sophia Miller
28 James Wilson
29 Isabella Moore
30 Benjamin Taylor
31 Mia Anderson
32 Mason Thomas
33 Charlotte Jackson
34 Elijah White
35 Amelia Harris
36 Oliver Martin
37 Harper Thompson
```

```
100 Lucas Robinson
yesh@yesh:~/Desktop/UNIX$ nl --body-numbering=n file1.txt
    Emma Smith
    Liam Johnson
    Olivia Williams
    Noah Jones
    Ava Brown
    William Davis
    Sophia Miller
    James Wilson
    Isabella Moore
    Benjamin Taylor
    Mia Anderson
    Mason Thomas
    Charlotte Jackson
    Elijah White
    Amelia Harris
    Oliver Martin
    Harper Thompson
    Jacob Garcia
    Evelyn Martinez
    Lucas Robinson
    Emma Smith
    Liam Johnson
    Olivia Williams
    Noah Jones
    Ava Brown
    William Davis
    Sophia Miller
    James Wilson
    Isabella Moore
```

```
or available locally via: info --corrections nl invocation
yesh@yesh:~/Desktop/UNIX$ nl -v 10 file1.txt
10 Emma Smith
11 Liam Johnson
12 Olivia Williams
13 Noah Jones
14 Ava Brown
15 William Davis
16 Sophia Miller
17 James Wilson
18 Isabella Moore
19 Benjamin Taylor
20 Mia Anderson
21 Mason Thomas
22 Charlotte Jackson
23 Elijah White
24 Amelia Harris
25 Oliver Martin
26 Harper Thompson
27 Jacob Garcia
28 Evelyn Martinez
29 Lucas Robinson
30 Emma Smith
```

```
103 Lucas Robinson
yesh@yesh:~/Desktop/UNIX$ nl -i 2 file1.txt
 1 Emma Smith
 3 Liam Johnson
 5 Olivia Williams
 7 Noah Jones
 9 Ava Brown
11 William Davis
13 Sophia Miller
15 James Wilson
17 Isabella Moore
19 Benjamin Taylor
21 Mia Anderson
23 Mason Thomas
25 Charlotte Jackson
27 Elijah White
29 Amelia Harris
31 Oliver Martin
33 Harper Thompson
35 Jacob Garcia
37 Evelyn Martinez
39 Lucas Robinson
41 Emma Smith
43 Liam Johnson
45 Olivia Williams
47 Noah Jones
49 Ava Brown
```

## NICE COMMAND

```
yesh@yesh:~$ nice -n 18 ls
Desktop  Documents  Downloads  Music  Pictures  Public  snap  Templates  Videos
yesh@yesh:~$ cd Desktop
yesh@yesh:~/Desktop$ cd UNIX
yesh@yesh:~/Desktop/UNIX$ nice -n 10 cat file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
```

## PRINTING NICENESS OF CURRENT PROCESSES

```
yesh@yesh:~/Desktop/UNIX$ ps -eo "%n"
NI
0
0
-20
-20
-20
-20
0
-20
0
0
-20
0
0
0
0
0
0
-
```



## PASSWD

```
yesh@yesh:~$ passwd
Changing password for yesh.
Current password:
New password:
Retype new password:
passwd: password updated successfully
yesh@yesh:~$
```

## PR

```
yesh@yesh:~/Desktop/UNIX$ pr file1.txt
```

2024-04-05 22:27

file1.txt

Page 1

Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore  
Benjamin Taylor  
Mia Anderson  
Mason Thomas  
Charlotte Jackson  
Elijah White  
Amelia Harris  
Oliver Martin  
Harper Thompson  
Jacob Garcia  
Evelyn Martinez  
Lucas Robinson  
Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore  
Benjamin Taylor  
Mia Anderson

Harper Thompson  
Jacob Garcia  
Evelyn Martinez  
Lucas Robinson  
Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore  
Benjamin Taylor  
Mia Anderson  
Mason Thomas  
Charlotte Jackson  
Elijah White  
Amelia Harris  
Oliver Martin  
Harper Thompson  
Jacob Garcia  
Evelyn Martinez  
Lucas Robinson  
Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore

```
yesh@yesh:~/Desktop/UNIX$ pr -t file1.txt
```

Emma Smith

Liam Johnson

Olivia Williams

Noah Jones

Ava Brown

William Davis

Sophia Miller

James Wilson

Isabella Moore

Benjamin Taylor

Mia Anderson

Mason Thomas

Charlotte Jackson

Elijah White

Amelia Harris

Oliver Martin

Harper Thompson

Jacob Garcia

Evelyn Martinez

Lucas Robinson

Emma Smith

Liam Johnson

Olivia Williams

Noah Jones

Ava Brown

William Davis

Sophia Miller

James Wilson

Isabella Moore

```
yesh@yesh:~/Desktop/UNIX$ pr -o 10 file1.txt
```

2024-04-05 22:27

file1.txt

Page 1

Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore  
Benjamin Taylor  
Mia Anderson  
Mason Thomas  
Charlotte Jackson  
Elijah White  
Amelia Harris  
Oliver Martin  
Harper Thompson  
Jacob Garcia  
Evelyn Martinez  
Lucas Robinson  
Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller

```
yesh@yesh:~/Desktop/UNIX$ pr -3 file1.txt
```

2024-04-05 22:27

file1.txt

Page 1

Emma Smith	Amelia Harris	James Wilson
Liam Johnson	Oliver Martin	Isabella Moore
Olivia Williams	Harper Thompson	Benjamin Taylor
Noah Jones	Jacob Garcia	Mia Anderson
Ava Brown	Evelyn Martinez	Mason Thomas
William Davis	Lucas Robinson	Charlotte Jackson
Sophia Miller	Emma Smith	Elijah White
James Wilson	Liam Johnson	Amelia Harris
Isabella Moore	Olivia Williams	Oliver Martin
Benjamin Taylor	Noah Jones	Harper Thompson
Mia Anderson	Ava Brown	Jacob Garcia
Mason Thomas	William Davis	Evelyn Martinez
Charlotte Jackson	Sophia Miller	Lucas Robinson
Elijah White	James Wilson	Emma Smith
Amelia Harris	Isabella Moore	Liam Johnson
Oliver Martin	Benjamin Taylor	Olivia Williams
Harper Thompson	Mia Anderson	Noah Jones
Jacob Garcia	Mason Thomas	Ava Brown
Evelyn Martinez	Charlotte Jackson	William Davis
Lucas Robinson	Elijah White	Sophia Miller
Emma Smith	Amelia Harris	James Wilson
Liam Johnson	Oliver Martin	Isabella Moore

```
yesh@yesh:~/Desktop/UNIX$ pr -t -o 10 file1.txt
```

```
Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore  
Benjamin Taylor  
Mia Anderson  
Mason Thomas  
Charlotte Jackson  
Elijah White  
Amelia Harris  
Oliver Martin  
Harper Thompson  
Jacob Garcia  
Evelyn Martinez  
Lucas Robinson  
Emma Smith  
Liam Johnson  
Olivia Williams  
Noah Jones  
Ava Brown  
William Davis  
Sophia Miller  
James Wilson  
Isabella Moore  
Benjamin Taylor  
Mia Anderson  
Mason Thomas  
Charlotte Jackson  
Elijah White  
Amelia Harris  
Oliver Martin
```

## Rsync COMMAND(instead of rcp)

```
sridharvarma@ubuntu:~$ sudo rsync -avz /home/sridharvarma/Desktop/eg2.txt sridhar@172.50.5.182:/home/Desktop  
sridhar@172.50.5.182's password:  
sending incremental file list  
  
sent 75 bytes  received 12 bytes  19.33 bytes/sec  
total size is 29  speedup is 0.33  
sridharvarma@ubuntu:~$
```

# RLOGIN

```
ubuntu2 (Running) - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal Apr 8 12:33
sridhar@sridhar-VirtualBox: ~/Desktop/scripts

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

sridharvarma@ubuntu:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:6c:59:23 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
        valid_lft 86268sec preferred_lft 86268sec
    inet6 fe80::ea31:719:f57e:a6c0/64 scope link noprefixroute
        valid_lft forever preferred_lft forever

sridharvarma@ubuntu:~$ sudo systemctl status rlogin
[sudo] password for sridharvarma:
Unit rlogin.service could not be found.

sridharvarma@ubuntu:~$ sudo spt-get install rsh-client
sudo: spt-get: command not found

sridharvarma@ubuntu:~$ sudo apt-get install rsh-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'openssh-client' instead of 'rsh-client'
openssh-client is already the newest version (1:9.0p1-1ubuntu8).
openssh-client set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.

sridharvarma@ubuntu:~$ rlogin sridhar@172.50.5.182
The authenticity of host '172.50.5.182 (172.50.5.182)' can't be established.
ED25519 key fingerprint is SHA256:YRVTKLrMBQm72iRmq7n8YAZM6PCFZXuoCFpa8aI7qE.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])?
```

```
ubuntu2 (Running) - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal Apr 8 12:33
sridhar@sridhar-VirtualBox: ~/Desktop/scripts

Welcome to Ubuntu 23.04 (GNU/Linux 6.2.0-39-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

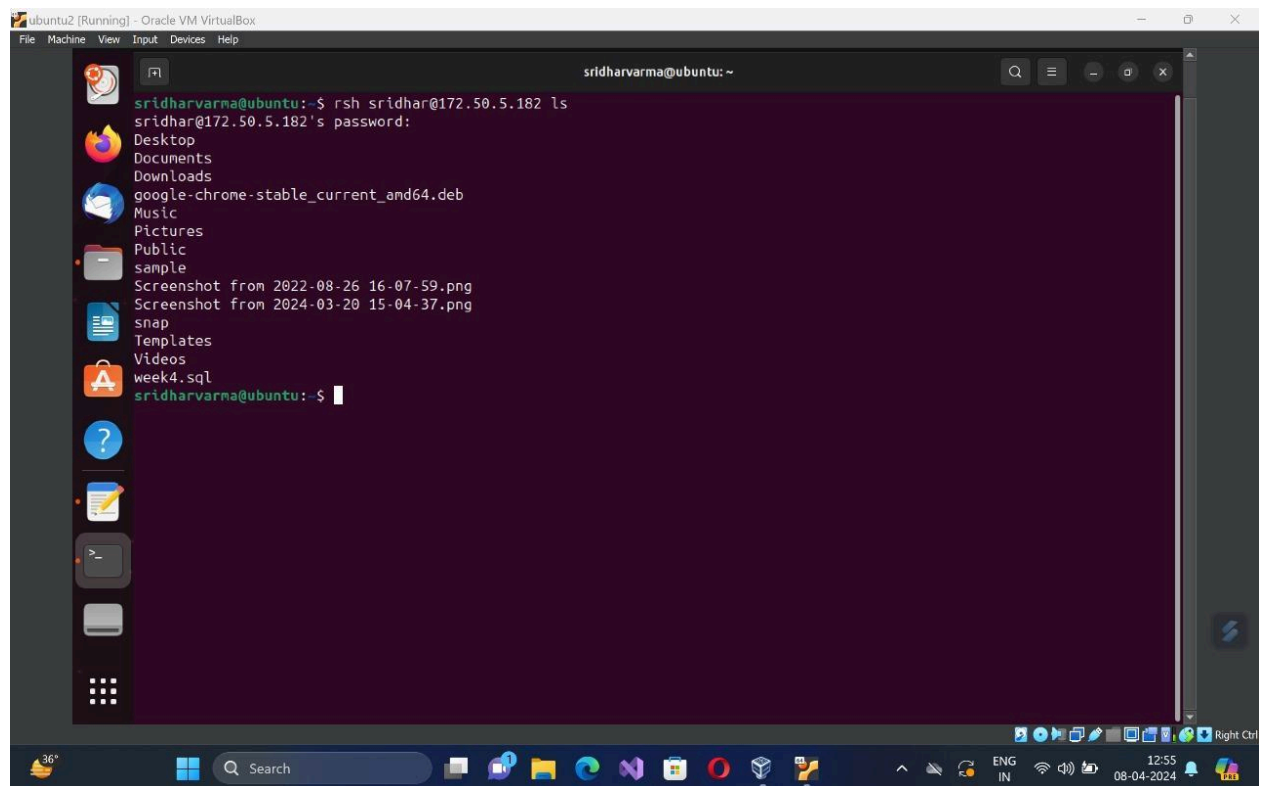
1 update can be applied immediately.
To see these additional updates run: apt list --upgradable

Last login: Wed Mar 27 14:25:15 2024 from 172.50.13.211
sridhar@sridhar-VirtualBox:~$ ls
Desktop
Documents
Downloads
google-chrome-stable_current_amd64.deb
Music
Pictures
Public
sample
'Screenshot from 2022-08-26 16-07-59.png'
'Screenshot from 2024-03-20 15-04-37.png'
snap
Templates
Videos
week4.sql

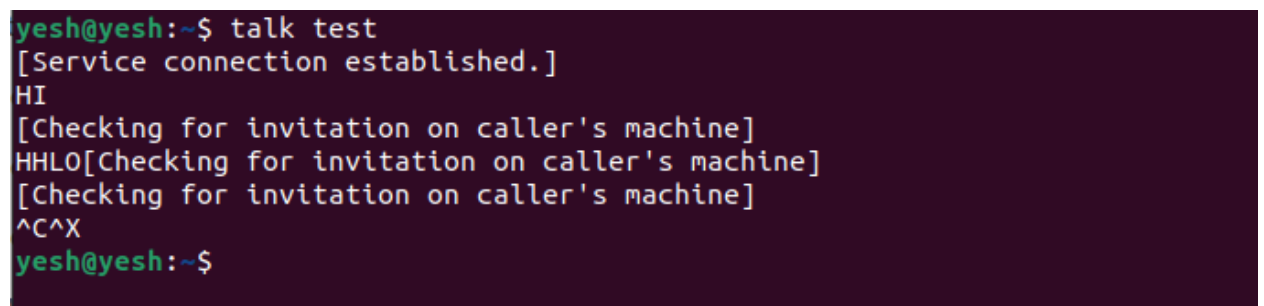
sridhar@sridhar-VirtualBox:~$ cd Desktop
sridhar@sridhar-VirtualBox:~/Desktop$ ls
422271 bankers.c eg.txt mv.c oldpath.c sample tel.txt
bankers bankers.o gitub 'New Folder' os scripts trtqfd

sridhar@sridhar-VirtualBox:~/Desktop$ cd scripts
sridhar@sridhar-VirtualBox:~/Desktop/scripts$ ls
key.txt token.txt week11 week13 week4 week7
key.txt.pub unix-lab week12 week3 week6
```

## RSH



## TALK



# TELNET

```
Fedora [Running] - Oracle VM VirtualBox

liveuser@localhost-live:~$ telnet 10.0.2.15 23
Running scriptlet: telnet-1:0.17-90.fc39.x86_64 1/1
Verifying      : telnet-1:0.17-90.fc39.x86_64 1/1
Installed:
telnet-1:0.17-90.fc39.x86_64

Complete!
liveuser@localhost-live:~$ telnet 10.0.2.15 23
Trying 10.0.2.15...
Connected to 10.0.2.15.
Escape character is '^['.

Kernel 6.5.6-300.fc39.x86_64 on an x86_64 (1)
localhost-live login: hi
Password:
Login incorrect

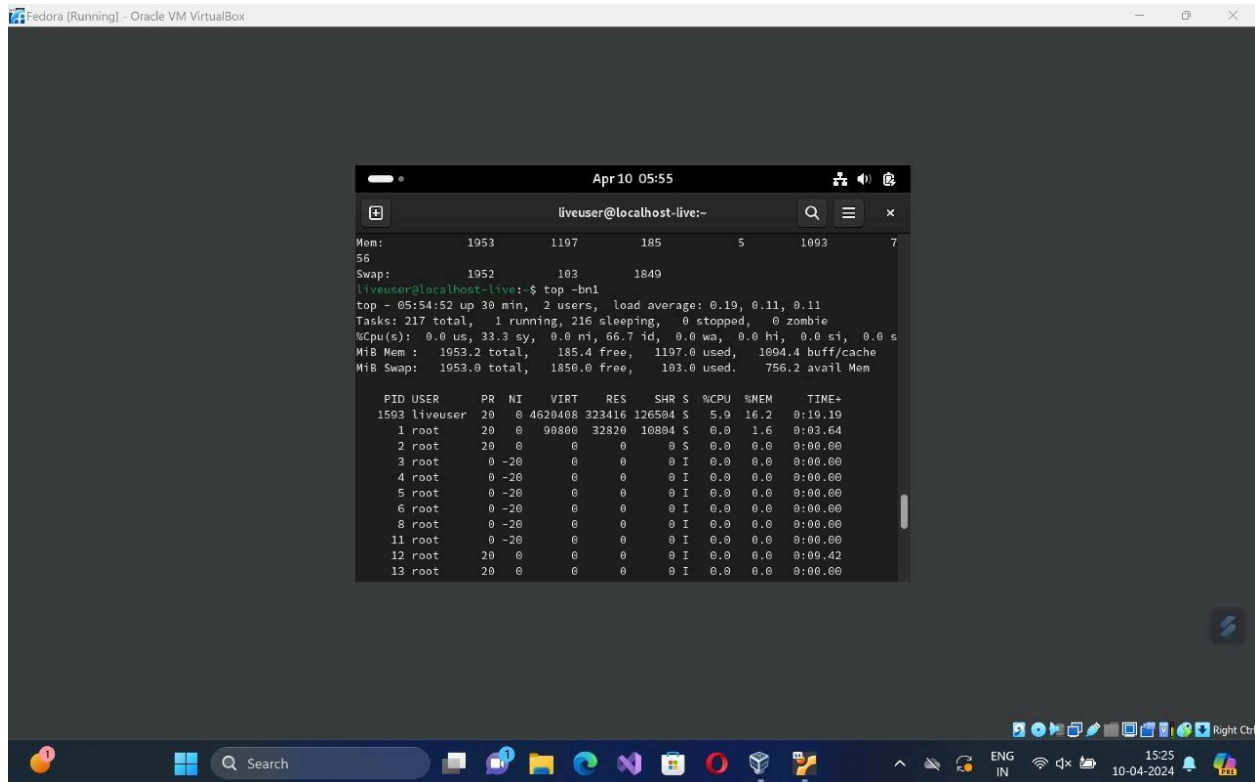
localhost-live login: liveuser
Last login: Wed Apr 10 05:24:29 on tty2
[liveuser@localhost-live ~]$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
[liveuser@localhost-live ~]$
```

```
Fedora [Running] - Oracle VM VirtualBox

localhost-live login: liveuser
Last login: Wed Apr 10 05:24:29 on tty2
[liveuser@localhost-live ~]$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
[liveuser@localhost-live ~]$ ^C
[liveuser@localhost-live ~]$ exit
logout
Connection closed by foreign host.
liveuser@localhost-live:~$ free -m
              total        used        free      shared  buff/cache   availab
le
Mem:           1953         1197          185           5         1003           7
Swap:           1952          103         1849

liveuser@localhost-live:~$ top -bn1
top - 05:54:52 up 30 min,  2 users,  load average: 0.19, 0.11, 0.11
Tasks: 217 total,   1 running, 216 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.0 us, 33.3 sy,   0.0 ni, 66.7 id,   0.0 wa,   0.0 hi,   0.0 si,   0.0 st
MiB Mem : 1953.2 total,  185.4 free,  1197.0 used,  1004.4 buff/cache
MiB Swap: 1953.0 total,  1850.0 free,   103.0 used,  756.2 avail Mem
```





## TPUT

```
yesh@yesh:~/Desktop/UNIX$ tput -V init
ncurses 6.3.20211021
yesh@yesh:~/Desktop/UNIX$ tput -S
init
^C
yesh@yesh:~/Desktop/UNIX$ tput clear
```

## TTY

```
yesh@yesh:~/Desktop/UNIX$ tty
/dev/pts/1
yesh@yesh:~/Desktop/UNIX$ tty -s
```

## uname

```
yesh@yesh:~$ uname -a
Linux yesh 6.5.0-27-generic #28-22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Mar 15 10:51:06 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
yesh@yesh:~$ uname
Linux
yesh@yesh:~$ uname -s
Linux
yesh@yesh:~$ uname -p
x86_64
yesh@yesh:~$ uname -m
x86_64
yesh@yesh:~$ uname -o
uname-o: command not found
yesh@yesh:~$ uname -O
GNU/Linux
```

## wc

or available locally via: info (coreutils) wc invocation

```
yesh@yesh:~/Desktop/UNIX$ wc file1.txt
 100  200 1390 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -c file1.txt
1390 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -m file1.txt
1390 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -l file1.txt
100 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -w file1.txt
wc: file1.txt: No such file or directory
yesh@yesh:~/Desktop/UNIX$ wc -w file1.txt
200 file1.txt
```

## who

or available locally via: info (coreutils) who invocation

```
yesh@yesh:~/Desktop/UNIX$ who -a
      system boot  2024-04-08 08:45
      run-level 5  2024-04-08 08:45
yesh  + tty2      2024-04-08 08:45 00:18          1291 (tty2)
      pts/0      2024-04-08 09:03          3136 id=ts/0  term=0 exit=100
yesh@yesh:~/Desktop/UNIX$ who -b
      system boot  2024-04-08 08:45
yesh@yesh:~/Desktop/UNIX$ who -l
yesh@yesh:~/Desktop/UNIX$ who -u
yesh  tty2      2024-04-08 08:45 00:19          1291 (tty2)
yesh@yesh:~/Desktop/UNIX$ who -d
      pts/0      2024-04-08 09:03          3136 id=ts/0  term=0 exit=100
```

## WRITE

```
yesh@yesh:~$ who
yesh      tty2          2024-04-10 15:10 (tty2)
test      tty3          2024-04-10 15:16 (tty3)
yesh@yesh:~$ write test
hio
hldij
gyuoadh
yesh@yesh:~$
```