

Name :- B.Sushanth Jonas

Roll no :- 422119

Section:- A

Unix Assignment

Assignment 07:

1. Write shell script for commands :

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

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

1

more command

echo "Displaying contents of a file using 'more':"

more file1.txt

echo ""

nl command

echo "Displaying contents of a file with line numbers using 'nl':"

nl file1.txt

echo ""

nice command

echo "Displaying process priority using 'nice':"

nice

echo ""

wc command

echo "Counting lines, words, and characters in a file using 'wc':"

wc file1.txt

echo ""

who command

echo "Displaying currently logged in users using 'who':"

who

echo ""

pr command

echo "Paginating contents of a file using 'pr':"

pr file1.txt

echo ""

uname command

echo "Displaying system information using 'uname':"

uname -a

```
echo ""
```

```
# tput command
```

```
echo "Getting terminal capabilities using 'tput':"
```

```
tput cols
```

```
echo ""
```

```
# tty command
```

```
echo "Displaying terminal name using 'tty':"
```

```
tty
```

```
echo ""
```

```
# passwd command
```

```
echo "Changing current user's password using 'passwd':"
```

```
passwd
```

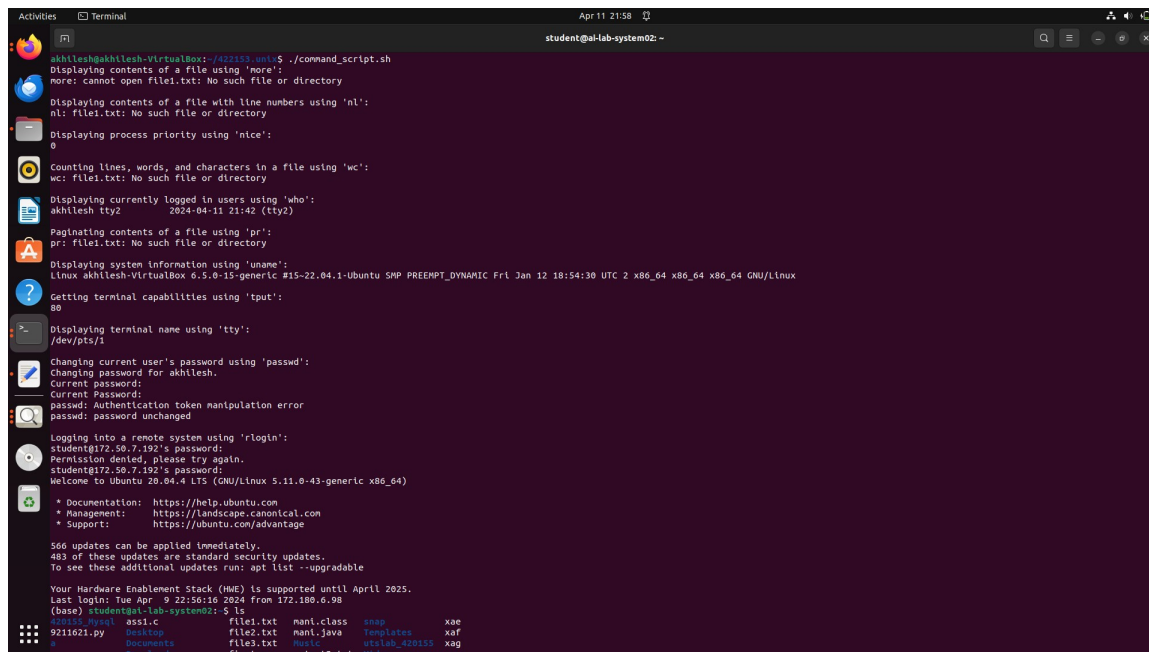
```
echo ""
```

```
# rlogin command
```

```
echo "Logging into a remote system using 'rlogin':"
```

```
rlogin student@172.50.7.192
```

```
echo ""
```



```
Activities Terminal Apr 11 21:38 student@gal-lab-system02: ~
akhilesh@akhilesh-VirtualBox: ~/422153.unix$ ./command_script.sh
Displaying contents of a file using 'more':
more: cannot open file1.txt: No such file or directory
Displaying contents of a file with line numbers using 'nl':
nl: file1.txt: No such file or directory
Displaying process priority using 'nice':
0
Counting lines, words, and characters in a file using 'wc':
wc: file1.txt: No such file or directory
Displaying currently logged in users using 'who':
akhilesh tty2      2024-04-11 21:42 (tty2)
Paginating contents of a file using 'pr':
pr: file1.txt: No such file or directory
Displaying system information using 'uname':
Linux akhilesh-VirtualBox 6.5.0-15-generic #15-22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Jan 12 18:54:30 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
Getting terminal capabilities using 'tput':
80
Displaying terminal name using 'tty':
/dev/pts/1
Changing current user's password using 'passwd':
Changing password for akhilesh.
Current password:
passwd: Authentication token manipulation error
passwd: password unchanged
Logging into a remote system using 'rlogin':
student@172.50.7.192's password:
Permission denied, please try again.
student@172.50.7.192's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.11.0-43-generic x86_64)

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

566 updates can be applied immediately.
483 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Your Hardware Enablement Stack (HWE) is supported until April 2025.
Last login: Tue Apr  9 22:50:10 2024 from 172.180.0.98
(base) student@gal-lab-system02: $ ls
.          .local  .ssh     file1.txt  man1.class  soap      xae
Desktop   .mail   .ssh.c   file2.txt  man1.java  templates  xaf
0211021.py Documents file3.txt  music      utslab_420155 xag
Downloads first.c  output2.txt utslab
```

```

Activities Terminal
Apr 11 21:58
student@ai-lab-system02: ~

Displaying process priority using 'nice':
0

Counting lines, words, and characters in a file using 'wc':
wc: file1.txt: No such file or directory

Displaying currently logged in users using 'who':
ahkilesh tty2      2024-04-11 21:42 (tty2)

Paginating contents of a file using 'pr':
pr: file1.txt: No such file or directory

Displaying system information using 'uname':
Linux ahkilesh-VirtualBox 6.5.0-15-generic #15-22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Jan 12 18:54:30 UTC 2 x86_64 x86_64 GNU/Linux

Getting terminal capabilities using 'tput':
#0

Displaying terminal name using 'tty':
/dev/pts/1

Changing current user's password using 'passwd':
Changing password for ahkilesh.
Current password:
Current Password:
passwd: Authentication token manipulation error
passwd: password unchanged

Logging into a remote system using 'login':
student@172.50.7.192's password:
Permission denied, please try again.
student@172.50.7.192's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.11.0-43-generic x86_64)

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

566 updates can be applied immediately.
483 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Your Hardware Enablement Stack (HWE) is supported until April 2025.
Last login: Tue Apr 9 22:50:10 2024 from 172.180.6.98
(base) student@ai-lab-system02:~$ ls
ahkilesh_mysql  ass1.c      file1.txt  mani.class  snap       xae
9211021.py      docuents   file2.txt  mani.java   templates  xaf
a.c             downloads  first.c    output2.txt videoss    xag
a.cpp           exe        hello      output.txt  xaa
ahkilesh        eclipse    hello.c    pictures    xab
a.out           eclipse-workspace  main.class Public      xac
a.py            err_det.py  main.java  __pycache__ xad
(base) student@ai-lab-system02:~$

```

2

Define the list of remote machines

`machines=("172.50.7.192" "172.50.12.28")`

SSH options for executing commands without prompting for password

`ssh_options="-oBatchMode=yes -oStrictHostKeyChecking=no"`

Loop through each machine and get memory and CPU usage

for machine in "\${machines[@]}"; do

 echo "Machine: \$machine"

 echo "_____"

 # Get memory usage

 echo "Memory Usage:"

 ssh \$ssh_options \$machine "free -m"

 # Get CPU usage

 echo "CPU Usage:"

 ssh \$ssh_options \$machine "top -bn1 | grep 'Cpu(s)'"

 echo "_____"

done

file:///home/student/Output_q1_q2.pdf

```
akhlesh@akhlesh-VirtualBox:~/422153.un1$  
akhlesh@akhlesh-VirtualBox:~/422153.un1$ chmod ex new.sh  
akhlesh@akhlesh-VirtualBox:~/422153.un1$ ./new.sh  
Machine: 172.50.7.192  
-----  
Memory Usage:  
CPU Usage:  
akhlesh@172.50.7.192: Permission denied (publickey,password).  
CPU Usage:  
akhlesh@172.50.7.192: Permission denied (publickey,password).  
-----  
Machine: 172.50.12.28  
-----  
Memory Usage:  
8.05%
```