

OLD DOMINION UNIVERSITY

CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

Assignment #1 Basic Linux Commands

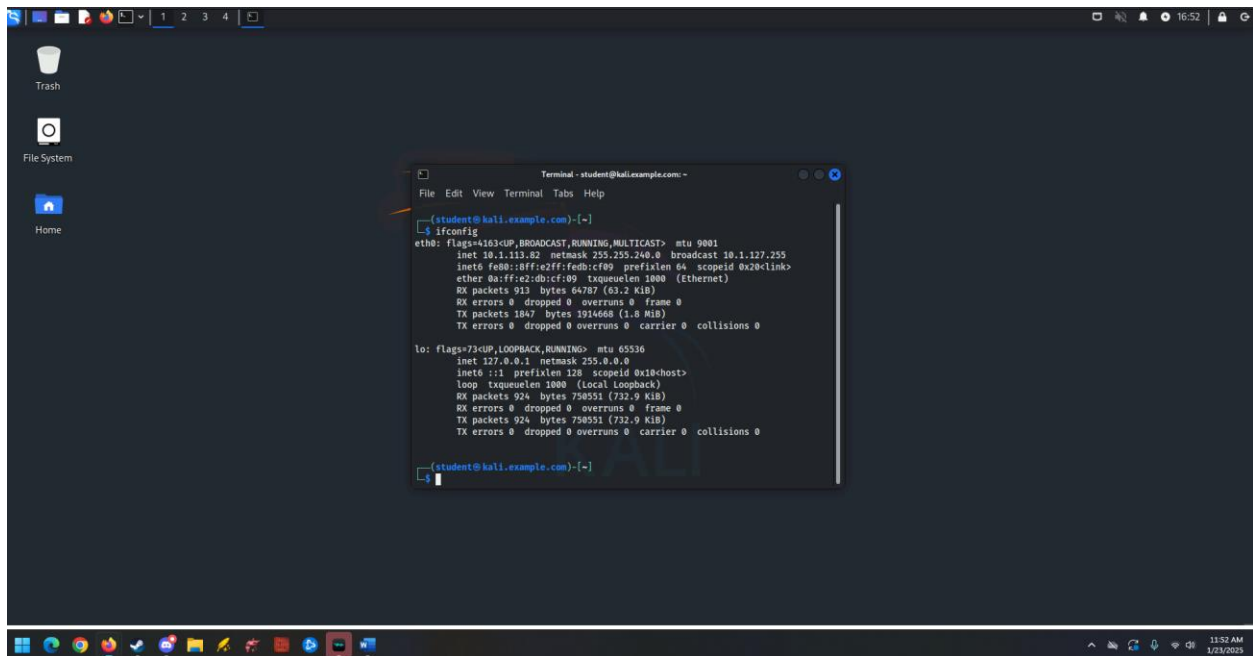
Jo Brown

01196622

Below is the snippet of a sample lab report.

TASK A

1. How do you find the IP address of your Linux machine using the command line?



```
Terminal - student@kali.example.com -
File Edit View Terminal Tabs Help

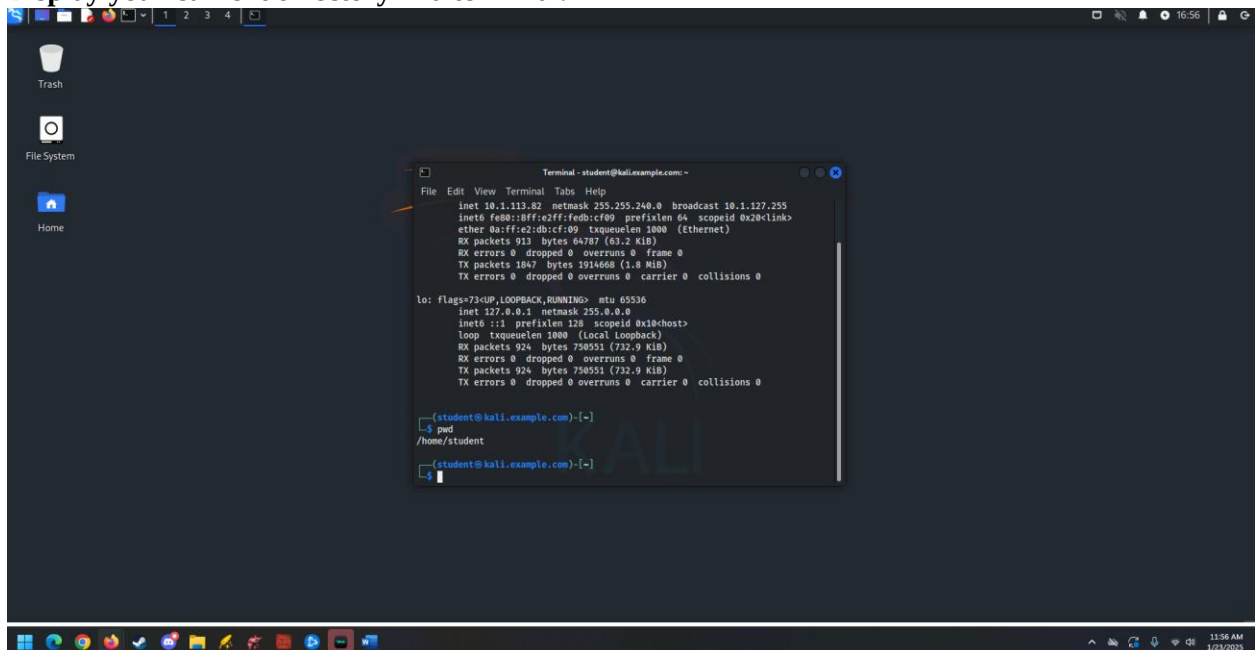
(student@kali.example.com)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 9001
    inet 10.1.113.82 netmask 255.255.240.0 broadcast 10.1.127.255
    inet6 fe80::8ff:fe2f:fedb:c09 prefixlen 64 scopeid 0x20<link>
    ether 8a:ff:e2:db:cf:09 txqueuelen 1000 (Ethernet)
    RX packets 913 bytes 64787 (63.2 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1847 bytes 1914668 (1.8 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 924 bytes 750551 (732.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 924 bytes 750551 (732.9 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(student@kali.example.com)-[~]
$
```

This is the screenshot for determining the IP address of my linux terminal on the cyber range. I used the command “ifconfig” to find the IP address was 127.0.0.1

2. Display your current directory in a terminal.



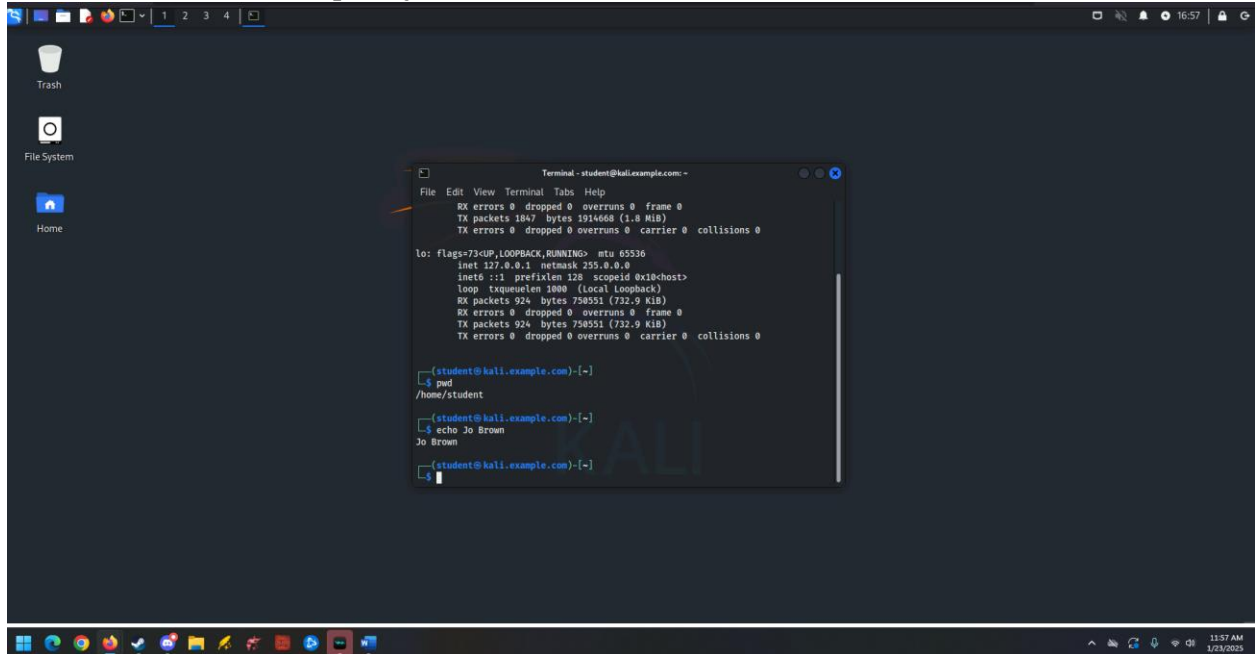
```
Terminal - student@kali.example.com -
File Edit View Terminal Tabs Help

(student@kali.example.com)-[~]
$ pwd
/home/student

(student@kali.example.com)-[~]
$
```

This is the screenshot for the display of the directory, which is /home/student. The command I used was “pwd”, standing for “print working directory”

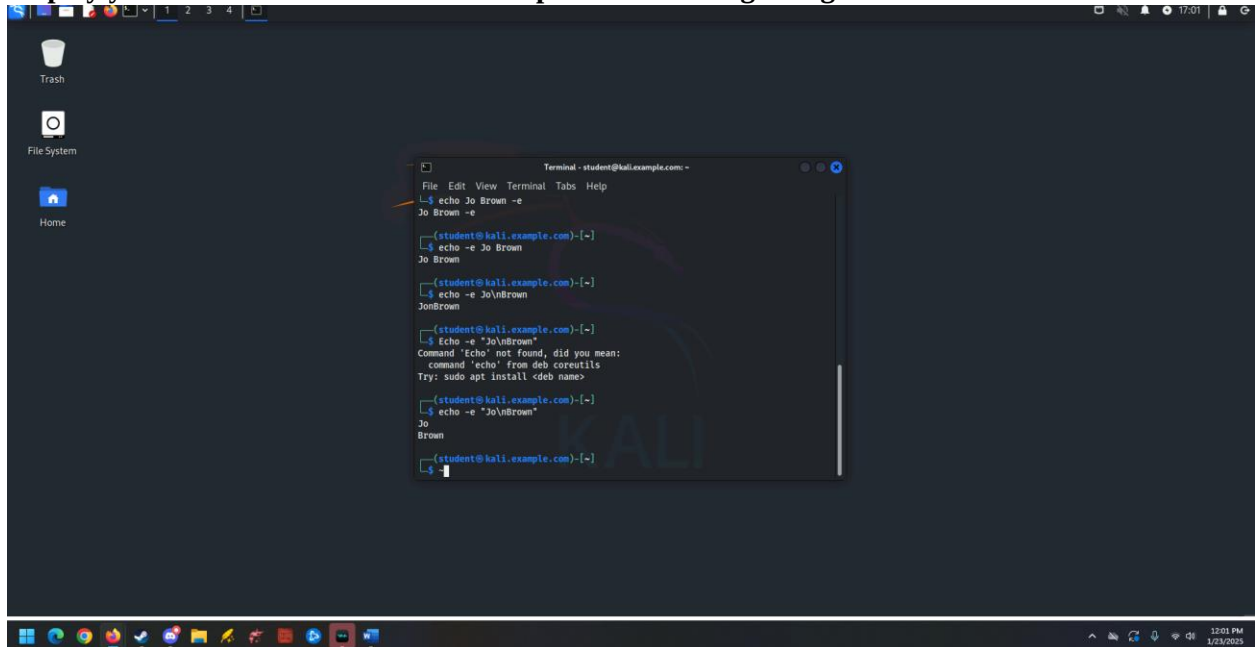
3. Use the echo command to print your name to the console.



```
Terminal - student@kali.example.com: ~  
File Edit View Terminal Tabs Help  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 1847 bytes 1914668 (1.8 MiB)  
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
inet 127.0.0.1 netmask 255.0.0.0  
inet6 ::1 prefixlen 128 scopeid 0x10<host>  
loop txqueuelen 1000 (Local Loopback)  
RX packets 924 bytes 750551 (732.9 KiB)  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 924 bytes 750551 (732.9 KiB)  
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
[student@kali.example.com]~  
$ pwd  
/home/student  
[student@kali.example.com]~  
$ echo Jo Brown  
Jo Brown  
[student@kali.example.com]~  
$
```

This is the “echo” command. It simply prints any string placed after it. In this case, my first & last name.

4. Display your first and last names in two separate lines using a single echo command



```
Terminal - student@kali.example.com: ~  
File Edit View Terminal Tabs Help  
[student@kali.example.com]~  
$ echo -e "Jo Brown -e"  
Jo Brown -e  
[student@kali.example.com]~  
$ echo -e "Jo Brown"  
Jo Brown  
[student@kali.example.com]~  
$ echo -e "Jo\nBrown"  
Jo  
Brown  
[student@kali.example.com]~  
$ Echo -e "Jo\nBrown"  
Command "Echo" not found, did you mean:  
  command "echo" from deb coreutils  
Try: sudo apt install cdeb namez  
[student@kali.example.com]~  
$ echo -e "Jo\nBrown"  
Jo  
Brown  
[student@kali.example.com]~  
$
```

Here is the line broken echo command. I used the suffix -e and placed the string in quotations with a \n before my last name to indicate a break in the line. -e allows the terminal to interpret \n as if one hits enter on a keyboard

5. How to change to home directory using cd command and, absolute pathname.

```
Terminal - student@kali.example.com: ~
File Edit View Terminal Tabs Help
└─$ mkdir example1

└─(student@kali.example.com)-[~]
└─$ cd example1

└─(student@kali.example.com)-[~/example1]
└─$ cd

└─(student@kali.example.com)-[~]
└─$ cd example1

└─(student@kali.example.com)-[~/example1]
└─$ /home/student
bash: /home/student: Is a directory

└─(student@kali.example.com)-[~/example1]
└─$ /home/student/
bash: /home/student/: Is a directory

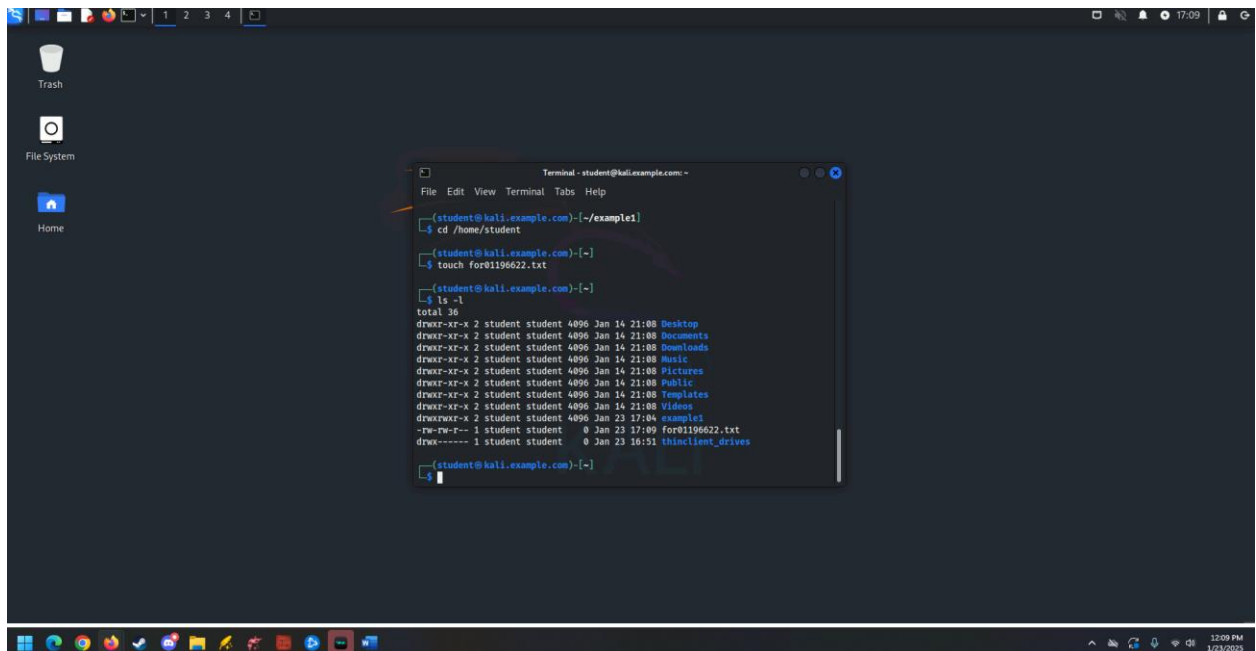
└─(student@kali.example.com)-[~/example1]
└─$ cd /home/student

└─(student@kali.example.com)-[~]
└─$
```

For this example, I made a new directory. From this directory, I used the “cd” command to bring my working directory back to /home/student (which is my home directory, determined by using echo \$HOME). I then went back to the example directory and added the absolute pathname to the cd command

6. Create a new file named “forXXXX.txt” in your home directory (replace “XXXX” with your own MIDAS). Then, use the long listing format to display the contents in your home directory.

What is the size of the file you just created?



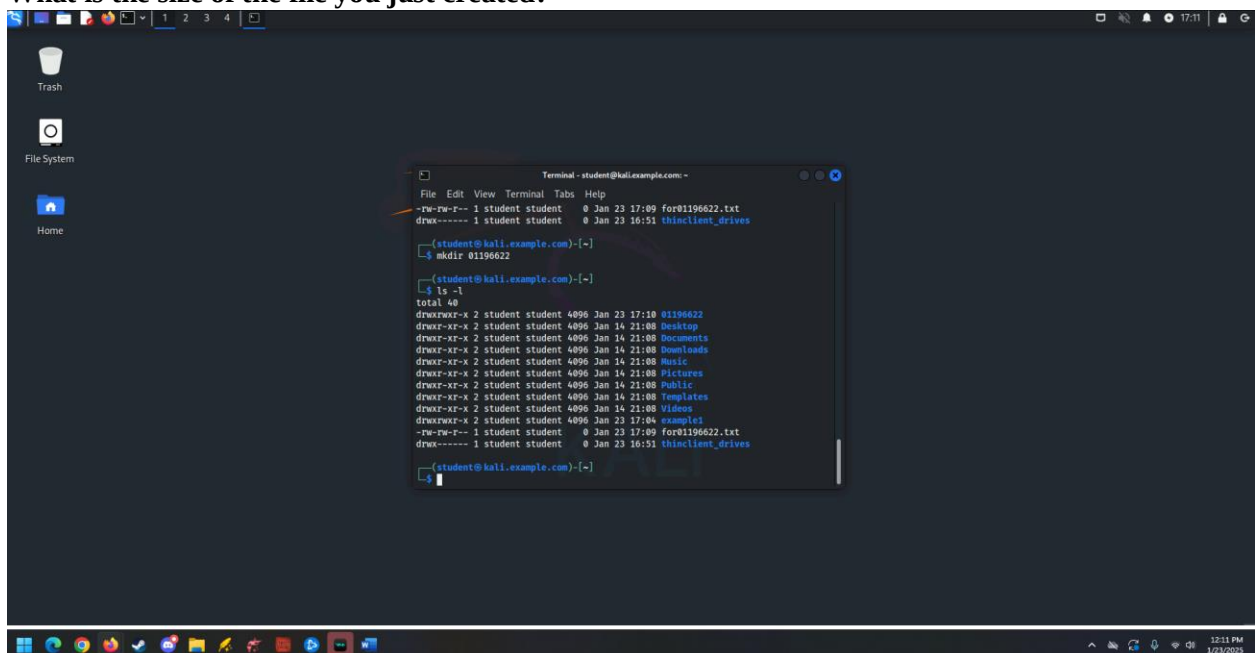
```
Terminal - student@kali.example.com -
File Edit View Terminal Tabs Help

(student@kali.example.com)-[~/example1]
$ cd /home/student
(student@kali.example.com)-[~]
$ touch for01196622.txt
(student@kali.example.com)-[~]
$ ls -l
total 36
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Desktop
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Documents
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Downloads
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Music
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Pictures
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Public
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Templates
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Videos
drwxrwxr-x 2 student student 4096 Jan 23 17:04 example1
-rw-rw-r-- 1 student student 0 Jan 23 17:09 for01196622.txt
drwx----- 1 student student 0 Jan 23 16:51 thinclient_drives
(student@kali.example.com)-[~]
$
```

I created the requested file using the “touch” command. ls -l is the command I used to display this listing of everything in my home directory. The file takes up 0 bits of space as it has no contents, only a file name

7. Create a new directory named “XXXX” in your home directory (replace “XXXX” with your own MIDAS). Then, use the long listing format to display the contents in your home directory.

What is the size of the file you just created?

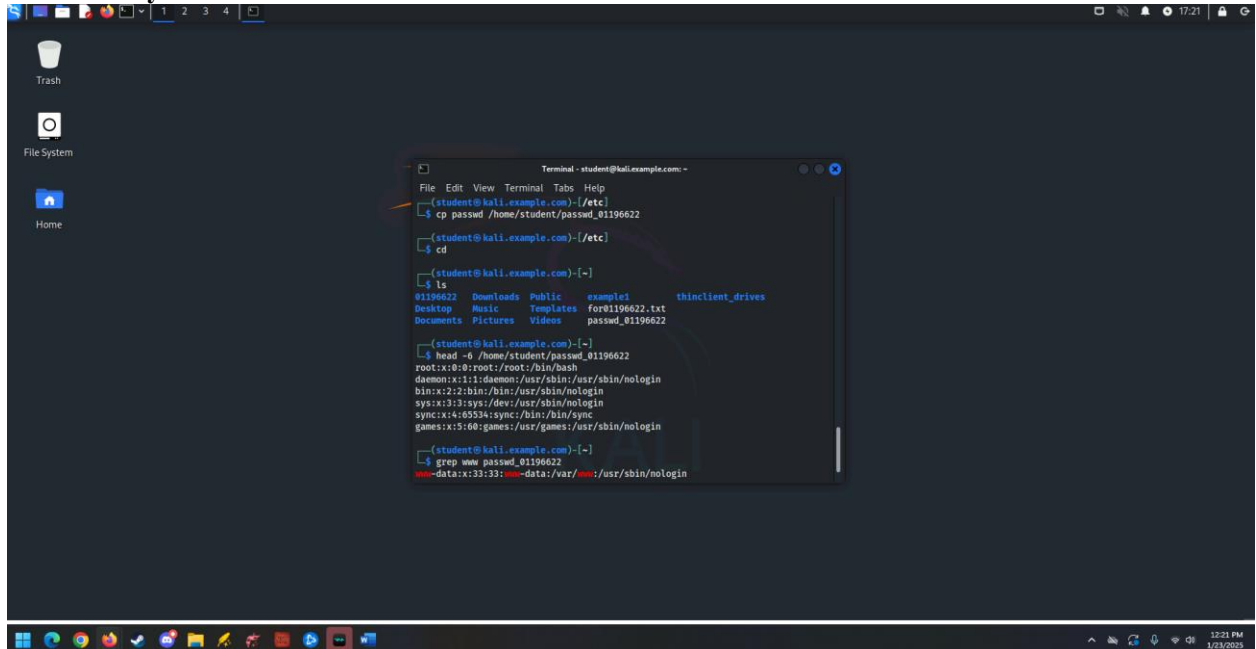


```
Terminal - student@kali.example.com -
File Edit View Terminal Tabs Help

-rw-rw-r-- 1 student student 0 Jan 23 17:09 for01196622.txt
drwx----- 1 student student 0 Jan 23 16:51 thinclient_drives
(student@kali.example.com)-[~]
$ mkdir 01196622
(student@kali.example.com)-[~]
$ ls -l
total 40
drwxrwxr-x 2 student student 4096 Jan 23 17:10 01196622
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Desktop
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Documents
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Downloads
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Music
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Pictures
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Public
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Templates
drwxr-xr-x 2 student student 4096 Jan 14 21:08 Videos
drwxrwxr-x 2 student student 4096 Jan 23 17:04 example1
-rw-rw-r-- 1 student student 0 Jan 23 17:09 for01196622.txt
drwx----- 1 student student 0 Jan 23 16:51 thinclient_drives
(student@kali.example.com)-[~]
$
```

I created the directory of my MIDAS ID using the “mkdir” command. Same as the last step, I used “ls -l” to display the readout. The file is 4096 bits (4kb), the basic size of an empty directory.

8. Copy `/etc/passwd` file to your home directory. The copy should be named as “passwd_XXXX” (replace “XXXX” with your own MIDAS) in your home directory. Then, complete the following two subtasks:
- Use the proper command to display the first six lines in this file.
 - Search keyword “www” in this file.



```
Terminal - student@kali.example.com: ~  
File Edit View Terminal Tabs Help  
-(student@kali.example.com)-[/etc]  
$ cp passwd /home/student/passwd_01196622  
-(student@kali.example.com)-[/etc]  
$ cd  
-(student@kali.example.com)-[~]  
$ ls  
01196622 Downloads Public examples thinclient_drives  
Desktop Music Templates for01196622.txt  
Documents Pictures Videos passwd_01196622  
-(student@kali.example.com)-[~]  
$ head -6 /home/student/passwd_01196622  
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/nologin  
sys:x:3:3:sys:/dev:/usr/sbin/nologin  
sync:x:4:65534:sync:/bin:/bin/sync  
games:x:5:40:games:/usr/games:/usr/sbin/nologin  
-(student@kali.example.com)-[~]  
$ grep www passwd_01196622  
-data:x:33:33:-data:/var/www:/usr/sbin/nologin
```

Here is the process for getting the passwd file into the home directory and renamed. I utilized the “cp” command while in the “/etc” directory to copy the passwd file into “/home/student” while simultaneously calling for the creation of a “passwd_01196622” file for the contents to be pasted into. I then went back to the home directory, listed to make sure the file was there. Then I utilized the “head” command. When used and a file is specified, head will read a specified number of lines of said file. In this instance, I appended “-6” to it, indicating the first six lines to be read. Then finally I used “grep” to search for the string “www” in the file. Not much else to say, grep is just the string search function in most linux distros.