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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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1. Introduction

This project mainly focouses on accessing and manipulating the files present in any linux system using Shell . We explored multiple fundamental Linux commands to interact with the OS and manage the files . We recorded the session in a file named a1script . We used commands like whoami, who and finger to see the detailed user and system information , date command to check the current date and time . We used file management commands like ls, ls -a , ls -a -l to view files in various formats. we created and showcased single line file using echo and multi-line file using cat command . And in last , we combined these files and exited the script , demonstrating practical use of these commands.

2. Objectives

The objectives of this work are :

- Understand the ' script' command which is used to record terminal sessions.
- Retrieve user and system information using 'whoami' , 'who' and 'finger' commands.
- View current date and time using 'date' command.
- Explore file management commands like 'ls' ,'ls -a', 'ls -a -1'.
- Create and manage files using 'cat' and 'echo' command.
- combine two files using shell commands.
- exit and save the session using 'exit' command.

3. Required tools and Software

3.1 Kali linux OS

Kali Linux (formerly known as BackTrack Linux) is an open-source, Debian-based Linux distribution which allows users to perform advanced penetration testing and security auditing. It runs on multiple platforms and is freely available and accessible to both information security professionals and hobbyists.

This distribution has several hundred tools, configurations, and scripts with industry-specific modifications that allow users to focus on tasks such as computer forensics, reverse engineering, and vulnerability detection, instead of dealing with unrelated activities. (Introduction, n.d.)

3.2 Linux terminal

The Linux command line is a text interface to your computer. Often referred to as the shell, terminal, console, prompt or various other names, it can give the appearance of being complex and confusing to use. Yet the ability to copy and paste commands from a website, combined with the power and flexibility the command line offers, means that using it may be essential when trying to follow instructions online, including many on this very website! (Tutorials, n.d.)

4. Steps of Replicate

4.1 'script a1script' command.

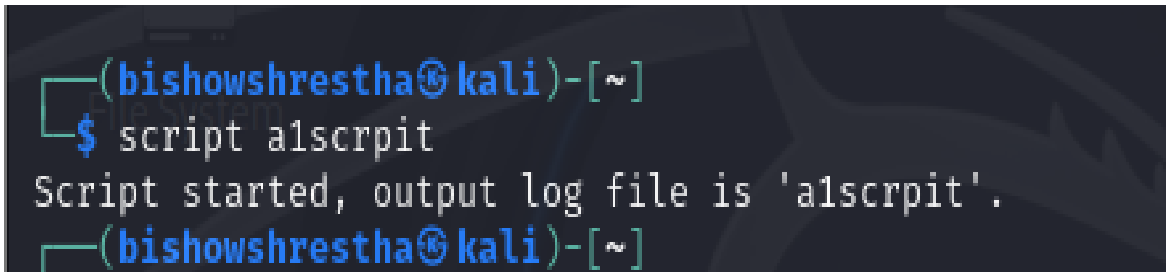

Figure 1 'script' command

4.2 'whoami' command.

Typing 'whoami' command to see the current user name.

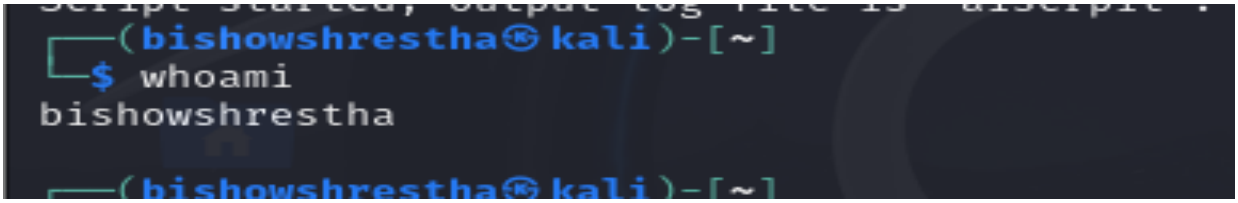

Figure 2 'whoami' command

4.3 'who' command

Typing 'who' to see the current user of this system

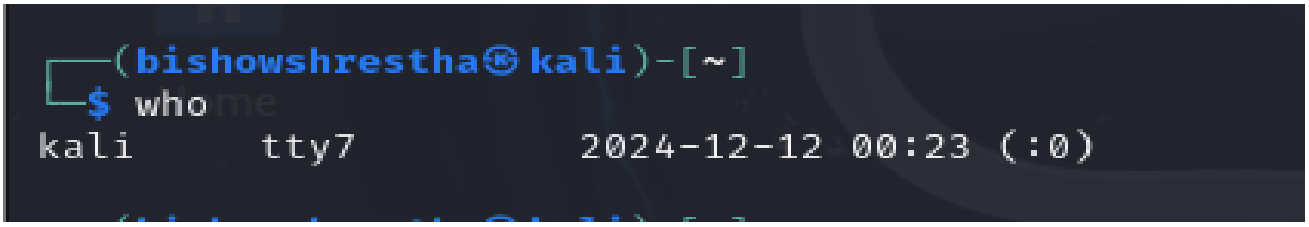

Figure 3 'who' command

4.4 'finger' command

Typing 'finger' to see more details about the user.

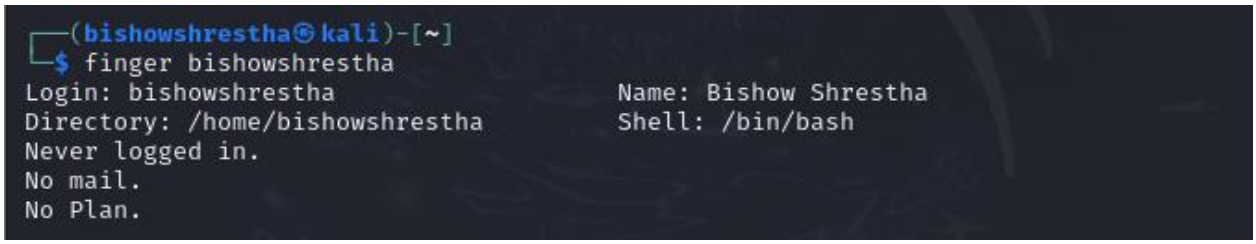

Figure 4 'finger' command.

4.5 'date' command.

Using 'date' command to see the current date and time.

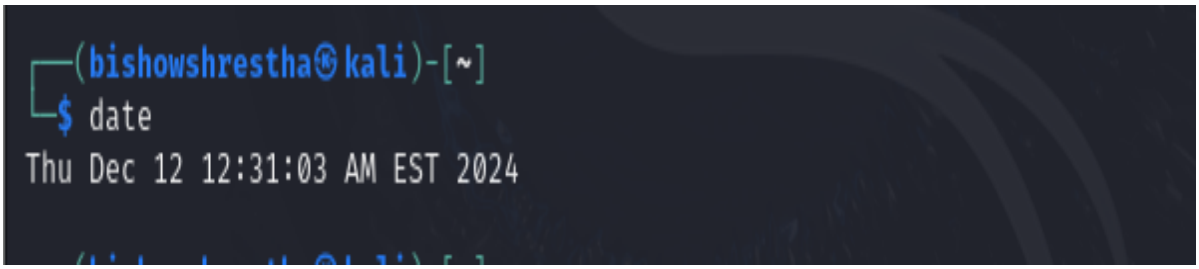

Figure 5 'date' command

4.6 'ls ', 'ls -a ', ' ls -a -l' command

Using 'ls' command to see the files in directory.

Figure 6 'ls' command

Using 'ls -a ' command to see all files in directory including hidden files.

Figure 7 'ls -a ' command

Using ls -a -l command to see all files and their permissions and other details too.

```
┌──(bishowshrestha㉿kali)-[~]
└─$ ls -a -l
total 88
drwx------ 5 bishowshrestha bishowshrestha  4096 Dec 12 01:12 .
drwxr-xr-x 4 root           root            4096 Dec 12 00:25 ..
-rw-rw-r-- 1 bishowshrestha bishowshrestha     0 Dec 12 01:12 a1script
-rw-rw-r-- 1 bishowshrestha bishowshrestha  8120 Dec 12 00:44 a1scrpit
-rw------- 1 bishowshrestha bishowshrestha   339 Dec 12 00:44 .bash_history
-rw-r--r-- 1 bishowshrestha bishowshrestha   220 Dec 12 00:25 .bash_logout
-rw-r--r-- 1 bishowshrestha bishowshrestha  5551 Dec 12 00:25 .bashrc
-rw-r--r-- 1 bishowshrestha bishowshrestha  3526 Dec 12 00:25 .bashrc.original
-rw-rw-r-- 1 bishowshrestha bishowshrestha   176 Dec 12 00:42 combinedFile1and2
drwxr-xr-x 6 bishowshrestha bishowshrestha  4096 Dec 12 00:25 .config
-rw-r--r-- 1 bishowshrestha bishowshrestha 11759 Dec 12 00:25 .face
lrwxrwxrwx 1 bishowshrestha bishowshrestha     5 Dec 12 00:25 .face.icon → .face
drwxr-xr-x 3 bishowshrestha bishowshrestha  4096 Dec 12 00:25 .java
drwxr-xr-x 3 bishowshrestha bishowshrestha  4096 Dec 12 00:25 .local
-rw-r--r-- 1 bishowshrestha bishowshrestha   807 Dec 12 00:25 .profile
-rw-rw-r-- 1 bishowshrestha bishowshrestha    53 Dec 12 00:38 testFile1
-rw-rw-r-- 1 bishowshrestha bishowshrestha   118 Dec 12 00:41 testFile2
-rw-r--r-- 1 bishowshrestha bishowshrestha 10868 Dec 12 00:25 .zshrc
```

Figure 8 'ls -a -l ' command

4.7 'cat/etc/passwd' command.

Using cat/etc/passwd command is used to display the contents of the file /etc/passwd

```
┌──(bishowshrestha㉿kali)-[~]
└─$ cat /etc/passwd
root:x:0:0:root:/root:/usr/bin/zsh
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
_apt:x:42:65534::/nonexistent:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:998:998:systemd Network Management:/:/usr/sbin/nologin
systemd-timesync:x:992:992:systemd Time Synchronization:/:/usr/sbin/nologin
messagebus:x:100:102::/nonexistent:/usr/sbin/nologin
tss:x:101:104:TPM software stack,,,:/var/lib/tpm:/bin/false
strongswan:x:102:65534::/var/lib/strongswan:/usr/sbin/nologin
tcpdump:x:103:105::/nonexistent:/usr/sbin/nologin
sshd:x:104:65534::/run/sshd:/usr/sbin/nologin
usbmux:x:105:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:999:65534:dnsmasq:/var/lib/misc:/usr/sbin/nologin
avahi:x:106:108:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
speech-dispatcher:x:107:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
pulse:x:108:110:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
lightdm:x:109:112:Light Display Manager:/var/lib/lightdm:/bin/false
```

in a Linux.

4.8 'echo' command

Using 'echo' command to create a single line named test1.

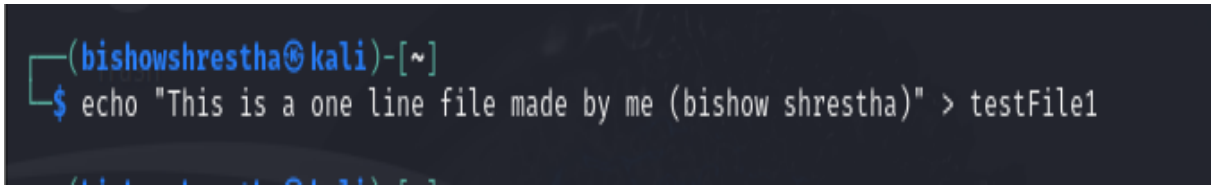

Figure 10 'echo' command

4.9 Multiple line file

Using 'cat' command to create a multi-line file

Figure 11 Multi-line file

4.10 Showing the file exist

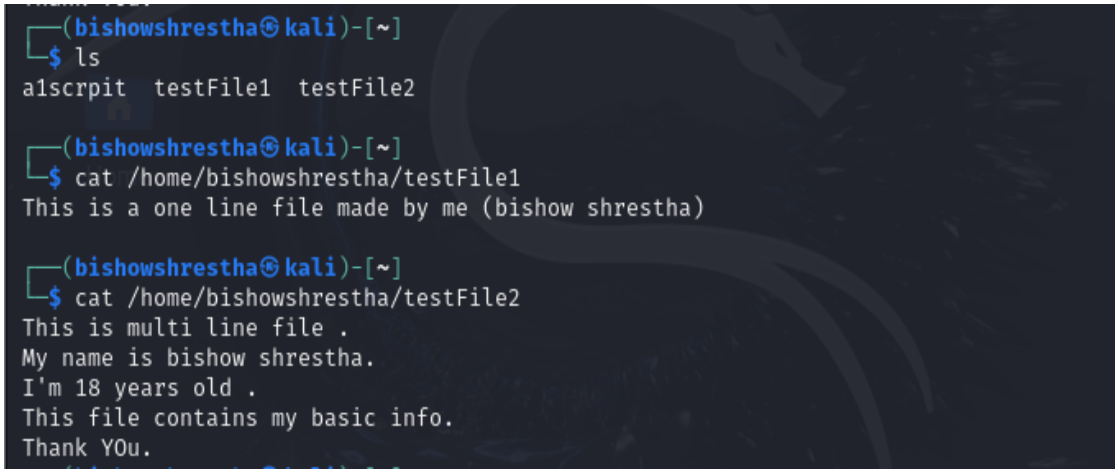

Figure 12 showing File existence

4.11 Combining testFile1 and testFile2

Using 'paste' command , testFile1 & testFile2 are combined in a file named combinedFile1and2

```
┌──(bishowshrestha㉿kali)-[~]
└─$ paste testFile1 testFile2 > combinedFile1and2
```

Figure 13 'paste' command to combine two files.

4.12 Opening combined file

```
┌──(bishowshrestha㉿kali)-[~]
└─$ ls
a1scrpit  combinedFile1and2  testFile1  testFile2

┌──(bishowshrestha㉿kali)-[~]
└─$ cat /home/bishowshrestha/combinedFile1and2
This is a one line file made by me (bishow shrestha)    This is multi line file .
        My name is bishow shrestha.
        I'm 18 years old .
        This file contains my basic info.
        Thank YOu.
```

Figure 14 Opening combined file

4.13 Exiting script

Using 'Exit' command to end the session.

```
┌──(bishowshrestha㉿kali)-[~]
└─$ exit
exit
Script done.
```

Figure 15 'exit' command

5. Conclusion

In conclusion , this project increased our understanding on linux commands for system and file management . I learned to retrieve system information , explore files and create and manipulate files efficiently . This hands-on experience gives us the idea on importance of command-line skills in system management.

References

Tutorials. (n.d.). Retrieved from ubuntu.com: https://ubuntu.com/tutorials/command-line-for-beginners#1-overview

Introduction. (n.d.). Retrieved from kali.org: https://www.kali.org/docs/introduction/what-is-kali-linux/