

Title: Linux Command List Assessment Assignment 1

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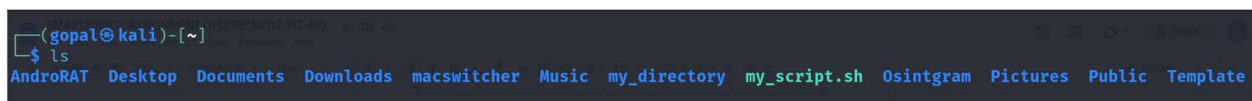
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Instructions:-

The following assessment aims to test your understanding and practical knowledge of various Linux commands. Perform the tasks given below using the appropriate commands. Write down the command(s) used to complete each task. You can use any Linux distribution or command-line interface of your choice. Ensure that you provide the correct output or results for each task.

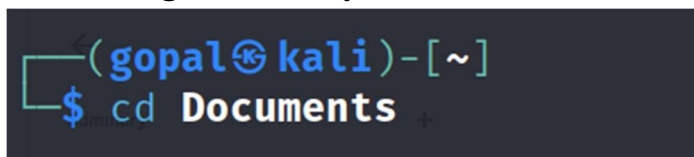
File and Directory Operations:

ls: List files and directories



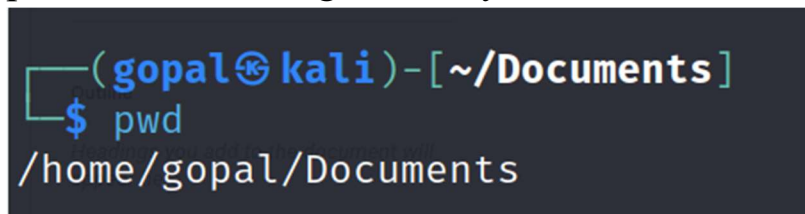
```
(gopal@kali)-[~]  
$ ls  
AndroRAT Desktop Documents Downloads macswitcher Music my_directory my_script.sh Osintgram Pictures Public Template
```

cd: Change directory



```
(gopal@kali)-[~]  
$ cd Documents
```

pwd: Print working directory



```
(gopal@kali)-[~/Documents]  
$ pwd  
/home/gopal/Documents
```

mkdir: Make directory

```
(gopal@kali)-[~/Documents]  
$ mkdir my_directory
```

touch: Create an empty file

```
(gopal@kali)-[~/Documents]  
$ touch my_file.txt
```

cp: Copy files and directories

```
(gopal@kali)-[~/Documents]  
$ cp my_file.txt /home/gopal/Downloads
```

mv: Move or rename files and directories

```
(gopal@kali)-[~/Documents]  
$ mv my_directory /home/gopal/Downloads
```

rm: Remove files and directories

```
(gopal@kali)-[~]  
$ cd Downloads  
  
(gopal@kali)-[~/Downloads]  
$ rm my_file.txt  
  
(gopal@kali)-[~/Downloads]  
$ rm -r my_directory
```

find: Search for files and directories

```
(gopal@kali)-[~/Downloads]  
$ find /home -name my_file.txt  
/home/gopal/Documents/my_file.txt
```

File Viewing and Editing:

cat: Concatenate and display file content

```
(gopal@kali)-[~/Downloads]  
$ cat my_file.txt  
kdjdkdkdr
```

less: View file content with pagination

```
(gopal@kali)-[~/Downloads]  
$ less my_file.txt
```

```
gopal@kali: ~/Downloads
File Actions Edit View Help
kdjkdfkdr
my_file.txt (END)
```

head: Display the beginning of a file

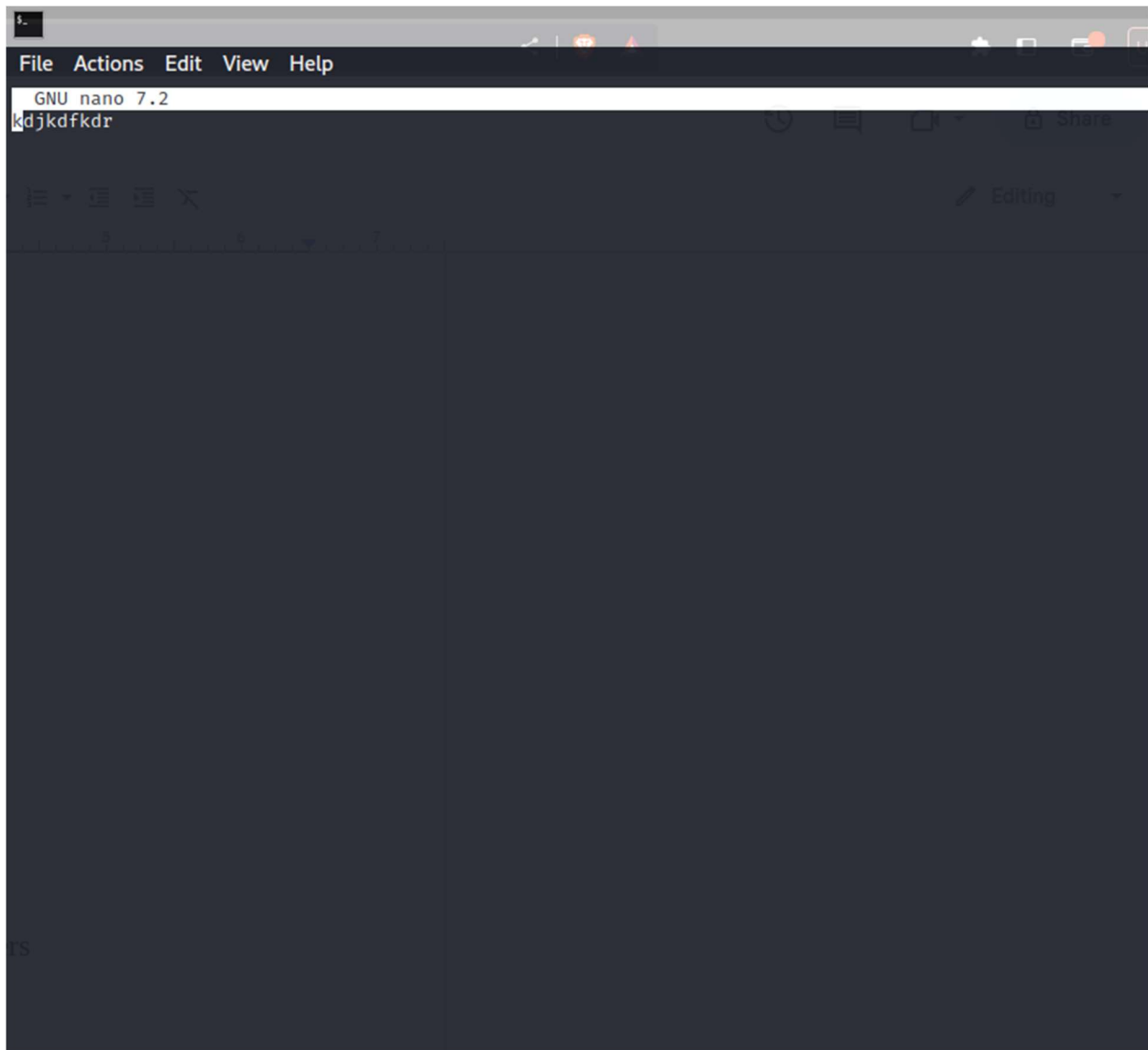
```
(gopal@kali)-[~/Downloads]
$ head my_file.txt
kdjkdfkdr
```

tail: Display the end of a file

```
(gopal@kali)-[~/Downloads]
$ tail my_file.txt
kdjkdfkdr
```

nano: Text editor for creating and editing files

```
(gopal@kali)-[~/Downloads]
$ nano my_file.txt
```



vi/vim: Powerful text editor for experienced users

```
(gopal@kali)-[~]  
$ vi my_file.txt
```

File Permissions:

chmod: Change file permissions

```
(gopal@kali)-[~]  
$ chmod 755 my_file.txt
```

chown: Change file owner

```
(gopal@kali)-[~]  
$ chown 755 my_file.txt
```

chgrp: Change file group

```
(gopal@kali)-[~]  
$ chgrp gopal my_file.txt
```

File Compression and Archiving:

tar: Archive files

```
(gopal@kali)-[~/Downloads]  
$ tar -cvf archive.tar my_file.txt  
my_file.txt
```

gzip: Compress files

```
(gopal@kali)-[~/Downloads]  
$ gzip my_file.txt
```

unzip: Extract files from a ZIP archive

```
(gopal@kali)-[~/Downloads]  
$ unzip my_file
```

Process Management:

ps: List running processes

```
(gopal@kali)-[~/Downloads]
$ ps aux
```

USER	PID	%CPU	%MEM	VSZ	RSS	TTY
root	1	0.0	0.2	167800	12132	?
root	2	0.0	0.0	0	0	?
root	3	0.0	0.0	0	0	?
root	4	0.0	0.0	0	0	?
root	5	0.0	0.0	0	0	?
root	6	0.0	0.0	0	0	?
root	10	0.0	0.0	0	0	?
root	11	0.0	0.0	0	0	?
root	12	0.0	0.0	0	0	?
root	13	0.0	0.0	0	0	?
root	14	0.0	0.0	0	0	?
root	15	0.0	0.0	0	0	?
root	16	0.0	0.0	0	0	?
root	18	0.0	0.0	0	0	?
root	19	0.0	0.0	0	0	?
root	20	0.0	0.0	0	0	?
root	21	0.0	0.0	0	0	?
root	23	0.0	0.0	0	0	?
root	24	0.0	0.0	0	0	?

top: Display real-time system information and processes


```
(gopal@kali)-[~/Downloads]
$ top
top - 03:47:00 up 1:34, 1 user, load average: 0.01, 0.10, 0.16
Tasks: 186 total, 1 running, 185 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.4 us, 0.7 sy, 0.0 ni, 97.1 id, 0.7 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 5555.5 total, 3065.6 free, 1538.3 used, 1284.1 buff/cache
MiB Swap: 976.0 total, 976.0 free, 0.0 used. 4017.2 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
611	root	20	0	443424	166116	77292	S	3.7	2.9	4:03.44	Xorg
45909	gopal	20	0	478584	110308	89988	S	1.0	1.9	0:02.20	qterminal
967	gopal	20	0	217956	2448	2104	S	0.3	0.0	0:31.74	VBoxClient
1017	gopal	20	0	1089132	106464	77204	S	0.3	1.9	0:48.76	xfwm4
1078	gopal	20	0	204692	32692	19484	S	0.3	0.6	0:18.50	panel-13-cpugra
1081	gopal	20	0	590784	43172	33904	S	0.3	0.8	0:04.96	panel-16-pulsea
34158	gopal	20	0	32.4g	119268	97360	S	0.3	2.1	0:10.95	brave
43361	root	20	0	0	0	0	I	0.3	0.0	0:00.60	kworker/2:0-events
1	root	20	0	167800	12132	8956	S	0.0	0.2	0:01.25	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.04	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par_gp
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	slub_flushwq
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	netns

kill: Terminate processes

```
(gopal@kali)-[~]
$ kill 965
```

bg: Run processes in the background

```
(gopal@kali)-[~]
$ command &
[1] 51652
[1] + done command
```

fg: Bring background processes to the foreground

```
(gopal@kali)-[~]  
$ fg  
fg: no current job
```

System Information:

uname: Print system information

```
(gopal@kali)-[~]  
$ uname -a  
Linux kali 6.1.0-kali5-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.12-1kali2  
U/Linux
```

df: Display disk space usage

```
(gopal@kali)-[~]  
$ df -h
```

Filesystem	Size	Used	Avail	Use%	Mounted on
udev	2.7G	0	2.7G	0%	/dev
tmpfs	556M	964K	555M	1%	/run
/dev/sda1	30G	17G	13G	58%	/
tmpfs	2.8G	38M	2.7G	2%	/dev/shm
tmpfs	5.0M	0	5.0M	0%	/run/lock
tmpfs	556M	96K	556M	1%	/run/user/1000

free: Display memory usage

```
(gopal@kali)-[~]  
$ free -m
```

	total	used	free	shared	buff/cache
Mem:	5555	1517	3085	65	1282
Swap:	975	0	975		

uptime: Show system uptime

```
(gopal@kali)-[~]  
$ uptime  
03:53:41 up 1:41, 1 user, load average: 0.17, 0.17, 0.18
```

who: Display logged-in users

```
(gopal@kali)-[~]  
$ who  
gopal      tty7          2023-05-28 02:12 (:0)
```

w: Display logged-in users and their activities

```
(gopal@kali)-[~]  
$ w  
03:54:29 up 1:42, 1 user, load average: 0.07, 0.14, 0.17  
USER      TTY      FROM          LOGIN@      IDLE   JCPU   PCPU WHAT  
gopal     tty7     :0             02:12       1:42m  4:33   2.78s xfce4-sessio
```

Networking:

ifconfig: Configure network interfaces

```
(gopal@kali)-[~]  
$ ifconfig  
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255  
    inet6 fe80::a00:27ff:fe0d:ed01 prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:0d:ed:01 txqueuelen 1000 (Ethernet)  
    RX packets 59432 bytes 71198243 (67.8 MiB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 20676 bytes 5159827 (4.9 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 4 bytes 240 (240.0 B)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 4 bytes 240 (240.0 B)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

ping: Send ICMP echo requests to a network host

```
(gopal@kali)-[~]
$ ping google.com
PING google.com (142.250.196.14) 56(84) bytes of data.
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=1 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=2 ttl=116
^[[B^[[B^[[B^[[B^[[B^[[B^[[B^[[B^[[B^[[B64 bytes from maa03s44-in-f1
ms
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=4 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=5 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=6 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=7 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=8 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=9 ttl=116
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=10 ttl=11
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=11 ttl=11
64 bytes from maa03s44-in-f14.1e100.net (142.250.196.14): icmp_seq=12 ttl=11
```

ssh: Securely connect to a remote system

```
(gopal@kali)-[~]
$ ssh gopal@192.168.10.2
```

scp: Securely copy files between systems

```
(gopal@kali)-[~]
$ scp my_file.txt gopal@192.168.10.2:/c:/windows/system32/
```


wget: Download files from the web

```
(gopal@kali)-[~/Downloads]
$ wget http://www.google.com/
--2023-05-28 04:00:03-- http://www.google.com/
Resolving www.google.com (www.google.com)... 142.250.71.4
Connecting to www.google.com (www.google.com)|142.250.71.4|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html          [  =>  ] 19.05K  --.-KB/s  in 0s

2023-05-28 04:00:04 (309 MB/s) - 'index.html' saved [19504]
```

System Administration:

sudo: Execute commands with superuser privileges

```
(gopal@kali)-[~/Downloads]
$ sudo su
[sudo] password for gopal:
(root@kali)-[/home/gopal/Downloads]
#
```

apt-get: Package management for Debian-based distributions

```
(root@kali)-[/home/gopal/Downloads]
# apt-get update
Get:1 https://brave-browser-apt-release.s3.brave.com stable InRelease [7,547 B]
Get:2 https://brave-browser-apt-release.s3.brave.com stable/main amd64 Packages [5,011 B]
Get:3 http://kali.download/kali kali-rolling InRelease [41.2 kB]
Get:4 http://kali.download/kali kali-rolling/main amd64 Packages [19.3 MB]
Get:5 https://ngrok-agent.s3.amazonaws.com buster InRelease [20.3 kB]
Get:6 https://ngrok-agent.s3.amazonaws.com buster/main amd64 Packages [2,364 B]
Get:7 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [44.7 MB]
50% [7 Contents-amd64 7,031 kB/44.7 MB 16%] 2,814 kB/s 13s
```

yum: Package management for Red Hat-based distributions

```
(root@kali)-[/home/gopal]
# yum info vsftpd
```

systemctl: Manage system services

```
(root@kali)-[/home/gopal]
# systemctl list-unit-files --type service -all
```

UNIT FILE	STATE	PRESET
apache-htcacheclean.service	disabled	disabled
apache-htcacheclean@.service	disabled	disabled
apache2.service	disabled	disabled
apache2@.service	disabled	disabled
apparmor.service	disabled	disabled
apt-daily-upgrade.service	static	-
apt-daily.service	static	-
atftpd.service	indirect	disabled
auth-rpcgss-module.service	static	-
autovt@.service	alias	-
avahi-daemon.service	disabled	disabled
binfmt-support.service	enabled	enabled
blueman-mechanism.service	disabled	disabled
bluetooth.service	disabled	disabled
colord.service	static	-
console-getty.service	disabled	disabled
console-setup.service	enabled	enabled
container-getty@.service	static	-
cron.service	enabled	enabled
cryptdisks-early.service	masked	disabled

crontab: Schedule recurring tasks

```
(gopal@kali)-[~]
$ crontab -e
no crontab for gopal - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano      ← easiest
 2. /usr/bin/vim.basic
 3. /usr/bin/vim.tiny

Choose 1-3 [1]: 1
No modification made
```

useradd: Add a new user

```
(root@kali)-[/home/gopal]
# useradd new
```

passwd: Change user password

```
(root@kali)-[/home/gopal]
# passwd new
New password:
Retype new password:
passwd: password updated successfully
```