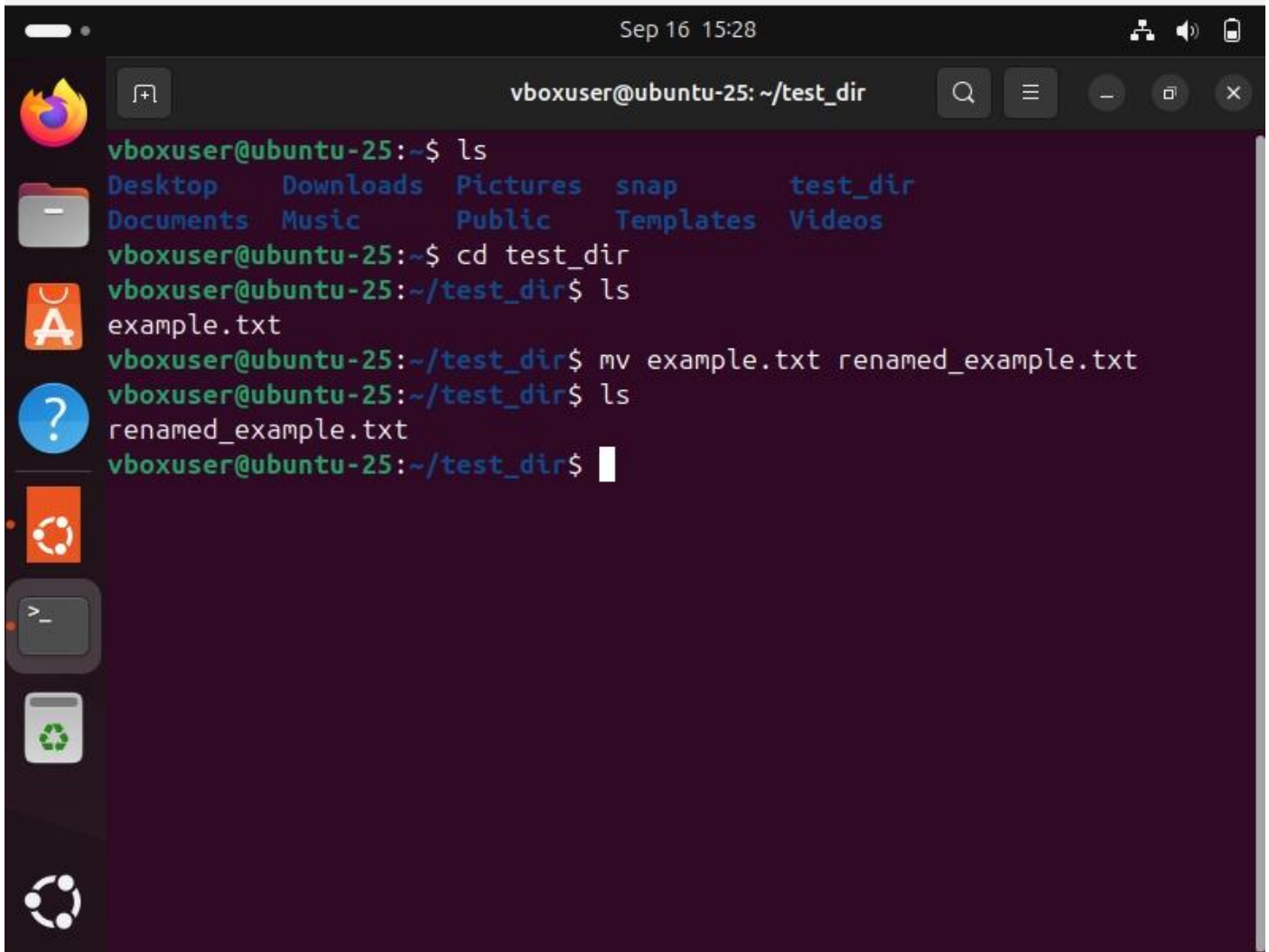


1. Creating and Renaming Files/Directories Create a directory named test_dir using mkdir. Inside test_dir, create an empty file called example.txt. Rename example.txt to renamed_example.txt using mv

A terminal window titled 'vboxuser@ubuntu-25: ~/test_dir' with a dark purple background. The window shows a series of commands and their outputs. The user starts at the home directory, lists files, changes to 'test_dir', lists files again, and then renames 'example.txt' to 'renamed_example.txt'. The left sidebar of the terminal window contains several icons: a Firefox browser icon, a file manager icon, an application icon, a help icon, a refresh icon, a terminal icon, a trash icon, and a circular arrow icon. The top of the window shows the date and time 'Sep 16 15:28' and system icons for network, sound, and battery.

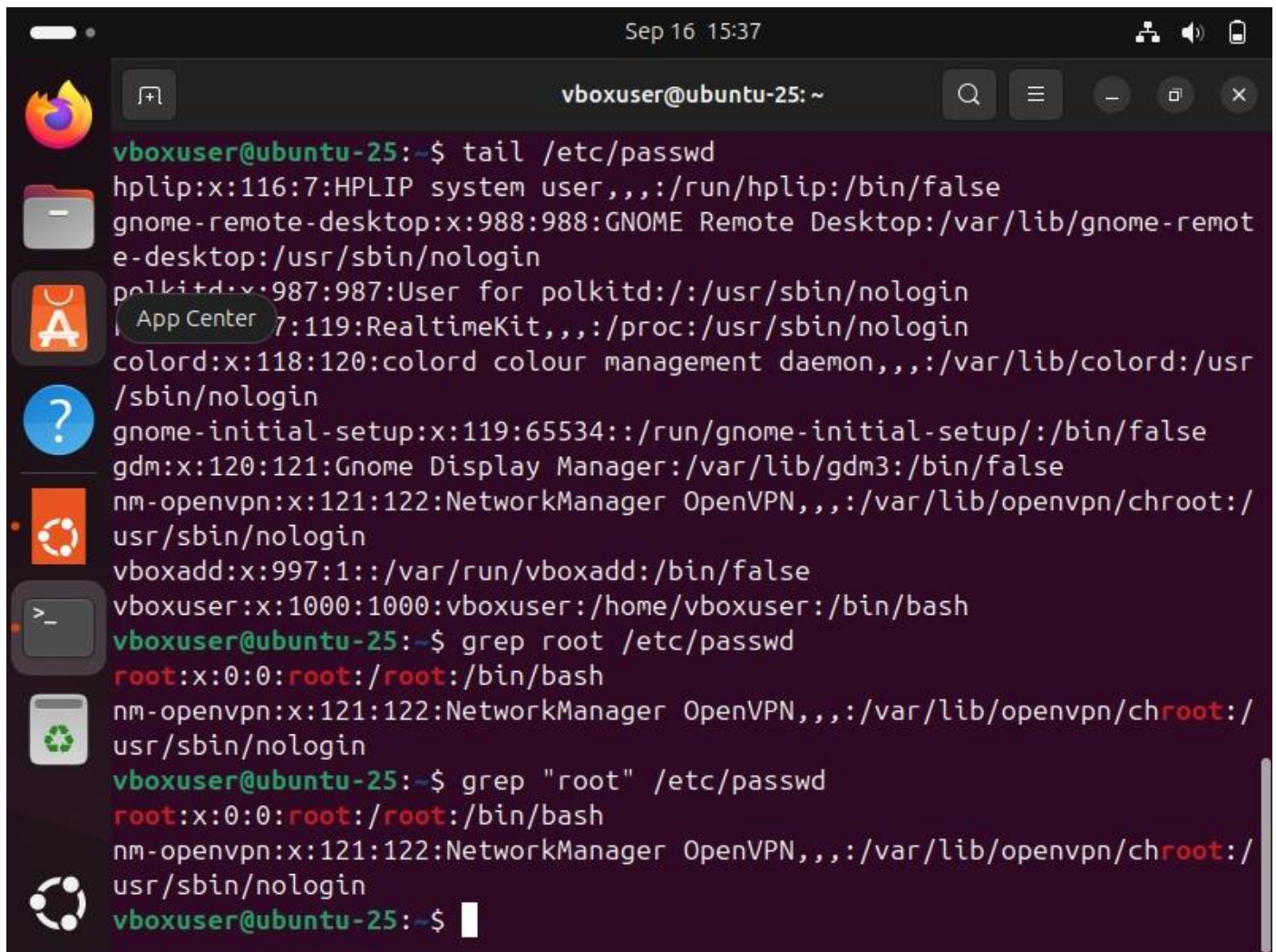
```
vboxuser@ubuntu-25:~$ ls
Desktop  Downloads  Pictures  snap      test_dir
Documents Music      Public    Templates Videos
vboxuser@ubuntu-25:~$ cd test_dir
vboxuser@ubuntu-25:~/test_dir$ ls
example.txt
vboxuser@ubuntu-25:~/test_dir$ mv example.txt renamed_example.txt
vboxuser@ubuntu-25:~/test_dir$ ls
renamed_example.txt
vboxuser@ubuntu-25:~/test_dir$
```

2. Viewing File Contents Use cat to display the contents of /etc/passwd. Display only the first 5 lines of /etc/passwd using head. Display only the last 5 lines of /etc/passwd using tail.

```
Sep 16 15:34
vboxuser@ubuntu-25: ~
vboxuser@ubuntu-25:~$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
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:996:996:systemd Time Synchronization:/:/usr/sbin/nologin
dhcpd:x:100:65534:DHCP Client Daemon,,,:/usr/lib/dhcpd:/bin/false
messagebus:x:101:101::/nonexistent:/usr/sbin/nologin
```

```
Sep 16 15:34
vboxuser@ubuntu-25: ~
vboxuser@ubuntu-25:~$ head /etc/passwd
root:x:0:0:root:/root:/bin/bash
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
vboxuser@ubuntu-25:~$ tail /etc/passwd
hplip:x:116:7:HPLIP system user,,,:/run/hplip:/bin/false
gnome-remote-desktop:x:988:988:GNOME Remote Desktop:/var/lib/gnome-remote-desktop:/usr/sbin/nologin
polkitd:x:987:987:User for polkitd:/:/usr/sbin/nologin
rtkit:x:117:119:RealtimeKit,,,:/proc:/usr/sbin/nologin
colord:x:118:120:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
gnome-initial-setup:x:119:65534::/run/gnome-initial-setup:/bin/false
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
```

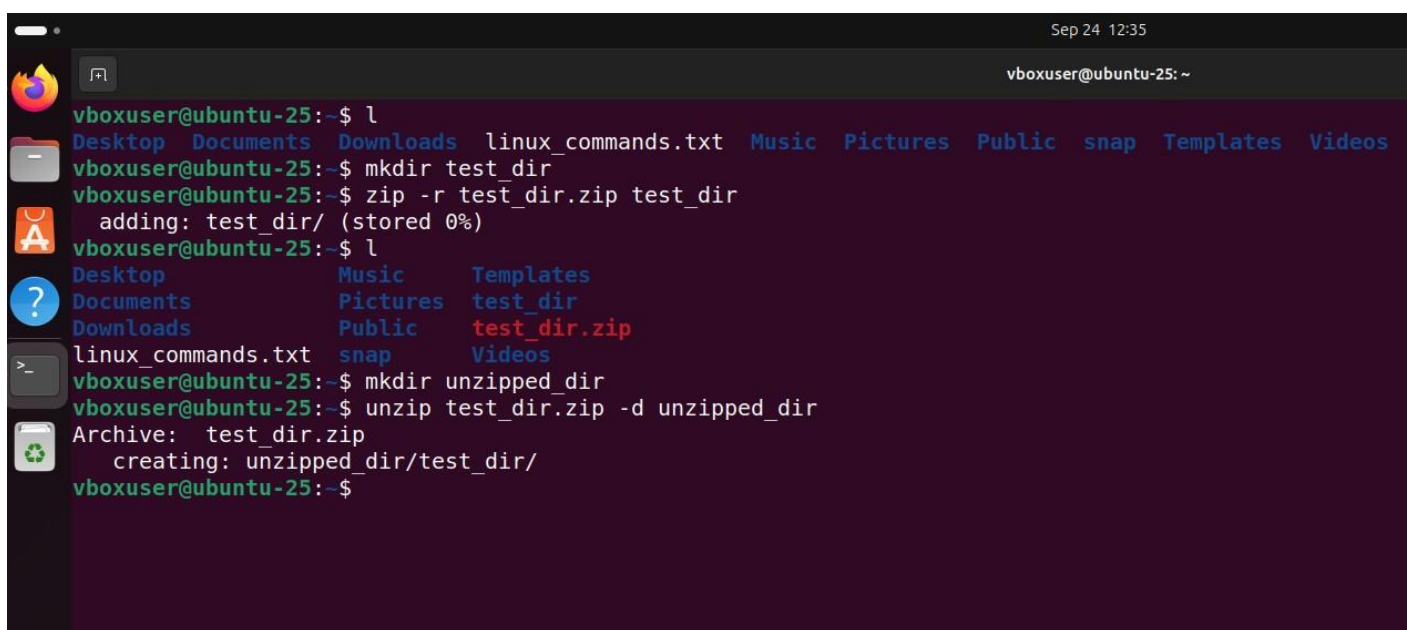

3. Searching for Patterns Use grep to find all lines containing the word "root" in /etc/passwd.



A terminal window titled 'vboxuser@ubuntu-25: ~' with a timestamp of 'Sep 16 15:37'. The terminal shows the following commands and output:

```
vboxuser@ubuntu-25:~$ tail /etc/passwd
hplip:x:116:7:HPLIP system user,,,:/run/hplip:/bin/false
gnome-remote-desktop:x:988:988:GNOME Remote Desktop:/var/lib/gnome-remote-desktop:/usr/sbin/nologin
polkitd:x:987:987:User for polkitd:/:/usr/sbin/nologin
App Center 7:119:RealtimeKit,,,:/proc:/usr/sbin/nologin
colord:x:118:120:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
gnome-initial-setup:x:119:65534:/:/run/gnome-initial-setup:/bin/false
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
vboxadd:x:997:1:/:/var/run/vboxadd:/bin/false
vboxuser:x:1000:1000:vboxuser:/home/vboxuser:/bin/bash
vboxuser@ubuntu-25:~$ grep root /etc/passwd
root:x:0:0:root:/root:/bin/bash
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
vboxuser@ubuntu-25:~$ grep "root" /etc/passwd
root:x:0:0:root:/root:/bin/bash
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
vboxuser@ubuntu-25:~$
```

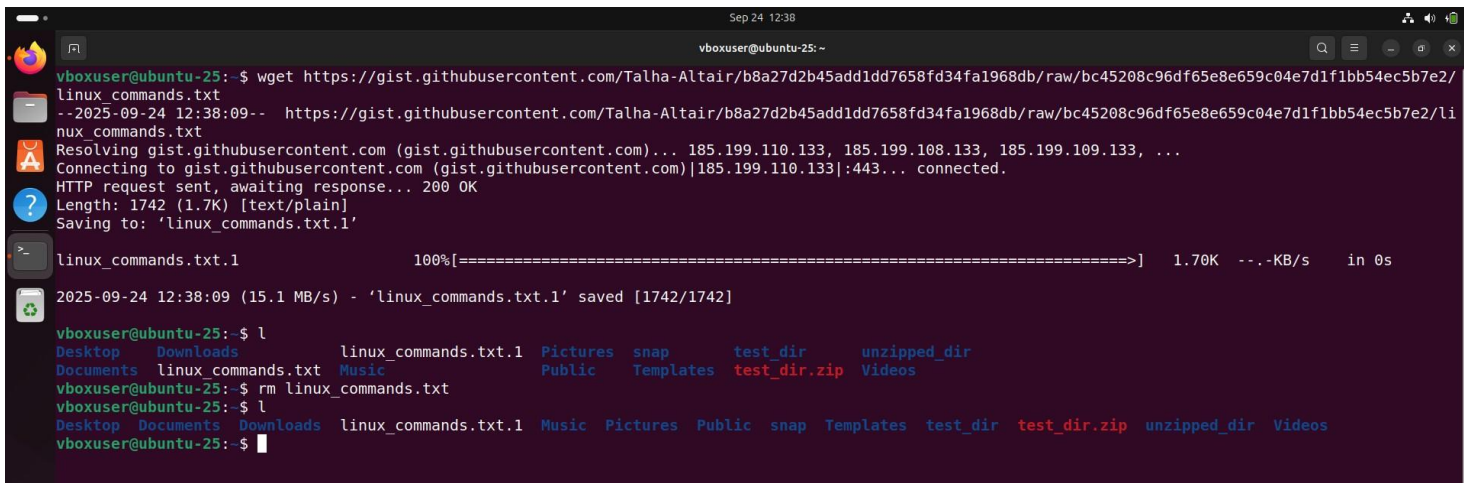
4. Zipping and Unzipping Compress the test_dir directory into a file named test_dir.zip using zip. Unzip test_dir.zip into a new directory named unzipped_dir.



A terminal window titled 'vboxuser@ubuntu-25: ~' with a timestamp of 'Sep 24 12:35'. The terminal shows the following commands and output:

```
vboxuser@ubuntu-25:~$ l
Desktop Documents Downloads linux_commands.txt Music Pictures Public snap Templates Videos
vboxuser@ubuntu-25:~$ mkdir test_dir
vboxuser@ubuntu-25:~$ zip -r test_dir.zip test_dir
adding: test_dir/ (stored 0%)
vboxuser@ubuntu-25:~$ l
Desktop Music Templates
Documents Pictures test_dir
Downloads Public test_dir.zip
linux_commands.txt snap Videos
vboxuser@ubuntu-25:~$ mkdir unzipped_dir
vboxuser@ubuntu-25:~$ unzip test_dir.zip -d unzipped_dir
Archive: test_dir.zip
creating: unzipped_dir/test_dir/
vboxuser@ubuntu-25:~$
```

5. Downloading Files Use wget to download a file from a URL



A terminal window titled 'vboxuser@ubuntu-25: ~' showing the execution of the 'wget' command to download a file from a GitHub Gist URL. The terminal output shows the file 'linux_commands.txt.1' being saved with a size of 1742 bytes (1.7K) at a speed of 1.70K. The download progress is shown as 100% complete. The file is then listed in the current directory, showing its location in the 'Downloads' folder. Finally, the file is removed using the 'rm' command.

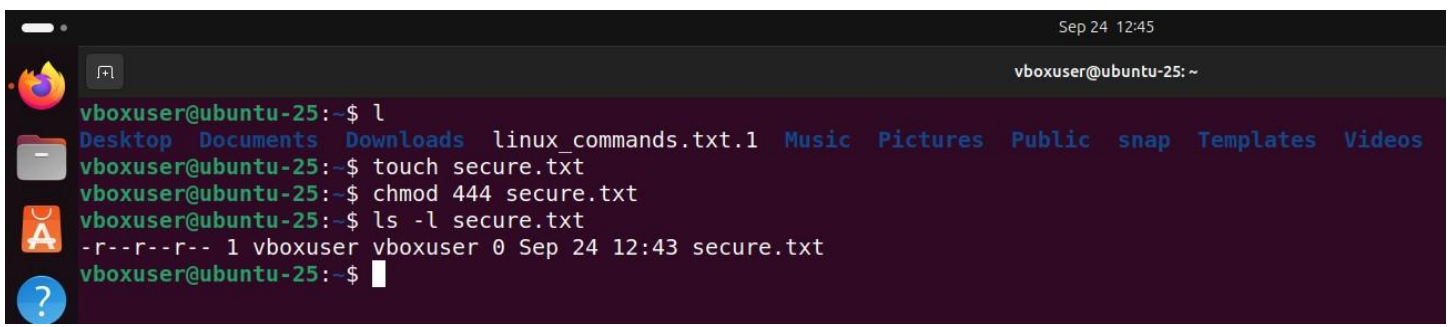
```
vboxuser@ubuntu-25:~$ wget https://gist.githubusercontent.com/Talha-Altair/b8a27d2b45add1dd7658fd34fa1968db/raw/bc45208c96df65e8e659c04e7d1f1bb54ec5b7e2/linux_commands.txt
--2025-09-24 12:38:09-- https://gist.githubusercontent.com/Talha-Altair/b8a27d2b45add1dd7658fd34fa1968db/raw/bc45208c96df65e8e659c04e7d1f1bb54ec5b7e2/linux_commands.txt
Resolving gist.githubusercontent.com (gist.githubusercontent.com)... 185.199.110.133, 185.199.108.133, 185.199.109.133, ...
Connecting to gist.githubusercontent.com (gist.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1742 (1.7K) [text/plain]
Saving to: 'linux_commands.txt.1'

linux_commands.txt.1      100%[=====] 1.70K  --.-KB/s  in 0s

2025-09-24 12:38:09 (15.1 MB/s) - 'linux_commands.txt.1' saved [1742/1742]

vboxuser@ubuntu-25:~$ l
Desktop  Downloads  linux_commands.txt.1  Pictures  snap  test_dir  unzipped_dir
Documents linux_commands.txt Music      Public    Templates test_dir.zip Videos
vboxuser@ubuntu-25:~$ rm linux_commands.txt
vboxuser@ubuntu-25:~$ l
Desktop Documents Downloads linux_commands.txt.1 Music Pictures Public snap Templates test_dir test_dir.zip unzipped_dir Videos
vboxuser@ubuntu-25:~$
```

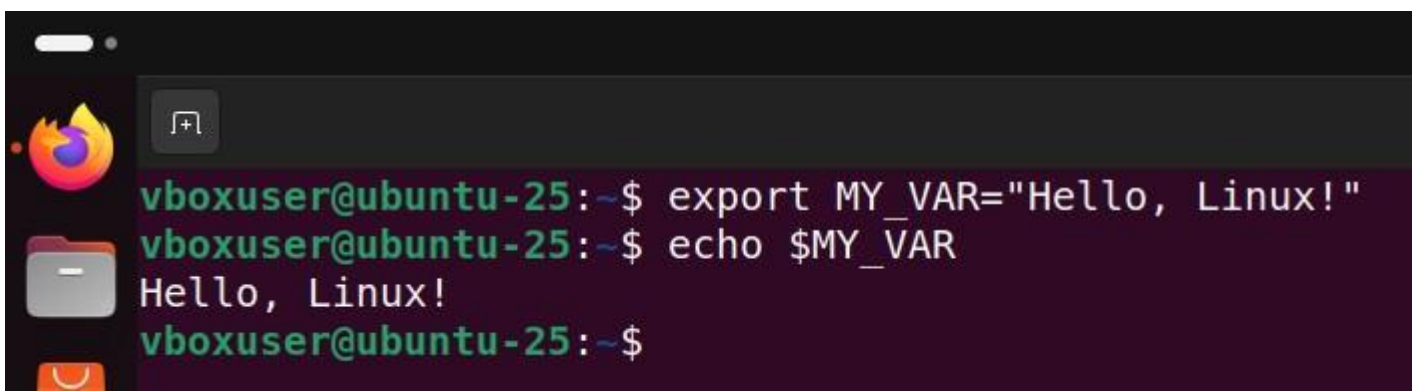
6. Changing Permissions Create a file named secure.txt and change its permissions to read-only for everyone using chmod.



A terminal window titled 'vboxuser@ubuntu-25: ~' showing the creation of a file named 'secure.txt' using the 'touch' command. The file's permissions are then changed to '444' (read-only for everyone) using the 'chmod' command. The final output shows the file's permissions as '-r--r--r--' for the user 'vboxuser'.

```
vboxuser@ubuntu-25:~$ l
Desktop Documents Downloads linux_commands.txt.1 Music Pictures Public snap Templates Videos
vboxuser@ubuntu-25:~$ touch secure.txt
vboxuser@ubuntu-25:~$ chmod 444 secure.txt
vboxuser@ubuntu-25:~$ ls -l secure.txt
-r--r--r-- 1 vboxuser vboxuser 0 Sep 24 12:43 secure.txt
vboxuser@ubuntu-25:~$
```

7. Working with Environment Variables Use export to set a new environment variable called MY_VAR with the value "Hello, Linux!"



A terminal window titled 'vboxuser@ubuntu-25: ~' showing the setting of an environment variable 'MY_VAR' to 'Hello, Linux!' using the 'export' command. The value of the variable is then displayed using the 'echo' command, which outputs 'Hello, Linux!'.

```
vboxuser@ubuntu-25:~$ export MY_VAR="Hello, Linux!"
vboxuser@ubuntu-25:~$ echo $MY_VAR
Hello, Linux!
vboxuser@ubuntu-25:~$
```

GitHub - <https://github.com/KUNALKJ28/Linux-Basics-Assignment>