GT

Linux Command Manual

A Comprehensive Guide to Essential Linux Commands

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1. File System Navigation & Management

1. **pwd**
    a. Definition: Print the current working directory.
    b. Example:
    c.
    ```
    cyril@cyril-VirtualBox:~/Downloads$ pwd
    /home/cyril/Downloads
    ```

2. **ls**
    a. Definition: List files/directories. (`ls -l` for details, `ls -a` for hidden files).
    b. Example:
    c.
    ```
    cyril@cyril-VirtualBox:~$ ls
    100loop.sh        Desktop      file3.txt               Public        testfile4.sh
    argument.sh       Documents    iterateOverFiles.sh     snap          testfile.sh
    busTicketSim.sh   Downloads    Music                   Templates     testfile.txt
    check_number.sh   file1.txt    Pictures                testfile2.sh  TestFolder
    cyril.sh          file2.txt    process_files.sh        testfile3.sh  Videos
    cyril@cyril-VirtualBox:~$
    ```

3. **cd**
    a. Definition: Change directory. (`cd ~` for home, `cd ..` to move up).
    b. Example:
    c.

4. **mkdir**
    a. Definition: Create a directory.
    b. Example:
    c.
    ```
    cyril@cyril-VirtualBox:~/Downloads$ mkdir new_directory
    cyril@cyril-VirtualBox:~/Downloads$ ls
    new_directory
    cyril@cyril-VirtualBox:~/Downloads$
    ```

5. **rmdir**
    a. Definition: Remove an empty directory.
    b. Example:
    c.
    ```
    cyril@cyril-VirtualBox:~/Downloads$ rmdir new_directory
    cyril@cyril-VirtualBox:~/Downloads$ ls
    cyril@cyril-VirtualBox:~/Downloads$ S
    ```

6. **rm**
    a. Definition: Delete files/dirs. (`rm -r` for recursive deletion).
    b. Example:

```
cyril@cyril-VirtualBox:~$ rm new_file.txt
cyril@cyril-VirtualBox:~$ ls
100loop.sh         Desktop      file3.txt                Public          testfile4.sh
argument.sh        Documents    iterateOverFiles.sh      snap            testfile.sh
busTicketSim.sh    Downloads    Music                    Templates       testfile.txt
check_number.sh    file1.txt    Pictures                 testfile2.sh    TestFolder
cyril.sh           file2.txt    process_files.sh         testfile3.sh    Videos
cyril@cyril-VirtualBox:~$
```

    c.

7. **cp**
   a. Definition: Copy files/dirs. (cp -r for directories).
   b. Example:

```
cyril@cyril-VirtualBox:~$ ls
100loop.sh         Documents         file2.txt            Public          testfile.sh
argument.sh        Downloads         file3.txt            snap            testfile.txt
busTicketSim.sh    dummy_dir         iterateOverFiles.sh  Templates       TestFolder
check_number.sh    dummy_dir2        Music                testfile2.sh    Videos
cyril.sh           dummy_file.txt    Pictures             testfile3.sh
Desktop            file1.txt         process_files.sh     testfile4.sh
cyril@cyril-VirtualBox:~$ cp dummy_file.txt dummy_file2.txt
cyril@cyril-VirtualBox:~$ ls
100loop.sh         Desktop        dummy_file2.txt   iterateOverFiles.sh  snap           testfile.sh
argument.sh        Documents      dummy_file.txt    Music                Templates      testfile.txt
busTicketSim.sh    Downloads      file1.txt         Pictures             testfile2.sh   TestFolder
check_number.sh    dummy_dir      file2.txt         process_files.sh     testfile3.sh   Videos
cyril.sh           dummy_dir2     file3.txt         Public               testfile4.sh
cyril@cyril-VirtualBox:~$
```

    c.

8. **mv**
   a. Definition: Move/rename files/dirs.
   b. Example:

```
cyril@cyril-VirtualBox:~$ ls
100loop.sh         Desktop         dummy_file2.txt   iterateOverFiles.sh  snap           testfile.sh
argument.sh        Documents       dummy_file.txt    Music                Templates      testfile.txt
busTicketSim.sh    Downloads       file1.txt         Pictures             testfile2.sh   TestFolder
check_number.sh    dummy_dir       file2.txt         process_files.sh     testfile3.sh   Videos
cyril.sh           dummy_dir2      file3.txt         Public               testfile4.sh
cyril@cyril-VirtualBox:~$ mv dummy_file2.txt notsodummy_file.txt
cyril@cyril-VirtualBox:~$ ls
100loop.sh         Documents       file2.txt            process_files.sh   testfile4.sh
argument.sh        Downloads       file3.txt            Public             testfile.sh
busTicketSim.sh    dummy_dir       iterateOverFiles.sh  snap               testfile.txt
check_number.sh    dummy_dir2      Music                Templates          TestFolder
cyril.sh           dummy_file.txt  notsodummy_file.txt  testfile2.sh       Videos
Desktop            file1.txt       Pictures             testfile3.sh
```

    c.

9. **touch**
   a. Definition: Create an empty file or update timestamps.
   b. Example:

```
cyril@cyril-VirtualBox:~$ touch new_file.txt
cyril@cyril-VirtualBox:~$ ls
100loop.sh         Desktop      file3.txt            process_files.sh   testfile3.sh   Videos
argument.sh        Documents    iterateOverFiles.sh  Public             testfile4.sh
busTicketSim.sh    Downloads    Music                snap               testfile.sh
check_number.sh    file1.txt    new_file.txt         Templates          testfile.txt
cyril.sh           file2.txt    Pictures             testfile2.sh       TestFolder
cyril@cyril-VirtualBox:~$
```

    c.

10. **find**
    a. Definition: Search for files/dirs. (find /home -name "*.txt").
    b. Example:

c.

11. locate
    a.   Definition: Quickly finds files using a prebuilt database (update with updatedb).
    b.   Example:

c.

2. File Content & Text Processing

12. **cat**
    a.   Definition: Display file content.
    b.   Example:

c.

13. **head**
    a.   Definition: Show first 10 lines of a file (head -n 5 for 5 lines).
    b.   Example:

c.

14. tail
    a.   Definition: Show last 10 lines (tail -f for real-time logs).
    b.   Example:

c.

15. Grep

    a.   Definition: Search text patterns. (`grep "error" file.log`).

    b.   Example:

c.

3. Users, Groups & Permissions

  16. **useradd**

    a.   Definition: Create user (`useradd -m username`).

    b.   Example:

c.

  17. **usermod**

    a.   Definition: Modify user (`usermod -aG group user`).

    b.   Example:

c.

  18. **userdel**

    a.   Definition: Delete user (`userdel -r username`).

    b.   Example:

c.

passwd

    d.   Change password.

e. Example:

```
cyril@cyril-VirtualBox:~$ passwd
Changing password for cyril.
Current password:
New password:
Retype new password:
passwd: password updated successfully
cyril@cyril-VirtualBox:~$
```

f.

19. **groupadd**
    a. Definition: Create group.
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo groupadd modder
cyril@cyril-VirtualBox:~$
```

    c.

20. **groupdel**
    a. Definition: Delete group.
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo groupdel solder
cyril@cyril-VirtualBox:~$
```

    c.

21. **groupmod**
    a. Definition: Modify a group (e.g., rename).
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo groupmod -n solder modder
cyril@cyril-VirtualBox:~$
```

    c.

22. gpasswd
    a. Definition:Manage group passwords/members.
        i.   gpasswd -a username groupname (add user to group)
        ii.   gpasswd -d username groupname (remove user from group)
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo gpasswd -a John solder
Adding user John to group solder
cyril@cyril-VirtualBox:~$
```

    c.

23. **chmod**
    a. Definition: Change permissions (chmod 755 file).
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo chmod 755 stuff.txt
cyril@cyril-VirtualBox:~$
```

    c.

24. **chown**
    a. Definition: Change owner (chown user:group file).
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo chown Yoimiya:administrator stuff.txt
cyril@cyril-VirtualBox:~$
```

    C.

25. **chgrp**
    a. Definition: Change group ownership.
    b. Example:

```
cyril@cyril-VirtualBox:~$ chgrp adm stuff.txt
cyril@cyril-VirtualBox:~$
```
c.

26. **umask**
   a. Definition: Set default file permissions.
   b. Example:
```
cyril@cyril-VirtualBox:~$ umask 755
cyril@cyril-VirtualBox:~$ S
```
   c.

4. Compression & Archiving

27. **tar**
   a. Definition: Archive files (`tar -cvf archive.tar dir/`).
   b. Example:
```
cyril@cyril-VirtualBox:~$ sudo tar -cvf archive.tar testdummy.txt
testdummy.txt
cyril@cyril-VirtualBox:~$
```
   c.
```
cyril@cyril-VirtualBox:~$ ls
100loop.sh          cyril.sh     dummy_dir2      iterateOverFiles.sh  Public       testest.txt.gz  testfile.txt
archive.tar         Desktop      dummy_file.txt  Music                snap         testfile2.sh    TestFolder
argument.sh         Documents    file1.txt       notsodummy_file.txt  stuff.txt    testfile3.sh    Videos
busTicketSim.sh     Downloads    file2.txt       Pictures             Templates    testfile4.sh
check_number.sh     dummy_dir    file3.txt       process_files.sh     testdummy.txt  testfile.sh
cyril@cyril-VirtualBox:~$
```
   d.

28. **gzip**
   a. Definition: Compress files (`gzip file` → file.gz).
   b. Example:
```
cyril@cyril-VirtualBox:~$ sudo gzip testest.txt
cyril@cyril-VirtualBox:~$ ls
100loop.sh          cyril.sh     dummy_dir2      iterateOverFiles.sh  Public       testest.txt.gz  testfile.txt
archive.tar         Desktop      dummy_file.txt  Music                snap         testfile2.sh    TestFolder
argument.sh         Documents    file1.txt       notsodummy_file.txt  stuff.txt    testfile3.sh    Videos
busTicketSim.sh     Downloads    file2.txt       Pictures             Templates    testfile4.sh
check_number.sh     dummy_dir    file3.txt       process_files.sh     testdummy.txt  testfile.sh
cyril@cyril-VirtualBox:~$
```
   c.

29. **gunzip**
   a. Definition: Decompress .gz files.
   b. Example:
```
cyril@cyril-VirtualBox:~$ sudo gunzip testest.txt.gz
cyril@cyril-VirtualBox:~$ ls
100loop.sh          cyril.sh     dummy_dir2      iterateOverFiles.sh  Public       testest.txt     testfile.txt
archive.tar         Desktop      dummy_file.txt  Music                snap         testfile2.sh    TestFolder
argument.sh         Documents    file1.txt       notsodummy_file.txt  stuff.txt    testfile3.sh    Videos
busTicketSim.sh     Downloads    file2.txt       Pictures             Templates    testfile4.sh
check_number.sh     dummy_dir    file3.txt       process_files.sh     testdummy.txt  testfile.sh
cyril@cyril-VirtualBox:~$
```
   c.

30. **zip**
   a. Definition: Create ZIP archives (`zip archive.zip files/`).
   b. Example:

```
cyril@cyril-VirtualBox:~$ sudo zip archive_test.zip testest.txt
  adding: testest.txt (stored 0%)
cyril@cyril-VirtualBox:~$ ls
100loop.sh          check_number.sh  dummy_dir         file3.txt              process_files.sh  testdummy.txt  testfile.sh
archive.tar         cyril.sh         dummy_dir2        iterateOverFiles.sh  Public             testest.txt    testfile.txt
archive_test.zip    Desktop          dummy_file.txt    Music                snap               testfile2.sh   TestFolder
argument.sh         Documents        file1.txt         notsodummy_file.txt  stuff.txt          testfile3.sh   Videos
busTicketSim.sh     Downloads        file2.txt         Pictures             Templates          testfile4.sh
```
c. cyril@cyril-VirtualBox:~$

31. **unzip**

  a. Definition: Extract ZIP files.

  b. Example:

```
cyril@cyril-VirtualBox:~$ sudo unzip archive_test.zip
Archive:  archive_test.zip
replace testest.txt? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
  extracting: testest.txt
cyril@cyril-VirtualBox:~$ ls
100loop.sh          check_number.sh  dummy_dir         file3.txt              process_files.sh  testdummy.txt  testfile.sh
archive.tar         cyril.sh         dummy_dir2        iterateOverFiles.sh  Public             testest.txt    testfile.txt
archive_test.zip    Desktop          dummy_file.txt    Music                snap               testfile2.sh   TestFolder
argument.sh         Documents        file1.txt         notsodummy_file.txt  stuff.txt          testfile3.sh   Videos
busTicketSim.sh     Downloads        file2.txt         Pictures             Templates          testfile4.sh
```
c. cyril@cyril-VirtualBox:~$

5. Networking

32. **ping**

  a. Definition: Test connectivity (ping google.com).

  b. Example:

```
cyril@cyril-VirtualBox:~$ ping google.com
PING google.com (142.251.221.46) 56(84) bytes of data.
64 bytes from mnl08s03-in-f14.1e100.net (142.251.221.46): icmp_seq=1 ttl=255 time=7.61 ms
64 bytes from mnl08s03-in-f14.1e100.net (142.251.221.46): icmp_seq=2 ttl=255 time=6.56 ms
64 bytes from mnl08s03-in-f14.1e100.net (142.251.221.46): icmp_seq=3 ttl=255 time=6.22 ms
64 bytes from mnl08s03-in-f14.1e100.net (142.251.221.46): icmp_seq=4 ttl=255 time=6.38 ms
64 bytes from mnl08s03-in-f14.1e100.net (142.251.221.46): icmp_seq=5 ttl=255 time=7.74 ms
^Z
[1]+  Stopped                 ping google.com
```
c. cyril@cyril-VirtualBox:~$

33. **ifconfig**

  a. Definition: Network interfaces (use ip addr on newer systems).

  b. Example:

```
cyril@cyril-VirtualBox:~$ ifconfig
enp0s3: 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::a8c3:9d1:558d:2ef6  prefixlen 64  scopeid 0x20<link>
        inet6 fd00::f818:dc7:c62:e74f  prefixlen 64  scopeid 0x0<global>
        inet6 fd00::2cf8:9220:a24:57f  prefixlen 64  scopeid 0x0<global>
        ether 08:00:27:3c:7c:02  txqueuelen 1000  (Ethernet)
        RX packets 145  bytes 66990 (66.9 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 219  bytes 33740 (33.7 KB)
        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 132  bytes 11753 (11.7 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 132  bytes 11753 (11.7 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

cyril@cyril-VirtualBox:~$
```
c.

34. **Ifonfic enp0s3**

a. Definition: Show specific info of 1 interface

b. Example:

```
cyril@cyril-VirtualBox:~$ ifconfig enp0s3
enp0s3: 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::a8c3:9d1:558d:2ef6  prefixlen 64  scopeid 0x20<link>
        inet6 fd00::f818:dc7:c62:e74f  prefixlen 64  scopeid 0x0<global>
        inet6 fd00::2cf8:9220:a24:57f  prefixlen 64  scopeid 0x0<global>
        ether 08:00:27:3c:7c:02  txqueuelen 1000  (Ethernet)
        RX packets 145  bytes 66990 (66.9 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 219  bytes 33740 (33.7 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

c. `cyril@cyril-VirtualBox:~$`

35. `sudo ifconfig [interface] [IP]`

a. Definition: Assign a static IP address to an interface.

b. Example:

```
cyril@cyril-VirtualBox:~$ sudo ifconfig enp0s3 103.244.193.14
cyril@cyril-VirtualBox:~$ ifconfig enp0s3
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 103.244.193.14  netmask 255.0.0.0  broadcast 103.255.255.2
        inet6 fe80::a8c3:9d1:558d:2ef6  prefixlen 64  scopeid 0x20<link
        inet6 fd00::f818:dc7:c62:e74f  prefixlen 64  scopeid 0x0<global
        inet6 fd00::2cf8:9220:a24:57f  prefixlen 64  scopeid 0x0<global
        ether 08:00:27:3c:7c:02  txqueuelen 1000  (Ethernet)
        RX packets 147  bytes 67144 (67.1 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 223  bytes 34084 (34.0 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

c. `cyril@cyril-VirtualBox:~$`

36. `sudo ifconfig [interface] down`

a. Definition: Disable a network interface.

b. Example:

```
cyril@cyril-VirtualBox:~$ sudo ifconfig enp0s3 down
cyril@cyril-VirtualBox:~$ ifconfig enp0s3
enp0s3: flags=4098<BROADCAST,MULTICAST>  mtu 1500
        inet 103.244.193.14  netmask 255.0.0.0  broadcast 103.255.255.255
        inet6 fe80::a8c3:9d1:558d:2ef6  prefixlen 64  scopeid 0x20<link>
        inet6 fd00::2cf8:9220:a24:57f  prefixlen 64  scopeid 0x0<global>
        ether 08:00:27:3c:7c:02  txqueuelen 1000  (Ethernet)
        RX packets 163  bytes 69222 (69.2 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 265  bytes 39467 (39.4 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

c. `cyril@cyril-VirtualBox:~$`

37. `sudo ifconfig [interface] up`

a. Definition: Enable a network interface.

b. Example:

```
cyril@cyril-VirtualBox:~$ sudo ifconfig enp0s3 up
cyril@cyril-VirtualBox:~$ ifconfig enp0s3
enp0s3: 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::a8c3:9d1:558d:2ef6  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:3c:7c:02  txqueuelen 1000  (Ethernet)
        RX packets 170  bytes 70744 (70.7 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 281  bytes 40988 (40.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

cyril@cyril-VirtualBox:~$
```
    c.

38. `traceroute [IP]`
    a.   Definition: Trace the path packets take to a destination.
    b.   Example:

```
cyril@cyril-VirtualBox:~$ traceroute 1.1.1.1
traceroute to 1.1.1.1 (1.1.1.1), 64 hops max
  1   10.0.2.2  0.310ms  0.081ms  0.071ms
  2   *  * ^Z
[2]+  Stopped                     traceroute 1.1.1.1
cyril@cyril-VirtualBox:~$
```
    c.

39. `nslookup [domain]`
    a.   Definition: Query DNS to resolve a domain to IP(s).
    b.   Example:

```
cyril@cyril-VirtualBox:~$ nslookup youtube.com
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:   youtube.com
Address: 142.251.220.142
Name:   youtube.com
Address: 2404:6800:4017:800::200e

cyril@cyril-VirtualBox:~$
```
    c.

40. `dig [domain]`
    a.   Definition: Advanced DNS lookup tool (more detailed than `nslookup`).
    b.   Example:

```
cyril@cyril-VirtualBox:~$ dig youtube.com

; <<>> DiG 9.18.30-0ubuntu0.24.04.2-Ubuntu <<>> youtube.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15571
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;youtube.com.                    IN      A

;; ANSWER SECTION:
youtube.com.            114     IN      A       142.251.220.142

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Sat May 17 18:41:31 PST 2025
;; MSG SIZE  rcvd: 56

cyril@cyril-VirtualBox:~$
```
c.

6. Shell Scripting & Functions

41. **chmod +x**
    a. Definition: Make script executable.
    b. Example:
    ```
    cyril@cyril-VirtualBox:~$ chmod +x argument.sh
    cyril@cyril-VirtualBox:~$
    ```
    c.
42. **./"script.sh"**
    a. Definition: Run a script.
    b. Example:
    ```
    cyril@cyril-VirtualBox:~$ ./argument.sh
    Hello
    cyril@cyril-VirtualBox:~$
    ```
    c.

7. File System & Quotas

43. **quotacheck**
    a. Definition: Scan disk usage for quotas.
    b. Example:

```
cyril@cyril-VirtualBox:~$ sudo quotacheck -cug /home
quotacheck: Mountpoint (or device) /home not found or has no quota enabled.
quotacheck: Cannot find filesystem to check or filesystem not mounted with quota option.
cyril@cyril-VirtualBox:~$
```
c.

44. **quotaon**
   a. Definition: Enable quotas.
   b. Example:

```
cyril@cyril-VirtualBox:~$ sudo quotaon -av
cyril@cyril-VirtualBox:~$
```
   c.

45. **repquota**
   a. Definition: Generate quota reports.
   b. Example:

```
cyril@cyril-VirtualBox:~$ sudo repquota -u /home
repquota: Mountpoint (or device) /home not found or has no quota enabled.
repquota: Not all specified mountpoints are using quota.
```
   c.

46. **setquota**
   a. Definition: Assign quota limits.
   b. Example:

```
cyril@cyril-VirtualBox:~$ sudo setquota -u Yoimiya 50000 60000 1000 1200 /home
setquota: Mountpoint (or device) /home not found or has no quota enabled.
setquota: Not all specified mountpoints are using quota.
cyril@cyril-VirtualBox:~$
```
   c.

47. **edquota**
   a. Definition: Edit quotas interactively.
   b. Example:

```
cyril@cyril-VirtualBox:~$ sudo edquota -u Yoimiya
edquota: Cannot open quotafile //aquota.user: No such file or directory
No filesystems with quota detected.
```
   c.

48. **quota**
   a. Definition: Show user/group quotas.
   b. Example:

```
cyril@cyril-VirtualBox:~$ quota -u Yoimiya
quota: Cannot open quotafile //aquota.user: No such file or directory
cyril@cyril-VirtualBox:~$
```
   c.

7. System Management & Package Control

49. **sudo**
   a. Definition: Execute commands as superuser.
   b. Example:

```
cyril@cyril-VirtualBox:~$ sudo useradd -m John
[sudo] password for cyril:
cyril@cyril-VirtualBox:~$
```
   c.

50. **sudo apt update**
   a. Definition: Update package lists.
   b. Example:

c.

```
cyril@cyril-VirtualBox:~$ sudo apt update
Hit:1 http://ph.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://ph.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://ph.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [838 kB]
Get:6 http://ph.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,089 kB]
Get:7 http://ph.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [232 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [154 kB]
Get:9 http://ph.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [161 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.5 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/main Icons (48x48) [13.4 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security/main Icons (64x64) [20.0 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [7,068 B]
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Get:56 http://ph.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 9,316 kB in 6s (1,562 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
316 packages can be upgraded. Run 'apt list --upgradable' to see them.
cyril@cyril-VirtualBox:~$
```

d.

```
cyril@cyril-VirtualBox:~$ sudo apt update
Hit:1 http://ph.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://ph.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://ph.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [838 kB]
Get:6 http://ph.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,089 kB]
Get:7 http://ph.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [232 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [154 kB]
Get:9 http://ph.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [161 kB]
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