ubuntu

33 important ubuntu - linux cmds

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ls

list files and directories
in the current directory

```
user@ubuntu:~ $ ls                    # list
user@ubuntu:~ $ ls -l                 # long listing with permissions
drwxr-xr-x  6 user user    4096 Nov 1 12:42   .cache
-rw-r--r--     1 user user      12  Nov 1 11:54    abc.txt
user@ubuntu:~ $ ls -a                 # include hidden files
.docker  .gitconfig .cache            # . shows hidden files
```

cd

change directory

```
user@ubuntu:~ $ cd /home/user/ubuntu
user@ubuntu:~/ubuntu $ cd ..              # go up one directory level
```

pwd

show current directory path

```
user@ubuntu:~ $ pwd
/home/user
```

mkdir

create a new directory

```
user@ubuntu:~ $ mkdir directory_name
user@ubuntu:~ $ mkdir test
test
```

rm

remove files or directories

```
user@ubuntu:~ $ rm file_name  # Remove file
user@ubuntu:~ $ rm -r directory
# remove directory and contents recursively
```

cp

copy files and directories

```
user@ubuntu:~ $ cp source_file  destination
user@ubuntu:~ $ cp -r  source_dir  destination_dir
# copy directories, subdirectories and files recursively (-r)
```

mv

move or rename
files and directories

```
user@ubuntu:~ $ mv old_name new_name
user@ubuntu:~ $ mv file /new/path
```

sudo

allows a permitted user to execute
a command as the superuser (root)

```
user@ubuntu:~ $ sudo command
user@ubuntu:~ $ sudo apt update
user@ubuntu:~ $ sudo apt install package_name
```

touch

create an empty file
or update file's timestamp

```
user@ubuntu:~ $ touch file_name
user@ubuntu:~ $ touch abc.txt
```

cat

view the contents of a file

```
user@ubuntu:~ $ cat file_name
user@ubuntu:~ $ cat abc.txt
acb123
```

nano, vim

command-line text editors

```
user@ubuntu:~ $ nano file_name
user@ubuntu:~ $ vim file_name
```

ps

display currently running processes

```
user@ubuntu:~ $ ps aux
USER    PID %CPU %MEM   VSZ    RSS TTY   STAT  START  TIME COMMAND
user    9   0.0   0.0   10572 5540 pts/0  S    18:32  0:00 -bash
root    74  0.0   0.0   11020 4556 pts/0  S    18:32  0:00 dockerd
```

top, htop

interactive process viewer

```
user@ubuntu:~ $ top
top - 19:18:48 up 46 min,  0 users,  load average: 0.00, 0.00, 0.00
Tasks:  8 total,  1 running,  7 sleeping,  0 stopped,  0 zombie
%Cpu(s):  0.0 us,  0.0 sy,  0.0 ni,100.0 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :  12522.4 total,  11690.3 free,   185.2 used,   646.9 buff/cache
MiB Swap:  4096.0 total,  4096.0 free,     0.0 used.  12088.1 avail Mem

 PIDUSER      PR NI  VIRT      RES     SHR S  %CPU  %MEM TIME+ COMMAND
  75  root     20  0 1845568 112232 54884 S  0.7    0.9   0:21.04  dockerd
```

kill

terminate a process by PID

```
user@ubuntu:~ $ kill PID_number
user@ubuntu:~$ sleep 100 &                    # sleep 100 sec background
[1] 1425
user@ubuntu:~$ ps
  PID TTY          TIME CMD
 1425 pts/0    00:00:00 sleep
user@ubuntu:~$ kill 1425
user@ubuntu:~$ kill -9 1425                   #  -9 force to terminate process
```

pkill

terminate processes by name

```
user@ubuntu:~ $ pkill process_name
user@ubuntu:~ $ sleep 100 &
[1] 1402
user@ubuntu:~ $ pkill sleep
[1]+  Terminated   sleep 100
```

df

show disk usage of file systems

```
user@ubuntu:~ $ df -h                              # human-readable format
user@ubuntu:~ $ df -ah
Filesystem      Size   Used   Avail    Use%    Mounted on
/dev/sdb        251G   23G    216G     10%     /
tmpfs           6.2G   0      6.2G     0%      /mnt/a
```

free

display memory usage

```
user@ubuntu:~ $ free -h                        # human-readable format
              total      used      free    shared  buff/cache  available
Mem:          12Gi      164Mi      11Gi     0.0Ki      646Mi        11Gi
Swap:         4.0Gi        0B      4.0Gi
```

ifconfig

display or configure
network interfaces and IP

```
user@ubuntu:~ $ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.2.7  netmask 255.255.240.0  broadcast 192.168.255.255
        inet6 ab80::215:5cdd:efc2:8a3b  prefixlen 64  scopeid 0x20<link>
        ether 00:23:a3:b1:cd:ef  txqueuelen 1000  (Ethernet)
        RX packets 528  bytes 48315 (48.3 KB)
        RX errors 0  dropped 2  overruns 0  frame 0
        TX packets 25  bytes 1838 (1.8 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

ping

test connectivity
to a network host

```
user@ubuntu:~ $ ping example.com
user@ubuntu:~ $ ping 192.168.2.5
PING 192.168.2.5 (192.168.2.5) 56(84) bytes of data.
64 bytes from 192.168.2.5: icmp_seq=1 ttl=61 time=18.5 ms
^C
--- 192.168.2.5 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 18.461/19.088/19.716/0.627 ms
```

netstat

display network connections, routing tables, and more

```
user@ubuntu:~ $ netstat -tuln          # -t => tcp, -u => udp, -l => listening
Active Internet connections (only servers)
Proto  Recv-Q  Send-Q  Local Address          Foreign Address          State
tcp    0       0       0.0.0.0:443            0.0.0.0:*                LISTEN
```

wget

download files from the internet

```
user@ubuntu:~ $ wget http://example.com/file.zip
```

curl

test and fetch information
from URLs, APIs, and web pages

```
user@ubuntu:~ $ curl http://ubuntu.com
user@ubuntu:~ $ curl -X POST -H "Content-Type: application/json" -d
'{"name": "user", "age": 30}' http://example.com/api
# -X POST: Specifies the request type as POST.
# -H: Sets the request header, here specifying JSON content.
# -d: Sends data with the request.
user@ubuntu:~ $ curl -u username:password -O
http://example.com/protectedfile.zip
```

chmod

change file permissions

```
user@ubuntu:~ $ chmod 755 file_name
# read, write, execute for owner; read, execute for others
# rwx => binary 111 = decimal 7
# owner, group, others
# - rwxrwxrwx  => 777
```

chown

change file owner and group

```
user@ubuntu:~ $ chown user:group file_name
user@ubuntu:~ $ chown user2:developers example.txt
# user2: the new owner (user) of the file.
# developers: the new group associated with the file.
# example.txt: the name of the file whose ownership is being changed
```

tar

archive files
(create, extract .tar, .tar.gz files)

```
user@ubuntu:~ $ tar -cvf archive.tar file_or_directory
# create archive
user@ubuntu:~ $ tar -xvf archive.tar
# extract archive
user@ubuntu:~ $ tar -czvf archive.tar.gz file_or_dir
# create compressed archive
```

grep

search text within files

```
user@ubuntu:~ $ grep "search_term" file_name
user@ubuntu:~ $ find /path/to/search | grep "pattern"     # with pipe |
# pipe | => cmd1 | cmd2 => sends cmd1's output directly into cmd2
```

find

find files and directories
based on conditions

```
user@ubuntu:~ $ find /path -name "file_name"
user@ubuntu:~ $ find /  -name "history.txt"          # type file by default
/home/user/history.txt
find: '/home/user/dockertest/volumedata': Permission denied
user@ubuntu:~ $  find / -type d -name "docker"        # type d=directory
/etc/docker
```

adduser

create a new user

```
user@ubuntu:~ $ adduser newuser1
user@ubuntu:~ $ usermod -aG sudo newuser1
# add the user to the sudo group

# with adduser command, the home folder for the user will be created
as default
# with useradd command, there is no home folder for the user
```

passwd

set or change user password

```
user@ubuntu:~ $ passwd user        # user => username
Changing password for user.
Current password:
New password:
Retype new password:
Password changed
```

apt

install, remove, or manage packages
Debian-based systems (like Ubuntu)

```
user@ubuntu:~ $ apt update
# update package list
user@ubuntu:~ $ apt install package_name
# install a package
user@ubuntu:~ $ apt remove package_name
 # remove a package
```

yum

install, remove, or manage packages
RedHat-based systems (like CentOS)

```
[user@localhost ~]:#  yum install package_name
# install a package
[user@localhost ~]:# yum remove package_name
 # remove a package
```

```
user@ubuntu:$ #####################################


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user@ubuntu:$ #####################################
```