



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
```

PID	USER	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



pgill

terminate processes by name

```
user@ubuntu:~ $ pgill process_name
```

```
user@ubuntu:~ $ sleep 100 &
```

```
[1] 1402
```

```
user@ubuntu:~ $ pgill 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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Why? Cause; More will unfold over time



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user@ubuntu:\$ #####

