

12-12-2024

LINUX

## BASIC commands part-1

### Introduction:

LINUX

- OS (operating system)
- command
- server side configuration
- Banking, milatry, ...
- Types: ubuntu, linux, kali, fedora, centos, redhat ...

→ In this "Linux course" we can use "linux os" by two ways:

- \* AWS (can use here)
- \* VIRTUALBOX (for this need 8GB RAM)

→ Let's get into the course.

### AWS console:

- create an instance named "linuxavg"
- choose AMI as "Amazon linux" and AMI as "Amazon linux 2 AMI (HVM) - kernel 5.10, SSD volume type (free tier)";
- proceed without key pair.
- click Launch Instance

### Putty: (linuxavg) instance.

```
[ec2-user@ip-172-31-35-112 ~]$ sudo su -
```

```
[root@ip-172-31-35-112 ~]# yum install httpd
```

completed!

```
[root@ip-172-31-35-112 ~]# clear
```

[∴ CTRL + L = clear]

or

[∴ type "clear"]

```
[root@ip-172-31-35-112 ~]#
```

```
[root@ip-172-31-35-112 ~]# logout ← [∴ CTRL + D = to exit from "root user"
```

or

[∴ type "exit"]

```
[ec2-user@ip-172-31-35-112 ~]$ sudo su -
```

```
[root@ip-172-31-35-112 ~]# history
```

1. yum install httpd
2. clear
3. ...

[∴ To see the history of commands]

[root@ip-172-31-35-112 ~]# ls

[∴ list command]

[root@ip-172-31-35-112 ~]# ls -l

. .. .bash\_history .bash\_logout .bash\_profile  
.bashrc .cshrc .ssh .tcshrc

[∴ shows hidden files]

[root@ip-172-31-35-112 ~]# mkdir linux aws

[root@ip-172-31-35-112 ~]# ls

aws linux

[root@ip-172-31-35-112 ~]# cd aws

[∴ change directory command]

[root@ip-172-31-35-112 aws]# touch batman flash joker

[root@ip-172-31-35-112 aws]# ls

batman flash joker

[root@ip-172-31-35-112 aws]# cd ..

[root@ip-172-31-35-112 ~]# ls

aws linux

[∴ command to go to "parent directory"]

[root@ip-172-31-35-112 ~]# cd linux

[root@ip-172-31-35-112 ~]# cd linux

[root@ip-172-31-35-112 linux]# touch ironman thor spiderman

ironman spiderman thor

[root@ip-172-31-35-112 linux]# cd ..

[root@ip-172-31-35-112 ~]# ls

aws linux

[root@ip-172-31-35-112 ~]# touch devops

aws	devops	linux
↓	↓	↓
blue color	white color	blue color

[∴ blue - are directory]

[∴ white - are file]

[root@ip-172-31-35-112 ~]# cd aws

[root@ip-172-31-35-112 aws]# ls

batman flash joker  
└── white

[∴ All are white because they are "files"]

[root@ip-172-31-35-112 aws]# mkdir folder

[root@ip-172-31-35-112 aws]# ls

batman flash folder joker  
├── w  
├── w  
├── Blue  
└── w

[∴ white - are files]

[∴ Blue - are folders]

[root@ip-172-31-35-112 aws]# cd ..

[root@ip-172-31-35-112 ~]# ls

aws devops linux  
├── 0  
├── w  
└── 0

[root@ip-172-31-35-112 ~]# ls -lta

total 0  
drwxr-xr-x 2 root root 50 Aug 8 4:20 linux  
-rw-t--t-- 1 root root 0 Aug 8 4:24 devops  
drwxr-xr-x 3 root root 61 Aug 8 4:27 aws

[root@ip-172-31-35-112 ~]# ls -a

total 24

dr-xr-x-- 5 root root 162 Aug 8 4:24 .

aws

• bash\_history

• bash\_logout

• bash\_profile

• cshrc

• rcuser

```

dir wt ..          . . . . . linux
-twt--t--         . . . . . ssh
dir wx             . . . . . testsrc

```

```
[root@ip-172-31-35-112 ~]# pwd
```

```
/root
```

[∴ command to see the present working directory]

```
[root@ip-172-31-35-112 ~]# cd aws
```

```
[root@ip-172-31-35-112 aws]# pwd
```

```
/root/aws
```

```
[root@ip-172-31-35-112 aws]# cd ..
```

```
[root@ip-172-31-35-112 ~]# whoami
```

```
root
```

```
[root@ip-172-31-35-112 ~]# exit
```

```
logout
```

```
[ec2-user@ip-172-31-35-112 ~]$ whoami
```

```
ec2-user
```

```
[ec2-user@ip-172-31-35-112 ~]$ sudo su -u
```

```
[root@ip-172-31-35-112 ~]# yum install tree
```

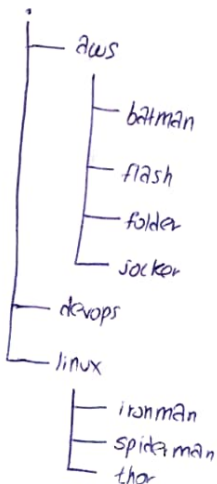
```

:
x
:

```

```
complete!
```

```
[root@ip-172-31-35-112 ~]# tree
```



3 directories, 7 files

[root@ip-172-31-35-112 ~]# cd aws

[root@ip-172-31-35-112 aws]# ls

batman flash folder joker

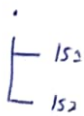
[root@ip-172-31-35-112 aws]# cd folder

[root@ip-172-31-35-112 folder]# touch ls1 ls2

[root@ip-172-31-35-112 folder]# ls

ls1 ls2

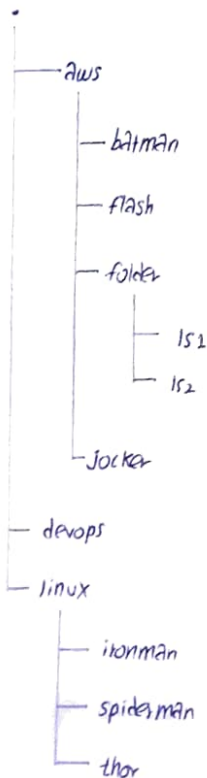
[root@ip-172-31-35-112 folder]# tree



0 directories, 2 files

[root@ip-172-31-35-112 folder]# cd

[root@ip-172-31-35-112 ~]# tree



3 directories, 9 files

16.12.2024

Day-2

## Basic commands part-2

→ Last class continuation.

→ Let's continue with the same instance "linuxdog"

Putty:

[root@ip-172-31-35-112 ~]# man tree

NAME

tree ..

:

[∴ "man" is a helping cmd

if we see "tree" cmd, and don't

know what it does, we can use "man"

to see its usage or how to use it]

[root@ip-172-31-35-112 ~]# man ls

NAME

ls - list directory contents

:

[∴ Q + ENTER = exit]

[root@ip-172-31-35-112 ~]# uname

Linux

[∴ type of system]

[root@ip-172-31-35-112 ~]# cal

August 2024

Su	Mo	Tue	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

[root@ip-172-31-35-112 ~]# date

Fri Aug 9 03:58:43 UTC 2024

[root@ip-172-31-35-112 ~]# free

[∴ to show free memory]

	total	used	free	shared	buff/cache	available
Mem:	975532	72036	695264	400	208232	765352
Swap:	0	0	0			

[root@ip-172-31-35-112 ~]# df

[∴ disk free]

Filesystem	1k-blocks	used	Available	use%	Mounted on
devtmpfs	478740	0	478740	0%	/dev
tmpfs	487764	0	487764	0%	/dev/shm
tmpfs	487764	456	487308	1%	/run
tmpfs	487764	0	487764	0%	/sys/fs/cgroup
/dev/xvda1	8376300	1853308	6522992	23%	/
tmpfs	..	0	..	0%	/run/user/1000
tmpfs	..	0	..	0%	/run/user/10

[root@ip-172-31-35-112 ~]# ps

[∴ process]

PID	TTY	TIME	CMD
3610	pts/0	00:00:00	sudo
3611	pts/0	00:00:00	ss
3612	pts/0	00:00:00	bash
3719	pts/0	00:00:00	ps

[root@ip-172-31-35-112 ~]# top

[∴ to check CPU utilization]

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1	root	20	0	41460	.	.	S	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.

[root@ip-172-31-35-112 ~]# http

-bash: http: command not found

[root@ip-172-31-35-112 ~]# yum install http

...  
Y  
...  
complete!



[root@ip-172-31-35-112 ~]# htop

```
cpu[      ] task: 43, 16 thr, 2 running
mem[.....] load average: 0.00 0.2 0.01
swp[      ] uptime: ..
:
:
```

∴ [CTRL + Z = exit]

[root@ip-172-31-35-112 ~]# /s

$\frac{aws}{B}$     $\frac{devops}{W}$     $\frac{linux}{B}$

[root@ip-172-31-35-112 ~]# cd aws

[root@ip-172-31-35-112 aws]# /s

$\frac{batman}{W}$     $\frac{flash}{W}$     $\frac{folder}{B}$     $\frac{joker}{W}$

[root@ip-172-31-35-112 aws]# cat batman

[root@ip-172-31-35-112 aws]# cat > batman

Batman is a superhero who appears in America (type this)

! → put the cursor here

∴ [CTRL + Z = exit]

[3]+ stopped   cat > batman

[root@ip-172-31-35-112 aws]# cat batman

Batman is a superhero who appears in America

[root@ip-172-31-35-112 aws]# cat > batman

hi (type this)

□ → cursor here

∴ [CTRL + Z = exit]

[4]+ stopped   cat > batman

[Difference between 'top' and 'htop'  
is, in 'htop' 'ui' is somewhat better]

[":" > " overwrite]

```
[root@ip-172-31-35-112 aws]# cat batman
```

hi

```
[root@ip-172-31-35-112 aws]# cat >> batman
```

Batman is a superhero who appears in America (type this)

█ → cursor here

∴ [CTRL + Z = exit]

```
[5]+ stopped cat >> batman
```

```
[root@ip-172-31-35-112 aws]# cat batman
```

hi

Batman is a superhero who appears in America

```
[root@ip-172-31-35-112 aws]# cat >> batman
```

hello

world

welcome

to

linux

class █ → cursor here

∴ [CTRL + Z = exit]

```
[6]+ stopped cat >> batman
```

```
[root@ip-172-31-35-112 aws]# cat batman
```

hi

Batman is a superhero who appears in America

hello

world

welcome

to

linux

```
[root@ip-172-31-35-112 aws]#
```

∴ [ cat -b = display with numbers

cat -n = display numbers even to blank lines

cat -s = squeeze the blank space

cat -E = show "\$" at the end of line ]

[root@ip-172-31-35-112 aws]# cat -b batman

1. hi
2. Batman is a superhero who appears in America
3. hello
4. world
5. welcome
6. to
7. linux

[root@ip-172-31-112 aws]# ls

<u>batman</u>	<u>flash</u>	<u>folder</u>	<u>joker</u>
w	w	B	w

[root@ip-172-31-112 aws]# cat joker

[root@ip-172-31-112 aws]# cp batman joker

cp: overwrite 'joker'? y

[∴ copy cmd]

[root@ip-172-31-112 aws]# cat joker

hi  
Batman is a superhero who appears in America  
hello  
world  
welcome  
to  
linux

[root@ip-172-31-112 aws]#

```
[root@ip-172-31-35-112 aws]# ls
```

```
batman  flash  folder  joker  
w       w     B       w
```

```
[root@ip-172-31-35-112 aws]# cat flash
```

```
[root@ip-172-31-35-112 aws]# mv joker flash
```

[∴ move cmd]

mv: overwrite 'flash'? yes

```
[root@ip-172-31-35-112 aws]# ls
```

```
batman  flash  folder  
w       w     B
```

```
[root@ip-172-31-35-112 aws]# cat flash
```

hi

Batman is a superhero who appears in America

hello

world

welcome

to

linux

```
[root@ip-172-31-35-112 aws]# ls
```

```
batman  flash  folder  
w       w     B
```

```
[root@ip-172-31-35-112 aws]# mv flash new
```

[∴ Rename cmd]

```
[root@ip-172-31-35-112 aws]# ls
```

```
batman  flash  new → Renamed  
w       B   w
```

```
[root@ip-172-31-35-112 aws]# cat new
```

hi

Batman is a superhero who appears in America

hello

world

welcome

to

linux

[root@ip-172-31-35-112 aws]# ls

$\frac{\text{batman}}{w}$   $\frac{\text{folder}}{B}$   $\frac{\text{new}}{w}$

[root@ip-172-31-35-112 aws]# rm batman

[∴ rm - to remove a file]

rm: remove regular file 'batman'? yes

[root@ip-172-31-35-112 aws]# ls

$\frac{\text{folder}}{B}$   $\frac{\text{new}}{w}$

[root@ip-172-31-35-112 aws]# rm -r new

rm: remove regular file 'new'? yes

[root@ip-172-31-35-112 aws]# ls

$\frac{\text{folder}}{B}$

[root@ip-172-31-35-112 aws]# rmdir folder

rmdir: failed to remove 'folder': Directory not empty

[root@ip-172-31-35-112 aws]# cd folder

[root@ip-172-31-35-112 folder]# ls

ls1 ls2

[root@ip-172-31-35-112 folder]# cd ..

[∴ cmd to goto parent directory]

[root@ip-172-31-35-112 aws]# ls

$\frac{\text{folder}}{B}$

[root@ip-172-31-35-112 aws]# rm folder/\*

[∴ cmd to remove files inside a folder]

rm: remove regular empty file 'folder/ls1'? yes

rm: remove regular empty file 'folder/ls2'? yes

[root@ip-172-31-35-112 aws]# ls

folder

[root@ip-172-31-35-112 aws]# cd folder

[root@ip-172-31-35-112 aws]# ls

[root@ip-172-31-35-112 aws]#

[root@ip-172-31-35-112 folder]# cd ..

[root@ip-172-31-35-112 aws]# ls

folder  
B

[root@ip-172-31-35-112 aws]# rm -r folder

[∴ rm to remove a folder]

[root@ip-172-31-35-112 aws]# ls

[root@ip-172-31-35-112 aws]# wget https://en.wikipedia.org/wiki/Batman

[∴ wget - to get things from internet]

--2024-08-09 ...

Resolving en.wikipedia.org ...

connecting to en...

HTTP request sent, awaiting response... 200 OK

[∴ downloads the content]

100% [=====] 761,497 ..

2024... (304 MB/s) - 'Batman' saved [761497/761497]

[root@ip-172-31-35-112 aws]# ls -l

total 744

-rw-r--r-- 1 root root 761497 - Batman

[root@ip-172-31-35-112 aws]# ls

Batman  
w

[root@ip-172-31-35-112 aws]# cat Batman

[root@ip-172-31-35-112 aws]# logout  
There are stopped jobs

[root@ip-172-31-35-112 aws]# curl https://en.wikipedia.org/wiki/Batman

[∴ curl - to get things from internet]

[root@ip-172-31-112 aws]# logout

[∴ Does not download the content]

[root@ip-172-31-112 aws]# ping google.com

[∴ to check internet connectivity]

[root@ip-172-31-112 aws]#

[root@ip-172-31-35-112 ~]# exit

exit

~~Exit~~

[root@ip-172-31-35-112 ~]# cd ..

[root@ip-172-31-35-112 ~]# ls

$\frac{aws}{B} \quad \frac{devops}{w} \quad \frac{linux}{B}$

[root@ip-172-31-35-112 ~]# cat devops

[root@ip-172-31-35-112 ~]# cat > devops

hello

devops

[∴ CTRL + z = exit]

[1] + Stopped ..

[root@ip-172-31-35-112 ~]# tac devops

devops

hello

[∴ tac - reverse of "cat"]