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LAP 4

## Lab: Your Work (1)

1. Enter command `"jobs"`. What is the result? Why?
2. Delay system run by using command `"sleep"` and then run the command to create a file `"mydelaytesting.txt"` by using command `"touch"`, and wait them in the background process:
  - o `sleep 600; touch mydelaytesting.txt &`
3. Try to check if the file `"mydelaytesting.txt"` is created immediately or not? (`ls`)
4. Enter command `"jobs"`. What is the result? Why?

```
ashxio@ashio:~$ (sleep 15; touch mydelaytesting.txt) &
[1] 1002
ashxio@ashio:~$ ls
public_html
ashxio@ashio:~$ jobs
[1]+  Running                  ( sleep 15; touch mydelaytesting.txt ) &
ashxio@ashio:~$ jobs
[1]+  Done                    ( sleep 15; touch mydelaytesting.txt )
ashxio@ashio:~$ ls
mydelaytesting.txt  public_html
```

1. The first `"jobs"` doesn't give any result bcus there is nth running in the background
2. The `;` tells the system to do the command in order. Sleep command tells the system to wait then do the second command which is to create the file and the `&` put them both to run in the background.
3. The file isn't created immediately when using `ls` to check bcus it still have to wait
4. Command `jobs` now show that there is task running, after it's done the file is now created.
5. Download **"Linux eBook"** from course syllabus by using command `"wget"` and wait them in background process:
  - o `wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humblesec/thelinuxcommandline.pdf &`
6. Try to check if the file is downloaded or not? (using `ls`)
7. Enter command `"jobs"`. What is the result? Why?

2

```
ashxio@ashio:~$ wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humblesec/thelinuxcom
mandline.pdf &
[1] 1075
ashxio@ashio:~$
Redirecting output to 'wget-log'.
ls
mydelaytesting.txt  public_html  thelinuxcommandline.pdf  wget-log
ashxio@ashio:~$ jobs
[1]+  Running                  wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humbles
ec/thelinuxcommandline.pdf &
ashxio@ashio:~$ jobs
[1]+  Running                  wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humbles
ec/thelinuxcommandline.pdf &
ashxio@ashio:~$ |
```

5. `--limit-rate=20`, the file is downloading at 20byte per sec making it super slow
6. Using `ls` will show the file since it was created immediately by using the `-o` (output doc) but it will be empty until the download is fully done
7. Jobs still show the tasking running in the background meaning it is still downloading

## Lab: Your Work (1) - Continue

1. Download "**Operating System eBook**" from course syllabus by using command "**wget**" and wait them in background process:
  - `wget --limit-rate=50 -O Operating-System-Concepts.pdf https://os.ecci.ucr.ac.cr/slides/Abraham-Silberschatz-Operating-System-Concepts-10th-2018.pdf &`
2. Try to check if any file is downloaded or not (using `ls`)? Why?
3. Enter command "**jobs**". What is the result?
4. Enter command to bring the process of downloading "**Linux eBook**" to the **foreground**
  - What happen?
  - How to suspend current foreground process?
5. Enter command "**jobs**". What is the result?
6. How to **resume** the suspended above process (download "Linux eBook")?
7. Where does "**sleep**" command gone from this "**jobs**" listing?

```
ashxio@ashio:~$ wget --limit-rate=50 -O Operating-System-Concepts.pdf https://os.ecci.ucr.ac.cr/slides/Abraham-Silberschatz-Operating-System-Concepts-10th-2018.pdf &
[2] 1283
ashxio@ashio:~$
Redirecting output to 'wget-log.1'.
ls
Operating-System-Concepts.pdf mydelaytesting.txt public_html thelinuxcommandline.pdf wget-log wget-log.1
ashxio@ashio:~$ jobs
[1]-  Running                  wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humblesec/thelinuxcommandline.pdf &
[2]+  Running                  wget --limit-rate=50 -O Operating-System-Concepts.pdf https://os.ecci.ucr.ac.cr/slides/Abraham-Silberschatz-Operating-System-Concepts-10th-2018.pdf &
ashxio@ashio:~$ fg %1
wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humblesec/thelinuxcommandline.pdf
--2026-02-05 15:43:11-- https://www.kea.nu/files/textbooks/humblesec/thelinuxcommandline.pdf
Resolving www.kea.nu (www.kea.nu)... 172.67.131.243, 104.21.12.76, 2606:4700:3030::ac43:83f3, ...
Connecting to www.kea.nu (www.kea.nu)[172.67.131.243]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 7458677 (7.1M) [application/pdf]
Saving to: 'thelinuxcommandline.pdf'
```

2. Using `ls` will show the file since it was created immediately by using the `-o` (output doc) but it will be empty until the download is fully done
3. Jobs will list two running jobs, one from the last download that is still running
4. Once we enter the command to bring the linux ebook to the front we will lose control of the terminal again as it is now a foreground task and it will also show the download status bar. Use `ctrl z` to suspend the current job
5. Use `bg %1` to resume the download in the background
6. The sleep command is gone bcus it has alr finished running

(note: only put the sleep for 15sec cus wanted to test it on a shorter duration)

## Lab: Your Work (2)

1. Display all processes are running by using command “ps” and “ps aux”
2. Filter the processes that are currently is running “wget” by using ps aux, grep and pipelines
3. Output the result of filtering above to a file located in ~/mypscmd.txt
4. Show result inside that file “mypscmd.txt”
5. Describe the result.
6. Kill process “PID = 1” that is running, and what happen? why?
7. Kill those “wget” processes that are still running
8. Check those processes again, do they still existing?

```
ashxio@ashio: ~$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.1 21712 12148 ?        Ss   18:26   0:01 /sbin/init
root         2  0.0  0.0   3120  2048 ?        Sl   18:26   0:00 /init
root         7  0.0  0.0   3136  1792 ?        Sl   18:26   0:00 plan9 --control-socket 7 --log-level 4 --server-fd 8
root        59  0.0  0.1   5024 15624 ?        S<ss 18:26   0:00 /usr/lib/systemd/systemd-journald
root       104  0.0  0.0  25268  6272 ?        Ss   18:26   0:01 /usr/lib/systemd/systemd-udev
systemd+  115  0.0  0.1  21452 11776 ?        Ss   18:26   0:00 /usr/lib/systemd/systemd-resolved
systemd+  116  0.0  0.0  91020  7552 ?        Ssl  18:26   0:00 /usr/lib/systemd/systemd-timesyncd
root       181  0.0  0.0   4236  2432 ?        Ss   18:26   0:00 /usr/sbin/cron -f -p
message+  182  0.0  0.0   9628  4864 ?        Ss   18:26   0:00 @dbus-daemon --system --address=systemd: --nofork --n
root       213  0.0  0.1  17964  8448 ?        Ss   18:26   0:00 /usr/lib/systemd/systemd-logind
root       216  0.0  0.1 1755840 12416 ?       Ssl  18:26   0:00 /usr/libexec/wsl-pro-service -vv
syslog    232  0.0  0.0  22508  5248 ?        Ssl  18:26   0:00 /usr/sbin/rsyslogd -n -iNONE
root       237  0.0  0.0   3160  1920 hvc0     Ss+  18:26   0:00 /sbin/agetty -o -p -- \u --noclear --keep-baud - 1152
root       238  0.0  0.0   6804  4628 ?        Ss   18:26   0:00 /usr/sbin/apache2 -k start
www-data  239  0.0  0.0 1999320  5156 ?       Sl   18:26   0:00 /usr/sbin/apache2 -k start
www-data  241  0.0  0.0 1999320  5284 ?       Sl   18:26   0:00 /usr/sbin/apache2 -k start
root       282  0.0  0.0   3116  1792 tty1     Ss+  18:26   0:00 /sbin/agetty -o -p -- \u --noclear - linux
root       315  0.0  0.2 107008 22016 ?       Ssl  18:26   0:00 /usr/bin/python3 /usr/share/unattended-upgrades/unatt
root       380  0.0  0.0   3124   896 ?        Ss   18:26   0:00 /init
root       382  0.0  0.0   3140  1156 ?        S    18:26   0:00 /init
ashxio    389  0.0  0.0   6720  5760 pts/0    Ss   18:26   0:00 -bash
root      391  0.0  0.0   6692  4224 pts/1    Ss   18:26   0:00 /bin/login -f
ashxio    448  0.0  0.1  20308 11136 ?        Ss   18:26   0:00 /usr/lib/systemd/systemd --user
ashxio    449  0.0  0.0  21144  3516 ?        S    18:26   0:00 (sd-pam)
ashxio    475  0.0  0.0   6072  4736 pts/1    S+   18:26   0:00 -bash
ashxio   1277  0.0  0.1 13692  9472 pts/0    S    20:08   0:00 wget --limit-rate=20 -O thelinuxcommandline.pdf https
ashxio   1375  0.0  0.0   8280  4096 pts/0    R+   20:22   0:00 ps aux
ashxio@ashio:~$ ps aux | grep wget > ~/mypscmd.txt
ashxio@ashio:~$ cat ~/mypscmd.txt
ashxio   1277  0.0  0.1 13692  9472 pts/0    S    20:08   0:00 wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humble
sec/thelinuxcommandline.pdf
ashxio   1385  0.0  0.0   4088  1920 pts/0    S+   20:23   0:00 grep --color=auto wget
ashxio@ashio:~$ kill 1
-bash: kill: (1) - Operation not permitted
ashxio@ashio:~$ pkill wget
ashxio@ashio:~$ ps aux | grep wget
ashxio   1405  0.0  0.0   4088  1920 pts/0    S+   20:26   0:00 grep --color=auto wget
[1]+  Terminated                  wget --limit-rate=20 -O thelinuxcommandline.pdf https://www.kea.nu/files/textbooks/humblesec/thelinuxcommandline.pdf
ashxio@ashio:~$ jobs
```

The result shows only the wget commands we ran before

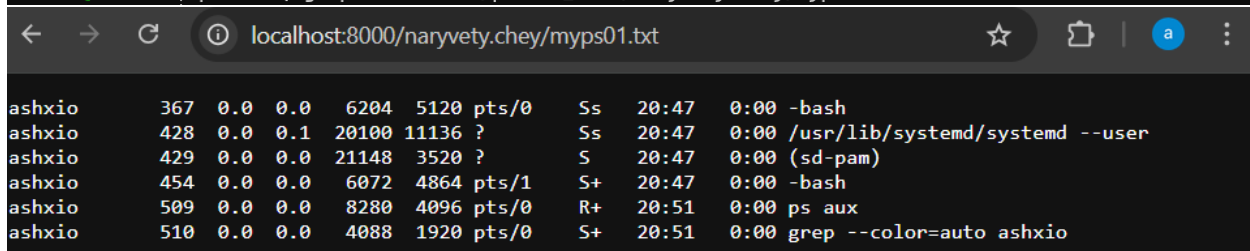
Kill 1 doesn't work bcus it is the parent of all process so we don't have perm to kill it or else everything would crash

The wget process don't exist anymore bcus we already terminated the tasks and the jobs would also show nth

## Lab: Your Work (3)

1. Access to remote server "`ssh your_student_id@os.cammob.ovh`"
2. Display all processes are running by using command `ps`
3. Filter the processes that are currently running by your user account by using `ps`, `grep` and pipelines
4. Output all processes running by your user account and redirect the output result to a file located in `~/public_html/your.full.name/myps01.txt`
5. Go to browser enter
  - o `http://your_student_id.os.cammob.ovh/your.full.name/myps01.txt`

```
ashxio@ashio:~$ ps
  PID TTY          TIME CMD
   367 pts/0    00:00:00 bash
   487 pts/0    00:00:00 ps
ashxio@ashio:~$ ps aux | grep ashxio
ashxio  367  0.0  0.0   6072  4992 pts/0    Ss   20:47   0:00 -bash
ashxio  428  0.1  0.1  20100 11136 ?        Ss   20:47   0:00 /usr/lib/systemd/systemd --user
ashxio  429  0.0  0.0   21148  3520 ?        S    20:47   0:00 (sd-pam)
ashxio  454  0.0  0.0   6072  4864 pts/1    S+   20:47   0:00 -bash
ashxio  495  0.0  0.0   8280  4096 pts/0    R+   20:48   0:00 ps aux
ashxio  496  0.0  0.0   4088  1920 pts/0    S+   20:48   0:00 grep --color=auto ashxio
ashxio@ashio:~$ ps aux | grep ashxio > ~/public_html/naryvety.chey/myps01.txt
```



The screenshot shows a web browser window with the address bar displaying `localhost:8000/naryvety.chey/myps01.txt`. The browser content area displays the output of the `ps aux | grep ashxio` command, which lists running processes for the user ashxio. The output includes process IDs, memory usage, CPU usage, and command names.

## Assignment W04-1

1. Access to your account in remote server "`ssh your_student_id@os.cammob.ovh`"
2. Create new directory directory "`public_html/your.full.name/lab04/output/`"
3. Save all of your access logs inside file "`~/logs/access_log`" to a file "`public_html/your.full.name/lab04/output/myaccess.log`" follow by criteria below:
  - a. Filter access log of today of this lab class start
    - i. For example today is "`05/Feb/2026`"
  - b. And filter more result of "`/your.full.name/`"

```
ashxio@ashio:~$ mkdir -p ~/public_html/naryvety.chey/lab04/output/
ashxio@ashio:~$ grep "05/Feb/2026" /var/log/apache2/access.log | grep "/naryvety.chey/" > ~/public_html/naryvety.chey/lab04/output/myaccess.log
ashxio@ashio:~$ cat ~/public_html/naryvety.chey/lab04/output/myaccess.log
ashxio@ashio:~$ python3 -m http.server --directory public_html 8000
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
127.0.0.1 - - [05/Feb/2026 21:11:22] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [05/Feb/2026 21:11:24] "GET /naryvety.chey/ HTTP/1.1" 200 -
127.0.0.1 - - [05/Feb/2026 21:11:28] "GET /naryvety.chey/lab04/ HTTP/1.1" 200 -
127.0.0.1 - - [05/Feb/2026 21:11:30] "GET /naryvety.chey/lab04/output/ HTTP/1.1" 200 -
127.0.0.1 - - [05/Feb/2026 21:11:31] "GET /naryvety.chey/lab04/output/myaccess.log HTTP/1.1" 200 -
```

Theres nth cus theres no activity