Splitting the screen:

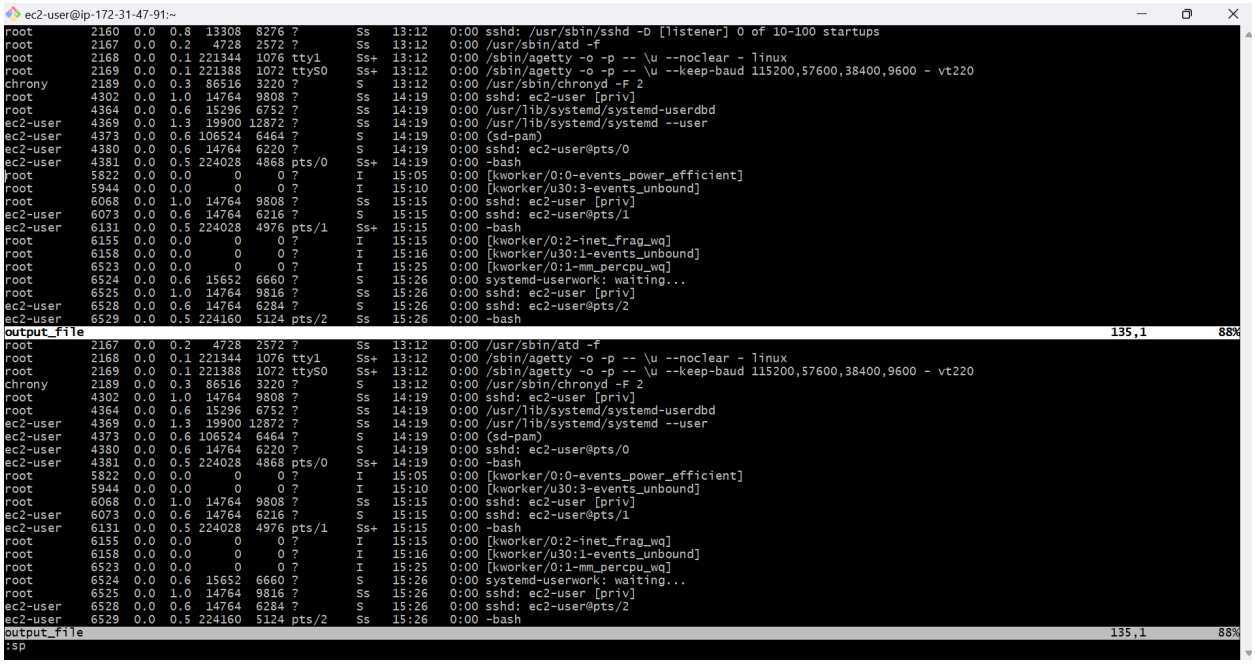
Splitting the screen into parts so that each part should show the particular output, like one part of the screen should show the cpu health check, another part should show the running processes, another part should show the critical errors in system logs etc.this all content is present inside the output_file.

Steps:

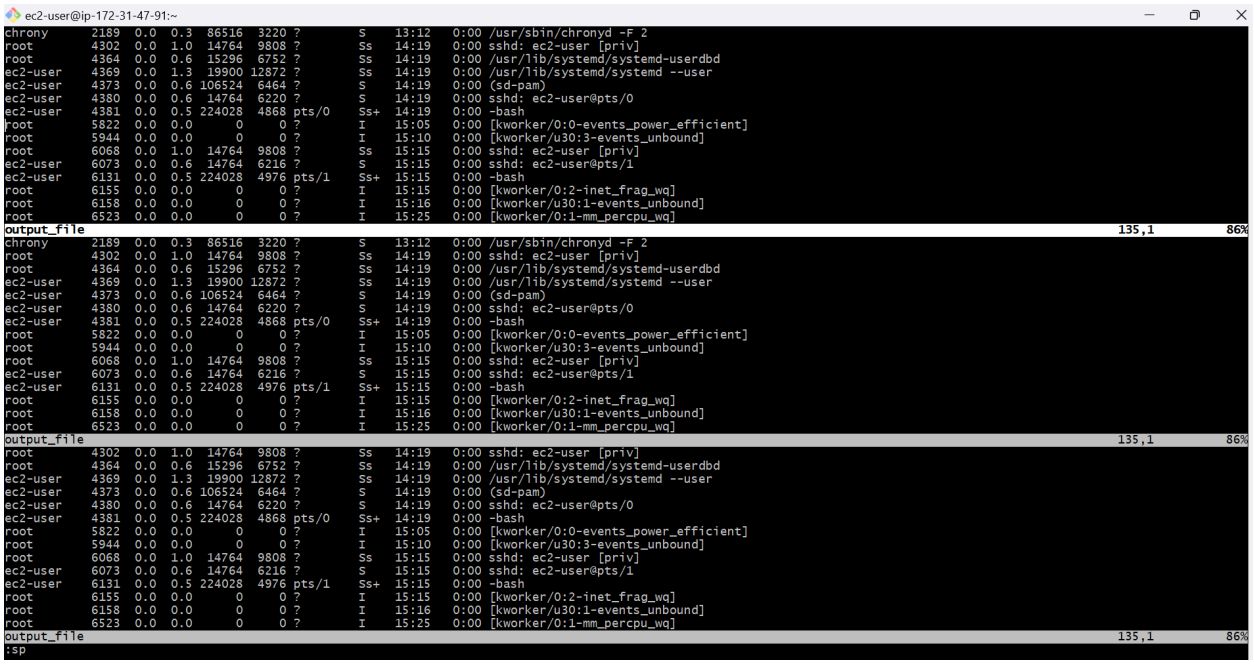
1. Open the **output_fie** by using vim editor

```
[ec2-user@ip-172-31-47-91 ~]$ vim output_file
```

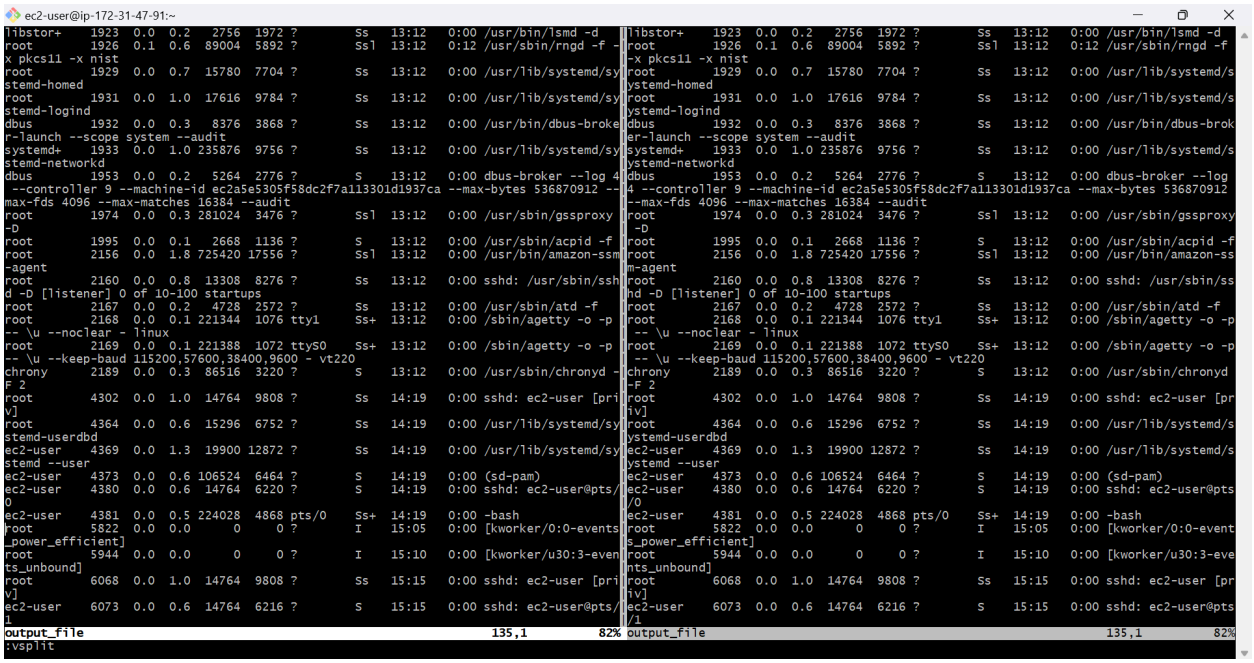
2. By using **esp** and **:sp** we can split the screen into two halves up and down



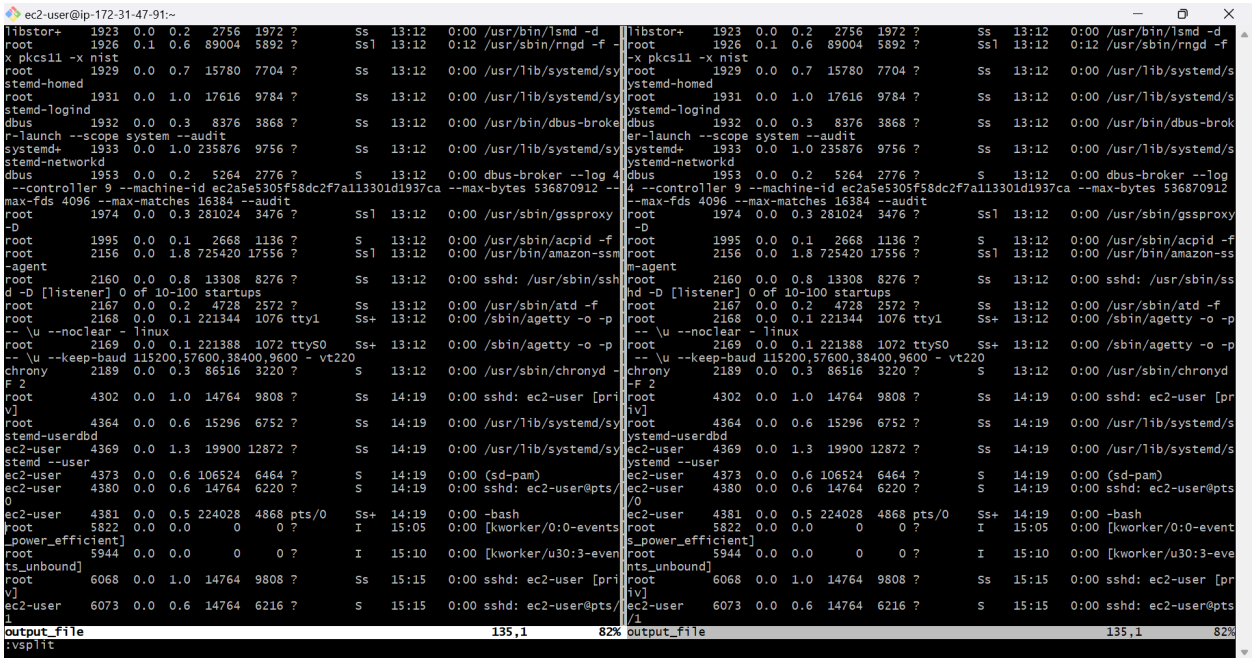
3. How many times the **:sp** we use that many times the screen will split that many times horizontally.

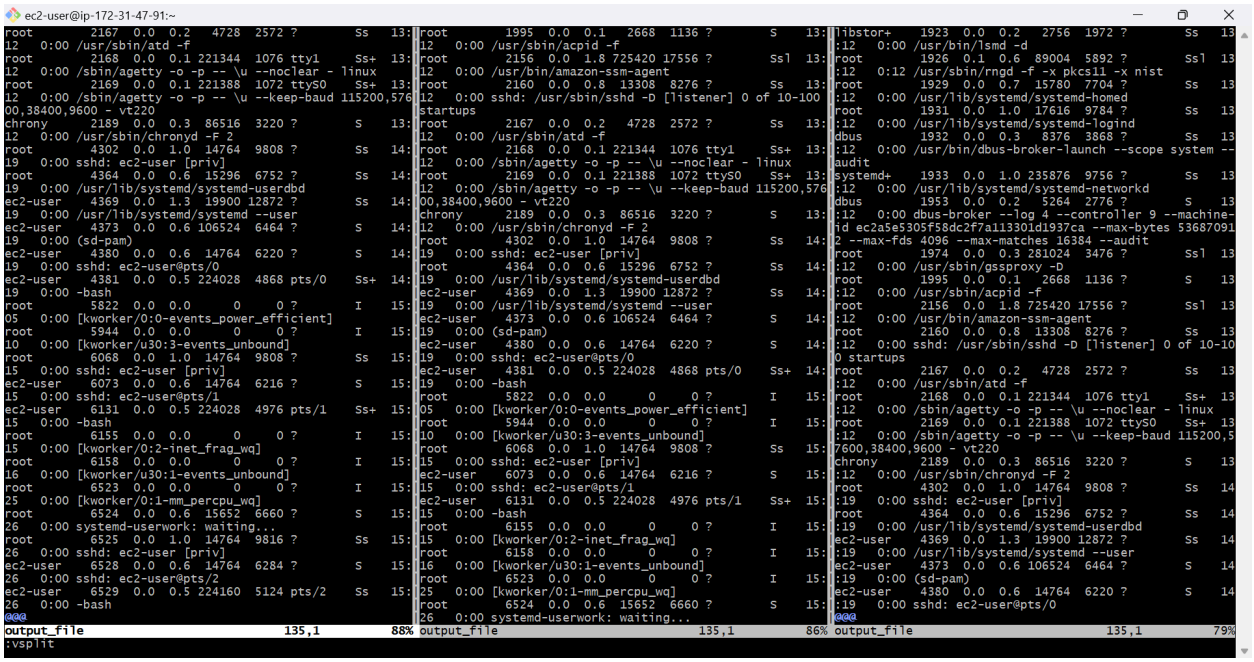


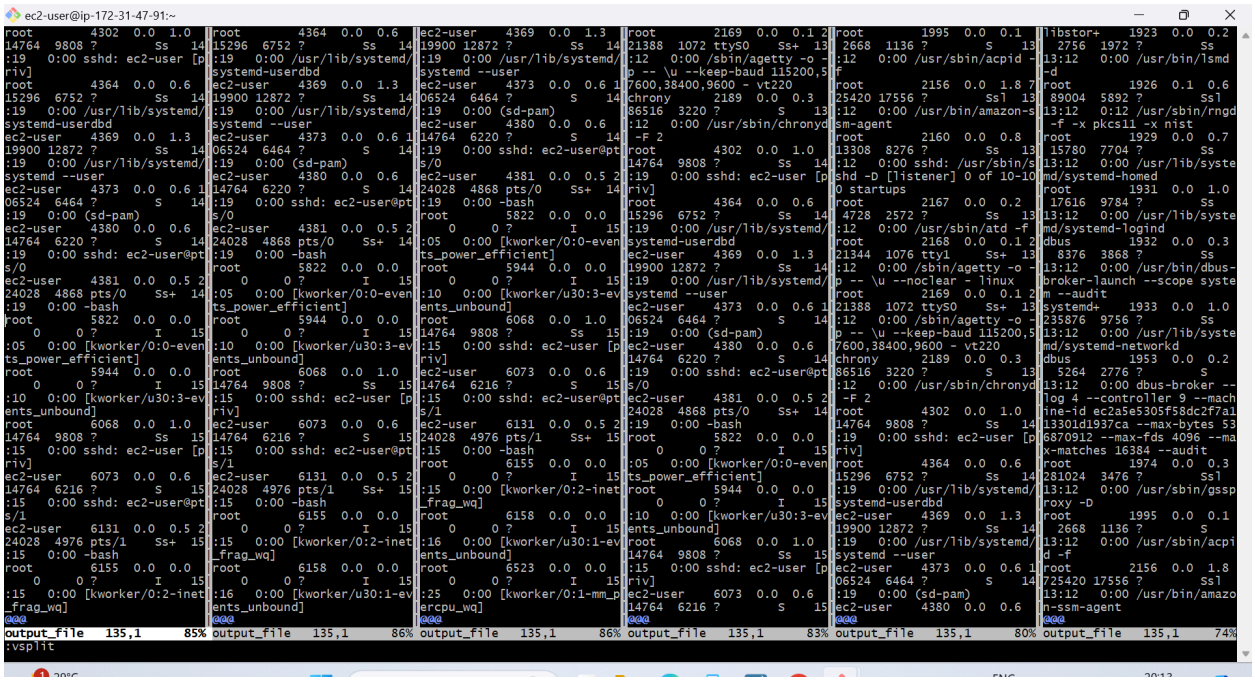
4. By using **esp** and **: vsplit** we can split the screen vertically



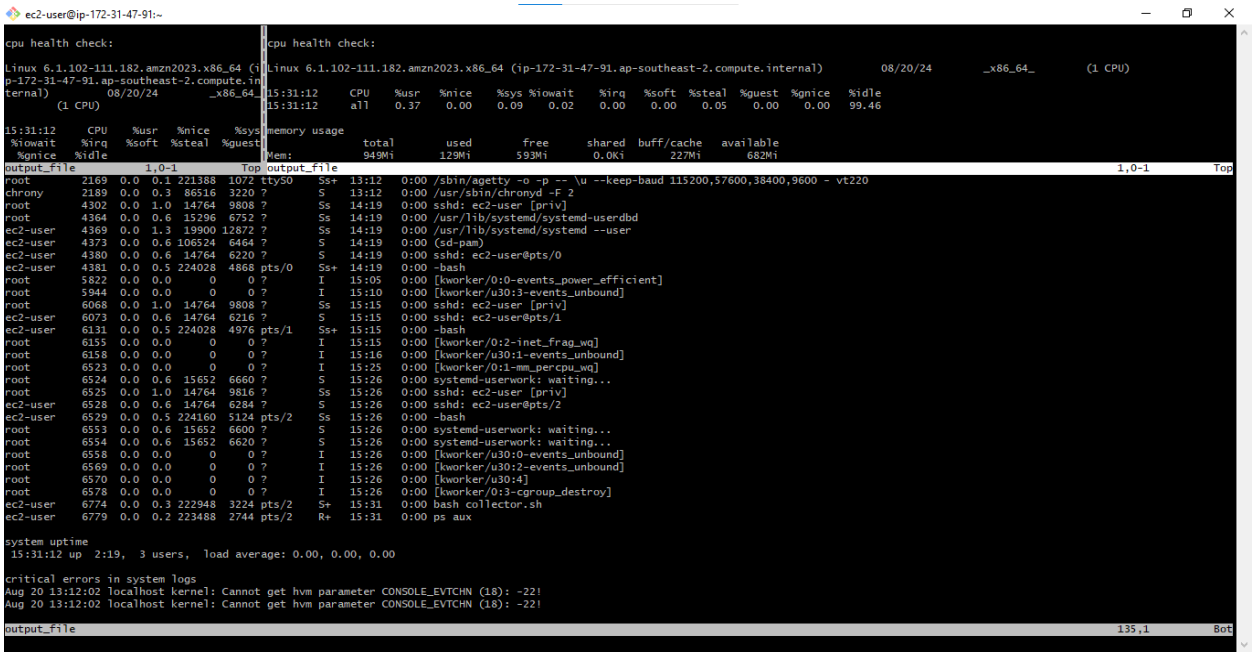
5. How many times the **:vsplit** we use that many times the screen will split that many times vertically.

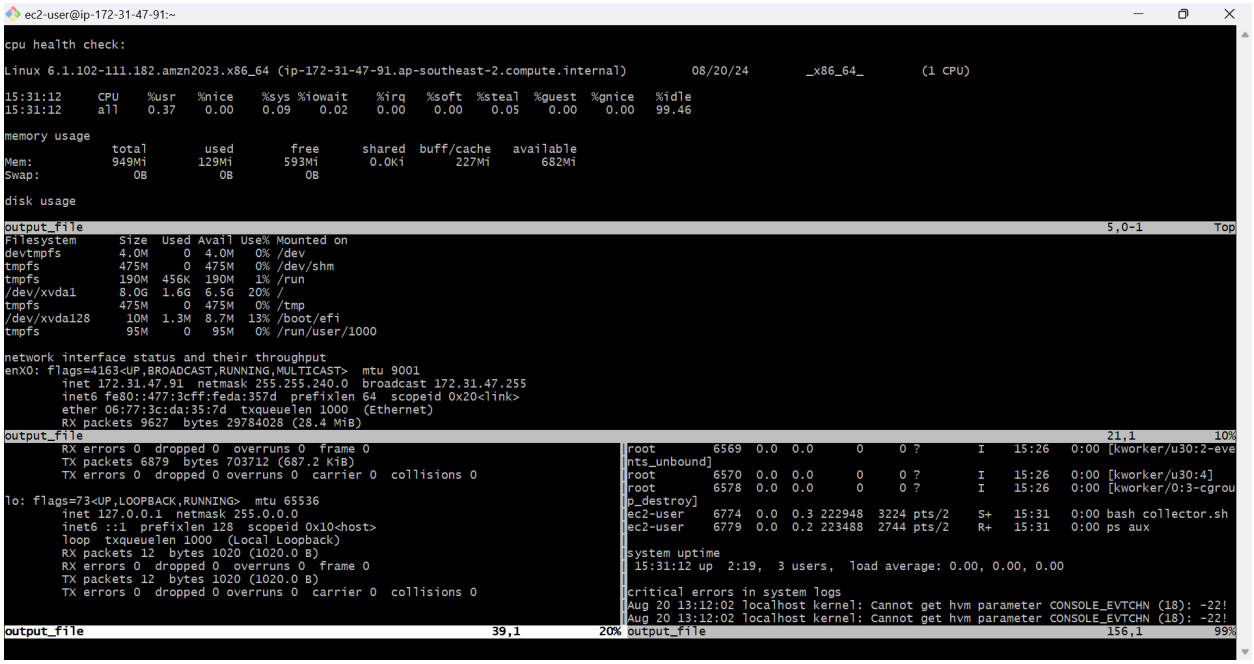

ec2-user@ip-172-31-47-91:~
libstor+ 1923 0.0 0.2 2756 1972 ? Ss 13:12 0:00 /usr/bin/lsmd -d
root 1926 0.1 0.6 89004 5892 ? Ssl 13:12 0:12 /usr/sbin/rngd -f -x pkcs11 -x nist
root 1929 0.0 0.7 15780 7704 ? Ss 13:12 0:00 /usr/lib/systemd/systemd-homed
root 1931 0.0 1.0 17616 9784 ? Ss 13:12 0:00 /usr/lib/systemd/systemd-logind
dbus 1932 0.0 0.3 8376 3868 ? Ss 13:12 0:00 /usr/bin/dbus-broker-launch --scope system --audit
systemd+ 1933 0.0 1.0 235876 9756 ? Ss 13:12 0:00 /usr/lib/systemd/systemd-networkd
dbus 1953 0.0 0.2 5264 2776 ? S 13:12 0:00 dbus-broker --log 4 --controller 9 --machine-id ec2a5e5305f58dc2f7a113301d1937ca --max-bytes 536870912 --max-fds 4096 --max-matches 16384 --audit
root 1974 0.0 0.3 281024 3476 ? Ssl 13:12 0:00 /usr/sbin/gssproxy -D
root 1995 0.0 0.1 2668 1136 ? S 13:12 0:00 /usr/sbin/acpid -f
root 2156 0.0 1.8 725420 17556 ? Ssl 13:12 0:00 /usr/bin/amazon-ssm-agent
root 2160 0.0 0.8 13308 8276 ? Ss 13:12 0:00 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
root 2167 0.0 0.2 4728 2572 ? Ss 13:12 0:00 /usr/sbin/atd -f
root 2168 0.0 0.1 221344 1076 tty1 Ss+ 13:12 0:00 /sbin/agetty -o -p -- \u --noclear - linux
root 2169 0.0 0.1 221388 1072 ttyS0 Ss+ 13:12 0:00 /sbin/agetty -o -p -- \u --keep-baud 115200,57600,38400,9600 - vt220
chrony 2189 0.0 0.3 86516 3220 ? S 13:12 0:00 /usr/sbin/chronyd -F 2
root 4302 0.0 1.0 14764 9808 ? Ss 14:19 0:00 sshd: ec2-user [priv]
root 4364 0.0 0.6 15296 6752 ? Ss 14:19 0:00 /usr/lib/systemd/systemd-userdbd
ec2-user 4369 0.0 1.3 19900 12872 ? Ss 14:19 0:00 /usr/lib/systemd/systemd --user
ec2-user 4373 0.0 0.6 106524 6464 ? S 14:19 0:00 (sd-pam)
ec2-user 4380 0.0 0.6 14764 6220 ? S 14:19 0:00 sshd: ec2-user@pts/0
ec2-user 4381 0.0 0.5 224028 4868 pts/0 Ss+ 14:19 0:00 -bash
root 5822 0.0 0.0 0 0 ? I 15:05 0:00 [kworker/0:0-events_power_efficient]
root 5944 0.0 0.0 0 0 ? I 15:10 0:00 [kworker/u30:3-events_unbound]
root 6068 0.0 1.0 14764 9808 ? Ss 15:15 0:00 sshd: ec2-user [priv]
ec2-user 6073 0.0 0.6 14764 6216 ? S 15:15 0:00 sshd: ec2-user@pts/1
output_file 135,1 82%
:vsplit
libstor+ 1923 0.0 0.2 2756 1972 ? Ss 13:12 0:00 /usr/bin/lsmd -d
root 1926 0.1 0.6 89004 5892 ? Ssl 13:12 0:12 /usr/sbin/rngd -f -x pkcs11 -x nist
root 1929 0.0 0.7 15780 7704 ? Ss 13:12 0:00 /usr/lib/systemd/systemd-homed
root 1931 0.0 1.0 17616 9784 ? Ss 13:12 0:00 /usr/lib/systemd/systemd-logind
dbus 1932 0.0 0.3 8376 3868 ? Ss 13:12 0:00 /usr/bin/dbus-broker-launch --scope system --audit
systemd+ 1933 0.0 1.0 235876 9756 ? Ss 13:12 0:00 /usr/lib/systemd/systemd-networkd
dbus 1953 0.0 0.2 5264 2776 ? S 13:12 0:00 dbus-broker --log 4 --controller 9 --machine-id ec2a5e5305f58dc2f7a113301d1937ca --max-bytes 536870912 --max-fds 4096 --max-matches 16384 --audit
root 1974 0.0 0.3 281024 3476 ? Ssl 13:12 0:00 /usr/sbin/gssproxy -D
root 1995 0.0 0.1 2668 1136 ? S 13:12 0:00 /usr/sbin/acpid -f
root 2156 0.0 1.8 725420 17556 ? Ssl 13:12 0:00 /usr/bin/amazon-ssm-agent
root 2160 0.0 0.8 13308 8276 ? Ss 13:12 0:00 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
root 2167 0.0 0.2 4728 2572 ? Ss 13:12 0:00 /usr/sbin/atd -f
root 2168 0.0 0.1 221344 1076 tty1 Ss+ 13:12 0:00 /sbin/agetty -o -p -- \u --noclear - linux
root 2169 0.0 0.1 221388 1072 ttyS0 Ss+ 13:12 0:00 /sbin/agetty -o -p -- \u --keep-baud 115200,57600,38400,9600 - vt220
chrony 2189 0.0 0.3 86516 3220 ? S 13:12 0:00 /usr/sbin/chronyd -F 2
root 4302 0.0 1.0 14764 9808 ? Ss 14:19 0:00 sshd: ec2-user [priv]
root 4364 0.0 0.6 15296 6752 ? Ss 14:19 0:00 /usr/lib/systemd/systemd-userdbd
ec2-user 4369 0.0 1.3 19900 12872 ? Ss 14:19 0:00 /usr/lib/systemd/systemd --user
ec2-user 4373 0.0 0.6 106524 6464 ? S 14:19 0:00 (sd-pam)
ec2-user 4380 0.0 0.6 14764 6220 ? S 14:19 0:00 sshd: ec2-user@pts/0
ec2-user 4381 0.0 0.5 224028 4868 pts/0 Ss+ 14:19 0:00 -bash
root 5822 0.0 0.0 0 0 ? I 15:05 0:00 [kworker/0:0-events_power_efficient]
root 5944 0.0 0.0 0 0 ? I 15:10 0:00 [kworker/u30:3-events_unbound]
root 6068 0.0 1.0 14764 9808 ? Ss 15:15 0:00 sshd: ec2-user [priv]
ec2-user 6073 0.0 0.6 14764 6216 ? S 15:15 0:00 sshd: ec2-user@pts/1
output_file 135,1 82%





6. We can also split the screen both vertically and horizontally at the same time





7. To switch between the screen
    - **Ctrl +w +right arrow** ⇒ to move right
    - **Ctrl+w+left arrow** ⇒ to move left
    - **Ctrl +w+down** ⇒ to go down
    - **Ctrl+w, tab+w**⇒ to switch windows

8. Create a document detailing all the steps taken to split the screen, download the document, and then push it to Git.

==========

Splitting the screen by using tmux:

Tmux:

`tmux` (Terminal Multiplexer) is a powerful terminal utility that allows you to manage multiple terminal sessions from a single window. This guide covers installation, basic commands, and window management in `tmux`

Install **tmux.**

Ubuntu: sudo apt update
sudo apt install tmux
Rhel: sudo yum install tmux

```
[ec2-user@ip-172-31-47-91 ~]$ sudo yum install tmux
Amazon Linux 2023 repository                    31 kB/s | 3.6 kB     00:00
Amazon Linux 2023 Kernel Livepatch repository   27 kB/s | 2.9 kB     00:00
Dependencies resolved.
================================================================================
 Package     Architecture  Version                    Repository          Size
================================================================================
Installing:
 tmux        x86_64        3.2a-3.amzn2023.0.2        amazonlinux        478 k

Transaction Summary
================================================================================
Install  1 Package

Total download size: 478 k
Installed size: 1.1 M
Is this ok [y/N]: y
Downloading Packages:
tmux-3.2a-3.amzn2023.0.2.x86_64.rpm             6.0 MB/s | 478 kB     00:00
--------------------------------------------------------------------------------
Total                                           3.4 MB/s | 478 kB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                        1/1
  Installing       : tmux-3.2a-3.amzn2023.0.2.x86_64                        1/1
  Running scriptlet: tmux-3.2a-3.amzn2023.0.2.x86_64                        1/1
  Verifying        : tmux-3.2a-3.amzn2023.0.2.x86_64                        1/1

Installed:
  tmux-3.2a-3.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-47-91 ~]$
```

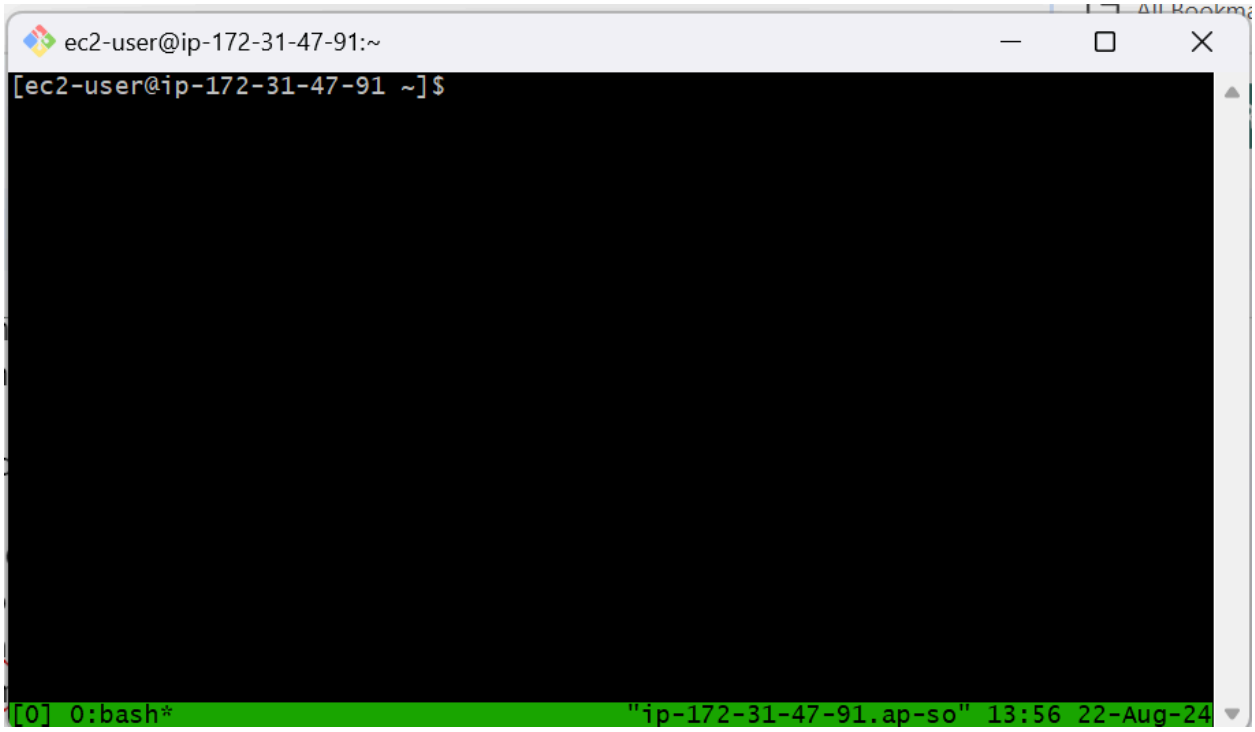
tmux Commands:

1. **Starting tmux:**

   To start a new `tmux` session, simply type: **tmux**

```
[ec2-user@ip-172-31-47-91 ~]$ tmux
```

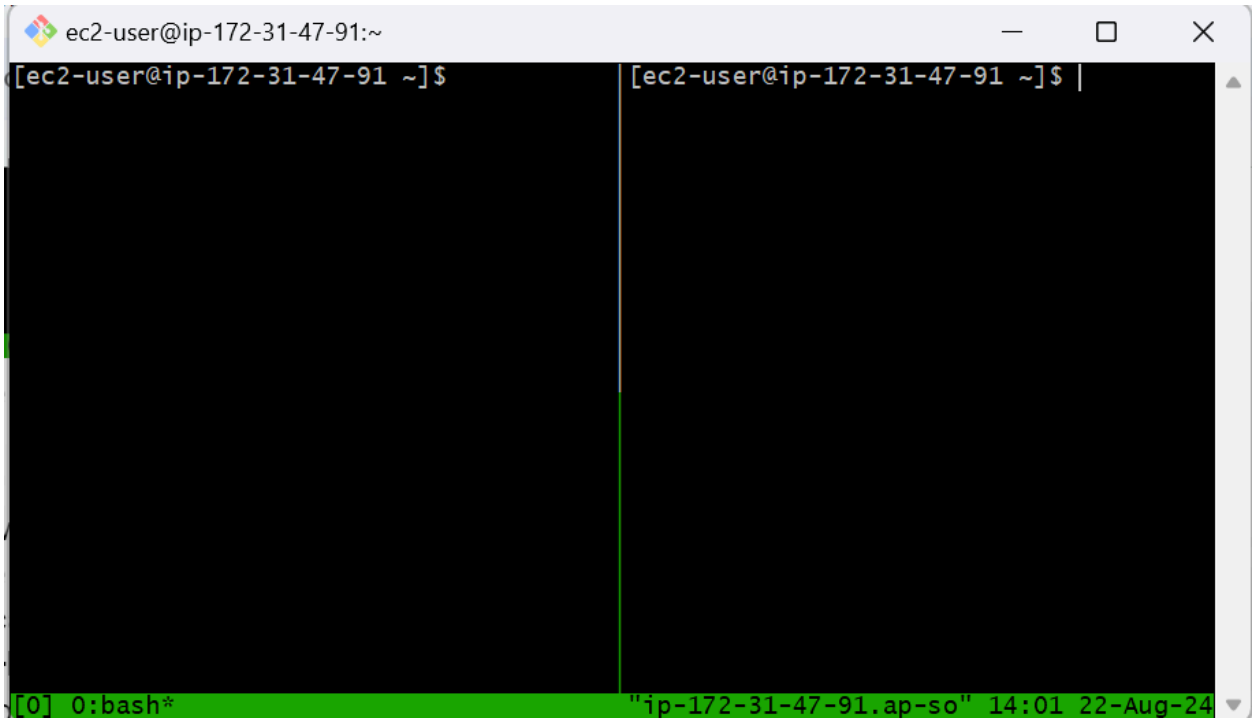
After typing that tmux the below screen gets open

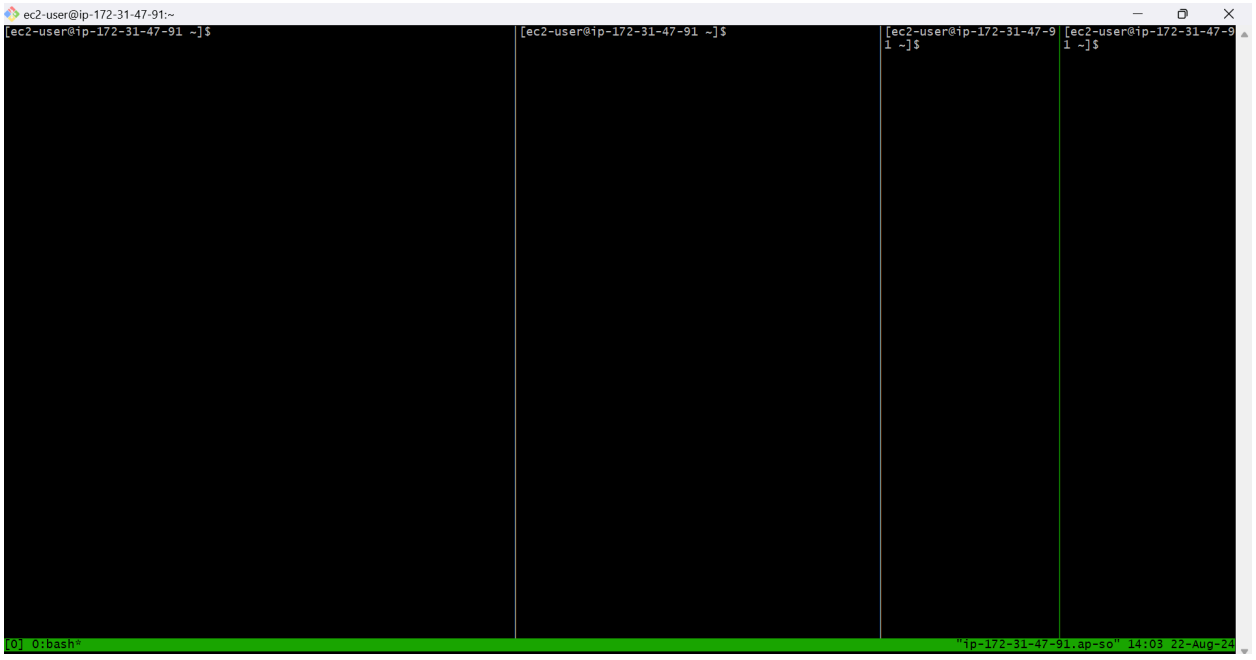


2. **Splitting the Screen**

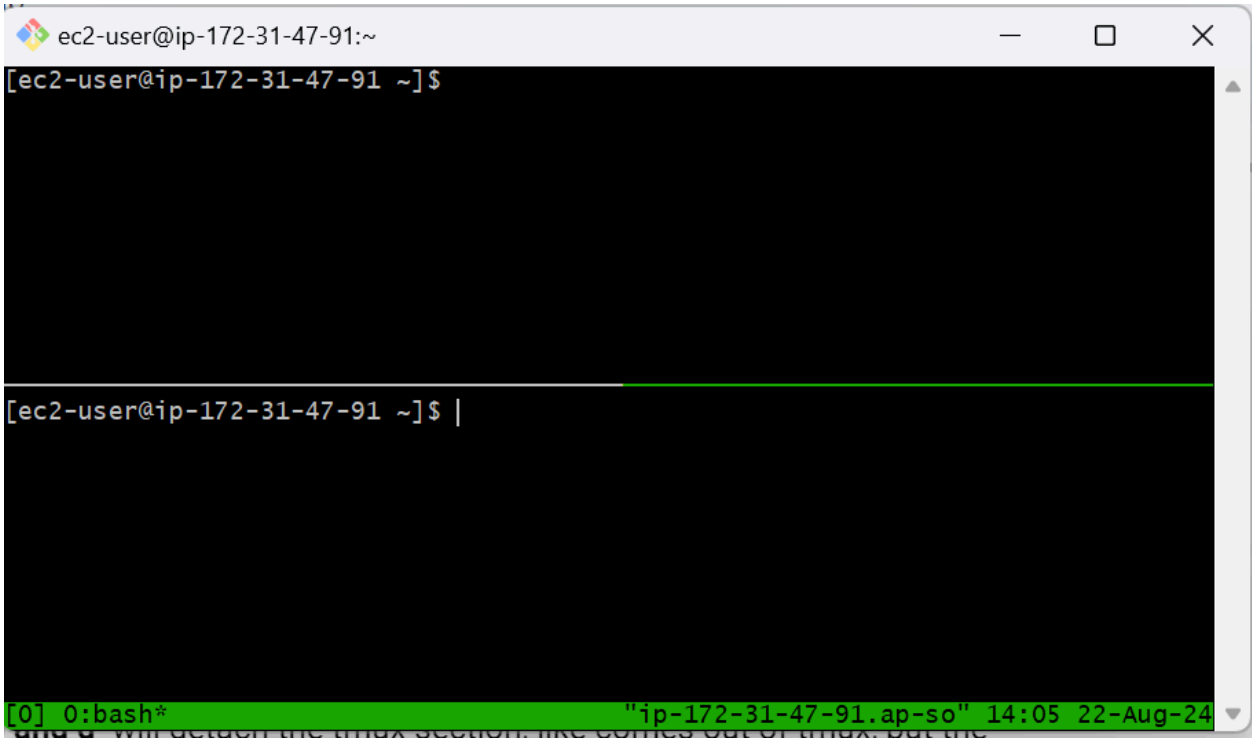
   `tmux` allows you to split the terminal screen into multiple panes.

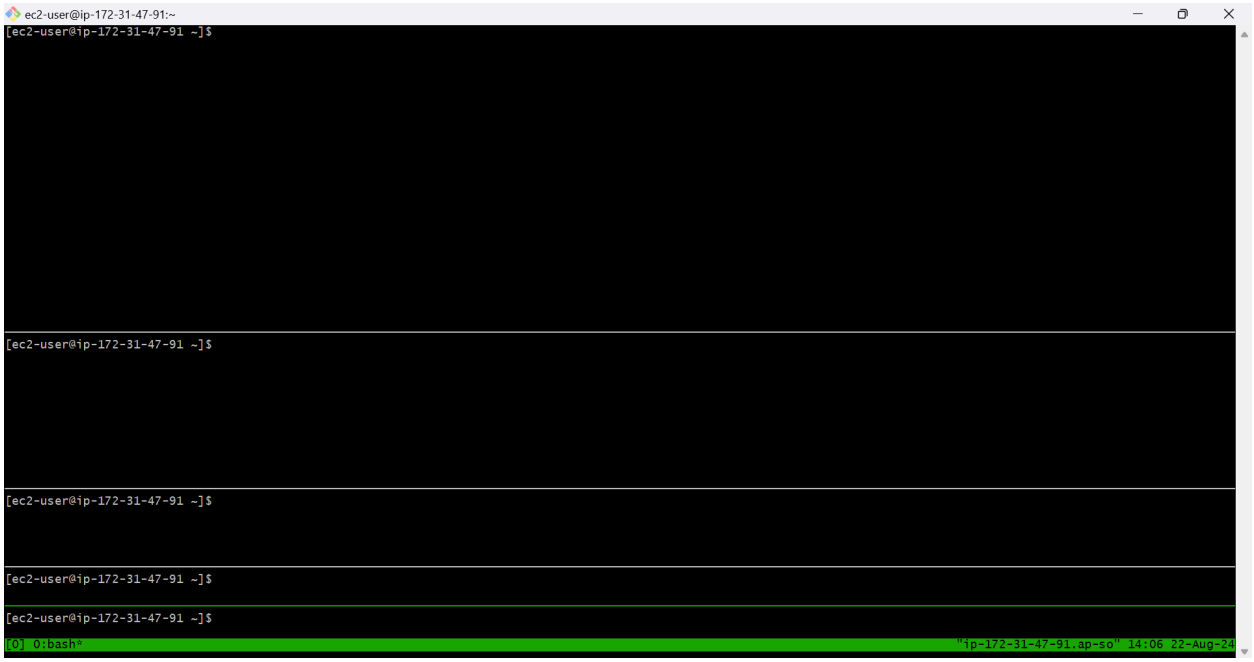
- **Vertical Split:** Press **`Ctrl-b`** followed by **`%`**. This command splits the screen vertically, creating two side-by-side panes.





- To switch between the screens: press **ctrl+b+left** arrow or **ctrl+b+right**
- **Horizontal Split:** Press `Ctrl-b` followed by ". This command splits the screen horizontally, stacking two panes one on top of the other.





3. Switching Between Panes

To switch between panes:

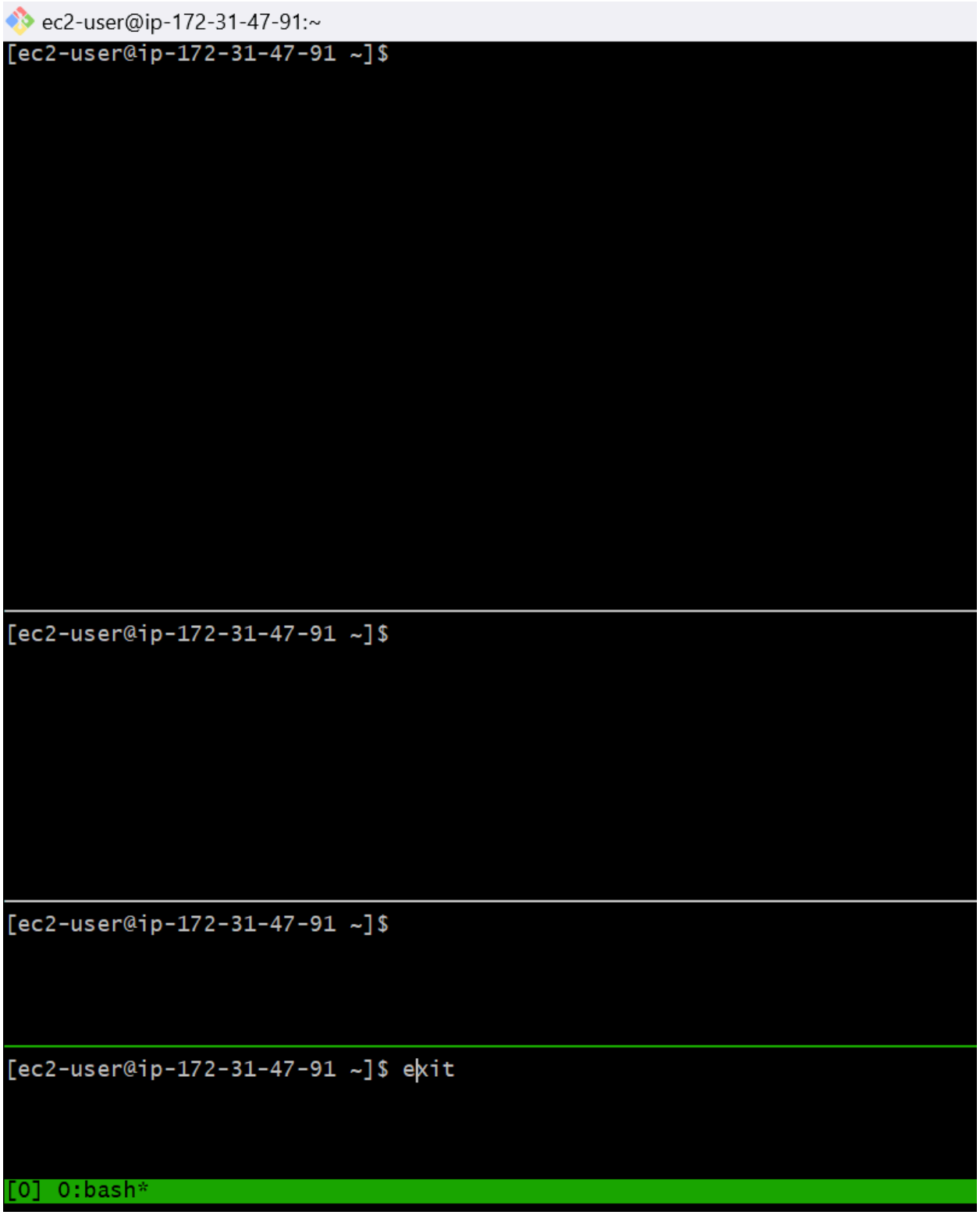
- **Move to the left pane:** `Ctrl-b` followed by the left arrow key.

- **Move to the right pane:** `Ctrl-b` followed by the right arrow key.

4. Closing a Pane

To close the current pane: type **exit**

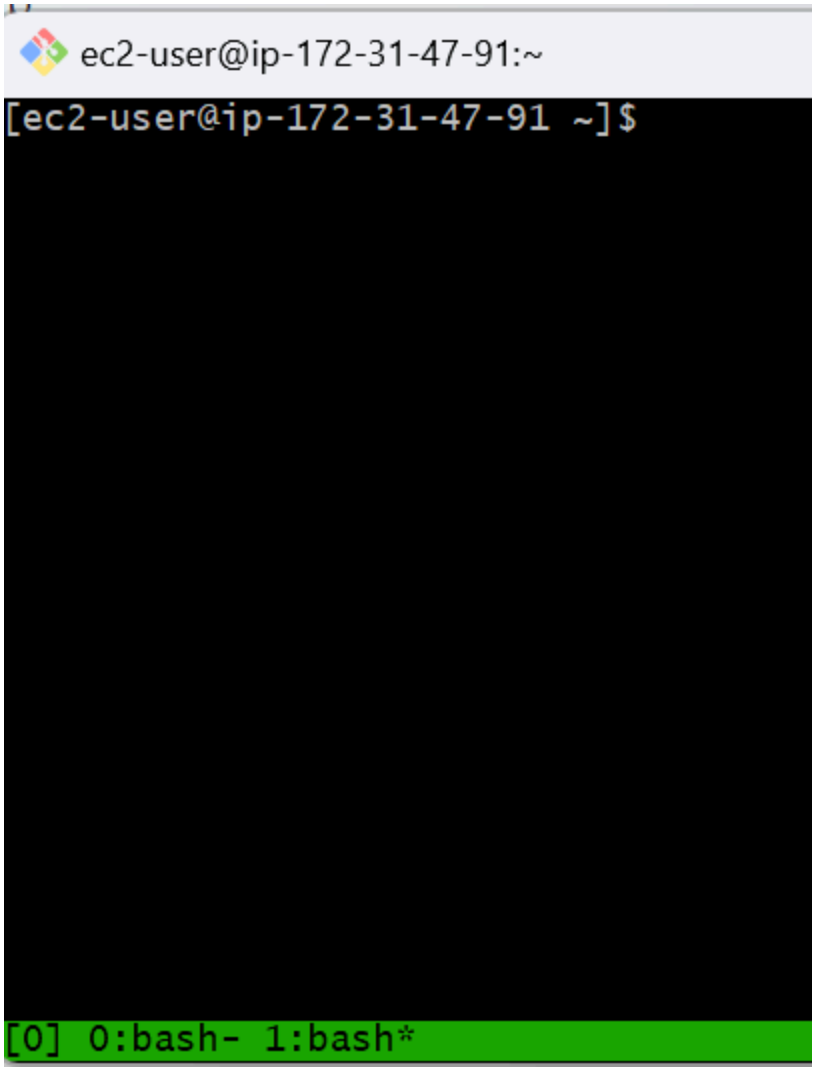
This command will terminate the current pane.



5. **Creating a New Window**

To create a new window within the `tmux` session:

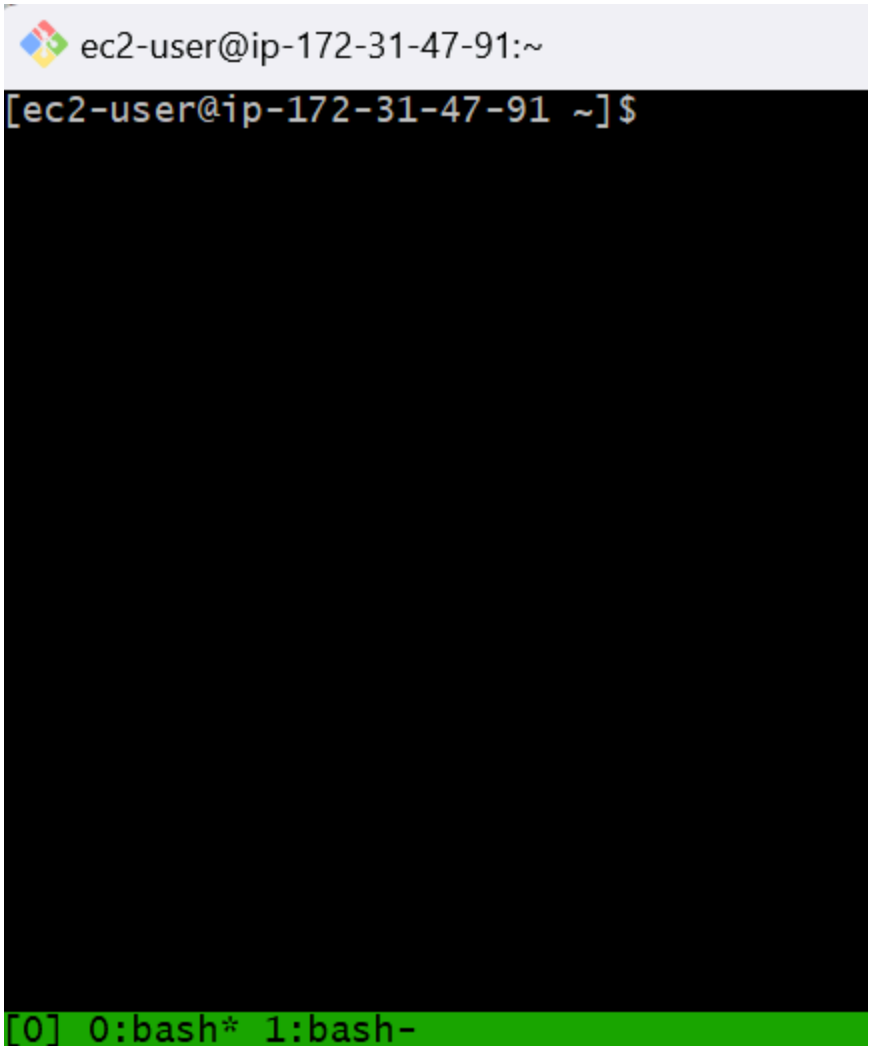
Command: **Ctrl-b c**



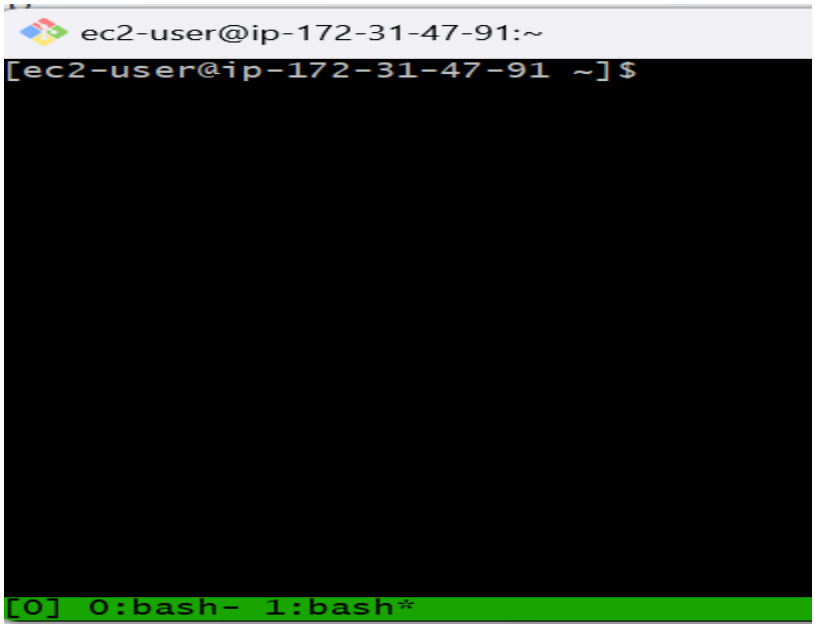
Here in above picture 0:bash and 1:bash are two sections

6. **Switching Between Windows:**

- To switch to window 0: `Ctrl-b 0`



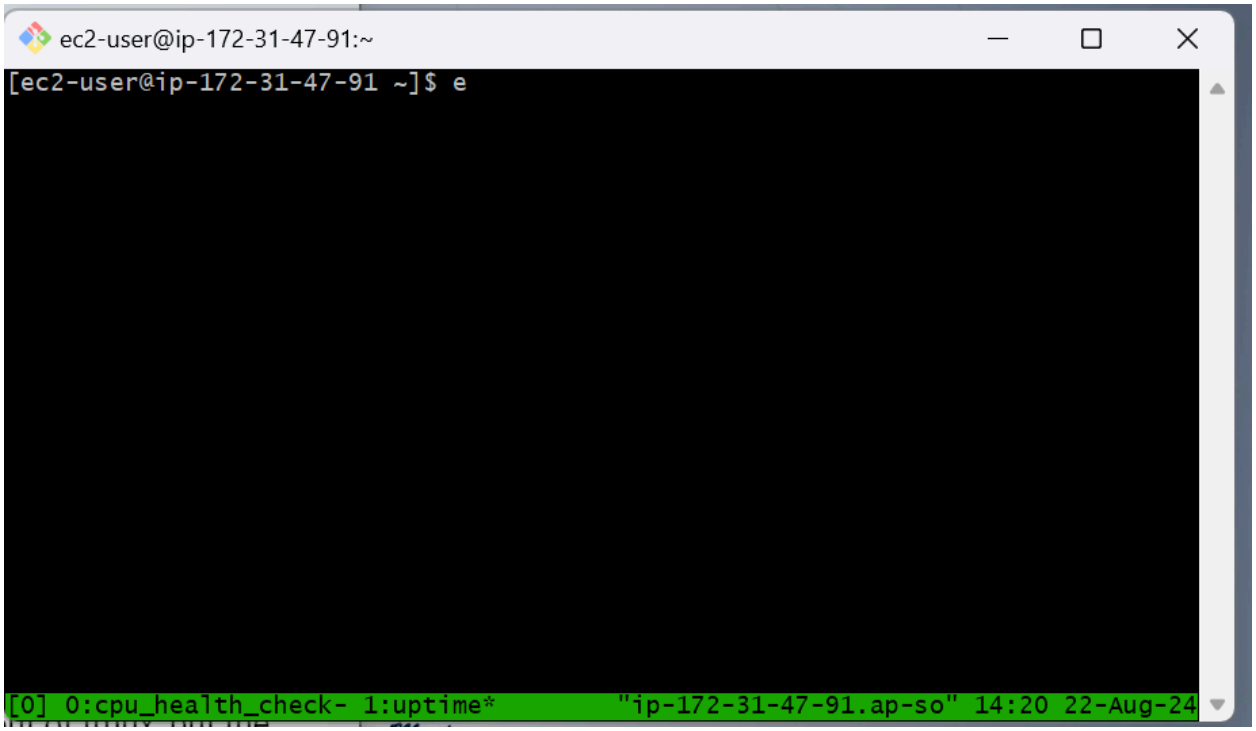
- To switch to window 1: `Ctrl-b 1`



The bottom status bar in `tmux` will display the current window numbers and names. For example, it might show `0: Bash` and `1: Bash`, indicating that you are in window 0 and window 1, respectively.

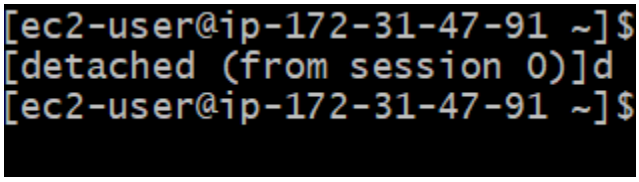
In the screenshot above, we have switched to the `1: bash` section, which is indicated by the `*` symbol. If the `*` symbol appears next to `0: bash`, which means we are currently in the `0: bash` section.

7. **Renaming a Window:** Press `Ctrl-b ,` (Ctrl-b followed by a comma) to rename the current window. After pressing the keys, type the new name for the window and press Enter.



8. **Detaching and Reattaching**

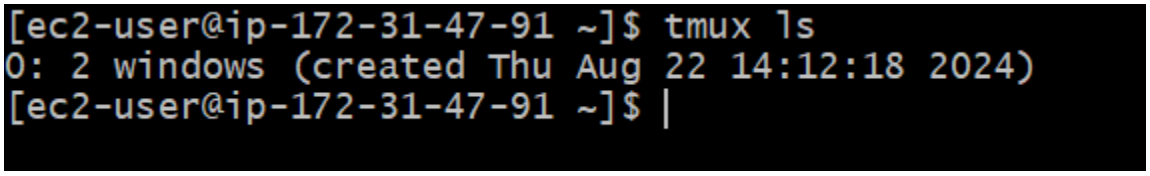
- **Detaching from tmux:** Press `Ctrl-b d`. This command detaches your session, leaving it running in the background while you return to your normal terminal.



but the processes that are inside the tmux will be running in the background

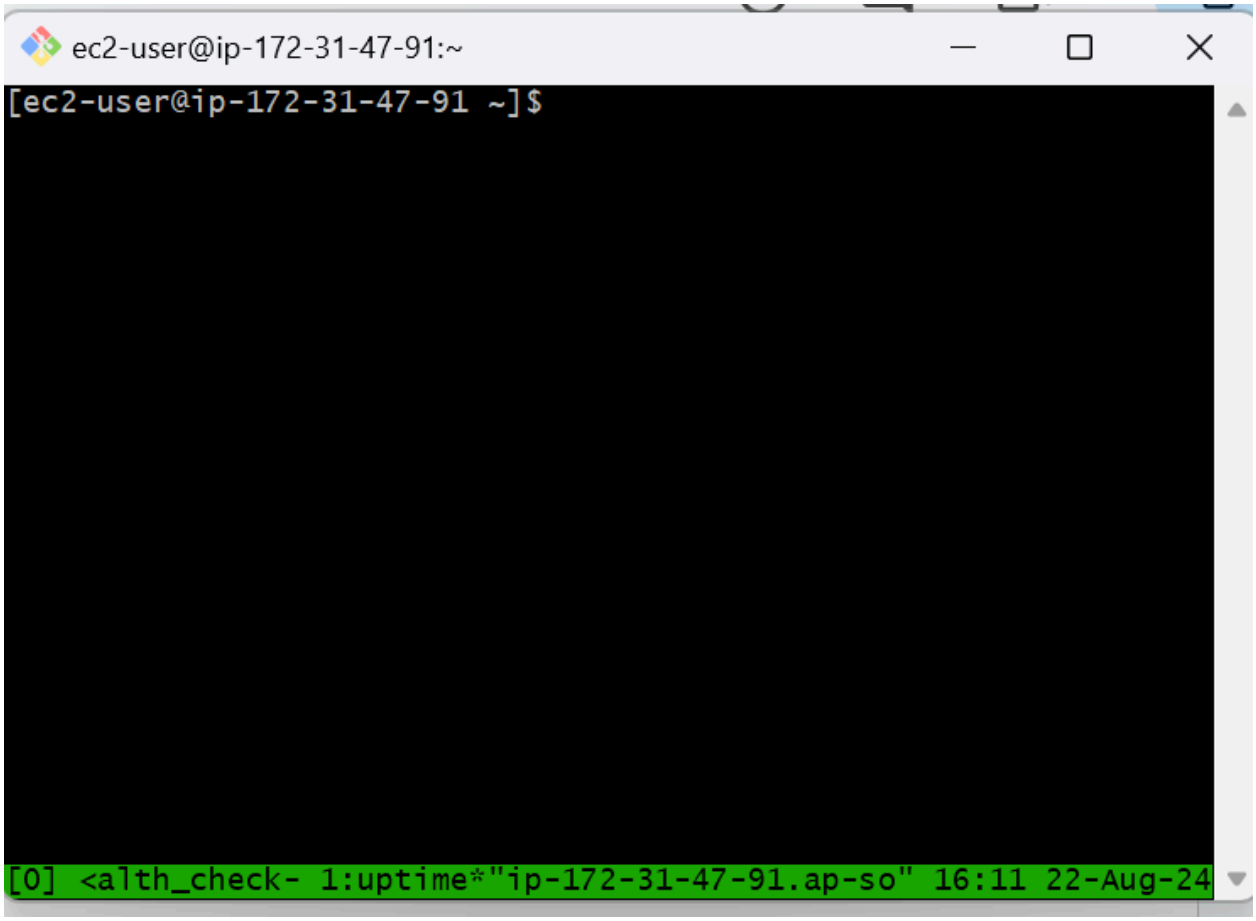
- **Listing tmux Sessions:** To view a list of all active `tmux` sessions:

```
tmux ls
```



- **Attaching to a Session:** To reattach to a specific `tmux` session:

  ```
  tmux attach -t session_name
  ```



- Replace `session_name` with the name or number of the session you want to reattach to. For example:

  ```
  tmux attach -t 0
  (OR)
  tmux attach -t 1
  ```