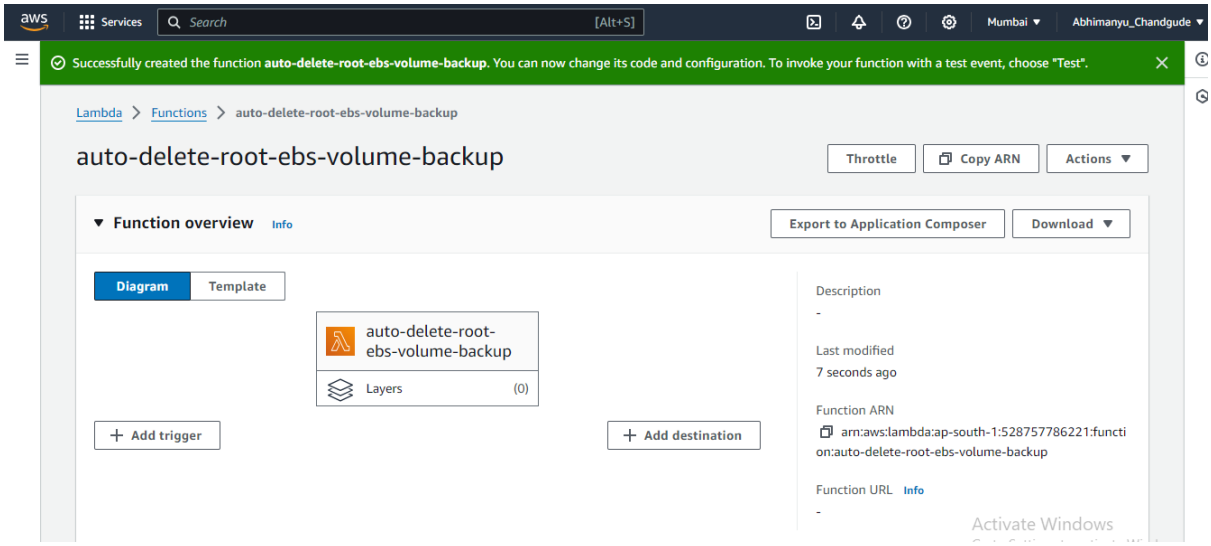
30th August 2024 - Lambda and Bootstrapping

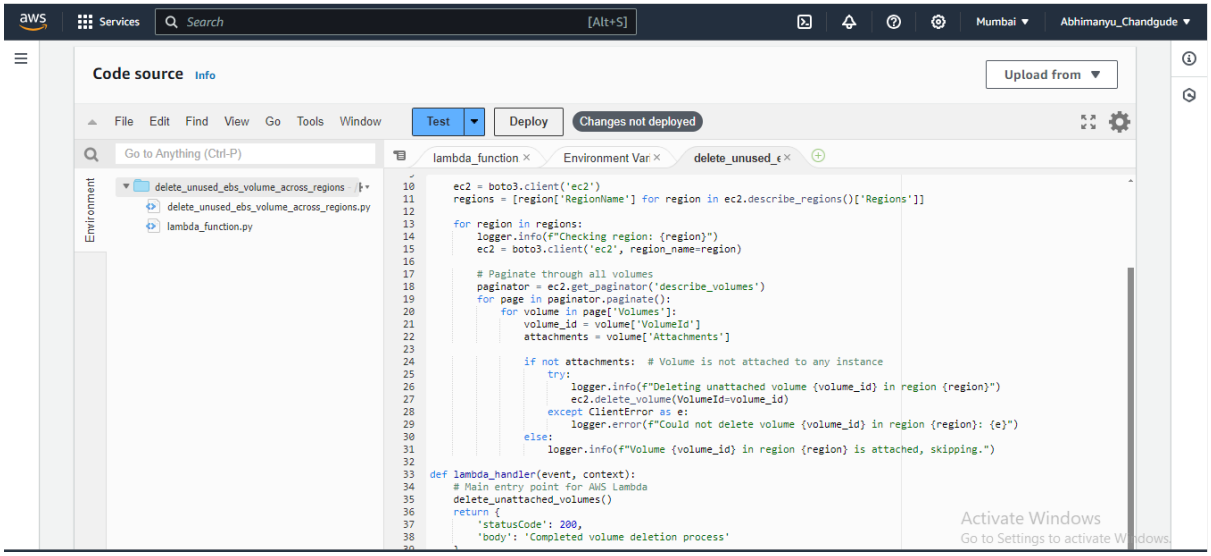
➢ *Lambda*

A. Delete unused EBS Volume Across Regions

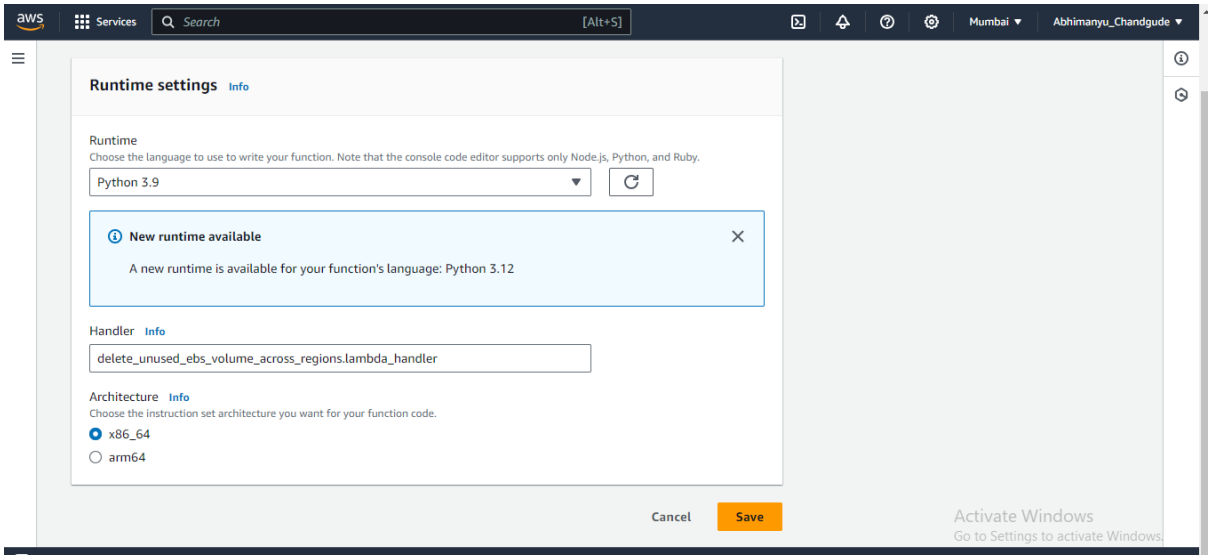
1. Create Lambda Function to delete the unused EBS volume across regions (auto-delete-root-ebs-volume-backup)



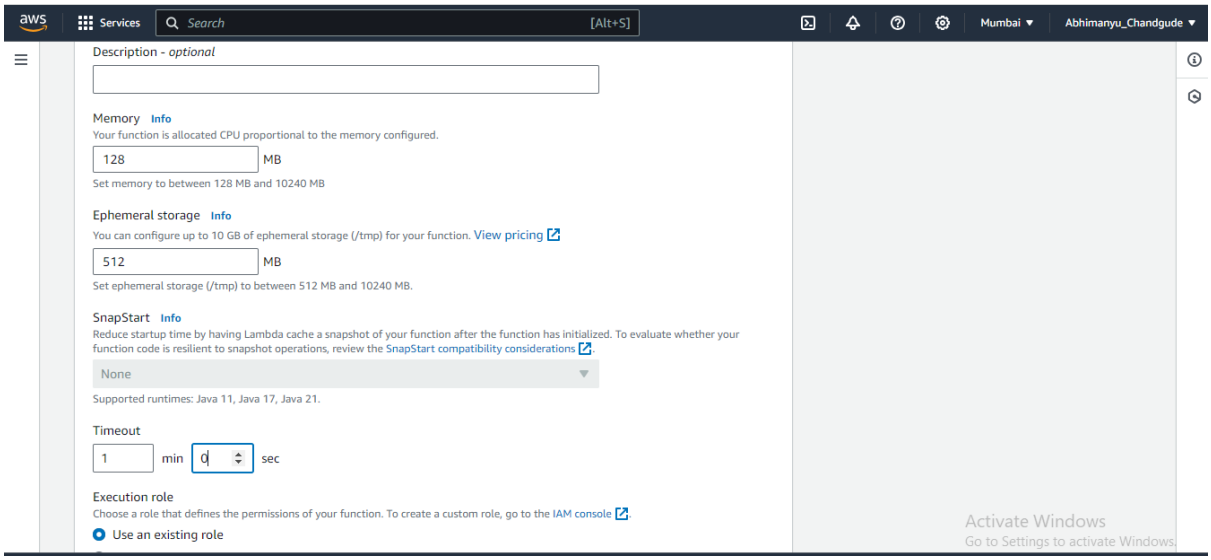
2. Create delete_unused_ebs_volume_across_regions.py file

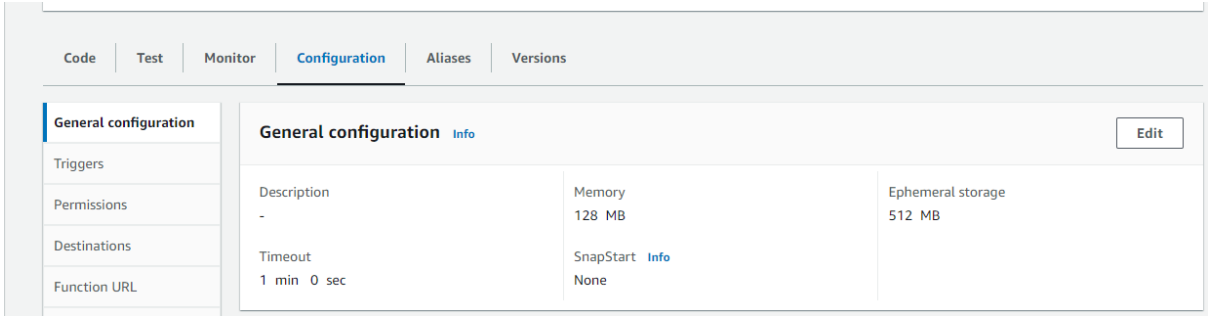


3. Update the Handler

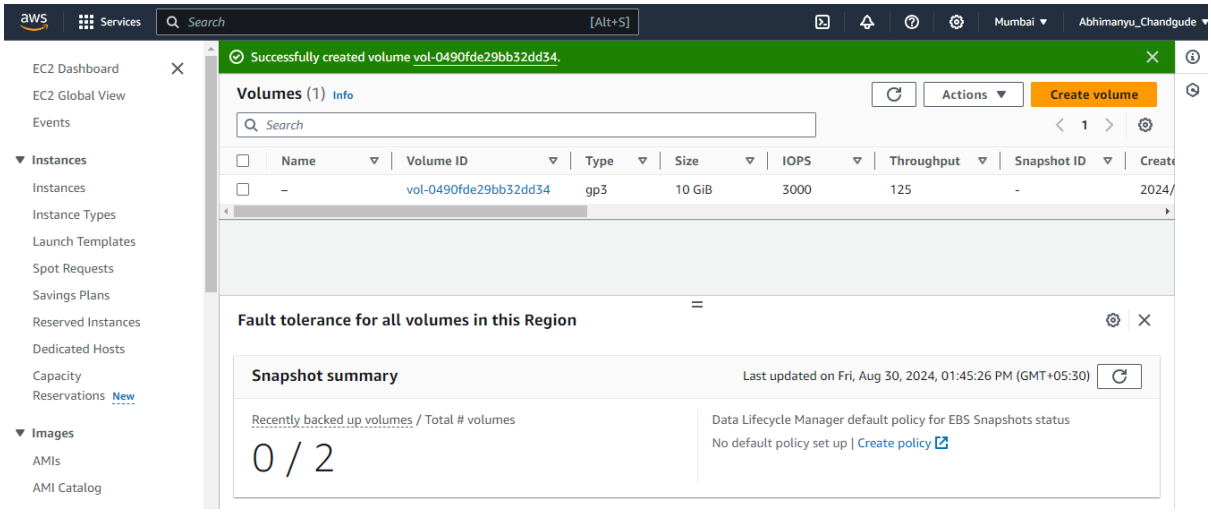


4. Change the timeout value for 3 seconds to 1 minute in Configuration settings

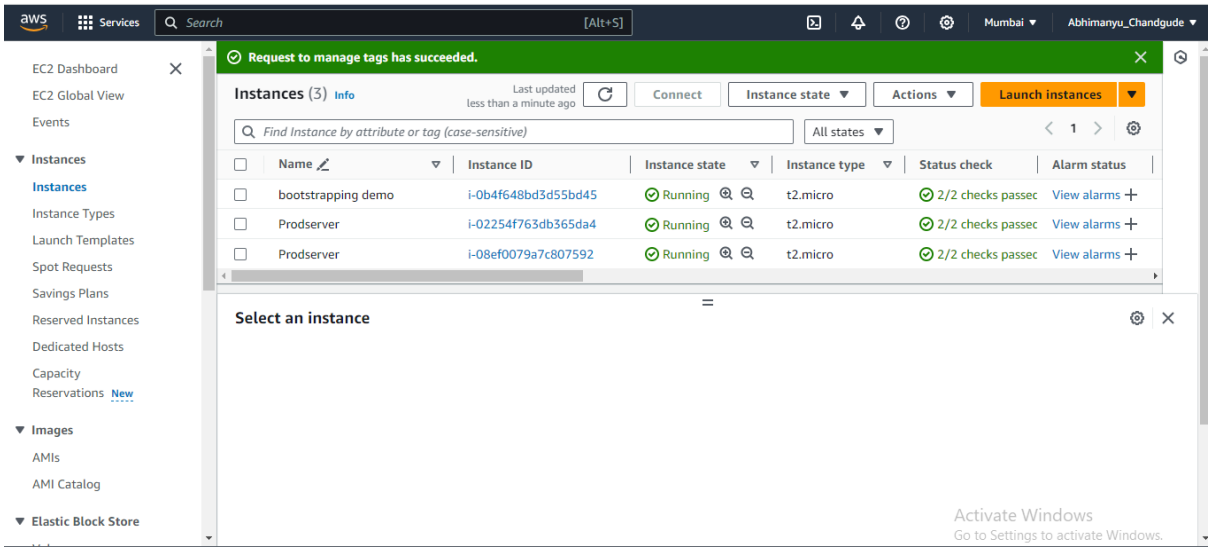


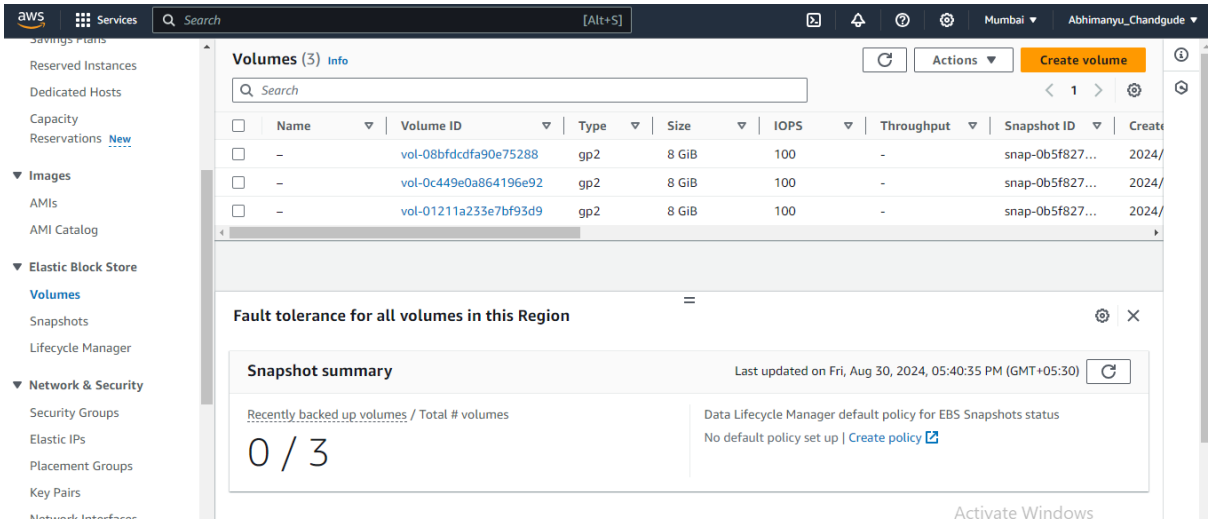


5. Create volume of 10 GB

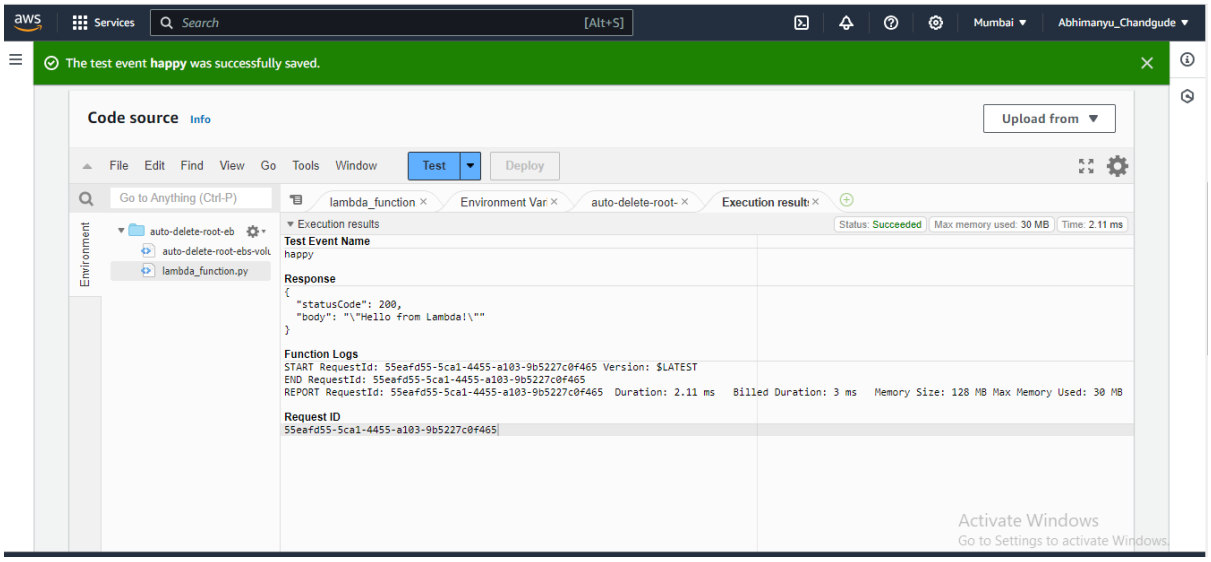


6. Create an EC2 instance and check the number of volumes (2 or more)



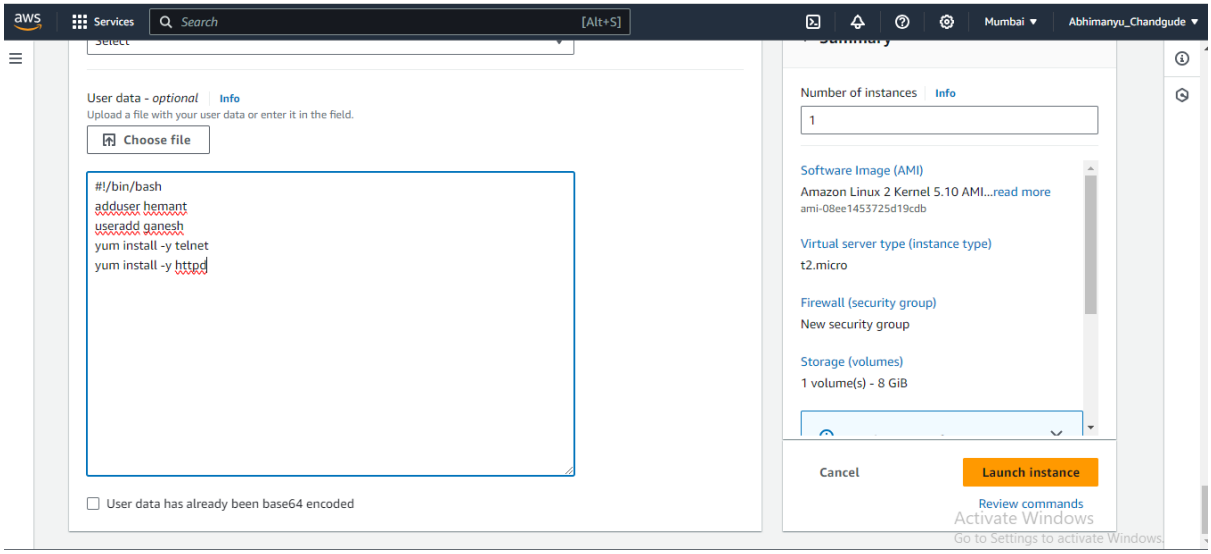


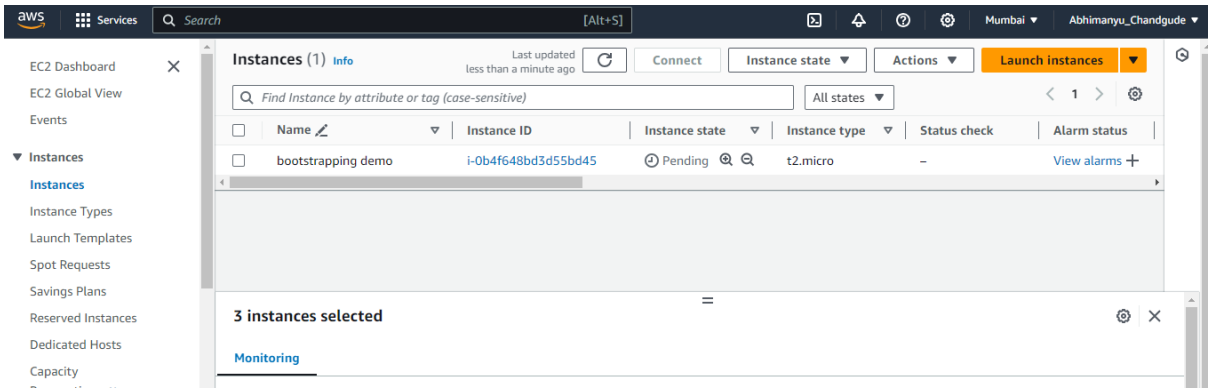
7. Run the Lambda function manually



➢ ***Bootstrapping***

1. Create a EC2 instance with stuffing and installing telnet and httpd





2. Check the memory, process running, etc.

```
[ec2-user@ip-172-31-11-120 ~]$ sudo su -
[root@ip-172-31-11-120 ~]# free -m
              total        used        free      shared  buff/cache   available
Mem:            952          75         268           0         608         742
Swap:             0           0           0
[root@ip-172-31-11-120 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        467M     0  467M   0% /dev
tmpfs           477M     0  477M   0% /dev/shm
tmpfs           477M  404K  476M   1% /run
tmpfs           477M     0  477M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.8G  6.3G  23% /
tmpfs            96M     0   96M   0% /run/user/1000
[root@ip-172-31-11-120 ~]# lsblk
NAME    MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda    202:0    0   8G  0 disk
└─xvda1 202:1    0   8G  0 part /
[root@ip-172-31-11-120 ~]# top
top - 10:59:32 up 4 min,  1 user,  load average: 0.01, 0.06, 0.02
Tasks: 100 total,   1 running,  52 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.3 us,  0.0 sy,  0.0 ni, 99.7 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem :   975536 total,   274644 free,    77080 used,   623812 buff/cache
KiB Swap:        0 total,        0 free,        0 used.   759752 avail Mem
```

```
top - 10:59:50 up 4 min,  1 user,  load average: 0.01, 0.05, 0.02
Tasks: 100 total,   1 running,  52 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.3 us,  0.0 sy,  0.0 ni, 99.7 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem :   975536 total,   274644 free,    77080 used,   623812 buff/cache
KiB Swap:        0 total,        0 free,        0 used.   759756 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+ COMMAND
 1723 root      20   0       0      0      0 S  0.3  0.0   0:00.06 xfsaild/xvda1
    1 root      20   0  123680   5588   3928 S  0.0  0.6   0:02.04 systemd
    2 root      20   0       0      0      0 S  0.0  0.0   0:00.00 kthreadd
    3 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 rcu_gp
    4 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 rcu_par_gp
    5 root      20   0       0      0      0 I  0.0  0.0   0:00.00 kworker/0:0-cgr
    6 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 kworker/0:0H-ev
    7 root      20   0       0      0      0 I  0.0  0.0   0:00.00 kworker/u30:0-e
    8 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 mm_percpu_wq
    9 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcu_tasks_rude_
   10 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcu_tasks_trace
   11 root      20   0       0      0      0 S  0.0  0.0   0:00.03 ksoftirqd/0
   12 root      20   0       0      0      0 I  0.0  0.0   0:00.13 rcu_sched
   13 root      rt   0       0      0      0 S  0.0  0.0   0:00.00 migration/0
   14 root      20   0       0      0      0 I  0.0  0.0   0:00.02 kworker/0:1-mm_
   15 root      20   0       0      0      0 S  0.0  0.0   0:00.00 cpuhp/0
   17 root      20   0       0      0      0 S  0.0  0.0   0:00.00 kdevtmpfs
   18 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 netns
   19 root      20   0       0      0      0 I  0.0  0.0   0:00.01 kworker/u30:1-e
   21 root      20   0       0      0      0 S  0.0  0.0   0:00.01 kauditd
  299 root      20   0       0      0      0 S  0.0  0.0   0:00.00 khungtaskd
  300 root      20   0       0      0      0 S  0.0  0.0   0:00.00 oom_reaper
  301 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 writeback
  303 root      20   0       0      0      0 S  0.0  0.0   0:00.00 kcompactd0
  304 root      25   5       0      0      0 S  0.0  0.0   0:00.00 ksmd
  305 root      39  19       0      0      0 S  0.0  0.0   0:00.00 khugepaged
  361 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 kintegrityd
  363 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 kblockd
  364 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 blkcg_punt_bio
  716 root      20   0       0      0      0 S  0.0  0.0   0:00.00 xen-balloon
  722 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 tpm_dev_wq
  728 root       0 -20       0      0      0 I  0.0  0.0   0:00.00 md
```

3. Check the created users

```
[root@ip-172-31-11-120 ~]#
[root@ip-172-31-11-120 ~]#
[root@ip-172-31-11-120 ~]#
[root@ip-172-31-11-120 ~]# id hemant
uid=1001(hemant) gid=1001(hemant) groups=1001(hemant)
[root@ip-172-31-11-120 ~]# id ganesh
uid=1002(ganesh) gid=1002(ganesh) groups=1002(ganesh)
[root@ip-172-31-11-120 ~]#
```

4. Check whether the package of telnet and httpd installed or not?

```
[root@ip-172-31-11-120 ~]# rpm -qa | grep telnet
telnet-0.17-65.amzn2.x86_64
[root@ip-172-31-11-120 ~]# rpm -qa | grep httpd
httpd-tools-2.4.62-1.amzn2.0.2.x86_64
generic-logos-httpd-18.0.0-4.amzn2.noarch
httpd-filesystem-2.4.62-1.amzn2.0.2.noarch
httpd-2.4.62-1.amzn2.0.2.x86_64
[root@ip-172-31-11-120 ~]#
```

5. Check the total number of packages installed on the system

```
[root@ip-172-31-11-120 ~]# rpm -qa | wc -l
465
[root@ip-172-31-11-120 ~]#
```

6. Install git by using CLI and check the total number of packages

```
--------------------------------------------------------------------------------
Total                                                46 MB/s |  13 MB  00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : git-core-2.40.1-1.amzn2.0.3.x86_64                           1/6
  Installing : git-core-doc-2.40.1-1.amzn2.0.3.noarch                       2/6
  Installing : 1:perl-Error-0.17020-2.amzn2.noarch                          3/6
  Installing : perl-TermReadKey-2.30-20.amzn2.0.2.x86_64                    4/6
  Installing : perl-Git-2.40.1-1.amzn2.0.3.noarch                           5/6
  Installing : git-2.40.1-1.amzn2.0.3.x86_64                                6/6
  Verifying  : perl-TermReadKey-2.30-20.amzn2.0.2.x86_64                    1/6
  Verifying  : git-2.40.1-1.amzn2.0.3.x86_64                                2/6
  Verifying  : 1:perl-Error-0.17020-2.amzn2.noarch                          3/6
  Verifying  : git-core-2.40.1-1.amzn2.0.3.x86_64                           4/6
  Verifying  : git-core-doc-2.40.1-1.amzn2.0.3.noarch                       5/6
  Verifying  : perl-Git-2.40.1-1.amzn2.0.3.noarch                           6/6

Installed:
  git.x86_64 0:2.40.1-1.amzn2.0.3

Dependency Installed:
  git-core.x86_64 0:2.40.1-1.amzn2.0.3                  git-core-doc.noarch 0:2.40.1-1.amzn2.0.3
  perl-Error.noarch 1:0.17020-2.amzn2                   perl-Git.noarch 0:2.40.1-1.amzn2.0.3
  perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2

Complete!
[root@ip-172-31-11-120 ~]# rpm -qa | wc -l
471
[root@ip-172-31-11-120 ~]#
```