Linux Commands on AWS EC2

a. Created EC2 instance with Ubuntu os

b. Converted .pem File to .ppk using PutyGen

c. Connection to EC2 using putty

```
ec2-user@ip-172-31-89-195:~                                          —

  login as: ec2-user
  Authenticating with public key "imported-openssh-key"
       ,      #_
     ~\_   ####_         Amazon Linux 2023
    ~~  \_#####\
    ~~      \###|
    ~~        \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
     ~~       V~' '->
      ~~~         /
       ~~._.   _/
          _/ _/
        _/m/'
[ec2-user@ip-172-31-89-195 ~]$ █
```

d. Executing linux Commands on AWS EC2 Amazon linux


```
ec2-user@ip-172-31-89-195:~
  login as: ec2-user
  Authenticating with public key "imported-openssh-key"
       ,      #_
     ~\_   ####_         Amazon Linux 2023
    ~~  \_#####\
    ~~      \###|
    ~~        \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
     ~~       V~' '->
      ~~~         /
       ~~._.   _/
          _/ _/
        _/m/'
[ec2-user@ip-172-31-89-195 ~]$ ls
[ec2-user@ip-172-31-89-195 ~]$ uname -r
6.1.21-1.45.amzn2023.x86_64
[ec2-user@ip-172-31-89-195 ~]$ uname
Linux
[ec2-user@ip-172-31-89-195 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-89-195 ~]$ whoami
ec2-user
[ec2-user@ip-172-31-89-195 ~]$ cal
     April 2023
Su Mo Tu 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
[ec2-user@ip-172-31-89-195 ~]$ vi test.txt
[ec2-user@ip-172-31-89-195 ~]$ cat test.txt
this is test file
[ec2-user@ip-172-31-89-195 ~]$ ls -l
total 4
-rw-r--r--. 1 ec2-user ec2-user 18 Apr 18 08:29 test.txt
[ec2-user@ip-172-31-89-195 ~]$ █
```

```
ec2-user@ip-172-31-89-195:~

[ec2-user@ip-172-31-89-195 ~]$ iostat
Linux 6.1.21-1.45.amzn2023.x86_64 (ip-172-31-89-195.ec2.internal)    04/18/23    _x86_64_    (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           4.46    0.00    0.74    0.13    1.03   93.64

Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_wrtn    kB_dscd
xvda            12.18       336.30       264.91         0.00     167943     132292          0


[ec2-user@ip-172-31-89-195 ~]$ iostat -h
Linux 6.1.21-1.45.amzn2023.x86_64 (ip-172-31-89-195.ec2.internal)    04/18/23    _x86_64_    (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           4.3%    0.0%    0.7%    0.1%    1.0%   93.8%

      tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_wrtn    kB_dscd Device
    11.81        326.0k       256.8k         0.0k     164.0M     129.2M       0.0k xvda


[ec2-user@ip-172-31-89-195 ~]$ iostat -x
Linux 6.1.21-1.45.amzn2023.x86_64 (ip-172-31-89-195.ec2.internal)    04/18/23    _x86_64_    (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           4.09    0.00    0.68    0.12    0.94   94.17

Device            r/s     rkB/s   rrqm/s  %rrqm r_await rareq-sz     w/s    wkB/s   wrqm/s  %wrqm w_await wareq-sz     d/s    dkB/s   drqm/s  %drqm d_await dareq-sz
  f/s f_await  aqu-sz  %util
xvda             8.95    308.23     0.00   0.00    0.80    34.45    2.24   242.95     0.15   6.14    4.46   108.38    0.00     0.00     0.00   0.00    0.00     0.00
 0.00    0.00    0.02    1.47


[ec2-user@ip-172-31-89-195 ~]$ iostat -c
Linux 6.1.21-1.45.amzn2023.x86_64 (ip-172-31-89-195.ec2.internal)    04/18/23    _x86_64_    (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.99    0.00    0.67    0.12    0.92   94.30
```

```
top - 08:33:17 up 10 min,  1 user,  load average: 0.01, 0.06, 0.07
Tasks: 103 total,   1 running, 102 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.0 us,  0.3 sy,  0.0 ni, 99.7 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :    953.2 total,    585.8 free,    129.0 used,    238.3 buff/cache
MiB Swap:      0.0 total,      0.0 free,      0.0 used.    685.0 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
      1 root      20   0  170548  16436  10132 S   0.0   1.7   0:00.89 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       0 -20       0      0      0 I   0.0   0.0   0:00.00 slub_flushwq
      6 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 netns
      8 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/0:0H-events_highpri
      9 root      20   0       0      0      0 I   0.0   0.0   0:00.04 kworker/u2:0-events_unbound
     10 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 mm_percpu_wq
     11 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_kthread
     12 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_rude_kthread
     13 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_trace_kthread
     14 root      20   0       0      0      0 S   0.0   0.0   0:00.04 ksoftirqd/0
     15 root      20   0       0      0      0 I   0.0   0.0   0:00.05 rcu_preempt
     16 root      rt   0       0      0      0 S   0.0   0.0   0:00.00 migration/0
     18 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/0
     20 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kdevtmpfs
     21 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 inet_frag_wq
     22 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kauditd
     23 root      20   0       0      0      0 S   0.0   0.0   0:00.00 khungtaskd
     24 root      20   0       0      0      0 S   0.0   0.0   0:00.00 oom_reaper
     25 root      20   0       0      0      0 I   0.0   0.0   0:00.13 kworker/u2:1-events_unbound
     26 root      20   0       0      0      0 I   0.0   0.0   0:00.02 kworker/u2:2-events_unbound
     27 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 writeback
     28 root      20   0       0      0      0 S   0.0   0.0   0:00.02 kcompactd0
     29 root      39  19       0      0      0 S   0.0   0.0   0:00.00 khugepaged
     30 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kintegrityd
     31 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kblockd
     32 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 blkcg_punt_bio
     33 root      20   0       0      0      0 S   0.0   0.0   0:00.00 xen-balloon
     34 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 tpm_dev_wq
     35 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 md
     36 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 edac-poller
     37 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 watchdogd
     38 root       0 -20       0      0      0 I   0.0   0.0   0:00.02 kworker/0:1H-kblockd
     57 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kswapd0
     60 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 xfsalloc
```

```
[ec2-user@ip-172-31-89-195 ~]$ lsblk
NAME      MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
xvda      202:0    0   8G  0 disk
├─xvda1   202:1    0   8G  0 part /
├─xvda127 259:0    0   1M  0 part
└─xvda128 259:1    0  10M  0 part
[ec2-user@ip-172-31-89-195 ~]$ fdisk -p
fdisk: invalid option -- 'p'
Try 'fdisk --help' for more information.
[ec2-user@ip-172-31-89-195 ~]$ fdisk -l
fdisk: cannot open /dev/xvda: Permission denied
[ec2-user@ip-172-31-89-195 ~]$ sudo fdisk -l
Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 2B0AC1C1-48A9-48F0-A26B-B5FF1FD10D98

Device        Start      End  Sectors Size Type
/dev/xvda1    24576 16777182 16752607   8G Linux filesystem
/dev/xvda127  22528    24575     2048   1M BIOS boot
/dev/xvda128   2048    22527    20480  10M EFI System

Partition table entries are not in disk order.
[ec2-user@ip-172-31-89-195 ~]$ █
```

ec2-user@ip-172-31-89-195:~

```
[ec2-user@ip-172-31-89-195 ~]$ hostnamectl
 Static hostname: ip-172-31-89-195.ec2.internal
       Icon name: computer-vm
         Chassis: vm =
      Machine ID: e2bf1e8d1d1348e4947c27a25b957c18
         Boot ID: 9cd5564aca934c22b7b88bc1e669172f
  Virtualization: xen
Operating System: Amazon Linux 2023
     CPE OS Name: cpe:2.3:o:amazon:amazon_linux:2023
          Kernel: Linux 6.1.21-1.45.amzn2023.x86_64
    Architecture: x86-64
 Hardware Vendor: Xen
  Hardware Model: HVM domU
Firmware Version: 4.11.amazon
[ec2-user@ip-172-31-89-195 ~]$ █
```

```
ec2-user@ip-172-31-89-195:~

[ec2-user@ip-172-31-89-195 ~]$ free -h
              total        used        free      shared  buff/cache   available
Mem:          953Mi       128Mi       582Mi       2.0Mi       242Mi       684Mi
Swap:            0B          0B          0B
[ec2-user@ip-172-31-89-195 ~]$ lsof /run
[ec2-user@ip-172-31-89-195 ~]$ fdisl -l
-bash: fdisl: command not found
[ec2-user@ip-172-31-89-195 ~]$ fdisk -l
fdisk: cannot open /dev/xvda: Permission denied
[ec2-user@ip-172-31-89-195 ~]$ sudo fdisk -l
Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 2B0AC1C1-48A9-48F0-A26B-B5FF1FD10D98

Device        Start      End  Sectors Size Type
/dev/xvda1    24576 16777182 16752607   8G Linux filesystem
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/dev/xvda128   2048    22527    20480  10M EFI System

Partition table entries are not in disk order.
[ec2-user@ip-172-31-89-195 ~]$ #sudo fdisk /dev/xvda1
[ec2-user@ip-172-31-89-195 ~]$ unmount /dev/xvda1
-bash: unmount: command not found
[ec2-user@ip-172-31-89-195 ~]$ p
-bash: p: command not found
[ec2-user@ip-172-31-89-195 ~]$ mkdir /mount_dir
mkdir: cannot create directory '/mount_dir': Permission denied
[ec2-user@ip-172-31-89-195 ~]$ sudo mkdir /mount_dir
[ec2-user@ip-172-31-89-195 ~]$ mount /dev/sda /mount_dir
mount: /mount_dir: must be superuser to use mount.
[ec2-user@ip-172-31-89-195 ~]$ sudo mount /dev/sda /mount_dir
mount: /mount_dir: /dev/xvda already mounted or mount point busy.
[ec2-user@ip-172-31-89-195 ~]$ sudo df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M     0  4.0M   0% /dev
tmpfs           477M     0  477M   0% /dev/shm
tmpfs           191M  2.8M  188M   2% /run
/dev/xvda1      8.0G  1.5G  6.5G  19% /
tmpfs           477M     0  477M   0% /tmp
tmpfs            96M     0   96M   0% /run/user/1000
[ec2-user@ip-172-31-89-195 ~]$
```

```
[ec2-user@ip-172-31-89-195 ~]$ touch test1.txt
[ec2-user@ip-172-31-89-195 ~]$ ls -l
total 4
-rw-r--r--. 1 ec2-user ec2-user 18 Apr 18 08:29 test.txt
-rw-r--r--. 1 ec2-user ec2-user  0 Apr 18 08:46 test1.txt
[ec2-user@ip-172-31-89-195 ~]$ chmod 444 test1.txt
[ec2-user@ip-172-31-89-195 ~]$ ls -l
total 4
-rw-r--r--. 1 ec2-user ec2-user 18 Apr 18 08:29 test.txt
-r--r--r--. 1 ec2-user ec2-user  0 Apr 18 08:46 test1.txt
[ec2-user@ip-172-31-89-195 ~]$
```

```
ec2-user@ip-172-31-89-195:~

[ec2-user@ip-172-31-89-195 ~]$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
devtmpfs             4096         0      4096   0% /dev
tmpfs              488020         0    488020   0% /dev/shm
tmpfs              195212      2848    192364   2% /run
/dev/xvda1        8310764   1549796   6760968  19% /
tmpfs              488024         0    488024   0% /tmp
tmpfs               97604         0     97604   0% /run/user/1000
[ec2-user@ip-172-31-89-195 ~]$ du
4       ./.ssh
0       ./.config/procps
0       ./.config
24      .
[ec2-user@ip-172-31-89-195 ~]$
```