

```
ubuntu@ip-172-31-0-153: ~
Archivo  Editar  Ver  Buscar  Terminal  Ayuda
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "uvg-2020.pem": bad permissions
ubuntu@quetzaluno.space: Permission denied (publickey).
cristopher@cristopher-Latitude-E6420:~/Documentos/Universidad/Semestre-5/Web$ ssh
h -i uvg-2020.pem ubuntu@quetzaluno.space
ssh: Could not resolve hostname quetzaluno.space: Name or service not known
cristopher@cristopher-Latitude-E6420:~/Documentos/Universidad/Semestre-5/Web$ ch
mod 500 uvg-2020.pem
cristopher@cristopher-Latitude-E6420:~/Documentos/Universidad/Semestre-5/Web$ ss
h -i uvg-2020.pem ubuntu@quetzaluno.space
ssh: Could not resolve hostname quetzaluno.space: Name or service not known
cristopher@cristopher-Latitude-E6420:~/Documentos/Universidad/Semestre-5/Web$ ss
h -i uvg-2020.pem ubuntu@quetzaluno.space
ssh: Could not resolve hostname quetzaluno.space: Name or service not known
cristopher@cristopher-Latitude-E6420:~/Documentos/Universidad/Semestre-5/Web$ pi
ng 8.8.8.8
connect: La red es inaccesible
cristopher@cristopher-Latitude-E6420:~/Documentos/Universidad/Semestre-5/Web$ ss
h -i uvg-2020.pem ubuntu@quetzaluno.space
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1051-aws x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
```

- (10 puntos) Cuanta memoria RAM, total usada y libre, tiene el servidor? (su respuesta debe estar en MB)

```
ubuntu@ip-172-31-0-153: ~/CristopherB
Archivo  Editar  Ver  Buscar  Terminal  Ayuda
- Reduce system reboots and improve kernel security. Activate at:
https://ubuntu.com/livepatch

41 packages can be updated.
0 updates are security updates.

*** System restart required ***
Last login: Sat Jan 25 03:10:51 2020 from 200.35.167.67
ubuntu@ip-172-31-0-153:~$ ls
Abril  JavierR  Martin  RenatoX  files_python
Cris  Mario  Nexthor  Ricardo  simple_server_python2.py
ubuntu@ip-172-31-0-153:~$ mk dir CristopherB
mk: command not found
ubuntu@ip-172-31-0-153:~$ mkdir CristopherB
ubuntu@ip-172-31-0-153:~$ ls
Abril  CristopherB  Mario  Nexthor  Ricardo  simple_server_python2.py
Cris  JavierR  Martin  RenatoX  files_python
ubuntu@ip-172-31-0-153:~$ cd CristopherB
ubuntu@ip-172-31-0-153:~/CristopherB$ free -h
              total        used        free      shared  buff/cache   available
Mem:           479M          164M          44M          892K          270M          301M
Swap:              0B              0B              0B
```

- (10 puntos) Cuanta espacio de disco, total usado y disponible, tiene el servidor? (su respuesta debe estar en MB)

```

ubuntu@ip-172-31-0-153: ~/CristopherB
Archivo  Editar  Ver  Buscar  Terminal  Ayuda
ubuntu@ip-172-31-0-153:~$ mk dir CristopherB
mk: command not found
ubuntu@ip-172-31-0-153:~$ mkdir CristopherB
ubuntu@ip-172-31-0-153:~$ ls
Abril  CristopherB  Mario  Nexthor  Ricardo  simple_server_python2.py
Cris  JavierR  Martin  RenatoX  files_python
ubuntu@ip-172-31-0-153:~$ cd CristopherB
ubuntu@ip-172-31-0-153:~/CristopherB$ free -h
               total        used        free      shared  buff/cache   available
Mem:            479M          164M          44M        892K        270M        301M
Swap:             0B           0B           0B
ubuntu@ip-172-31-0-153:~/CristopherB$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev             229M   0    229M   0% /dev
tmpfs            48M   888K   48M    2% /run
/dev/xvda1       7.7G  1.6G   6.2G   21% /
tmpfs            240M   0    240M   0% /dev/shm
tmpfs            5.0M   0     5.0M   0% /run/lock
tmpfs            240M   0    240M   0% /sys/fs/cgroup
/dev/loop0       18M   18M    0 100% /snap/amazon-ssm-agent/1480
/dev/loop1       90M   90M    0 100% /snap/core/7713
tmpfs            48M   0     48M   0% /run/user/1000
/dev/loop2       90M   90M    0 100% /snap/core/8268
ubuntu@ip-172-31-0-153:~/CristopherB$

```

- (10 puntos) Utilizando el comando `ip` obtengan la ip del servidor

```

ubuntu@ip-172-31-0-153: ~/CristopherB
Archivo  Editar  Ver  Buscar  Terminal  Ayuda
/dev/loop0    18M   18M    0 100% /snap/amazon-ssm-agent/1480
/dev/loop1    90M   90M    0 100% /snap/core/7713
tmpfs         48M    0    48M   0% /run/user/1000
/dev/loop2    90M   90M    0 100% /snap/core/8268
ubuntu@ip-172-31-0-153:~/CristopherB$ ip route show
default via 172.31.0.1 dev eth0 proto dhcp src 172.31.0.153 metric 100
172.31.0.0/24 dev eth0 proto kernel scope link src 172.31.0.153
172.31.0.1 dev eth0 proto dhcp scope link src 172.31.0.153 metric 100
ubuntu@ip-172-31-0-153:~/CristopherB$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc fq_codel state UP group default qlen 1000
    link/ether 0a:7c:a5:99:bd:76 brd ff:ff:ff:ff:ff:ff
    inet 172.31.0.153/24 brd 172.31.0.255 scope global dynamic eth0
        valid_lft 2546sec preferred_lft 2546sec
    inet6 fe80::87c:a5ff:fe99:bd76/64 scope link
        valid_lft forever preferred_lft forever
ubuntu@ip-172-31-0-153:~/CristopherB$

```

- (10 puntos) **lssof** lista los archivos abiertos. Identifiquen los archivos abiertos por el protocolo TCP en el puerto 80

```
ubuntu@ip-172-31-0-153: ~  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
kthrotld  79      root rtd  unknown  
          /proc/79/root (readlink: Permission denied)  
kthrotld  79      root txt  unknown  
          /proc/79/exe (readlink: Permission denied)  
kthrotld  79      root NOFD  
          /proc/79/fd (opendir: Permission denied)  
nvme-wq   80      root cwd  unknown  
          /proc/80/cwd (readlink: Permission denied)  
nvme-wq   80      root rtd  unknown  
          /proc/80/root (readlink: Permission denied)  
nvme-wq   80      root txt  unknown  
          /proc/80/exe (readlink: Permission denied)  
nvme-wq   80      root NOFD  
          /proc/80/fd (opendir: Permission denied)  
scsi_eh_0 81      root cwd  unknown  
          /proc/81/cwd (readlink: Permission denied)  
scsi_eh_0 81      root rtd  unknown  
          /proc/81/root (readlink: Permission denied)  
scsi_eh_0 81      root txt  unknown  
          /proc/81/exe (readlink: Permission denied)  
scsi_eh_0 81      root NOFD  
          /proc/81/fd (opendir: Permission denied)  
scsi_tmf_ 82      root cwd  unknown  
          /proc/82/cwd (readlink: Permission denied)
```

20 puntos) Utilizando **netstat**, listen los puertos por los que está escuchando el servidor. Deben filtrar usando las siguientes opciones de netstat (esto es un solo comando con estas opciones):

- tcp
- udp
- numeric (muestra los puertos por número)
- program (muestra qué programa es el que está escuchando)

```

ubuntu@ip-172-31-0-153: ~
Archivo Editar Ver Buscar Terminal Ayuda
ubuntu@ip-172-31-0-153:~$ netstat -p
(Not all processes could be identified, non-owned process info
will not be shown, you would have to be root to see it all.)
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
PID/Program name
tcp        0      0 ip-172-31-0-153.us::ssh 168.234.18.29:61617     ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us::ssh 200.35.167.67:54719     ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us:http 181.114.3.209:49877     ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us::ssh 157.209.148.190.s:31647 ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us::ssh 154.92.151.186.st:58153 ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us::ssh 73.33.148.190.stat:6753 ESTABLISHED
-
tcp        0      596 ip-172-31-0-153.us::ssh 73.33.148.190.stat:8312 ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us::ssh 168.234.18.29:49825     ESTABLISHED
-
tcp        0      0 ip-172-31-0-153.us::ssh 168.234.18.29:57293     ESTABLISHED
-

```

```

ubuntu@ip-172-31-0-153: ~
Archivo Editar Ver Buscar Terminal Ayuda
unix 3      [ ]          DGRAM          13568          -
unix 3      [ ]          STREAM         CONNECTED      19029          -
/var/run/dbus/system_bus_socket
unix 2      [ ]          DGRAM          109964         -
unix 3      [ ]          STREAM         CONNECTED      16664          -
/run/systemd/journal/stdout
unix 3      [ ]          STREAM         CONNECTED      86706          -
unix 3      [ ]          STREAM         CONNECTED      105643         -
unix 3      [ ]          DGRAM          14214          -
unix 3      [ ]          STREAM         CONNECTED      16426          -
unix 3      [ ]          STREAM         CONNECTED      108481         -
unix 3      [ ]          STREAM         CONNECTED      16427          -
unix 3      [ ]          STREAM         CONNECTED      18979          -
/var/run/dbus/system_bus_socket
unix 2      [ ]          DGRAM          13564          -
unix 2      [ ]          DGRAM          17684          -
unix 3      [ ]          STREAM         CONNECTED      17661          -
/run/systemd/journal/stdout
unix 2      [ ]          DGRAM          15793          -
unix 3      [ ]          STREAM         CONNECTED      14300          -
/run/systemd/journal/stdout
unix 3      [ ]          STREAM         CONNECTED      118350         -
unix 3      [ ]          DGRAM          14429          -
unix 3      [ ]          STREAM         CONNECTED      17196          -

```

(30 puntos) Utilizando **ss**, listen los puertos por los que está escuchando el servidor. Deben filtrar usando las siguientes opciones de ss (esto es un solo comando con estas opciones):

```

ubuntu@ip-172-31-0-153: ~
Archivo Editar Ver Buscar Terminal Ayuda
ubuntu@ip-172-31-0-153:~$ ss
Netid  State  Recv-Q  Send-Q  Peer Address:Port  Local Address:Port
u_str  ESTAB  0        0        * 120187  * 120187
u_str  ESTAB  0        0        /var/run/dbus/system_bus_socket 18965  * 18964
u_str  ESTAB  0        0        /var/run/dbus/system_bus_socket 17762  * 17660
u_str  ESTAB  0        0        * 16663  * 16663
u_str  ESTAB  0        0        * 16664  * 19644
u_str  ESTAB  0        0        * 19647  /run/systemd/journal/stdout 19647
u_str  ESTAB  0        0        * 19644  * 17757
u_str  ESTAB  0        0        * 17758  * 108482
u_str  ESTAB  0        0        * 108481  * 86070
u_str  ESTAB  0        0        * 86071  * 18964
u_str  ESTAB  0        0        * 18965  * 14299

```

```

ubuntu@ip-172-31-0-153: ~
Archivo Editar Ver Buscar Terminal Ayuda
ubuntu@ip-172-31-0-153:~$ ss -p
Netid  State  Recv-Q  Send-Q  Peer Address:Port  Local Address:Port
u_str  ESTAB  0        0        /var/run/dbus/system_bus_socket 18965  * 18964
u_str  ESTAB  0        0        /var/run/dbus/system_bus_socket 17762  * 17660
u_str  ESTAB  0        0        * 16663  * 16663
u_str  ESTAB  0        0        * 16664  * 19644
u_str  ESTAB  0        0        * 19647  /run/systemd/journal/stdout 19647
u_str  ESTAB  0        0        * 19644  * 17757
u_str  ESTAB  0        0        * 17758  * 108482
u_str  ESTAB  0        0        * 108481

```

```
ubuntu@ip-172-31-0-153: ~
Archivo Editar Ver Buscar Terminal Ayuda
ubuntu@ip-172-31-0-153:~$ ss -H
u_str ESTAB 0 0 /var/run/dbus/system_bus_socket 18965
* 18964
u_str ESTAB 0 0 /var/run/dbus/system_bus_socket 17762
* 17660
u_str ESTAB 0 0 * 16663
* 16664
u_str ESTAB 0 0 * 123648
* 123649
u_str ESTAB 0 0 * 19644
* 19647
u_str ESTAB 0 0 /run/systemd/journal/stdout 19647
* 19644
u_str ESTAB 0 0 * 17758
* 17757
u_str ESTAB 0 0 * 108481
* 108482
u_str ESTAB 0 0 * 18964
* 18965
u_str ESTAB 0 0 * 14299
* 14300
u_str ESTAB 0 0 /run/systemd/journal/stdout 17197
* 17196
```

```
ubuntu@ip-172-31-0-153: ~
Archivo Editar Ver Buscar Terminal Ayuda
190.148.209.157:57325
tcp ESTAB 0 0 172.31.0.153:ssh
168.234.18.29:49822
tcp ESTAB 0 1080 172.31.0.153:ssh
222.186.30.35:57903
tcp ESTAB 0 0 172.31.0.153:ssh
190.148.33.73:8318
ubuntu@ip-172-31-0-153:~$ ss -s
Total: 235 (kernel 0)
TCP: 16 (estab 11, closed 0, orphaned 0, synrecv 0, timewait 0/0), ports 0
Transport Total IP IPv6
* 0 - -
RAW 1 0 1
UDP 2 2 0
TCP 16 14 2
INET 19 16 3
FRAG 0 0 0
ubuntu@ip-172-31-0-153:~$
```

- (20 puntos) Utilizando **dig** dentro del servidor, obtengan la ip que resuelve al hacer un dns lookup *uvg.edu.gt*

```
ubuntu@ip-172-31-0-153: ~  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
System information as of Sat Jan 25 05:49:24 UTC 2020  
  
System load:  0.0                Processes:            127  
Usage of /:   20.5% of 7.69GB     Users logged in:     1  
Memory usage: 44%                IP address for eth0: 172.31.0.153  
Swap usage:   0%  
  
* Overheard at KubeCon: "microk8s.status just blew my mind".  
  
  https://microk8s.io/docs/commands#microk8s.status  
  
* Canonical Livepatch is available for installation.  
  - Reduce system reboots and improve kernel security. Activate at:  
    https://ubuntu.com/livepatch  
  
41 packages can be updated.  
0 updates are security updates.  
  
*** System restart required ***  
Last login: Sat Jan 25 05:43:05 2020 from 190.148.33.73  
ubuntu@ip-172-31-0-153:~$ dig -v  
DiG 9.11.3-1ubuntu1.11-Ubuntu  
ubuntu@ip-172-31-0-153:~$
```