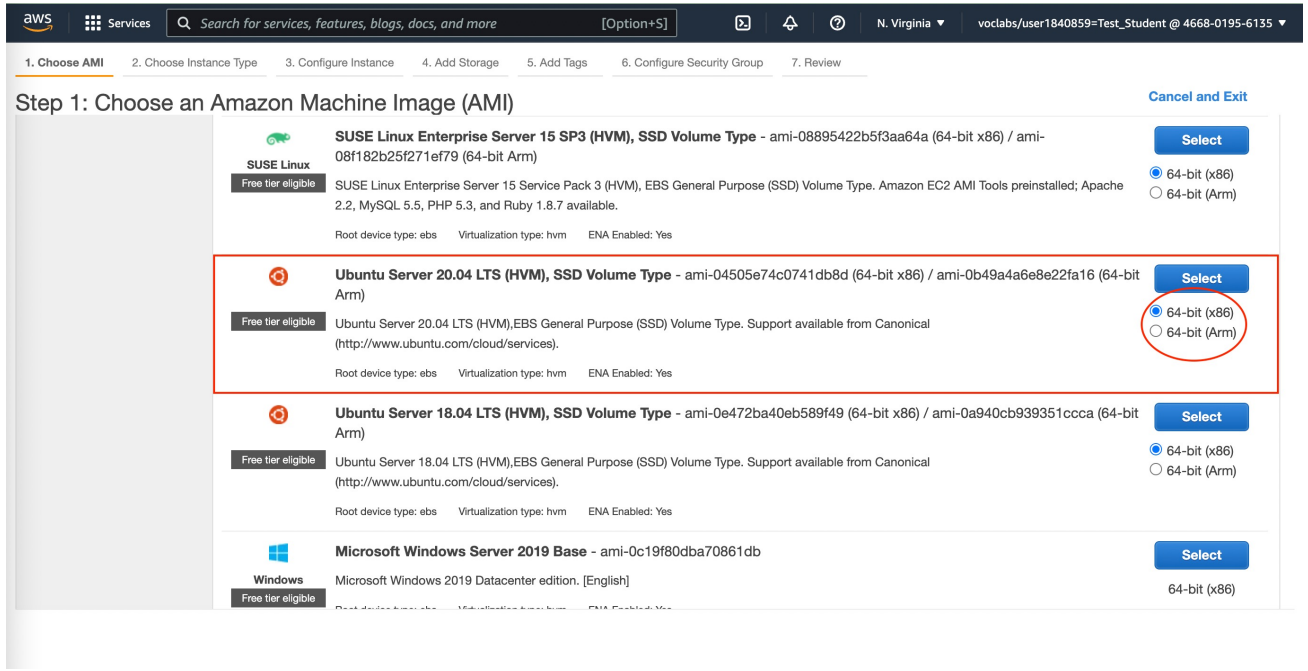
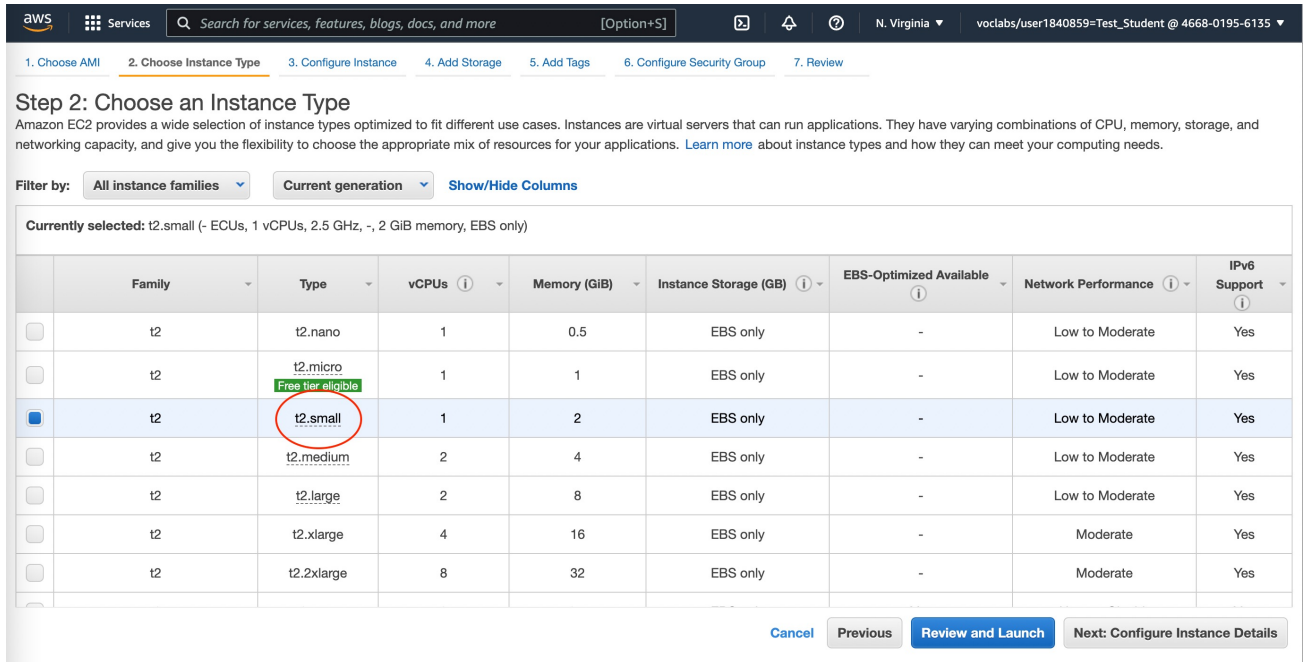
Ne logam pe site-ul AWS si cream o instanta EC2:

Hardware: t2.small

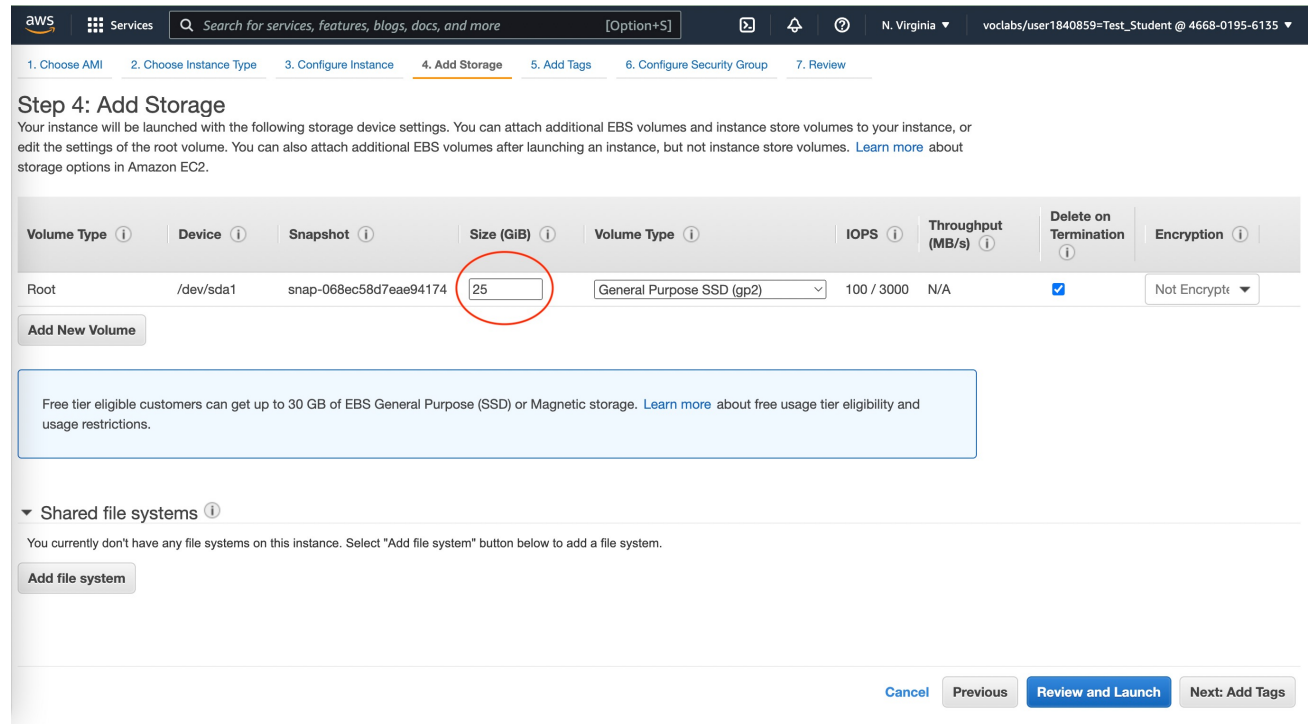
Software: Ubuntu 20.04 / **AMD64 / X86_64**



Avem nevoie de minim 2G RAM asadar alegem modelul **t2.small**

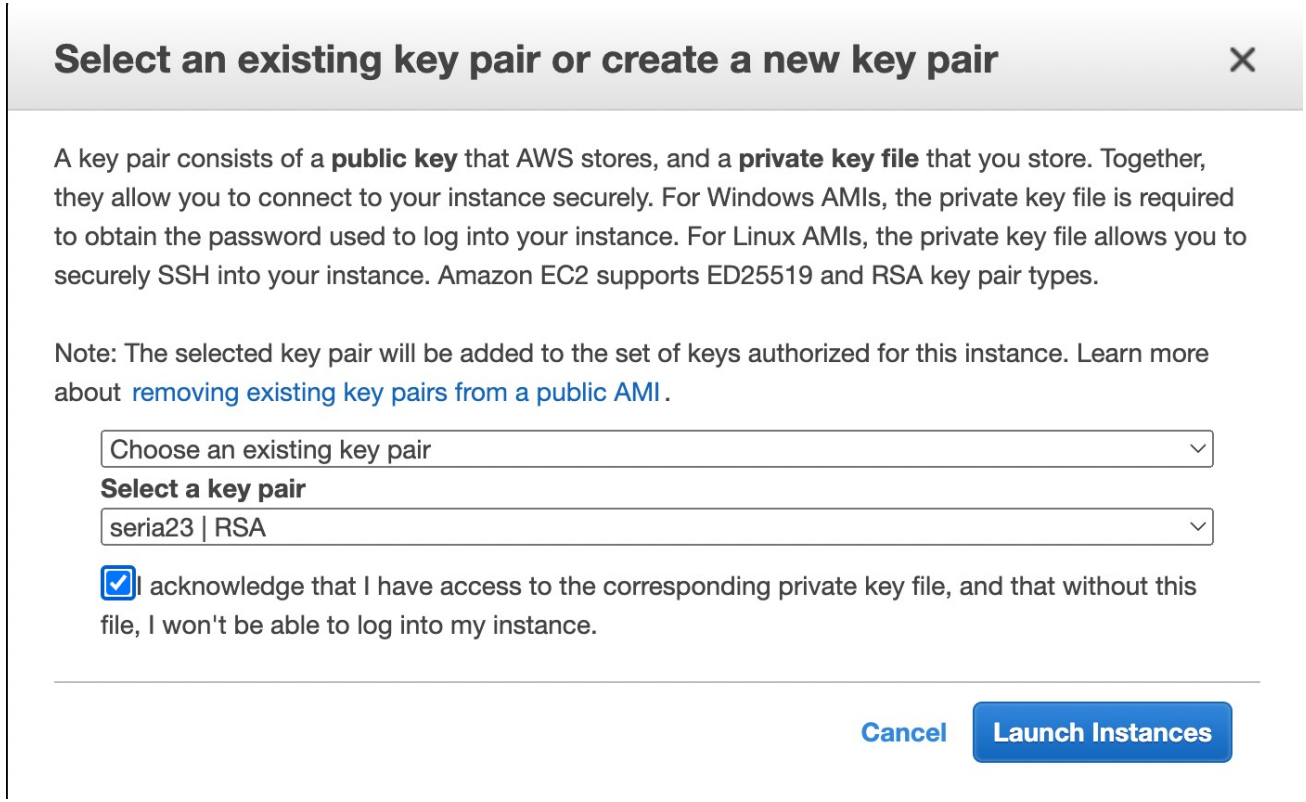


Modificam spatiul pe disk din 10G in **25G**.



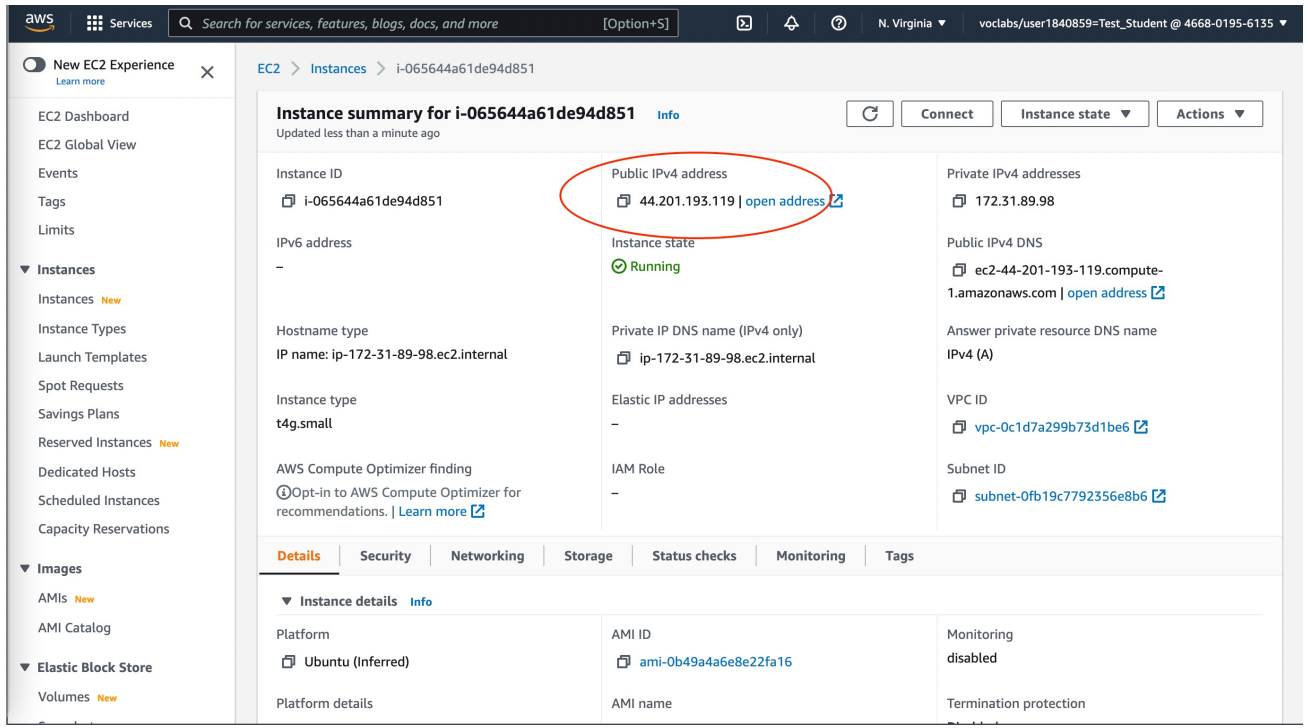
Dupa ce cream instanta, avem nevoie de o cheie privata pentru a accesa serverul via SSH.

Se poate folosi o cheie existenta daca ati mai creat alte instante anterior. In acest exemplu, se foloseste cheia privata **seria23.pem**



Dupa ce am creat serverul, ne conectam via SSH pe adresa lui IP (in acest exemplu **44.201.193.119**) folosind cheia privata definita anterior (in acest caz **seria23.pem**) si userul **ubuntu** (creat automat).

ssh -i serie23.pem ubuntu@44.201.193.119



Dupa ce ne conectam pe server via ssh, instalam docker:

sudo su -

apt-get update

apt install -y docker docker-compose

```
1. ne conectam pe server via ssh
ssh -i .ssh/seria23.pem ubuntu@44.201.193.119
2. ne facem root
sudo su -
3. instalam docker
apt-get update
apt install -y docker docker-compose
```

Tragem imaginea docker cu topologia de laborator:

docker pull pliviu/ubmi:AMD64

docker image ls

docker run -it -d <image ID>

docker ps

docker exec -it <container ID> bash

cd /opt/ubmi/

./start.sh L1

```
1.  tragem imaginea docker
docker pull pliviu/ubmi:AMD64

2. aflam ID-ul imaginii docker
docker image ls
(IMAGE ID: 467e4bb96012)

3. cream un container folosind imaginea
docker run -it -d 467e4bb96012

4. aflam ID-ul containerului
docker ps
(CONTAINER ID: 6dc0feb59731)

5. ne atasam la container (repetam acest pas in mai multe console)

6. tragem automat topologia de laborator
cd /opt/ubmi
./start.sh L1
(asteptam cateva zeci de secunde pentru ca se downloadeaza ~ 150Mb)
```

Pornim pe rand fiecare device si ne conectam la el din alta consola. Conectarea se va face cu comanda ***telnet localhost <port>*** iar portul este cel de pe ultima coloana.

Consola principala, cea din figura alaturata, va ramane tot timpul deschisa.

⇒ start R1

⇒ start R2

⇒ start TIER1-ISP

⇒ ……

```
=> list
Name       Type       State      Server           Console
R1         7200       stopped    localhost:7200   5101
R2         7200       stopped    localhost:7200   5102
R3         7200       stopped    localhost:7200   5103
R4         3725       stopped    localhost:7200   5104
TIER1-ISP  3725       stopped    localhost:7200   5110
SW1        3725       stopped    localhost:7200   6101
SW2        3725       stopped    localhost:7200   6102
SW         ETHSW      always on  localhost:7200   n/a
=>
```

Pentru conectarea la PC-urile virtuale facem ***telnet localhost 7300***

Folosind 1,2,3 … 6 ne mutam de pe un PC pe altul.

Daca vrem sa parasim aceasta consola folosim comanda ***disconnect***. Comanda quit o sa opreasca toate cele 6 PC-uri si nu ne dorim asta.

```
root@327ba2aa39f0:/opt/ubmi# telnet localhost 7300
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.

Welcome to Virtual PC Simulator, version 0.5b2
Dedicated to Daling.
Build time: Jun 23 2018 13:14:38
Copyright (c) 2007-2014, Paul Meng (mirnshi@gmail.com)
All rights reserved.

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Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.

Press '?' to get help.

Executing the startup file




Checking for duplicate address...
PC6 : 1.1.1.1 255.255.255.252 gateway 1.1.1.2

PC1[1]> disconnect

PC1[1]>
Good-bye
Connection closed by foreign host.
```

Topologiile noi se vor incarca astfel:

cd /opt/ubmi

./start.sh Lx (unde x = numar)

```
root@327ba2aa39f0:/opt/ubmi#
root@327ba2aa39f0:/opt/ubmi# ./start.sh
Syntax: ./start <lab number>
Example: ./start.sh L1
root@327ba2aa39f0:/opt/ubmi#
```

Diagrama pentru L1 este cea folosita in GNS3 iar interfetele si legaturile dintre PC-uri, switch-uri si routere sunt identice.