Vagrant Primeros Pasos

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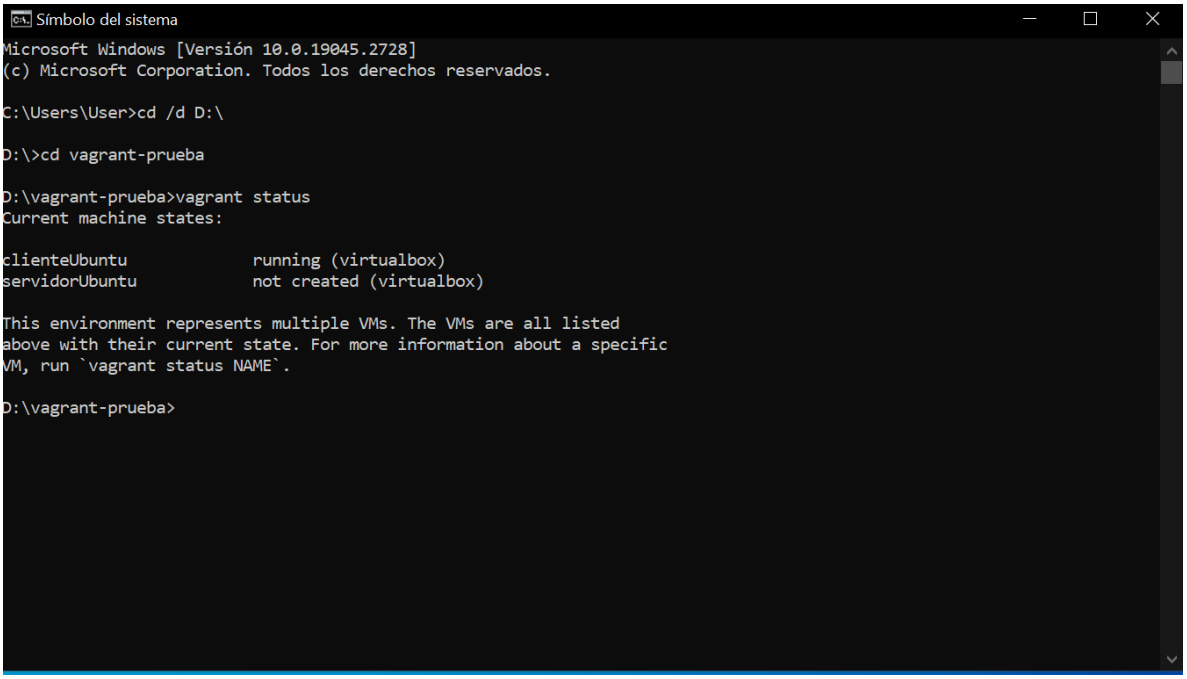
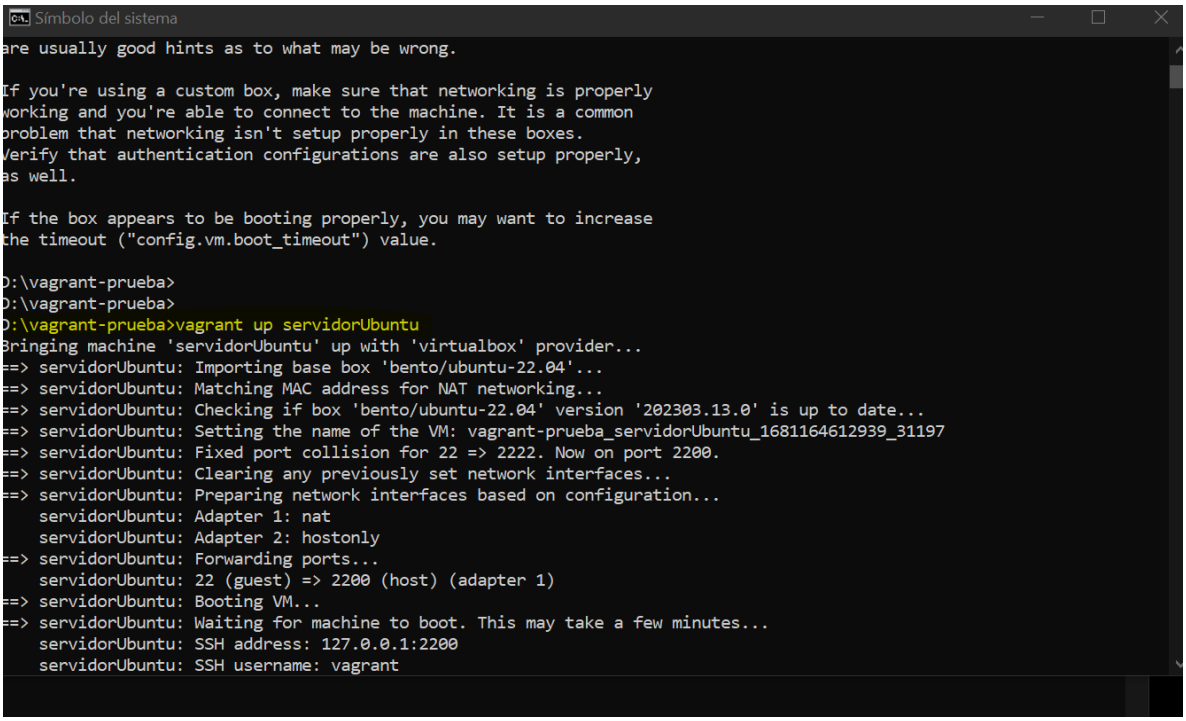
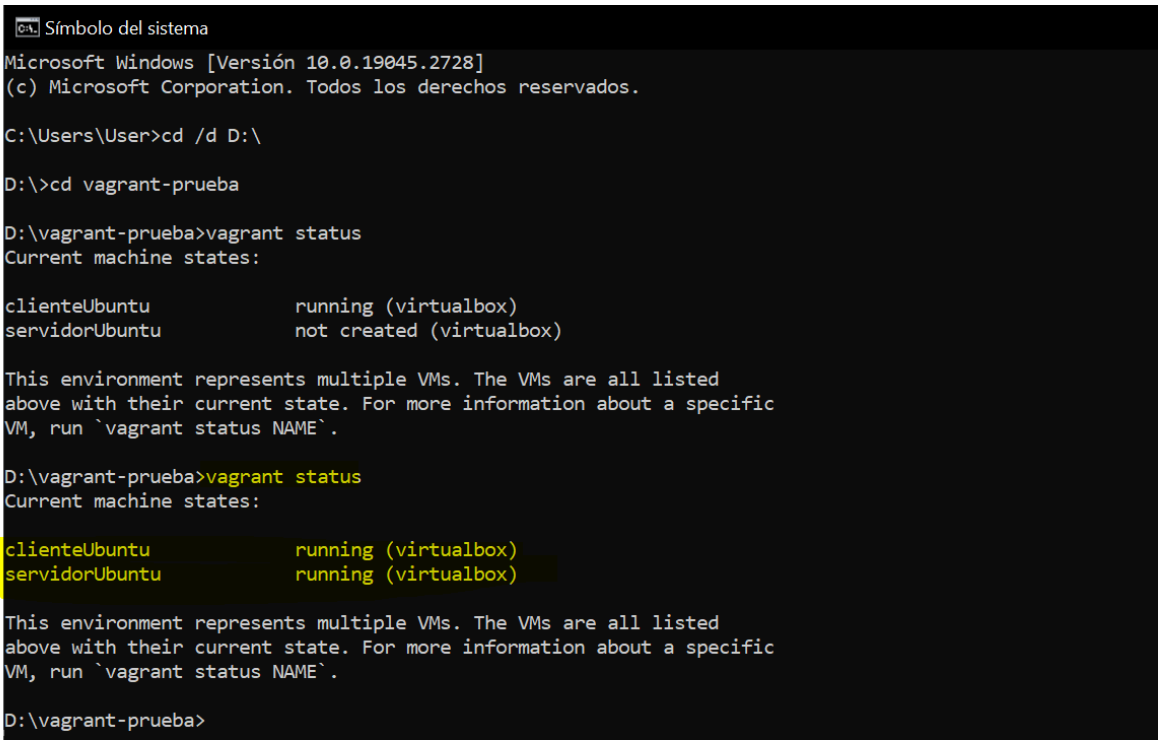
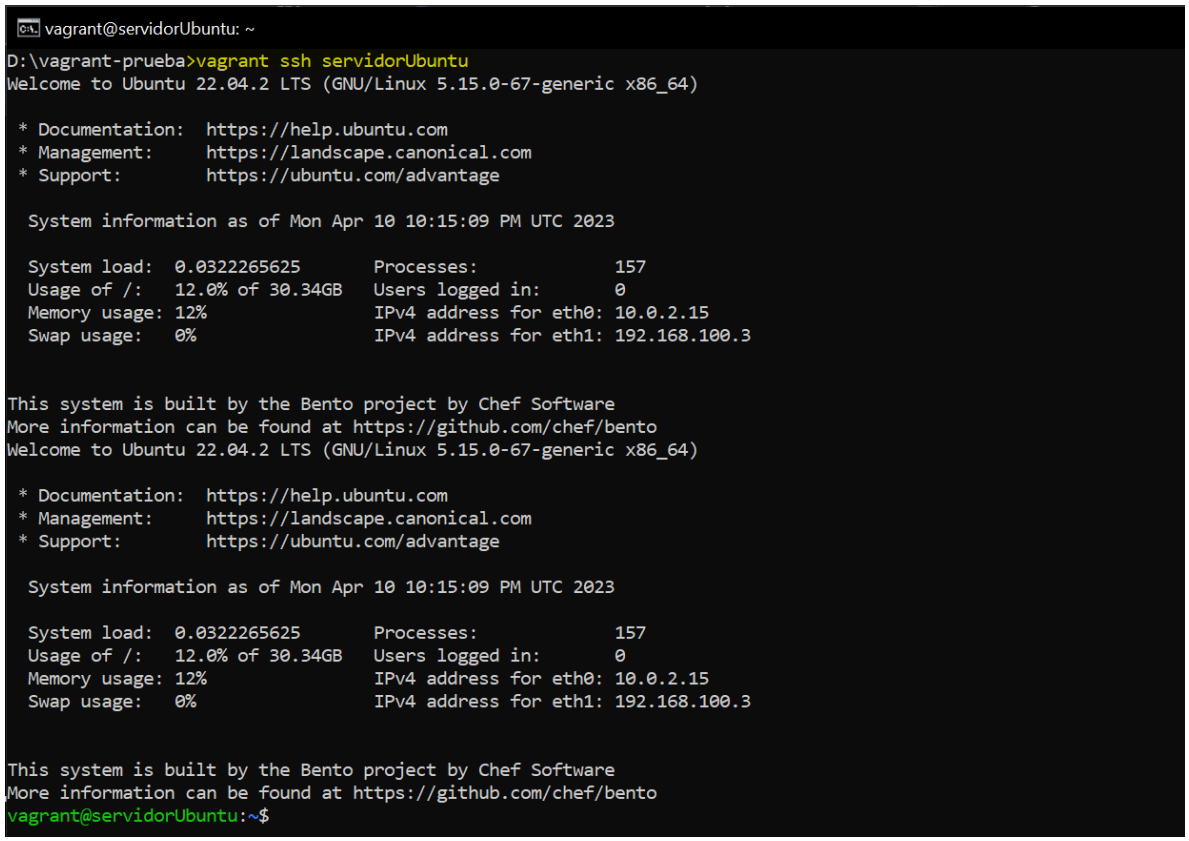


Como no se creo servidorUbuntu maquina se hace:



Maquinas creadas:




vagrant@servidorUbuntu: ~
D:\vagrant-prueba>vagrant ssh servidorUbuntu
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.15.0-67-generic x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage
System information as of Mon Apr 10 10:15:09 PM UTC 2023
System load: 0.0322265625 Processes: 157
Usage of /: 12.0% of 30.34GB Users logged in: 0
Memory usage: 12% IPv4 address for eth0: 10.0.2.15
Swap usage: 0% IPv4 address for eth1: 192.168.100.3
This system is built by the Bento project by Chef Software
More information can be found at https://github.com/chef/bento
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.15.0-67-generic x86_64)
* Documentation: https://help.ubuntu.com
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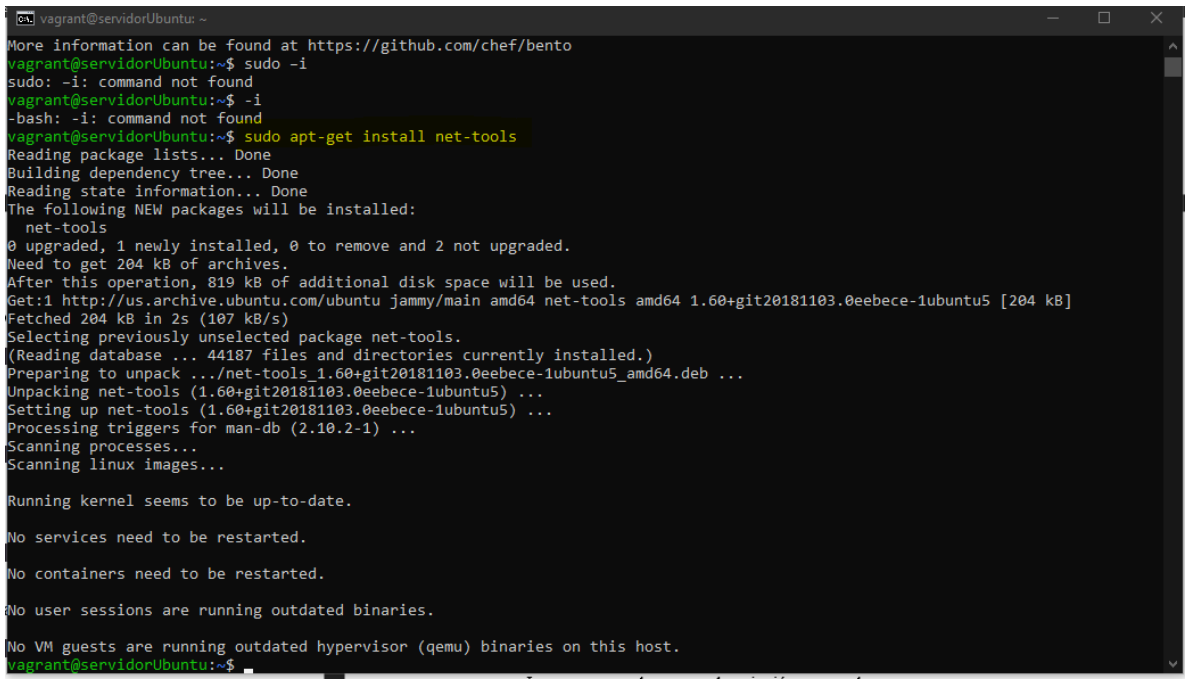
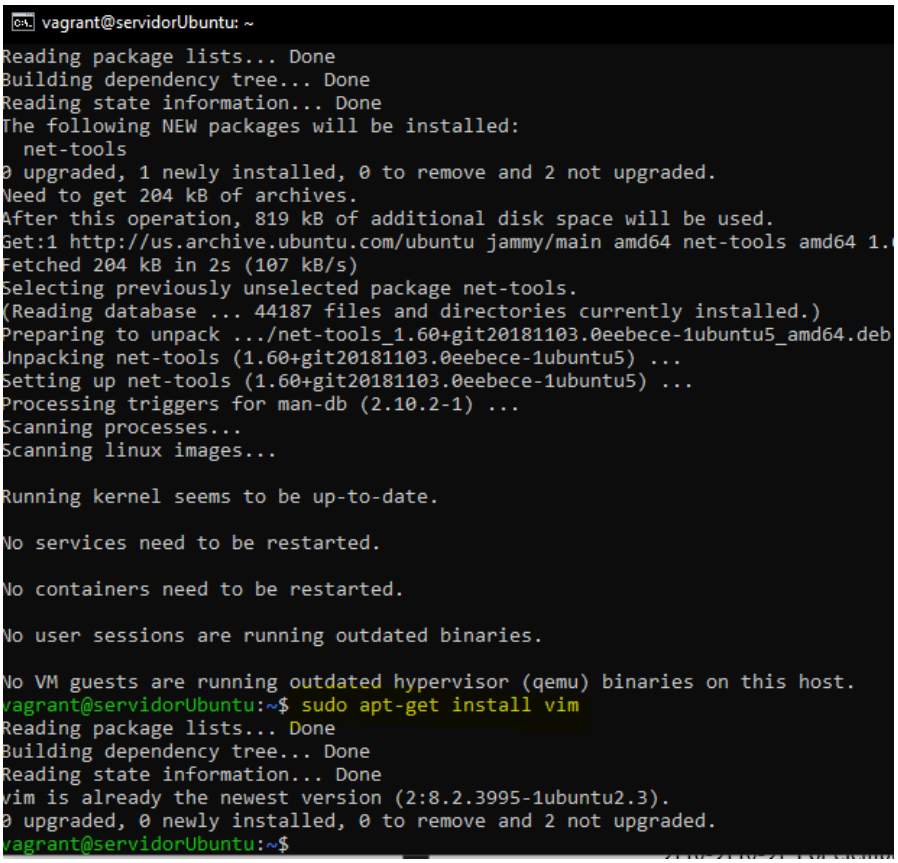
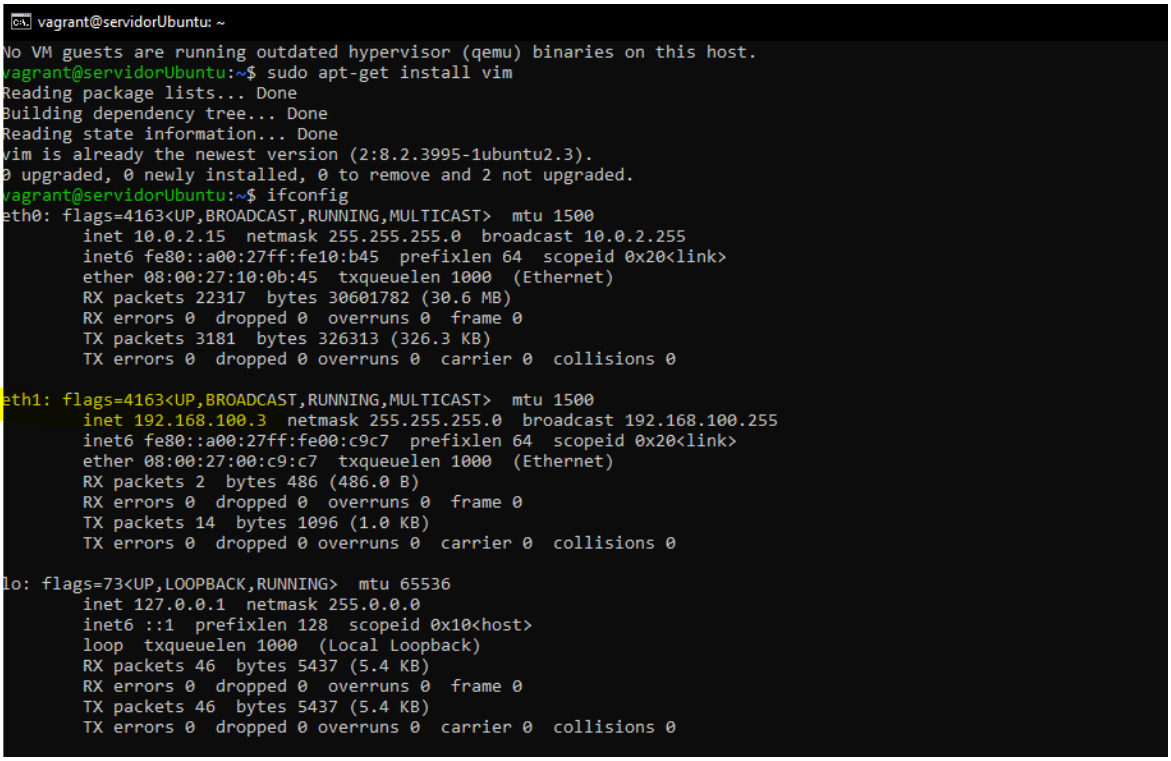
This system is built by the Bento project by Chef Software
More information can be found at https://github.com/chef/bento
vagrant@servidorUbuntu:~$

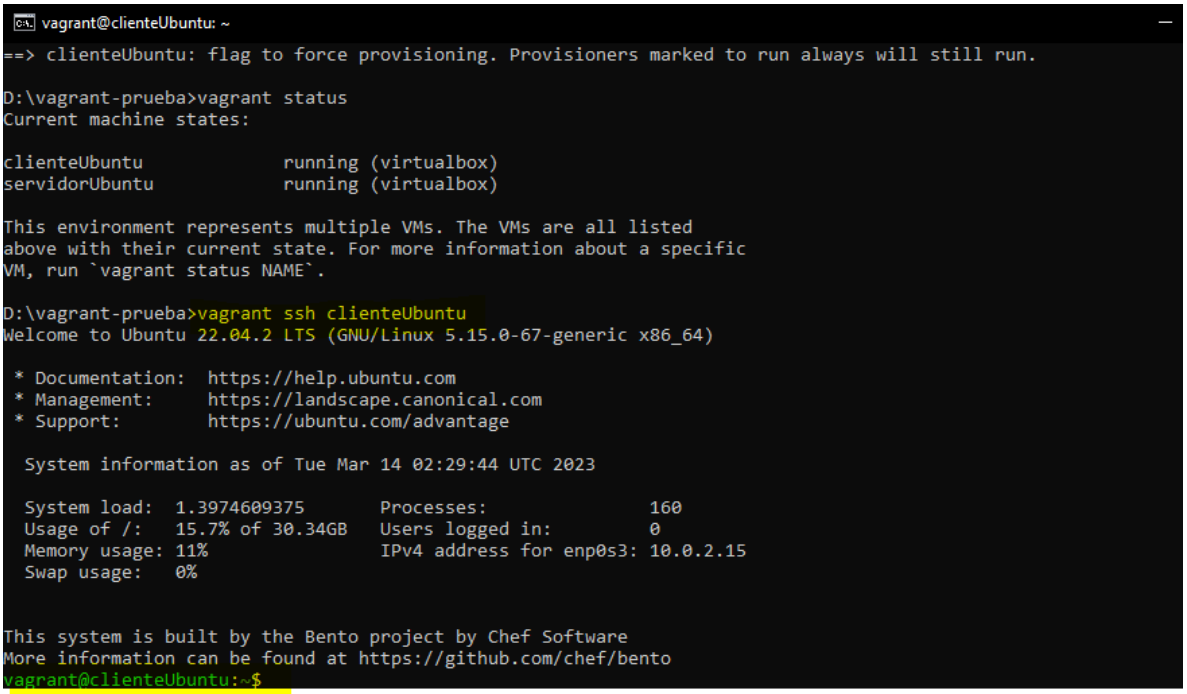

vagrant@servidorUbuntu: ~
More information can be found at https://github.com/chef/bento
vagrant@servidorUbuntu:~$ sudo -i
sudo: -i: command not found
vagrant@servidorUbuntu:~$ -i
-bash: -i: command not found
vagrant@servidorUbuntu:~$ sudo apt-get install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
net-tools
0 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
Need to get 204 kB of archives.
After this operation, 819 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.60+git20181103.0eebece-1ubuntu5 [204 kB]
Fetched 204 kB in 2s (107 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 44187 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb ...
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Setting up net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
vagrant@servidorUbuntu:~$

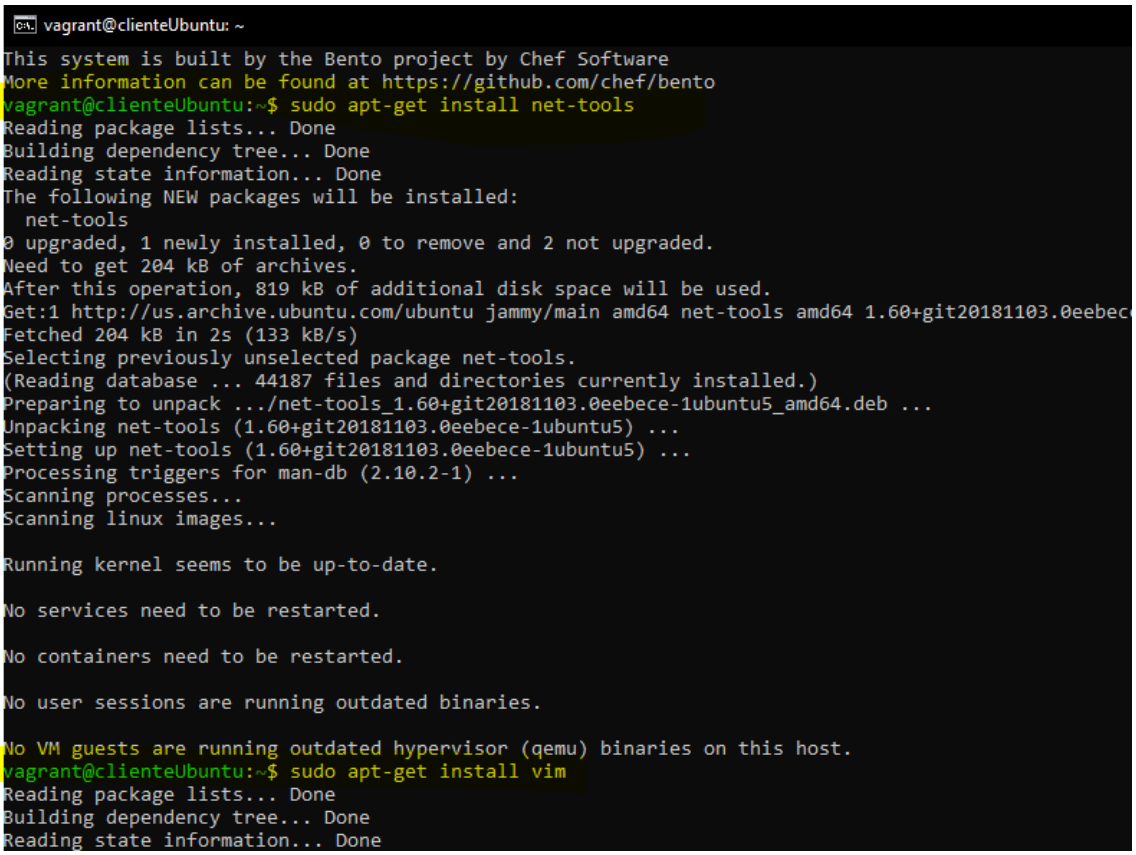

vagrant@servidorUbuntu: ~
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
net-tools
0 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
Need to get 204 kB of archives.
After this operation, 819 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.
Fetched 204 kB in 2s (107 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 44187 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Setting up net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
vagrant@servidorUbuntu:~$ sudo apt-get install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vim is already the newest version (2:8.2.3995-1ubuntu2.3).
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
vagrant@servidorUbuntu:~$

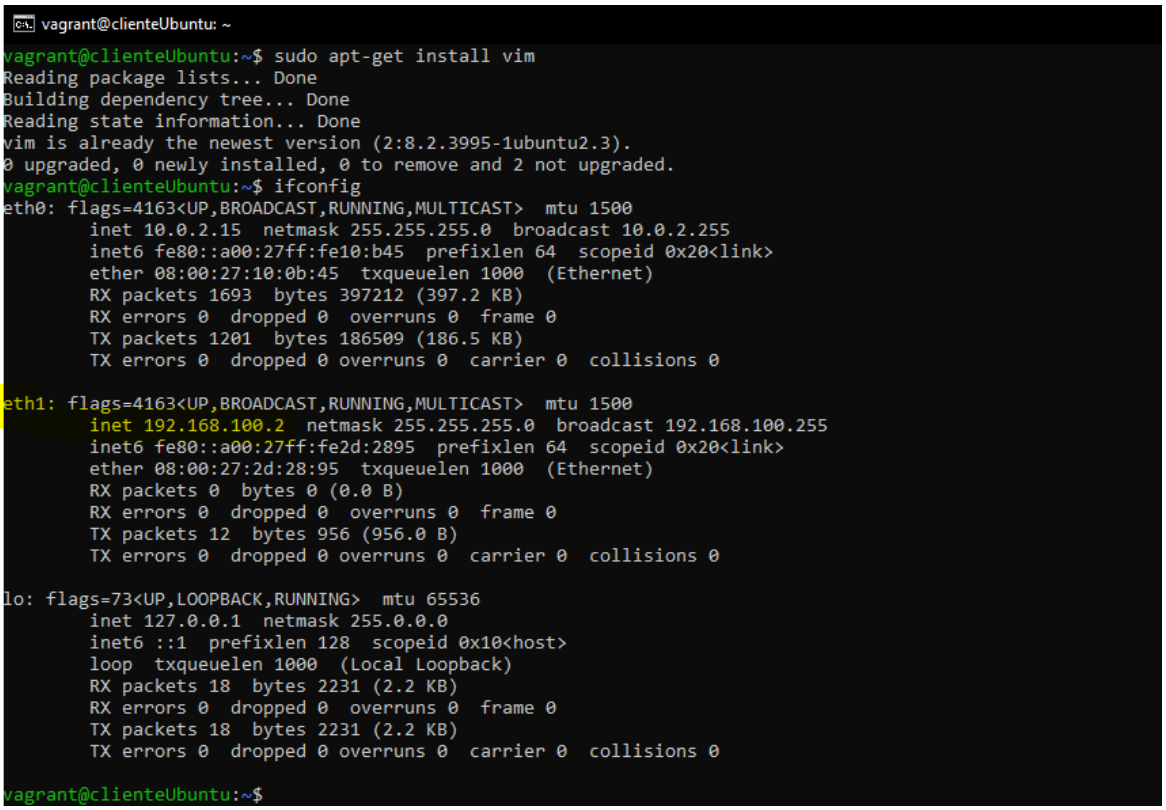
Ifconfig


vagrant@servidorUbuntu: ~
No VM guests are running outdated hypervisor (qemu) binaries on this host.
vagrant@servidorUbuntu:~$ sudo apt-get install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vim is already the newest version (2:8.2.3995-1ubuntu2.3).
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
vagrant@servidorUbuntu:~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::a00:27ff:fe10:b45 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:10:0b:45 txqueuelen 1000 (Ethernet)
RX packets 22317 bytes 30601782 (30.6 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 3181 bytes 326313 (326.3 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.100.3 netmask 255.255.255.0 broadcast 192.168.100.255
inet6 fe80::a00:27ff:fe00:c9c7 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:00:c9:c7 txqueuelen 1000 (Ethernet)
RX packets 2 bytes 486 (486.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 14 bytes 1096 (1.0 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 46 bytes 5437 (5.4 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 46 bytes 5437 (5.4 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

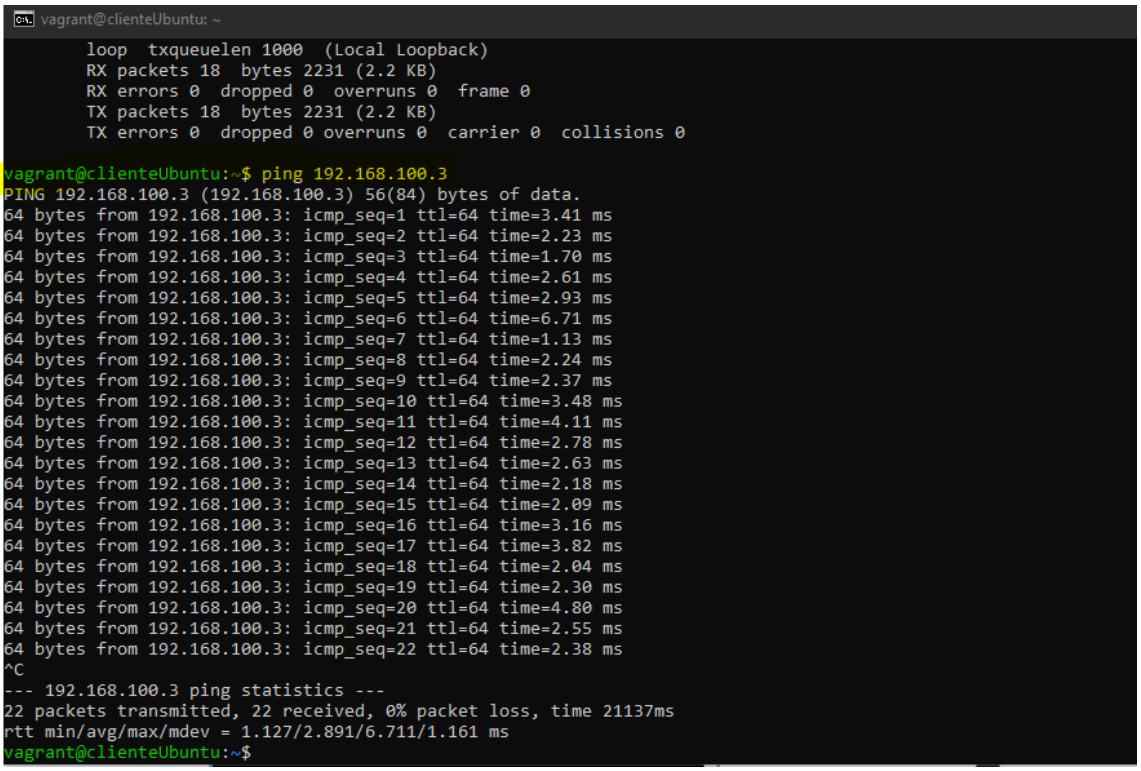
Ahora con el cliente Ubuntu







Conectadas al ping

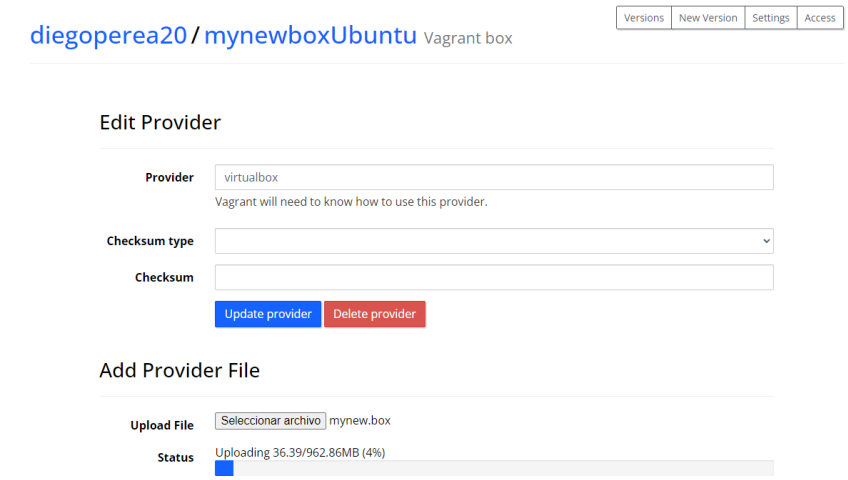


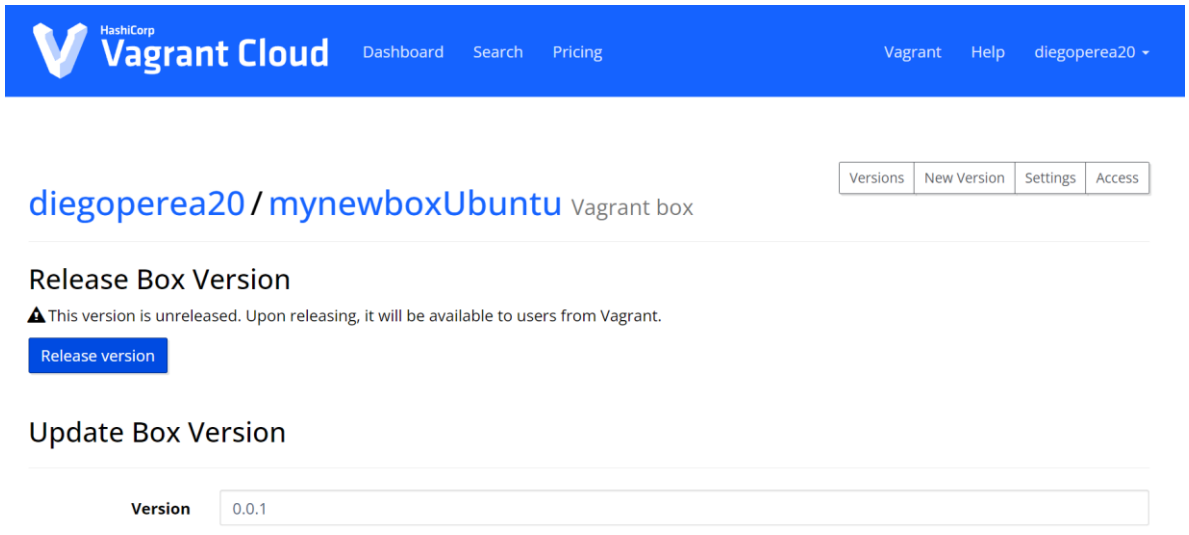
BOXES VAGRANT

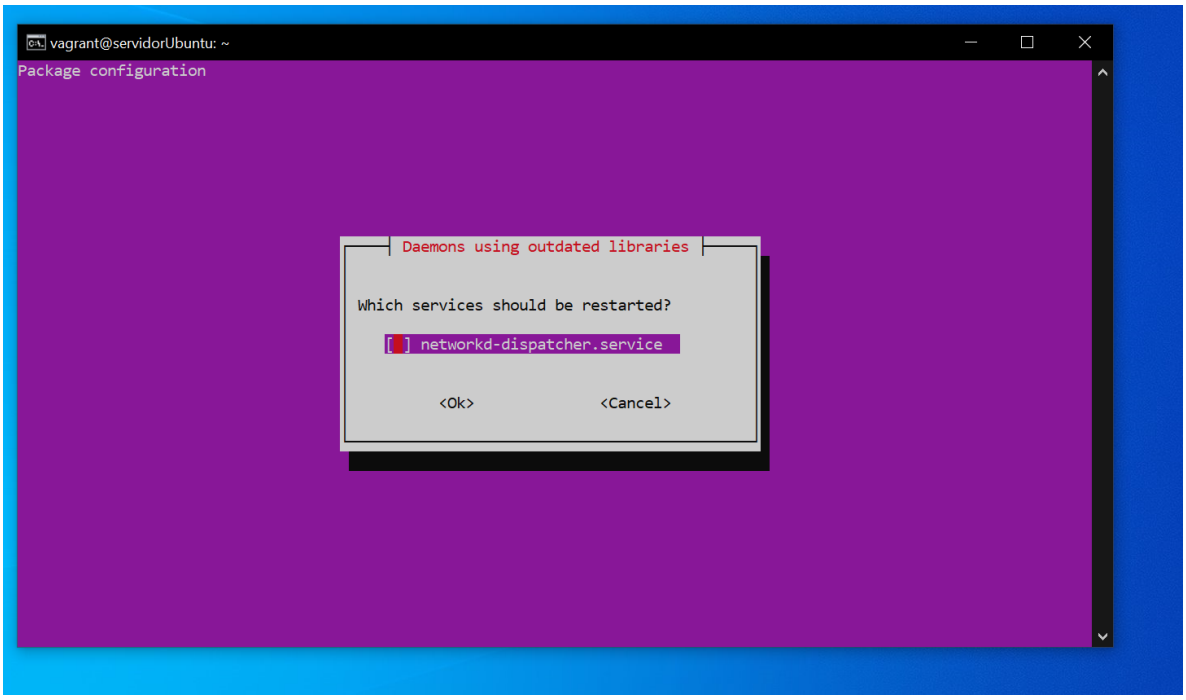
```
D:\vagrant-prueba>vagrant package servidorUbuntu --output mynew.box
==> servidorUbuntu: Attempting graceful shutdown of VM...
==> servidorUbuntu: Clearing any previously set forwarded ports...
==> servidorUbuntu: Exporting VM...
==> servidorUbuntu: Compressing package to: D:/vagrant-prueba/mynew.box

D:\vagrant-prueba>ls
Vagrantfile  mynew.box

D:\vagrant-prueba>
```

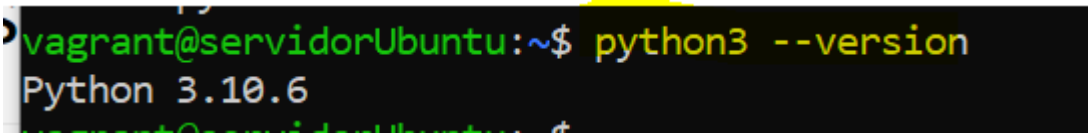
```
D:\vagrant-prueba>ls
Vagrantfile  mynew.box

D:\vagrant-prueba>vagrant box add mynewbox mynew.box
==> box: Box file was not detected as metadata. Adding it directly...
==> box: Adding box 'mynewbox' (v0) for provider:
    box: Unpacking necessary files from: file://D:/vagrant-prueba/mynew.box
    box:
==> box: Successfully added box 'mynewbox' (v0) for 'virtualbox'!

D:\vagrant-prueba>vagrant box list
bento/ubuntu-22.04 (virtualbox, 202303.13.0)
mynewbox           (virtualbox, 0)

D:\vagrant-prueba>
```

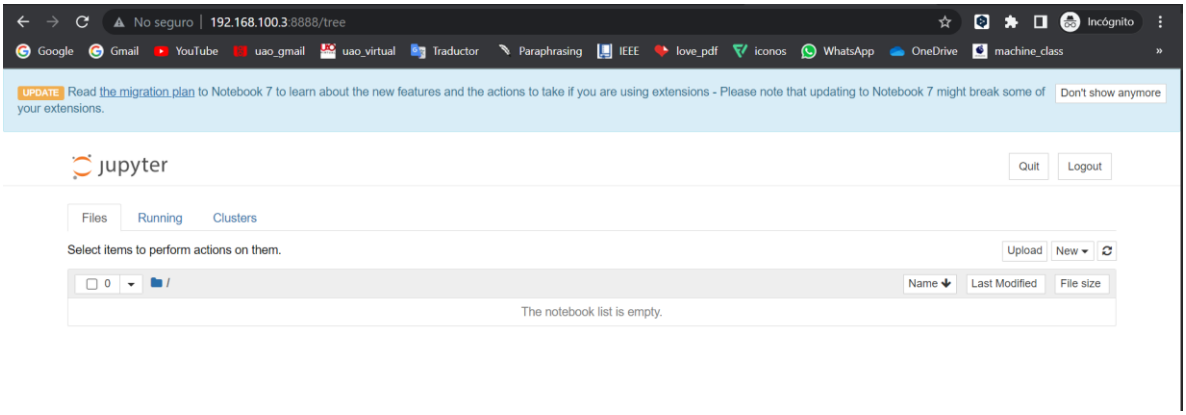
Vagrant cloud (hashi corp)


Versions
New Version
Settings
Access
diegoperea20 / mynewboxUbuntu Vagrant box
Edit Provider
Provider
virtualbox
Vagrant will need to know how to use this provider.
Checksum type
Checksum
Update provider
Delete provider
Add Provider File
Upload File
Seleccionar archivo
mynew.box
Status
Uploading 36.39/962.86MB (4%)


HashiCorp
Vagrant Cloud
Dashboard
Search
Pricing
Vagrant
Help
diegoperea20
Versions
New Version
Settings
Access
diegoperea20 / mynewboxUbuntu Vagrant box
Release Box Version
This version is unreleased. Upon releasing, it will be available to users from Vagrant.
Release version
Update Box Version
Version
0.0.1







INVESTIGACION:

directorios sincronizados de Vagrant.

Los directorios sincronizados de Vagrant son una funcionalidad que permite sincronizar una carpeta en la máquina anfitriona con la máquina virtual, lo que permite trabajar en los archivos del proyecto en la máquina anfitriona y utilizar los recursos de la máquina virtual para compilar o ejecutar el proyecto[1]. Vagrant sincroniza automáticamente las carpetas que se encuentran en el directorio de trabajo[2]. Las carpetas compartidas son el tipo predeterminado de carpeta sincronizada para los usuarios de VirtualBox[3]. Para sincronizar carpetas en Windows, se puede utilizar la herramienta

gratuita de línea de comandos rsync. Vagrant es una herramienta de línea de comandos que permite generar entornos de desarrollo reproducibles[4].

En resumen, los directorios sincronizados en Vagrant son una función que permite compartir archivos entre la máquina anfitriona y la máquina virtual creada con Vagrant. Esto es útil para editar archivos en la máquina anfitriona usando herramientas y entornos favoritos y que los cambios se reflejen automáticamente en la máquina virtual sin tener que copiar manualmente los archivos. Vagrant sincroniza por defecto el directorio en el que se encuentra el archivo Vagrantfile en la máquina anfitriona con un directorio en la máquina virtual, y se pueden configurar tantos directorios sincronizados como se necesite. Además, Vagrant soporta varios mecanismos de sincronización, como rsync, NFS y SMB.

Para configurar directorios sincronizados en Vagrant, debes agregar la siguiente línea en tu archivo Vagrantfile:

config.vm.synced_folder "directorio_anfitrion", "directorio_vm"

Donde "directorio_anfitrion" es la ruta absoluta del directorio en tu máquina anfitriona que quieres sincronizar con la máquina virtual, y "directorio_vm" es la ruta absoluta del directorio en la máquina virtual donde quieres que se sincronice el directorio del anfitrión.

Por ejemplo, si tienes un directorio llamado "mi_proyecto" en tu máquina anfitriona en la ruta "/home/usuario/mi_proyecto", y quieres sincronizarlo con un directorio en la máquina virtual en la ruta "/vagrant/mi_proyecto", deberías agregar la siguiente línea en tu archivo Vagrantfile:

config.vm.synced_folder "/home/usuario/mi_proyecto", "/vagrant/mi_proyecto"

Recuerda que debes ejecutar el comando "**vagrant reload**" para que los cambios en el archivo Vagrantfile surtan efecto.

```
Vagrant.configure("2") do |config|
        config.vm.box = "centos/7"
        config.vm.synced_folder ".", "/home/vagrant/selftuts",type:"virtualbox"
end
```

Figura Configuracion Vagrantfile para sincronizar folder

```
onnection to 127.0.0.1 closed.
 centos-7 }  » ls
agrantfile  Vagrantfile~
 centos-7 }  » vim Vagrantfile
 centos-7 }  » vagrant reload
=> default: Attempting graceful shutdown of VM...
=> default: Checking if box 'centos/7' is up to date...
=> default: A newer version of the box 'centos/7' is available! You currently
=> default: have version '1611.01'. The latest is version '1704.01'. Run
=> default: `vagrant box update` to update.
=> default: Clearing any previously set forwarded ports...
=> default: Clearing any previously set network interfaces...
=> default: Preparing network interfaces based on configuration...
   default: Adapter 1: nat
=> default: Forwarding ports...
   default: 22 (guest) => 2222 (host) (adapter 1)
=> default: Booting VM...
=> default: Waiting for machine to boot. This may take a few minutes...
   default: SSH address: 127.0.0.1:2222
```

Figura Vagrant reload para actualizar configuración ded sincronización

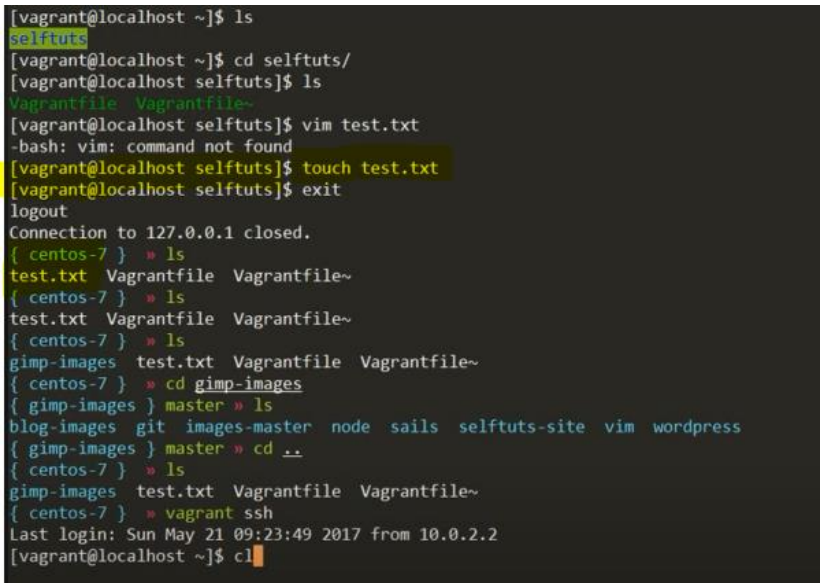
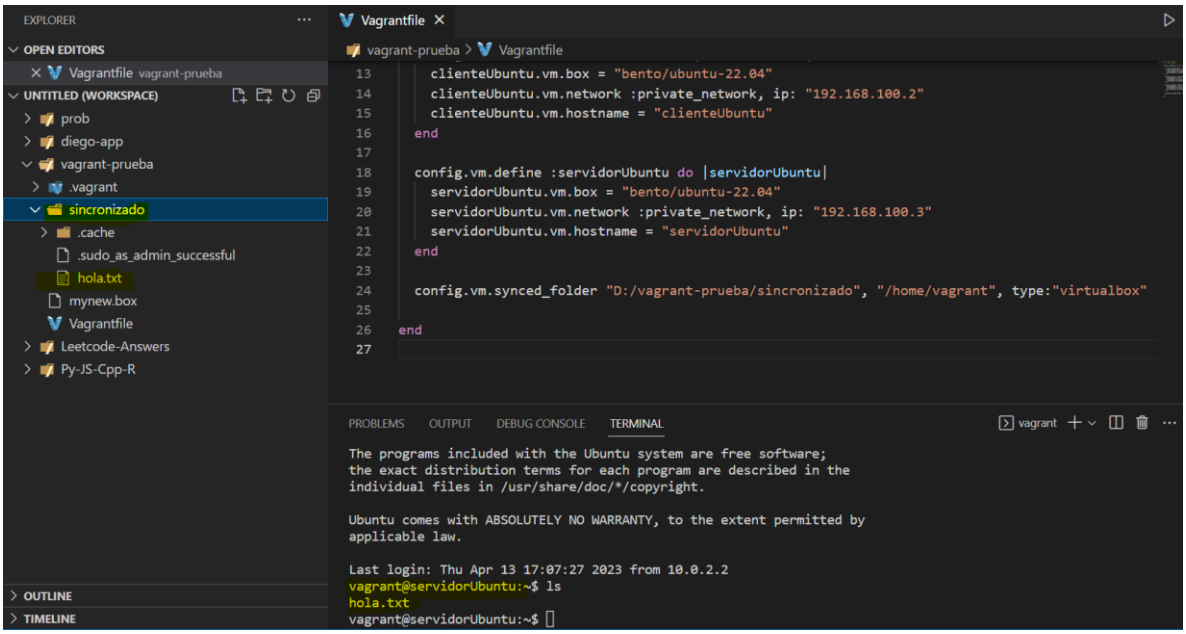


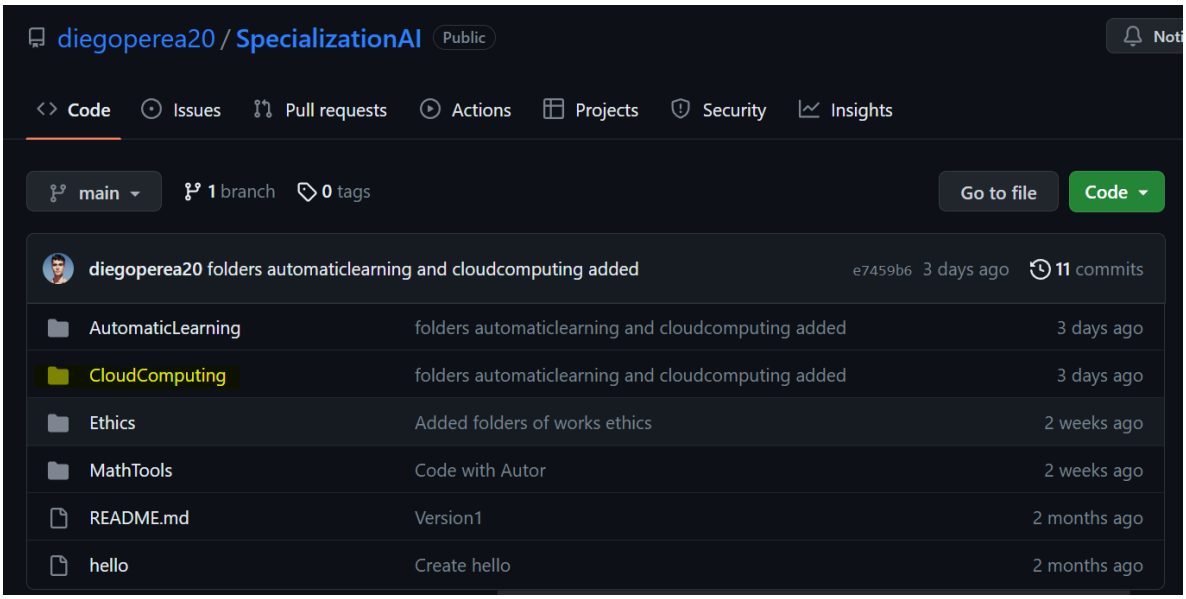
Figura Archivo y carpeta sincronizada

Comprobación :



Si pide la contraseña es “vagrant” por defecto

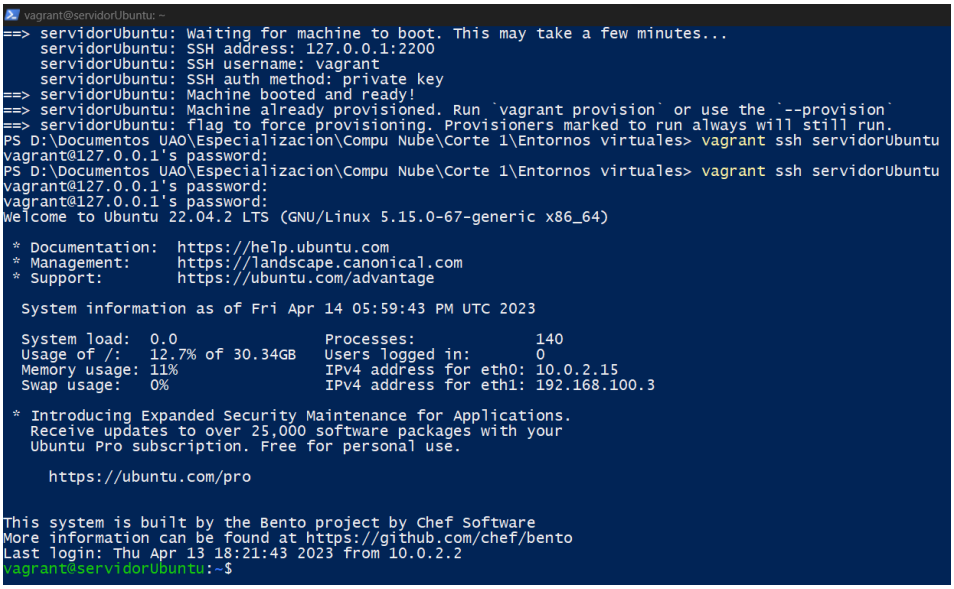
Github



Linux

Desarrollo

0. Abriruna ventana de terminal en Linux



1. Listar directorio actual

```
vagrant@servidorUbuntu:~$ pwd
/home/vagrant
vagrant@servidorUbuntu:~$
```

2. Volver al directorio home desde cualquier ubicación

```
vagrant@servidorUbuntu:~$ cd ~
vagrant@servidorUbuntu:~$ pwd
/home/vagrant
vagrant@servidorUbuntu:~$
```

3. Crear un nuevo directorio

```
vagrant@servidorUbuntu:~$ pwd
/home/vagrant
vagrant@servidorUbuntu:~$ cd ~
vagrant@servidorUbuntu:~$ pwd
/home/vagrant
vagrant@servidorUbuntu:~$ mkdir temp
vagrant@servidorUbuntu:~$ mkdir temp/stuff
vagrant@servidorUbuntu:~$ mkdir temp/stuff/things
vagrant@servidorUbuntu:~$ mkdir -p temp/stuff/things/orange/pear/grape
vagrant@servidorUbuntu:~$
```

4. Cambiar de un directorio a otro usando cd

```
vagrant@servidorUbuntu:~$ cd temp
vagrant@servidorUbuntu:~/temp$ pwd
/home/vagrant/temp
vagrant@servidorUbuntu:~/temp$ cd stuff
vagrant@servidorUbuntu:~/temp/stuff$ pwd
/home/vagrant/temp/stuff
vagrant@servidorUbuntu:~/temp/stuff$ cd
vagrant@servidorUbuntu:~$ pwd
/home/vagrant
vagrant@servidorUbuntu:~$
```

5. Listar los contenidos de un directorio usando ls

```
vagrant@servidorUbuntu:~$ cd temp
vagrant@servidorUbuntu:~/temp$ ls
stuff
vagrant@servidorUbuntu:~/temp$ cd stuff
vagrant@servidorUbuntu:~/temp/stuff$ ls
things
vagrant@servidorUbuntu:~/temp/stuff$ cd things
vagrant@servidorUbuntu:~/temp/stuff/things$ ls
orange
vagrant@servidorUbuntu:~/temp/stuff/things$ cd
vagrant@servidorUbuntu:~$
```

6. Eliminar un directorio vacío

```
vagrant@servidorUbuntu:~$ cd temp
vagrant@servidorUbuntu:~/temp$ ls
stuff
vagrant@servidorUbuntu:~/temp$ cd stuff/things/orange/pear/grape/
vagrant@servidorUbuntu:~/temp/stuff/things/orange/pear/grape$ cd ..
vagrant@servidorUbuntu:~/temp/stuff/things/orange/pear$ rmdir grape
vagrant@servidorUbuntu:~/temp/stuff/things/orange/pear$ cd ..
vagrant@servidorUbuntu:~/temp/stuff/things/orange$ rmdir pear
vagrant@servidorUbuntu:~/temp/stuff/things/orange$ cd ..
vagrant@servidorUbuntu:~/temp/stuff/things$ ls
orange
vagrant@servidorUbuntu:~/temp/stuff/things$
```

7. Guardar su localización actual, ir a una nueva localización con pushd y retornar a la localización guardada con popd

```
vagrant@servidorUbuntu:~$ cd temp
vagrant@servidorUbuntu:~/temp$ mkdir -p i/like/icecream
vagrant@servidorUbuntu:~/temp$ pushd i/like/icecream/
~/temp/i/like/icecream ~/temp
vagrant@servidorUbuntu:~/temp/i/like/icecream$ popd
~/temp
vagrant@servidorUbuntu:~/temp$ pwd
/home/vagrant/temp
vagrant@servidorUbuntu:~/temp$ pushd i/like
~/temp/i/like ~/temp
vagrant@servidorUbuntu:~/temp/i/like$ pwd
/home/vagrant/temp/i/like
vagrant@servidorUbuntu:~/temp/i/like$ pushd icecream
~/temp/i/like/icecream ~/temp/i/like ~/temp
vagrant@servidorUbuntu:~/temp/i/like/icecream$ pwd
/home/vagrant/temp/i/like/icecream
vagrant@servidorUbuntu:~/temp/i/like/icecream$ popd
~/temp/i/like ~/temp
vagrant@servidorUbuntu:~/temp/i/like$ pwd
/home/vagrant/temp/i/like
vagrant@servidorUbuntu:~/temp/i/like$ popd
~/temp
vagrant@servidorUbuntu:~/temp$ pushd i/like/icecream
~/temp/i/like/icecream ~/temp
vagrant@servidorUbuntu:~/temp/i/like/icecream$ pushd
~/temp ~/temp/i/like/icecream
vagrant@servidorUbuntu:~/temp$ pwd
/home/vagrant/temp
vagrant@servidorUbuntu:~/temp$ pushd
~/temp/i/like/icecream ~/temp
vagrant@servidorUbuntu:~/temp/i/like/icecream$ pwd
/home/vagrant/temp/i/like/icecream
vagrant@servidorUbuntu:~/temp/i/like/icecream$
```

8. Crear archivos vacíos con touch

```
vagrant@servidorUbuntu:~$ cd temp
vagrant@servidorUbuntu:~/temp$ touch grass.txt
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  stuff
vagrant@servidorUbuntu:~/temp$
```

9. Copiar un archivo desde una localización a otra con cp

```
vagrant@servidorUbuntu:~/temp$
vagrant@servidorUbuntu:~/temp$ cp grass.txt neat.txt
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  neat.txt  stuff
vagrant@servidorUbuntu:~/temp$ cd neat.txt awesome.txt
-bash: cd: too many arguments
vagrant@servidorUbuntu:~/temp$ cp neat.txt awesome.txt
vagrant@servidorUbuntu:~/temp$ ls
awesome.txt  grass.txt  i  neat.txt  stuff
vagrant@servidorUbuntu:~/temp$
```

10. Mover un archivo de un lugar a otro usando mv

```
vagrant@servidorUbuntu:~/temp$ mv awesome.txt uncool.txt
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  neat.txt  stuff  uncool.txt
vagrant@servidorUbuntu:~/temp$
```

11. Cree un archivo con contenido de texto llamado test.txt y ábralo con less o con more. ¿Cuál es la diferencia?

La principal diferencia entre less y more es que less es más flexible y potente que more. less permite desplazarse hacia atrás y hacia adelante por el archivo, buscar patrones de texto, copiar texto del archivo y más. Además, less no carga todo el contenido del archivo en memoria de una sola vez, lo que lo hace más rápido y eficiente que more para archivos grandes.

12. Abra el archivo usando cat

```
Este es un texto de ejemplo
test2.txt (END)
```

```
vagrant@servidorUbuntu:~/temp$ echo "Este es un texto de ejemplo" > test2.txt
vagrant@servidorUbuntu:~/temp$
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  neat.txt  stuff  test2.txt  test.txt  uncool.txt
vagrant@servidorUbuntu:~/temp$ less test2.txt
vagrant@servidorUbuntu:~/temp$ cat test2.txt
Este es un texto de ejemplo
vagrant@servidorUbuntu:~/temp$
```

13. Eliminar un archivo usando rm

```
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  neat.txt  stuff  test2.txt  test.txt  uncool.txt
vagrant@servidorUbuntu:~/temp$
vagrant@servidorUbuntu:~/temp$ rm uncool.txt
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  neat.txt  stuff  test2.txt  test.txt
vagrant@servidorUbuntu:~/temp$ rm neat.txt
vagrant@servidorUbuntu:~/temp$ ls
grass.txt  i  stuff  test2.txt  test.txt
vagrant@servidorUbuntu:~/temp$
```

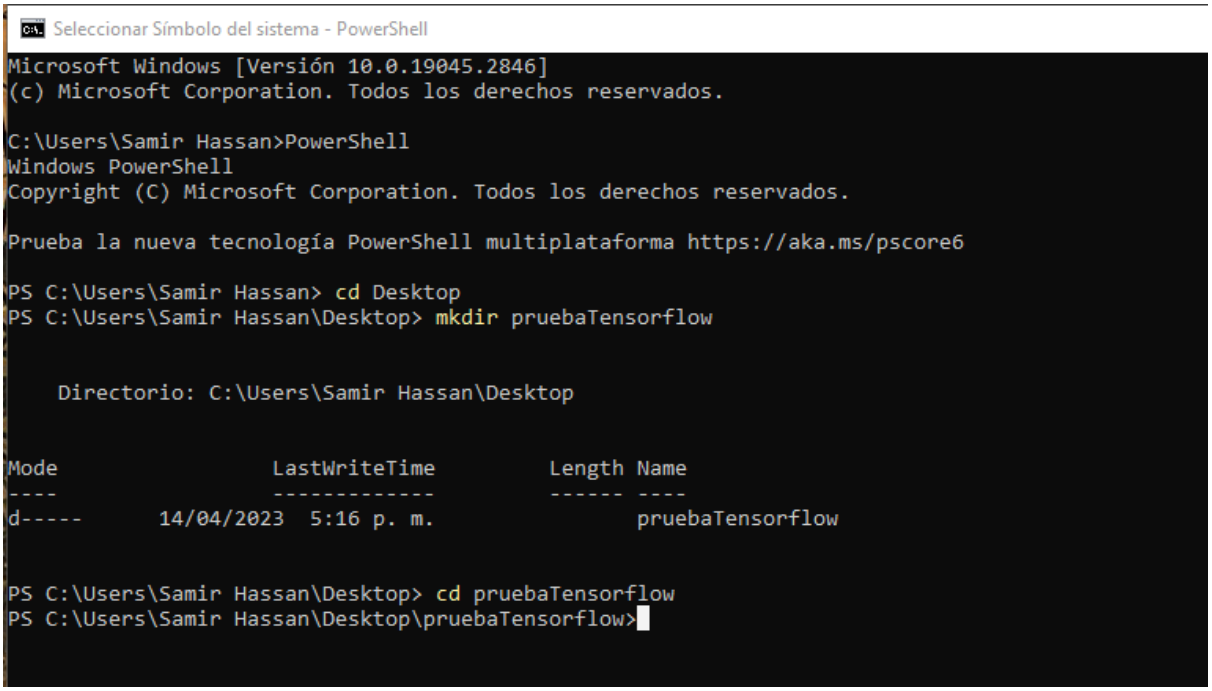
14. Salir de la terminal

```
vagrant@servidorUbuntu:~/temp$
vagrant@servidorUbuntu:~/temp$ exit
logout
Connection to 127.0.0.1 closed.
PS D:\Documentos UAO\Especializacion\Compu Nube\Corte 1\Entornos virtuales>
```

Tensorflow

Funcionamiento de Máquina virtual con Tensor Flow:

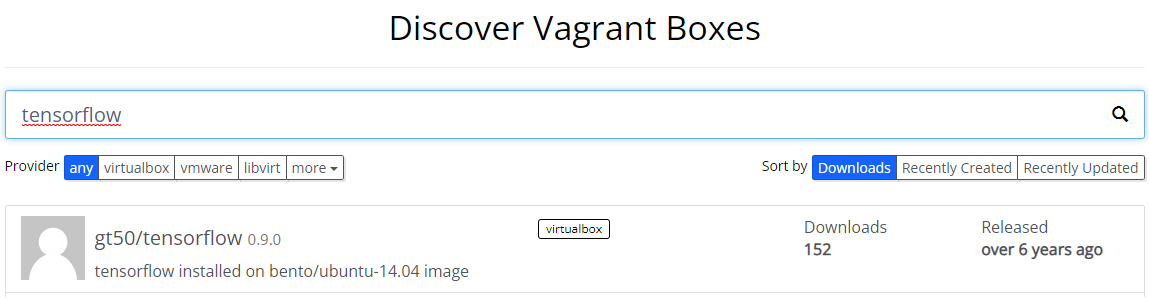
Se ingresa a cmd y se escoge una locación para crear el directorio “pruebaTensorflow”



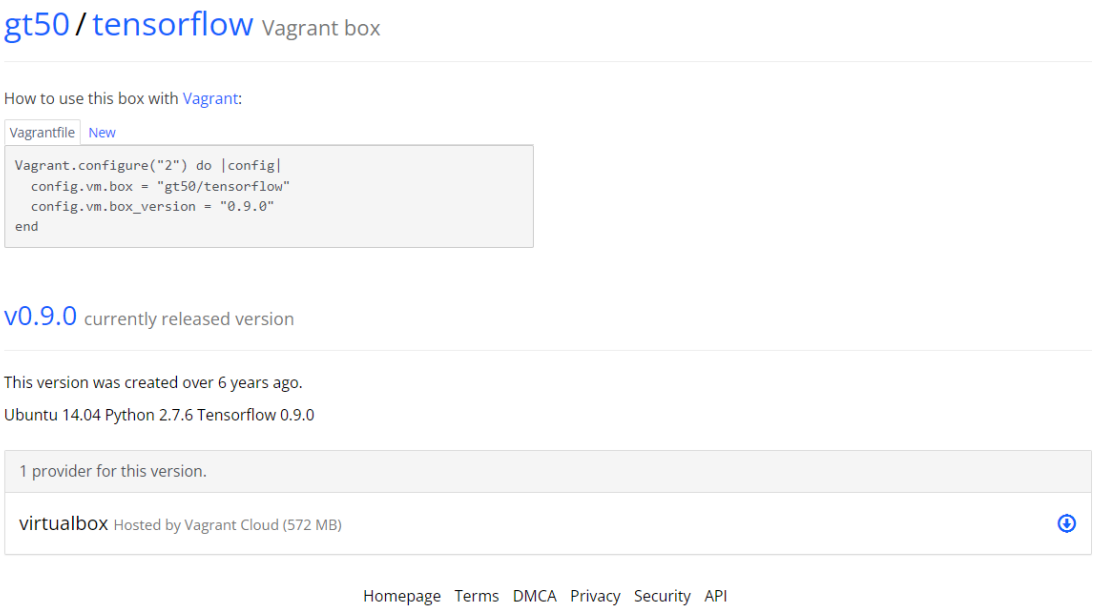
Se inicia vagrant en dicha carpeta

```
PS C:\Users\Samir Hassan\Desktop\pruebaTensorflow> vagrant init
A `Vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.
PS C:\Users\Samir Hassan\Desktop\pruebaTensorflow>
```

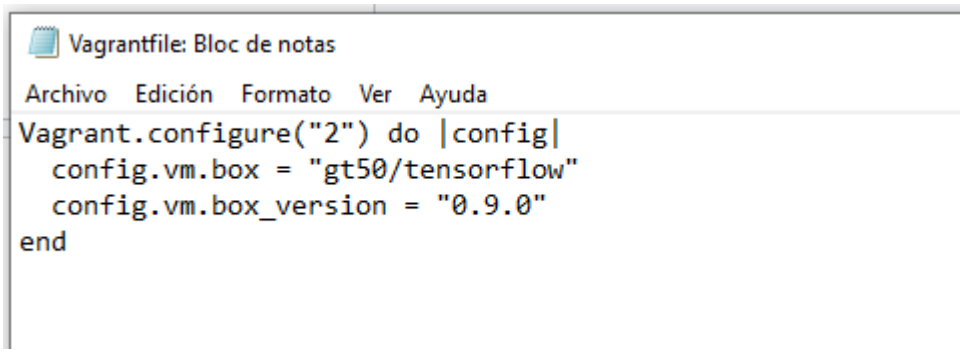
Se dirige a vagrant cloud, en donde se busca una MV que tenga incorporado Tensorflow



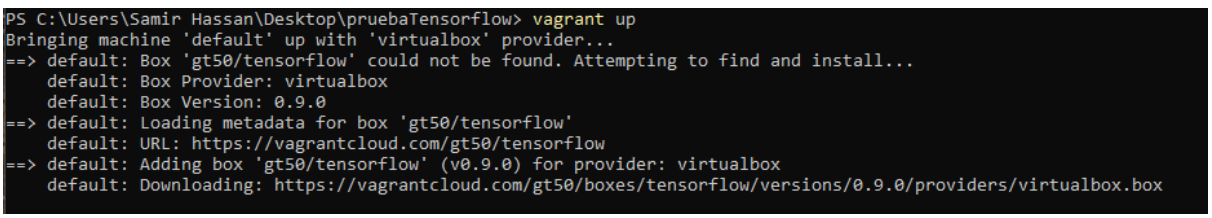
Se copia el contenido del vagrantfile



Se modifica el vagrantfile con el contenido copiado



Se empieza a descargar la imagen del sistema y a configurarse en nuestra MV



Se verifica el estado de la máquina creada, la cual efectivamente está funcionando.

```
PS C:\Users\Samir Hassan\Desktop\pruebaTensorflow> vagrant status
Current machine states:

default                   running (virtualbox)

The VM is running. To stop this VM, you can run `vagrant halt` to
shut it down forcefully, or you can run `vagrant suspend` to simply
suspend the virtual machine. In either case, to restart it again,
simply run `vagrant up`.
```

Ingresamos como usuario a la MV

```
PS C:\Users\Samir Hassan\Desktop\pruebaTensorflow> vagrant ssh default
Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 3.13.0-92-generic x86_64)

 * Documentation:  https://help.ubuntu.com/
Last login: Mon Jul 25 00:01:00 2016 from 10.0.2.2
Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 3.13.0-92-generic x86_64)

 * Documentation:  https://help.ubuntu.com/
Last login: Mon Jul 25 00:01:00 2016 from 10.0.2.2
vagrant@vagrant:~$
```

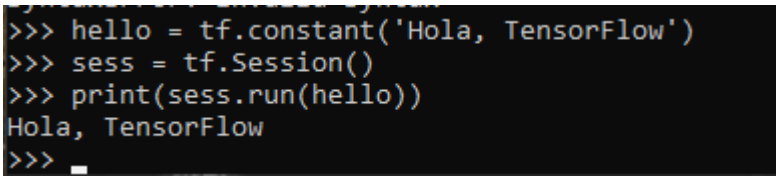
Ingresamos el comando Python para abrir la consola de Python en la MV

```
vagrant@vagrant:~$ python
Python 2.7.6 (default, Jun 22 2015, 17:58:13)
[GCC 4.8.2] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

En la terminal de comandos de Python importamos TensorFlow

```
Type "help", "copyright", "credits" or "license" for more information.
>>> import tensorflow as tf
```

Y escribimos un pequeño código para evaluar el funcionamiento de TensorFlow



Así, terminamos verificando el funcionamiento de la MV con TF.

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3. StackExchange. (2014). Symbolic links and synced folders in Vagrant. [Online]. Disponible en: https://qastack.mx/programming/24200333/symbolic-links-and-synced-folders-in-vagrant [Accedido el 9 Abril 2023].
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5. "Part 4 : Synced folder in vagrant," *YouTube*, 21-May-2017. [Online]. Available: https://www.youtube.com/watch?v=oD-p_GbwiPA. [Accessed: 11-Apr-2023]