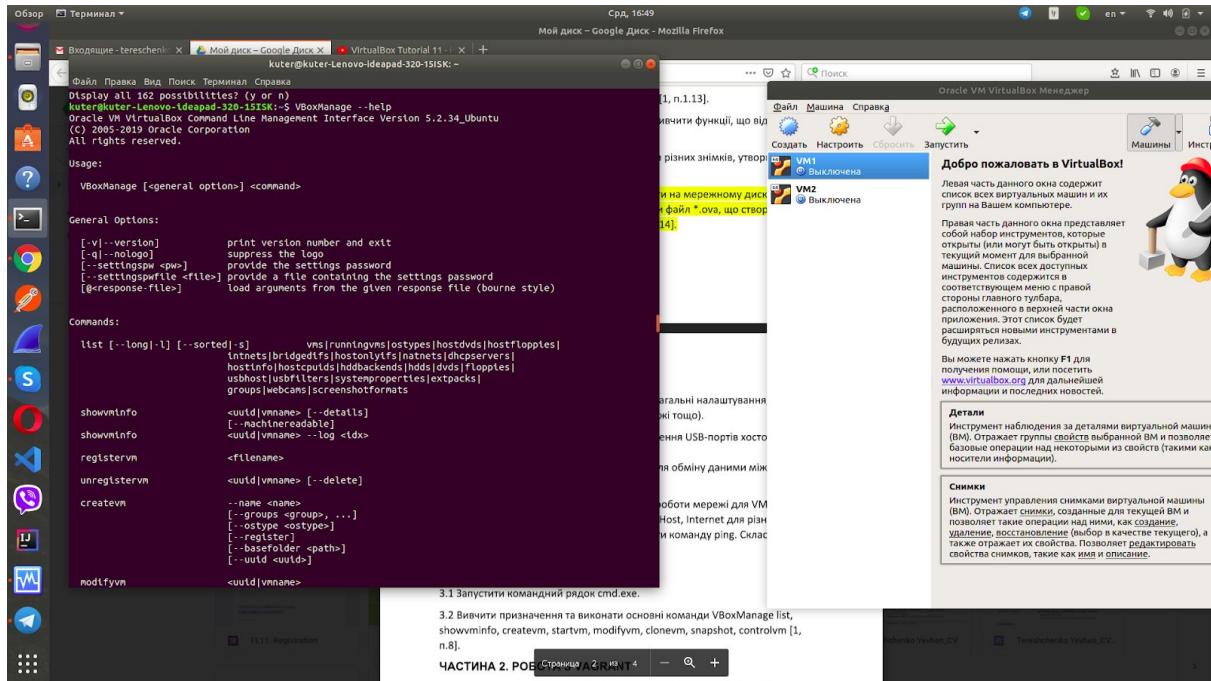


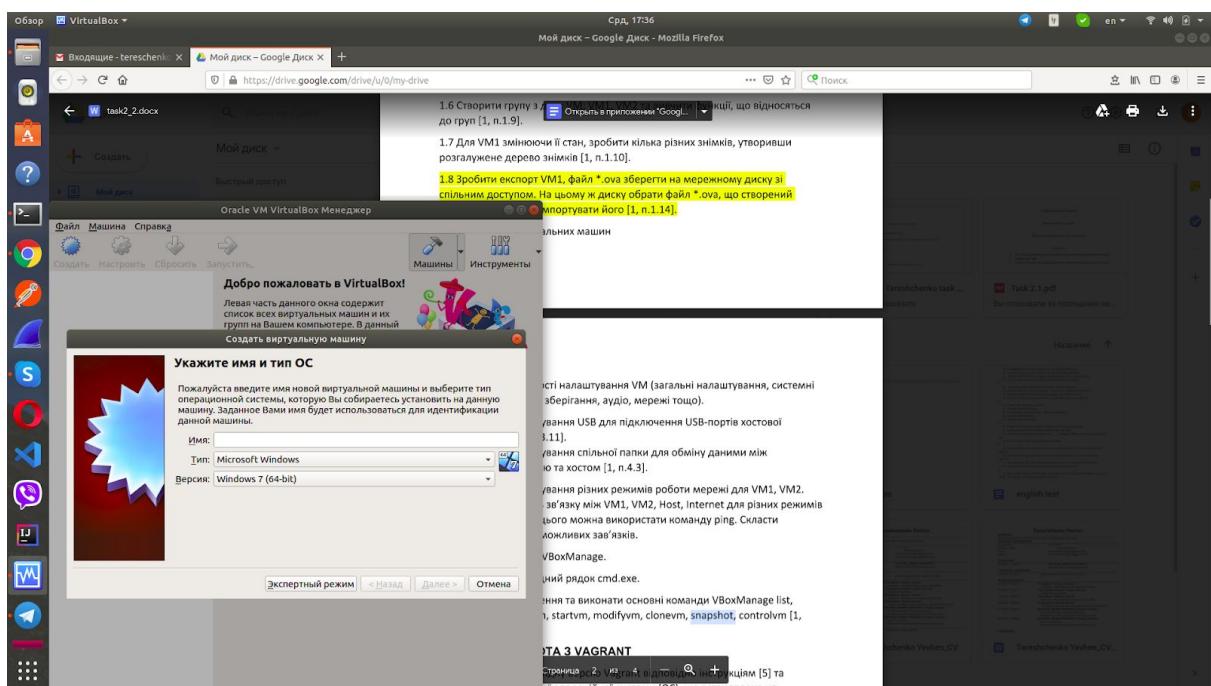
Task 2.2

First part

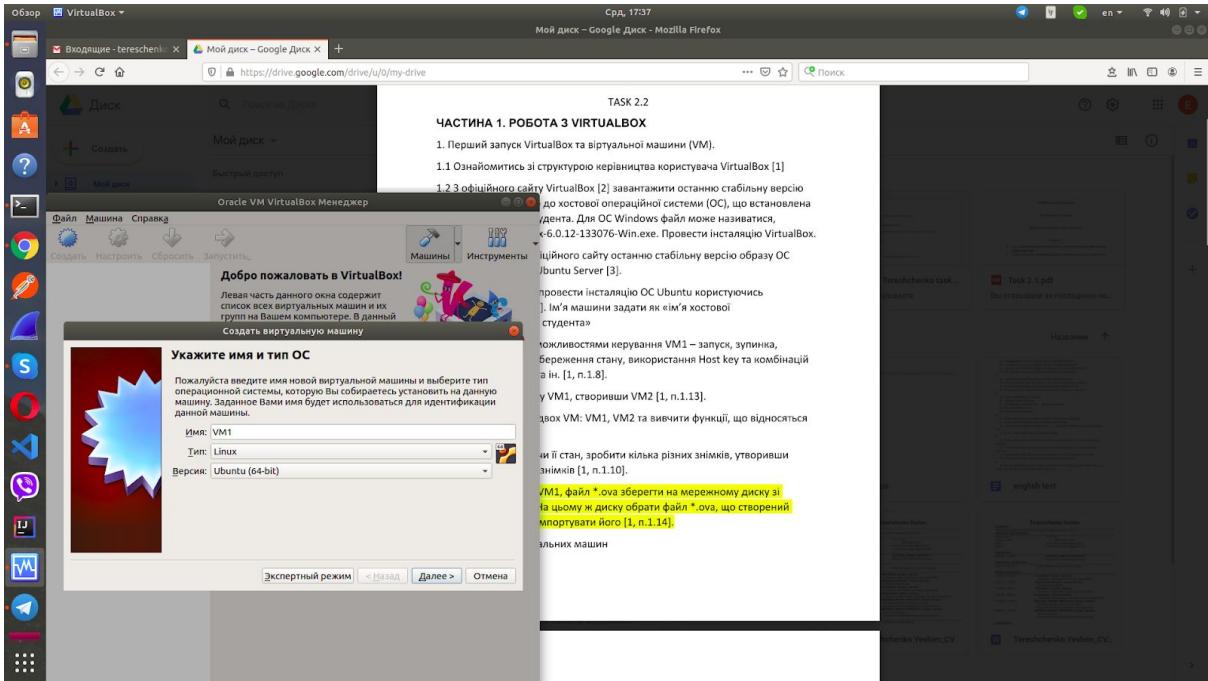
1. virtualbox example



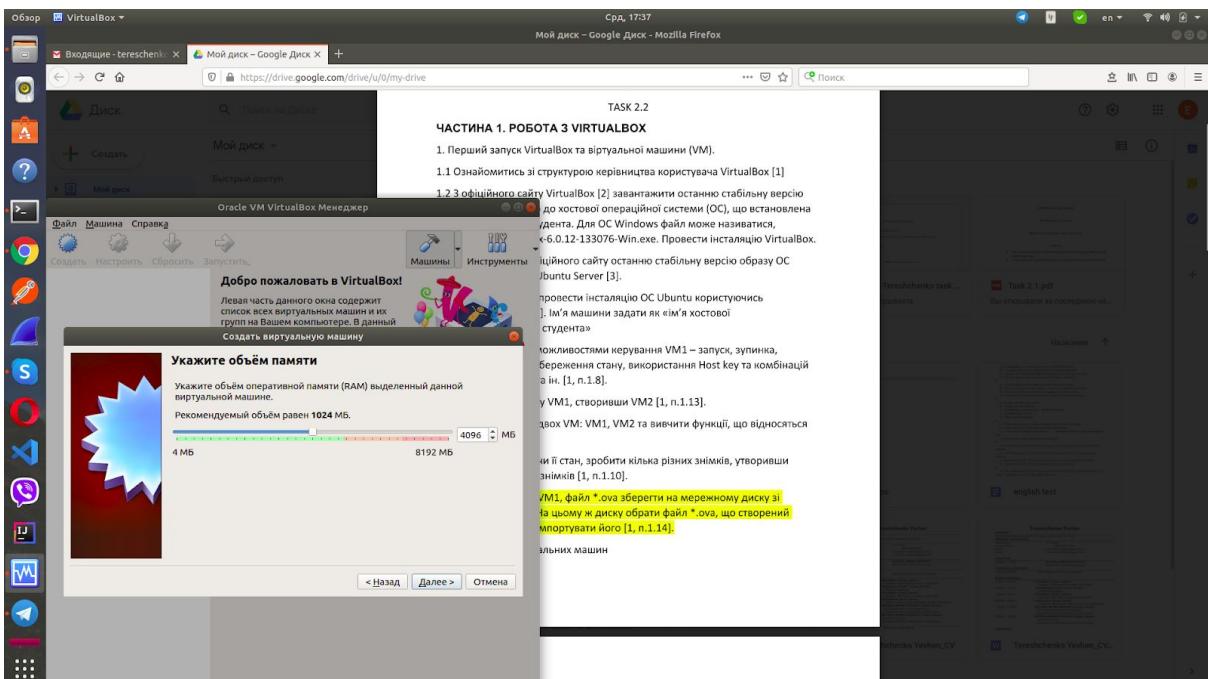
1.2 Create virtual box type ubuntu



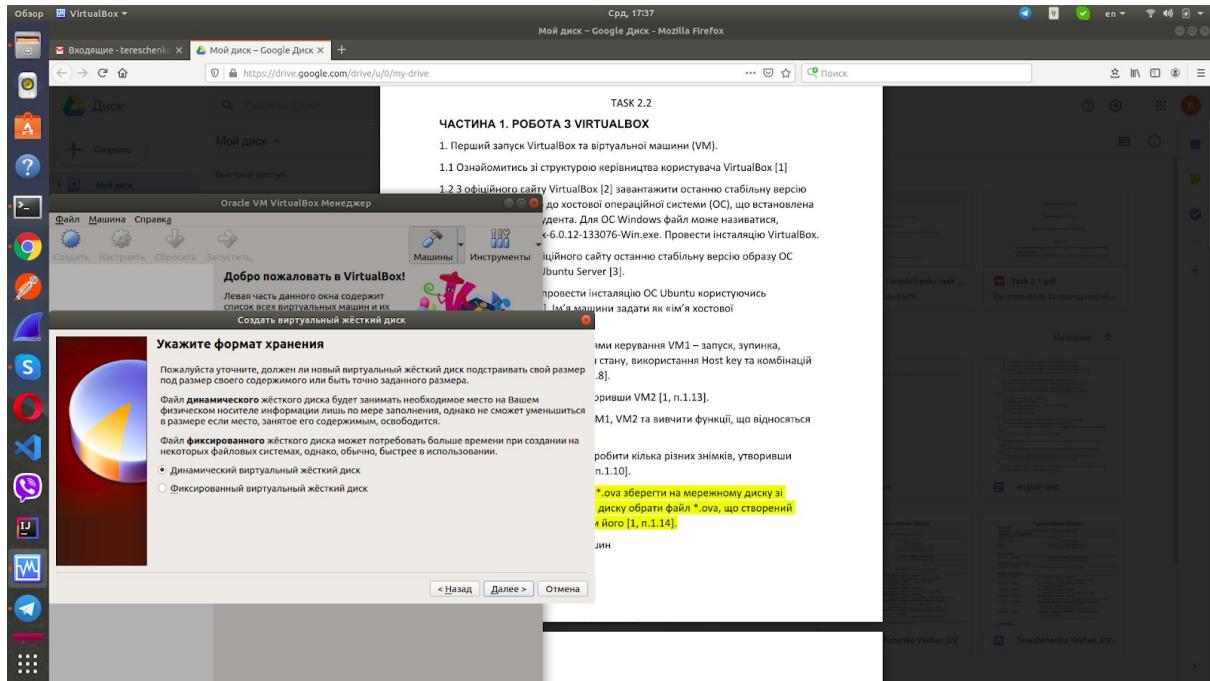
1. 3 Choose it type



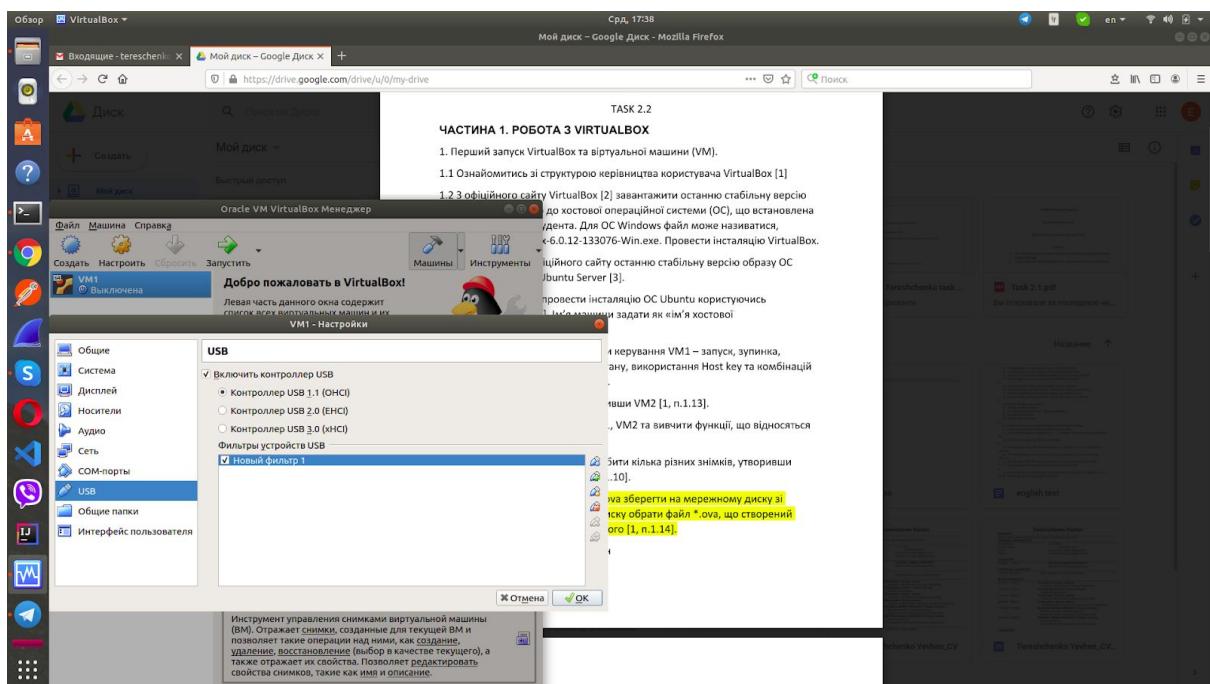
Choose type and how much RAM we use



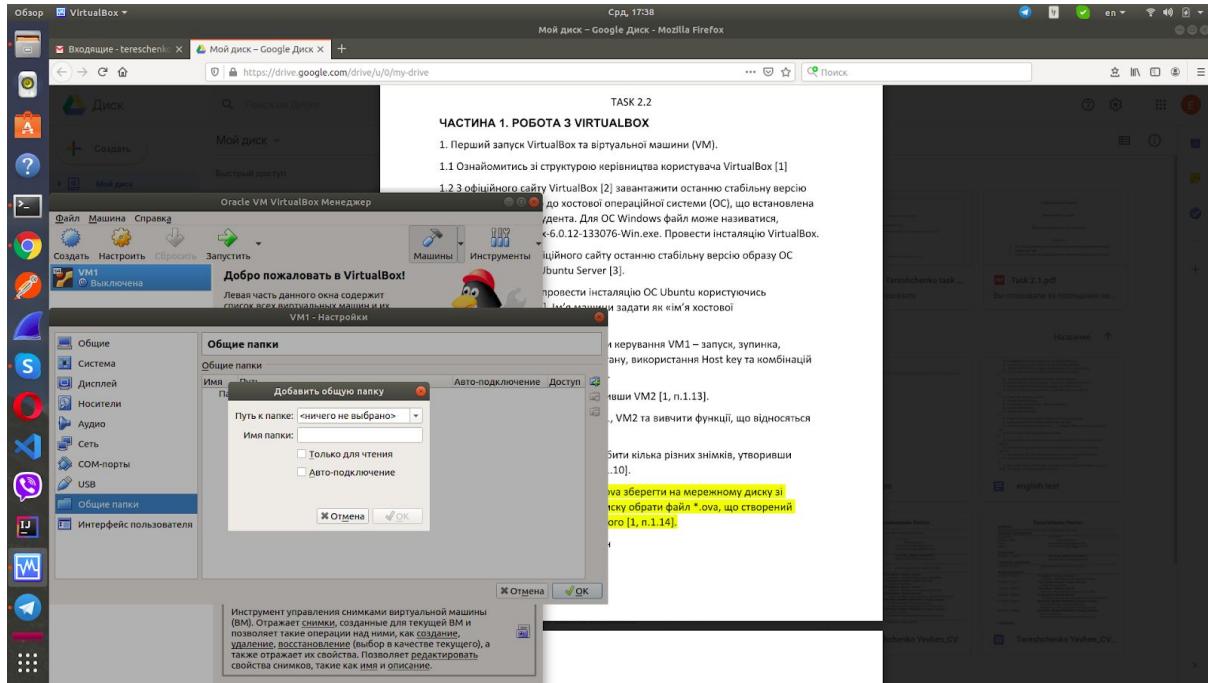
Choose type of HDD what we use



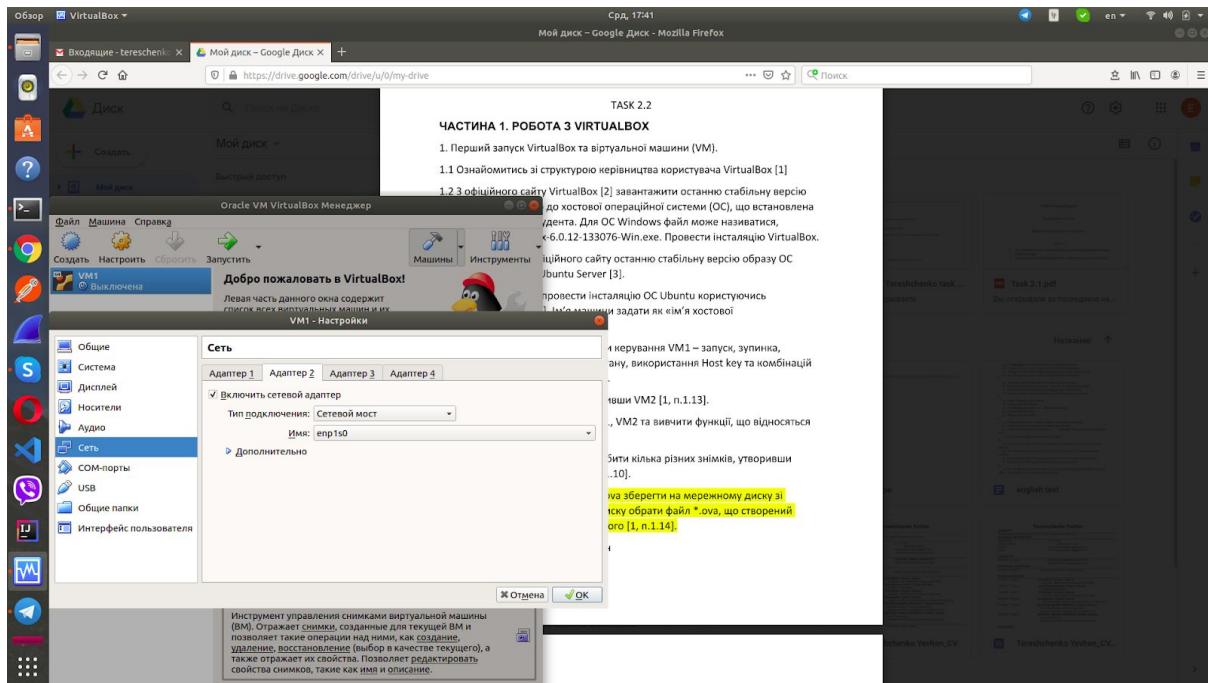
switch on usb controller



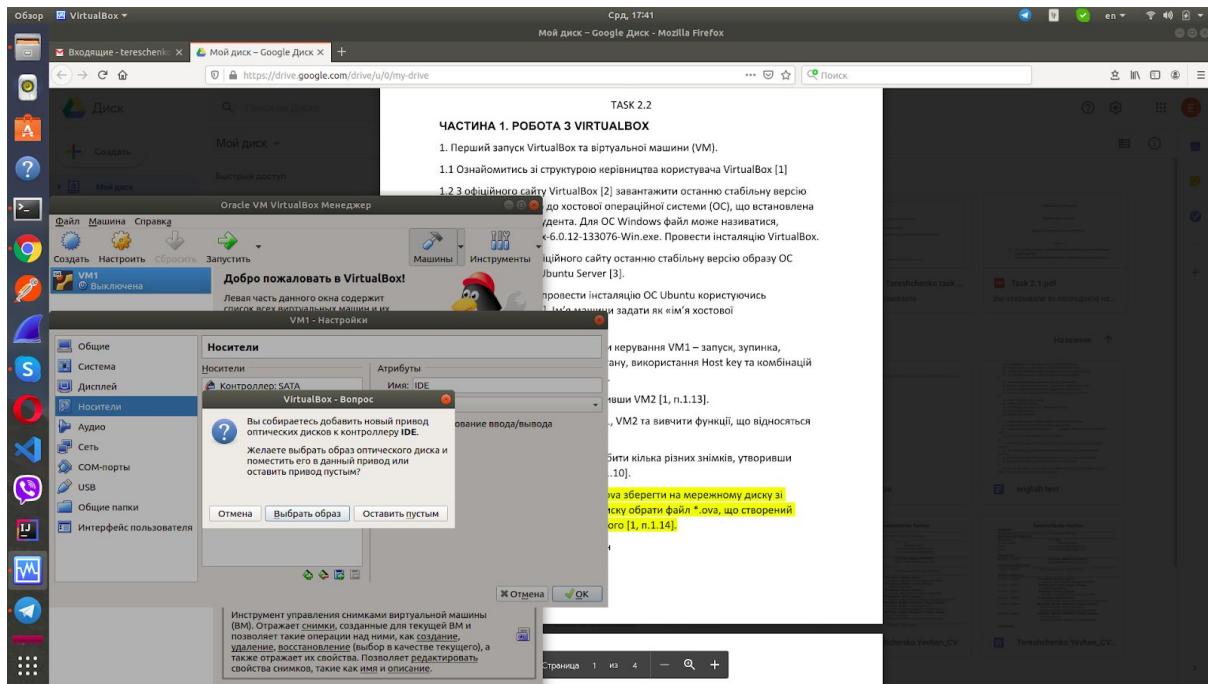
Choose share directory what we use on



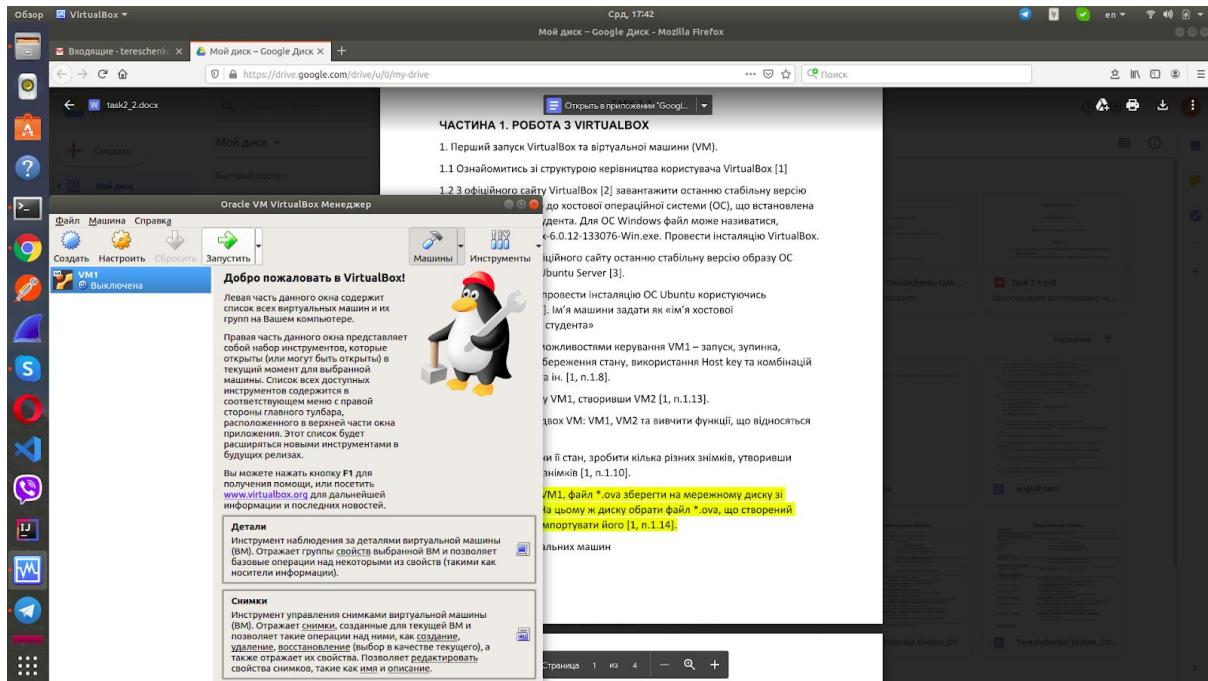
Choose the network i choose network bridge



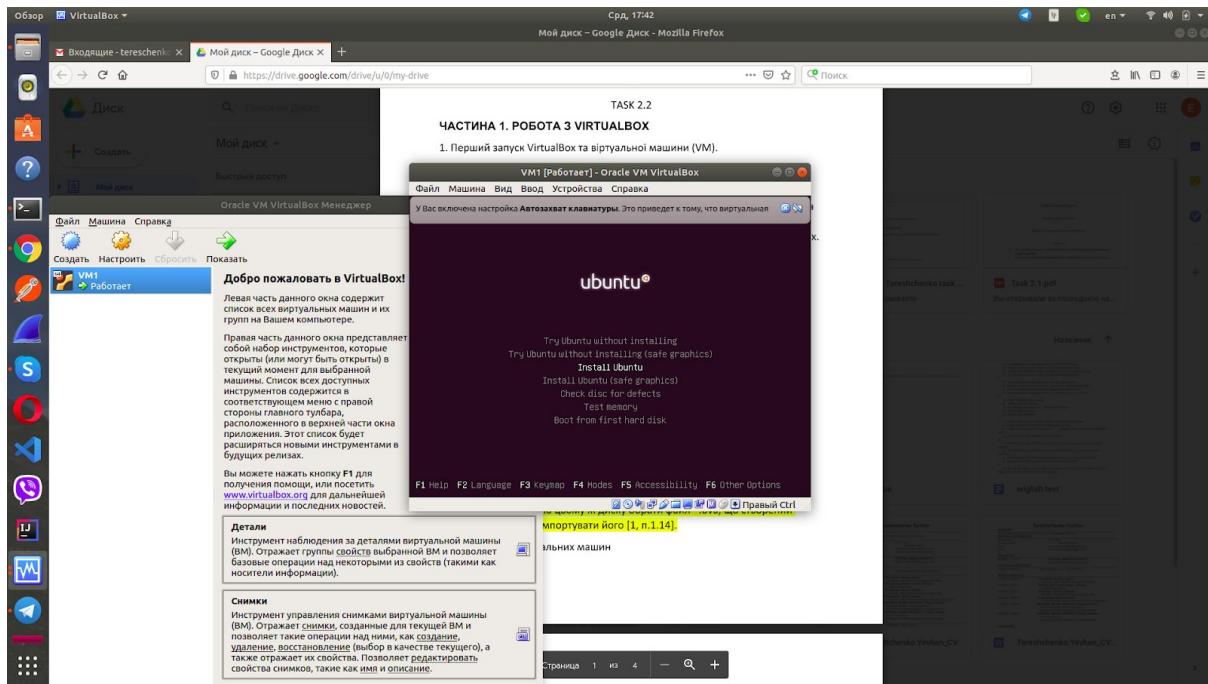
by the way i must to add optical drive



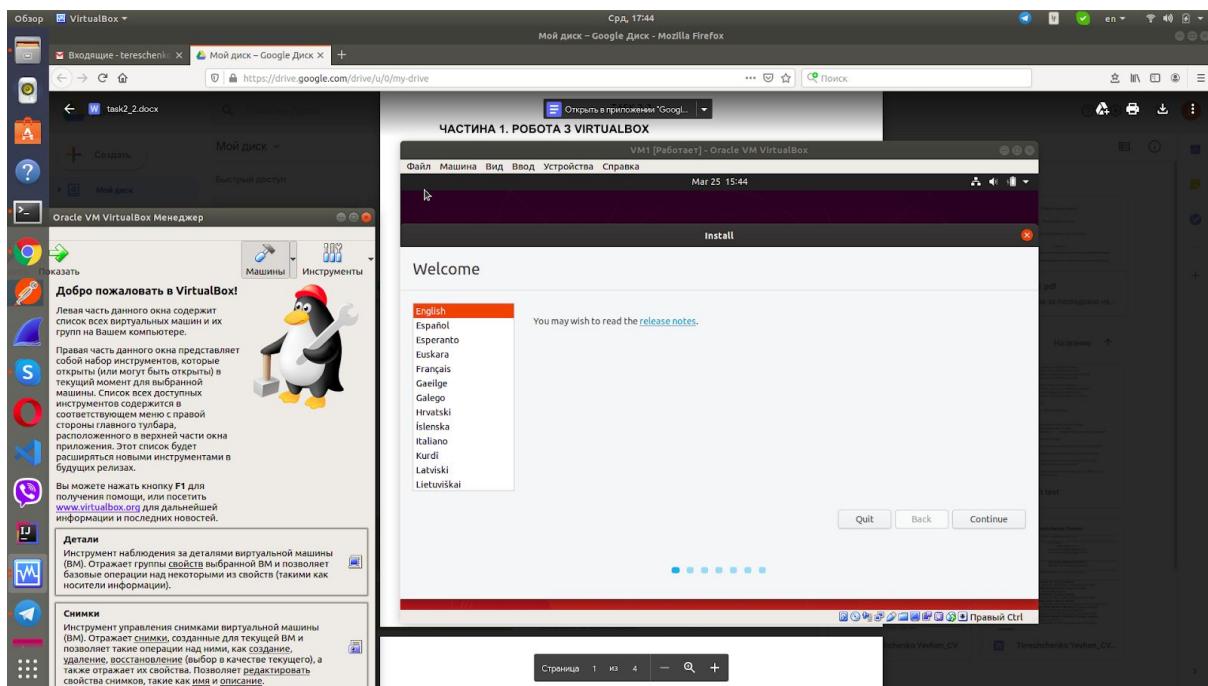
virtual machine is ready

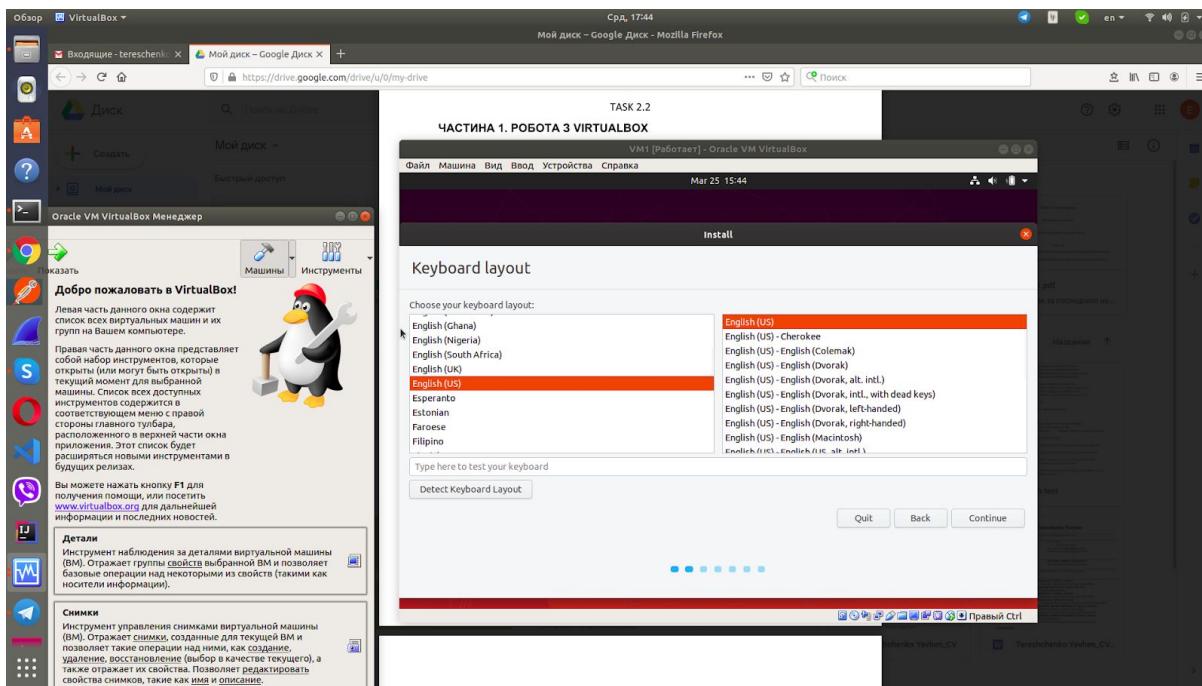


start installation

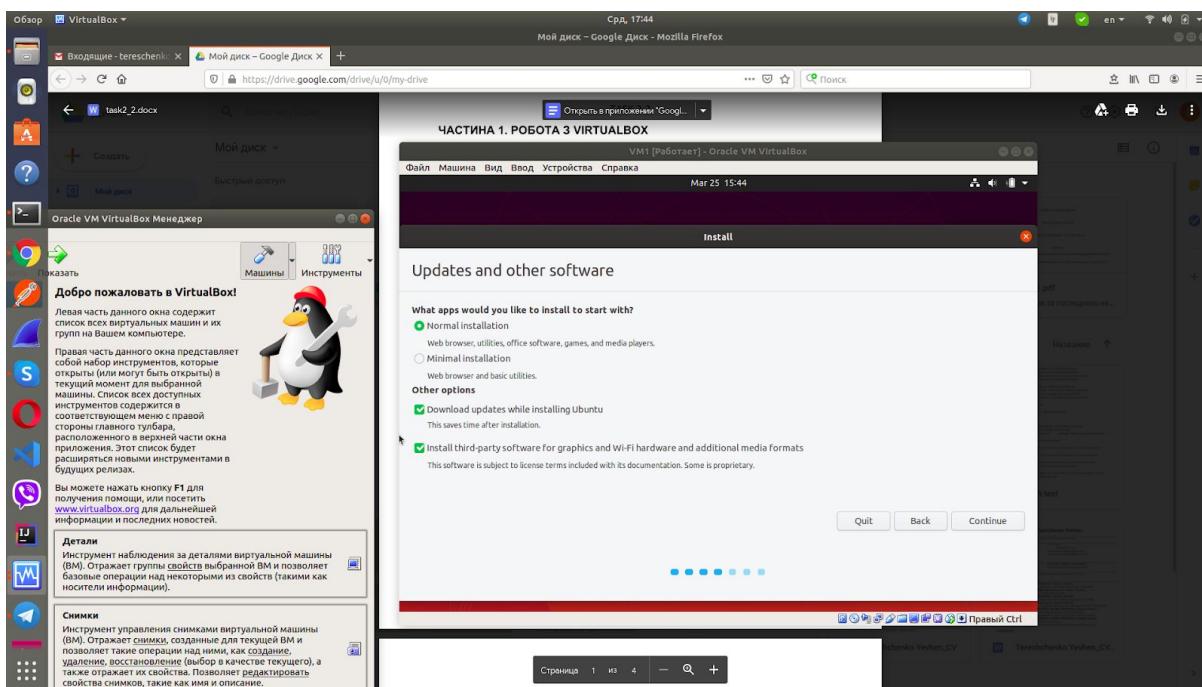


1.4 choose language

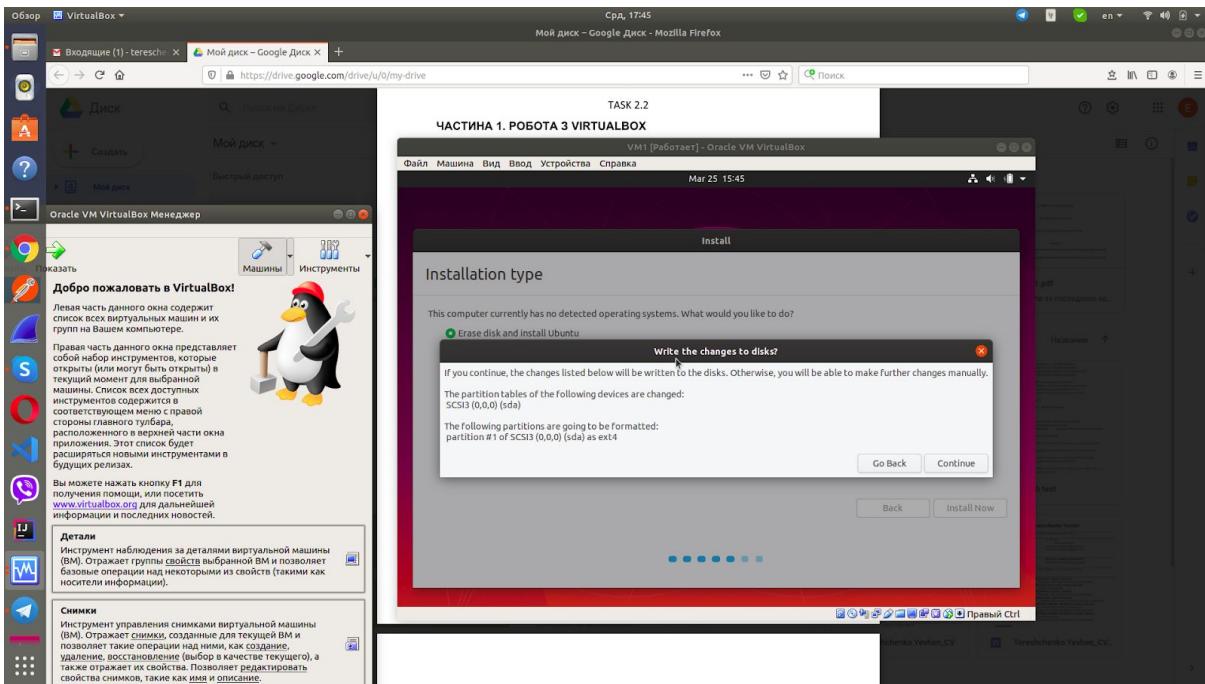




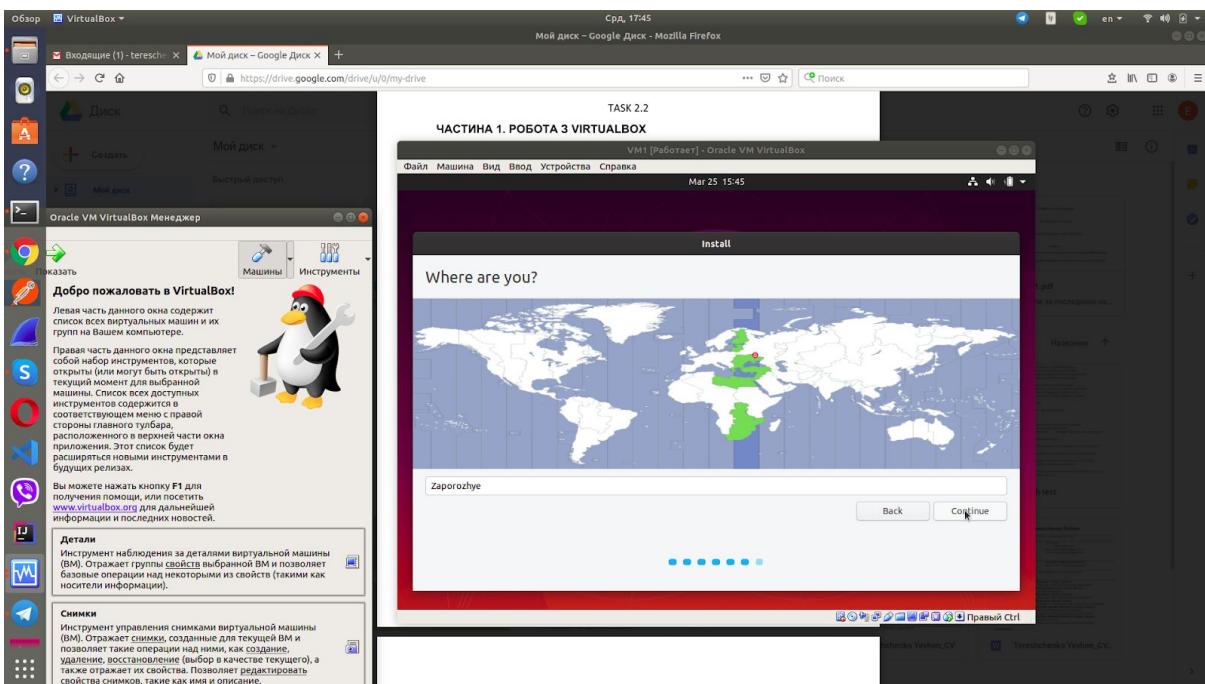
choose maximum installation



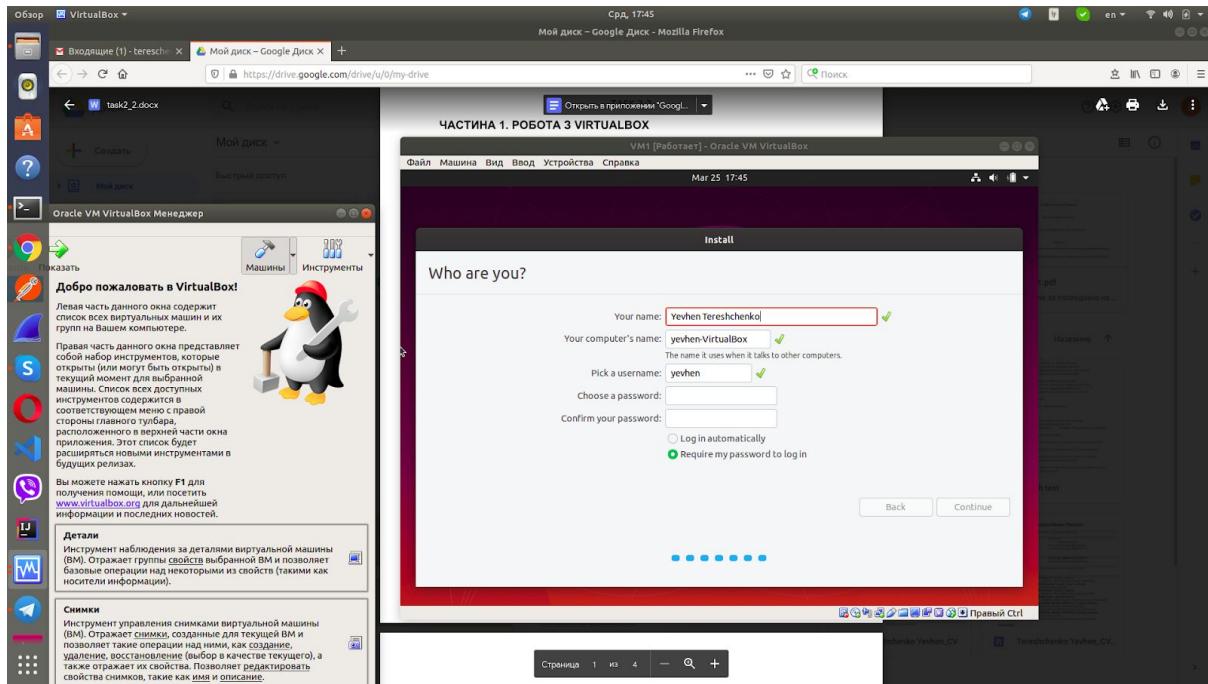
make changes the disks



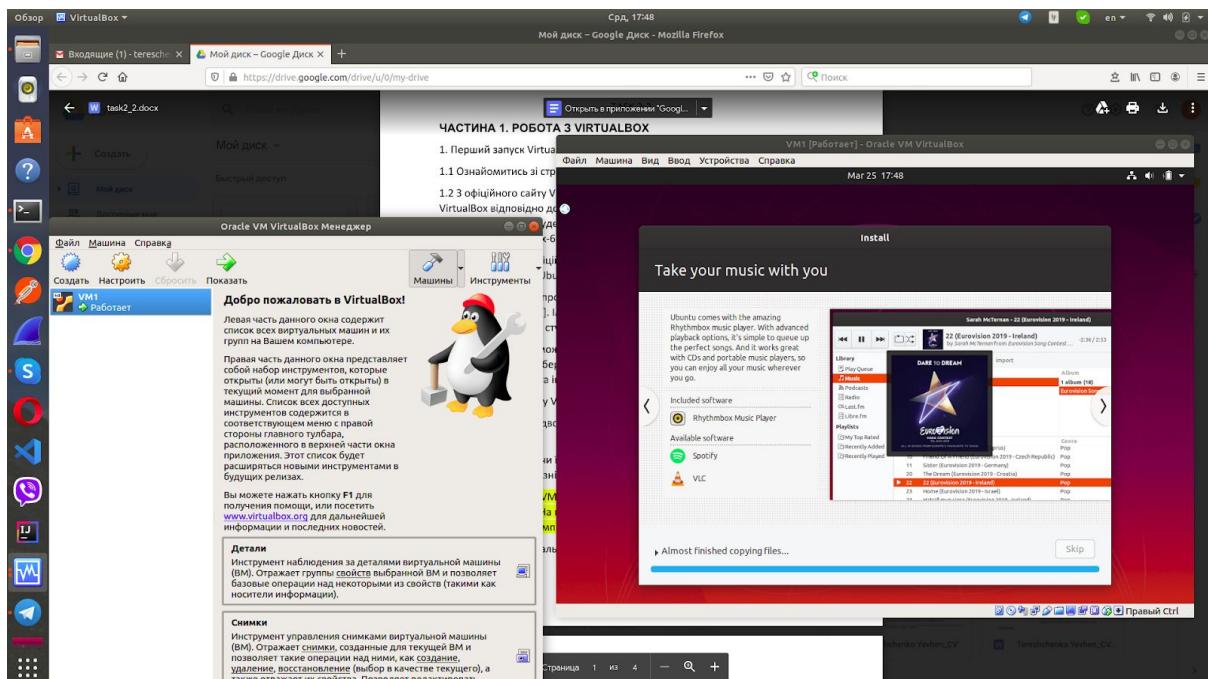
choose time



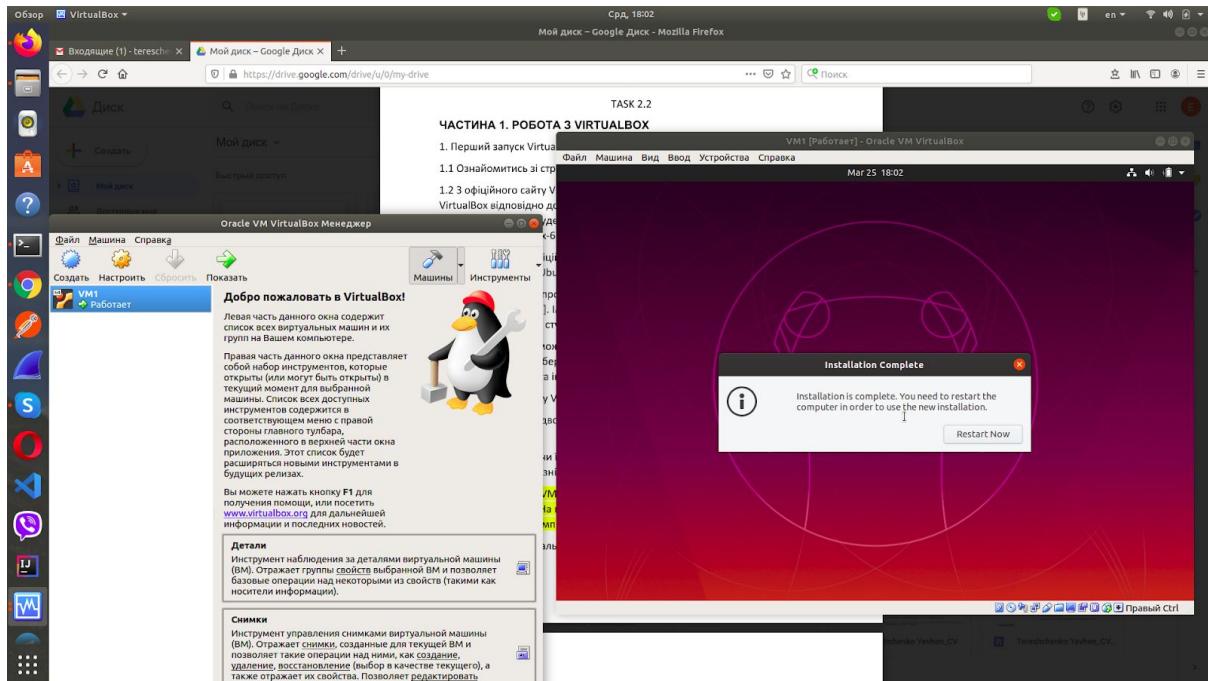
choose name of user and computer



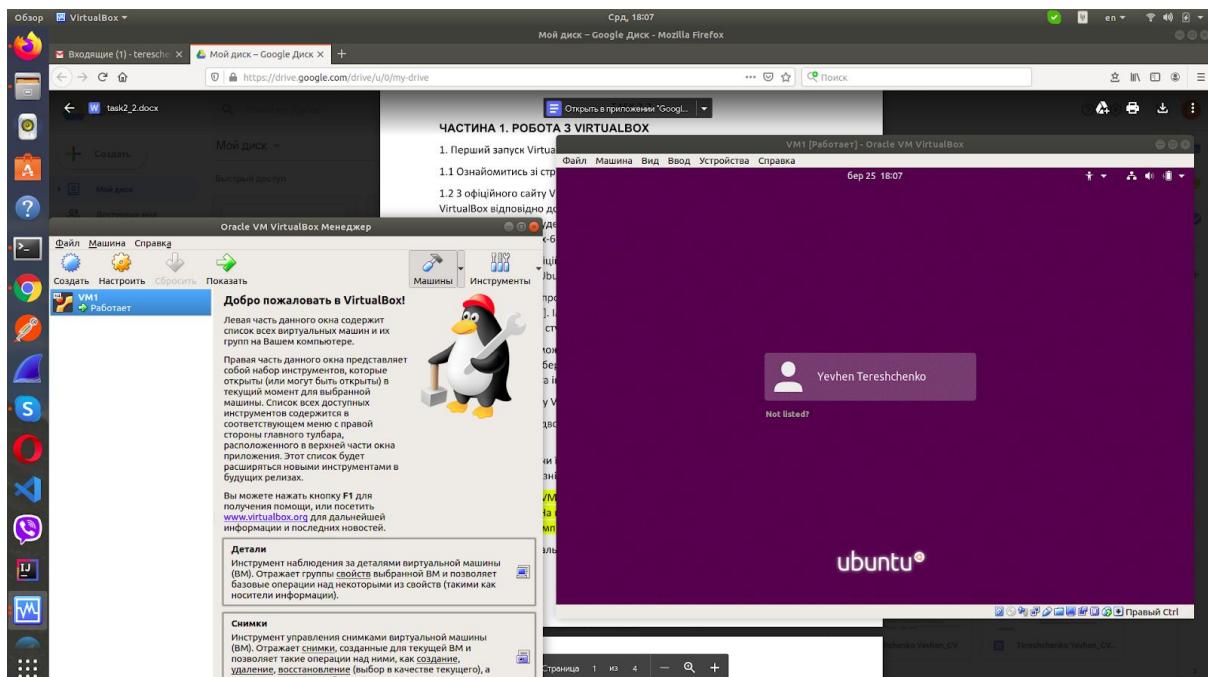
installation



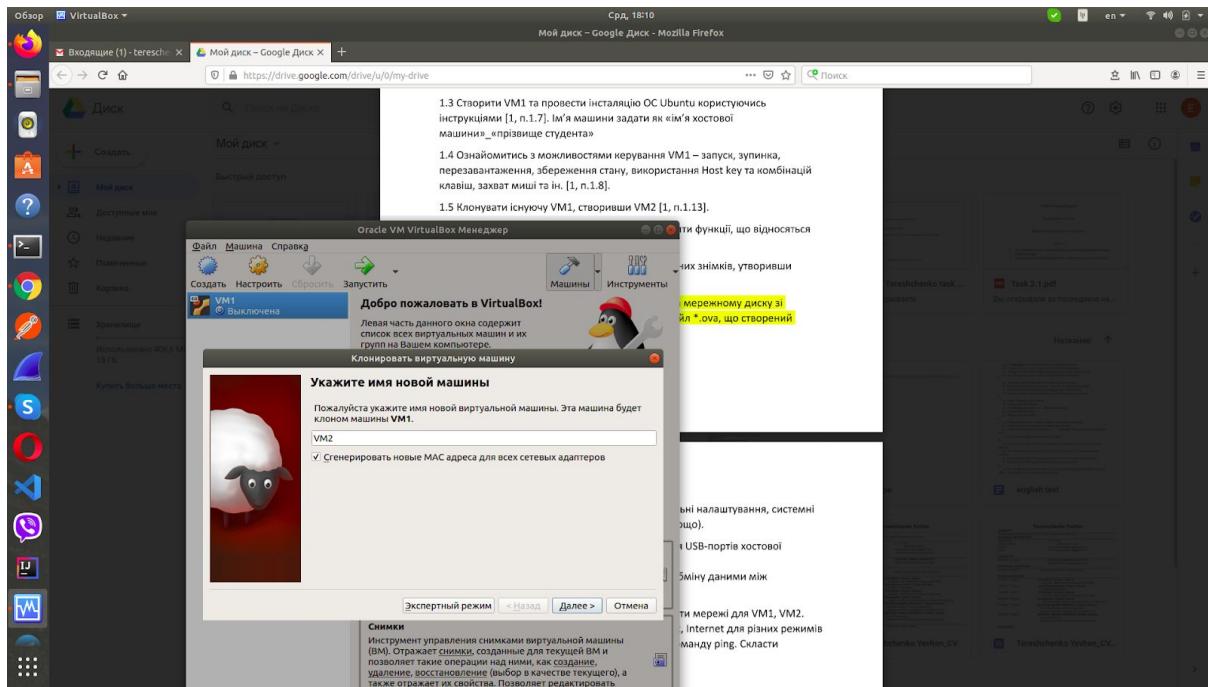
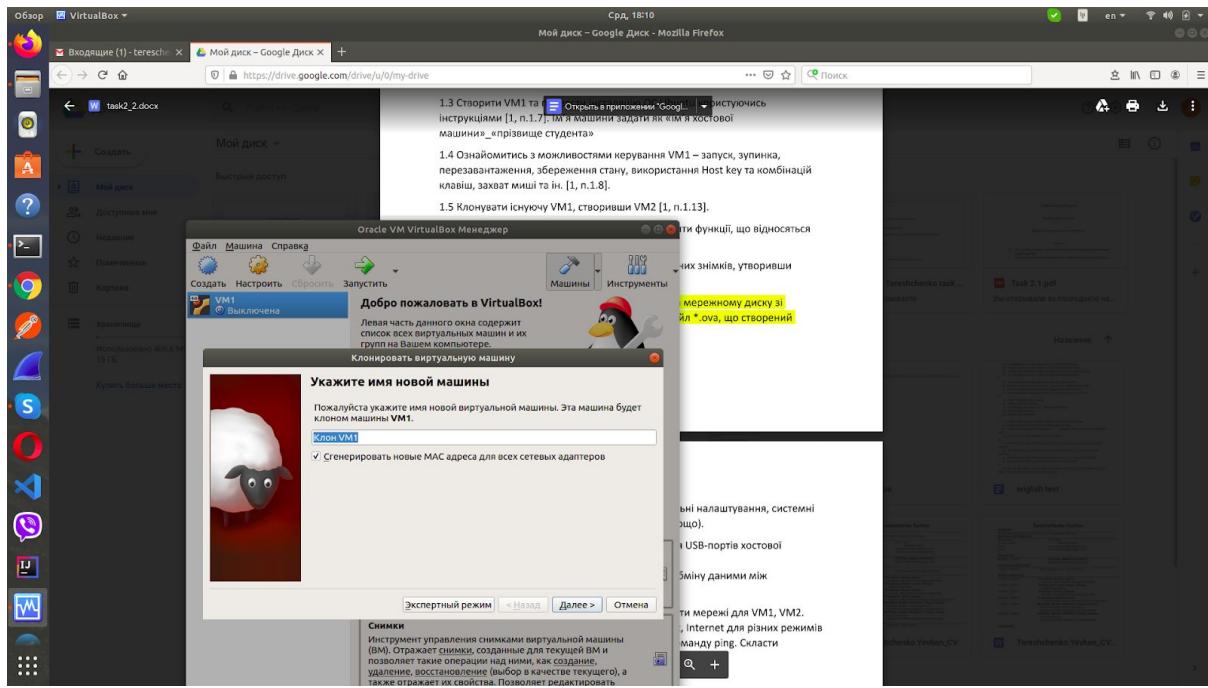
finish installation

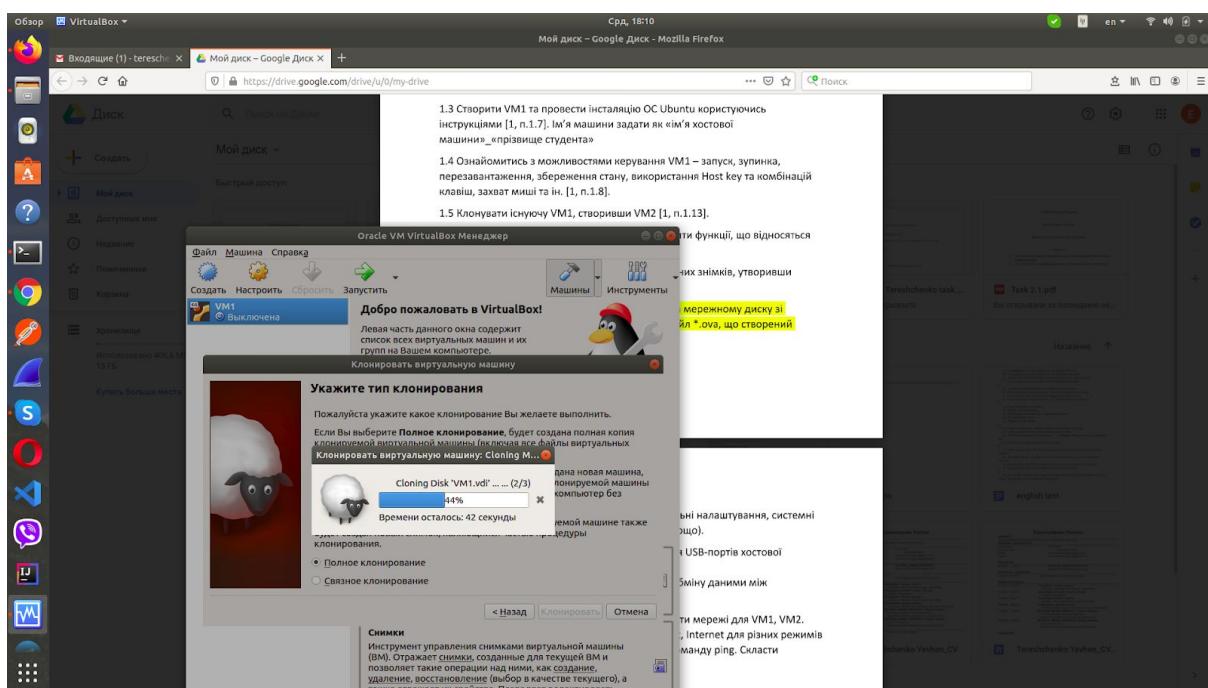
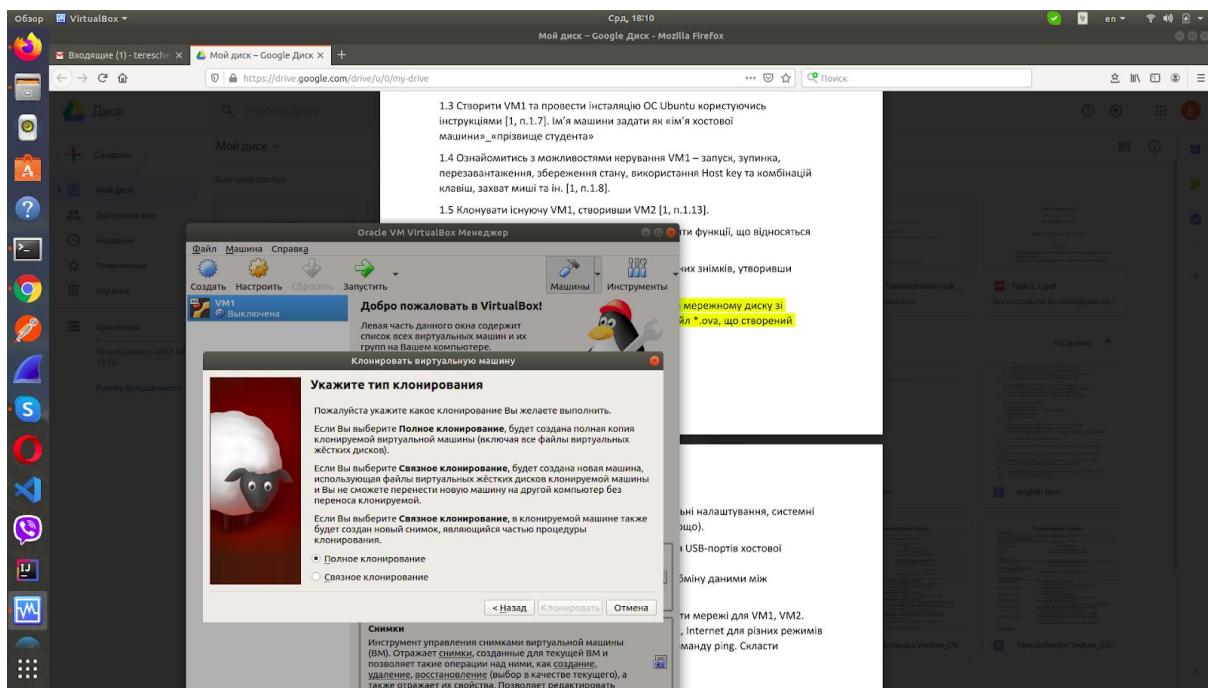


and start the operating system

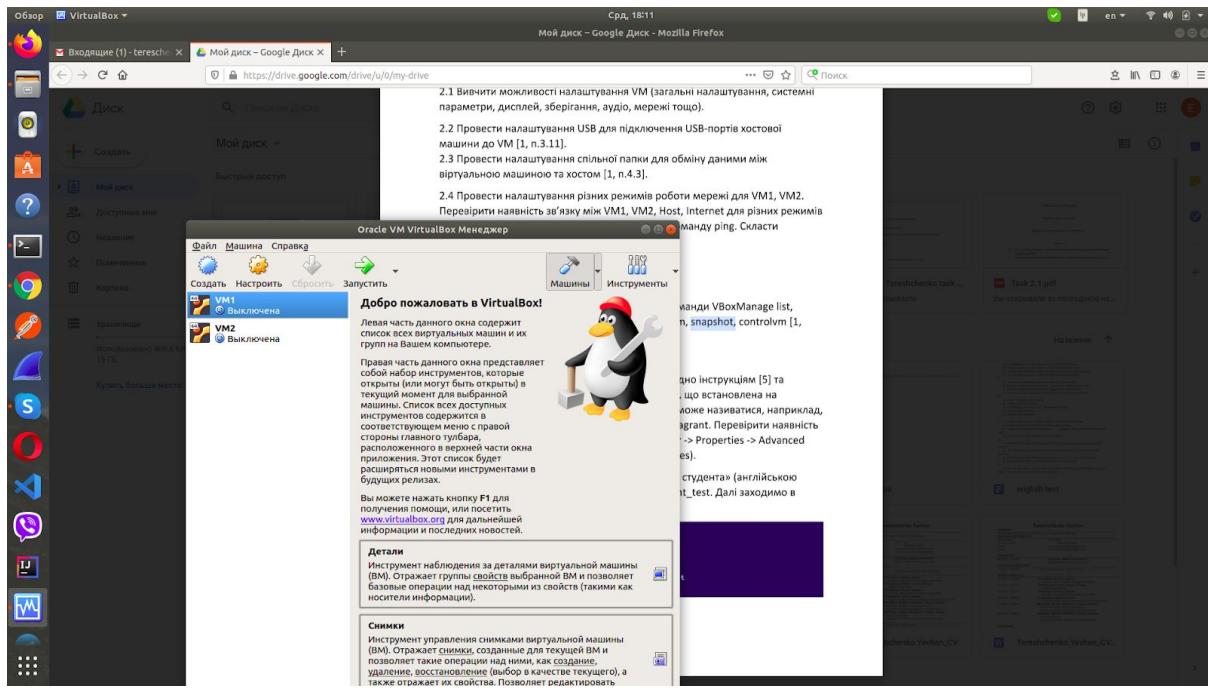


1.5 clone one virtual machine to another

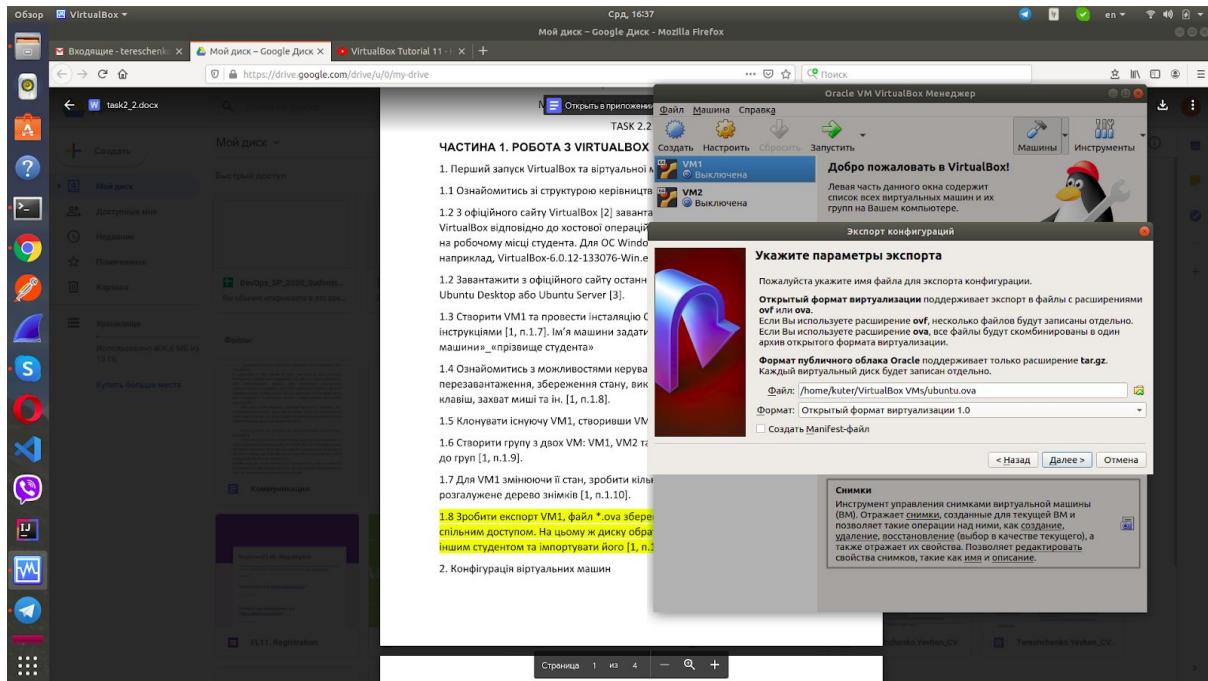


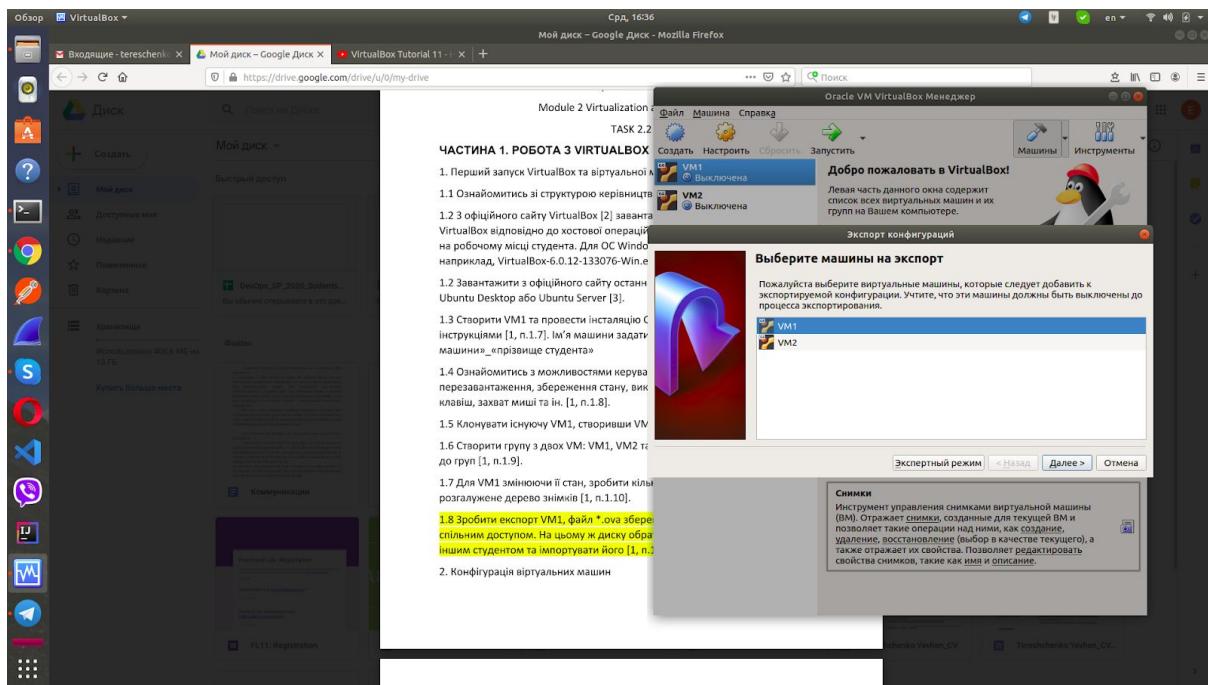
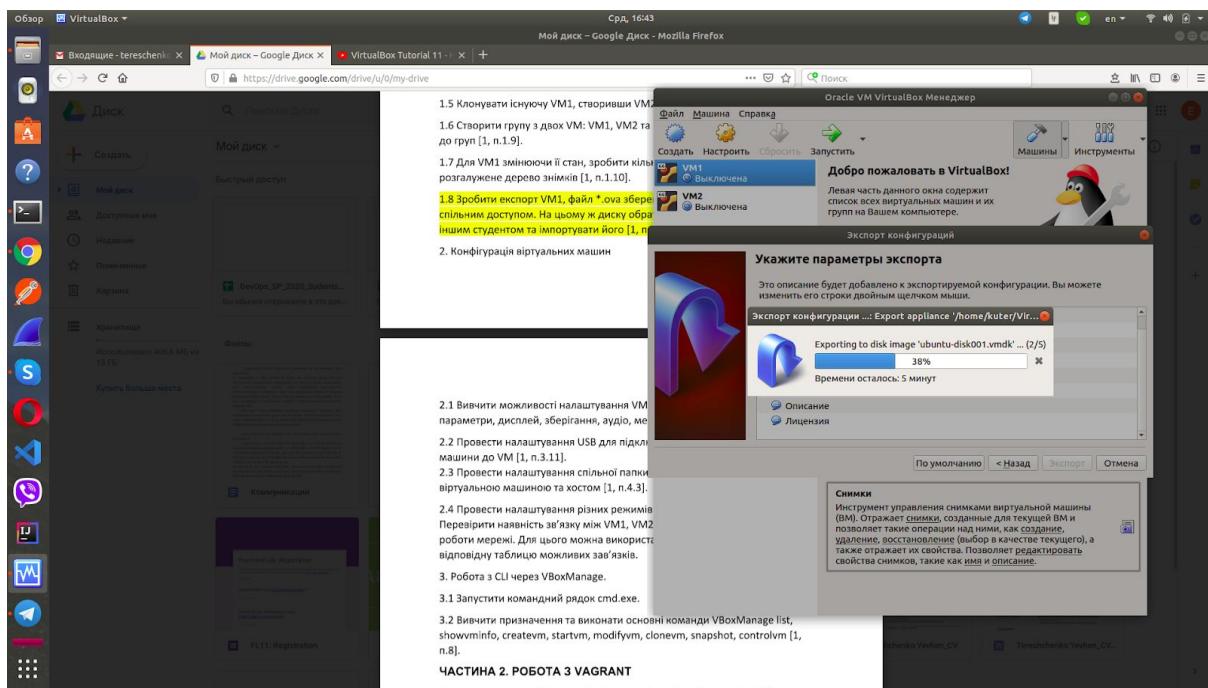


and now we have two virtual machine

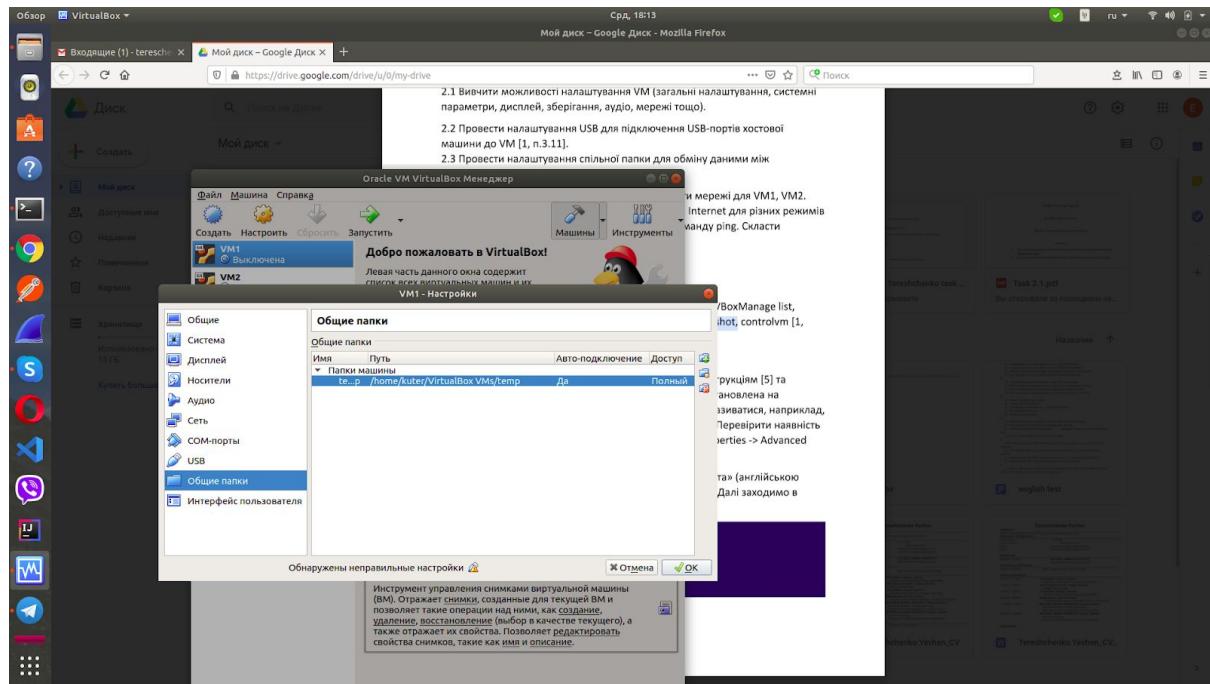


1.7 export virtual machine

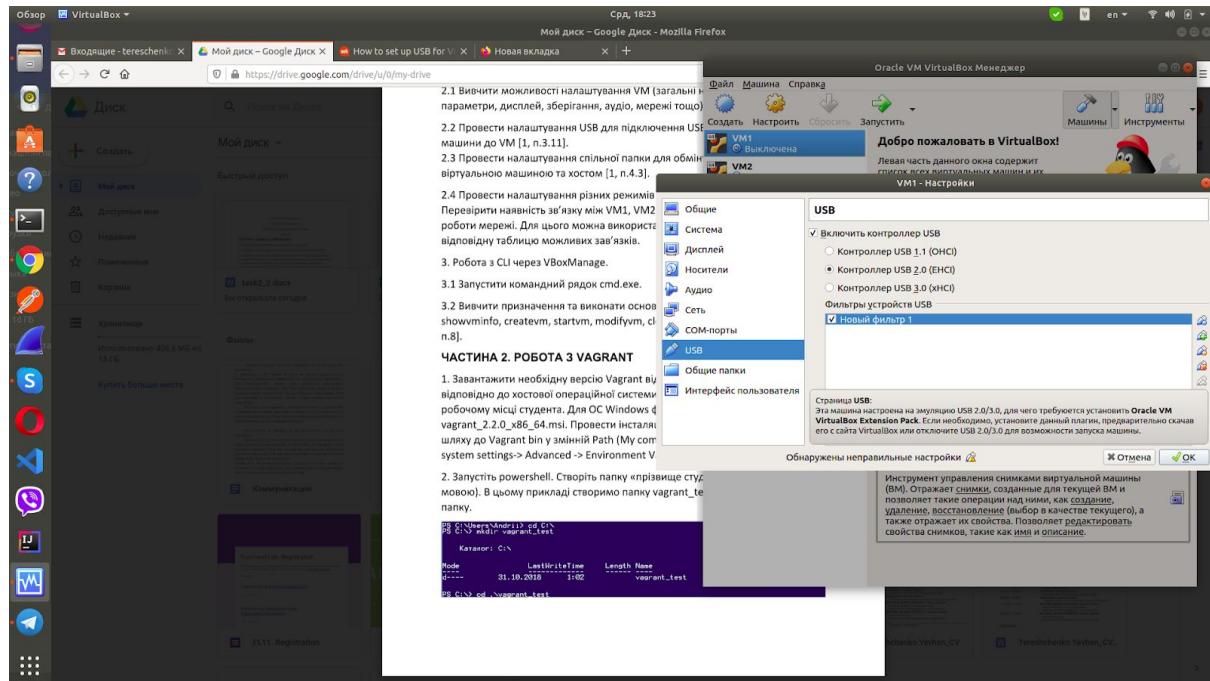




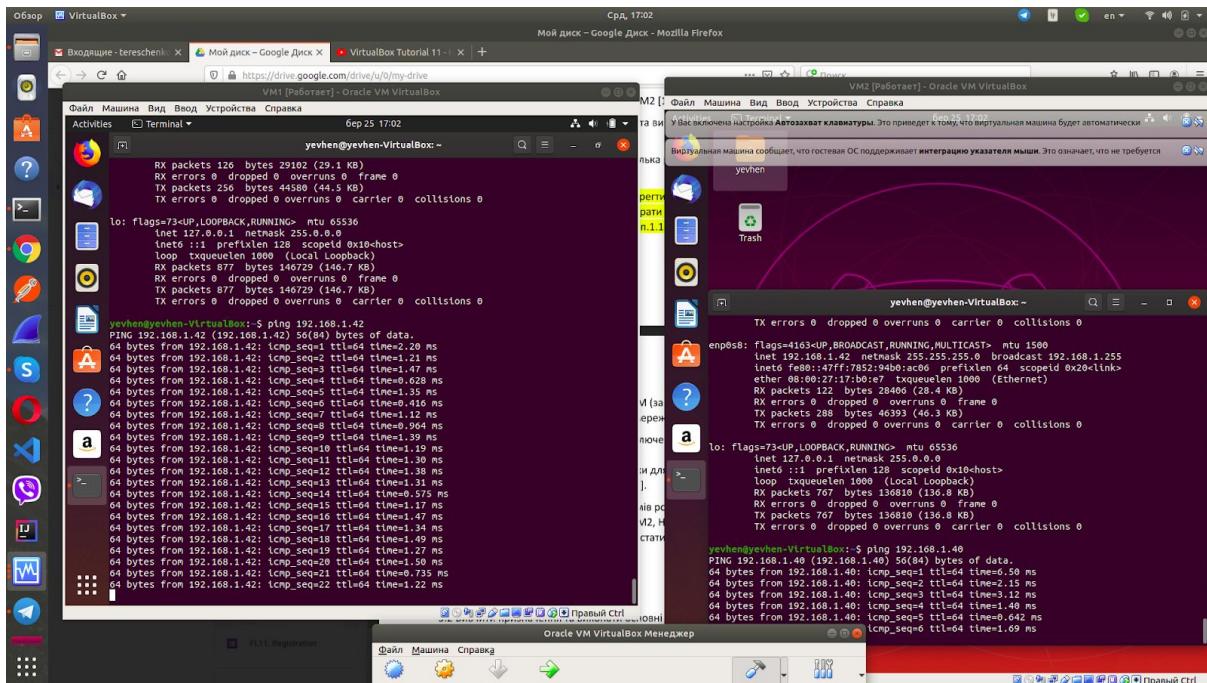
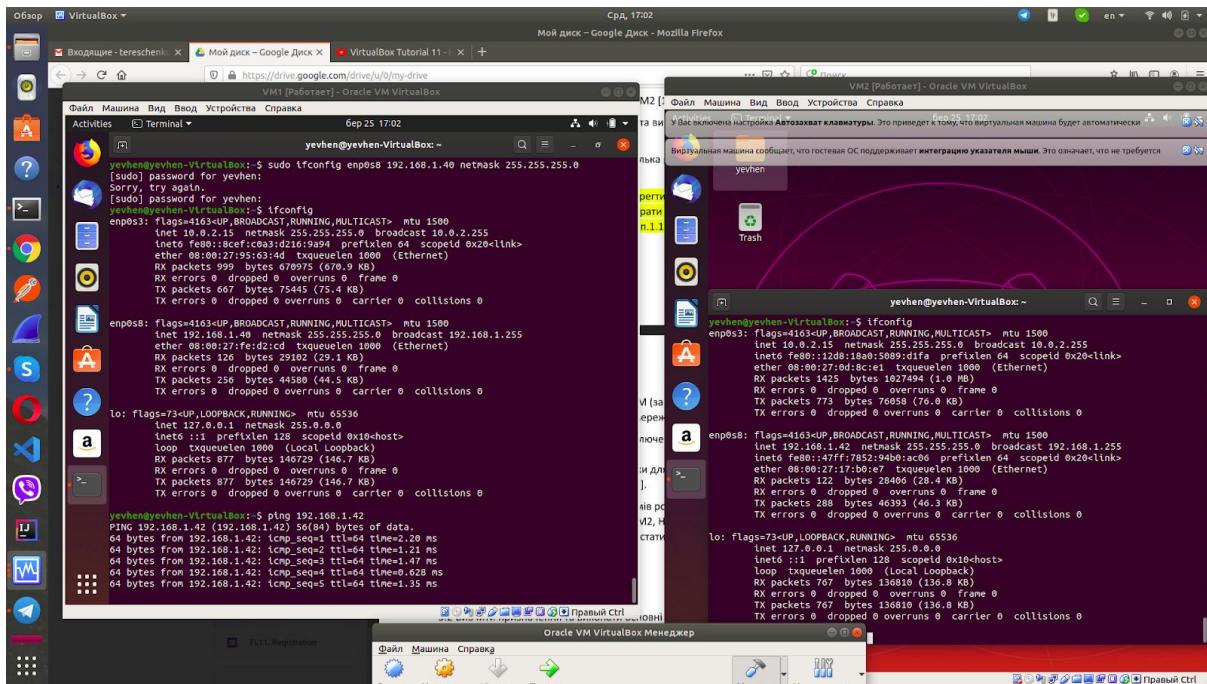
2. configuration of virtual box shared directories



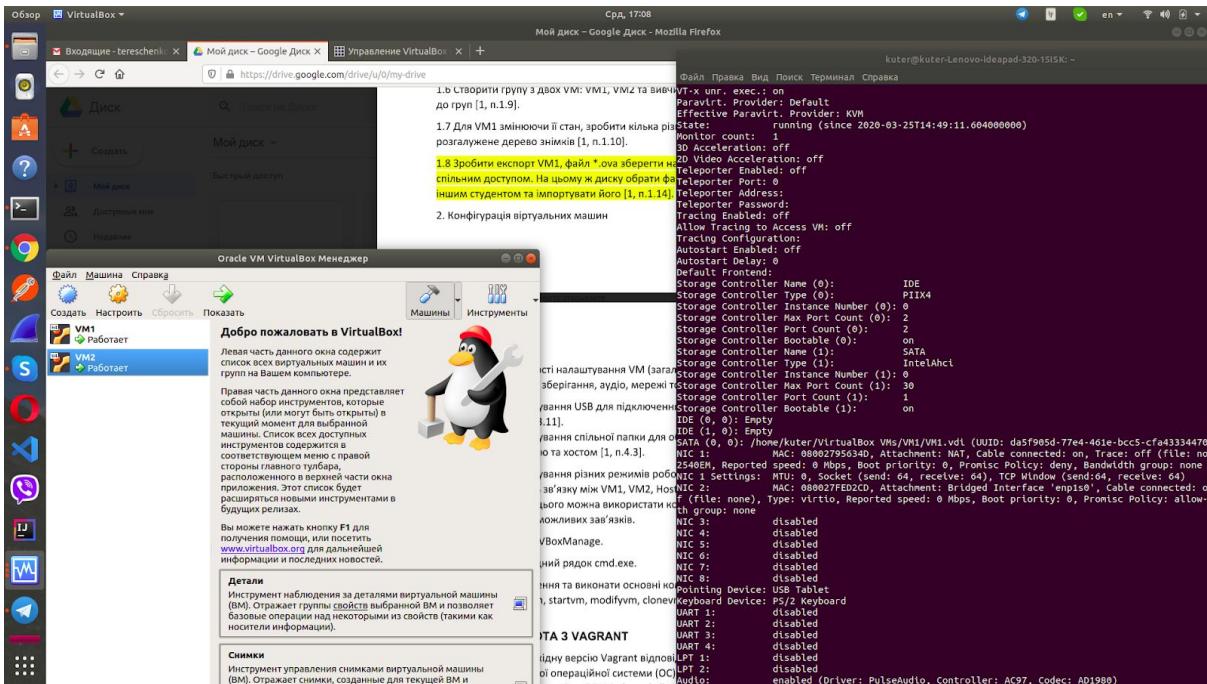
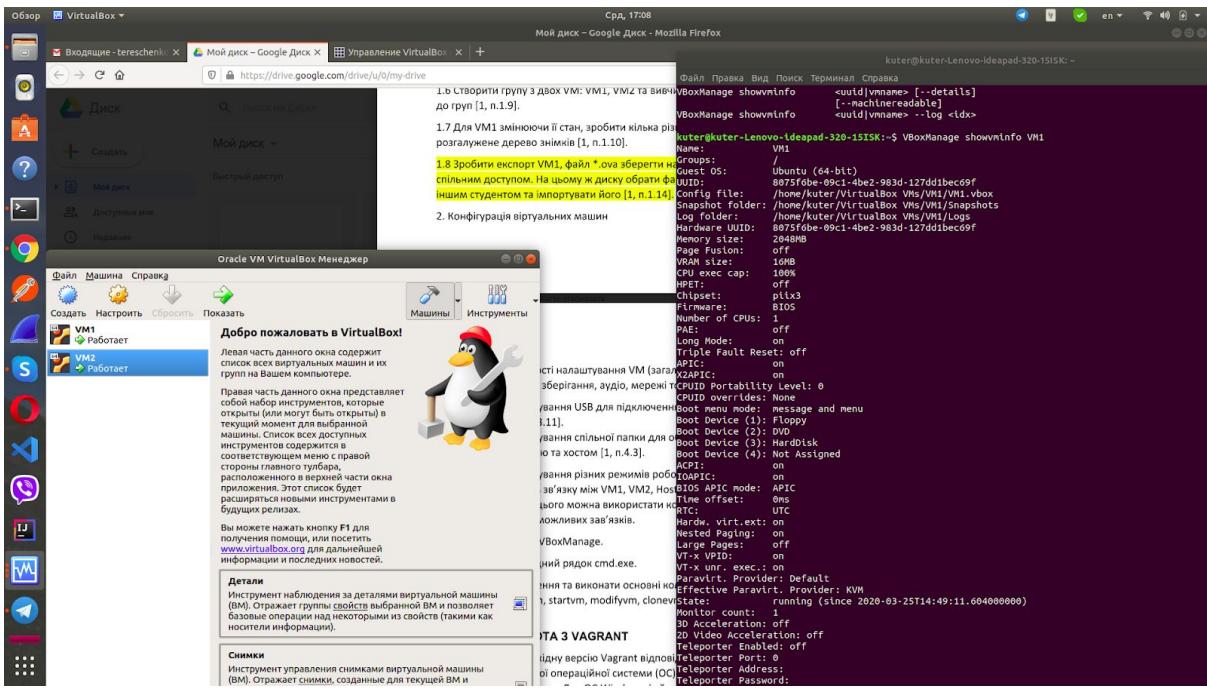
2.2 shared usb

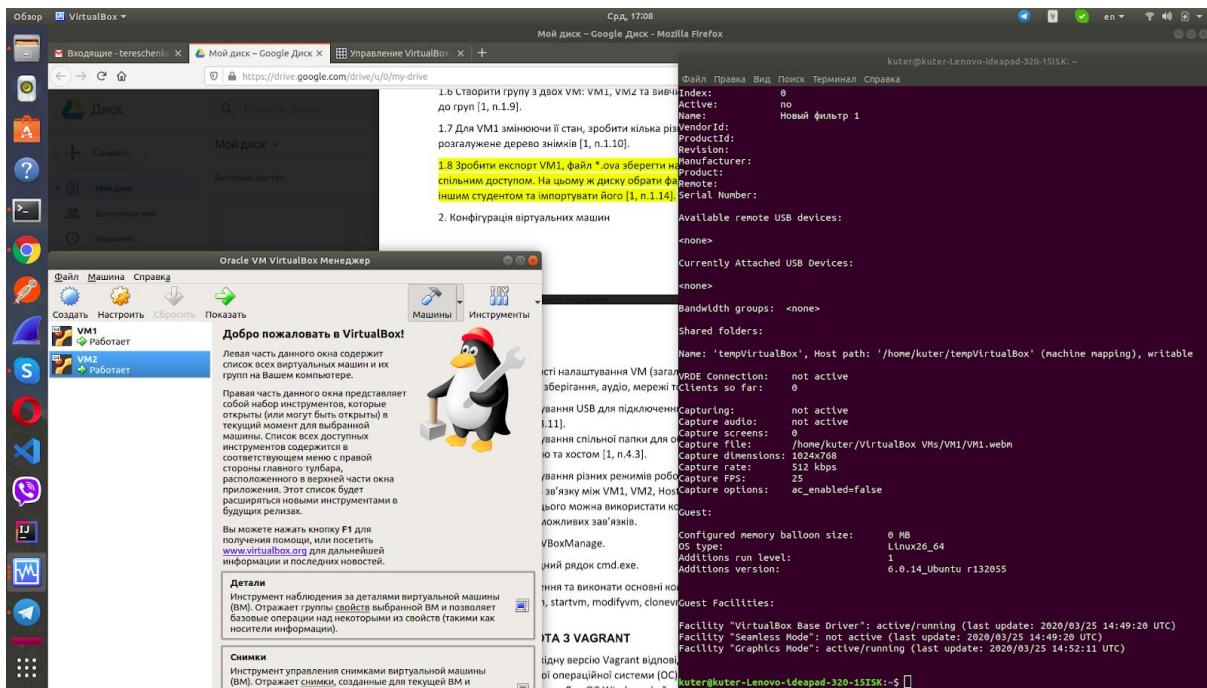
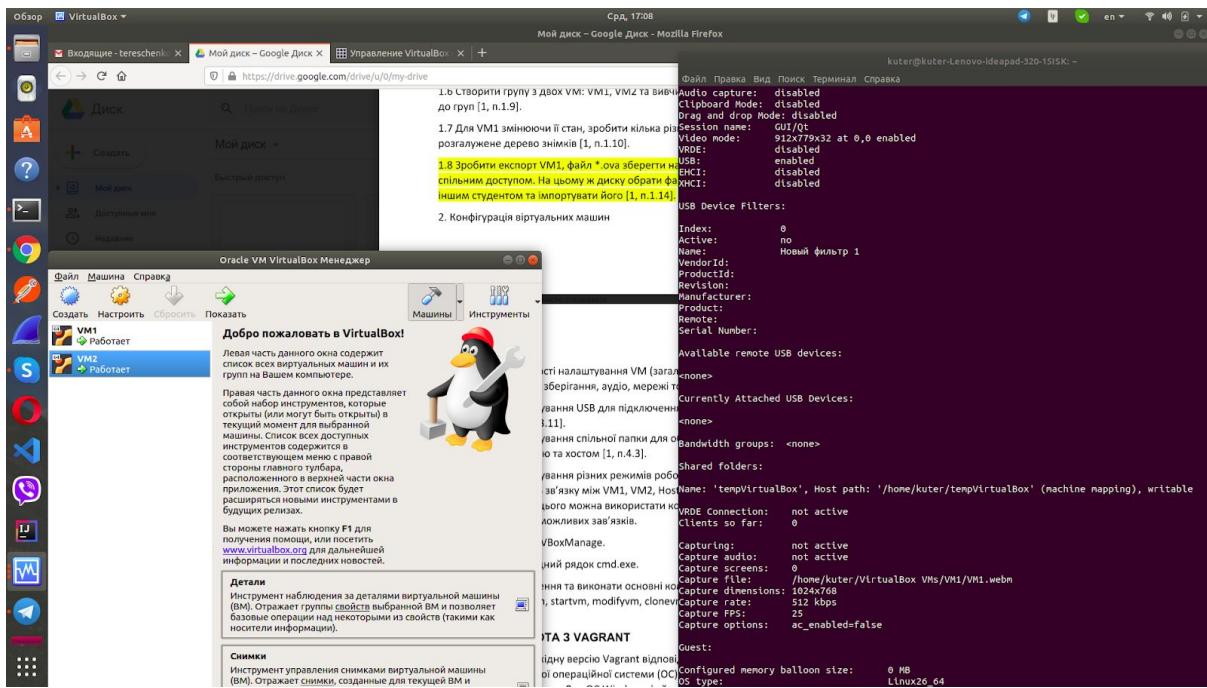


2.4 networking ping

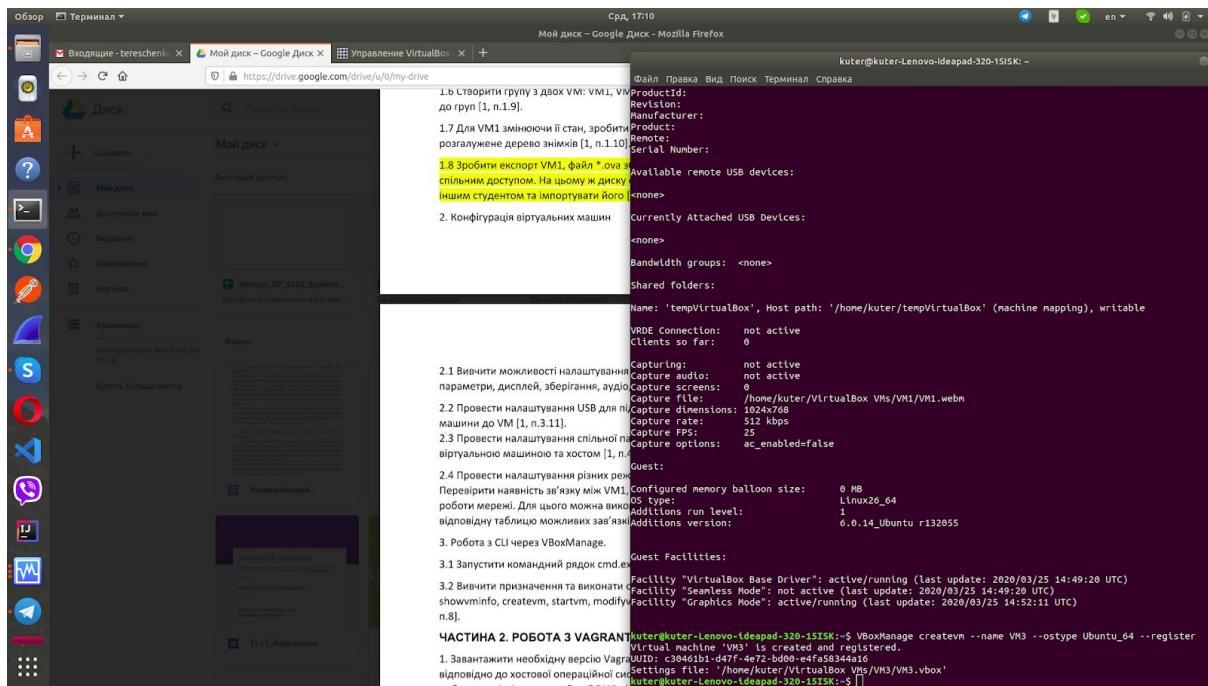


3.1 Work with CLI VBoxManage showvminfo VM1

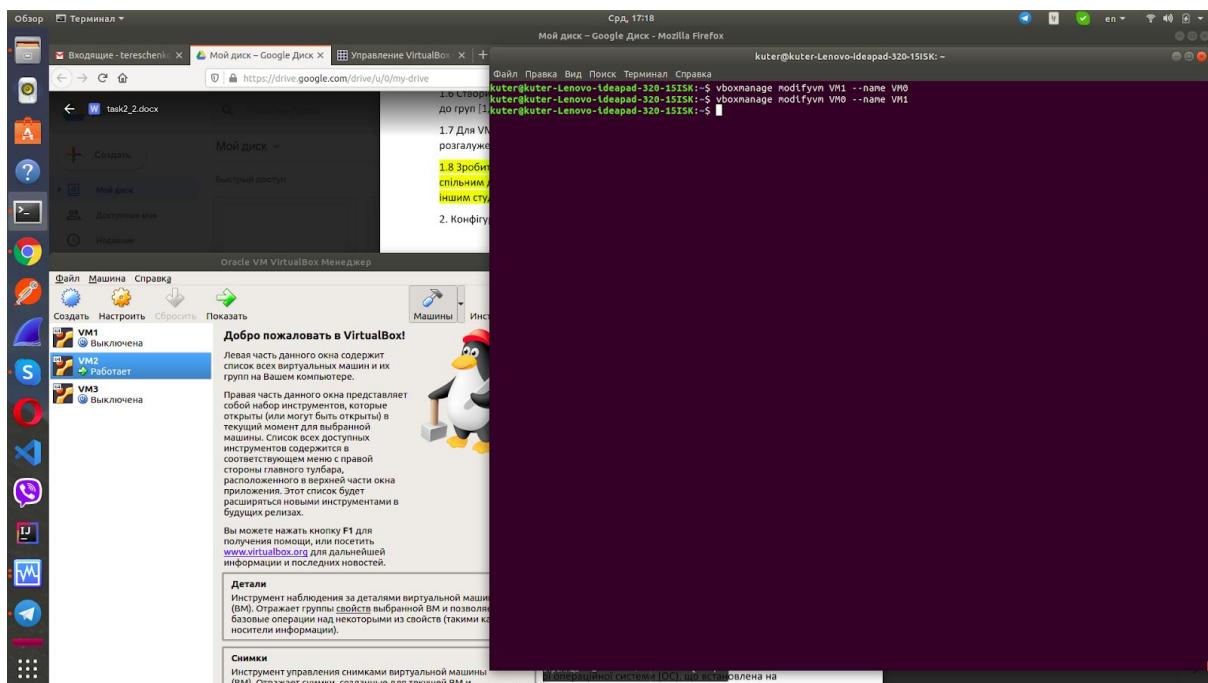




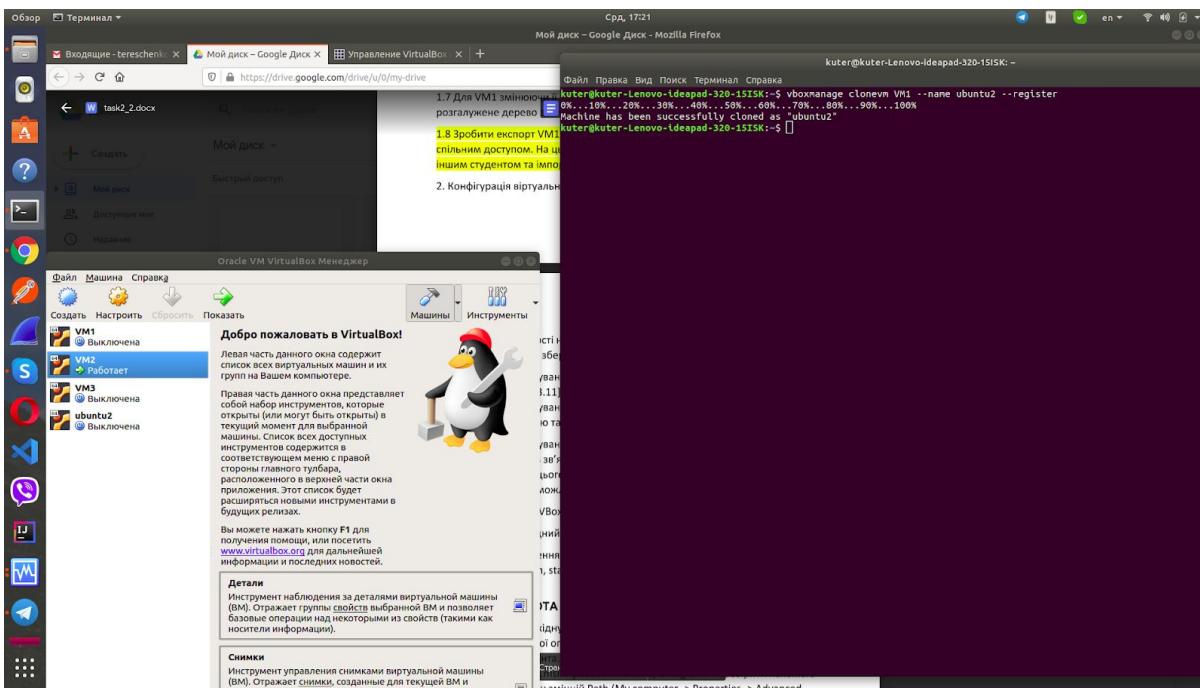
3.2 VBoxManage createvm



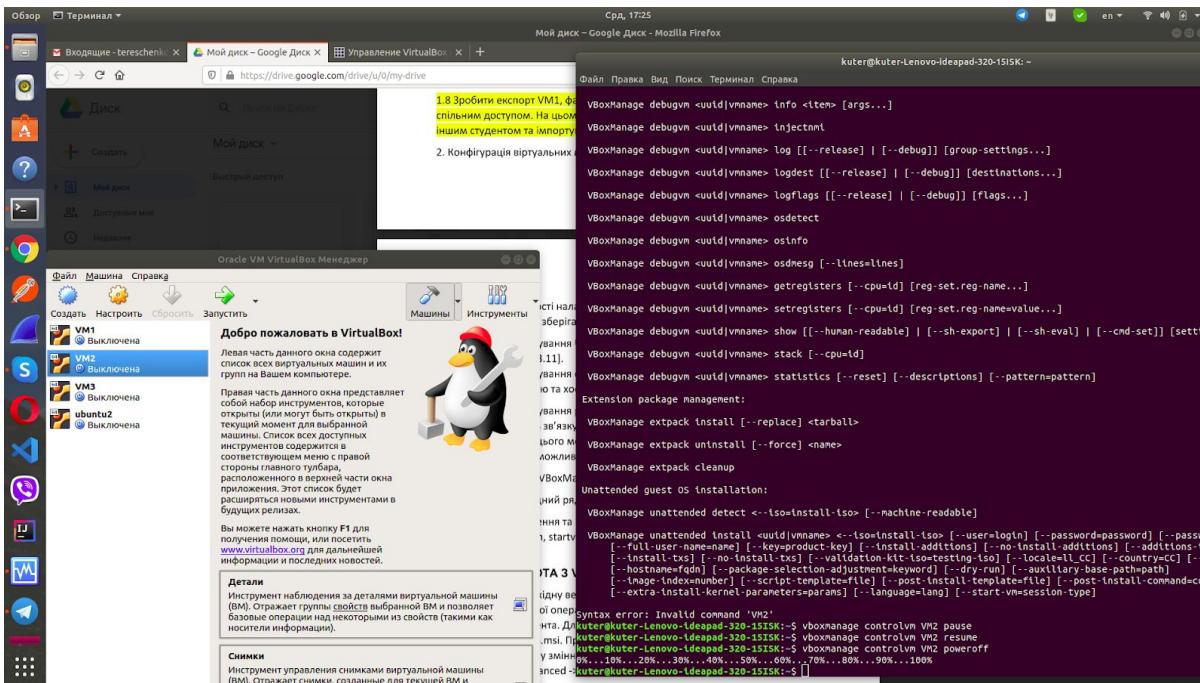
vboxmanage modifyvm



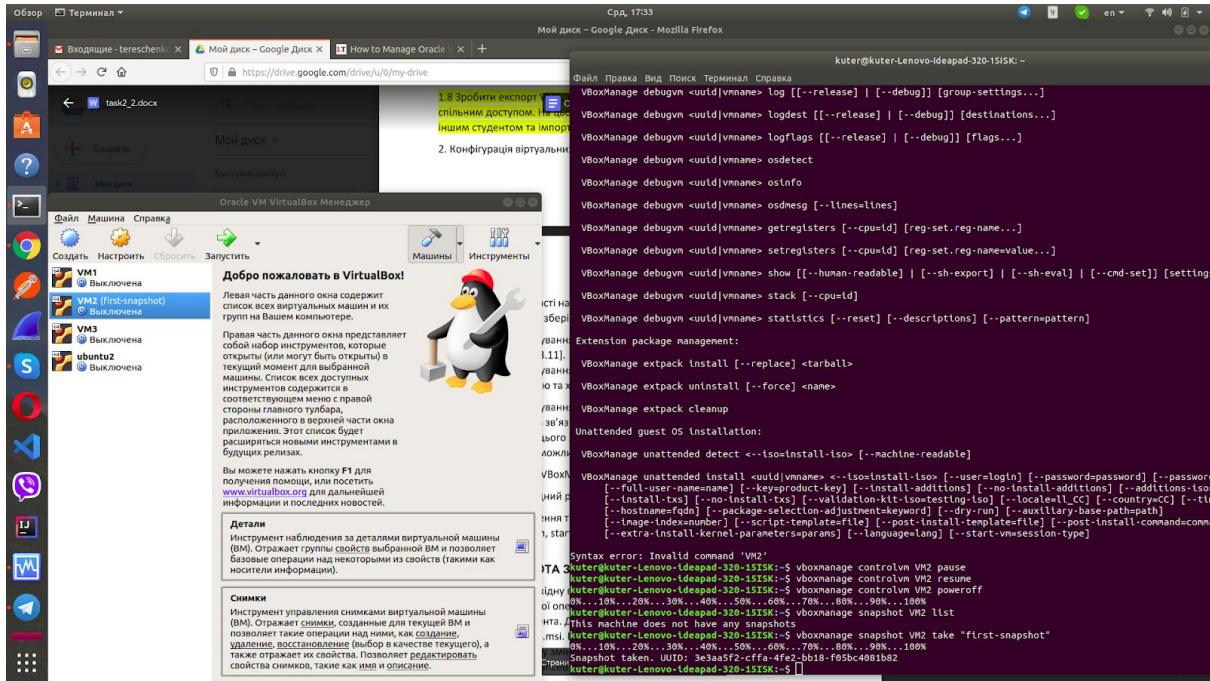
vboxmanage clone



vboxmanage controlvm



vboxmanage snapshot

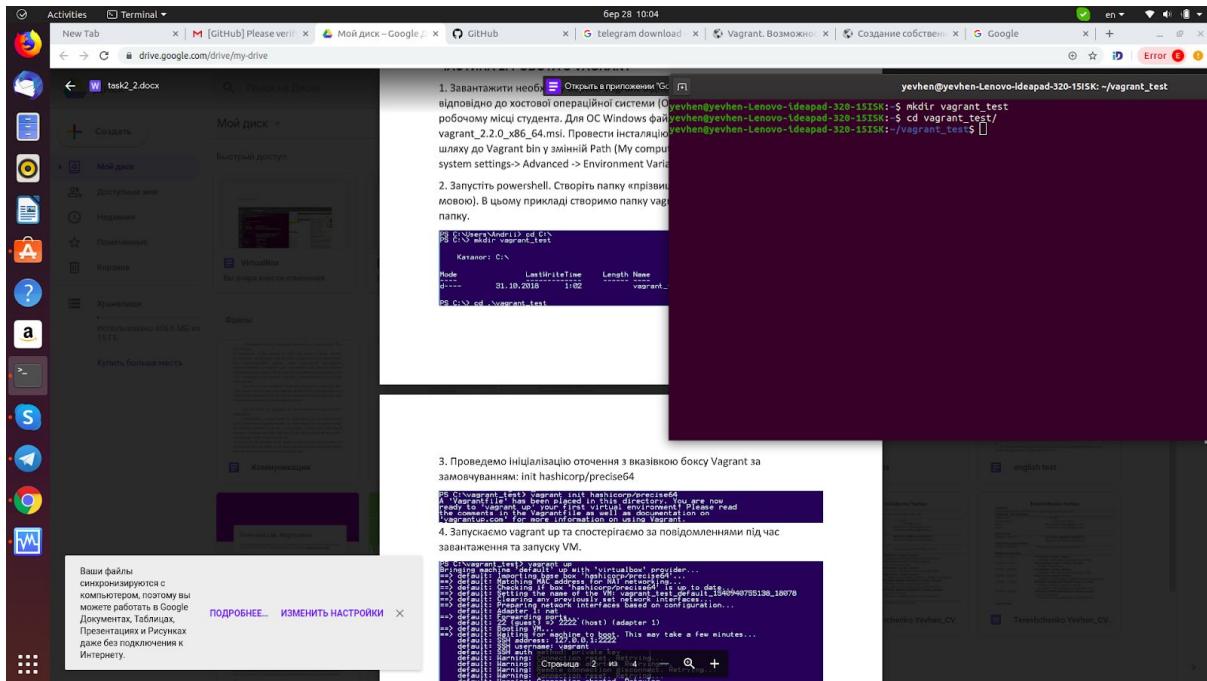


Second part

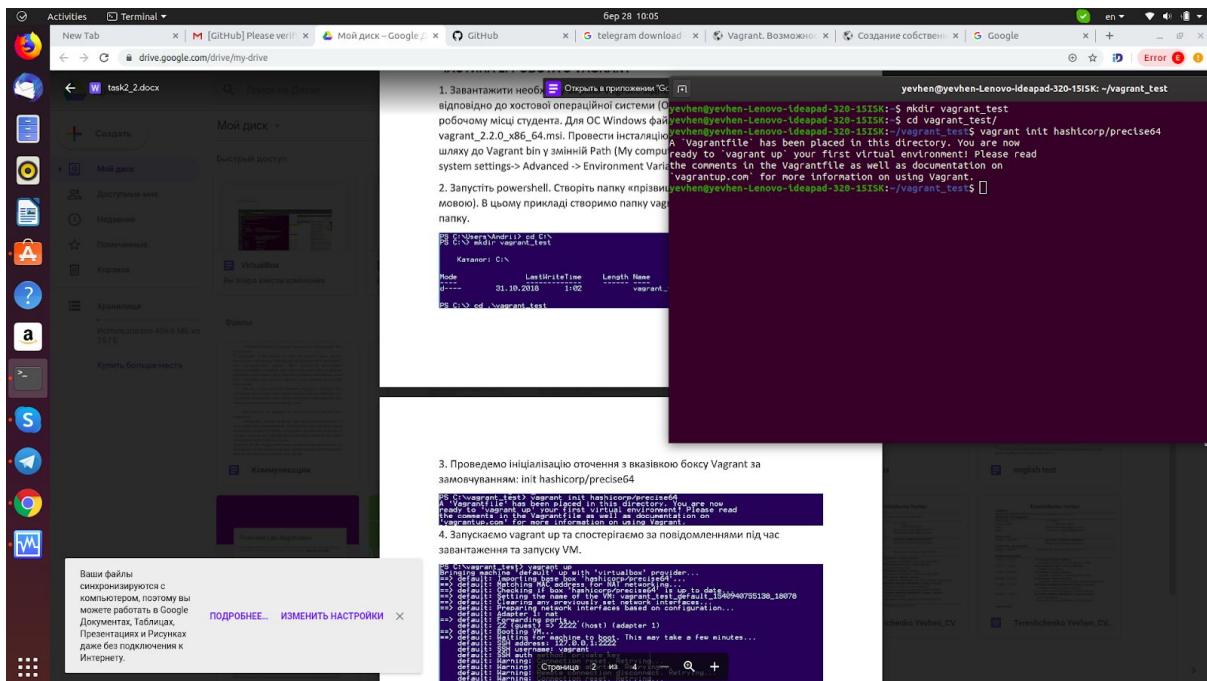
1 Install vagrant

sudo apt-get install vagrant

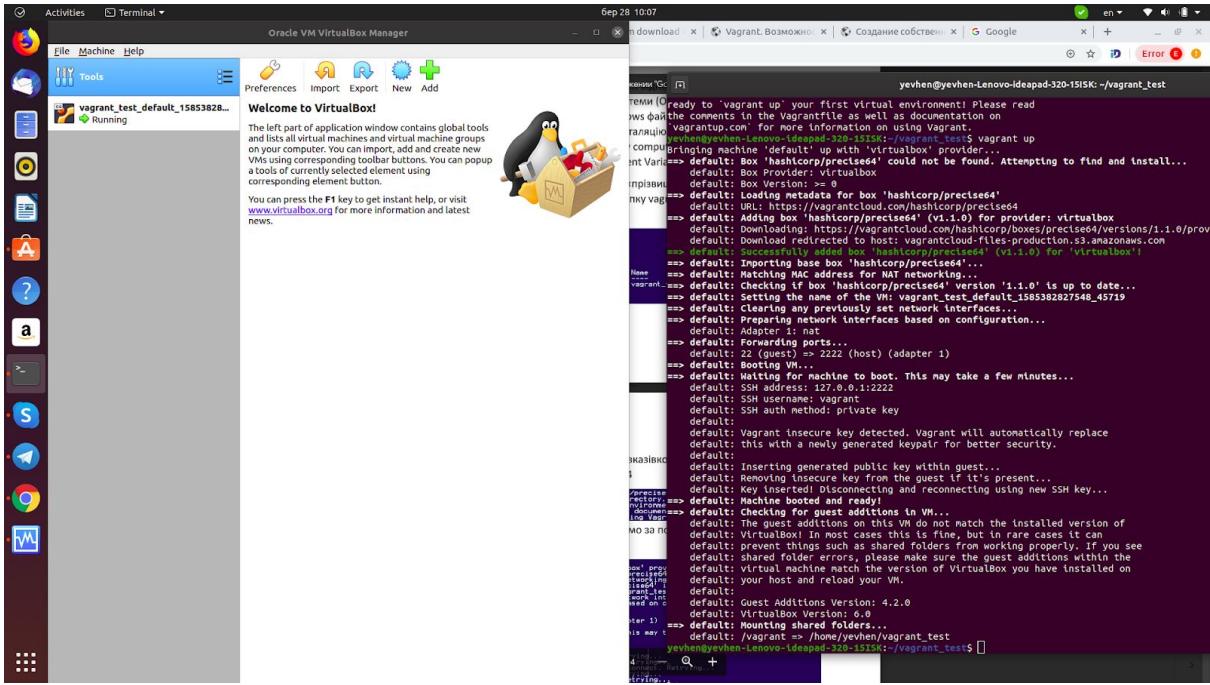
2. Create directory vagrant_test



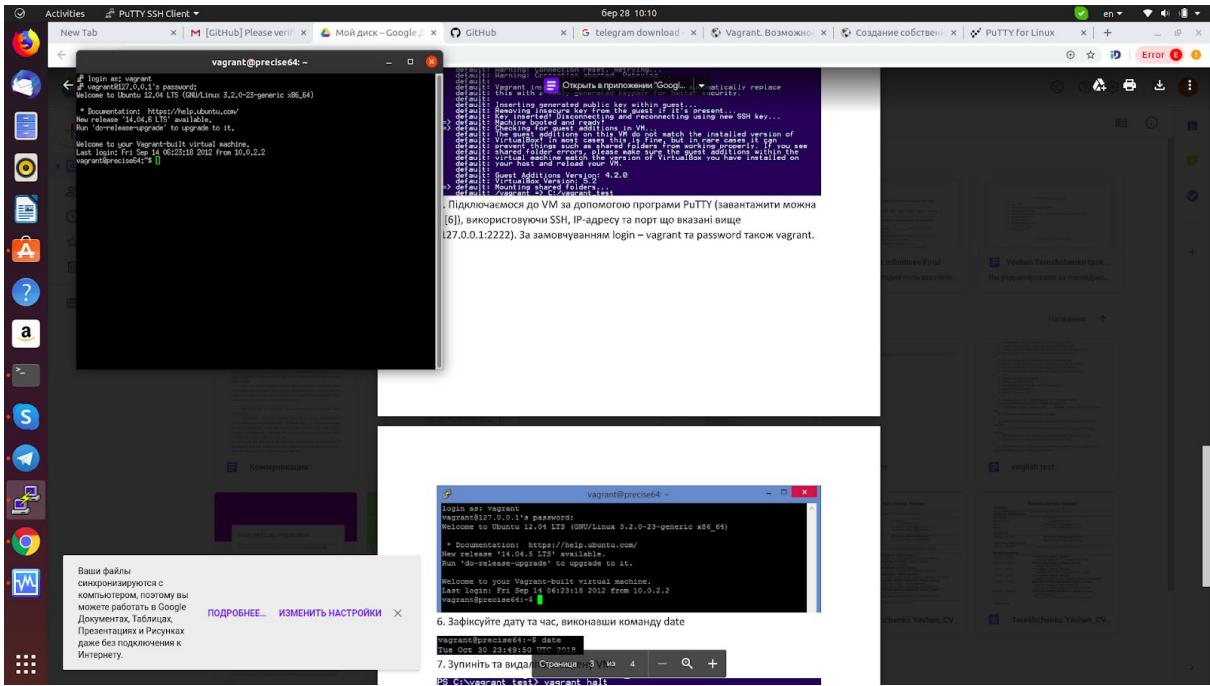
3. vagrant initial by default



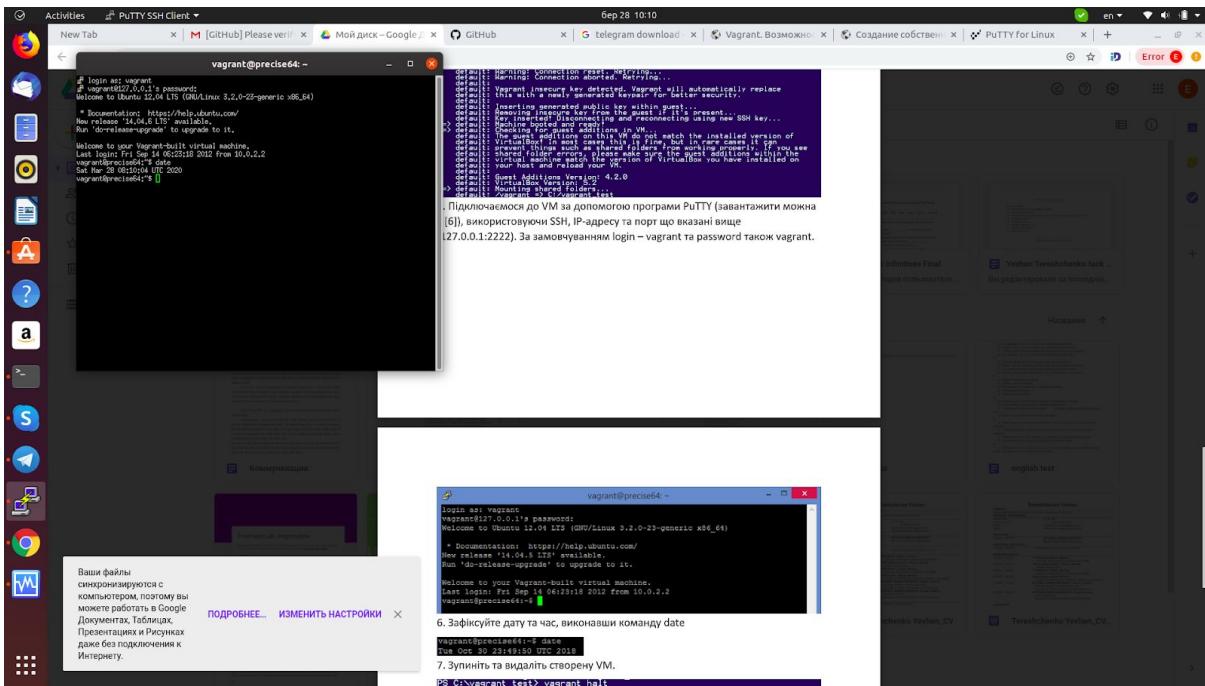
4. start vagrant up



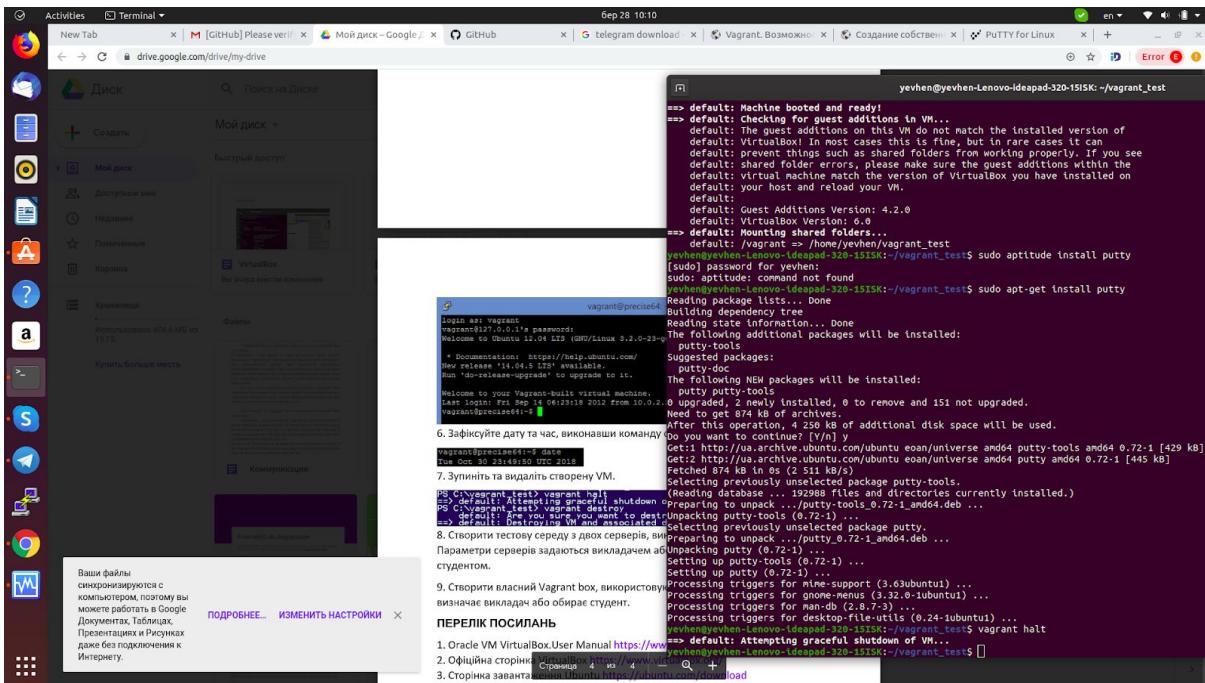
5. connect to VM with program putty



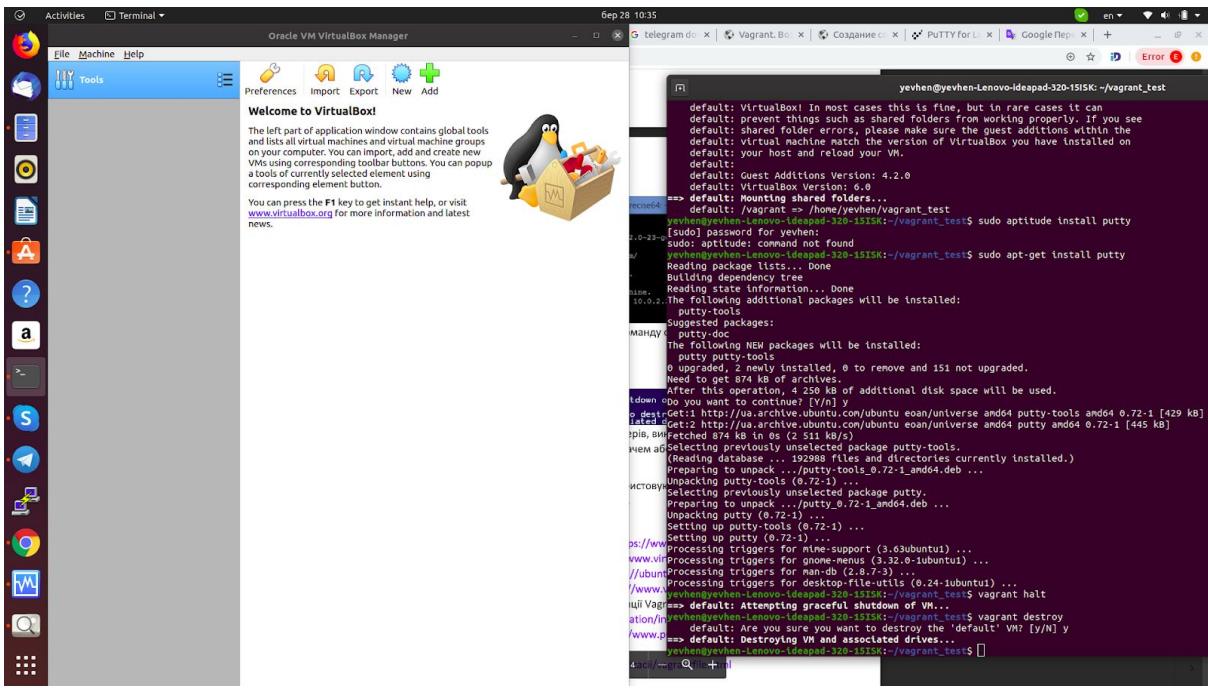
6. vagrant set date



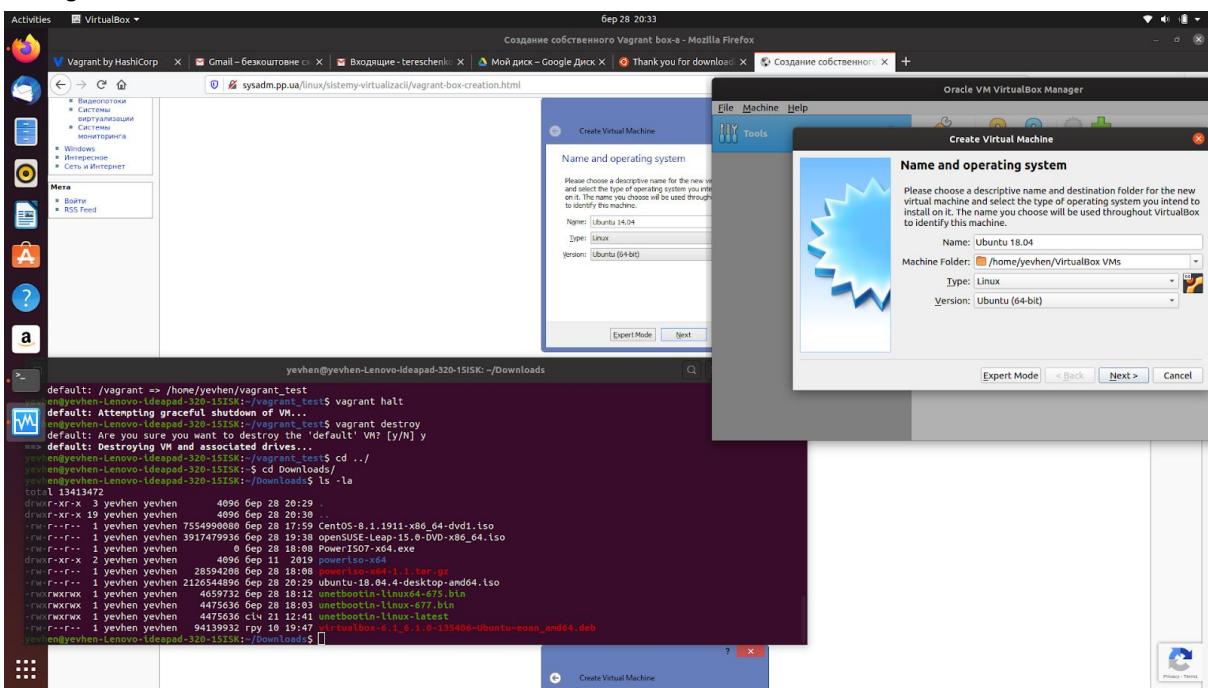
7. vagrant stop VM

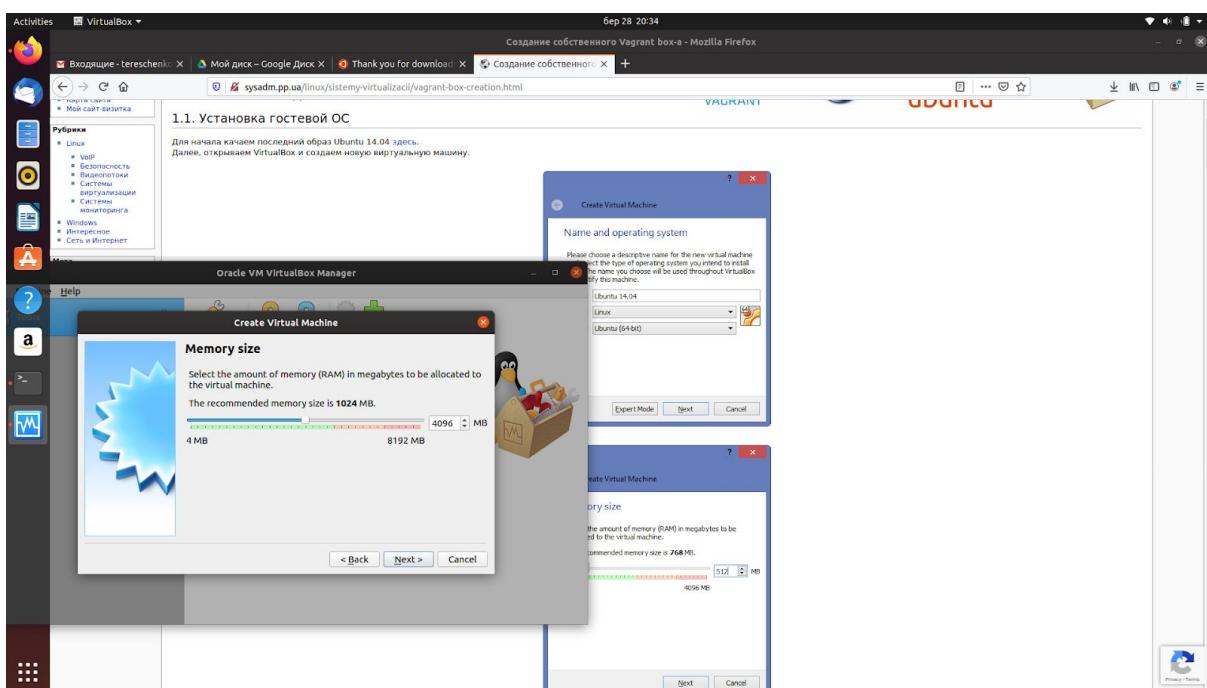
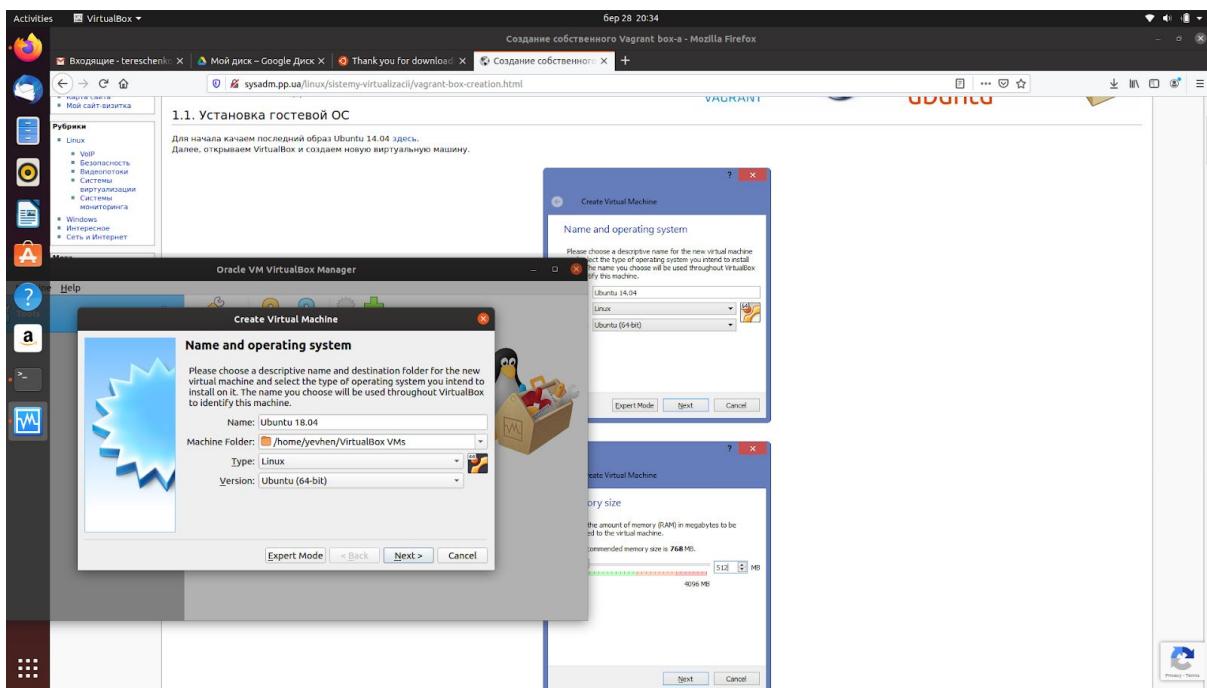


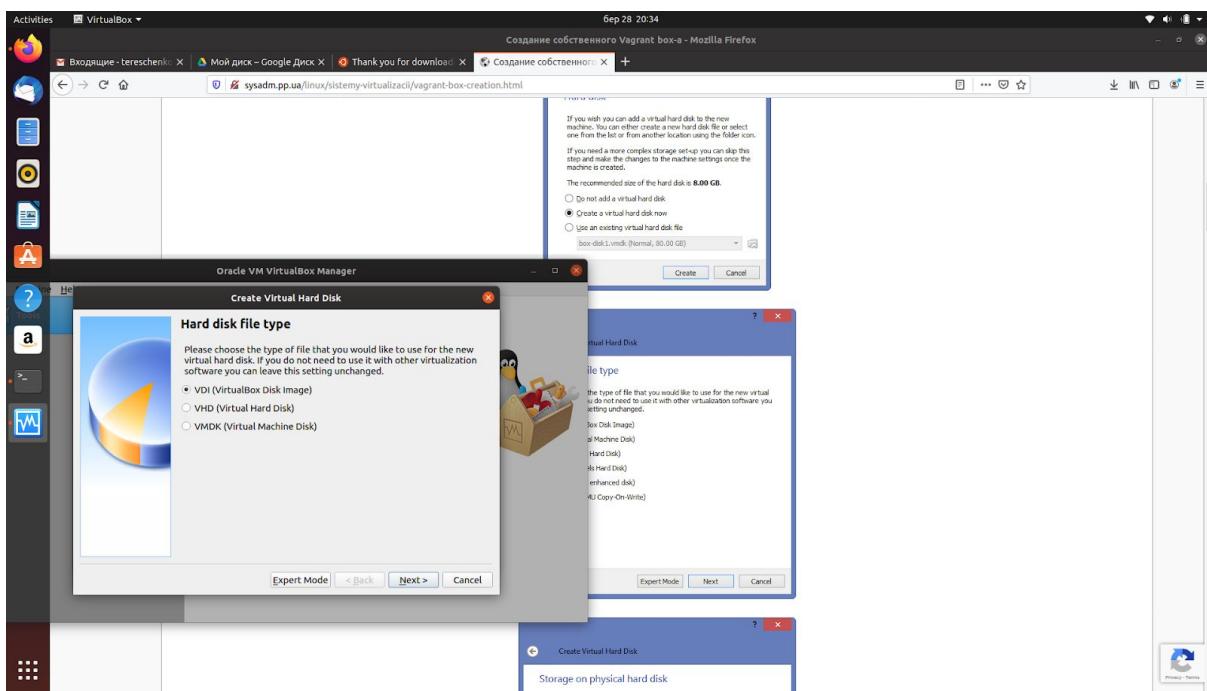
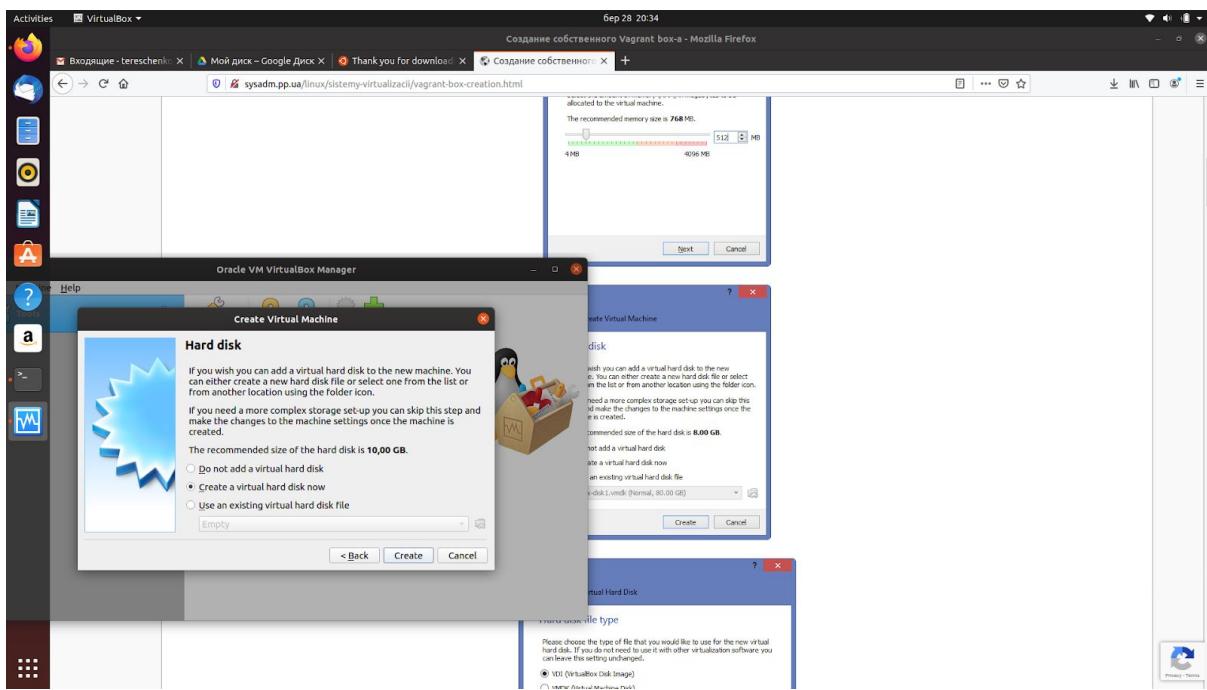
9. vagrant destroy

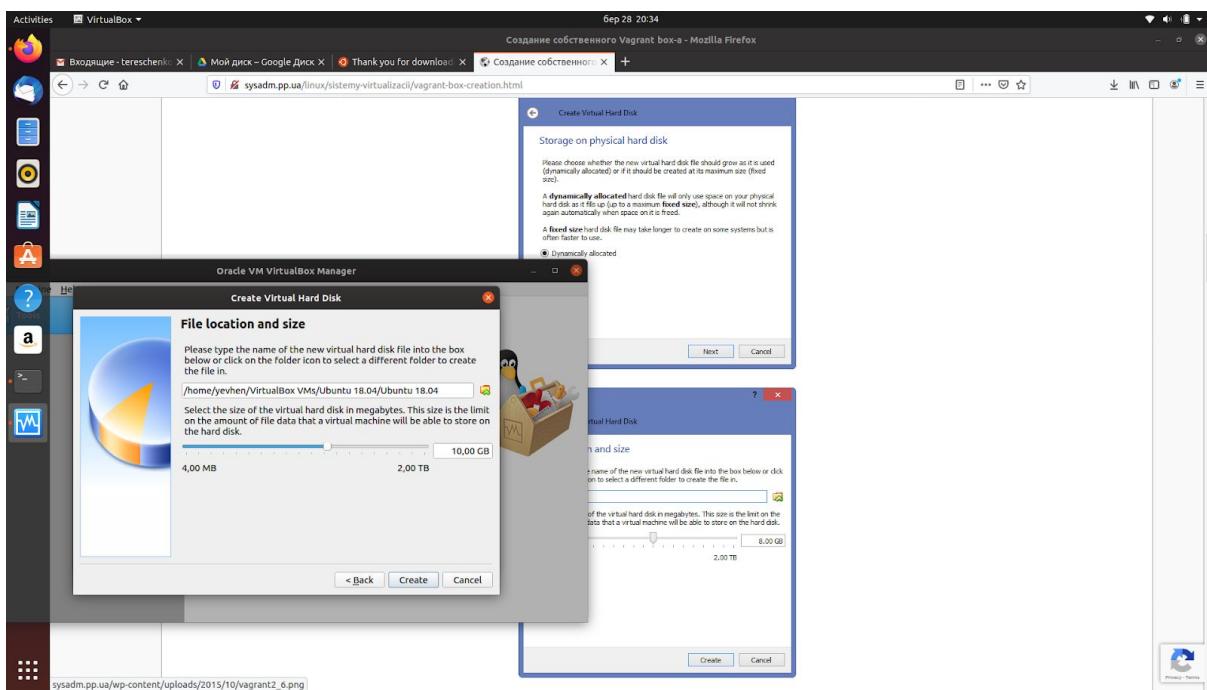
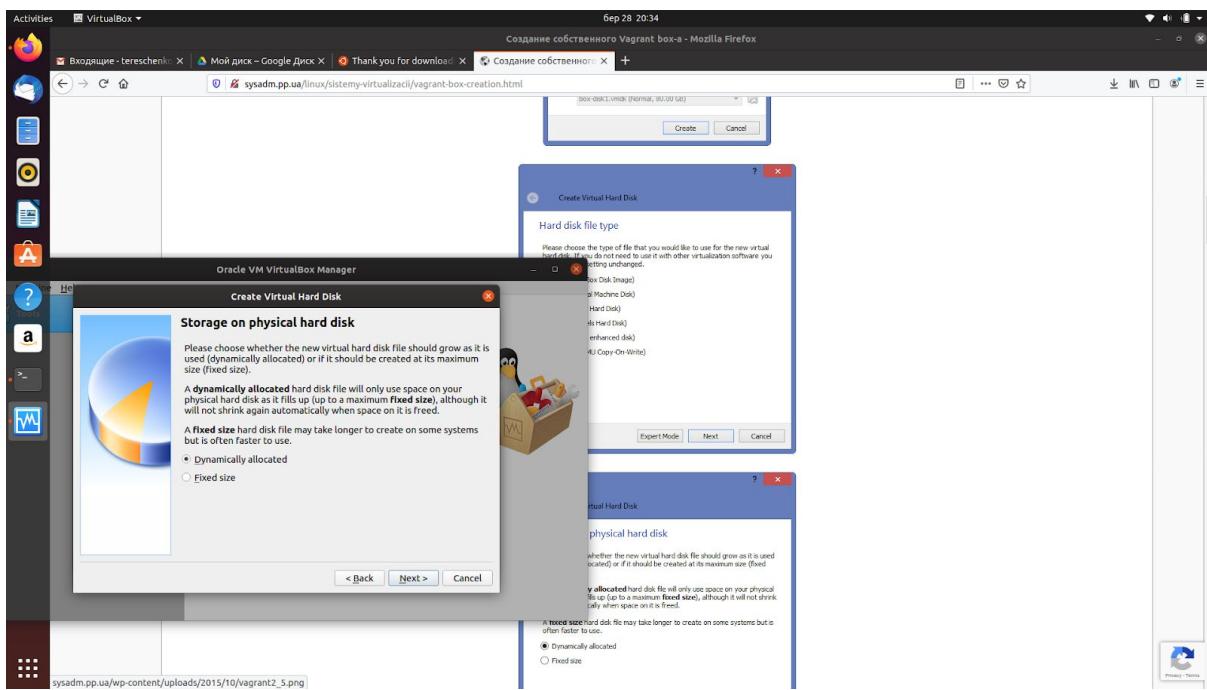


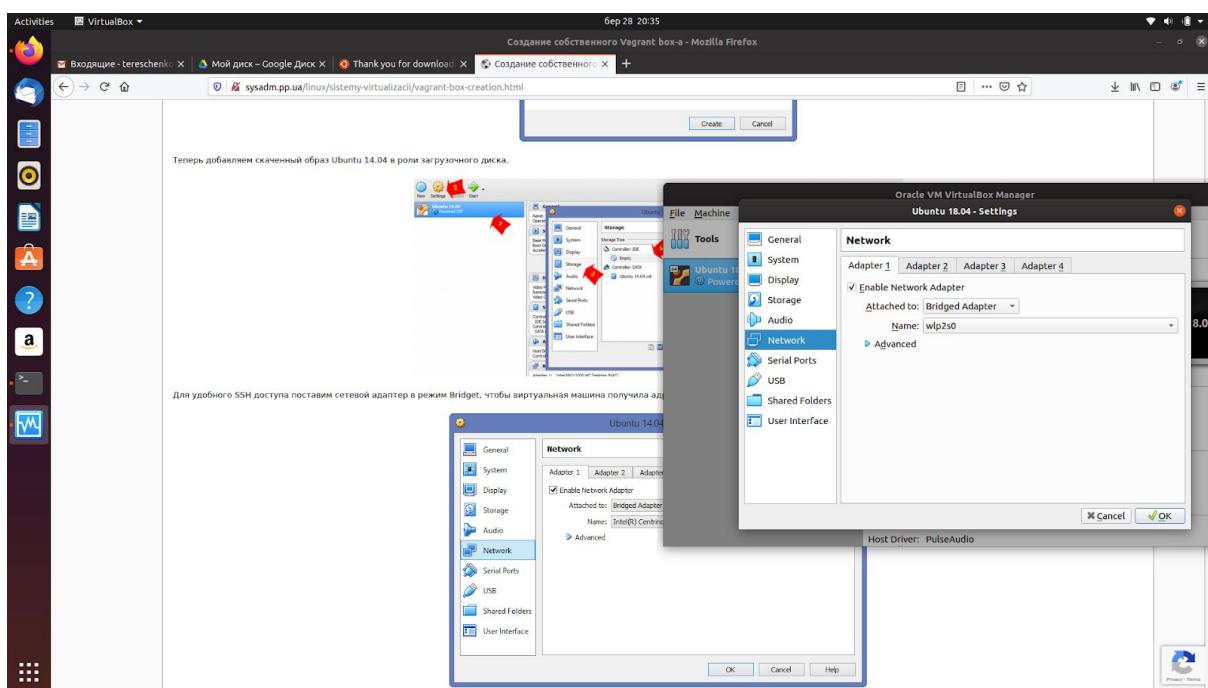
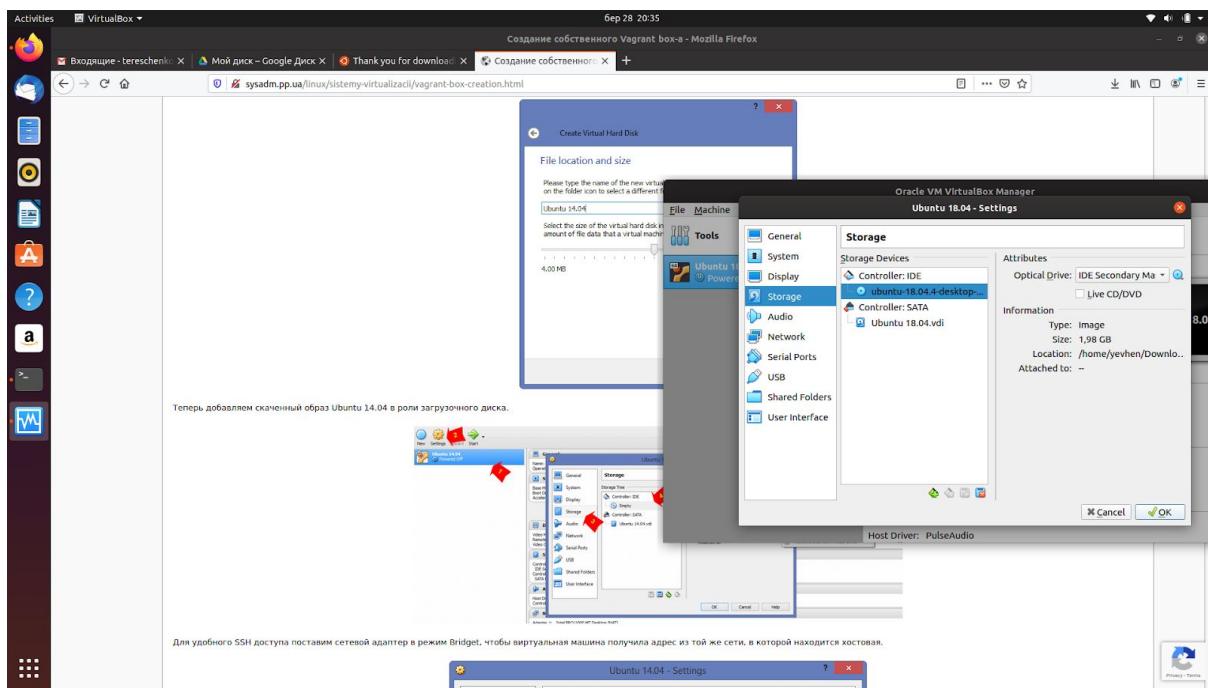
vagrant create owner box



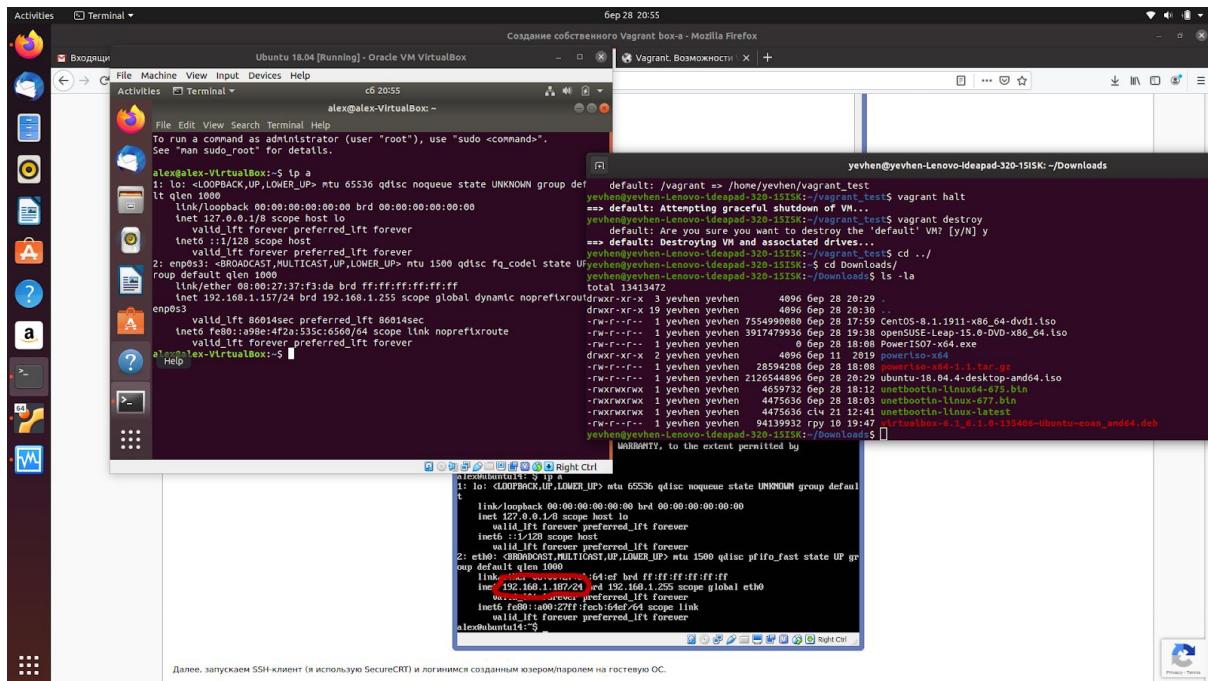




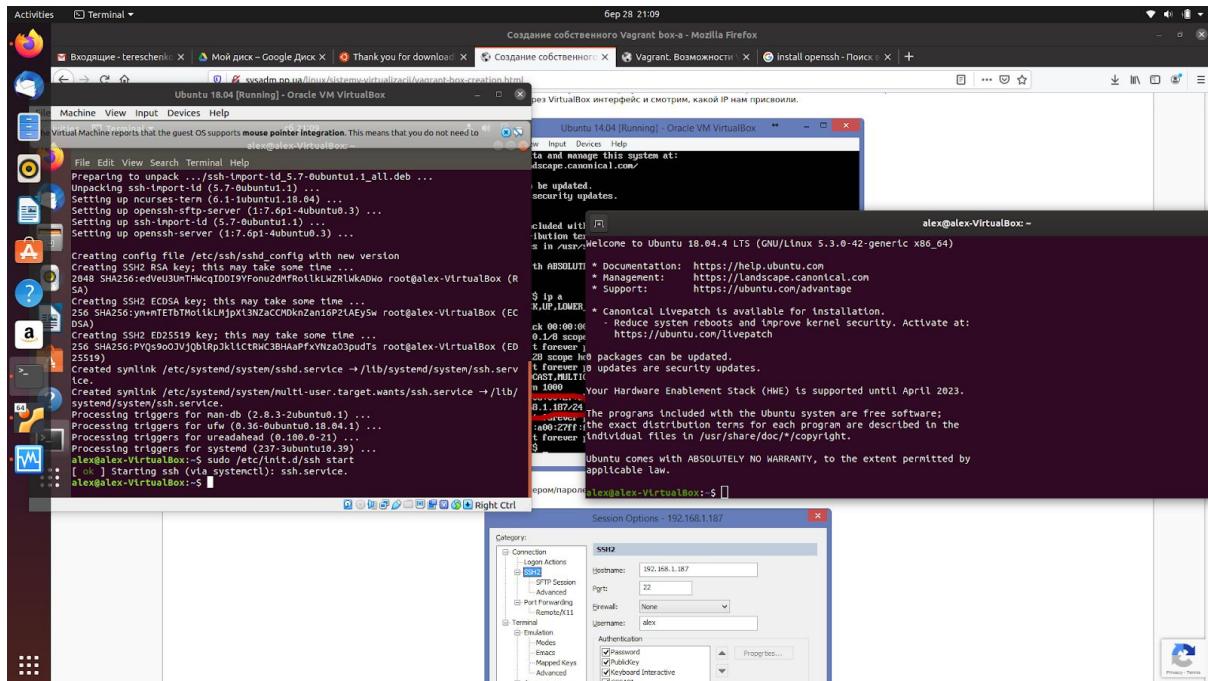




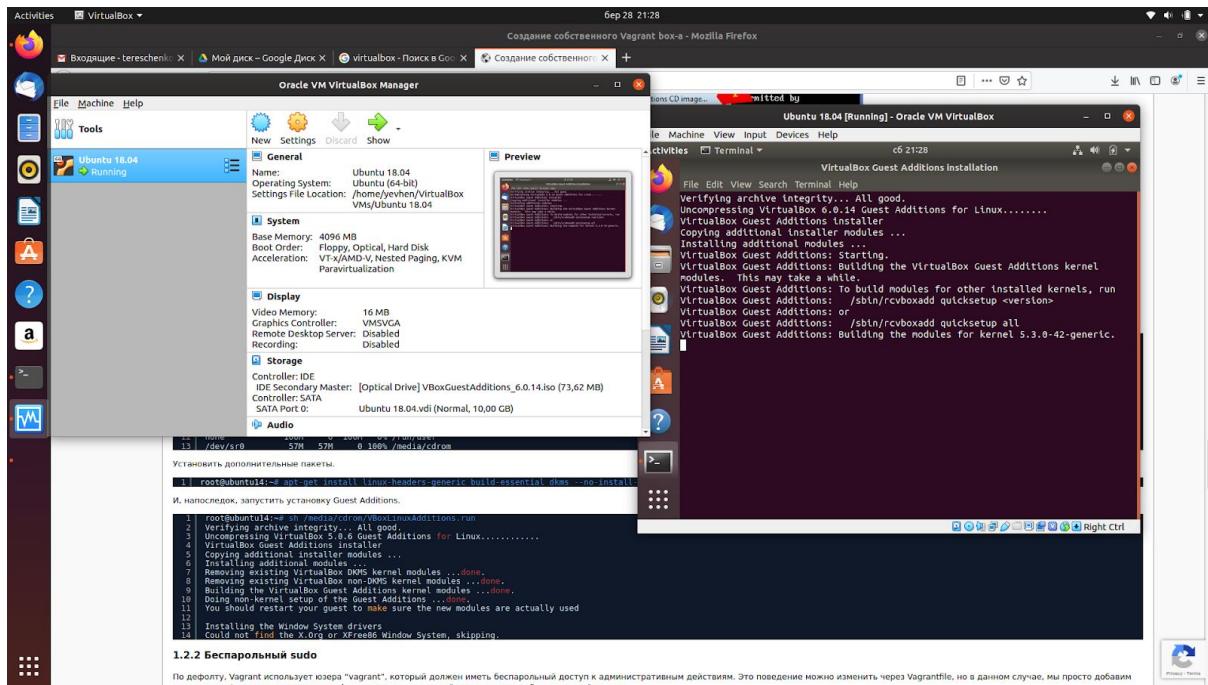
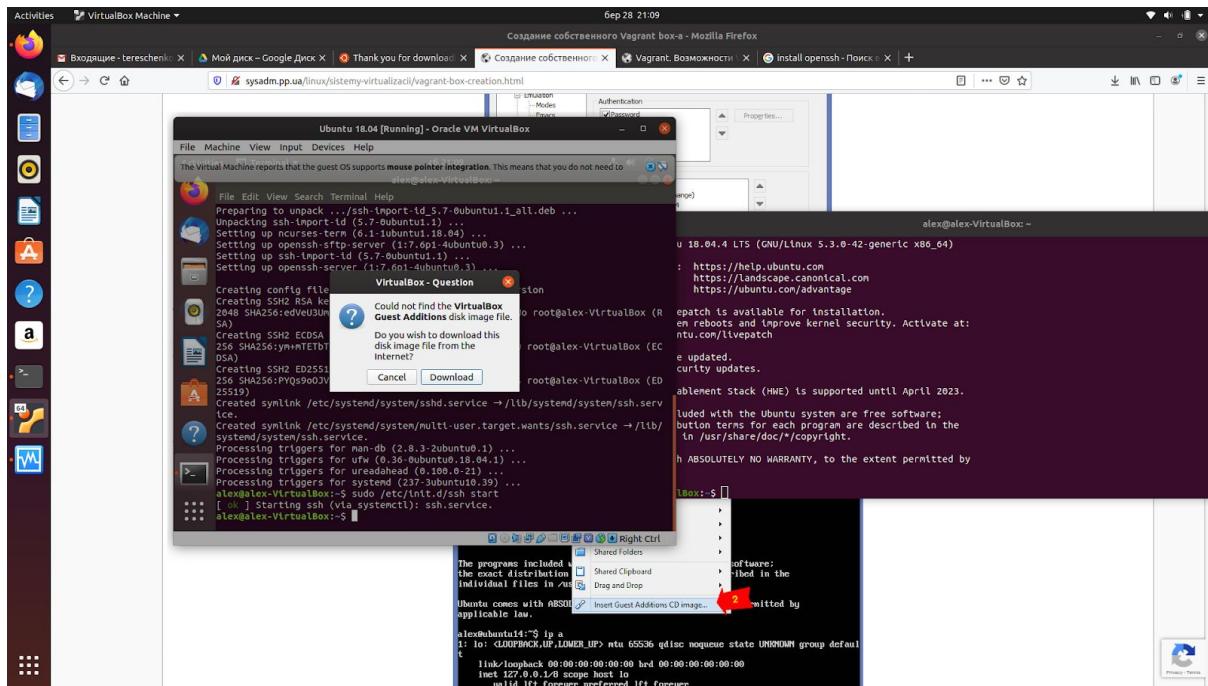
install ubuntu and after that connect

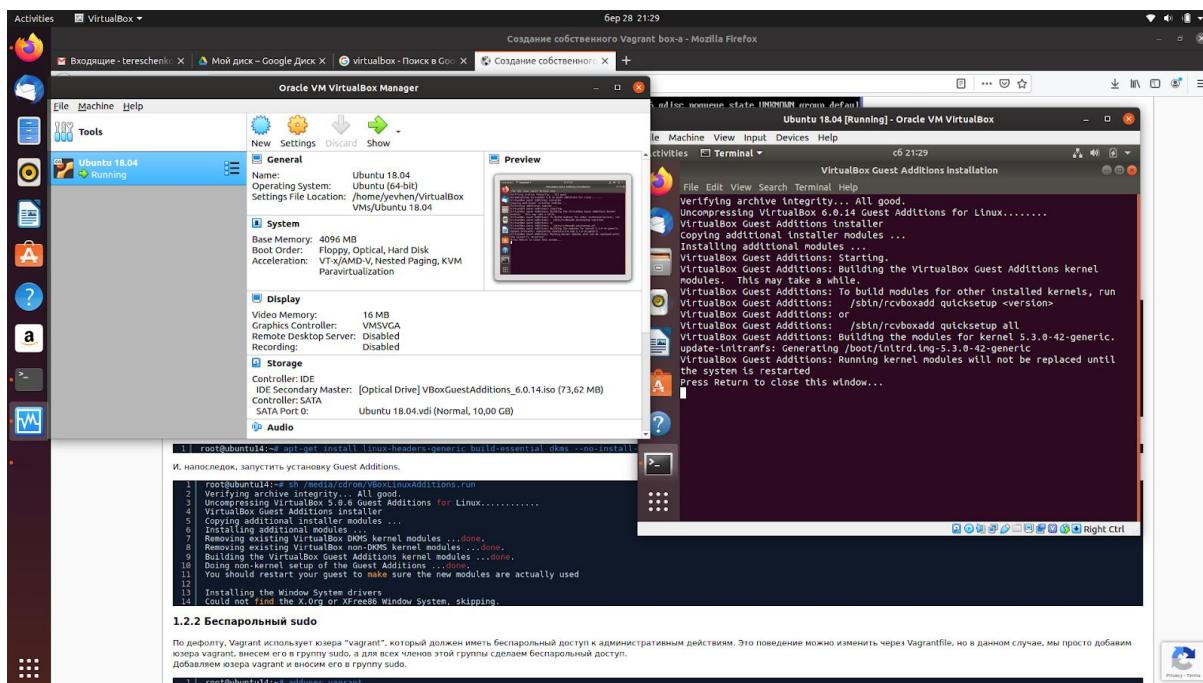


connect from client by ssh

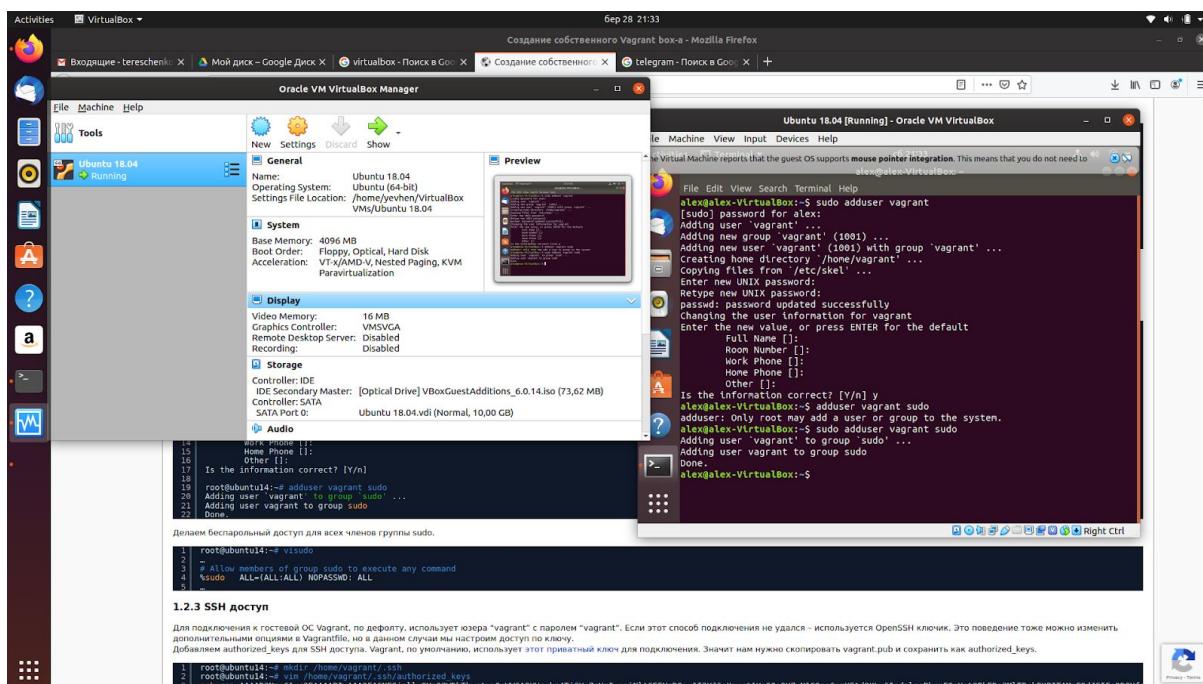


install virtualbox guest additional disk

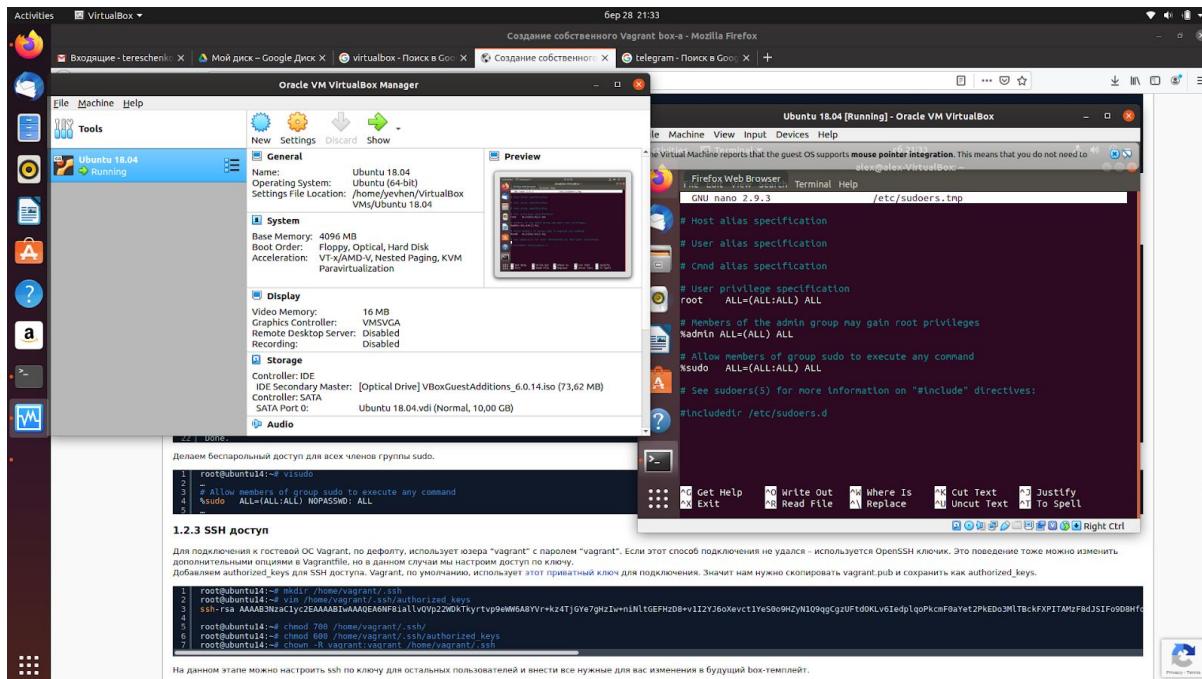




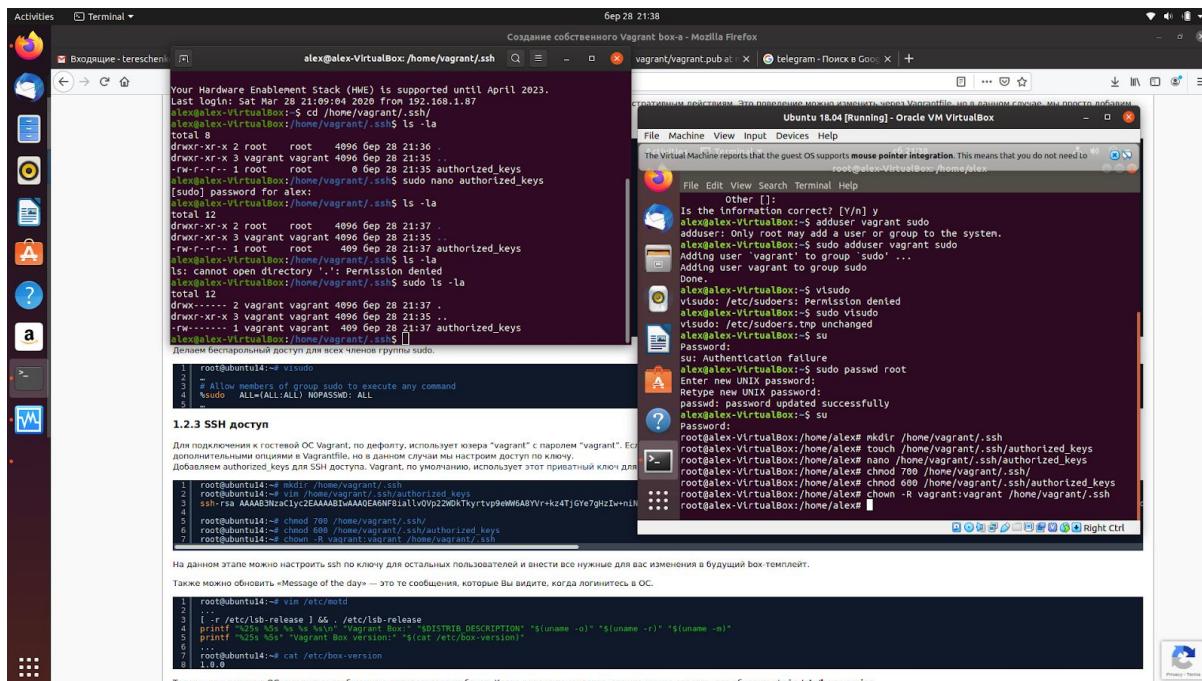
add user
add sudo to user



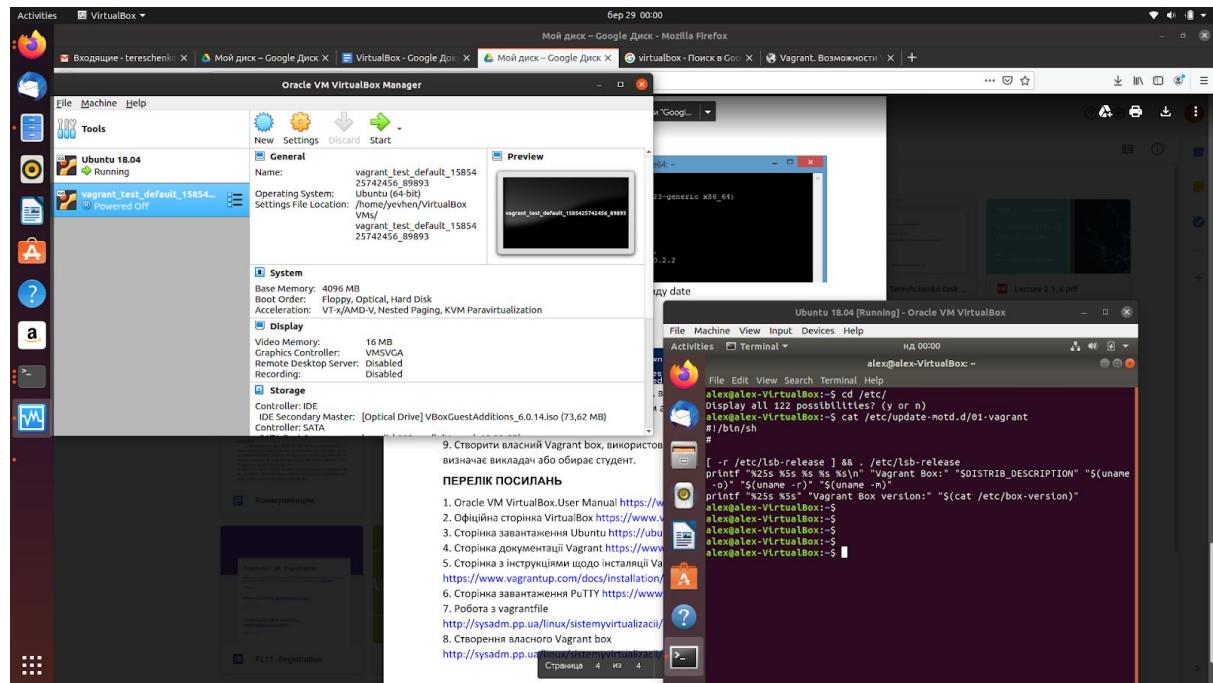
allow to use sudo



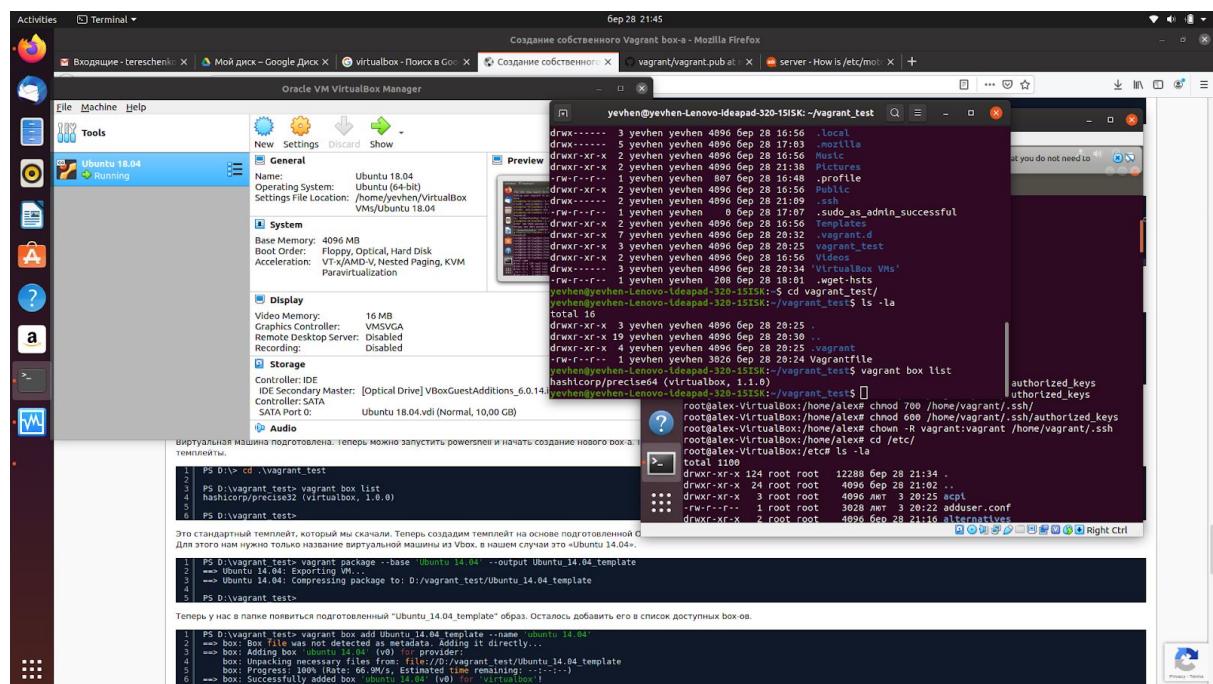
add access to users



add motd



create vagrant box



create template

```
Activities Terminal Создание собственного Vagrant box-a - Mozilla Firefox
Входящие - tereschenko Мой диск - Google Диск × virtualbox - Поиск в Go × Создание собственн... vagrant/vagrant.pub at + server - How is /etc/mot...
@sadm.psu.ua [home/vagrant/vagrant-box-creation.html] 0 sysadm.psu.ua [home/vagrant/vagrant_box_creation.html]
root@ubuntu14:~ via https://sysadm.psu.ua/vagrant_box_creation.html
ssh-rsa AAAQABJzC1EAAQABIAAAQEcNFB8iIwV0V...
root@ubuntu14:~# chmod 700 /home/vagrant/.ssh/
root@ubuntu14:~# chmod 600 ./vagrant.vbox
root@ubuntu14:~# ./vagrant --version
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant --version
v1.8.6

На данном этапе можно настроить ssh по ключу для остальных машин
Также можно обновить "Message of the day" — это то что будет
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ ls -la
total 16
drwxr-xr-x 2 yevhen yevhen 4096 Sep 28 16:50 Templates
drwxr-xr-x 7 yevhen yevhen 4096 Sep 28 20:32 vagrant.d
drwxr-xr-x 3 yevhen yevhen 4096 Sep 28 20:25 vagrant_test
drwxr-xr-x 2 yevhen yevhen 4096 Sep 28 16:56 Videos
drwxr-xr-x 1 yevhen yevhen 208 Sep 28 18:01 .wget-hists
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ cd vagrant_test/
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ ls
vagrantfile

Теперь, при логине в ОС мы увидим сообщение о релене и
2. Создание Vagrant box-a
Виртуальная машина подготовлена. Теперь можно запустить
тесты.
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant box list
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant package --base 'Ubuntu_18.04' --output Ubuntu_18.04_template
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant up
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant ssh
yevhen@Ubuntu_18.04:~$ Guest communication could not be established. This is usually because
yevhen@Ubuntu_18.04:~$ SSH is not running, the authentication information was changed,
yevhen@Ubuntu_18.04:~$ or some other networking issue. Vagrant will force halt, if
yevhen@Ubuntu_18.04:~$ unable to establish communication after 30 seconds.
yevhen@Ubuntu_18.04:~$ capable
yevhen@Ubuntu_18.04:~$ guestfs-shutdown of VM...
yevhen@Ubuntu_18.04:~$ Exporting VM...
yevhen@Ubuntu_18.04:~$ Exporting VM...
yevhen@Ubuntu_18.04:~$ Compressing package to: /home/yevhen/vagrant_test/Ubuntu_18.04_template
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ 

Это стандартный темплейт, который мы скачали. Теперь создадим темплейт на основе подготовленной ОС.
Для этого нам нужно только название виртуальной машины из Vbox, в нашем случае это "Ubuntu 14.04".
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant box add Ubuntu_14.04 ./Ubuntu_14.04_template
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant up
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant ssh
yevhen@Ubuntu_14.04:~$ Guest communication could not be established. This is usually because
yevhen@Ubuntu_14.04:~$ SSH is not running, the authentication information was changed,
yevhen@Ubuntu_14.04:~$ or some other networking issue. Vagrant will force halt, if
yevhen@Ubuntu_14.04:~$ unable to establish communication after 30 seconds.
yevhen@Ubuntu_14.04:~$ capable
yevhen@Ubuntu_14.04:~$ guestfs-shutdown of VM...
yevhen@Ubuntu_14.04:~$ Exporting VM...
yevhen@Ubuntu_14.04:~$ Exporting VM...
yevhen@Ubuntu_14.04:~$ Compressing package to: D:/vagrant_test/Ubuntu_14.04_template
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ 

Теперь у нас в папке появится подготавленный "Ubuntu_14.04_template" образ. Осталось добавить его в список доступных box-ов.
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant$ vagrant box add Ubuntu_14.04 ./Ubuntu_14.04_template
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant$ vagrant config.vm.box = "Ubuntu_14.04"
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant$ vagrant up
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant$ vagrant ssh
yevhen@Ubuntu_14.04:~$ Guest communication could not be established. This is usually because
yevhen@Ubuntu_14.04:~$ SSH is not running, the authentication information was changed,
yevhen@Ubuntu_14.04:~$ or some other networking issue. Vagrant will force halt, if
yevhen@Ubuntu_14.04:~$ unable to establish communication after 30 seconds.
yevhen@Ubuntu_14.04:~$ capable
yevhen@Ubuntu_14.04:~$ guestfs-shutdown of VM...
yevhen@Ubuntu_14.04:~$ Exporting VM...
yevhen@Ubuntu_14.04:~$ Exporting VM...
yevhen@Ubuntu_14.04:~$ Compressing package to: D:/vagrant_test/Ubuntu_14.04_template
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant$ 

Теперь создан виртуальный машину на основе нашего box-а. Для этого редактирован Vagrantfile.

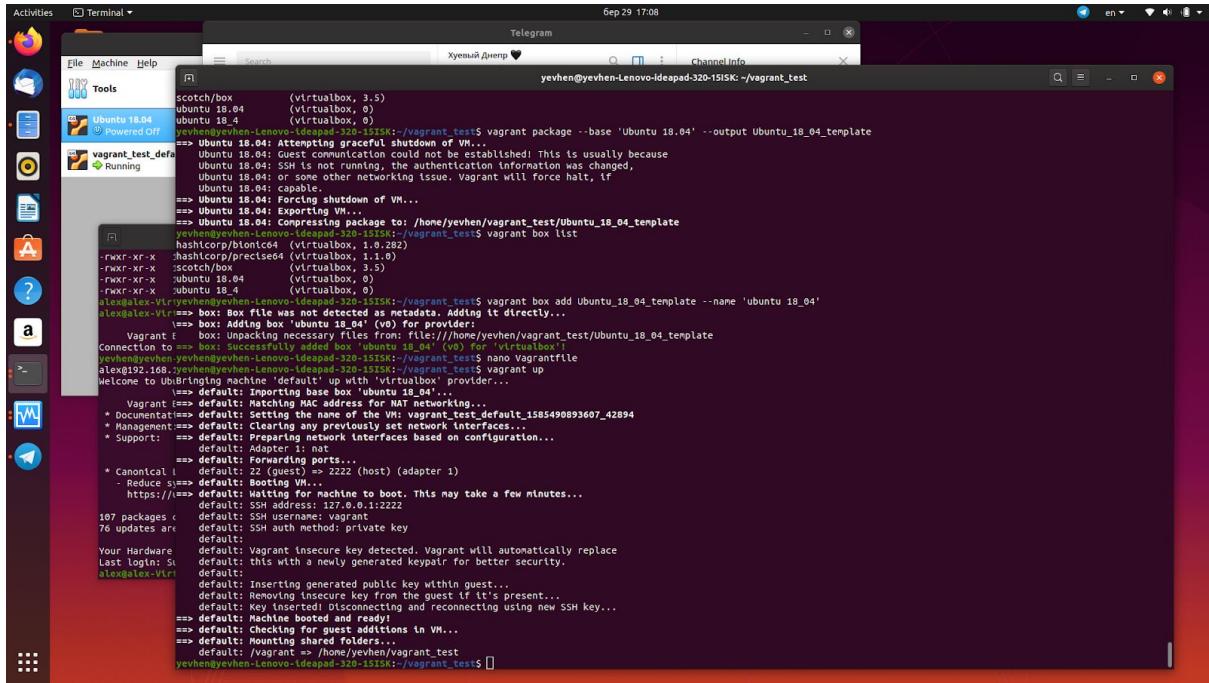
Vagrant.configure(2) do |config|
  config.vm.box = "Ubuntu_14.04"
end

И поднимаем виртуальную машину.

PS D:\vagrant_test> vagrant up
```

add image file template to boxes

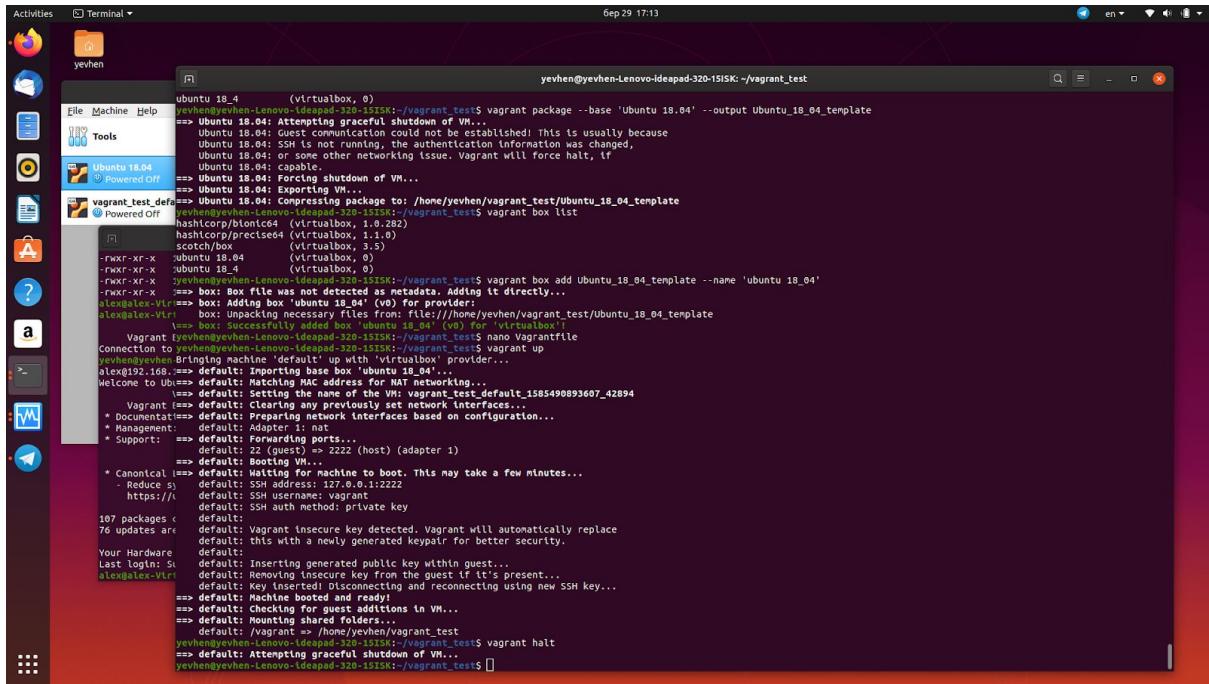
start up virtualbox



```
Activities Terminal ▾ 6 Sep 29 17:08
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant up
[Output from the terminal window]
```

The terminal window shows the command `vagrant up` being run. The output indicates that a VM named "ubuntu_18_04" is being started using the "VirtualBox" provider. It shows the process of adding the base template, creating a new box file, and booting the VM. The VM is successfully started with IP address 127.0.0.1:2222 and SSH port 22.

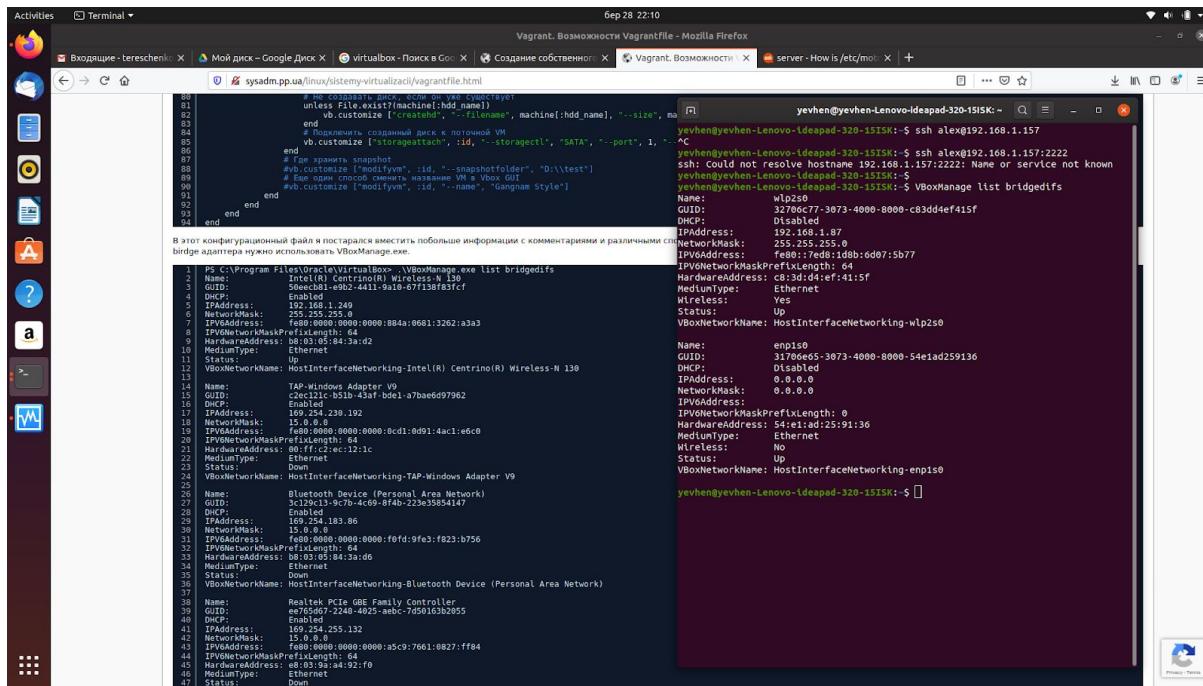
stop vagrant



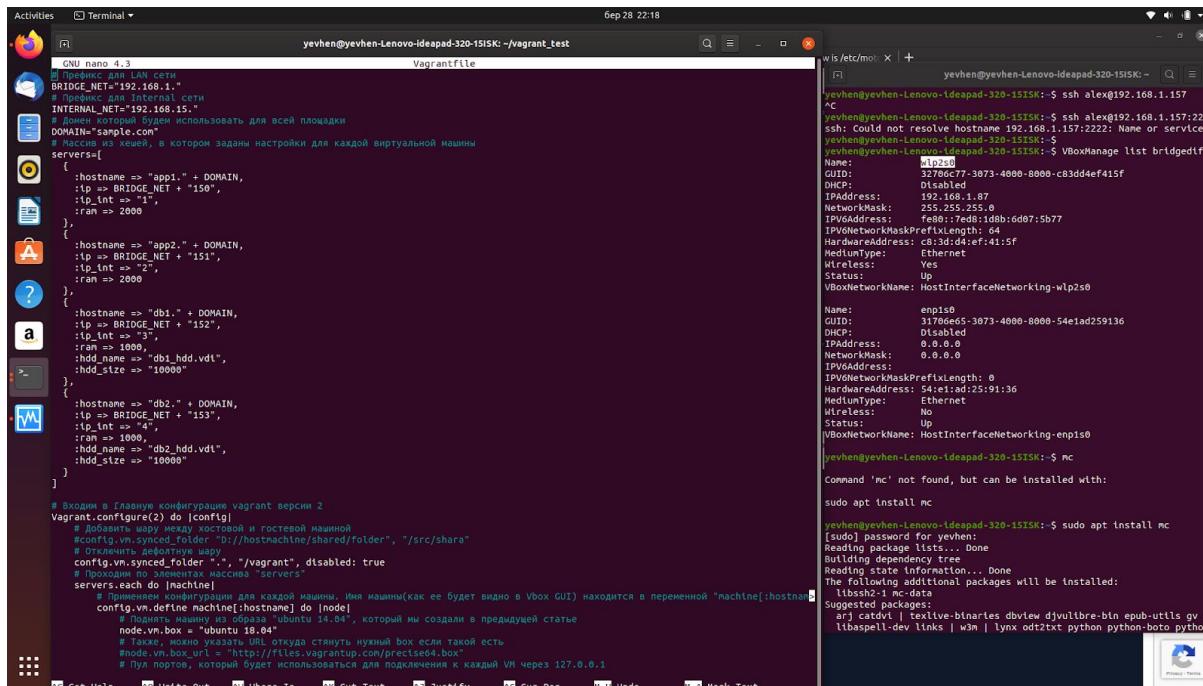
```
Activities Terminal ▾ 6 Sep 29 17:13
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant halt
[Output from the terminal window]
```

The terminal window shows the command `vagrant halt` being run. The output indicates that the VM "ubuntu_18_04" is being stopped. The VM is successfully halted.

7 Work with vagrantfile



edit vagrantfile



Activities Terminal Sep 28 22:18

```
GNU nano 4.3 Vagrantfile
 1. # Входим в Справки конфигурации Vagrant версии 2
 2. Vagrant.configure(2) do |config|
 3.   # добавить шару между хостовой и гостевой машиной
 4.   #config.vm.synced_folder "D://hostmachine/shared/folder", "/src/shara"
 5.   # Отключить левобокую ширь
 6.   config.vm.synced_folder ".", "/vagrant", disabled: true
 7.
 8.   servers.each do |machines|
 9.     # Применение конфигурации для каждой машины. Имя машины(как ее будет видно в Vbox GUI) находится в переменной "machine[:hostname]"
10.     config.vm.define machine[:hostname] do |node|
11.       # Поднять машину из образа "ubuntu 14.04", который мы создали в предыдущей статье
12.       node.vm.box = "ubuntu 14.04"
13.       # Также, можно указать URL откуда стянуть нужный box если такой есть
14.       #node.vm.box_url = "http://files.vagrantup.com/precise64.box"
15.       # Для доступа, который будет использоваться для подключения к каждой VM через 127.0.0.1
16.       node.vm.usable_port_range = [2200..2250]
17.       # Установка имени машины (также можно использовать имя OS)
18.       node.vm.hostname = machine[:hostname]
19.       #VBoxManage.exe list bridgedifs overwrite NAT adapter :adapter=>1
20.       # Добавление и настройка Bridge сетевого адаптера(источ). Чтобы узнать точное название bridge адаптера, нужно использовать команду
21.       node.vm.network "public_network", ip: machine[:ip], bridge: 'Wlp2s0'
22.       # Настройка внутреннего сетевого адаптера (intnet)
23.       node.vm.network "private_network", ip: machine[:ip_int], virtualbox__intnet: "intnet"
24.       # Настройка SSH доступа
25.       # Домен/IP для подключения
26.       node.ssh.host = machine[:ip]
27.       # Для доступа, который будет использоваться для подключения к каждой VM через 127.0.0.1
28.       node.ssh.private_key_path = "private_key"
29.       # SSH логин пользователя
30.       node.ssh.username = "alex"
31.       # SSH пароль
32.       node.ssh.password = "vagrant"
33.       # Тонкие настройки для конкретного провайдера (в нашем случае - VBoxManage)
34.       node.vm.provider "virtualbox" do |vb|
35.         # Размер RAM памяти
36.         vb.customize ["modifyvm", :id, "--memory", machine[:ram]]
37.         # Переименование машины в Vbox GUI
38.         vb.name = machine[:hostname]
39.         # Добавление жесткого диска, если такой указан в конфигурации
40.       end
41.     end
42.   end
43.
```

wsl/motd: x + yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~

```
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ ssh alex@192.168.1.157
^C
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ ssh alex@192.168.1.157:2222
ssh: Could not resolve hostname 192.168.1.157:2222: Name or service not known
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ VBoxManage list bridgedifs
Name:           wlp2s0
GUID:          31796e65-3073-4000-8000-54e1ad259136
DHCP:          Disabled
IPAddress:    192.168.1.87
NetworkMask:   255.255.255.0
MACAddress:   fe80::7ed8:1dbb:6d07:5b77
IPV4NetworkMaskPrefixLength: 64
HardwareAddress: c8:3d:d4:ef:41:5f
MediumType:   Ethernet
Wireless:      Yes
Status:        Up
VBoxNetInterfaceName: HostInterfaceNetworking-wlp2s0
Name:           enp1s0
GUID:          31796e65-3073-4000-8000-54e1ad259136
DHCP:          Disabled
IPAddress:    0.0.0.0
NetworkMask:   0.0.0.0
MACAddress:   00:0c:29:00:00:00
IPV4Address:   0.0.0.0
IPV4NetworkMaskPrefixLength: 0
HardwareAddress: 54:e1:ad:25:91:36
MediumType:   Ethernet
Wireless:      No
Status:        Up
VBoxNetInterfaceName: HostInterfaceNetworking-enp1s0
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ nc
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ sudo apt install mc
[sudo] password for yevhen:
Reading package lists... done
Building dependency tree... done
Reading state information... done
The following additional packages will be installed:
libbspl-dev links lynx odt2txt python python-boto python-geoip
Suggested packages:
arj catdvi | texlive-binaries dbview djvullibre-bin epub-utils gv
libbspl-dev links lynx odt2txt python python-boto python-geoip
Command 'mc' not found, but can be installed with:
sudo apt install mc
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ sudo apt install mc
[sudo] password for yevhen:
Reading package lists... done
Building dependency tree... done
Reading state information... done
The following additional packages will be installed:
libbspl-dev links lynx odt2txt python python-boto python-geoip
Suggested packages:
arj catdvi | texlive-binaries dbview djvullibre-bin epub-utils gv
libbspl-dev links lynx odt2txt python python-boto python-geoip
Privacy - Home
```

Activities Terminal Sep 28 22:18

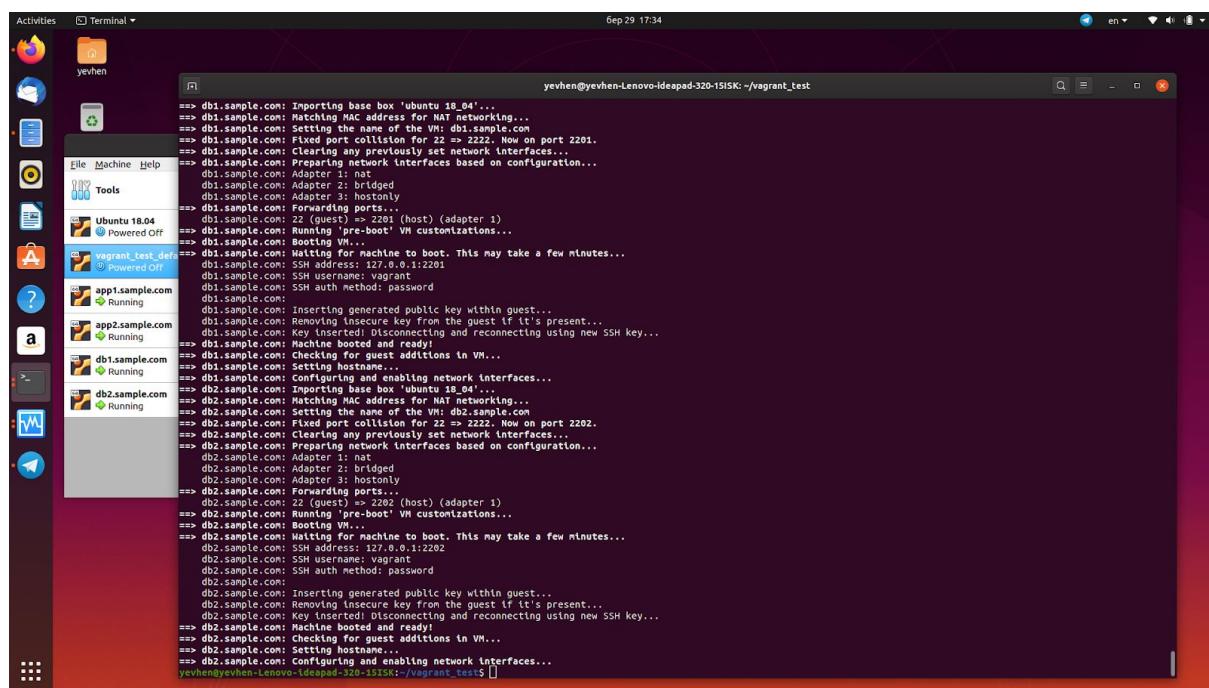
```
GNU nano 4.3 Vagrantfile
 1. # Входим в Справки конфигурации Vagrant версии 2
 2. Vagrant.configure(2) do |config|
 3.   # Отключить левобокую ширь
 4.   config.vm.synced_folder "D://hostmachine/shared/folder", "/src/shara"
 5.   # Прокси по элементах массива "servers"
 6.   servers.each do |machines|
 7.     # Применение конфигурации для каждой машины. Имя машины(как ее будет видно в Vbox GUI) находится в переменной "machine[:hostname]"
 8.     config.vm.define machine[:hostname] do |node|
 9.       # Поднять машину из образа "ubuntu 14.04", который мы создали в предыдущей статье
10.       node.vm.box = "ubuntu 14.04"
11.       # Также, можно указать URL откуда стянуть нужный box если такой есть
12.       #node.vm.box_url = "http://files.vagrantup.com/precise64.box"
13.       # Для доступа, который будет использоваться для подключения к каждой VM через 127.0.0.1
14.       node.vm.usable_port_range = [2200..2250]
15.       # Установка имени машины (также можно использовать имя OS)
16.       node.vm.hostname = machine[:hostname]
17.       #VBoxManage.exe list bridgedifs overwrite NAT adapter :adapter=>1
18.       # Добавление и настройка Bridge сетевого адаптера(источ). Чтобы узнать точное название bridge адаптера, нужно использовать команду
19.       node.vm.network "public_network", ip: machine[:ip], bridge: 'Wlp2s0'
20.       # Настройка внутреннего сетевого адаптера (intnet)
21.       node.vm.network "private_network", ip: machine[:ip_int], virtualbox__intnet: "intnet"
22.       # Настройка SSH доступа
23.       # Домен/IP для подключения
24.       node.ssh.host = machine[:ip]
25.       # Для доступа, который будет использоваться для подключения к каждой VM через 127.0.0.1
26.       node.ssh.private_key_path = "private_key"
27.       # SSH логин пользователя
28.       node.ssh.username = "alex"
29.       # SSH пароль
30.       node.ssh.password = "vagrant"
31.       # Тонкие настройки для конкретного провайдера (в нашем случае - VBoxManage)
32.       node.vm.provider "virtualbox" do |vb|
33.         # Модифицировать название VM
34.         vb.customize ["modifyvm", :id, "--memory", machine[:ram]]
35.         # Можно переименовать название VM в Vbox GUI
36.         vb.name = machine[:hostname]
37.         # Добавление жесткого диска, если такой указан в конфигурации
38.         if !(File.exist?(machine[:hdd_name]))
39.           unless File.exist?(machine[:hdd_name])
40.             vb.customize ["createhd", "--filename", machine[:hdd_name], "--size", machine[:hdd_size]]
41.           end
42.           # Добавлять созданный диск к текущей VM
43.           vb.customize ["storageattach", :id, "--storagectl", "SATA", "--port", 1, "--device", 0, "--type", "hdd", "--medium", "existing"]
44.         end
45.         # Где хранить snapshot
46.         vb.customize ["modifyvm", :id, "--snapshotfolder", "D:\\\\test"]
47.         # Еще один способ сменить название VM в Vbox GUI
48.         vb.customize ["modifyvm", :id, "--name", "Gangnam Style"]
49.       end
50.     end
51.   end
52.
```

wsl/motd: x + yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~

```
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ ssh alex@192.168.1.157
^C
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ ssh alex@192.168.1.157:2222
ssh: Could not resolve hostname 192.168.1.157:2222: Name or service not known
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ VBoxManage list bridgedifs
Name:           wlp2s0
GUID:          31796e65-3073-4000-8000-54e1ad259136
DHCP:          Disabled
IPAddress:    192.168.1.87
NetworkMask:   255.255.255.0
MACAddress:   fe80::7ed8:1dbb:6d07:5b77
IPV4NetworkMaskPrefixLength: 64
HardwareAddress: c8:3d:d4:ef:41:5f
MediumType:   Ethernet
Wireless:      Yes
Status:        Up
VBoxNetInterfaceName: HostInterfaceNetworking-wlp2s0
Name:           enp1s0
GUID:          31796e65-3073-4000-8000-54e1ad259136
DHCP:          Disabled
IPAddress:    0.0.0.0
NetworkMask:   0.0.0.0
MACAddress:   00:0c:29:00:00:00
IPV4Address:   0.0.0.0
IPV4NetworkMaskPrefixLength: 0
HardwareAddress: 54:e1:ad:25:91:36
MediumType:   Ethernet
Wireless:      No
Status:        Up
VBoxNetInterfaceName: HostInterfaceNetworking-enp1s0
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ nc
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ sudo apt install mc
[sudo] password for yevhen:
Reading package lists... done
Building dependency tree... done
Reading state information... done
The following additional packages will be installed:
libbspl-dev links lynx odt2txt python python-boto python-geoip
Suggested packages:
arj catdvi | texlive-binaries dbview djvullibre-bin epub-utils gv
libbspl-dev links lynx odt2txt python python-boto python-geoip
Command 'mc' not found, but can be installed with:
sudo apt install mc
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ sudo apt install mc
[sudo] password for yevhen:
Reading package lists... done
Building dependency tree... done
Reading state information... done
The following additional packages will be installed:
libbspl-dev links lynx odt2txt python python-boto python-geoip
Suggested packages:
arj catdvi | texlive-binaries dbview djvullibre-bin epub-utils gv
libbspl-dev links lynx odt2txt python python-boto python-geoip
Privacy - Home
```

The first i have started with hostonly then i started with intnet

```
Activities Terminal 6 Sep 29 17:34
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ nano Vagrantfile
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant up
Bringing machine 'app1.sample.com' up with 'virtualbox' provider...
Bringing machine 'app2.sample.com' up with 'virtualbox' provider...
Bringing machine 'db1.sample.com' up with 'virtualbox' provider...
Bringing machine 'db2.sample.com' up with 'virtualbox' provider...
=> app1.sample.com: You assigned a static IP ending in ".1" to this machine,
    which is the default address used by the router and can cause the
    network to not work properly. If the network doesn't work
=> app1.sample.com: properly, try changing this IP.
=> app1.sample.com: Importing base box 'ubuntu_18.04'...
=> app1.sample.com: Matching MAC address for NAT networking...
=> app1.sample.com: This is very often used by the router and can cause the
    network to not work properly. If the network doesn't work
=> app1.sample.com: properly, try changing this IP.
=> app1.sample.com: Setting the name of the VM: app1.sample.com
=> app1.sample.com: Clearing any previously set network interfaces...
=> app1.sample.com: Preparing network interfaces based on configuration...
=> app1.sample.com: Adapter 1: nat
    app1.sample.com: Adapter 2: bridged
    app1.sample.com: Adapter 3: hostonly
=> app1.sample.com: Forwarding ports...
    app1.sample.com: 22 (guest) == 2222 (host) (adapter 1)
=> app1.sample.com: Running 'pre-boot' VM customizations...
=> app1.sample.com: Booting VM...
=> app1.sample.com: Waiting for machine to boot. This may take a few minutes...
    app1.sample.com: IP: 127.0.0.1:2222
    app1.sample.com: SSH username: vagrant
    app1.sample.com: SSH auth method: password
    app1.sample.com:
    app1.sample.com: Inserting generated public key within guest...
    app1.sample.com: Removing insecure key from the guest if it's present...
    app1.sample.com: Key inserted! Disconnecting and reconnecting using new SSH key...
=> app1.sample.com: Machine booted and ready!
=> app1.sample.com: Checking for guest additions in VM...
=> app1.sample.com: Configuring and enabling network interfaces...
=> app1.sample.com: Importing base box 'ubuntu_18.04'...
=> app2.sample.com: Matching MAC address for NAT networking...
=> app2.sample.com: Setting the name of the VM: app2.sample.com
=> app2.sample.com: Clearing any previously set network interfaces...
    app2.sample.com: 22 (guest) == 2200 (host) (adapter 1)
=> app2.sample.com: Preparing network interfaces based on configuration...
    app2.sample.com: Adapter 1: nat
    app2.sample.com: Adapter 2: bridged
    app2.sample.com: Adapter 3: hostonly
=> app2.sample.com: Forwarding ports...
    app2.sample.com: 22 (guest) == 2200 (host) (adapter 1)
=> app2.sample.com: Running 'pre-boot' VM customizations...
=> app2.sample.com: Booting VM...
```

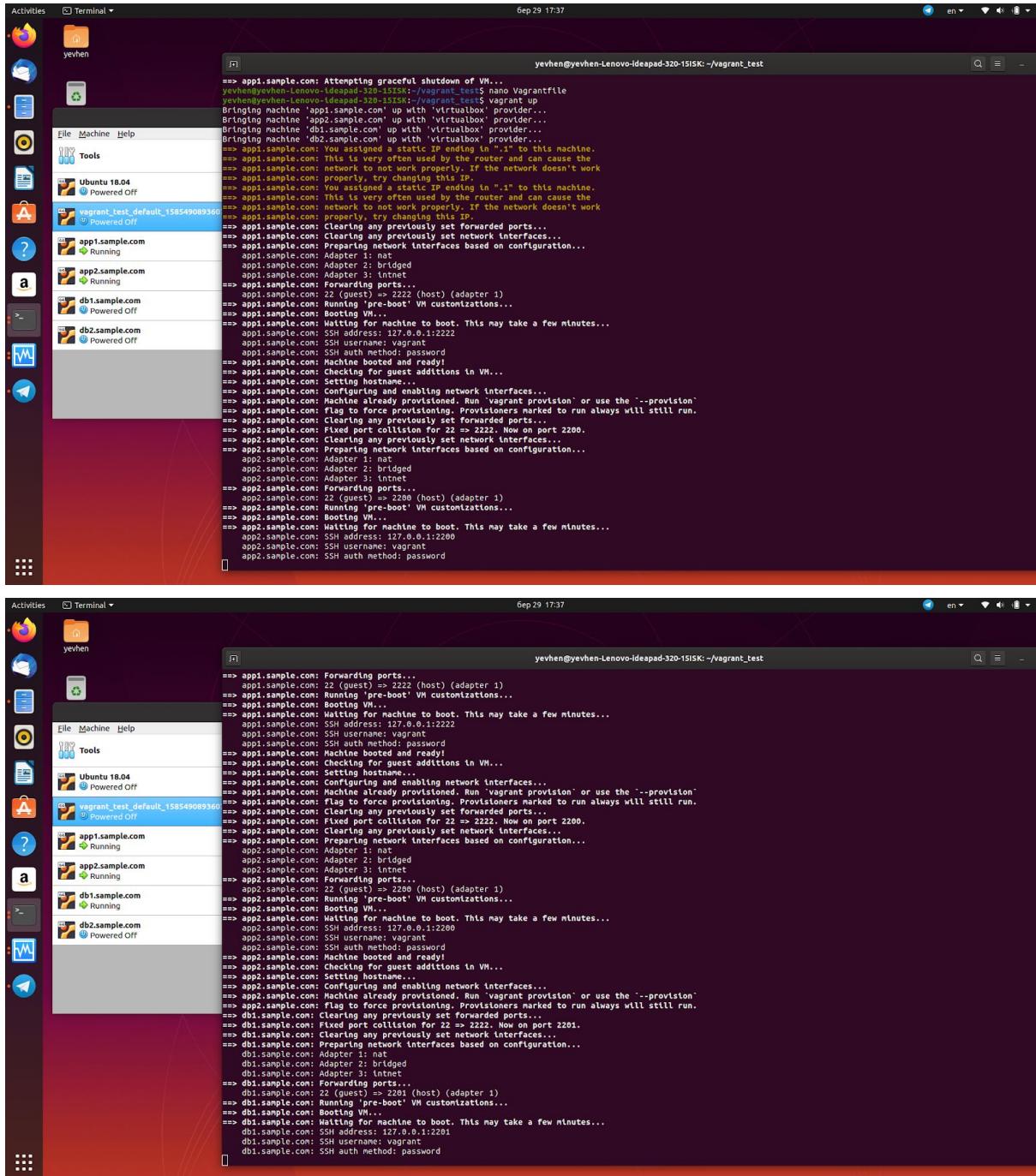


A screenshot of a Linux desktop environment with a terminal window open. The terminal shows the output of a Vagrant test script running on two virtual machines, db1.sample.com and db2.sample.com. The desktop interface includes a dock with icons for Activities, Terminal, Home, and a file manager, as well as a sidebar with a 'Tools' section containing links to various sample VMs.

```
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$
```

```
==> db1.sample.com: Importing base box 'ubuntu 18_04'...
==> db1.sample.com: Matching MAC address for network interface...
==> db1.sample.com: Setting the name of the VM: db1.sample.com
==> db1.sample.com: Fixed port collision for 22 => 2222. Now on port 2201.
==> db1.sample.com: Clearing any previously set network interfaces...
==> db1.sample.com: Preparing network interfaces based on configuration...
==> db1.sample.com: Adapter 1: nat
db1.sample.com: Adapter 2: bridged
db1.sample.com: Adapter 3: hostonly
==> db1.sample.com: Forwarding ports...
db1.sample.com: 22 (guest) => 2201 (host) (adapter 1)
==> db1.sample.com: Booting VM...
==> db1.sample.com: Waiting for machine to boot. This may take a few minutes...
db1.sample.com: SSH address: 127.0.0.1:2201
db1.sample.com: SSH username: vagrant
db1.sample.com: SSH auth method: password
db1.sample.com:
db1.sample.com: Inserting generated public key within guest...
db1.sample.com: Removing insecure key from the guest if it's present...
db1.sample.com: Key inserted for re-attaching and reconnecting using new SSH key...
==> db1.sample.com: Machine booted and ready!
==> db1.sample.com: Checking for guest additions in VM...
db1.sample.com: Setting hostname...
==> db1.sample.com: Configuring and enabling network interfaces...
db1.sample.com: Adapter 1: nat
db1.sample.com: Adapter 2: bridged
db1.sample.com: Adapter 3: hostonly
==> db2.sample.com: Forwarding ports...
db2.sample.com: 22 (guest) => 2202 (host) (adapter 1)
==> db2.sample.com: Running 'pre-boot' VM customizations...
==> db2.sample.com: Booting VM...
==> db2.sample.com: Waiting for machine to boot. This may take a few minutes...
db2.sample.com: SSH address: 127.0.0.1:2202
db2.sample.com: SSH username: vagrant
db2.sample.com: SSH auth method: password
db2.sample.com:
db2.sample.com: Inserting generated public key within guest...
db2.sample.com: Removing insecure key from the guest if it's present...
db2.sample.com: Key inserted for re-attaching and reconnecting using new SSH key...
==> db2.sample.com: Machine booted and ready!
==> db2.sample.com: Checking for guest additions in VM...
==> db2.sample.com: Setting hostname...
==> db2.sample.com: Configuring and enabling network interfaces...
```

start with intnet



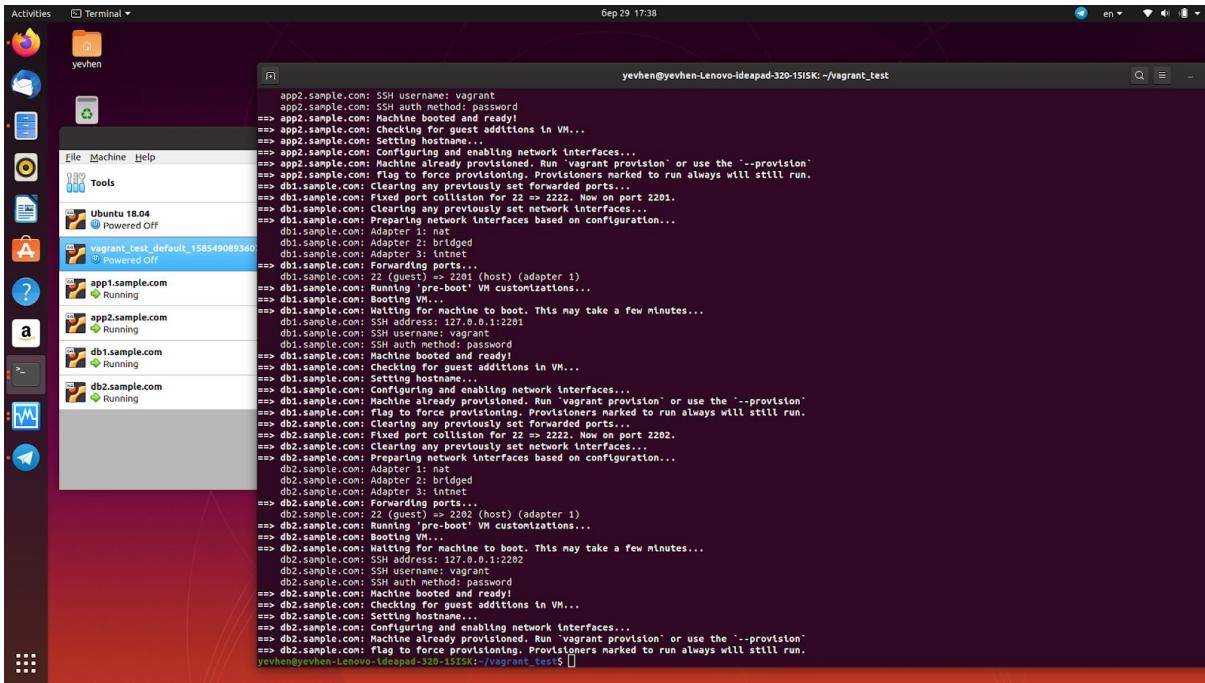
The image shows a Linux desktop environment with two terminal windows open, both titled "Terminal". The desktop background is a purple gradient. A dock on the left contains icons for various applications like a web browser, file manager, and terminal.

Terminal 1 (Top):

```
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test
Bringing machine 'app1.sample.com' up with 'virtualbox' provider...
Bringing machine 'app2.sample.com' up with 'virtualbox' provider...
Bringing machine 'db1.sample.com' up with 'virtualbox' provider...
Bringing machine 'db2.sample.com' up with 'virtualbox' provider...
==> app1.sample.com: You assigned a static IP ending in ".1" to this machine.
==> app1.sample.com: This is very often used by the router and can cause the
==> app1.sample.com: network to not work properly. If the network doesn't work
==> app1.sample.com: try changing the IP.
==> app1.sample.com: Assigning IP address 192.168.1.1 to adapter 1...
==> app1.sample.com: Assigning IP address 192.168.1.2 to adapter 2...
==> app1.sample.com: Clearing any previously set network interfaces...
==> app1.sample.com: Preparing network interfaces based on configuration...
app1.sample.com: Adapter 1: nat
app1.sample.com: Adapter 2: bridged
app1.sample.com: Adapter 3: intnet
==> app1.sample.com: Forwarding ports...
app1.sample.com: 22 (guest) => 2222 (host) (adapter 1)
==> app1.sample.com: Running 'pre-boot' VM customizations...
==> app1.sample.com: Booting VM...
==> app1.sample.com: Waiting for machine to boot. This may take a few minutes...
app1.sample.com: SSH address: 127.0.0.1:2222
app1.sample.com: SSH username: vagrant
app1.sample.com: SSH auth method: password
==> app1.sample.com: Machine booted and ready!
==> app1.sample.com: Checking for guest additions in VM...
==> app1.sample.com: Configuring and enabling network interfaces...
==> app1.sample.com: Machine already provisioned. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisions marked to run always will still run.
==> app1.sample.com: Clearing any previously set forwarded ports...
app2.sample.com: Fixed port collision for 22 => 2222. Now on port 2200.
==> app2.sample.com: Clearing any previously set network interfaces...
==> app2.sample.com: Preparing network interfaces based on configuration...
app2.sample.com: Adapter 1: nat
app2.sample.com: Adapter 2: bridged
app2.sample.com: Adapter 3: intnet
==> app2.sample.com: Forwarding ports...
app2.sample.com: 22 (guest) => 2200 (host) (adapter 1)
==> app2.sample.com: Running 'pre-boot' VM customizations...
==> app2.sample.com: Booting VM...
==> app2.sample.com: Waiting for machine to boot. This may take a few minutes...
app2.sample.com: SSH address: 127.0.0.1:2200
app2.sample.com: SSH username: vagrant
app2.sample.com: SSH auth method: password
```

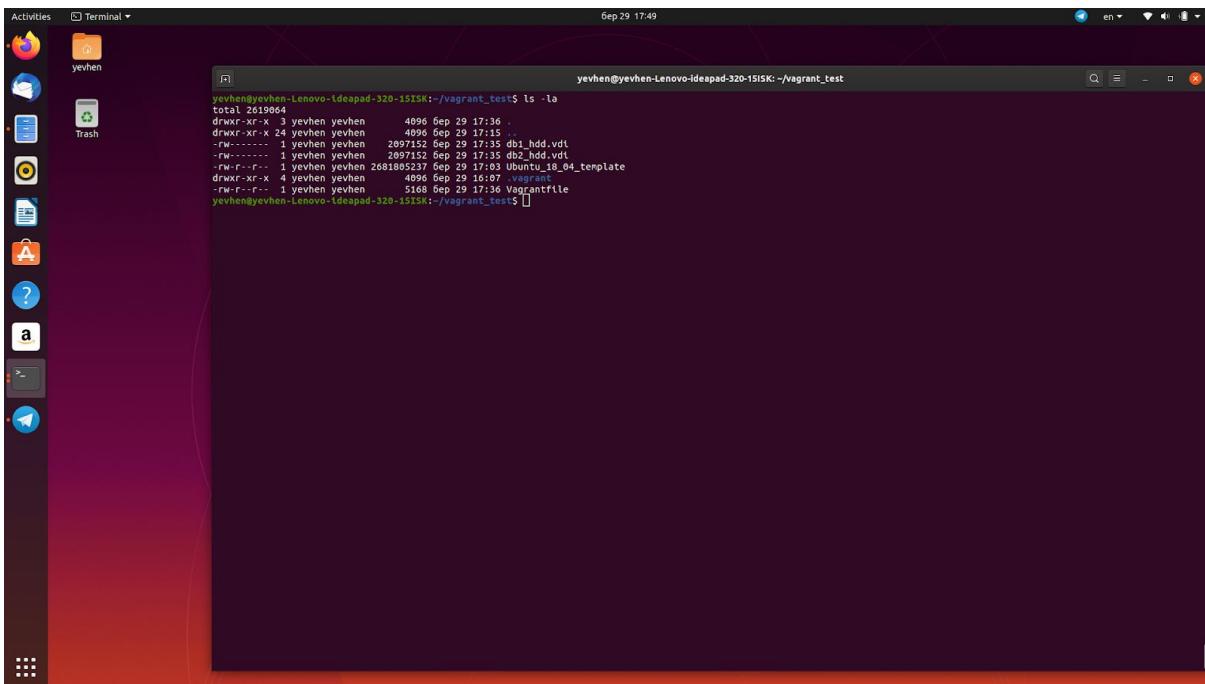
Terminal 2 (Bottom):

```
yevhen@yevhen-lenovo-ideapad-320-15ISK:~/vagrant_test
Bringing machine 'app1.sample.com' up with 'virtualbox' provider...
Bringing machine 'app2.sample.com' up with 'virtualbox' provider...
Bringing machine 'db1.sample.com' up with 'virtualbox' provider...
Bringing machine 'db2.sample.com' up with 'virtualbox' provider...
==> app1.sample.com: Forwarding ports...
app1.sample.com: 22 (guest) => 2222 (host) (adapter 1)
==> app1.sample.com: Running 'pre-boot' VM customizations...
==> app1.sample.com: Booting VM...
==> app1.sample.com: Waiting for machine to boot. This may take a few minutes...
app1.sample.com: SSH address: 127.0.0.1:2222
app1.sample.com: SSH username: vagrant
app1.sample.com: SSH auth method: password
==> app1.sample.com: Machine booted and ready!
==> app1.sample.com: Checking for guest additions in VM...
==> app1.sample.com: Setting hostname...
==> app1.sample.com: Configuring and enabling network interfaces...
==> app1.sample.com: Machine already provisioned. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisions marked to run always will still run.
==> app1.sample.com: Clearing any previously set forwarded ports...
app2.sample.com: Fixed port collision for 22 => 2222. Now on port 2200.
==> app2.sample.com: Clearing any previously set network interfaces...
==> app2.sample.com: Preparing network interfaces based on configuration...
app2.sample.com: Adapter 1: nat
app2.sample.com: Adapter 2: bridged
app2.sample.com: Adapter 3: intnet
==> app2.sample.com: Forwarding ports...
app2.sample.com: 22 (guest) => 2200 (host) (adapter 1)
==> app2.sample.com: Running 'pre-boot' VM customizations...
==> app2.sample.com: Booting VM...
==> app2.sample.com: Waiting for machine to boot. This may take a few minutes...
app2.sample.com: SSH address: 127.0.0.1:2200
app2.sample.com: SSH username: vagrant
app2.sample.com: SSH auth method: password
==> app2.sample.com: Machine booted and ready!
==> app2.sample.com: Checking for guest additions in VM...
==> app2.sample.com: Setting hostname...
==> app2.sample.com: Configuring and enabling network interfaces...
==> app2.sample.com: Machine already provisioned. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisions marked to run always will still run.
==> db1.sample.com: Clearing any previously set forwarded ports...
db1.sample.com: Forwarding ports...
db1.sample.com: 22 (guest) => 2201 (host) (adapter 1)
==> db1.sample.com: Running 'pre-boot' VM customizations...
==> db1.sample.com: Booting VM...
==> db1.sample.com: Waiting for machine to boot. This may take a few minutes...
db1.sample.com: SSH address: 127.0.0.1:2201
db1.sample.com: SSH username: vagrant
db1.sample.com: SSH auth method: password
```



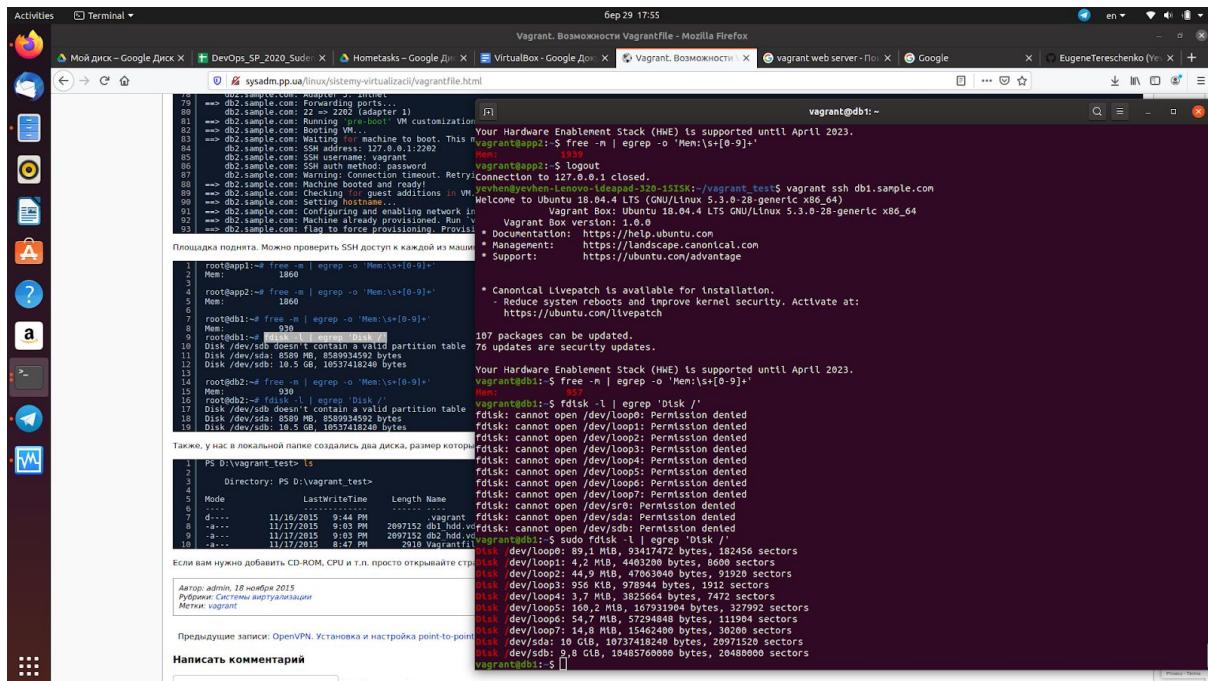
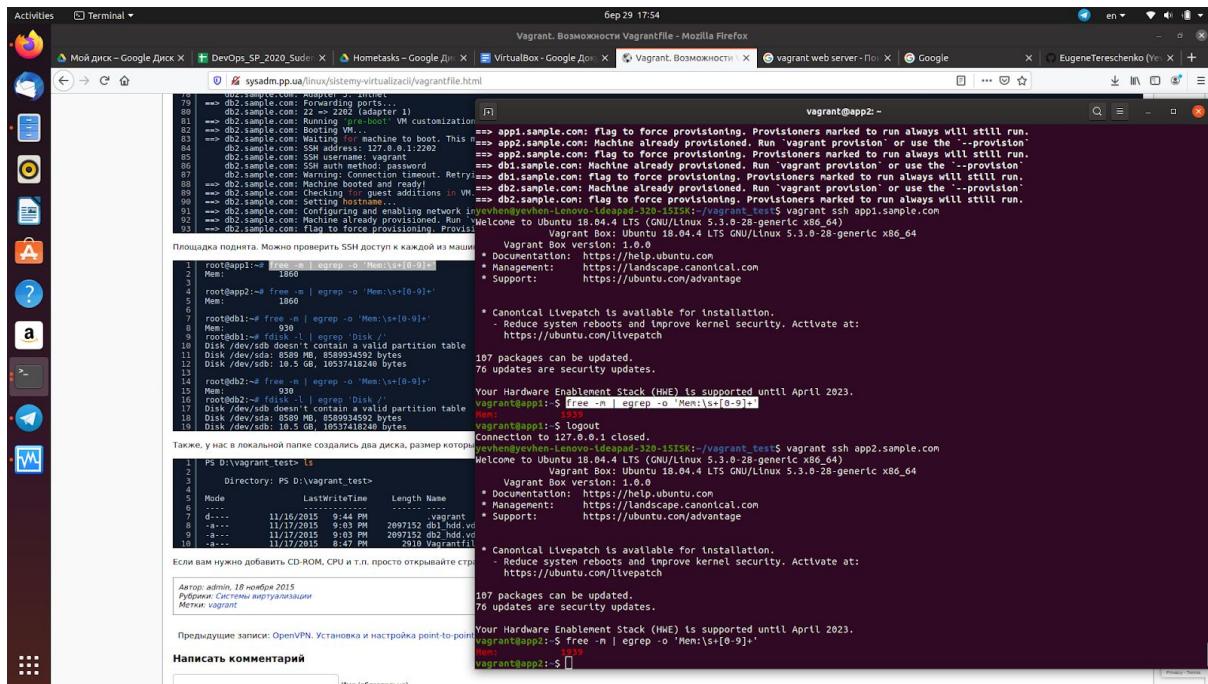
```
Activities Terminal - yevhen Sep 29 17:38 yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test
app2.sample.com: SSH username: vagrant
app2.sample.com: SSH password: 
==> app2.sample.com: Machine is ready. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisioners marked to run always will still run.
==> app2.sample.com: Checking for guest additions in VM...
==> app2.sample.com: Setting hostname...
==> app2.sample.com: Configuring and enabling network interfaces...
==> app2.sample.com: Machine is ready. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisioners marked to run always will still run.
==> app2.sample.com: Clearing any previously set forwarded ports...
==> db1.sample.com: Fixed port collision for 22 => 2222. Now on port 2201.
==> db1.sample.com: Clearing any previously set network interfaces...
==> db1.sample.com: Preparing network interfaces based on configuration...
==> db1.sample.com: Adapter 1: nat
==> db1.sample.com: Adapter 2: bridged
db1.sample.com: Adapter 3: intnet
==> db1.sample.com: Forwarding ports...
db1.sample.com: 22 (guest) => 2201 (host) (adapter 1)
==> db1.sample.com: Fixed port collision for 'vagrant' => 2201. Now on port 2202.
db1.sample.com: Booting VM...
==> db1.sample.com: Waiting for machine to boot. This may take a few minutes...
db1.sample.com: SSH address: 127.0.0.1:2201
db1.sample.com: SSH username: vagrant
db1.sample.com: SSH password: 
==> db1.sample.com: Machine booted and ready!
==> db1.sample.com: Checking for guest additions in VM...
==> db1.sample.com: Setting hostname...
==> db1.sample.com: Configuring and enabling network interfaces...
==> db1.sample.com: Machine is ready. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisioners marked to run always will still run.
==> db1.sample.com: Clearing any previously set forwarded ports...
==> db2.sample.com: Fixed port collision for 22 => 2222. Now on port 2202.
==> db2.sample.com: Clearing any previously set network interfaces...
==> db2.sample.com: Preparing network interfaces based on configuration...
==> db2.sample.com: Adapter 1: nat
db2.sample.com: Adapter 2: bridged
db2.sample.com: Adapter 3: intnet
==> db2.sample.com: Forwarding ports...
db2.sample.com: 22 (guest) => 2202 (host) (adapter 1)
==> db2.sample.com: Fixed port collision for 'vagrant' => 2202. Now on port 2203.
db2.sample.com: Booting VM...
==> db2.sample.com: Waiting for machine to boot. This may take a few minutes...
db2.sample.com: SSH address: 127.0.0.1:2202
db2.sample.com: SSH username: vagrant
db2.sample.com: SSH password: 
==> db2.sample.com: Machine booted and ready!
==> db2.sample.com: Checking for guest additions in VM...
==> db2.sample.com: Setting hostname...
==> db2.sample.com: Configuring and enabling network interfaces...
==> db2.sample.com: Machine is ready. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisioners marked to run always will still run.
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$
```

we have two disks with size of 10 GB



```
Activities Terminal - yevhen Sep 29 17:49 yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test
total 20
drwxr-x--x 3 yevhen yevhen 4096 Sep 29 17:36 .
drwxr-x--x 24 yevhen yevhen 4096 Sep 29 17:15 ..
-rw----- 1 yevhen yevhen 2097152 Sep 29 17:35 db1_hdd.vdi
-rw----- 1 yevhen yevhen 2097152 Sep 29 17:35 db2_hdd.vdi
-rw-r--r-- 1 yevhen yevhen 26810851 Sep 29 17:35 Ubuntu_18.04_template
drwxr-x--x 2 yevhen yevhen 4096 Sep 29 17:36 .
-rw-r--r-- 1 yevhen yevhen 5168 Sep 29 17:36 Vagrantfile
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$
```

look at RAM of virtualBox



Activities Terminal ▾

Vagrant. Возможности Vagrantfile - Mozilla Firefox

Мой диск – Google Диск X | DevOps_2020_Suder X | Hometasks – Google Др. X | VirtualBox - Google Др. X | Vagrant. Возможности X | vagrant web server - Помощник | Google X | EugeneTereshchenko (Yan) X +

sysadmin.pp.ua/linux/vistem-virtualizaci/vagrantfile.html

```

75 --- db2.sample.com: Forwarding ports...
80 --- db2.sample.com: 22 => 2202 (adapter 1)
81 --- db2.sample.com: Waiting for machine to boot. This may take a few minutes...
82 --- db2.sample.com: Booting VM "vagrant"...
83 --- db2.sample.com: SSH username: vagrant
84 --- db2.sample.com: SSH auth method: password
85 --- db2.sample.com: Machine booted and ready!
86 --- db2.sample.com: Checking for guest additions in VM...
87 --- db2.sample.com: Configuring and enabling network interfaces...
88 --- db2.sample.com: Machine booted and ready!
89 --- db2.sample.com: Checking for hostinjected...
90 --- db2.sample.com: Machine booted and ready!
91 --- db2.sample.com: Ftp to force provisioning. Provisioning...
92 --- db2.sample.com: Machine booted and ready!
93 --- db2.sample.com: Machine booted and ready!
Площадка поднога. Можно проверить SSH доступ к каждой из машин
1 root@app1:~# free -m | egrep -o 'Mem:[\s+][0-9]+'
2 Mem:          1860
3 root@app2:~# free -m | egrep -o 'Mem:[\s+][0-9]+'
4 Mem:          1860
5
6 root@db1:~# free -m | egrep -o 'Mem:[\s+][0-9]+'
7 Mem:          930
8 root@db1:~# fdisk -l | grep /dev/sda
9 Disk /dev/sda: 8589 MB, 8589393459 bytes
10 Disk /dev/sda: 8589 MB, 8589393459 bytes
11 Disk /dev/sda: 8589 MB, 8589393459 bytes
12 Disk /dev/sda: 8589 MB, 8589393459 bytes
13 Disk /dev/sdb: 10.3 GB, 10537418240 bytes
14 Disk /dev/sdb: 10.3 GB, 10537418240 bytes
15
16 root@db2:~# free -m | egrep -o 'Mem:[\s+][0-9]+'
17 Mem:          930
18
19 root@db2:~# fdisk -l | grep /dev/sda
20 Disk /dev/sda: 8589 MB, 8589393459 bytes
21 Disk /dev/sda: 8589 MB, 8589393459 bytes
22 Disk /dev/sdb: 10.3 GB, 10537418240 bytes
23 Disk /dev/sdb: 10.3 GB, 10537418240 bytes
Также, у нас в локальной папке созданы два диска, размер которых
1 Ps D:\vagrant.test> ls
2
3     Directory: Ps D:\vagrant.test>
4
5 Mode                LastWriteTime       Length Name
6 ----               -----        ...
7 d----   11/16/2015  9:03 PM           2097152 db1.hdd.vd
8 d----   11/17/2015  9:03 PM           2097152 db2.hdd.vd
9
10-a---  11/17/2015  9:47 PM           2910 Vagrantfile
11
Если вам нужно добавить CD-ROM, CPU и т.п. просто открывайте строку
12
13 Алерт админа: 18 ноября 2015
14 Руководство по установке
15 Метки: vagrant
16
Предыдущие записи: Оценка VPN. Установка и настройка point-to-point
17
Написать комментарий

```

Privacy Policy