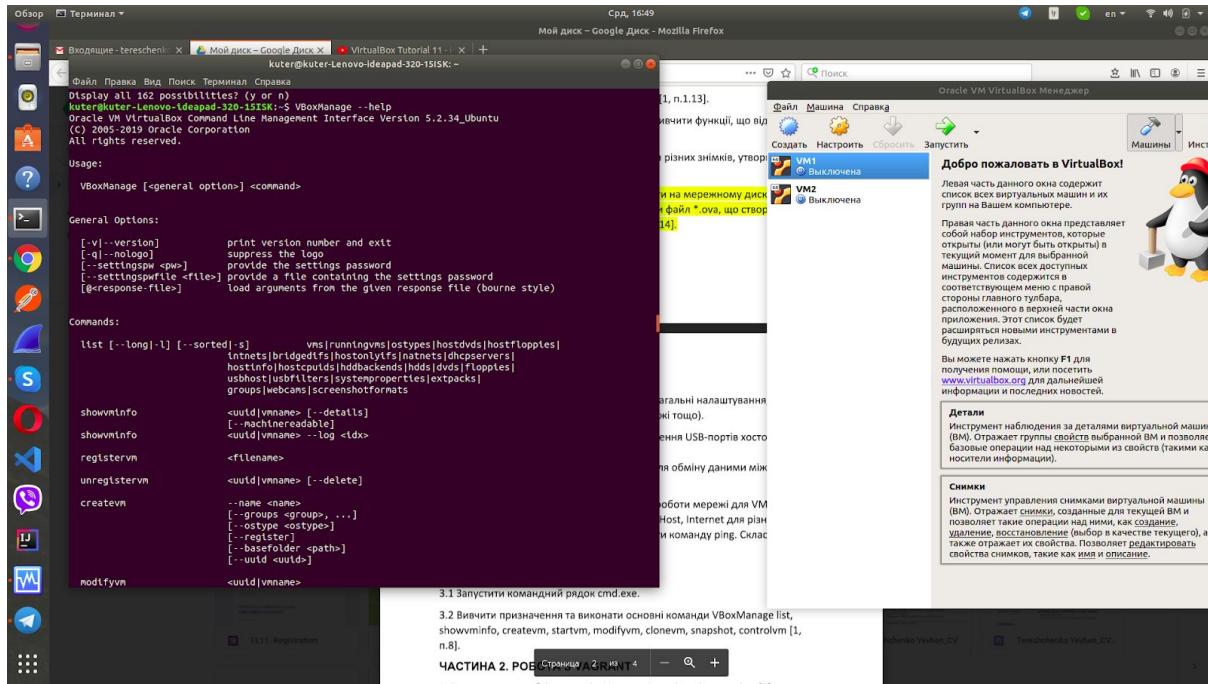
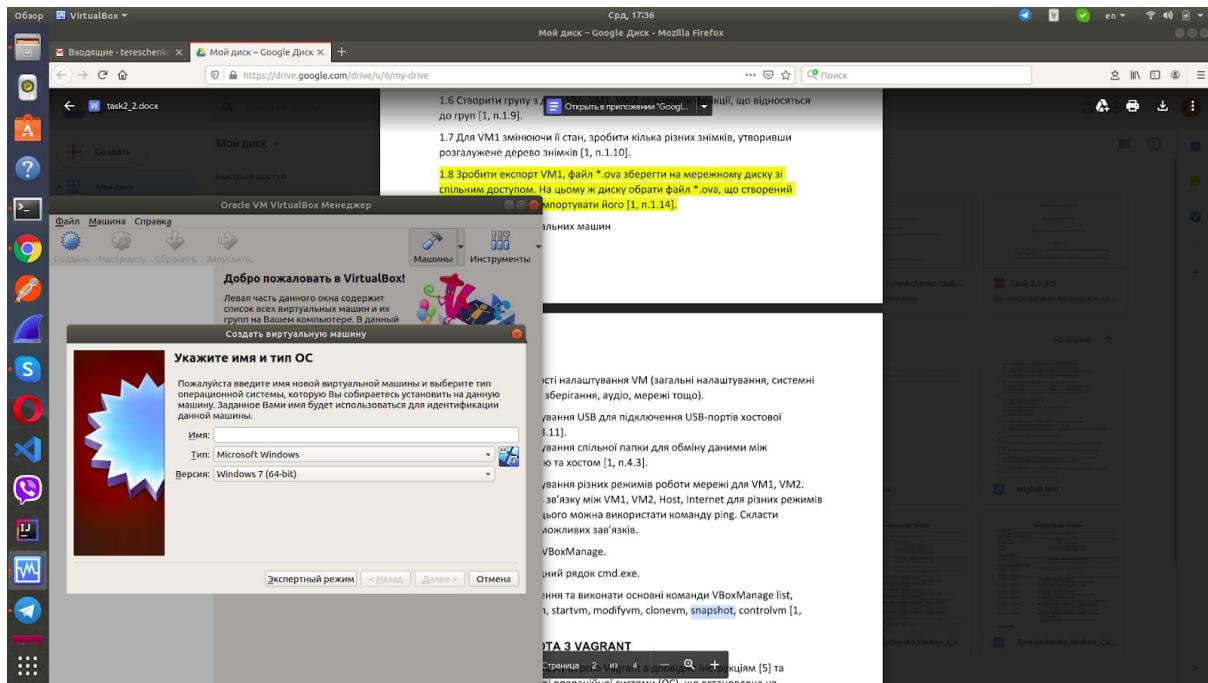


## First part

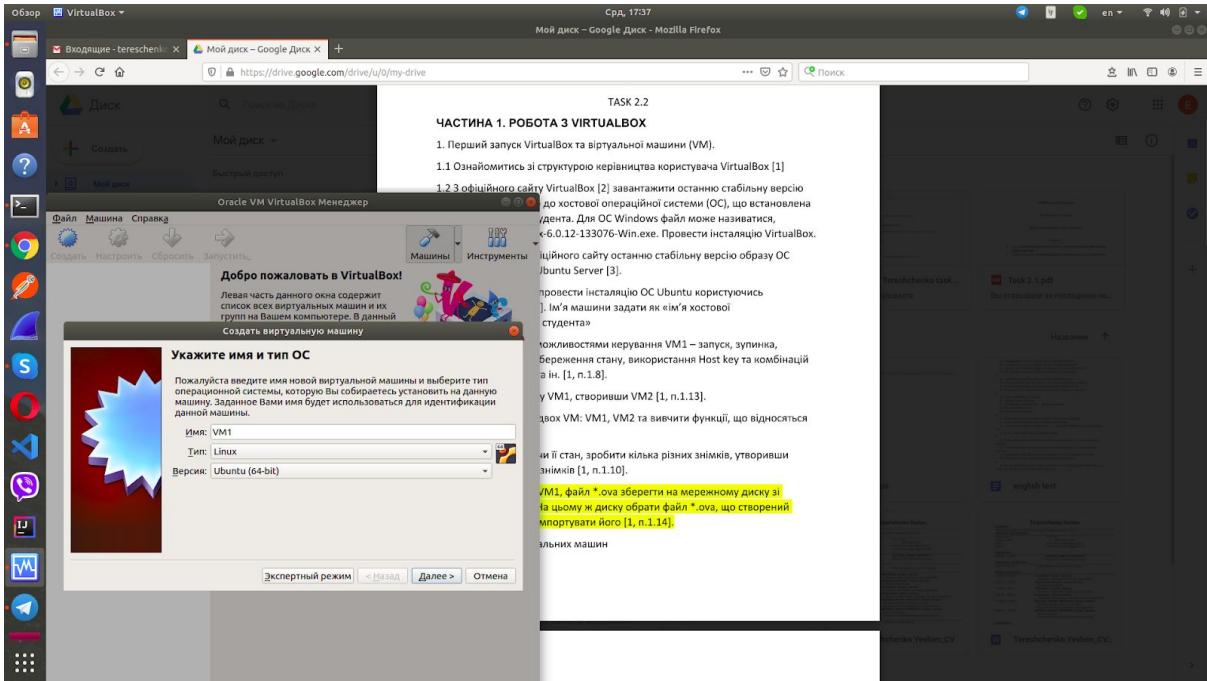
## 1. virtualbox example



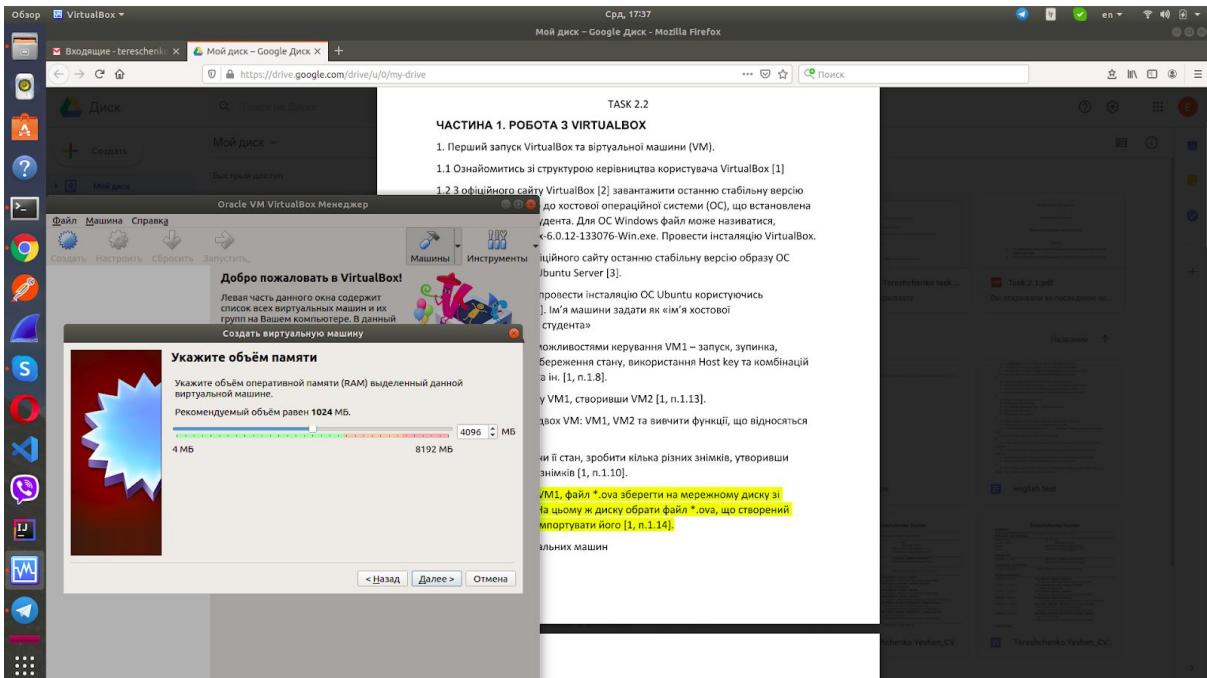
## 1.2 Create virtual box type ubuntu



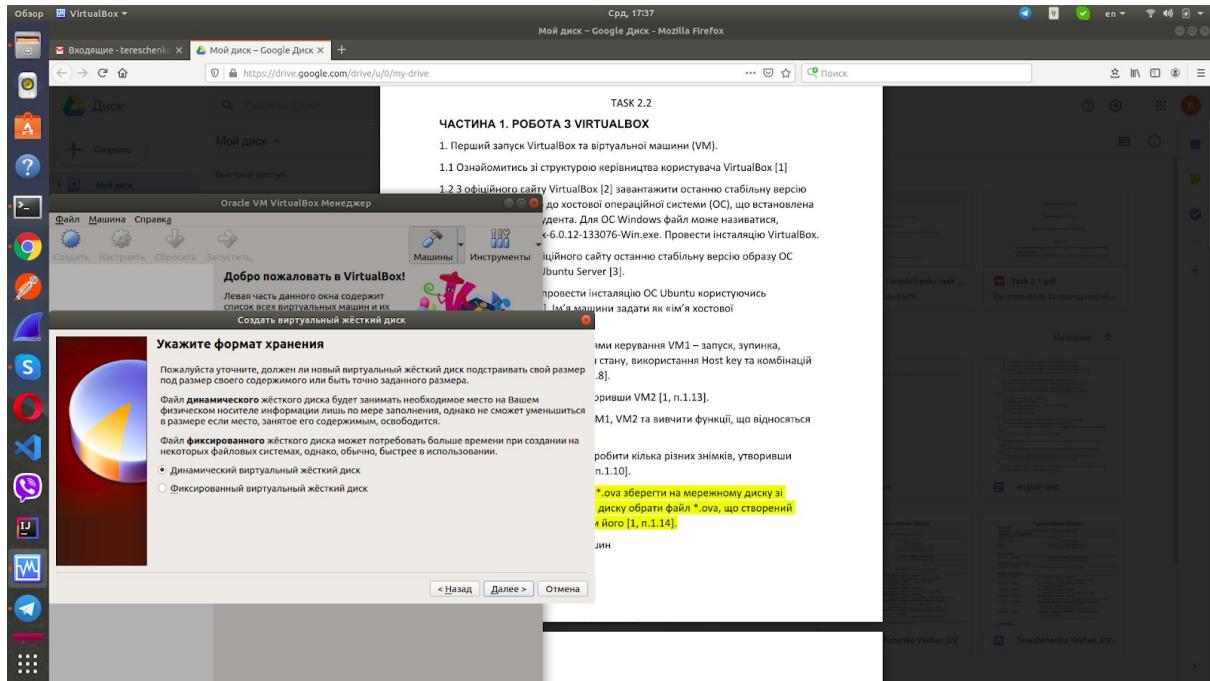
## 1. 3 Choose it type



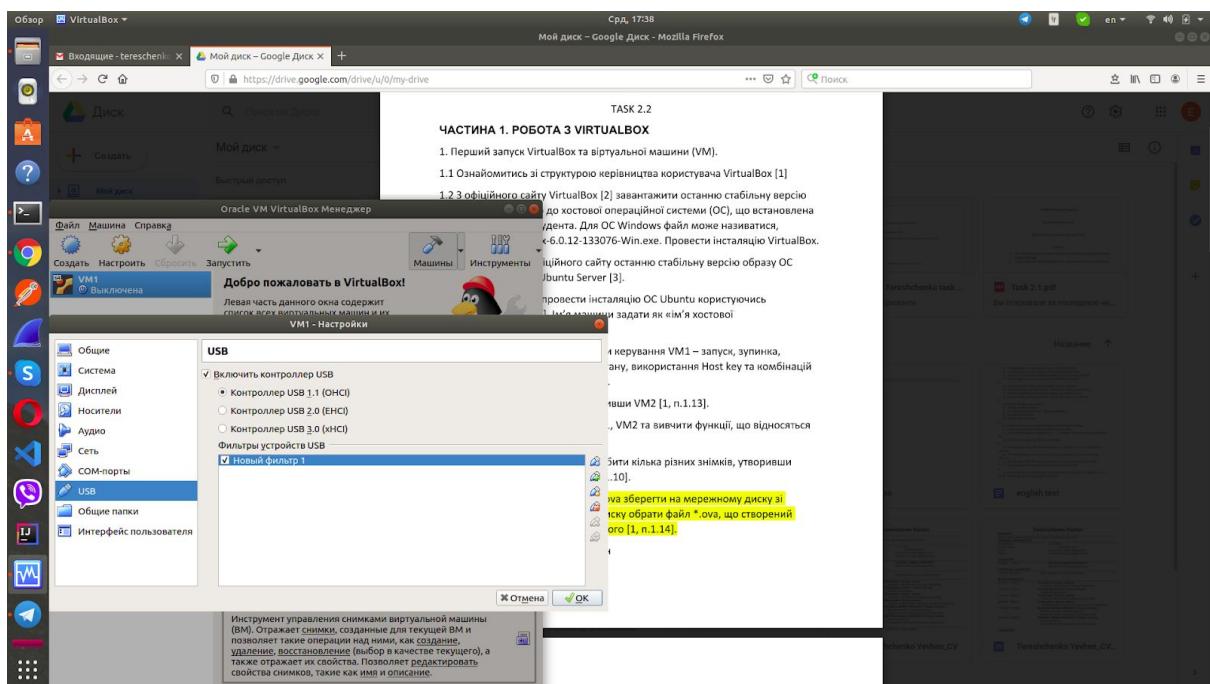
Choose type and how much RAM we use



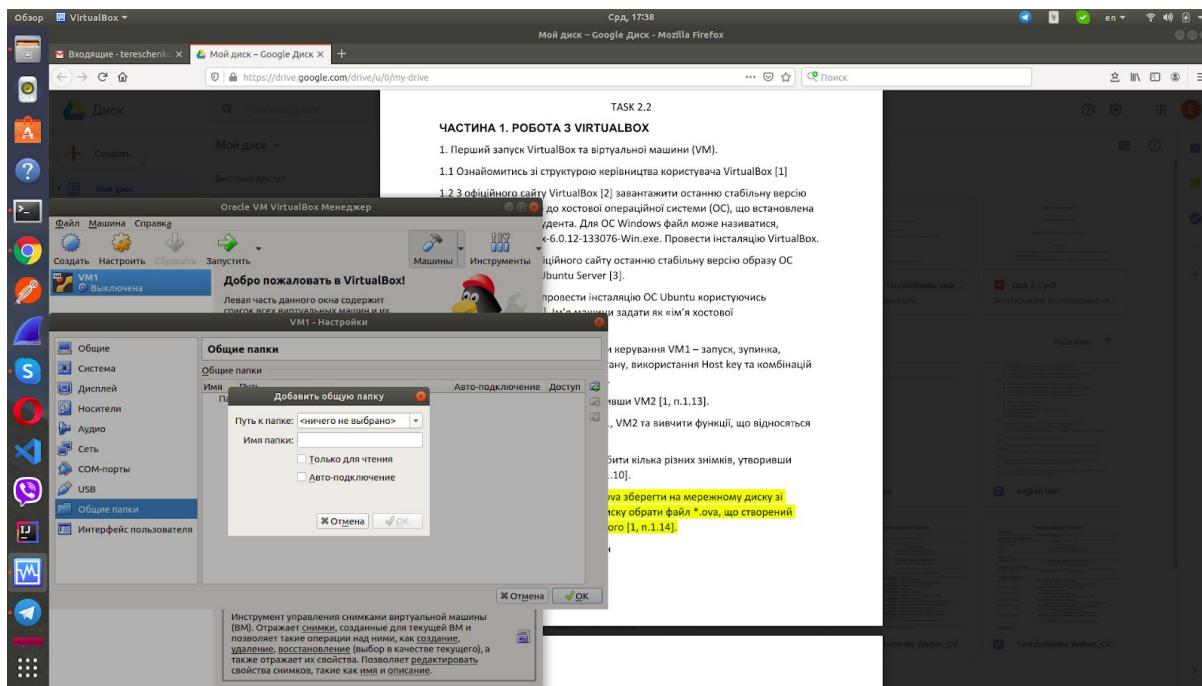
## Choose type of HDD what we use



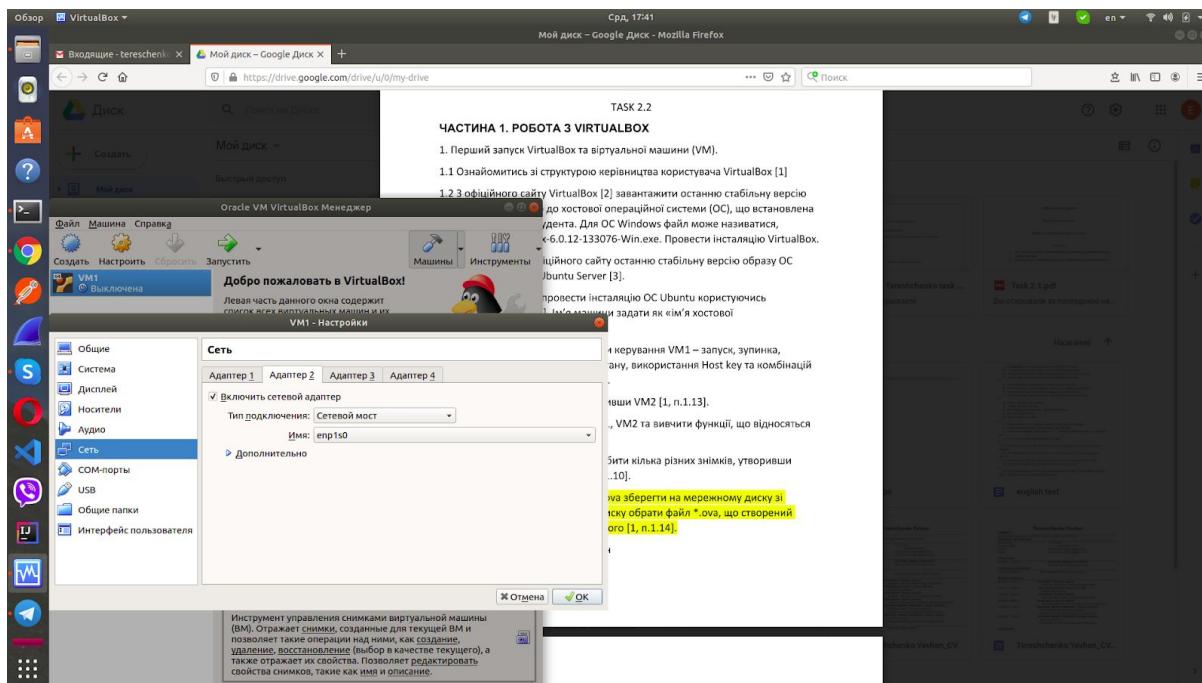
## switch on usb controller



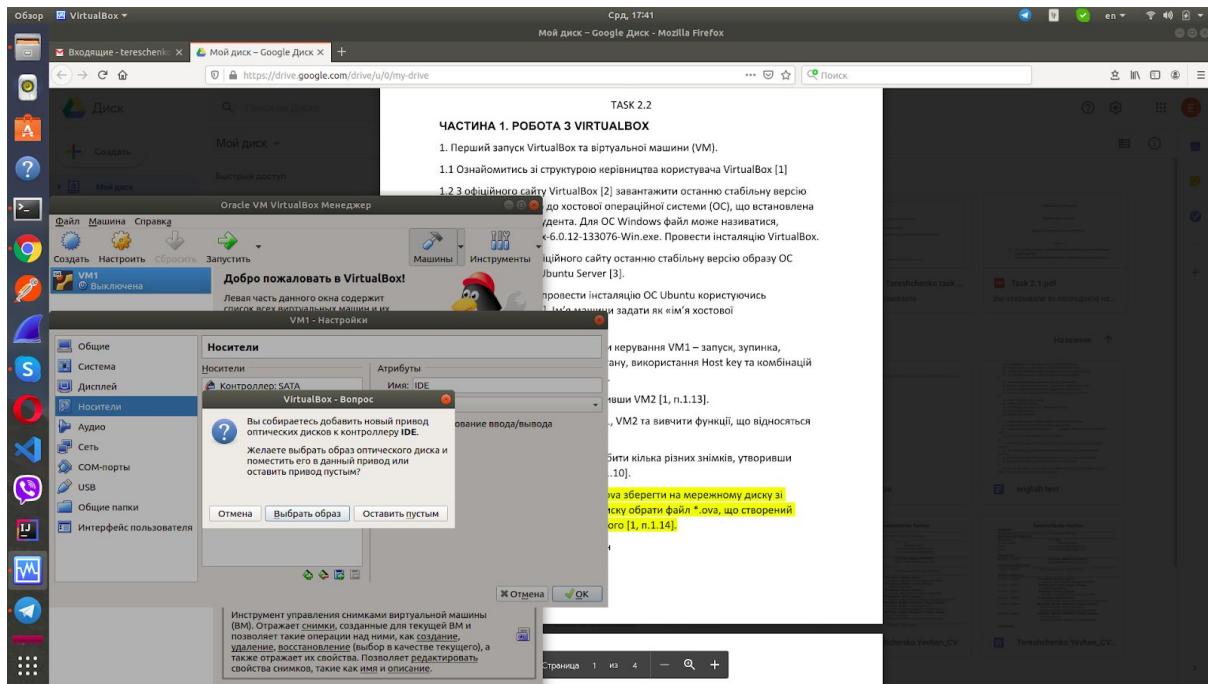
Choose share directory what we use on



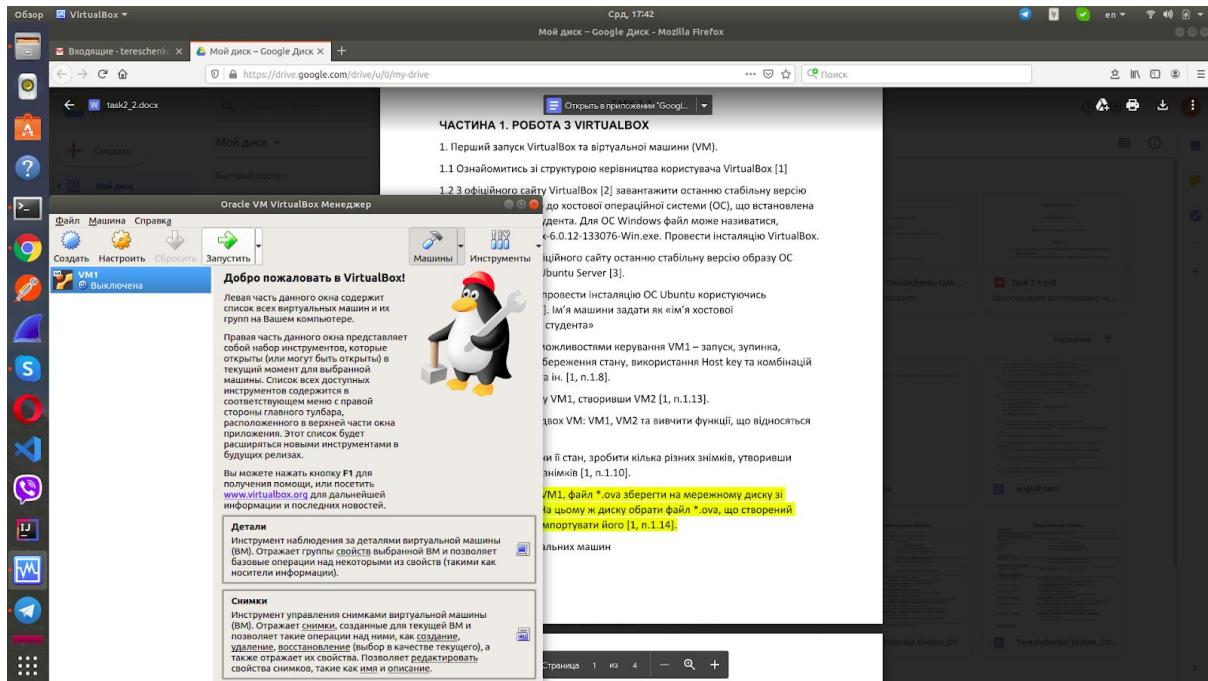
Choose the network i choose network bridge



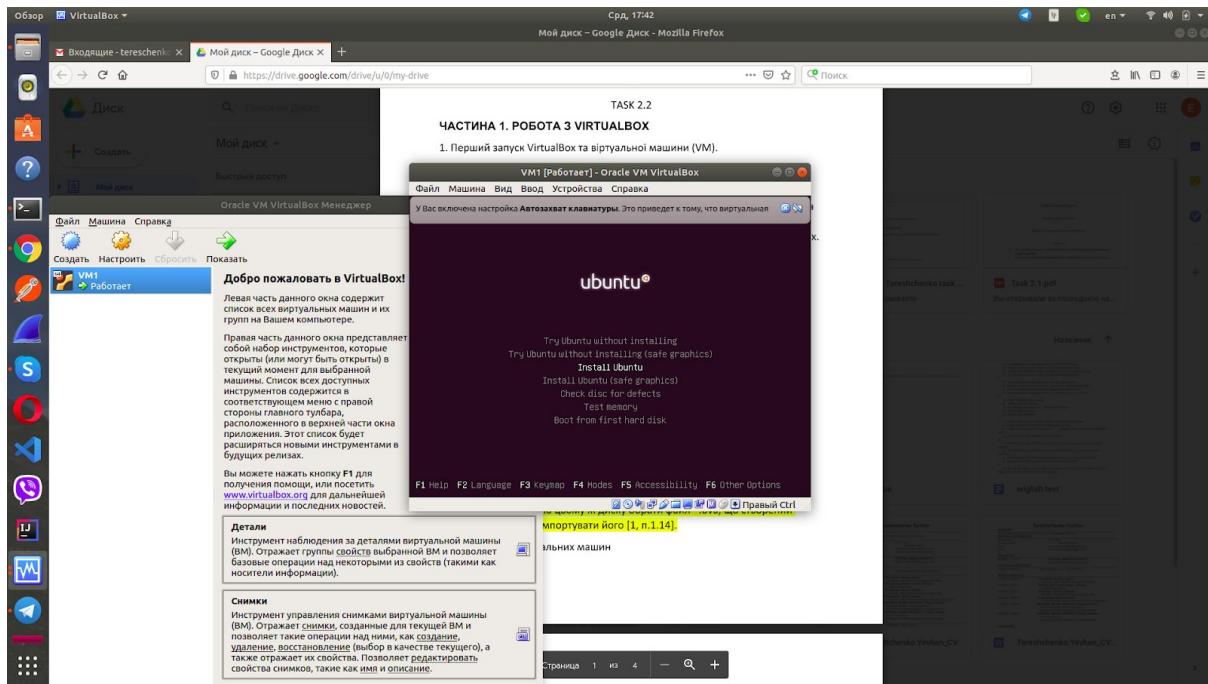
by the way i must to add optical drive



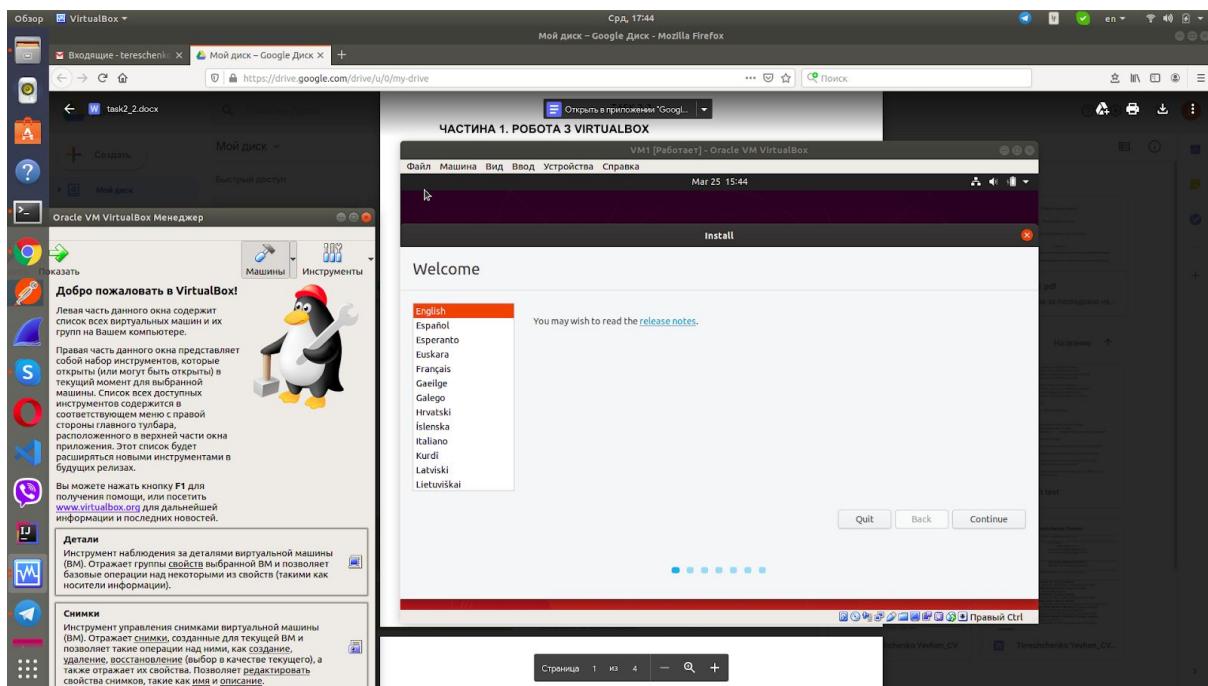
virtual machine is ready

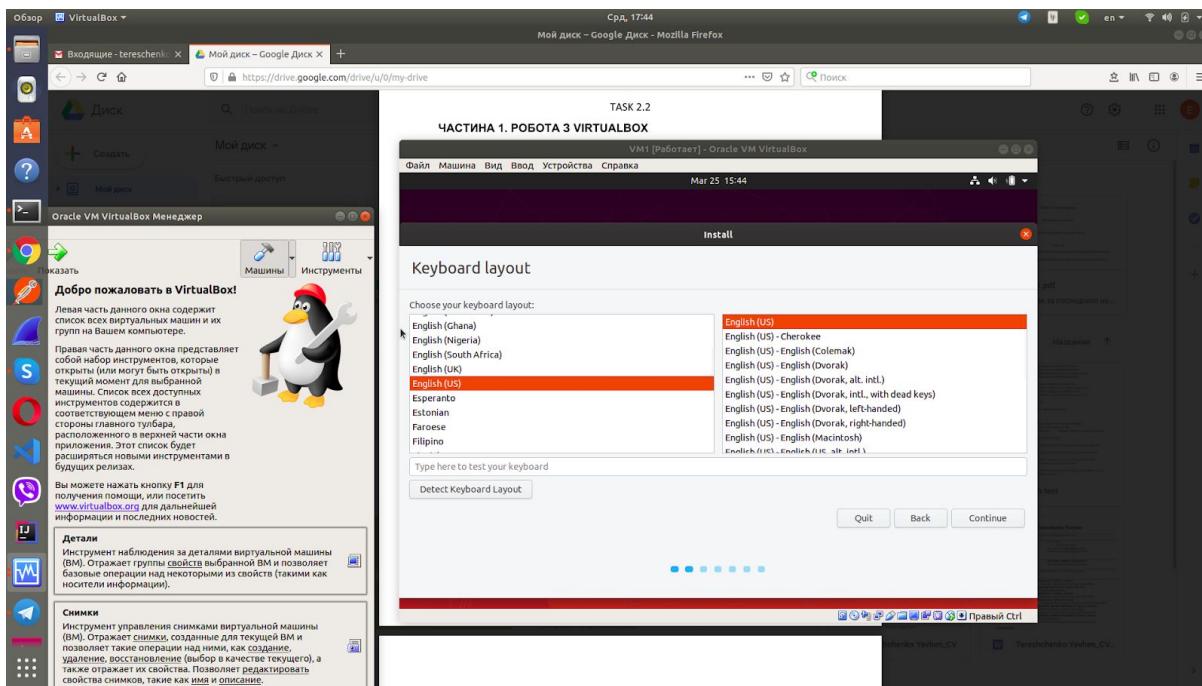


## start installation

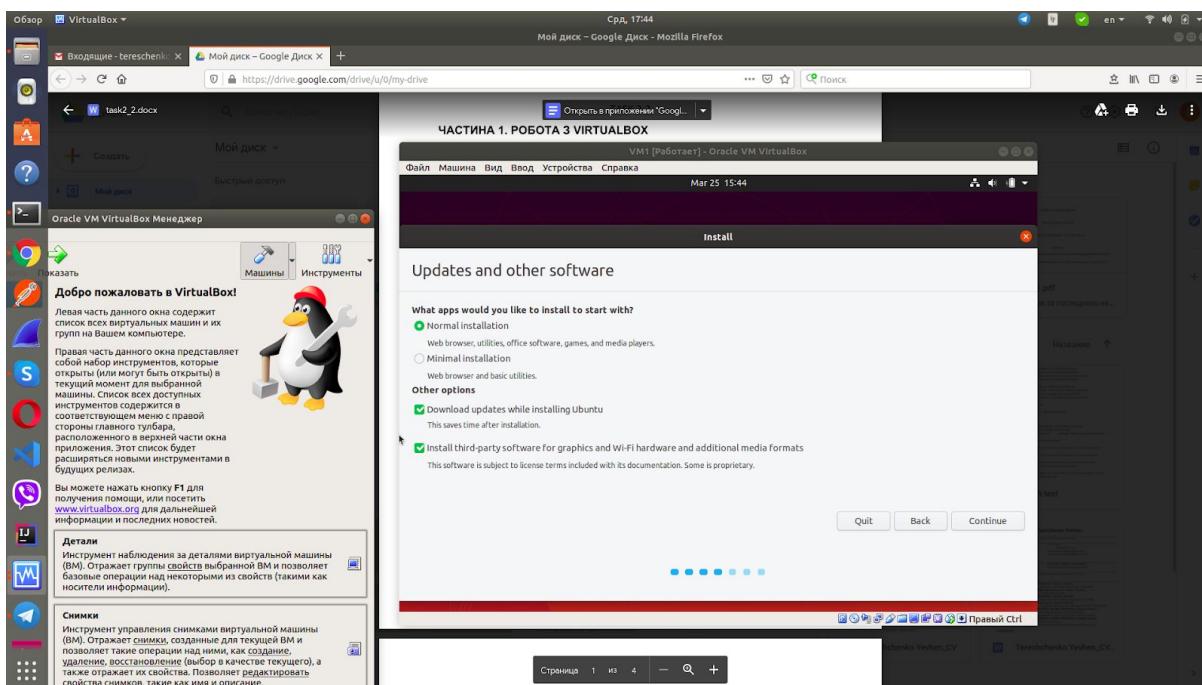


## 1.4 choose language

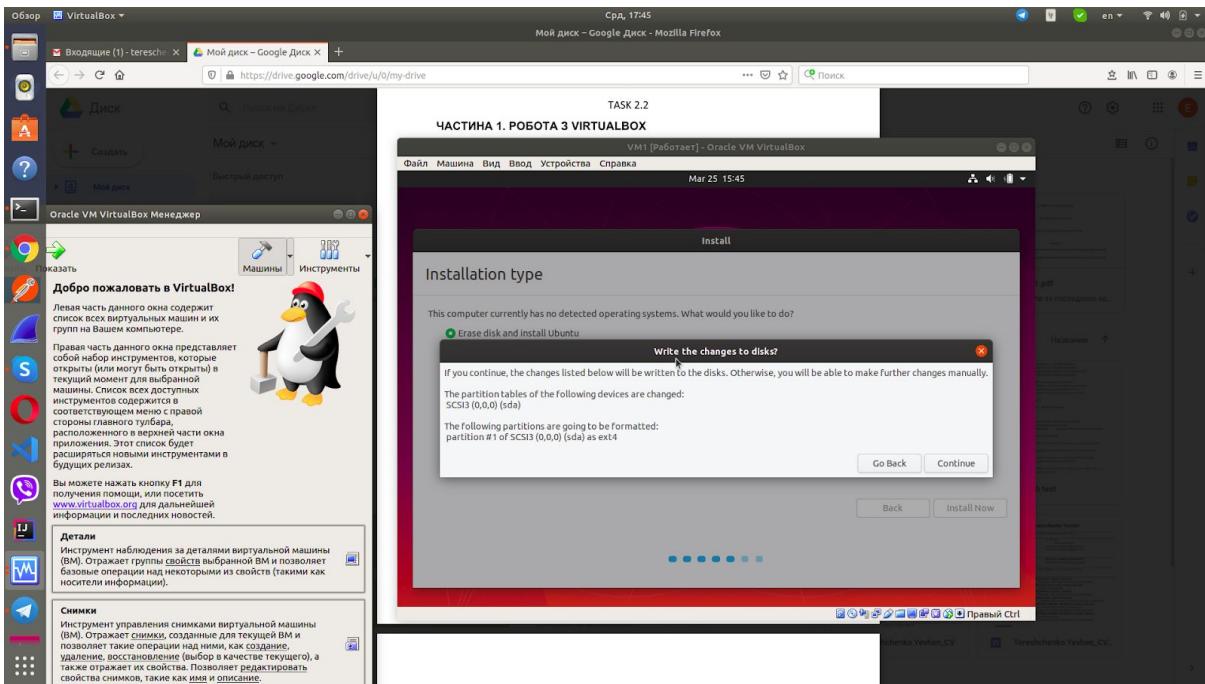




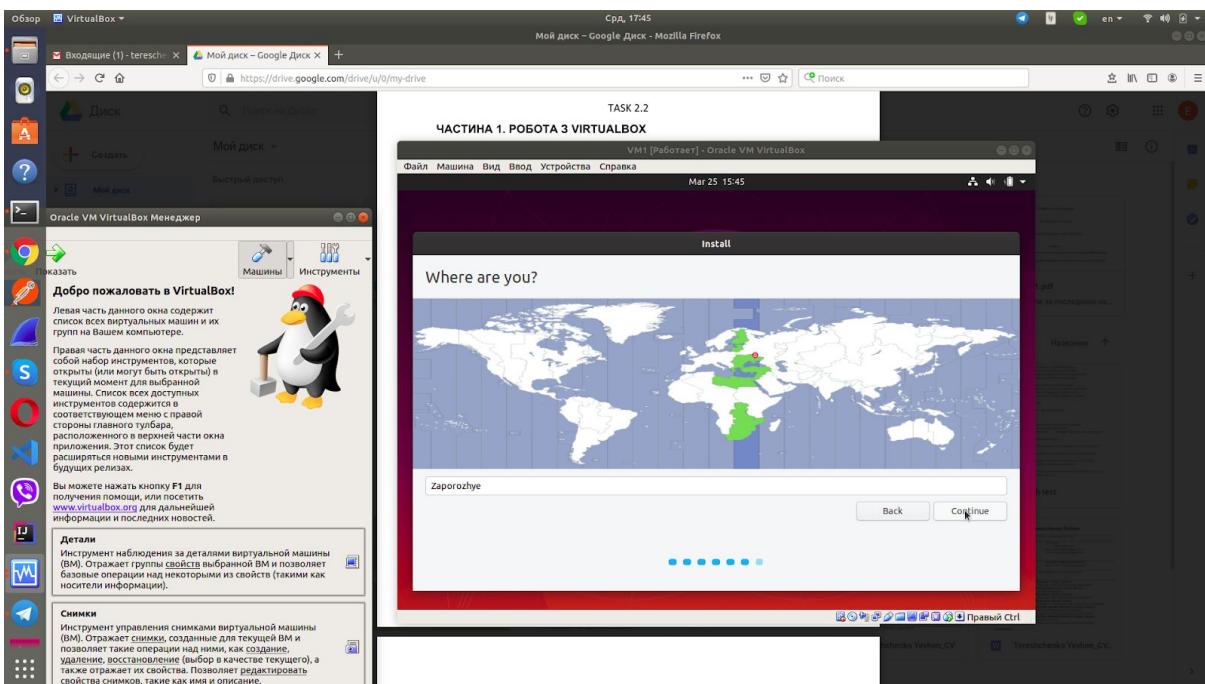
## choose maximum installation



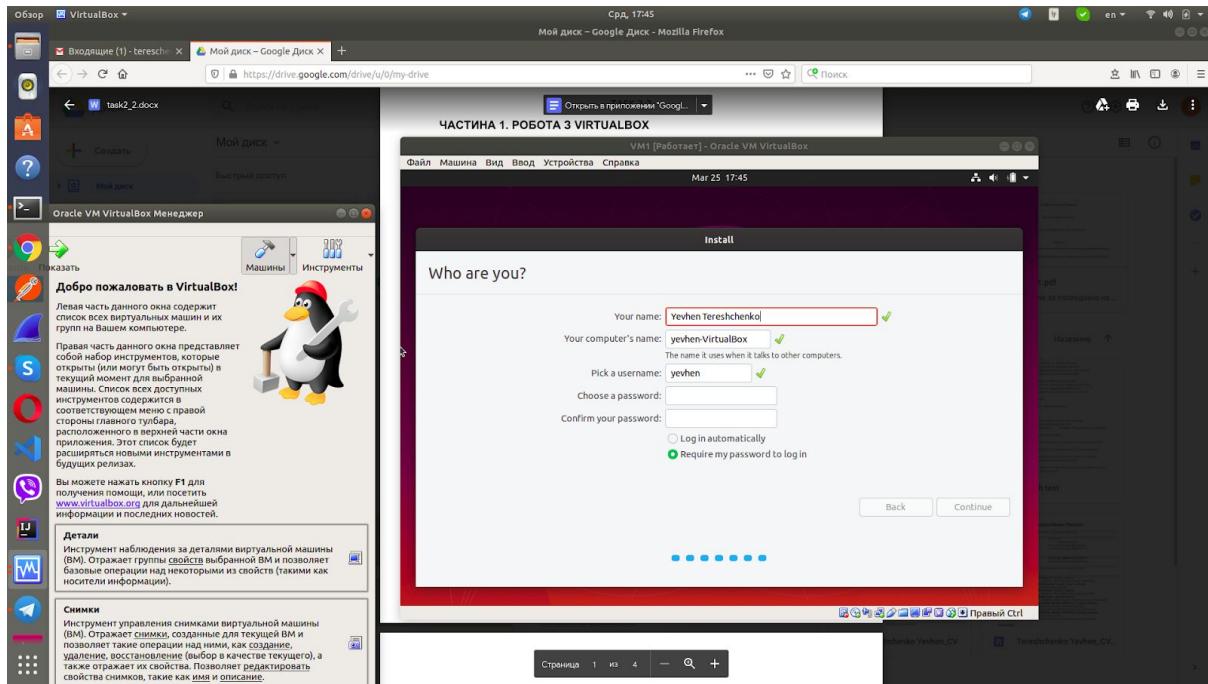
## make changes the disks



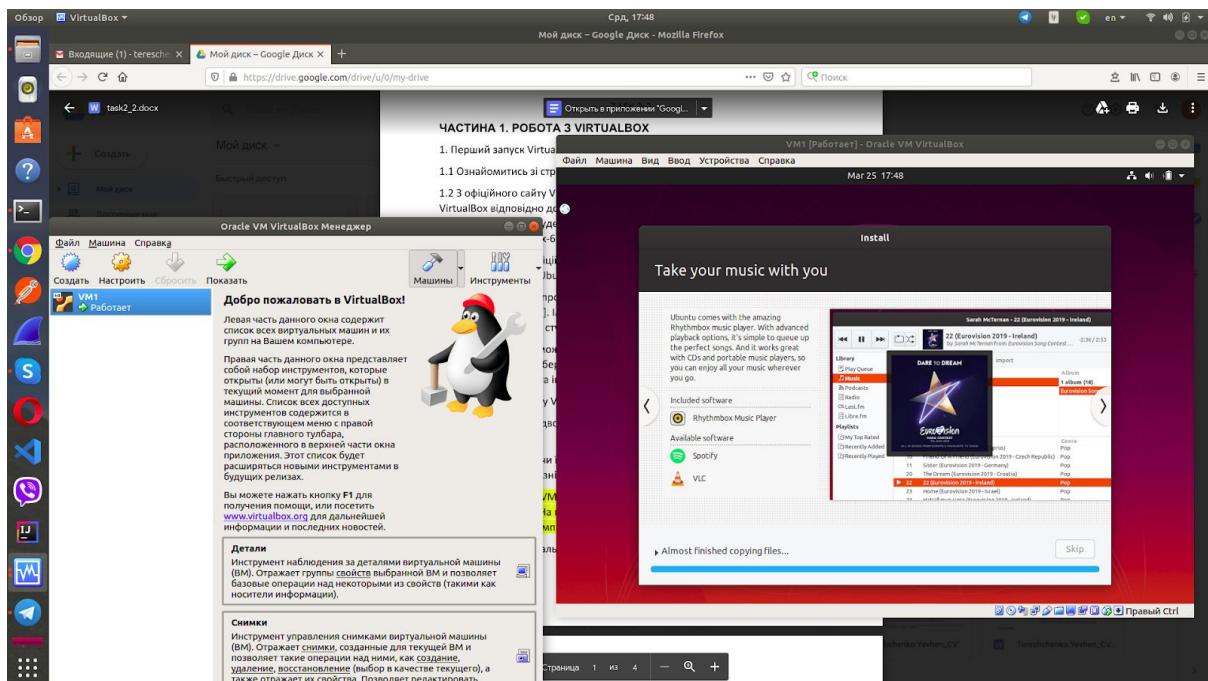
## choose time



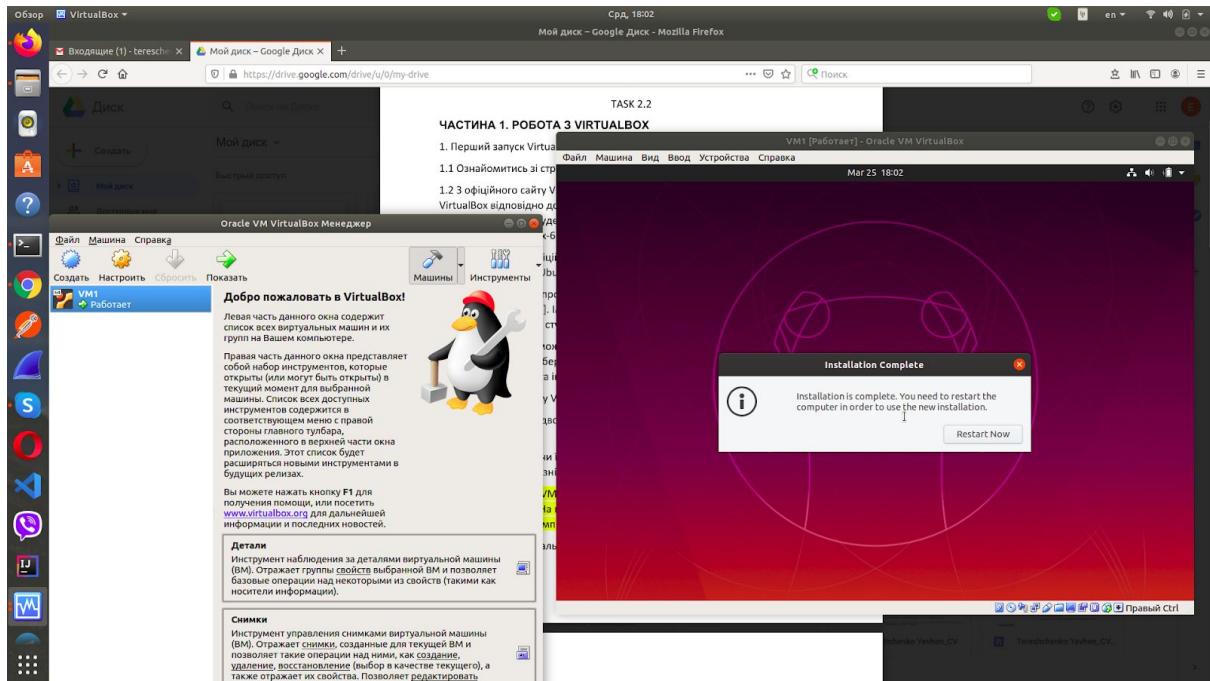
## choose name of user and computer



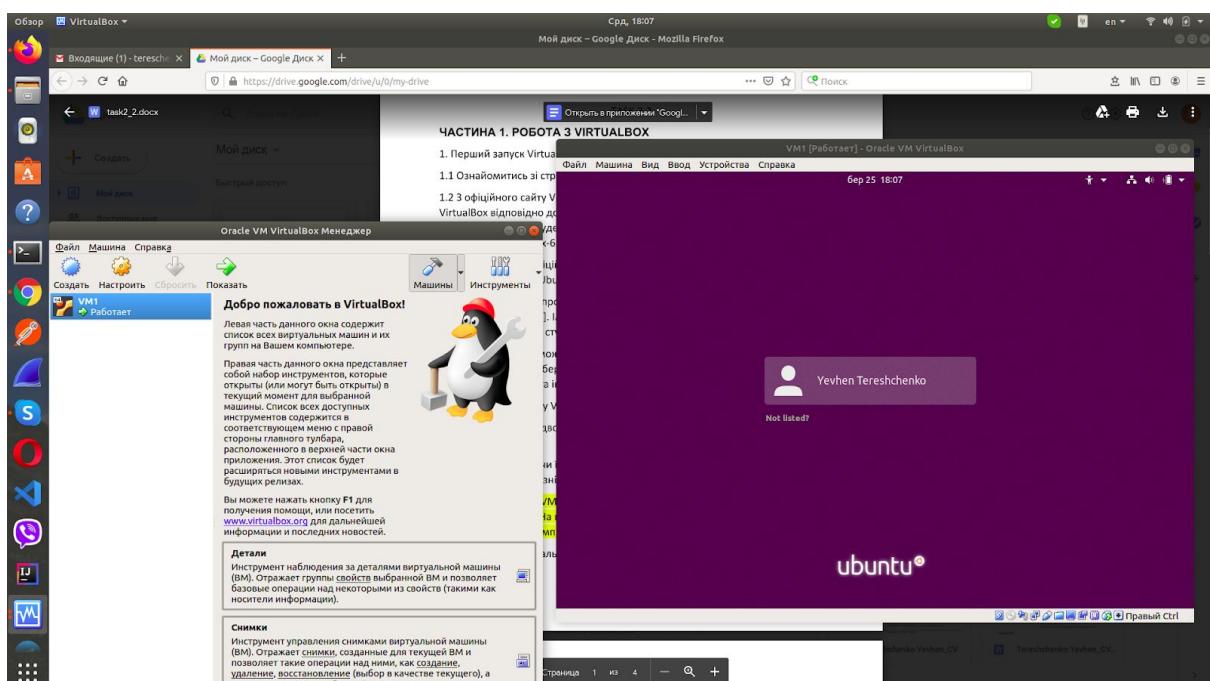
## installation



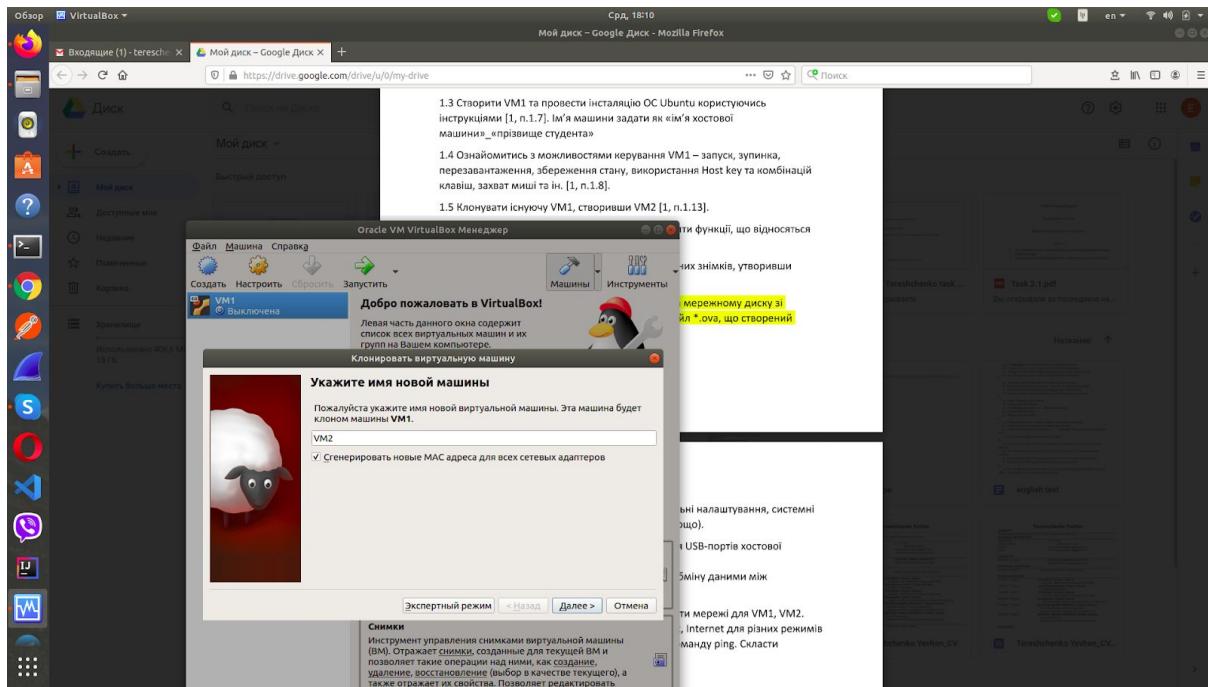
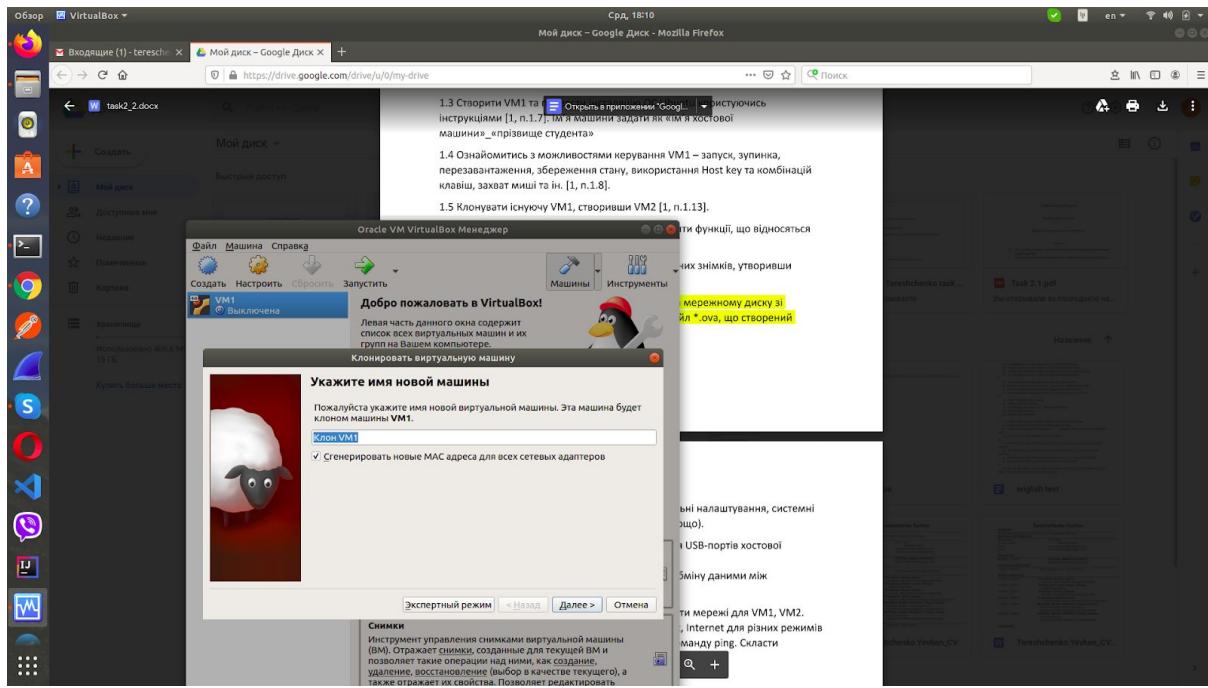
finish installation

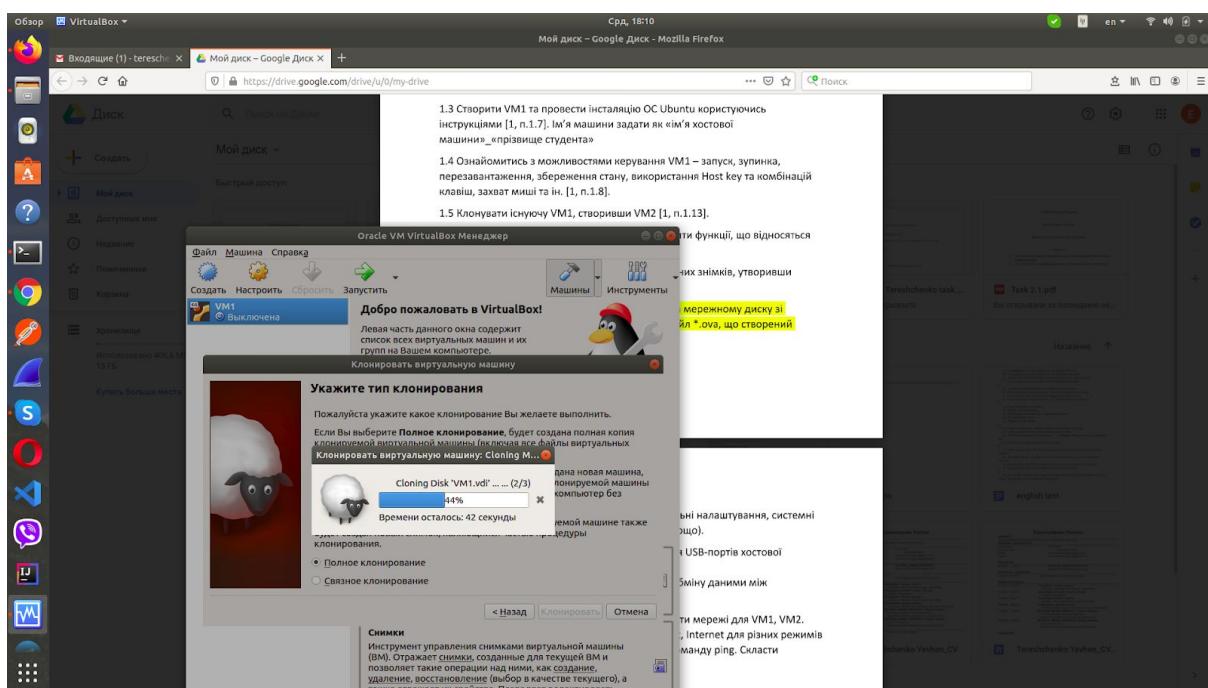
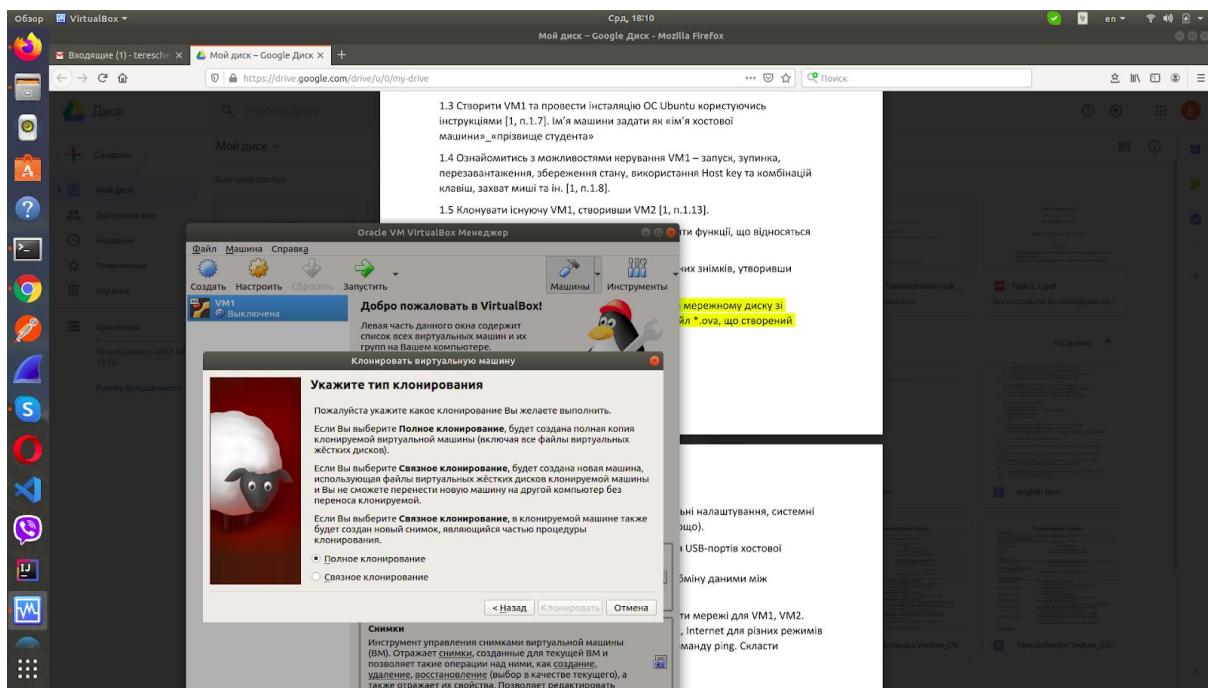


and start the operating system

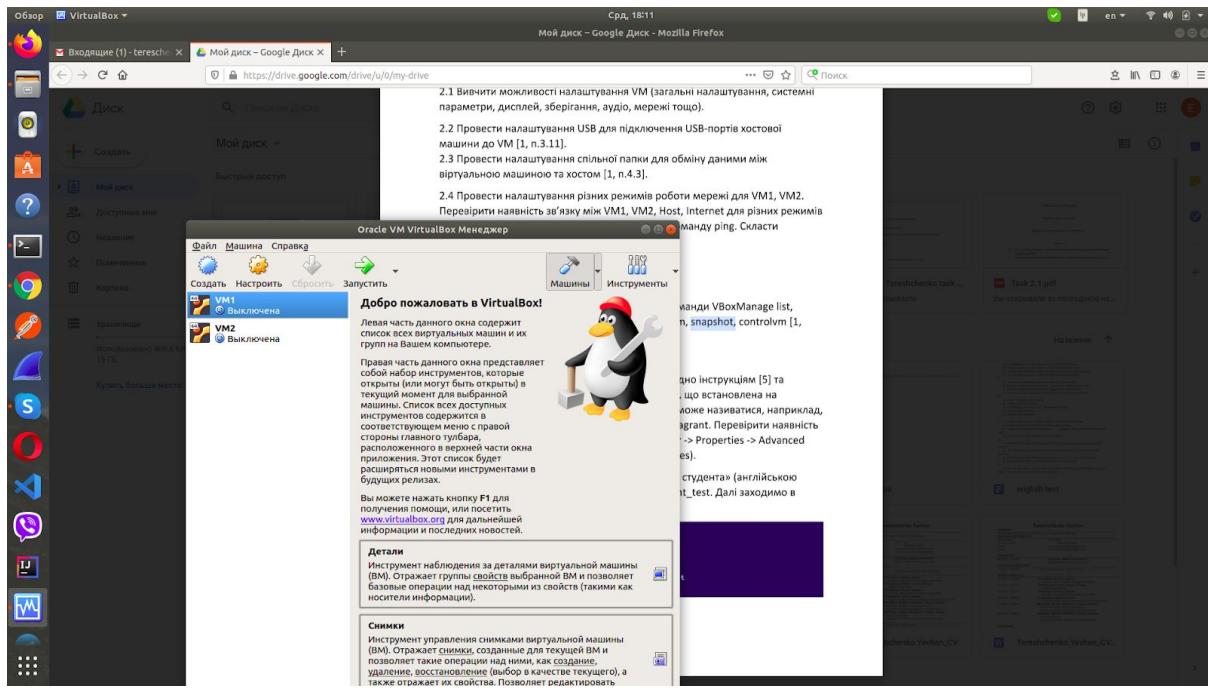


## 1.5 clone one virtual machine to another

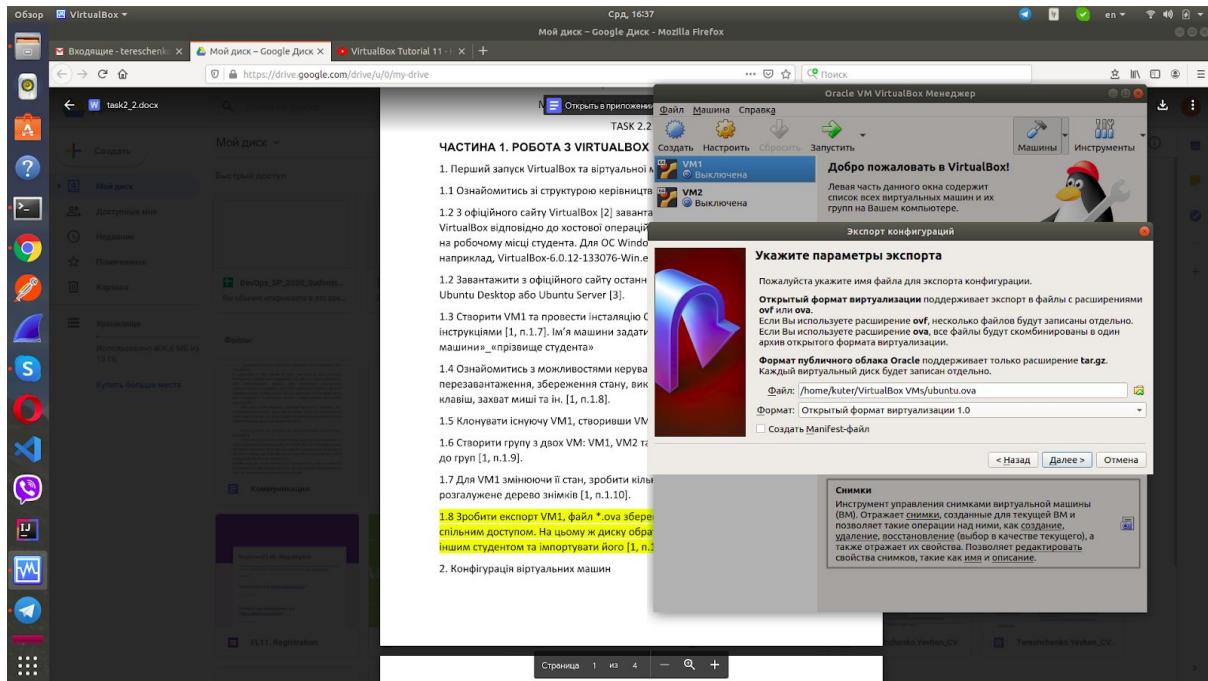


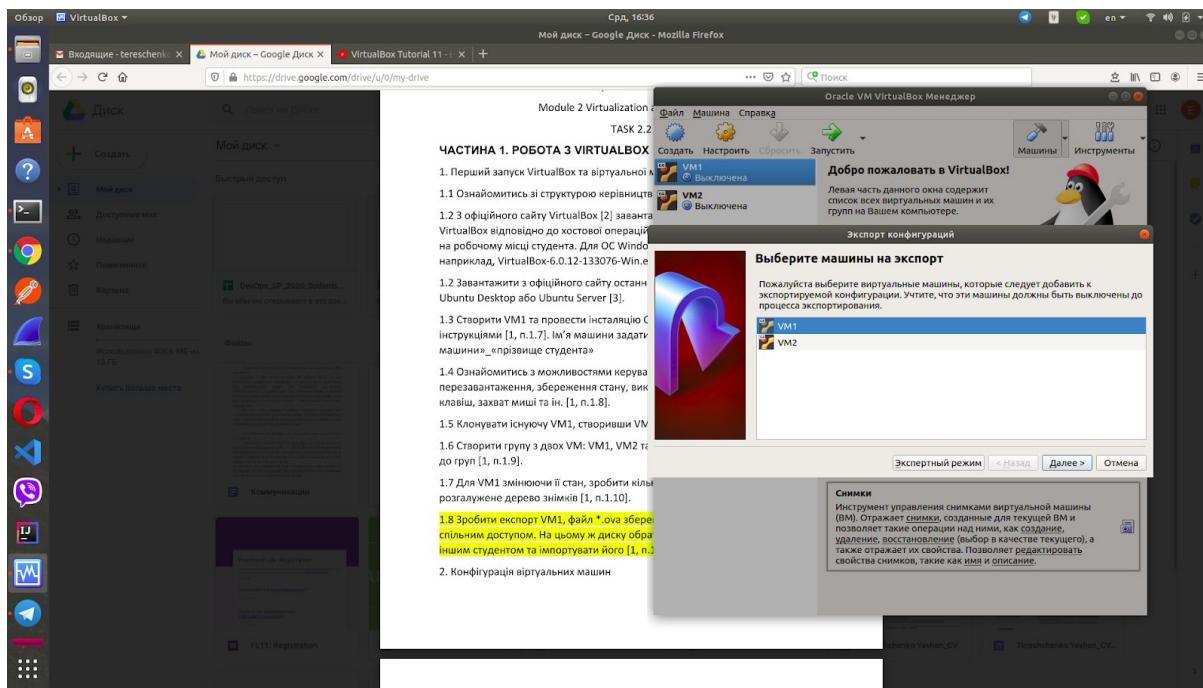
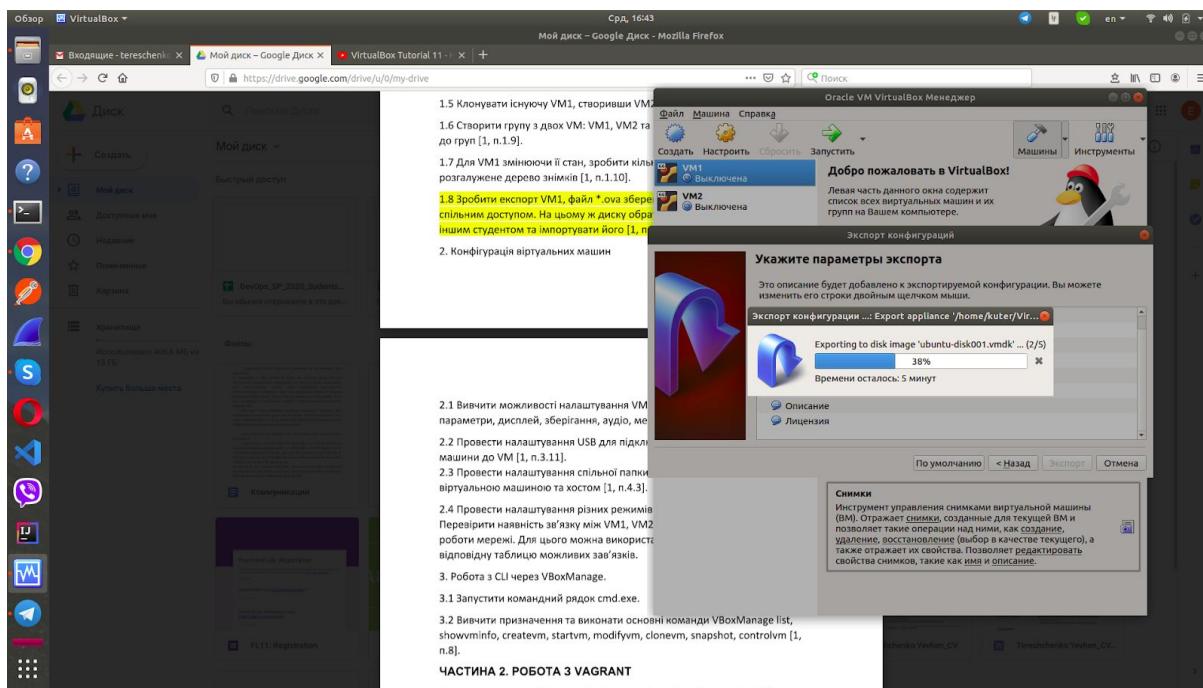


and now we have two virtual machine

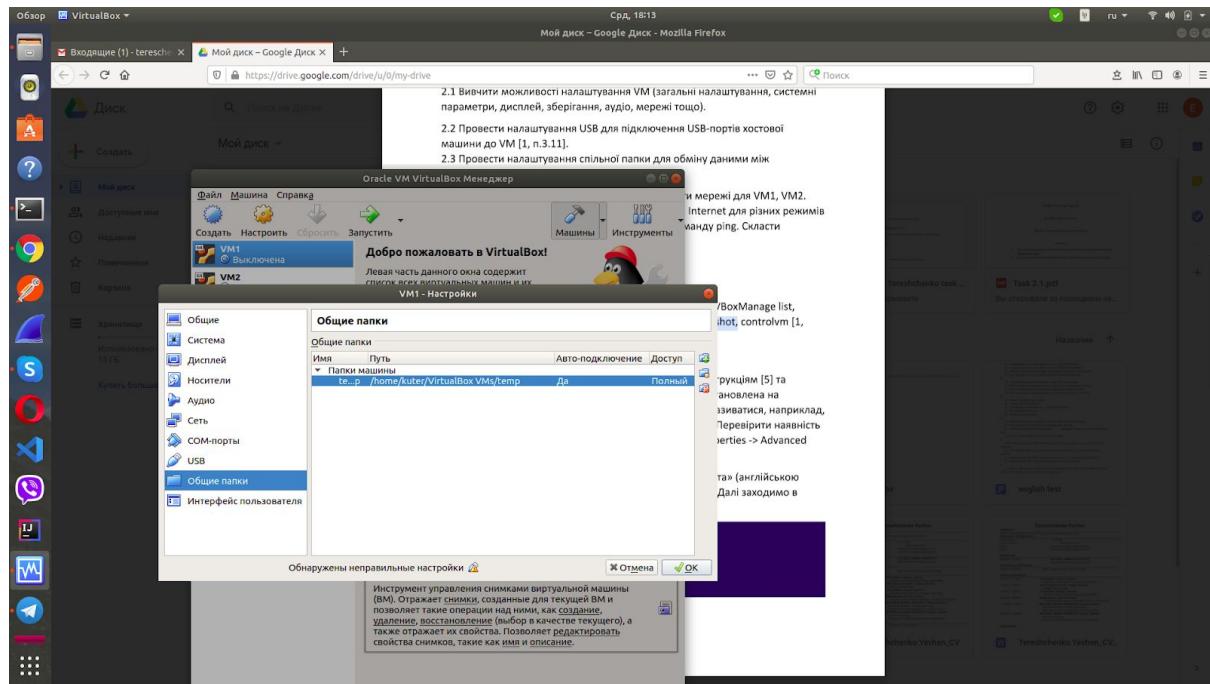


## 1.7 export virtual machine

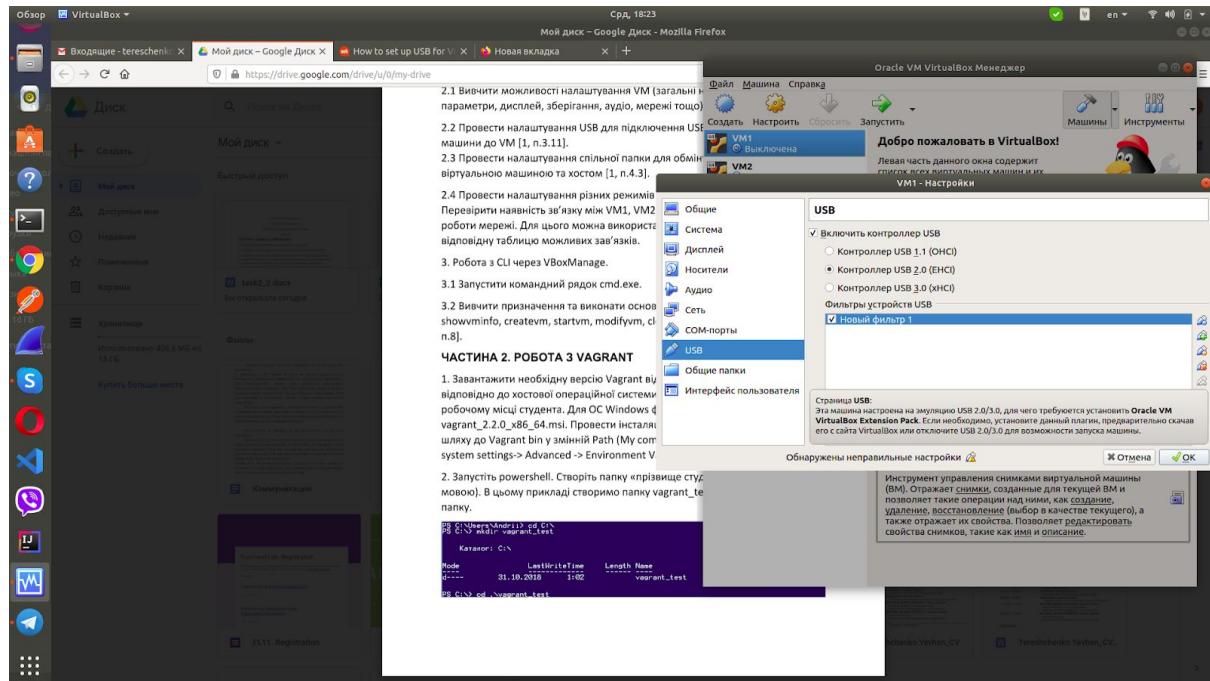




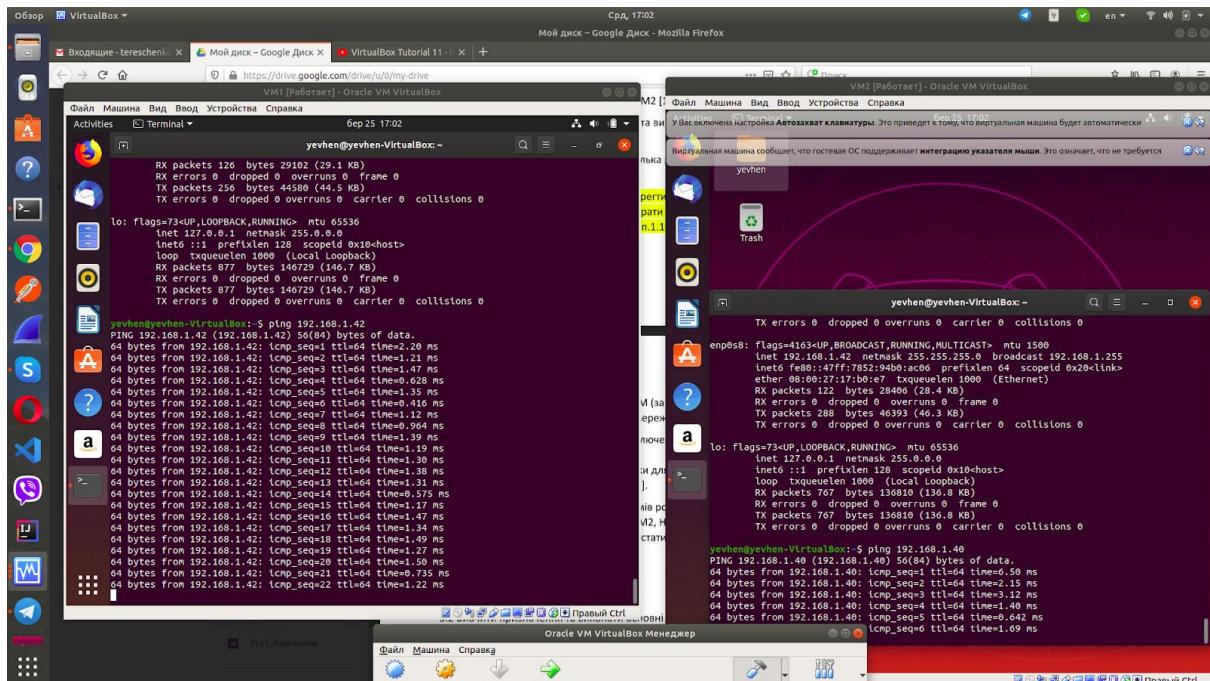
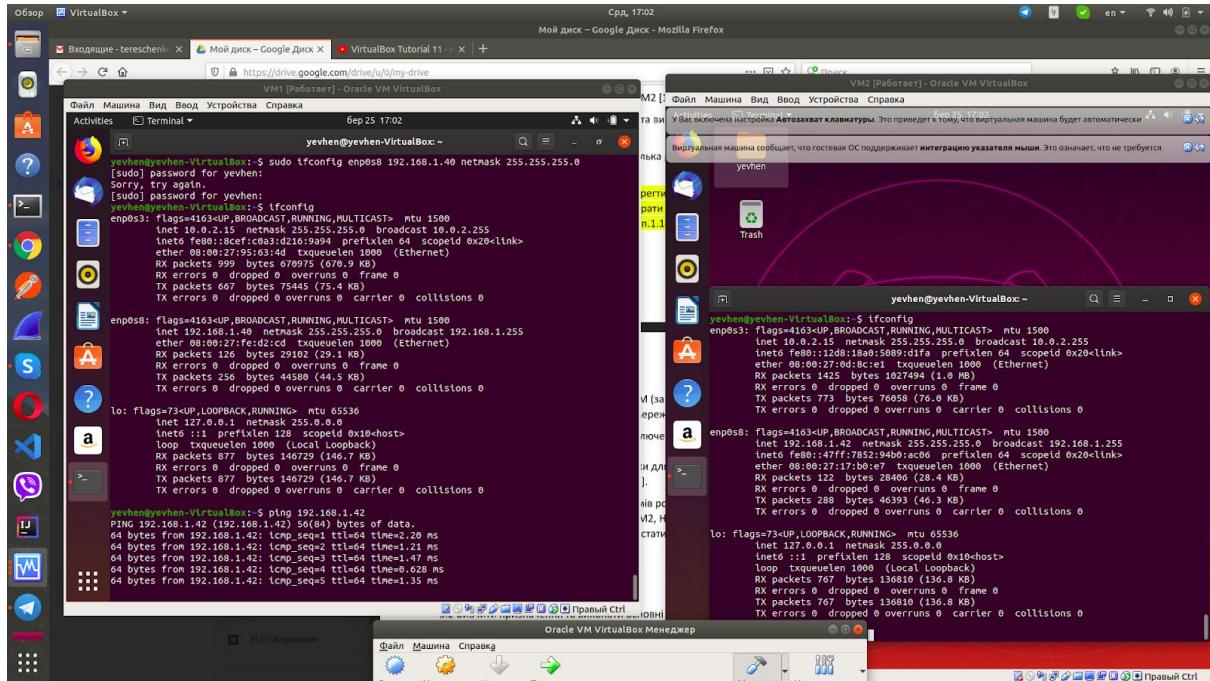
## 2. configuration of virtual box shared directories



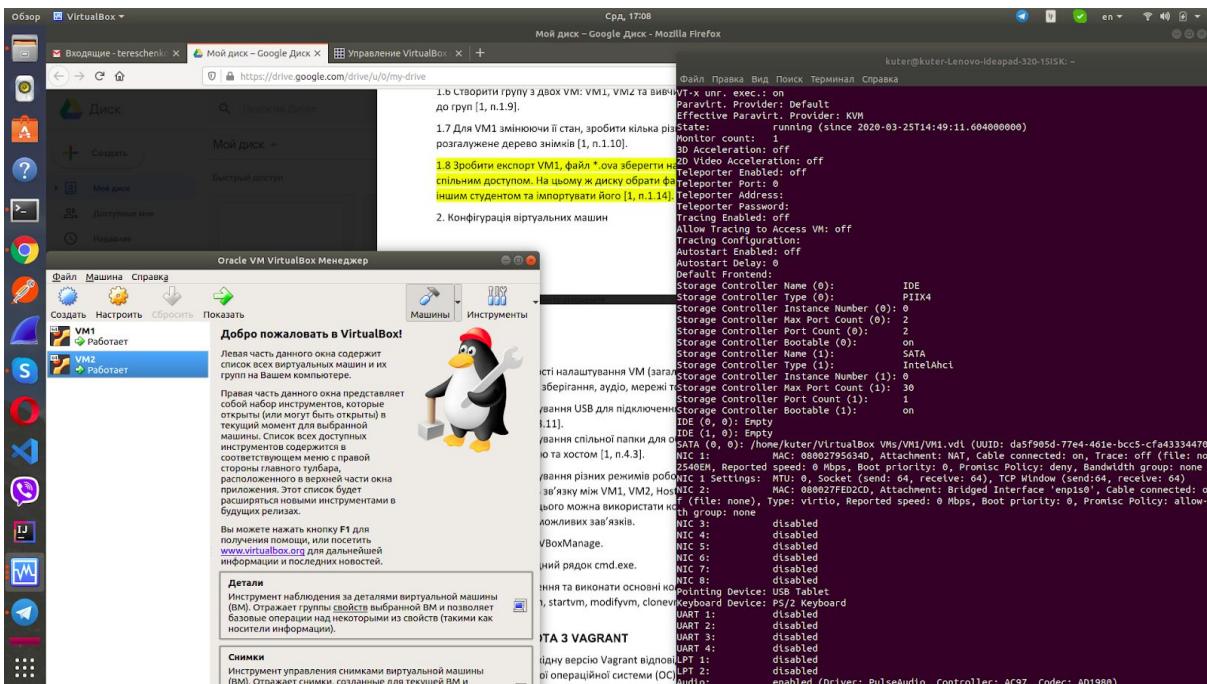
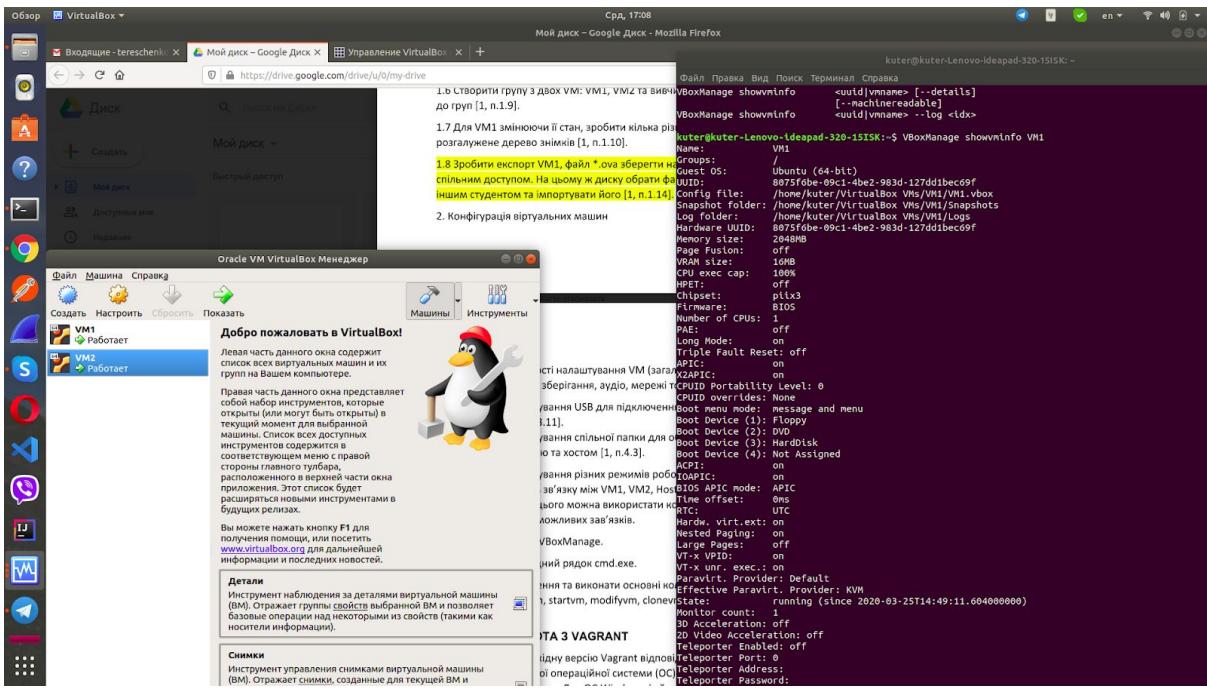
### 2.2 shared usb

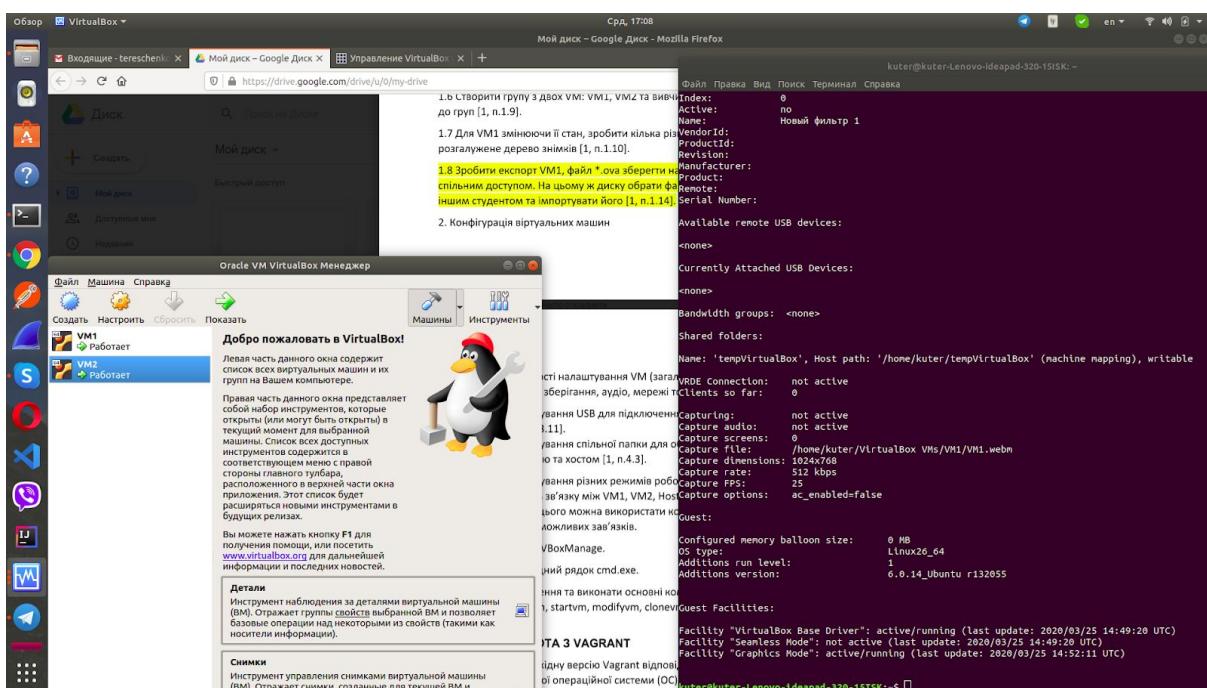
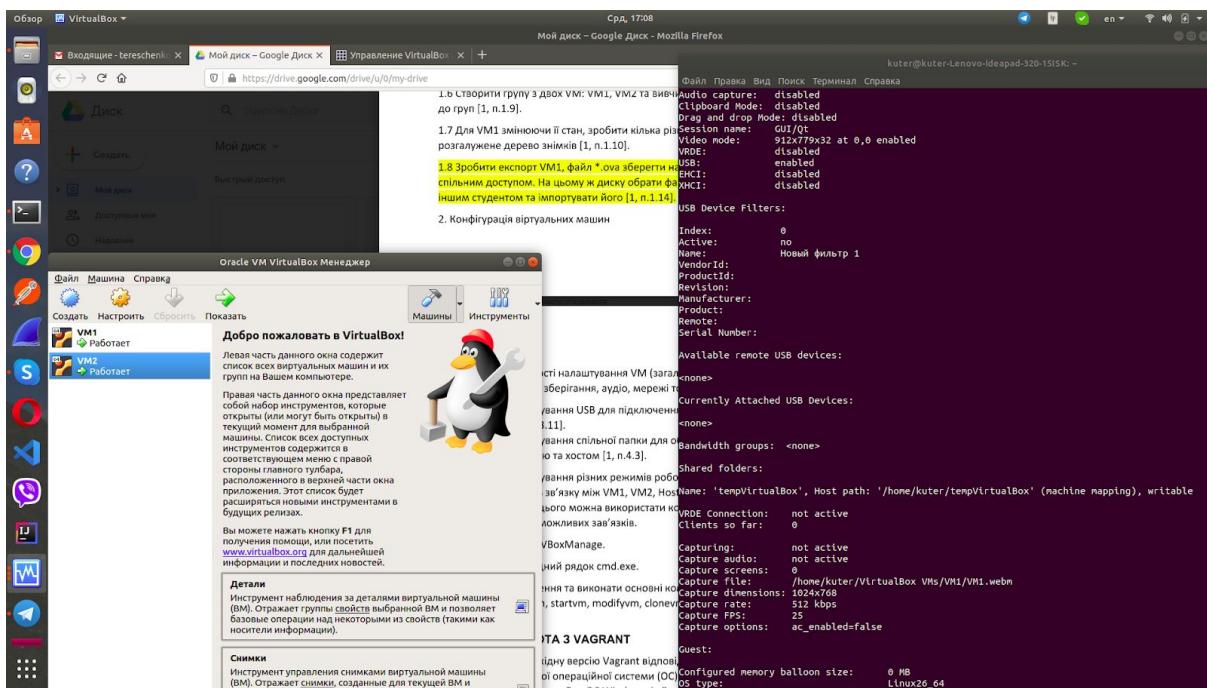


## 2.4 networking ping

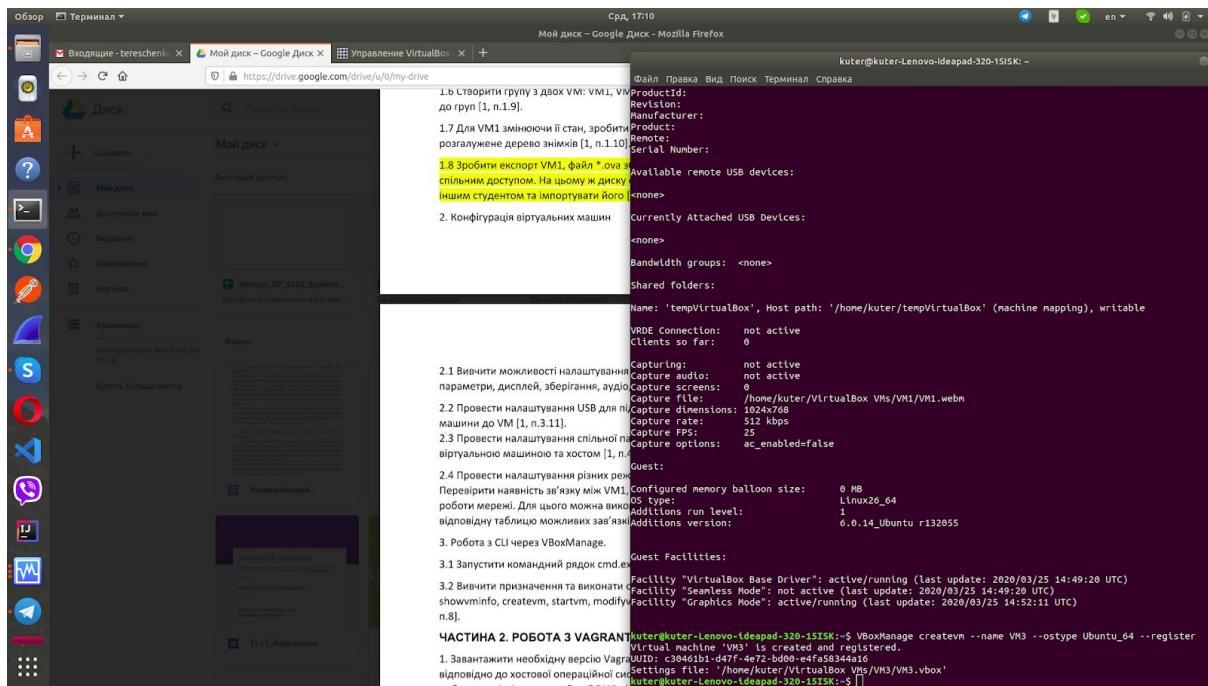


### 3.1 Work with CLI VBoxManage showvminfo VM1

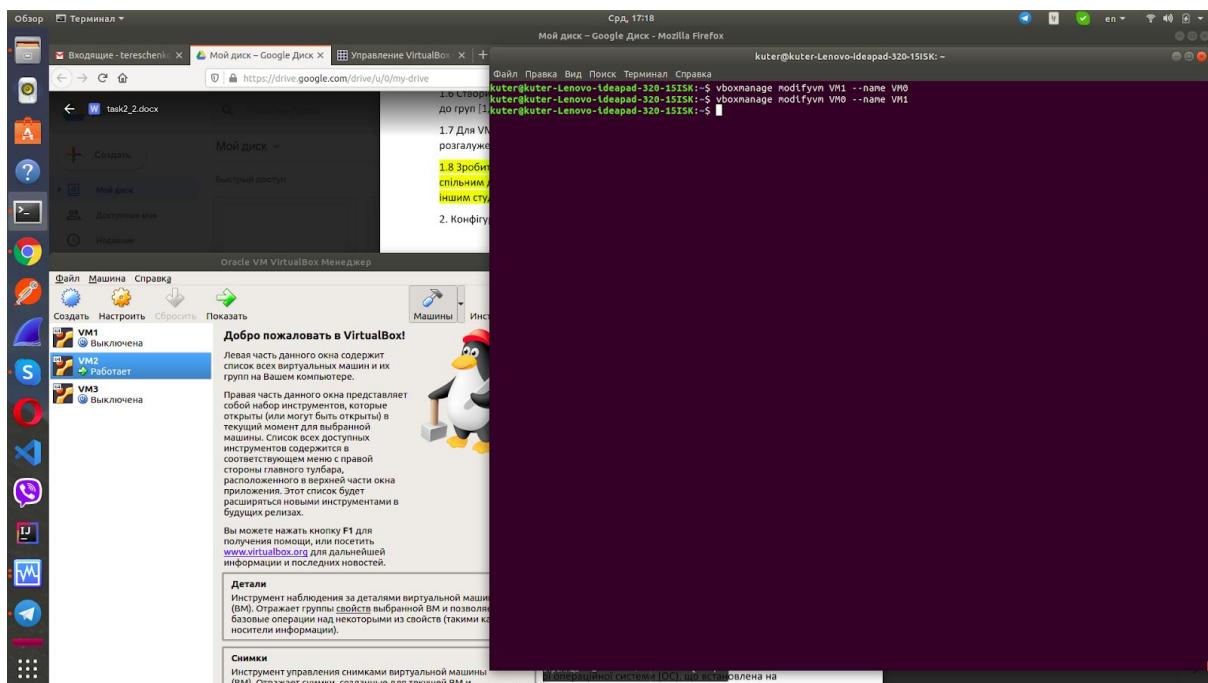




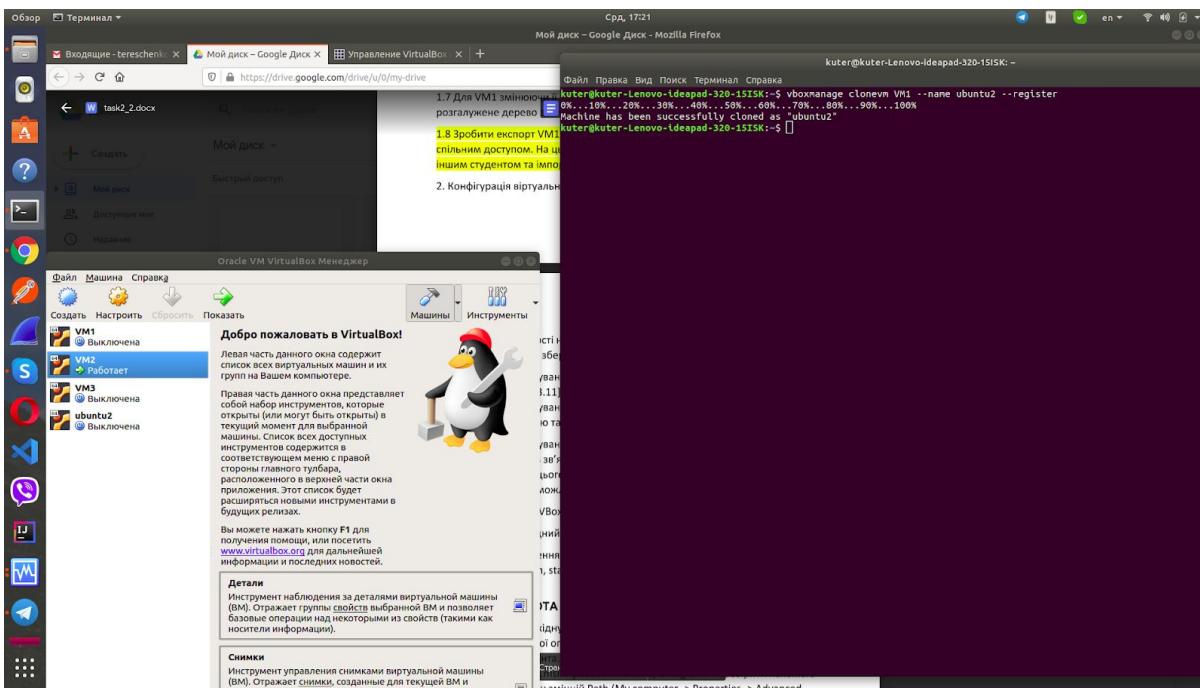
### 3.2 VBoxManage createvm



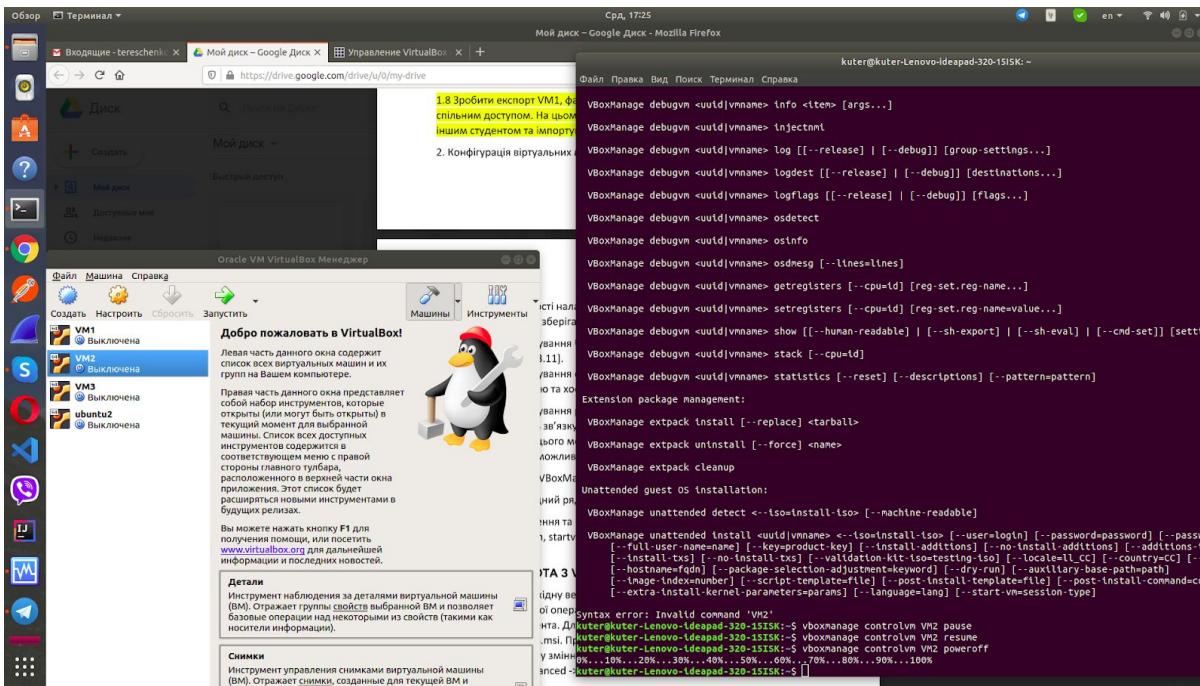
## vboxmanage modifyvm



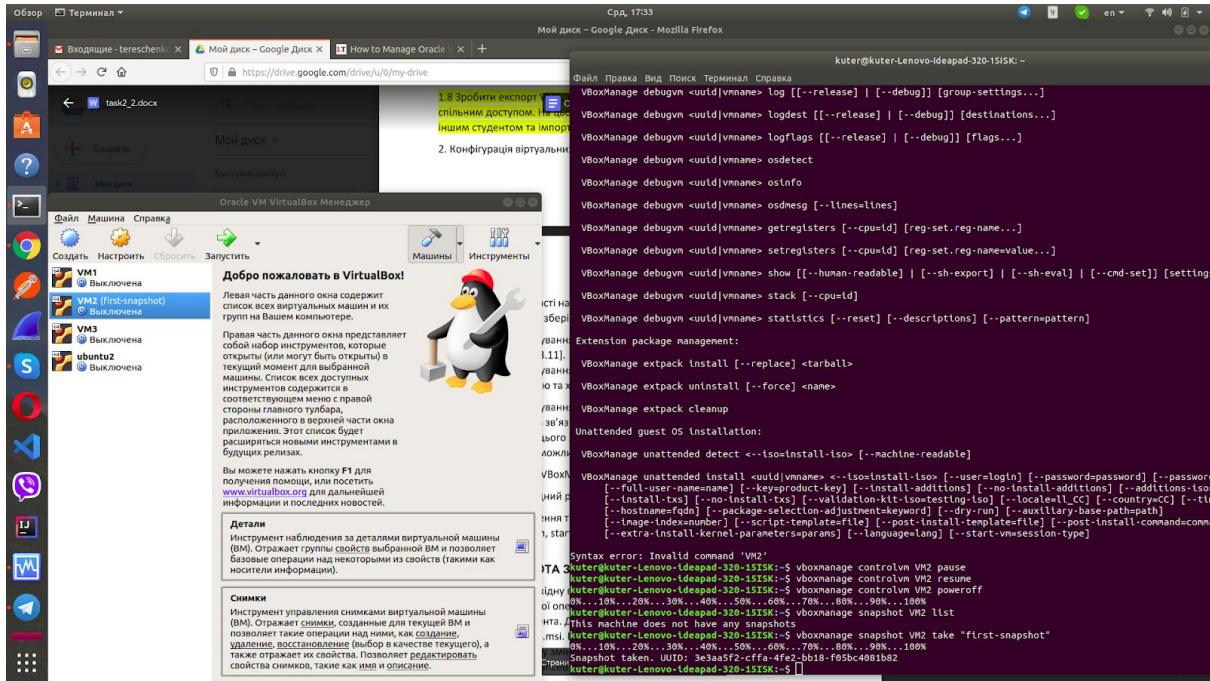
## vboxmanage clone



## vboxmanage controlvm



## vboxmanage snapshot

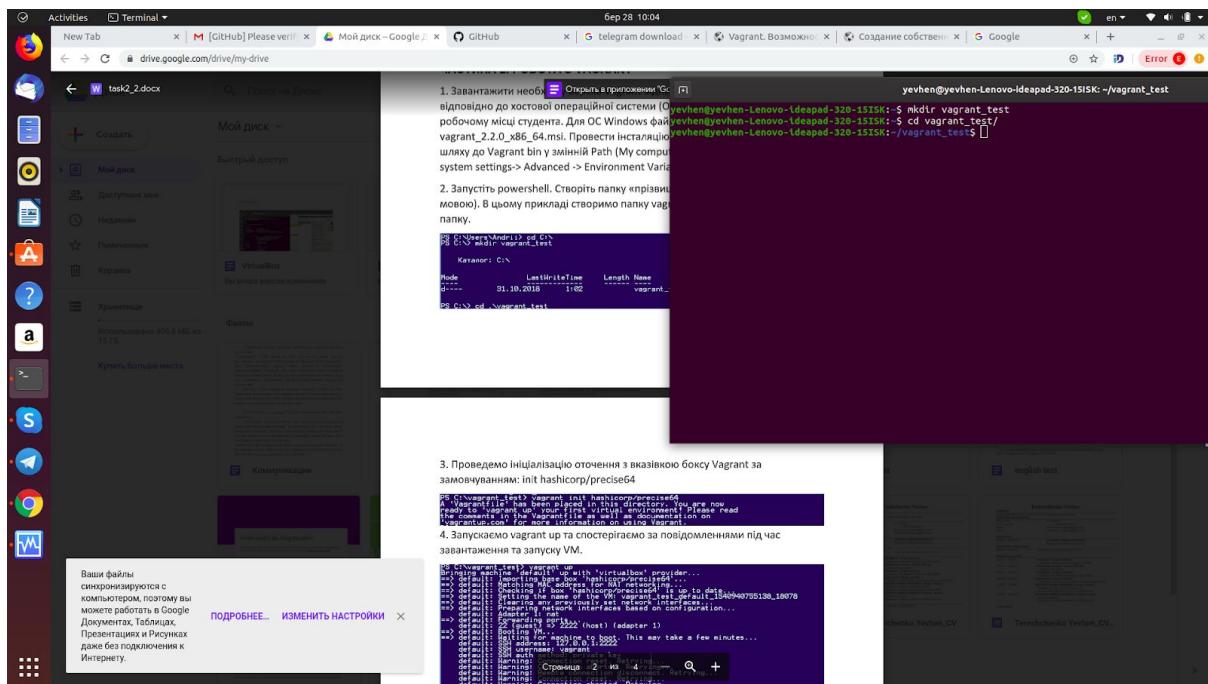


## Second part

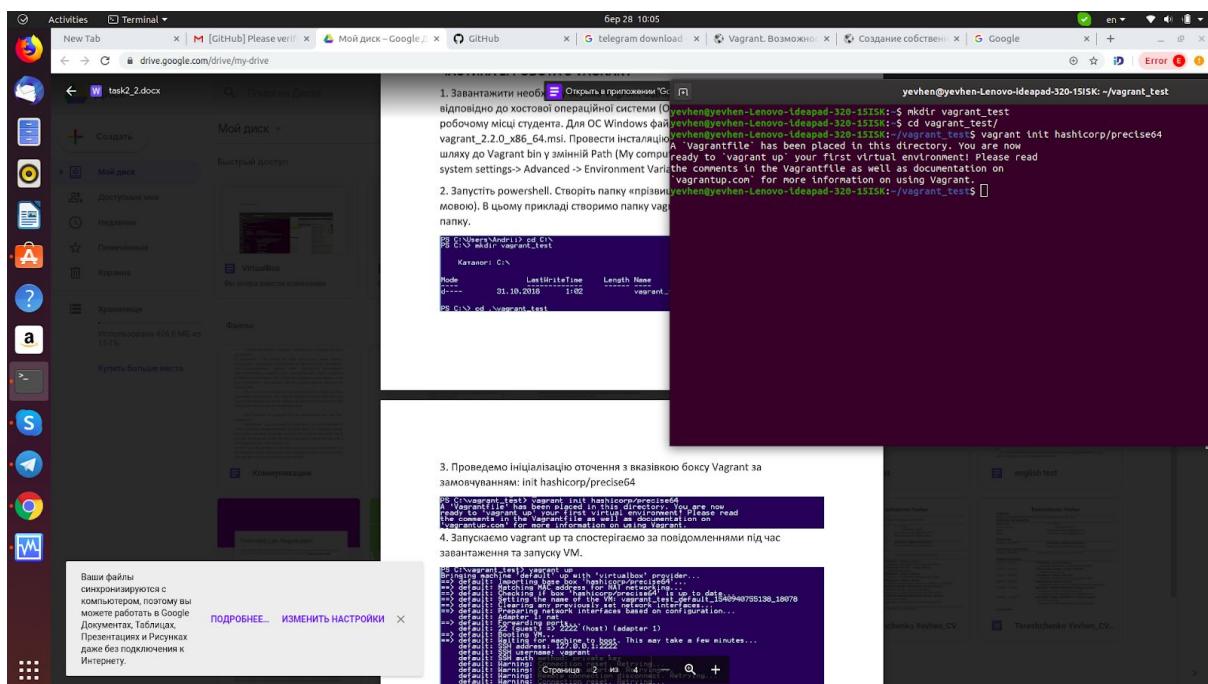
### 1 Install vagrant

sudo apt-get install vagrant

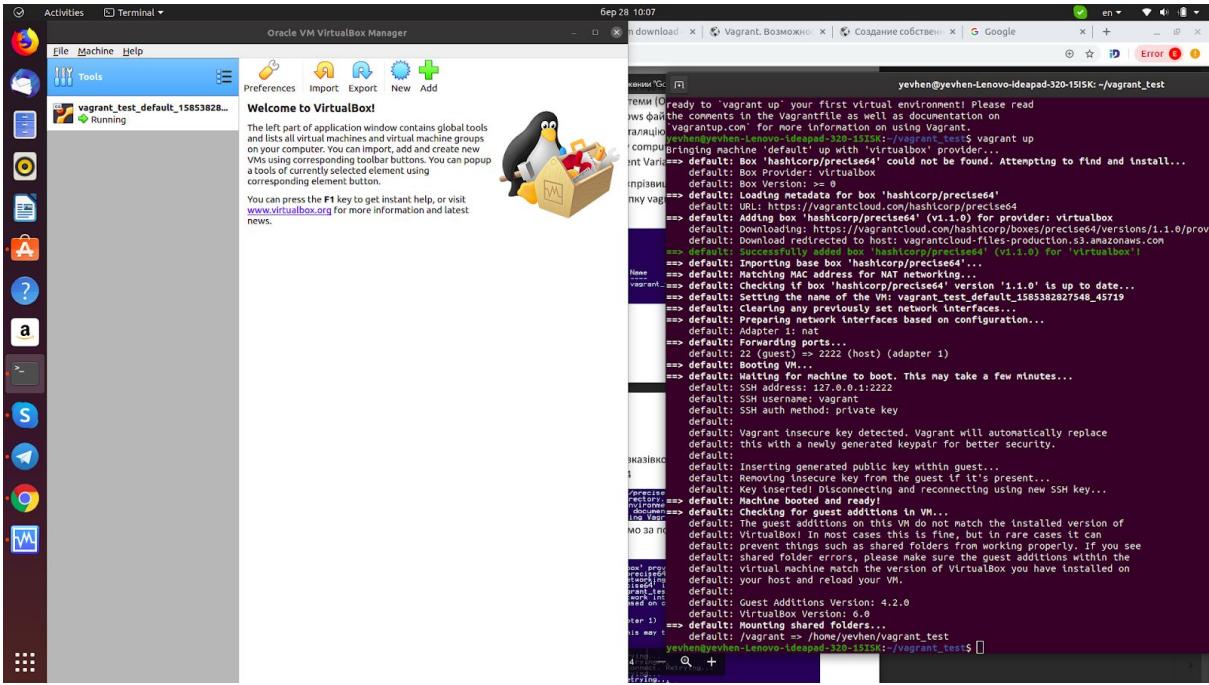
## 2. Create directory vagrant\_test



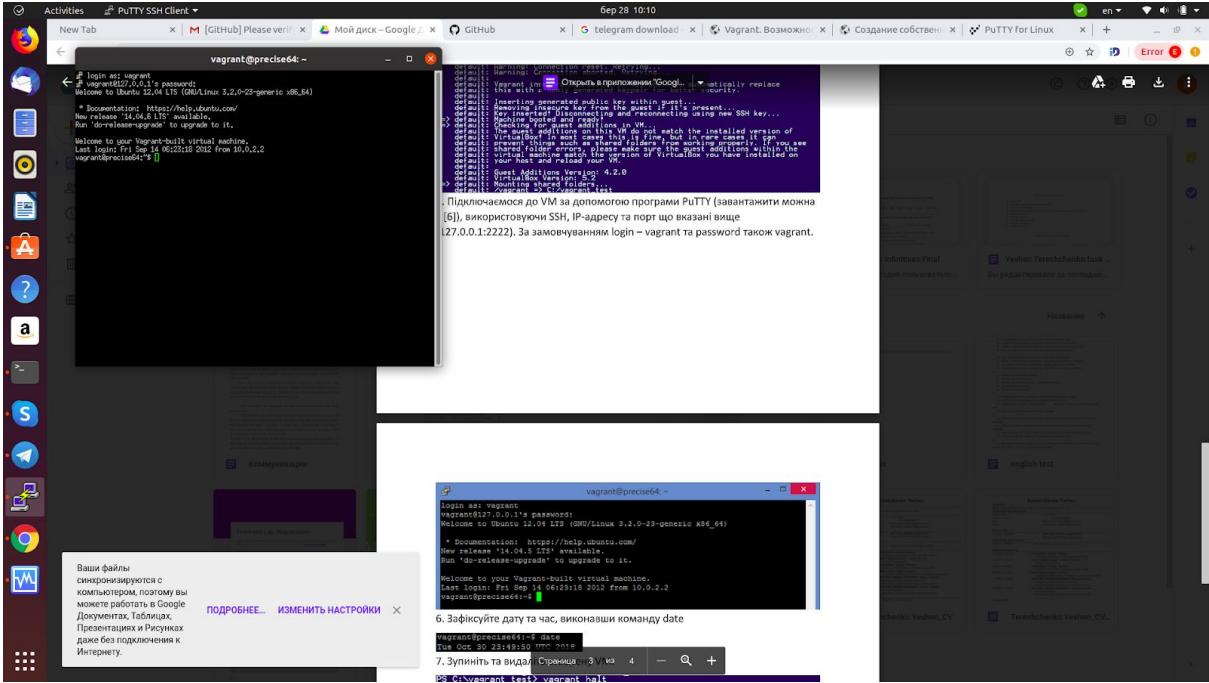
## 3. vagrant initial by default



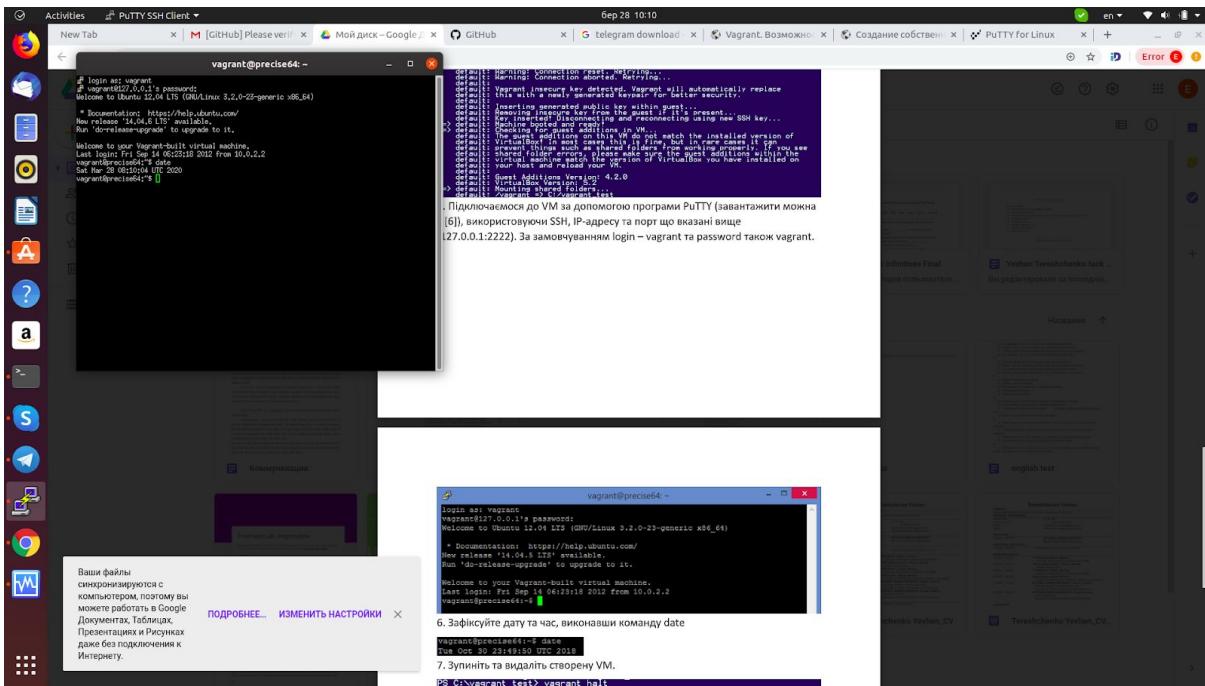
## 4. start vagrant up



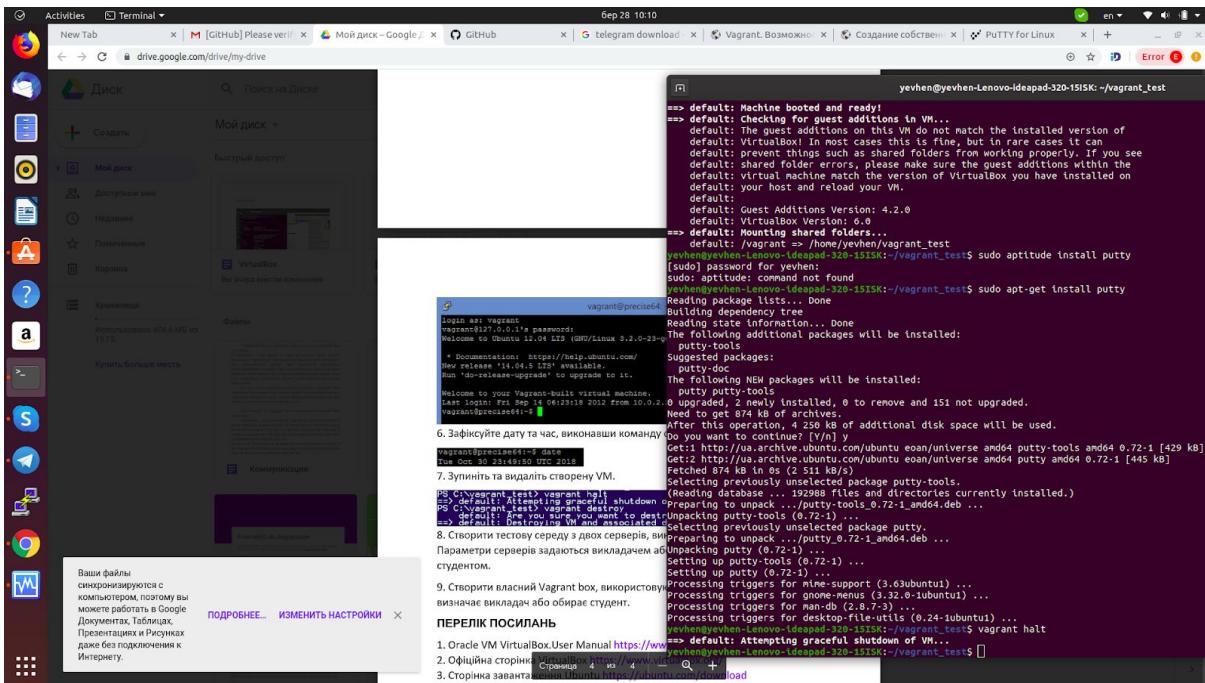
## 5. connect to VM with program putty



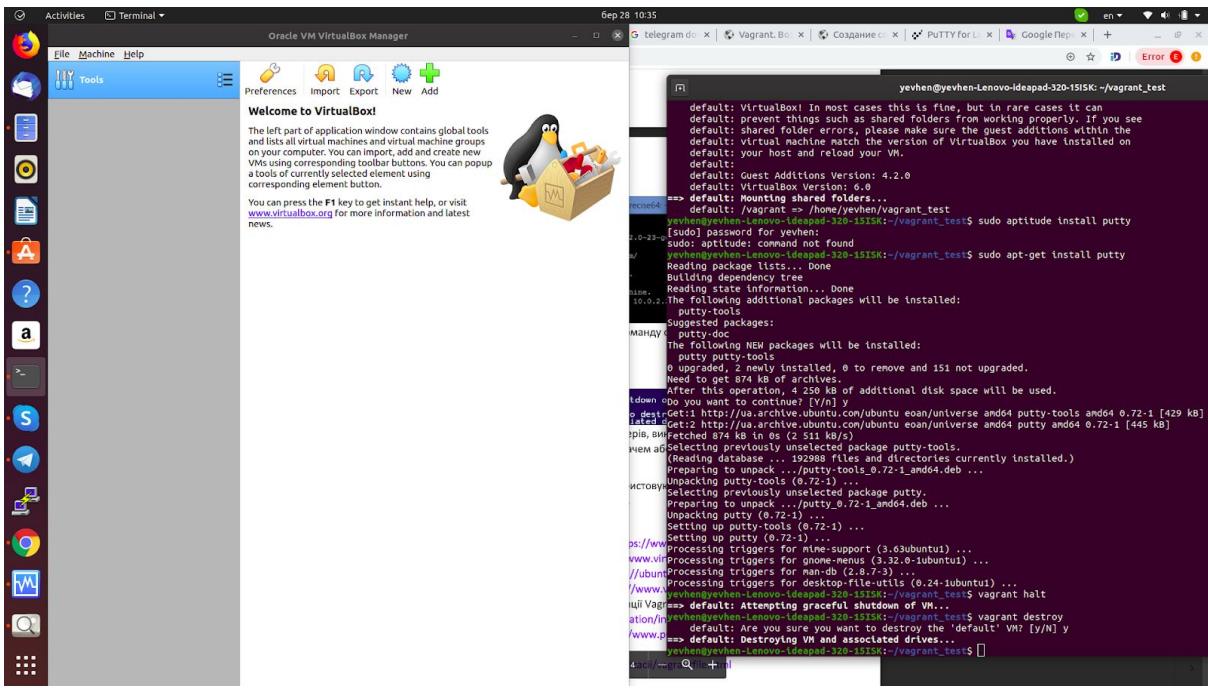
## 6. vagrant set date



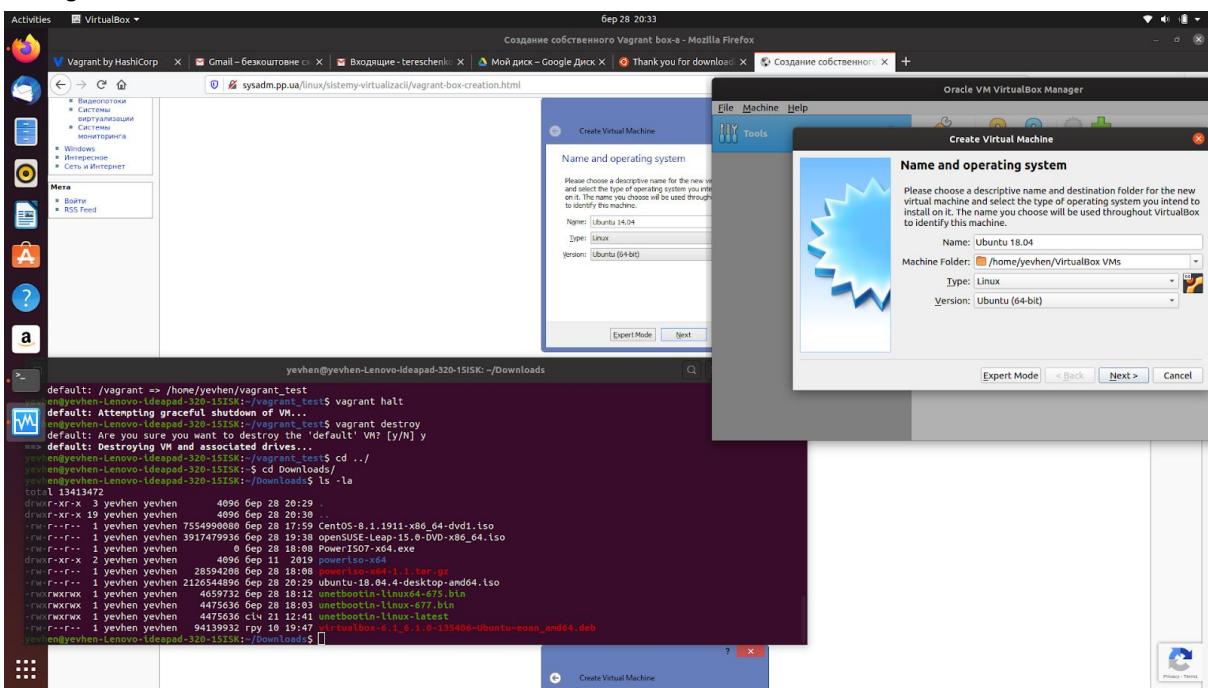
## 7. vagrant stop VM

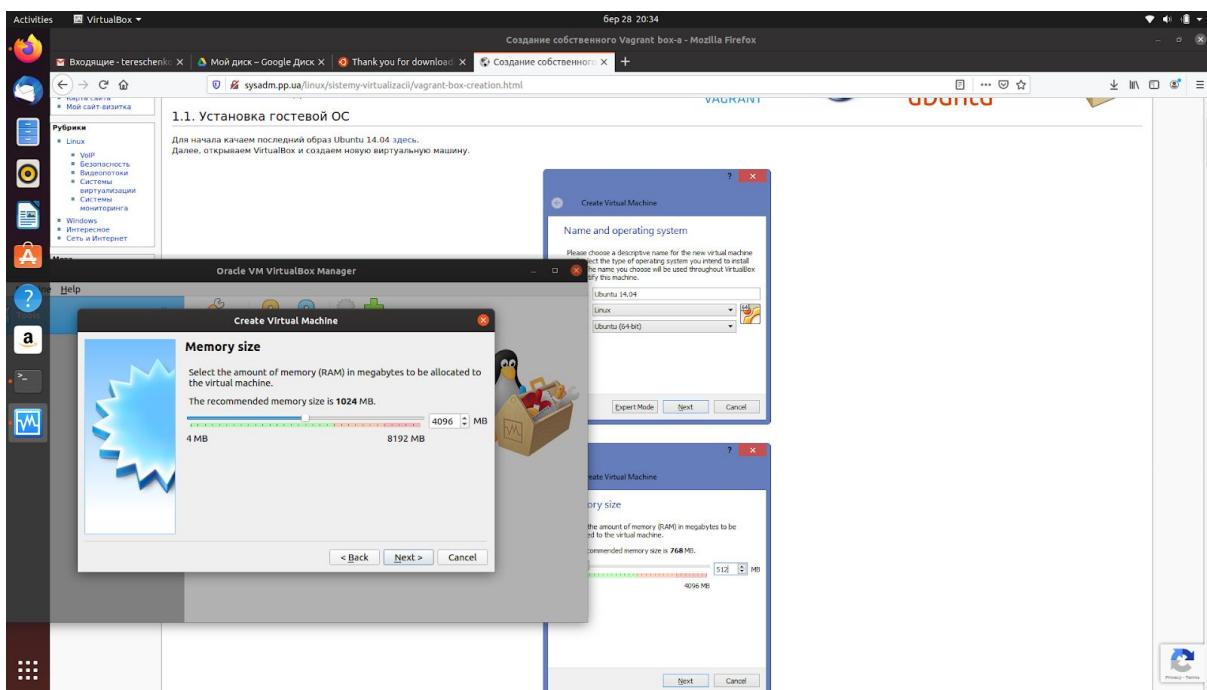
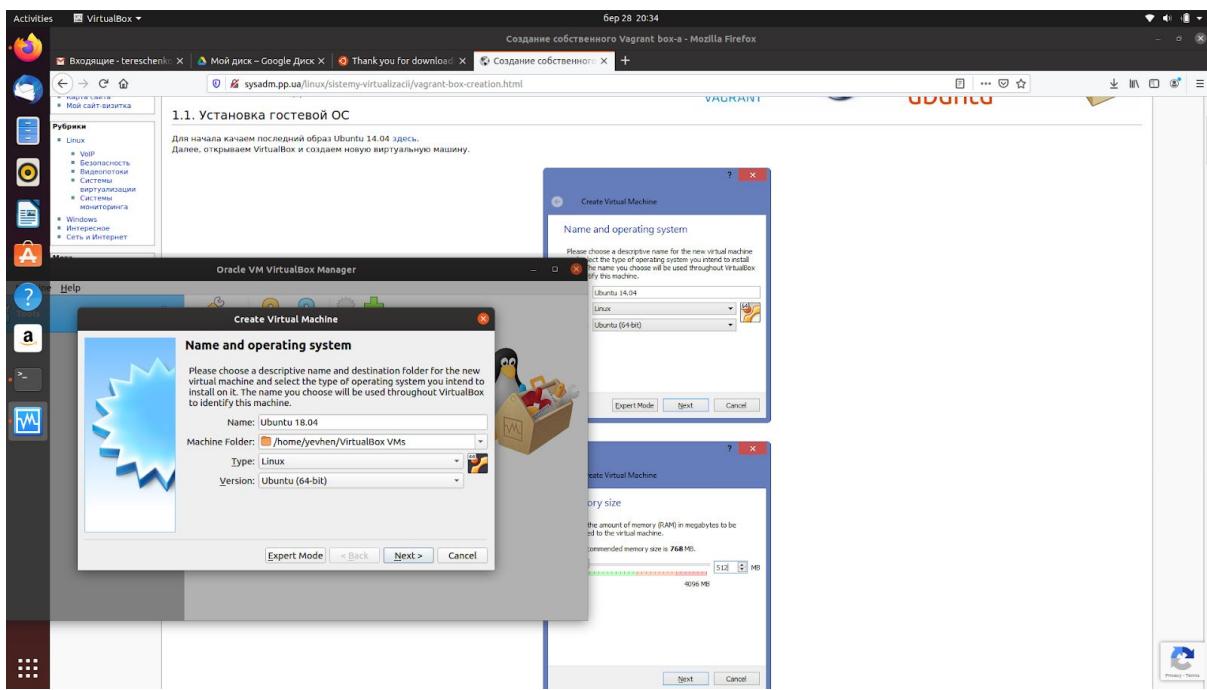


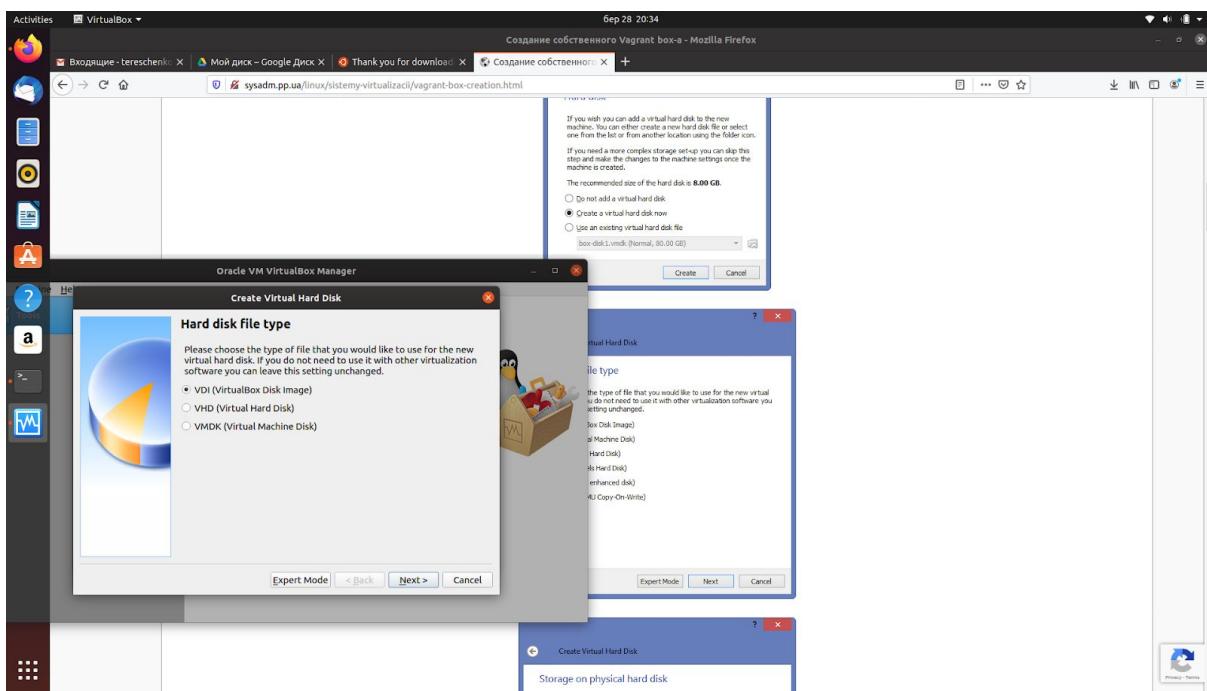
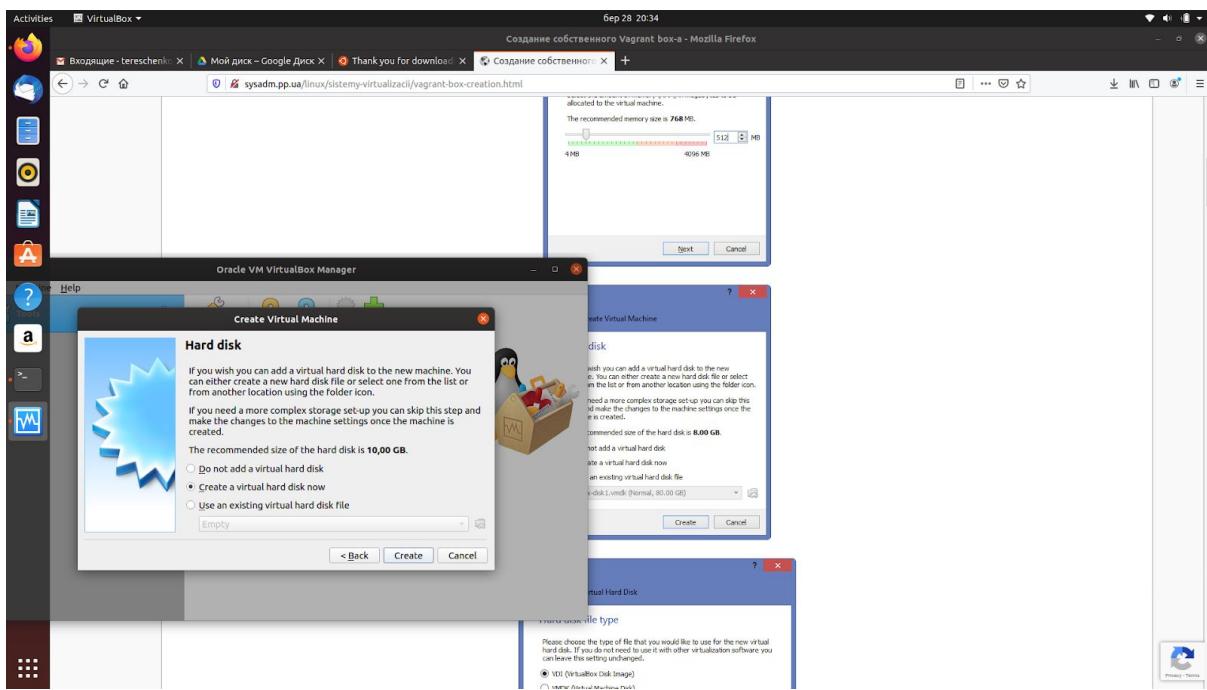
## 9. vagrant destroy

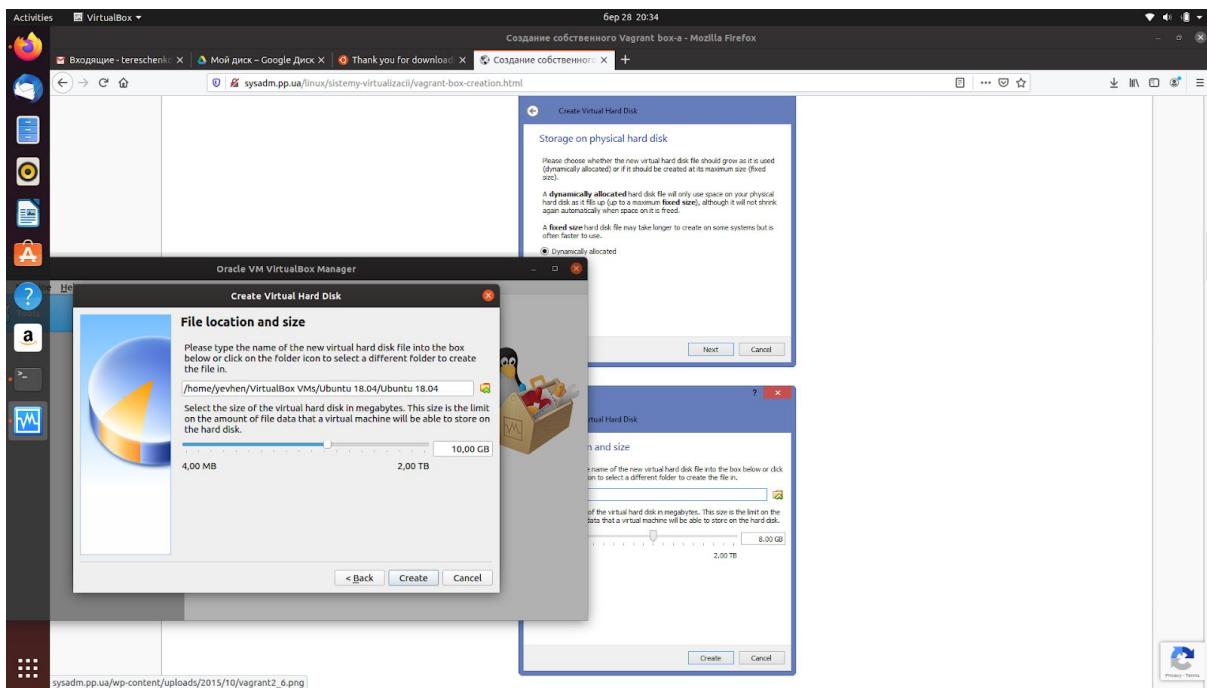
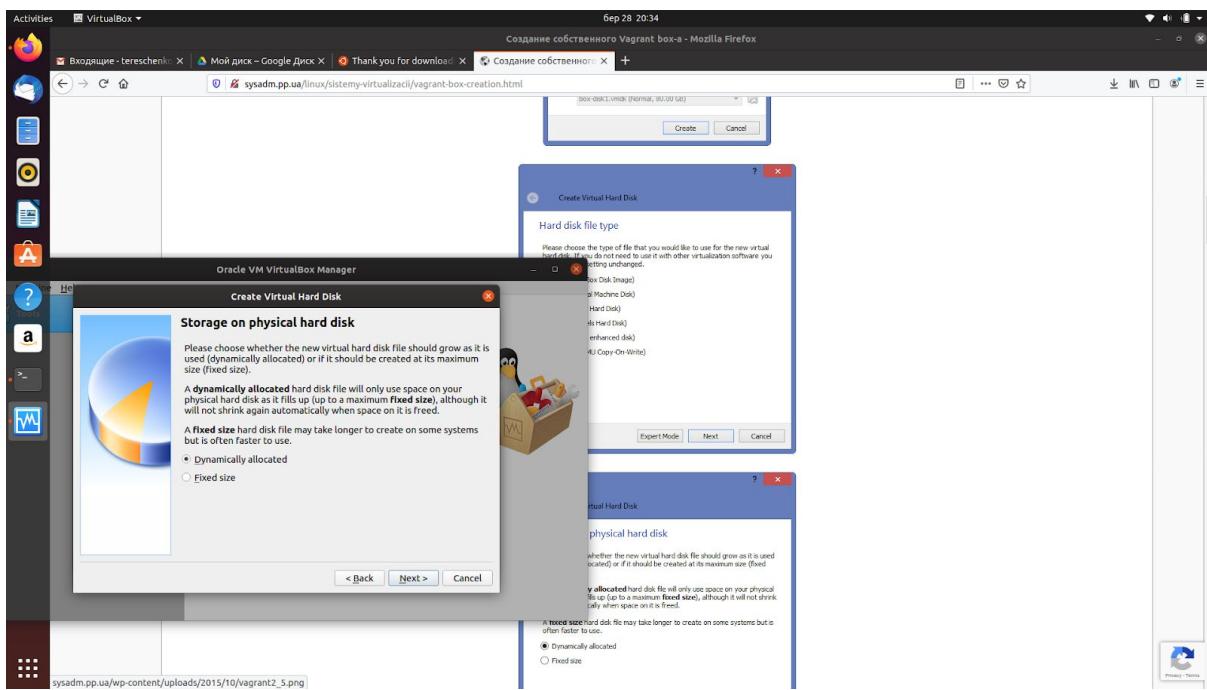


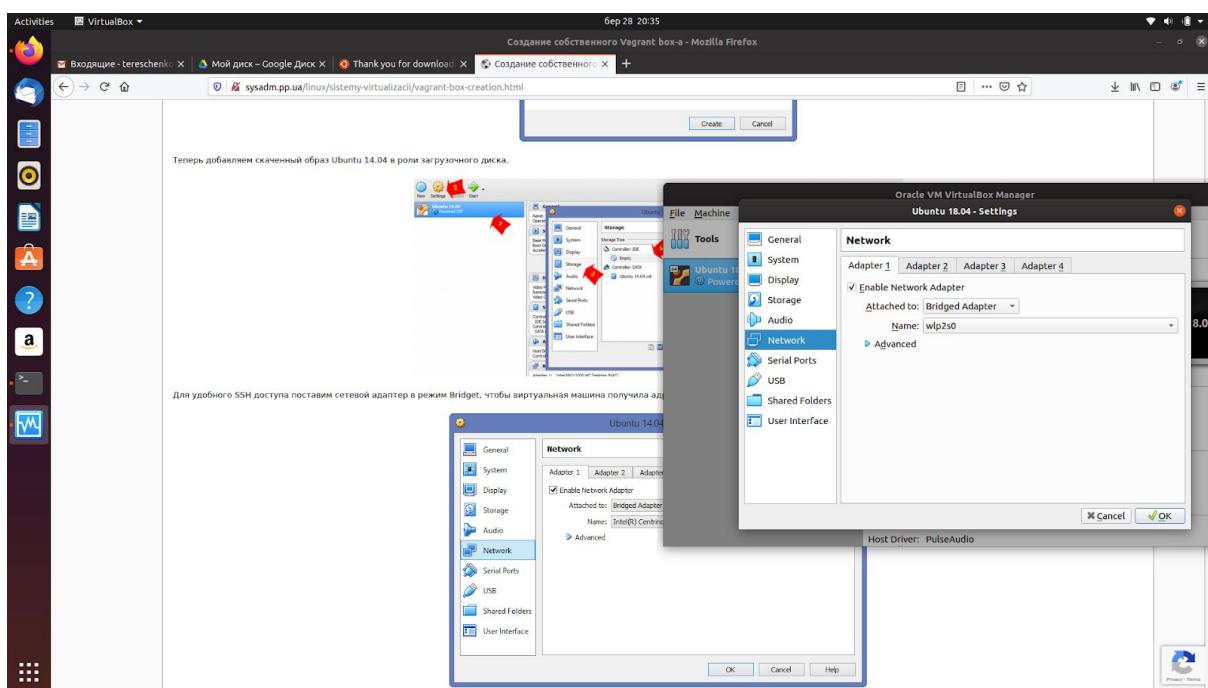
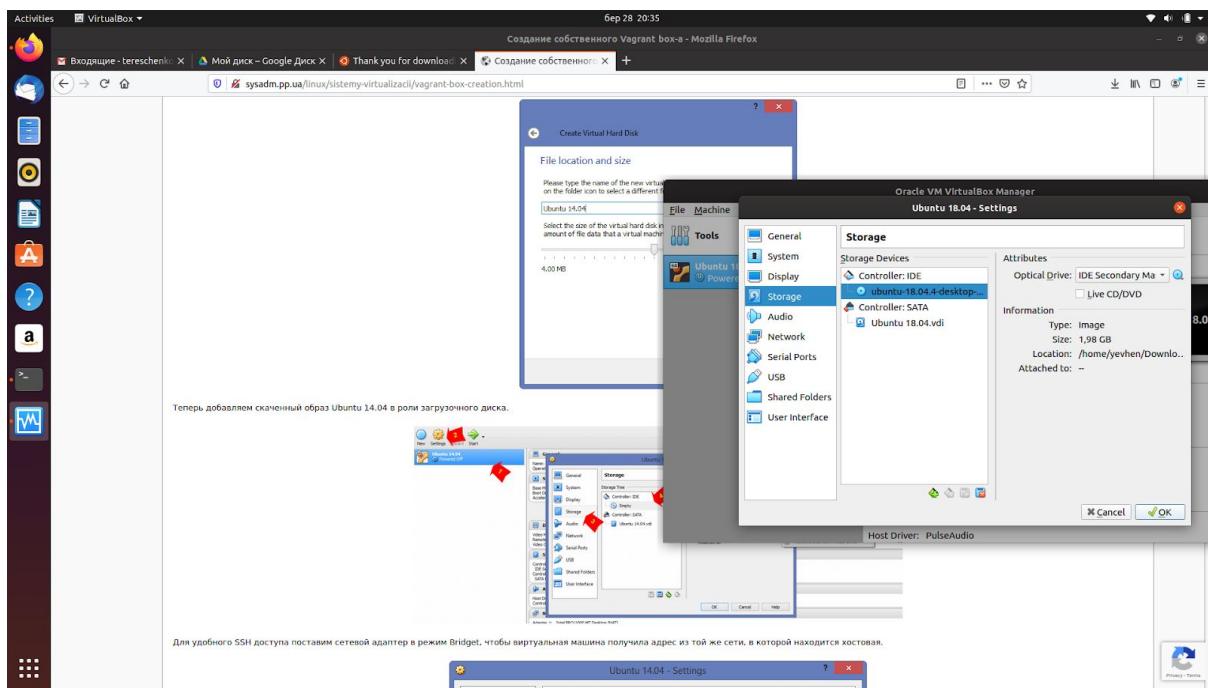
## vagrant create owner box



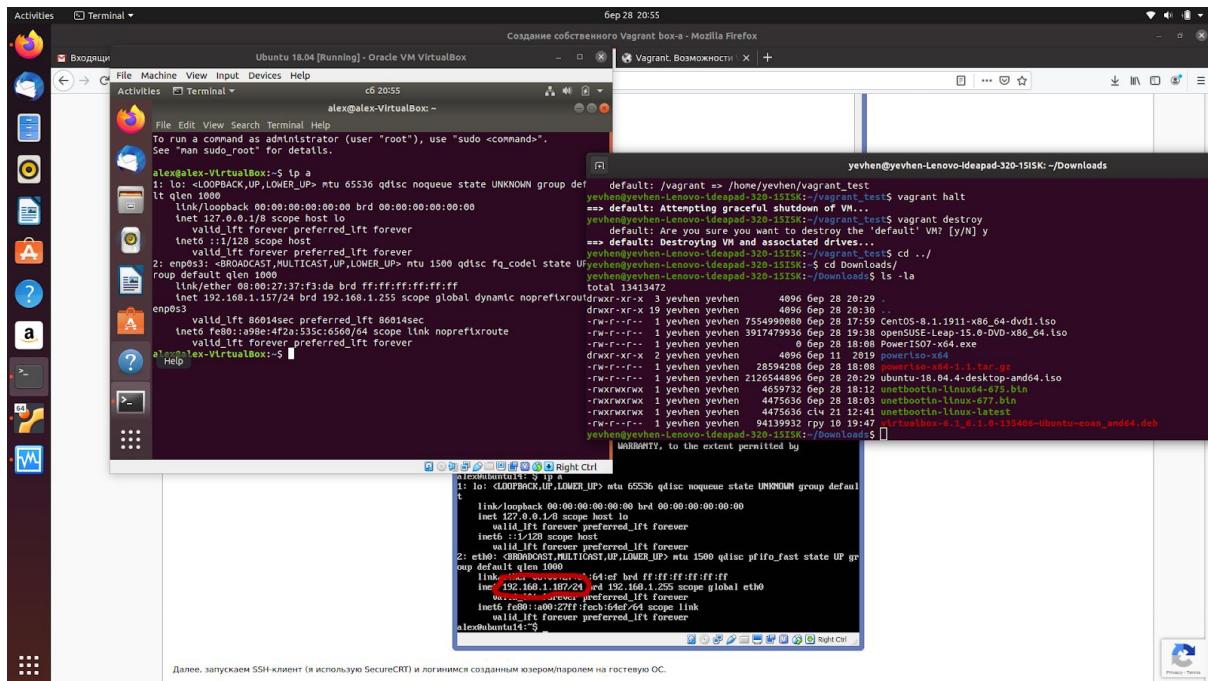




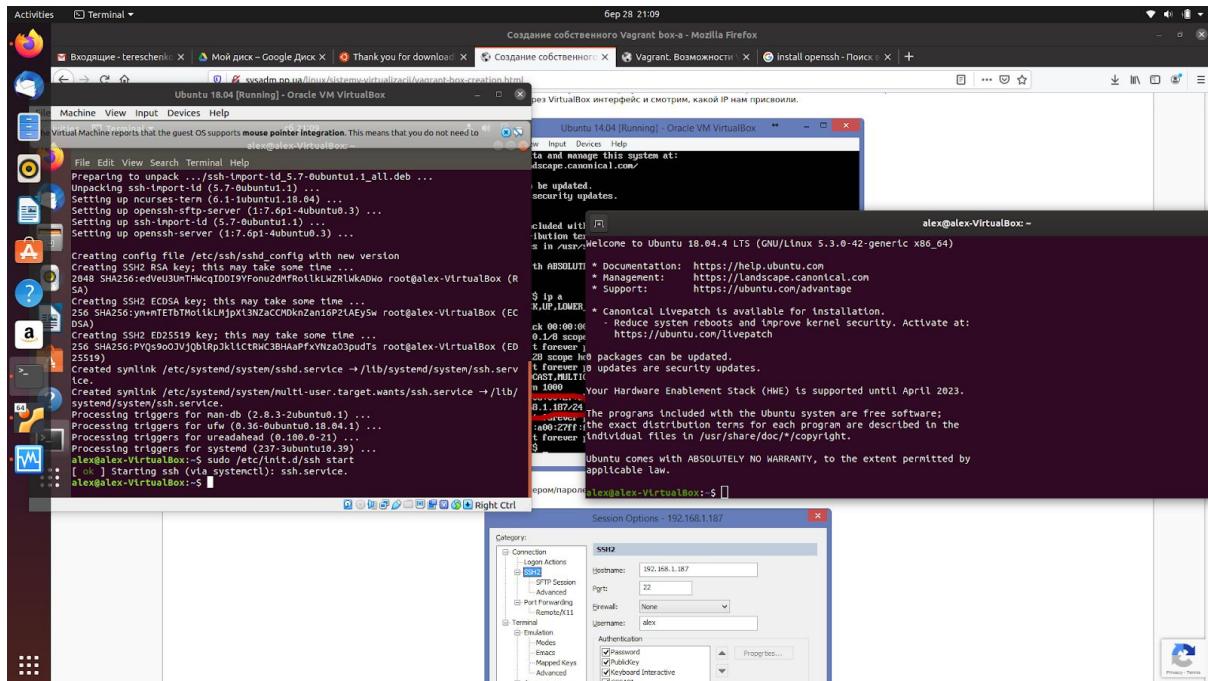




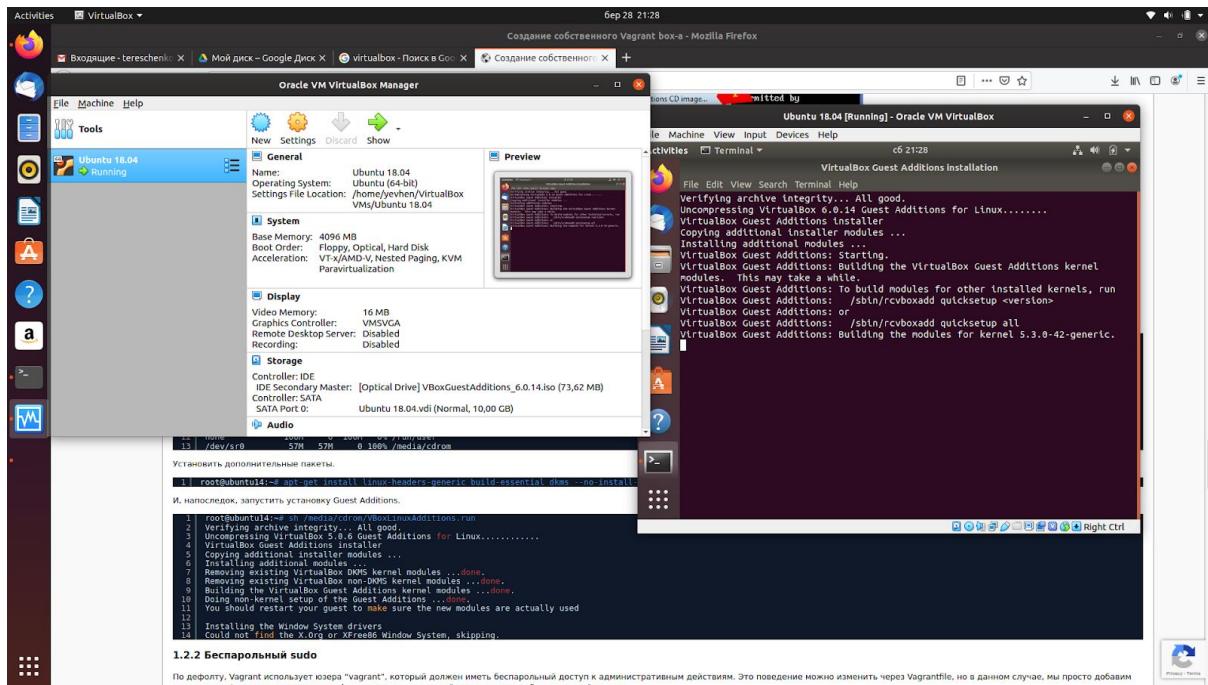
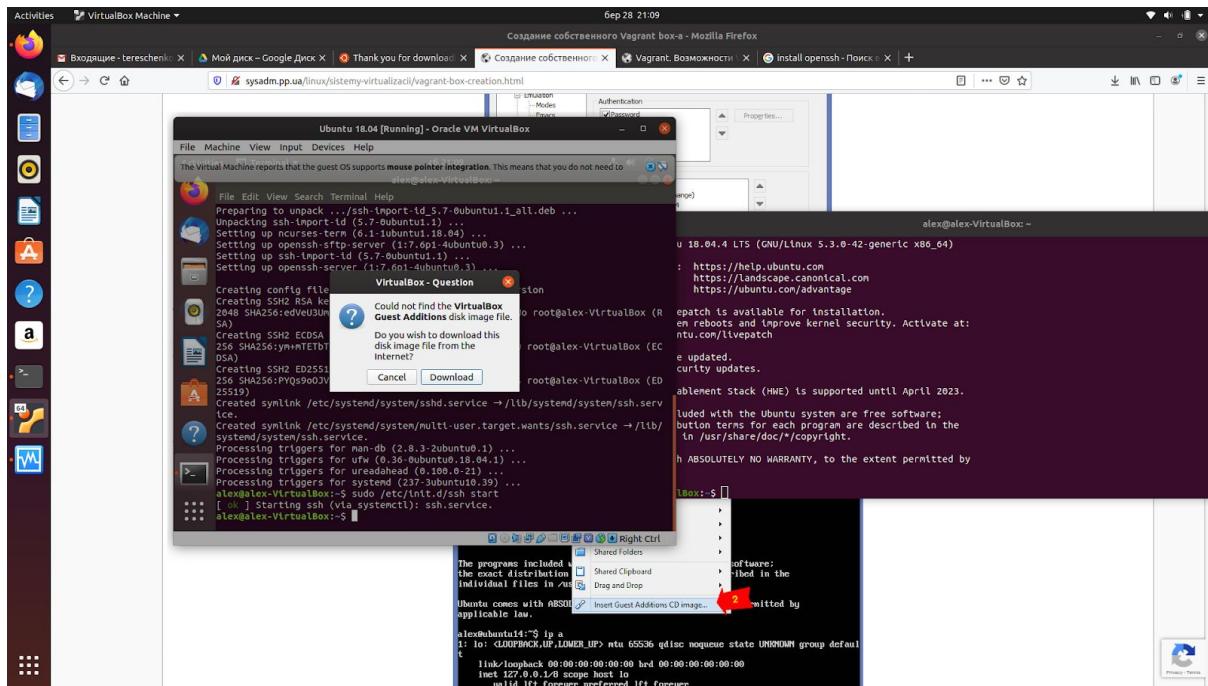
install ubuntu and after that connect

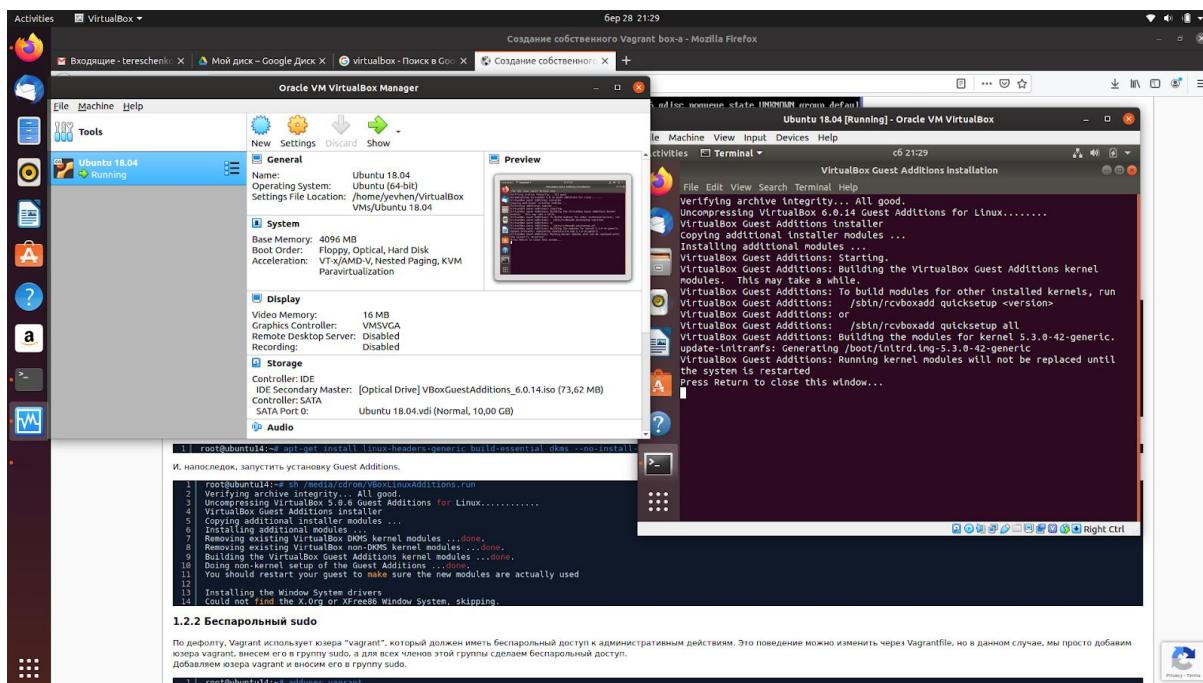


connect from client by ssh

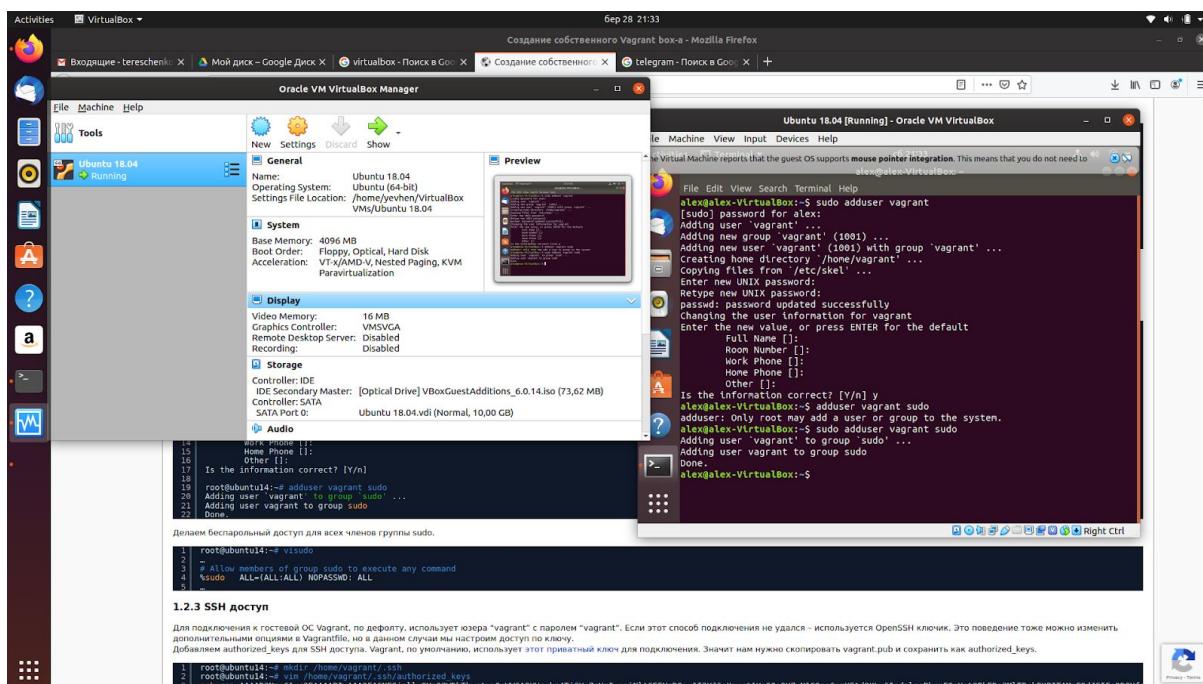


## install virtualbox guest additional disk

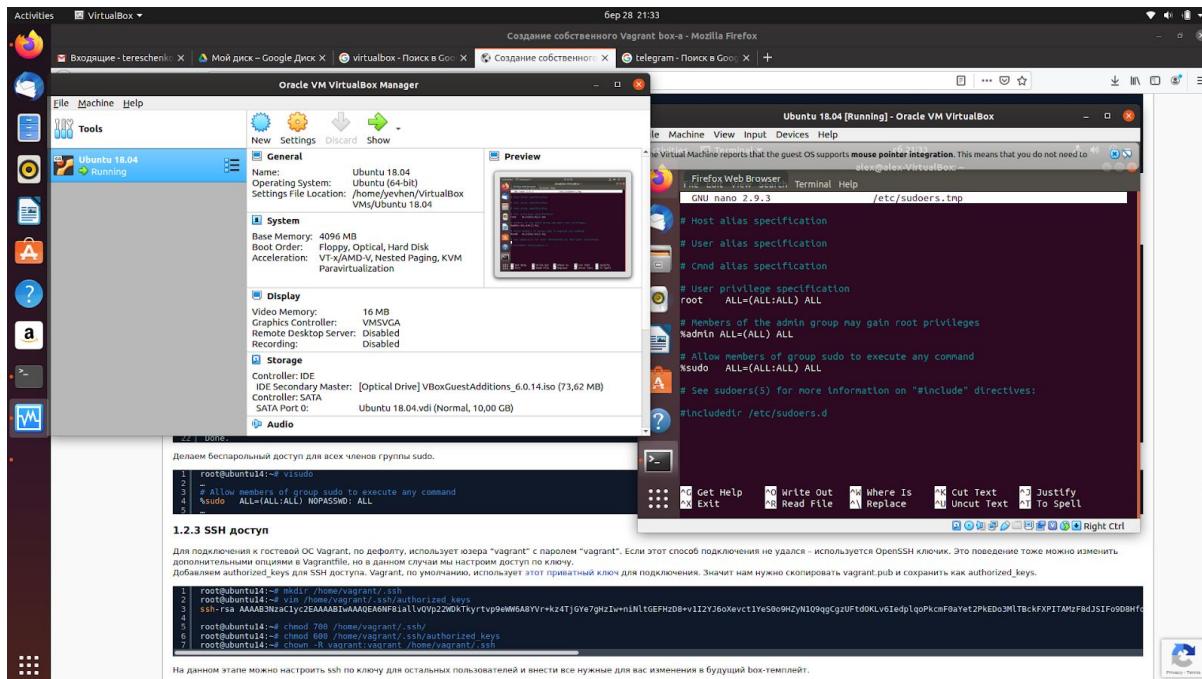




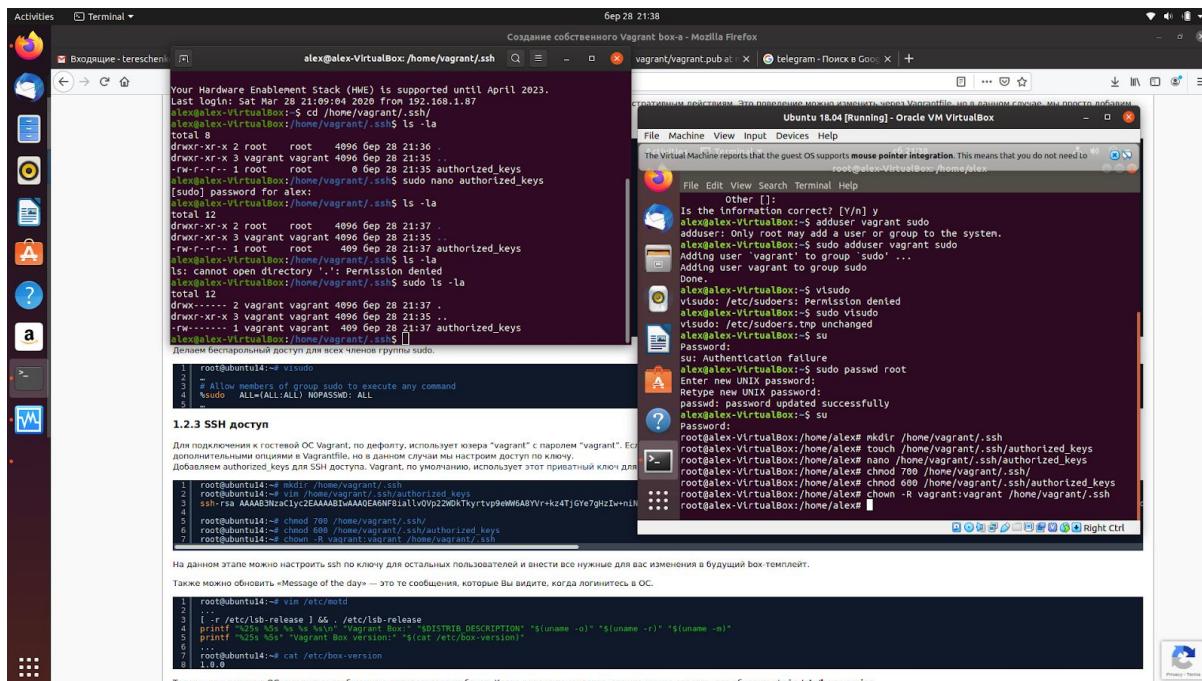
add user  
add sudo to user



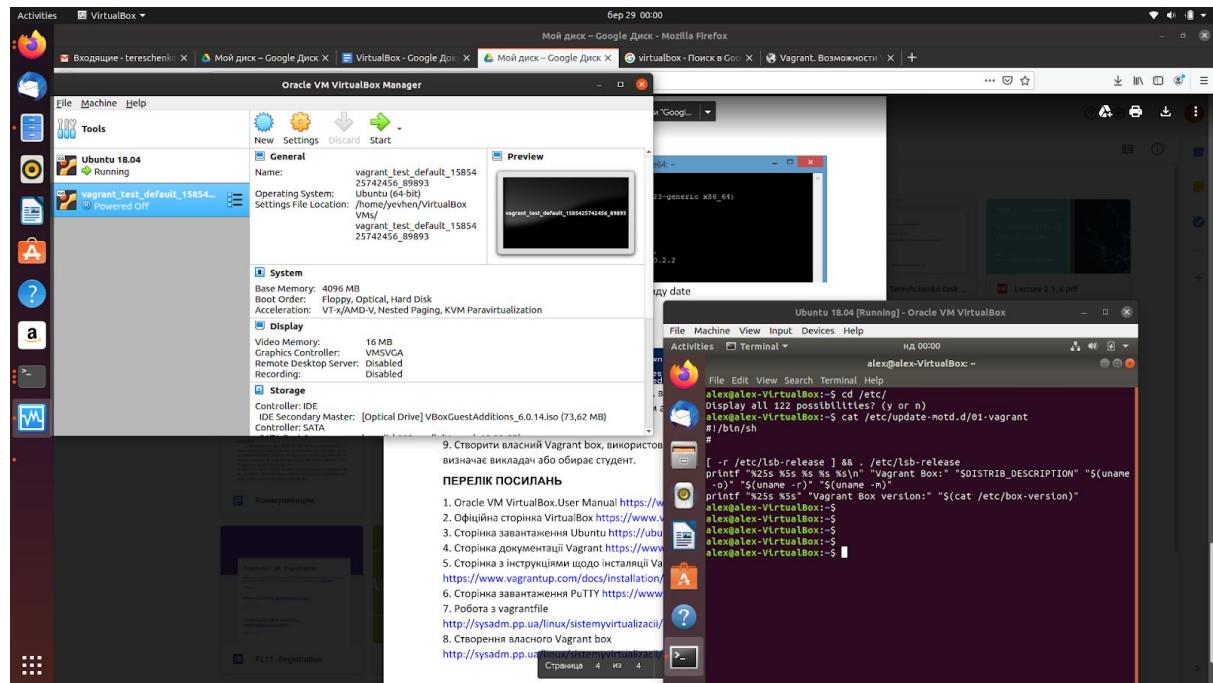
## allow to use sudo



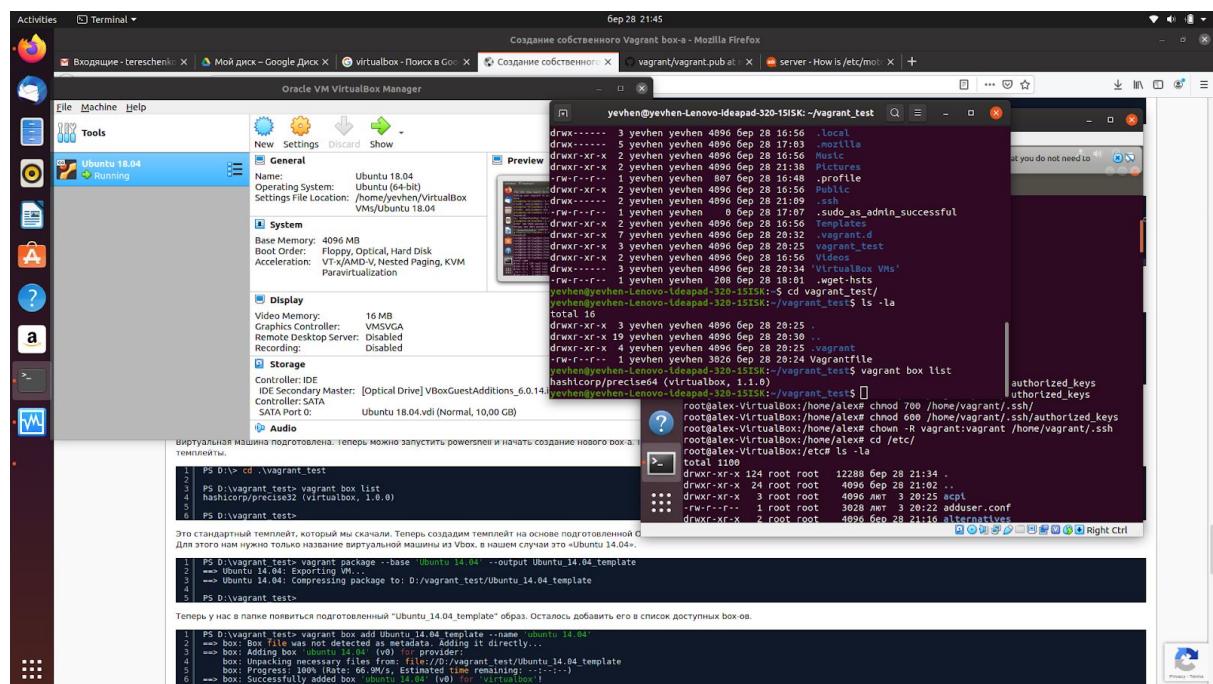
## add access to users



add motd



create vagrant box



## create template

add image file template to boxes

Activities Terminal Создание собственного Vagrant box-a - Mozilla Firefox

Входящие - tereshchenko | Мой диск - Google Диск | virtualbox - Поиск в Go... | Создание собственного... | vagrant/vagrant.pub at | server - How is /etc/motd | +

sysadm.pw/linux/system-virtualization/vagrant-box-creation.html

На данном этапе можно настроить ssh по ключу для остальных машин.

Также можно обновить "Message of the day" — это то что будет показано при входе в систему.

```
1 root@ubuntut14:~# vi /etc/motd
2
3 ...-r /etc/lsb-release 1 65 /etc/lsb-release
4 printf "%s %s %s\n" "Vagrant Box:" "$(/etc/lsb-release | grep DISTRIB_RELEASE | sed -e 's/ /-/g')" "Vagrant Box Version:" "$(/etc/lsb-release | grep DISTRIB_CODENAME | sed -e 's/ /-/g')"
5
6 1.0.0
7 root@ubuntut14:~# cat /etc/box-version
```

Теперь, при логине в ОС мы увидим сообщение о релизе и версии.

## 2. Создание Vagrant box-a

Виртуальная машина подготовлена. Теперь можно запустить темплейт.

```
1 PS D:\> cd ..\vagrant_test
2 PS D:\vagrant_test> vagrant box list
3 hashicorp/precise32 (virtualbox, 1.0.0)
4
5 PS D:\vagrant_test>
```

Это стандартный темплейт, который мы скачали. Теперь создадим для него имя нужно только название виртуальной машины.

```
1 PS D:\vagrant_test> vagrant package --base Ubuntu_14.04 --name Ubuntu_14.04
2 ==> Ubuntu 14.04: Exporting VM...
3 ==> Ubuntu 14.04: Forcing shutdown of VM...
4 ==> Ubuntu 14.04: Removing VM...
5 ==> Ubuntu 14.04: Compressing package to: /home/yevhen/vagrant_test/Ubuntu_14.04_template
6
7 yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant box add Ubuntu_14.04_template --name 'ubuntu_14.04'
8 ==> Box file was not detected as metadata. Adding it directly...
9 ==> Box 'Ubuntu_14.04' successfully added!
10 ==> Adding box 'ubuntu_14.04' (vbox) for provider:
11 ==> Box 'Ubuntu_14.04' successfully added.
12
13 PS D:\vagrant_test>
```

Теперь в папке появился подготовленный "Ubuntu\_14.04\_template" образ. Осталось добавить его в список доступных box-ов.

```
1 PS D:\vagrant_test> vagrant box add Ubuntu_14.04_template --name 'ubuntu_14.04'
2 ==> Box 'Ubuntu_14.04' was not detected as metadata. Adding it directly...
3 ==> Box 'Ubuntu_14.04' successfully added.
4 ==> Adding box 'Ubuntu_14.04' (vbox) for provider:
5 ==> Box 'Ubuntu_14.04' successfully added.
6 ==> Box 'Ubuntu_14.04' successfully added.
7 ==> Box 'Ubuntu_14.04' successfully added.
8 ==> Box 'Ubuntu_14.04' successfully added.
9 ==> Box 'Ubuntu_14.04' successfully added.
10 ==> Box 'Ubuntu_14.04' successfully added.
11 ==> Box 'Ubuntu_14.04' successfully added.
12 ==> Box 'Ubuntu_14.04' successfully added.
13
14 PS D:\vagrant_test>
```

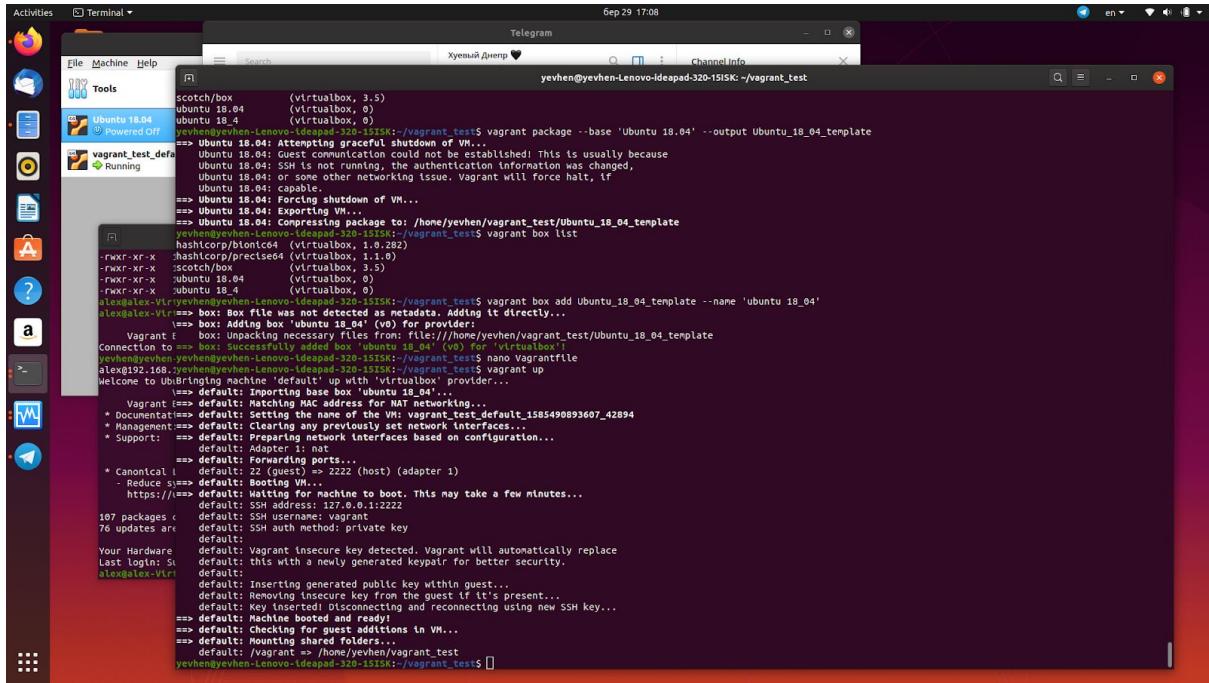
Теперь созданная виртуальная машину на основе нашего box-a. Для этогоедактируем Vagrantfile.

```
1 Vagrant.configure(2) do |config|
2   config.vm.box = "ubuntu_14.04"
3 end
```

И поднимаем виртуальную машину.

```
1 PS D:\vagrant_test> vagrant up
2 Bringing machine 'default' up with 'virtualbox' provider...
3 ...
4 default: Importing base box 'ubuntu_14.04'...
5 ...
6 default: Matching MAC address for NAT networking...
7 default: Attaching existing network interface 'Default' (1458089665710_5465)
8 default: Cloning any existing network interfaces...
9 default: Preparing network interfaces based on configuration...
10 default: Forwarding ports...
11 default: Starting VM...
12 default: Waiting for machine to boot. This may take a few minutes...
13 default: Machine booted and ready!
14 default: Checking for guest additions in VM...
15 default: Mounting shared folders...
16 default: Configuring network interfaces...
17 default: Starting provider 'virtualbox'...
18 default: Machine booted and ready!
```

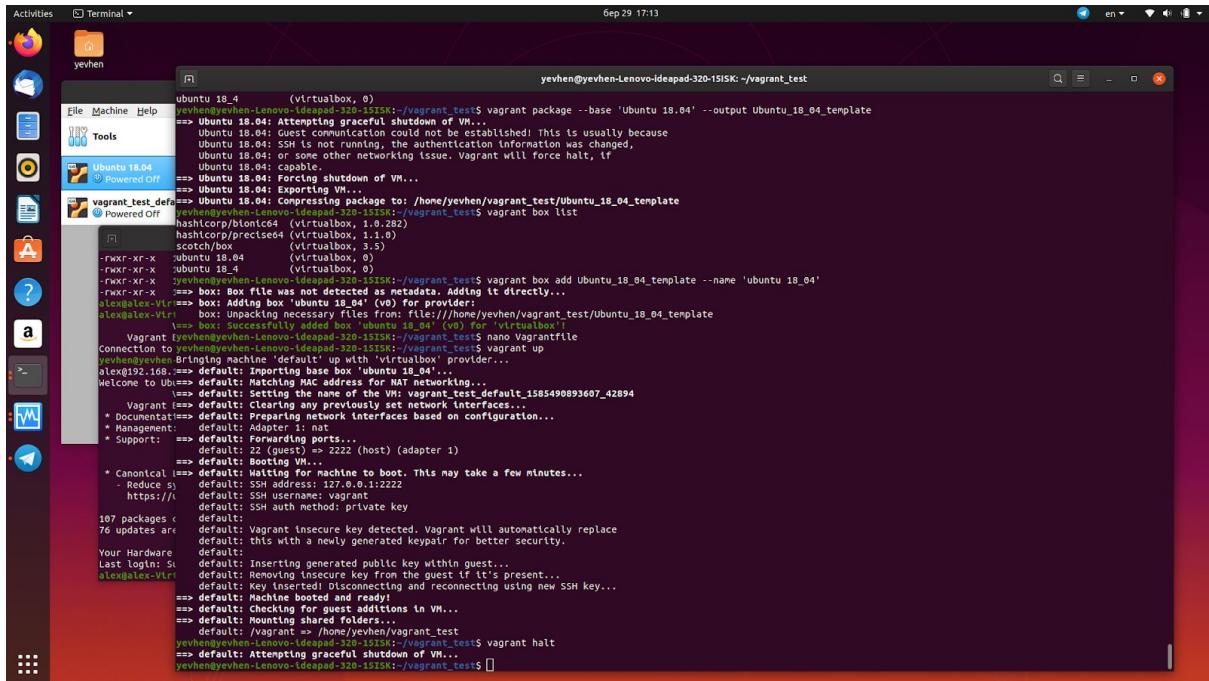
## start up virtualbox



```
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.

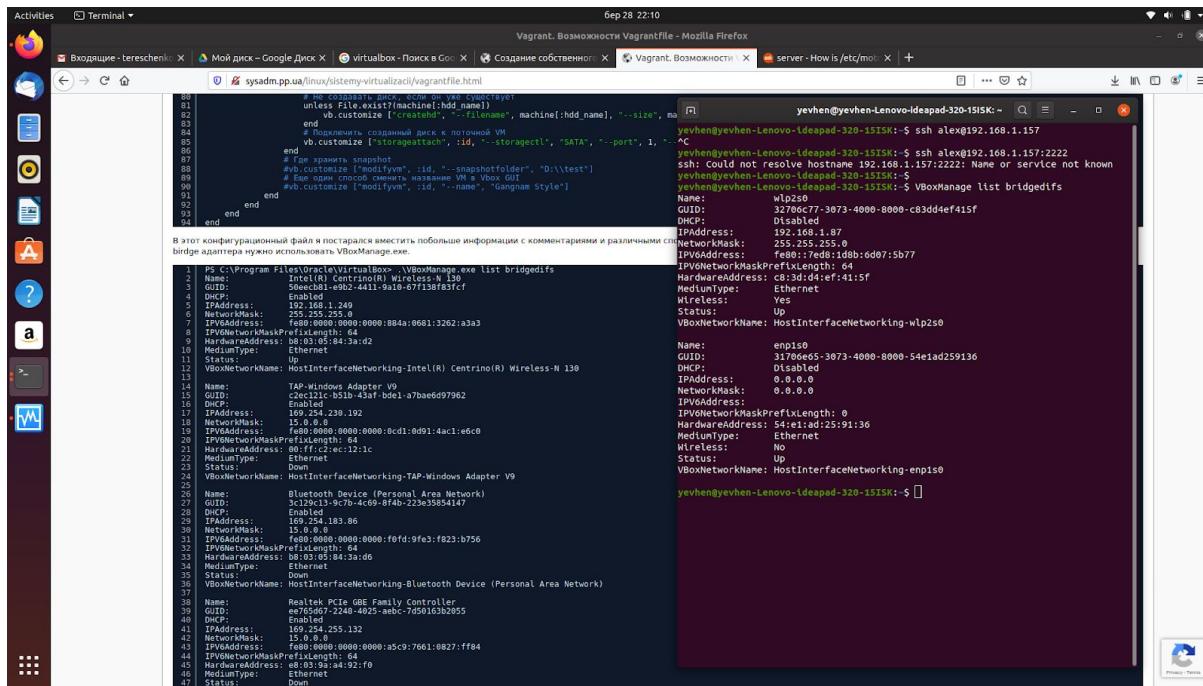
## stop vagrant



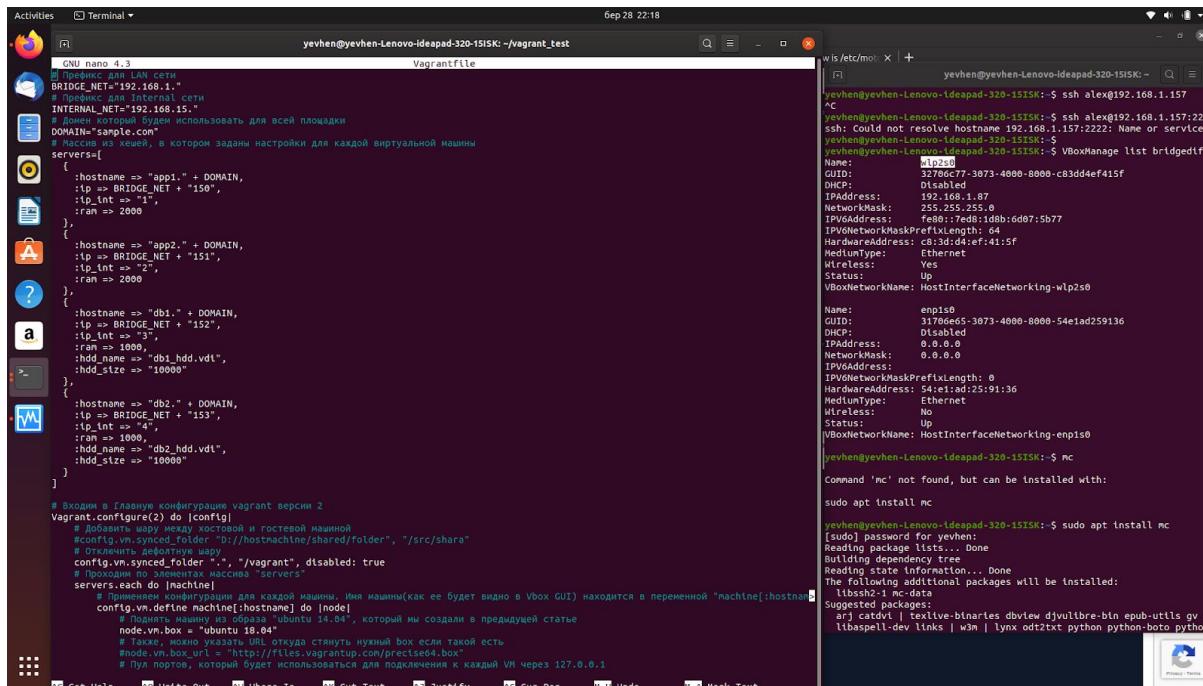
```
Activities Terminal ▾ 6 Sep 29 17:13
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test$ vagrant halt
[Output from the terminal window]
```

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

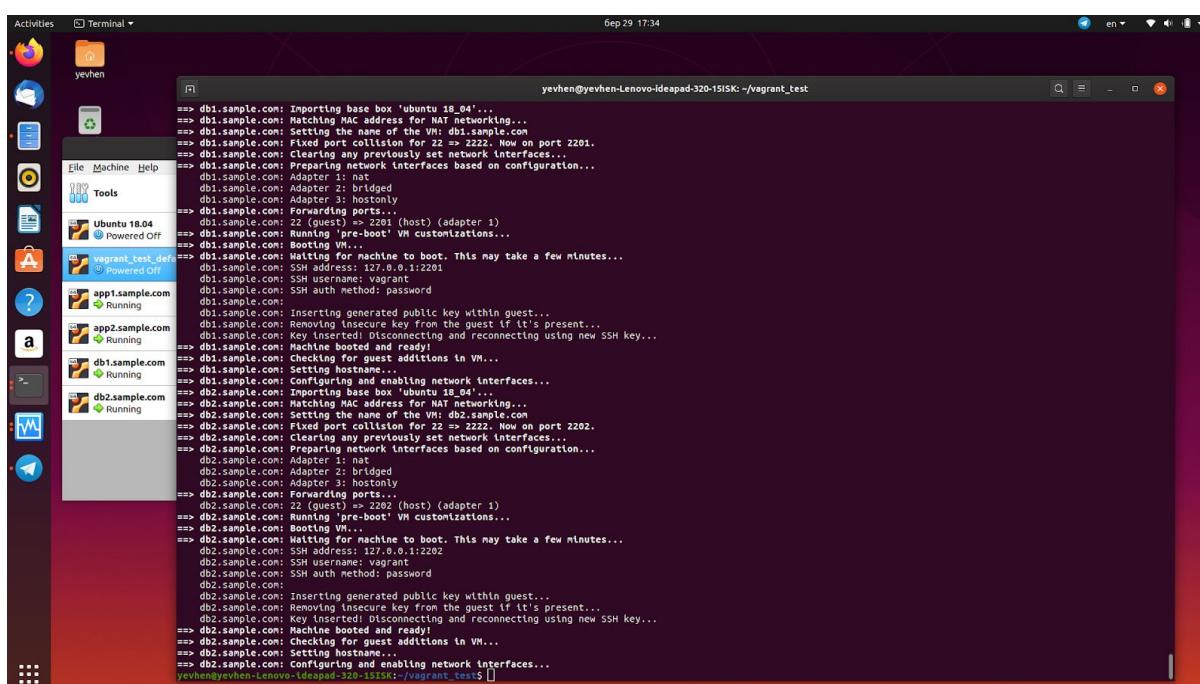
```
GNU nano 4.3 Vagrantfile
 1. # Входим в Справки конфигурации Vagrant версии 2
 2. Vagrant.configure(2) do |config|
 3.   # Отключить левобокую ширь
 4.   config.vm.synced_folder "D://hostmachine/shared/folder", "/src/shara"
 5.   # Прокси по элементах массива "servers"
 6.   servers.each do |machines|
 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.         # Переименование машины в Vbox GUI
34.         vb.name = machine[:hostname]
35.         # Добавление жесткого диска, если такой указан в конфигурации
36.         if !(File.exist?(machine[:hdd_name]))
37.           unless File.exist?(machine[:hdd_name])
38.             vb.customize ["createhd", "--filename", machine[:hdd_name], "--size", machine[:hdd_size]]
39.           end
40.           # Добавлять созданный диск к текущей VM
41.           vb.customize ["storageattach", :id, "--storagectl", "SATA", "--port", 1, "--device", 0, "--type", "hdd", "--medium", "existing"]
42.         end
43.         # Где хранить snapshot
44.         vb.customize ["modifyvm", :id, "--snapshotfolder", "D:\\\\test"]
45.         # Еще один способ сменить название VM в Vbox GUI
46.         vb.customize ["modifyvm", :id, "--name", "Gangnam Style"]
47.       end
48.     end
49.   end
50.
```

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

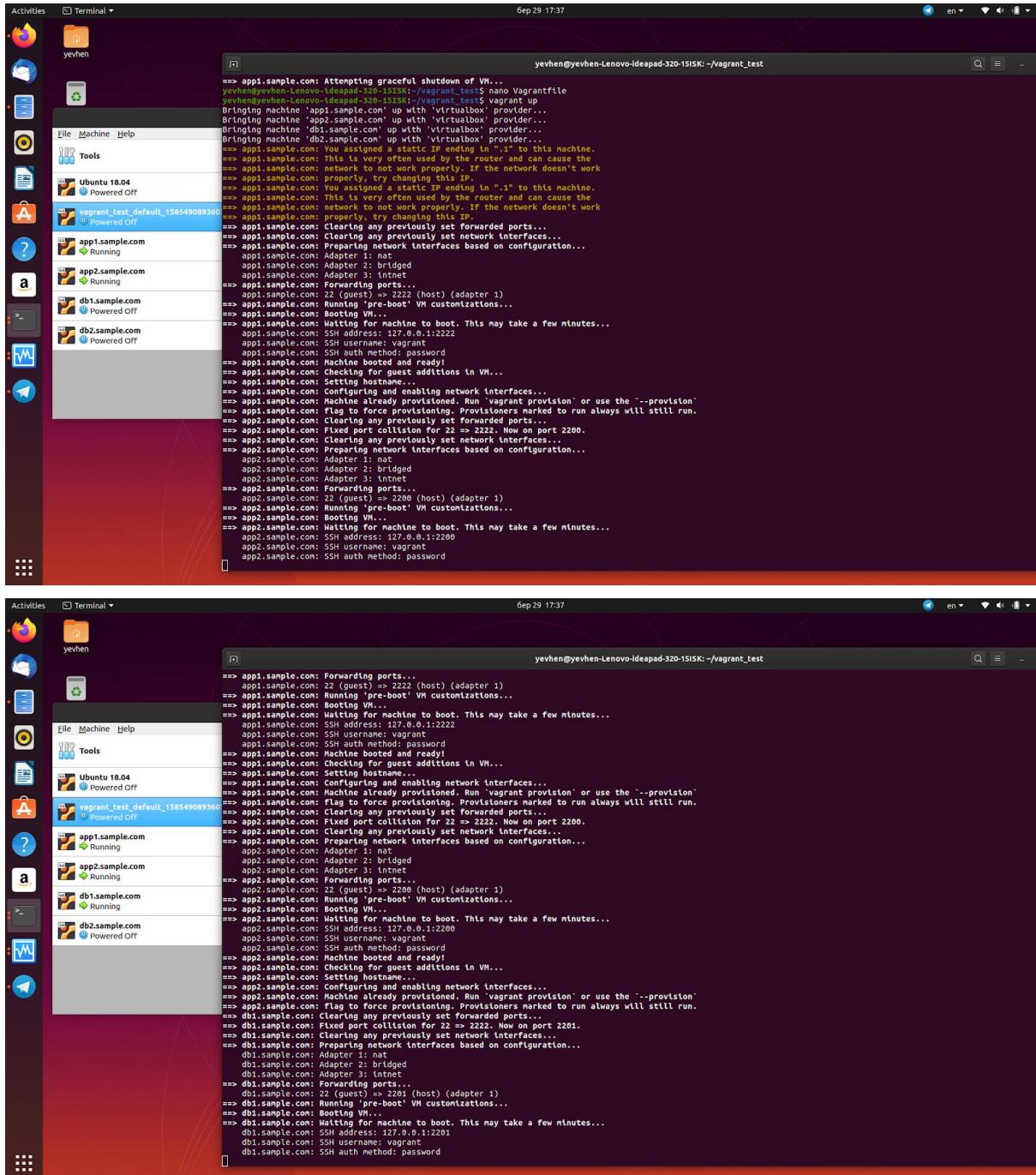
```
Activities Terminal 6ep 29 17:34
yevhen@yevhen-Lenovo-ideapad-320-15ISK: ~$ vagrant test
yevhen@yevhen-Lenovo-ideapad-320-15ISK: ~$ vagrant up
Bringing machine 'app1.sample.com' up with 'virtualbox' provider...
Bringing machine 'app2.sample.com' up with 'virtualbox' provider...
Bringing machine 'db1.sample.com' up with 'virtualbox' provider...
Bringing machine 'db2.sample.com' up with 'virtualbox' provider...
Bringing machine 'app1.sample.com': You assigned a static IP ending in ".1" to this machine.
This is very often used by the router and can cause the network to not work properly. If the network doesn't work
properly, try changing this IP.
Bringing machine 'app1.sample.com': Importing base box 'ubuntu_18.04'...
Bringing machine 'app1.sample.com': Matching MAC address for NAT networking...
Bringing machine '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
properly, try changing this IP.
Bringing machine 'app1.sample.com': Setting the name of the VM: app1.sample.com
Bringing machine 'app1.sample.com': Clearing any previously set network interfaces...
Bringing machine 'app1.sample.com': Preparing network interfaces based on configuration...
Bringing machine 'app1.sample.com': Adapter 1: nat
Bringing machine 'app1.sample.com': Adapter 2: bridged
Bringing machine 'app1.sample.com': Forwarding ports...
Bringing machine 'app1.sample.com': 22 (guest) => 2222 (host) (adapter 1)
Bringing machine 'app1.sample.com': Running 'pre-boot' VM customizations...
Bringing machine 'app1.sample.com': Booting VM...
Bringing machine 'app1.sample.com': Waiting for machine to boot. This may take a few minutes...
Bringing machine 'app1.sample.com': SSH address: 127.0.0.1:2222
Bringing machine 'app1.sample.com': SSH username: vagrant
Bringing machine 'app1.sample.com': SSH auth method: password
Bringing machine 'app1.sample.com': Inserting generated public key within guest...
Bringing machine 'app1.sample.com': Removing insecure key from the guest if it's present...
Bringing machine 'app1.sample.com': Key inserted! Disconnecting and reconnecting using new SSH key...
Bringing machine 'app1.sample.com': Machine booted and ready!
Bringing machine 'app1.sample.com': Checking for guest additions in VM...
Bringing machine 'app1.sample.com': Setting guest additions...
Bringing machine 'app1.sample.com': Configuring and enabling network interfaces...
Bringing machine 'app2.sample.com': Importing base box 'ubuntu_18.04'...
Bringing machine 'app2.sample.com': Matching MAC address for NAT networking...
Bringing machine 'app2.sample.com': Setting the name of the VM: app2.sample.com
Bringing machine 'app2.sample.com': Clearing any previously set network interfaces...
Bringing machine 'app2.sample.com': Preparing network interfaces based on configuration...
Bringing machine 'app2.sample.com': Adapter 1: nat
Bringing machine 'app2.sample.com': Adapter 2: bridged
Bringing machine 'app2.sample.com': Forwarding ports...
Bringing machine 'app2.sample.com': 22 (guest) => 2280 (host) (adapter 1)
Bringing machine 'app2.sample.com': Running 'pre-boot' VM customizations...
Bringing machine 'app2.sample.com': Booting VM...
```



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "yevhen@yevhen-Lenovo-ideapad-320-15ISK: ~/vagrant\_test". The terminal content displays a series of log messages from Vagrant scripts for two VMs, db1.sample.com and db2.sample.com. The log messages include importing base boxes, setting up network interfaces, fixing port collisions, clearing previous network configurations, preparing network interfaces, and forwarding ports. It also shows waiting for machines to boot, inserting generated public keys, removing insecure keys, checking guest additions, and setting hostnames. The terminal window has a dark theme and is positioned over a windowed application.

```
=> db1.sample.com: Importing base box 'ubuntu 16_04'...
=> db1.sample.com: Setting up network interfaces... networking...
=> 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: Waiting for '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
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! Disconnecting and reconnecting using new SSH key...
db1.sample.com: Guest appears to be ready
db1.sample.com: Checking for guest additions in VM...
db1.sample.com: Setting hostname...
=> db1.sample.com: Configuring and enabling network interfaces...
=> db2.sample.com: Importing base box 'ubuntu 16_04'...
=> db2.sample.com: Setting up network interfaces... networking...
=> db2.sample.com: Setting the name of the VM: db2.sample.com
=> 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: hostonly
=> db2.sample.com: Forwarding ports...
db2.sample.com: 22 (guest) => 2202 (host) (adapter 1)
=> db2.sample.com: Waiting for '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! Disconnecting and reconnecting using new SSH key...
=> db2.sample.com: Guest appears to be ready
=> db2.sample.com: Checking for guest additions in VM...
=> db2.sample.com: Setting hostname...
=> db2.sample.com: Configuring and enabling network interfaces...
yevhen@yevhen-Lenovo-ideapad-320-15ISK:~/vagrant_test]
```

## start with intnet



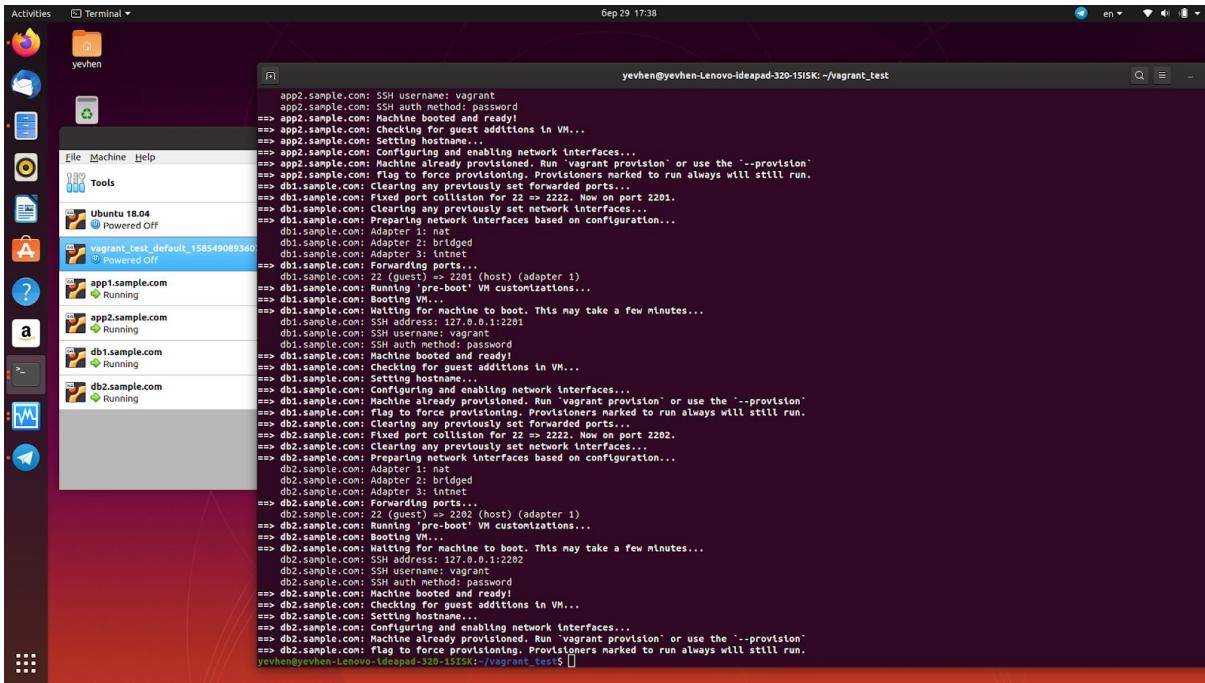
The image shows a Linux desktop environment with two terminal windows open, both titled "Terminal". The desktop interface includes a dock with icons for various applications like a web browser, file manager, and terminal, and a central workspace with a blurred background.

**Terminal Window 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
```

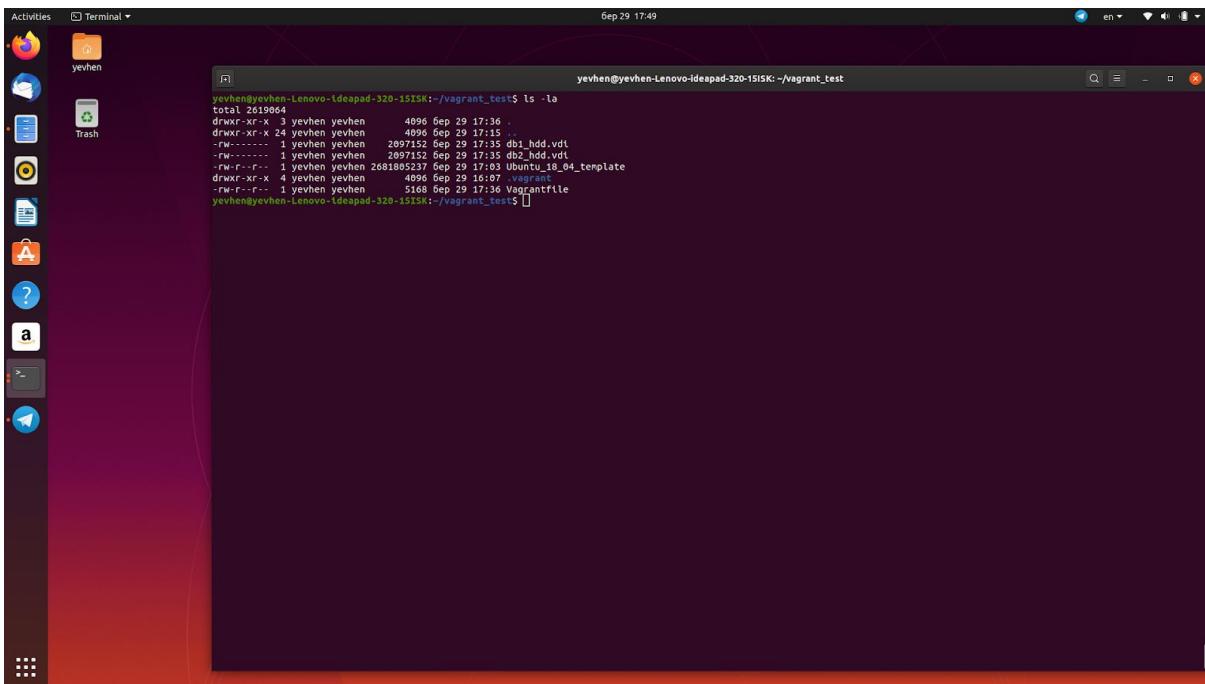
**Terminal Window 2 (Bottom):**

```
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: 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: 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
```



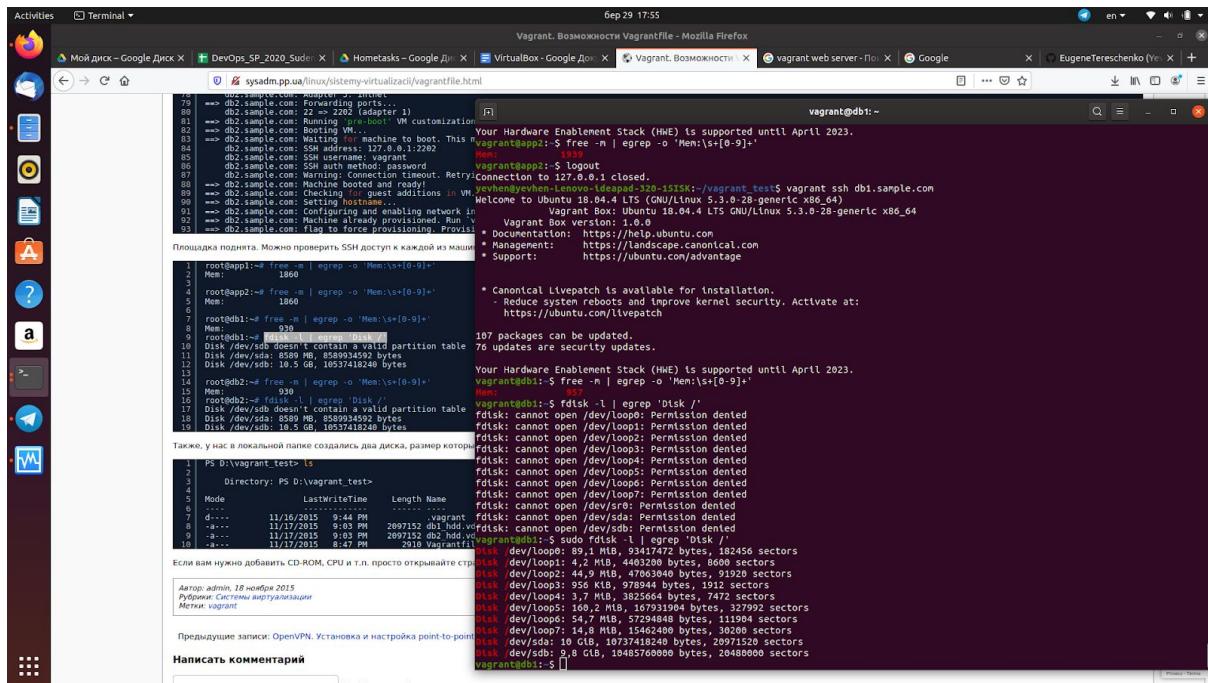
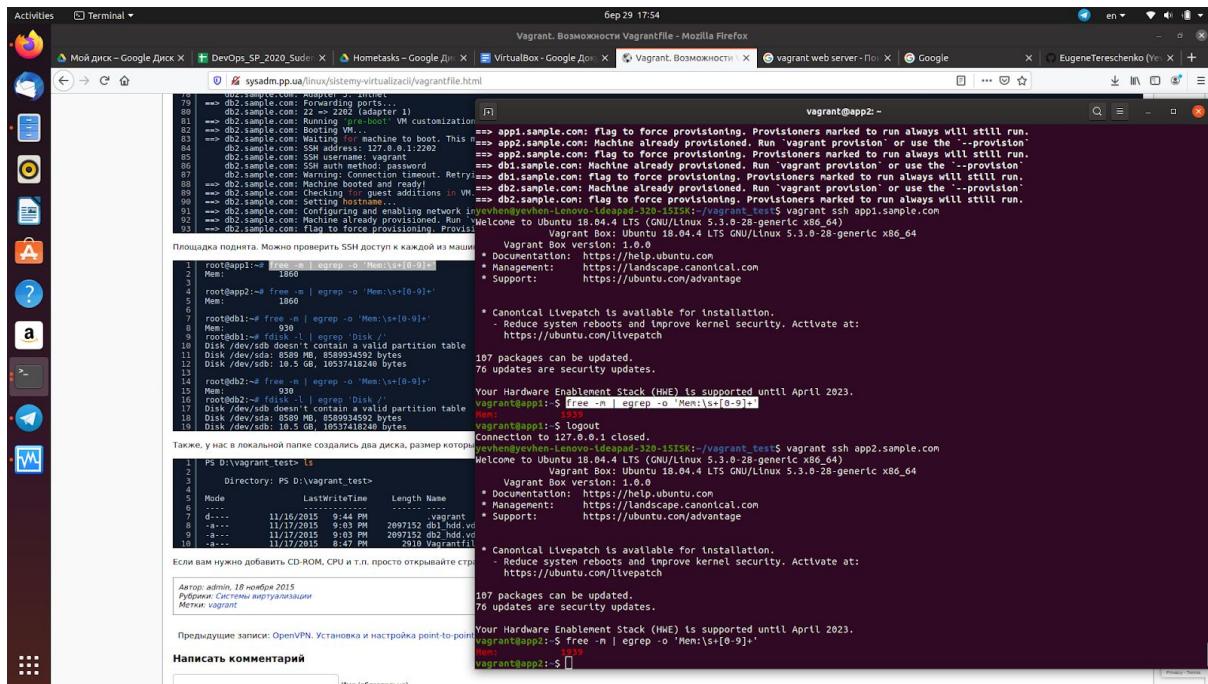
```
Activities Terminal - yevhen Sep 29 17:38 yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~/vagrant_test
app2.sample.com: SSH username: vagrant
app2.sample.com: SSH password: 
==> app2.sample.com: Machine is ready. Run 'vagrant provision' or use the '--provision' flag to force provisioning. Provisioners marked 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 22 => 2222. 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 22 => 2222. 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-- 3 yevhen yevhen 4096 Sep 29 17:36 .
drwxr-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----- 1 yevhen yevhen 26810851 Sep 29 17:35 Ubuntu_18.04_template
drwxr-x-- 2 yevhen yevhen 4096 Sep 29 17:36 .
-rw-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 Документы X | VirtualBox - Google Документы X | Vagrant. Возможности X | vagrant web server - Помощник X | Google X | EugeneTereshchenko (Yandex) X +

[sysadmin.pp.ua/linux/vistem-virtualizaci/vagrantfile.html](http://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: Host machine has no guest additions installed.
88 --- db2.sample.com: Machine booted and ready!
89 --- db2.sample.com: Checking for hostinjected...
90 --- db2.sample.com: Host machine has no hostinjected...
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 поднита. Можно проверить SSH доступ к каждой из машин:

```

1 root@app2:~# 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 Disk
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/sdb: 10537418240 bytes
13 Disk /dev/sdb: 10537418240 bytes
14 root@db2:~# free -m | egrep -o 'Mem:[\s]+[0-9]+'
15 Mem:          930
16 root@db2:~# fdisk -l | grep Disk
17 Disk /dev/sdb doesn't contain a valid partition table
18 Disk /dev/sdb: 8589 MB, 8589393459 bytes
19 Disk /dev/sdb: 8589 MB, 8589393459 bytes
```

Также, у нас в локальной папке созданы два диска, размер которых:

```

1 Ps D:\vagrant.test> ls
2 Directory: Ps D:\vagrant.test>
3
4 Mode LastwriteTime Length Name
5 ----
6 d---- 11/16/2015 9:03 PM 2097152 db1.hdd.vdi
7 a---- 11/17/2015 9:03 PM 2097152 db2.hdd.vdi
8
9 -a--- 11/17/2015 9:03 PM 2097152 db2.hdd.vdi
10 -a--- 11/17/2015 9:47 PM 2910 Vagrantfile
```

Если вам нужно добавить CD-ROM, CPU и т.п. просто открывайте страницу <http://sysadmin.pp.ua/linux/vistem-virtualizaci/vagrantfile.html>.

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Метки: vagrant

Предыдущие записи: Оценка VPN. Установка и настройка point-to-point

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