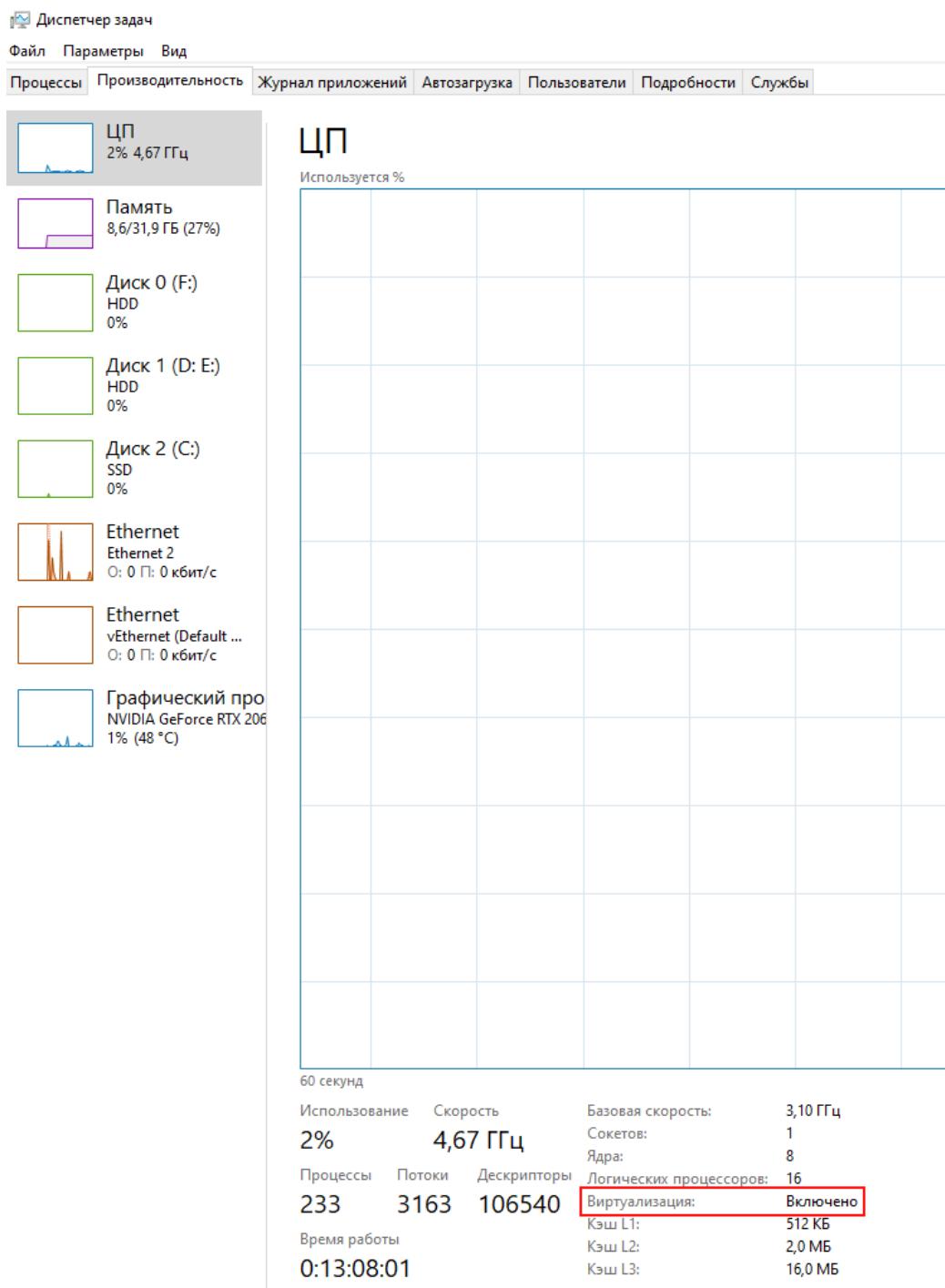
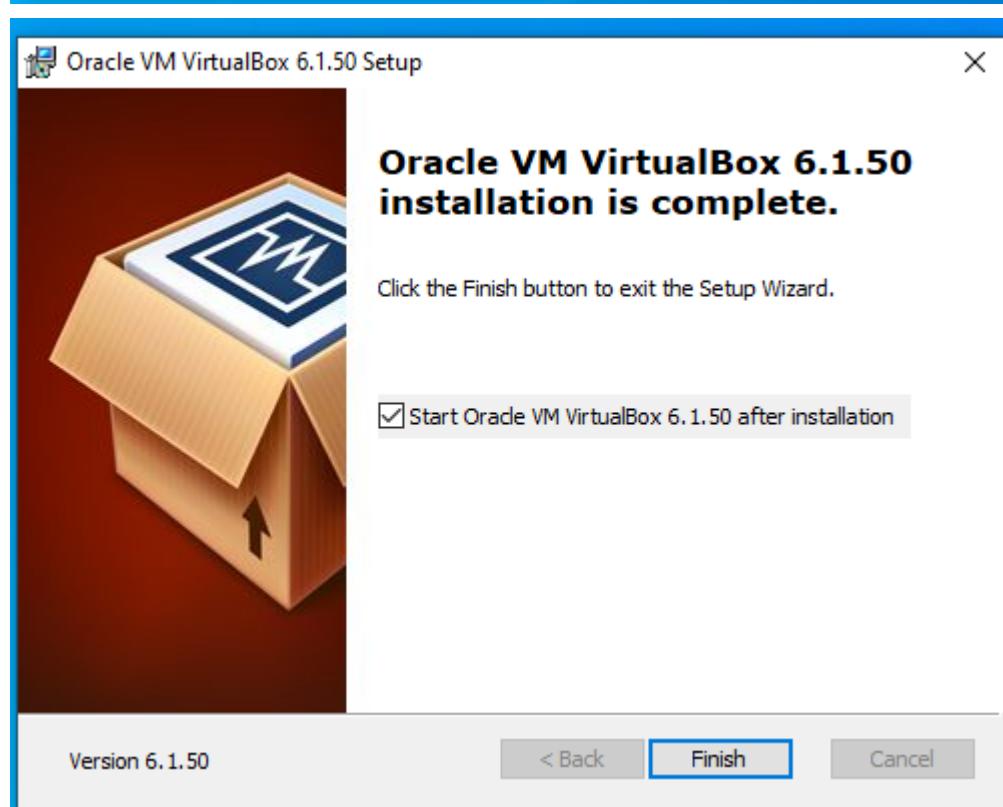
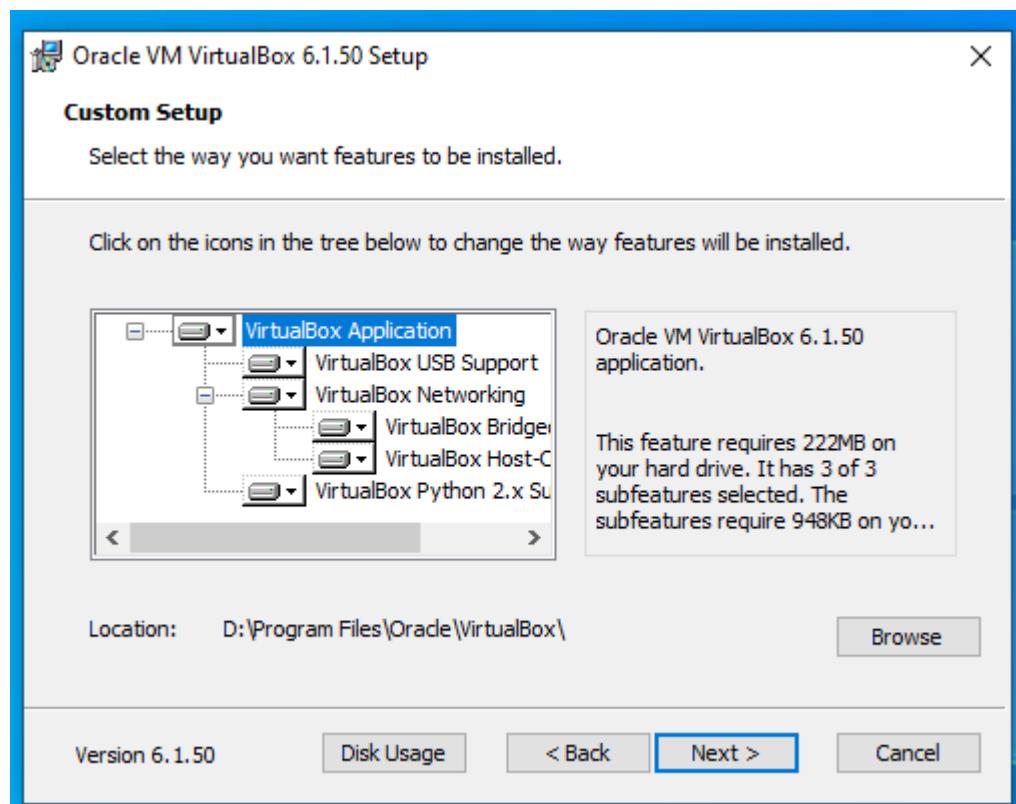


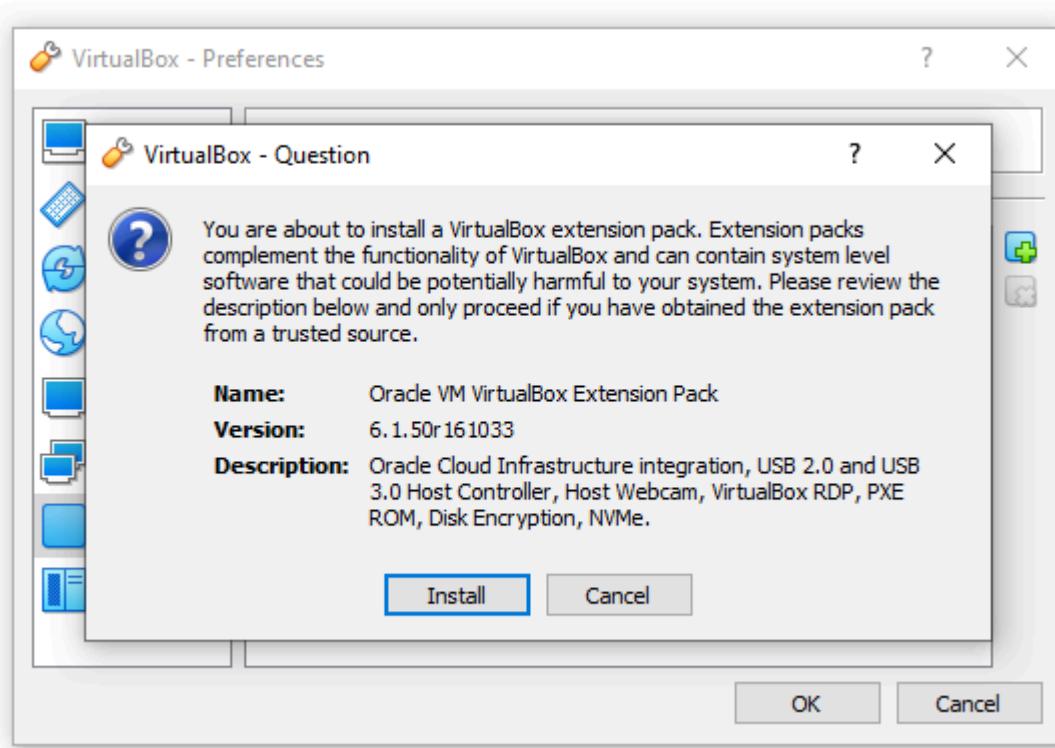
1. Проверка аппаратной виртуализации:



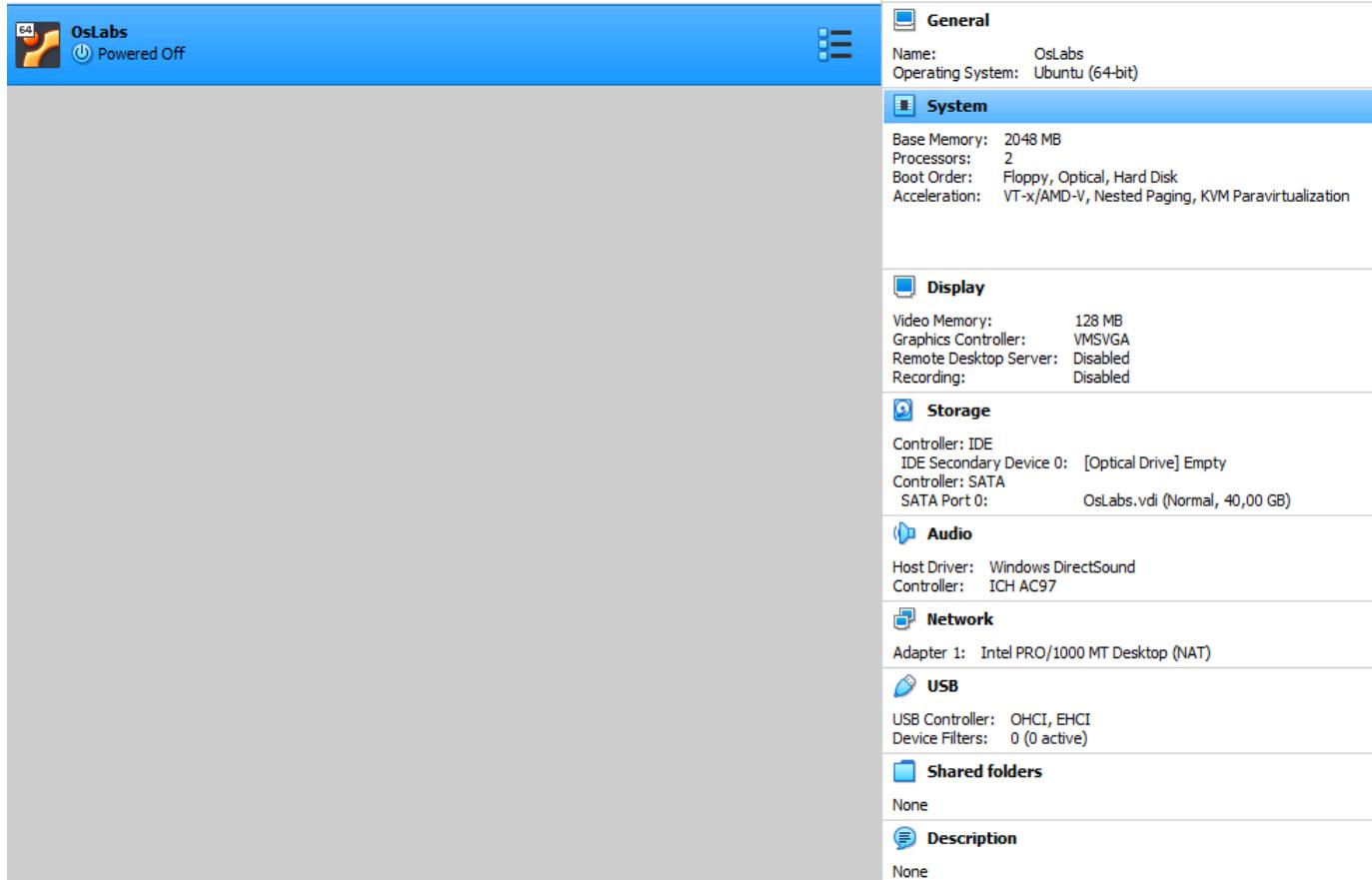
2. Установка VirtualBox 6.1.50-161033:



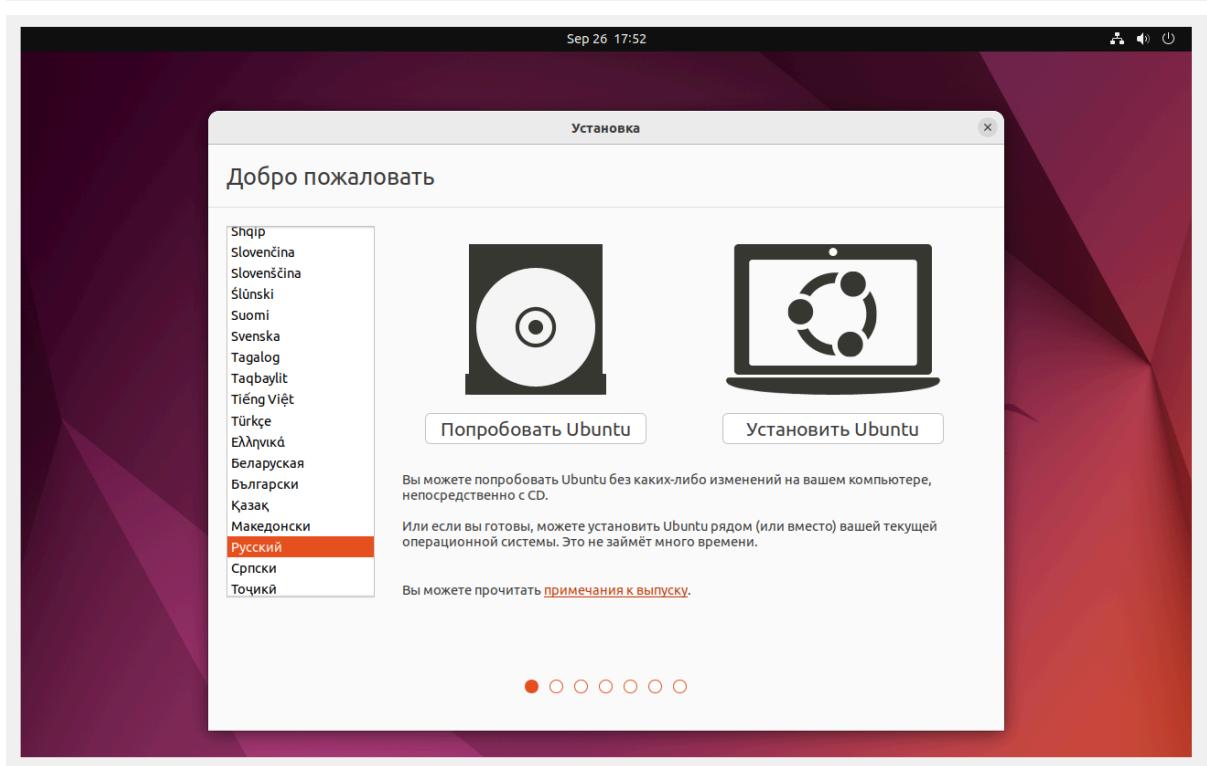
3. Установка VirtualBox Extension Pack:

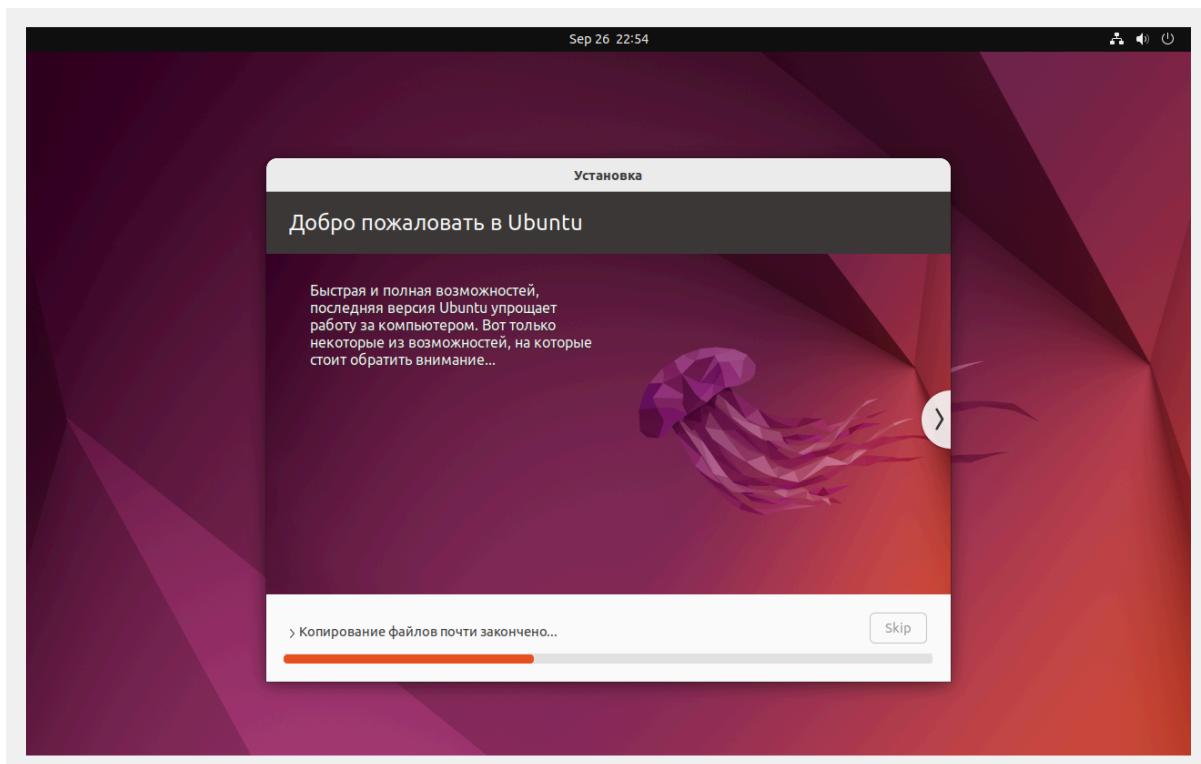
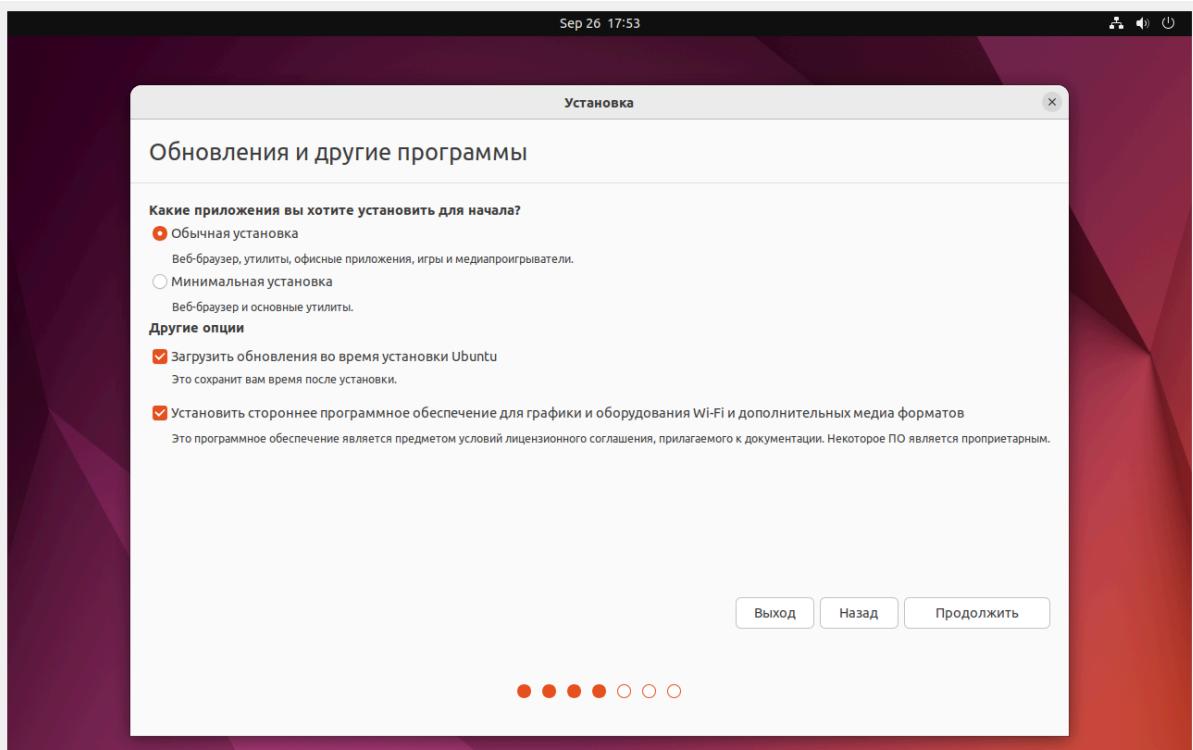


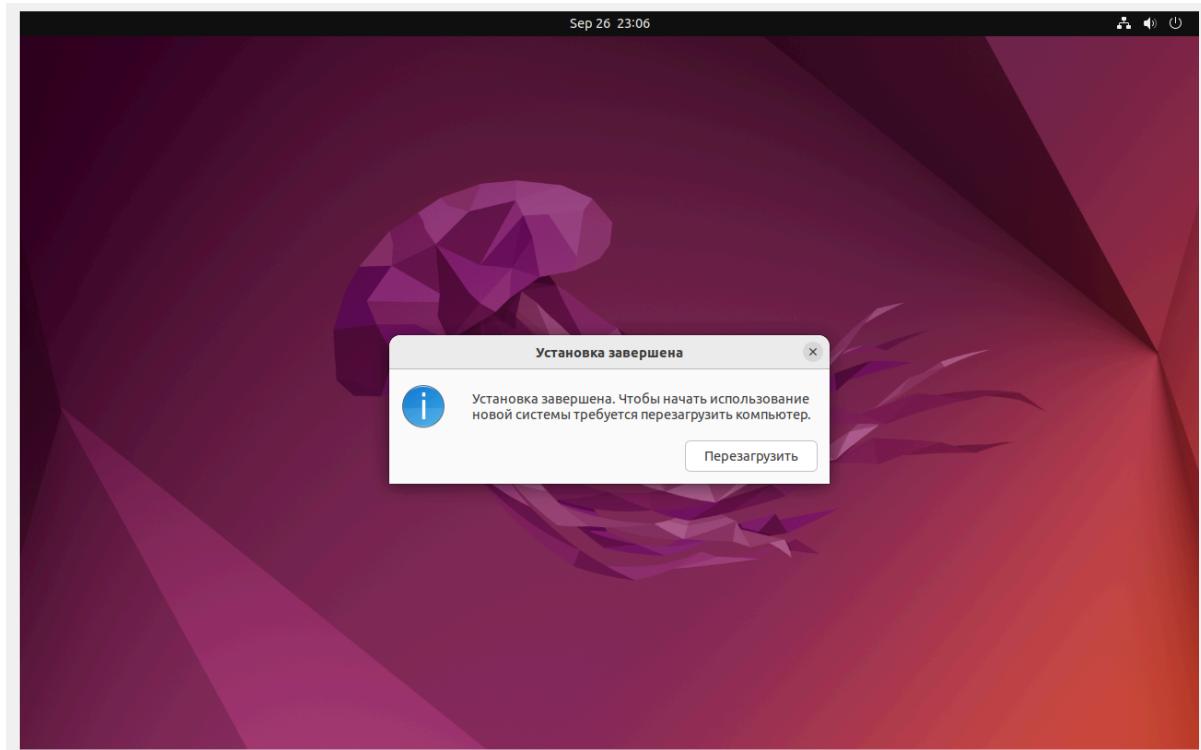
4. Создание виртуальной машины:



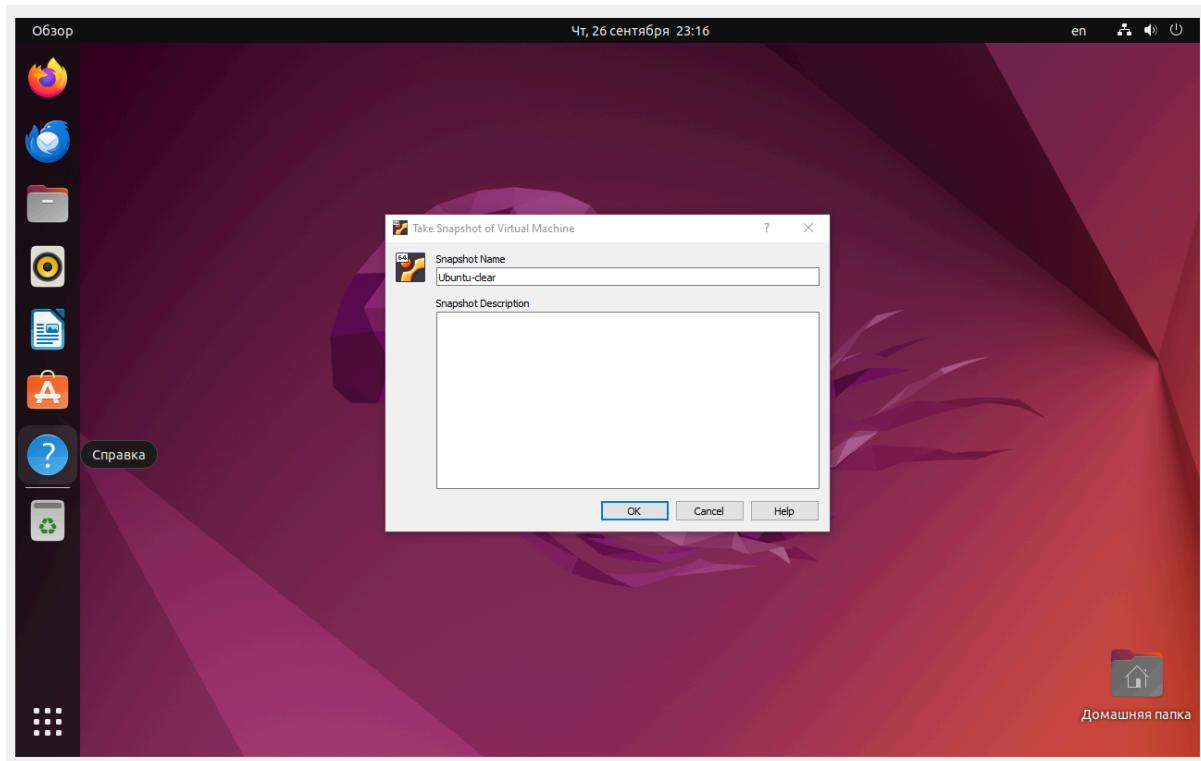
5. Установка ОС Ubuntu 22.04 LTS на виртуальную машину:

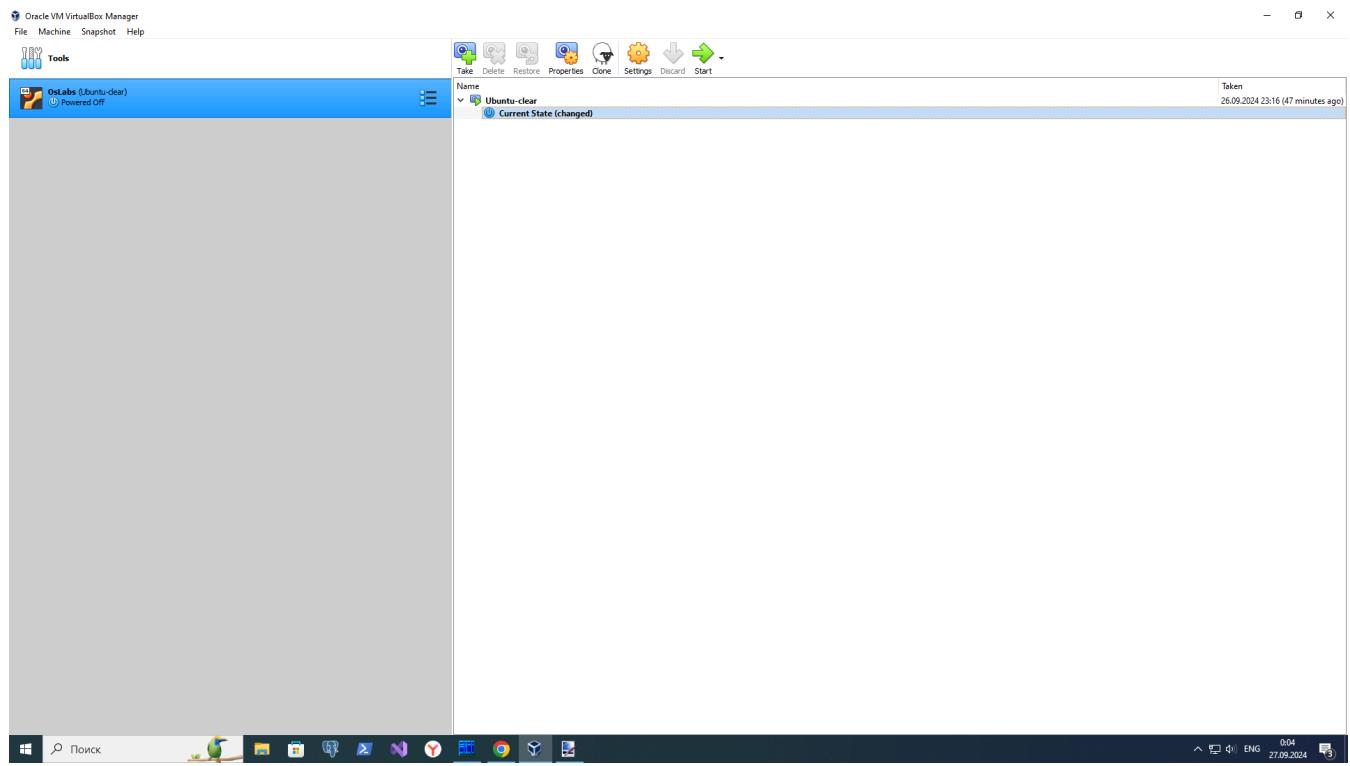




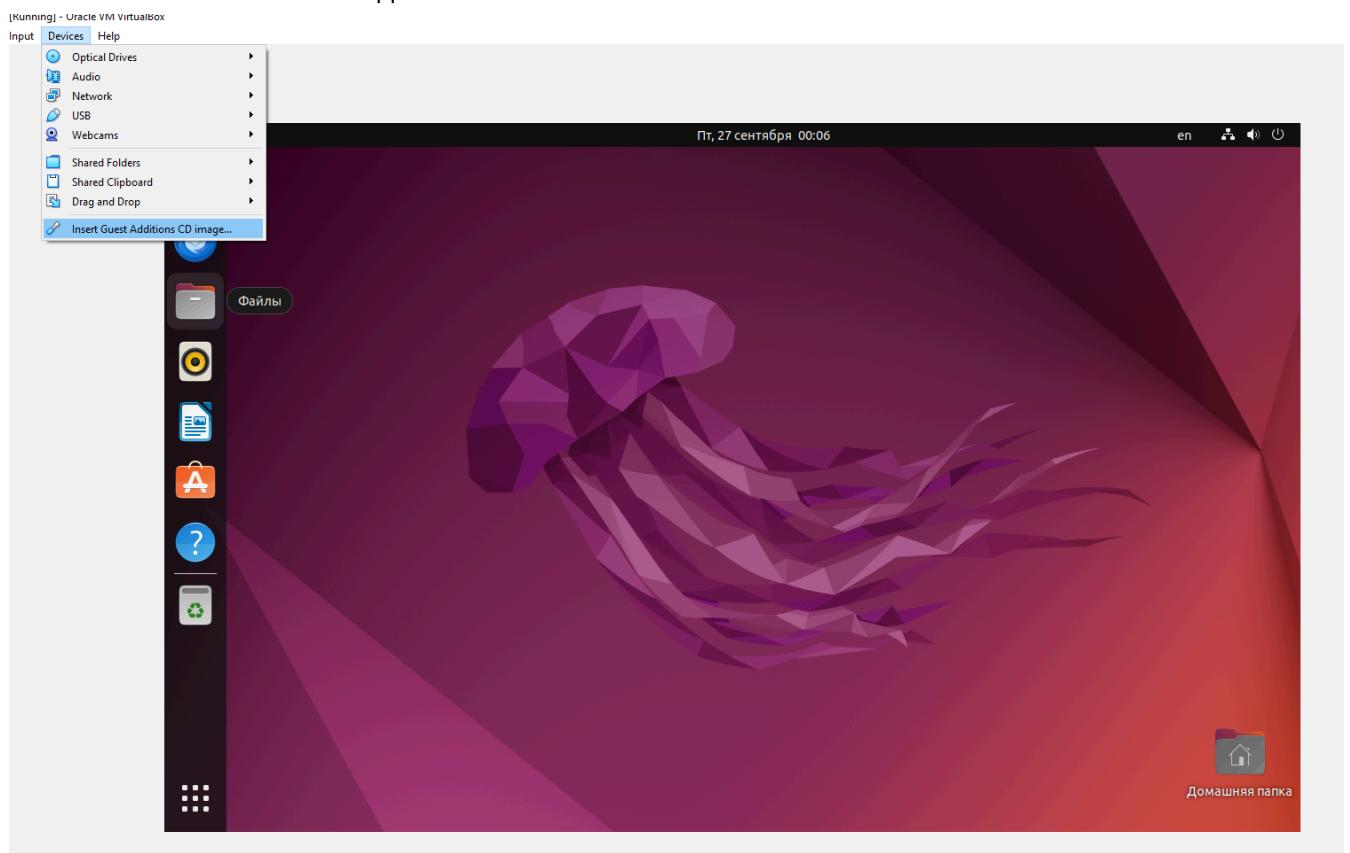


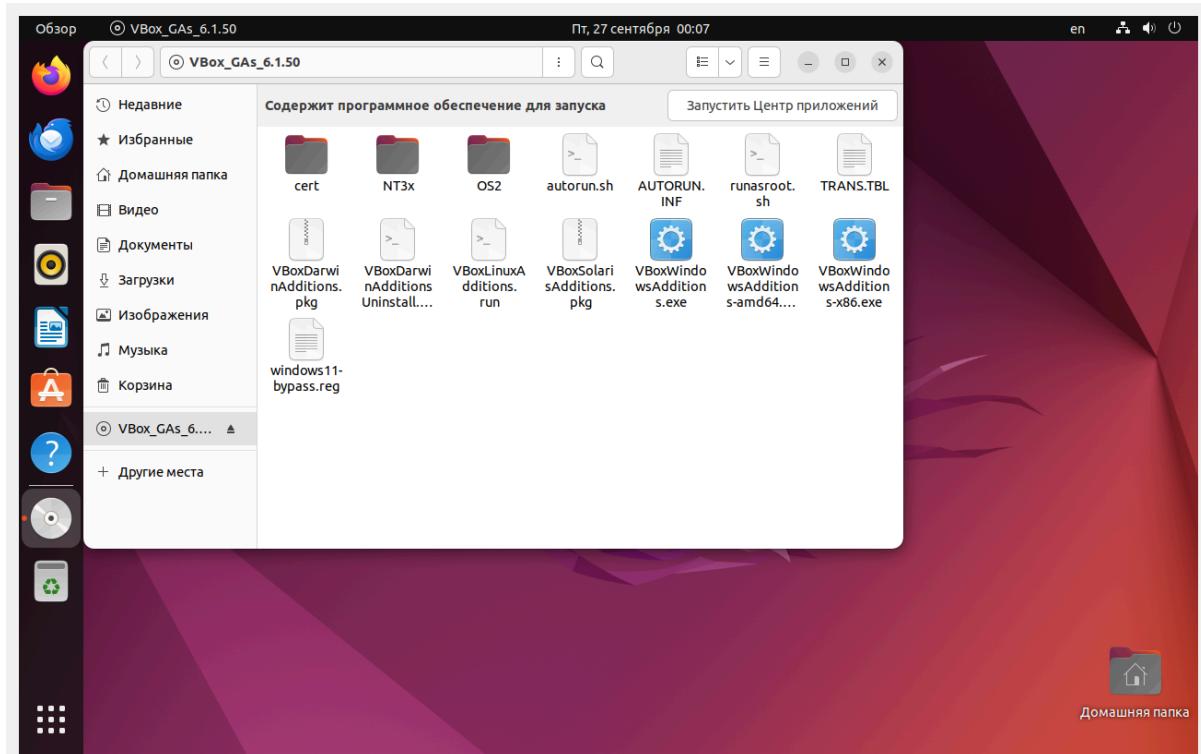
6. Создание снимка виртуальной машины с именем “Ubuntu-clear”:



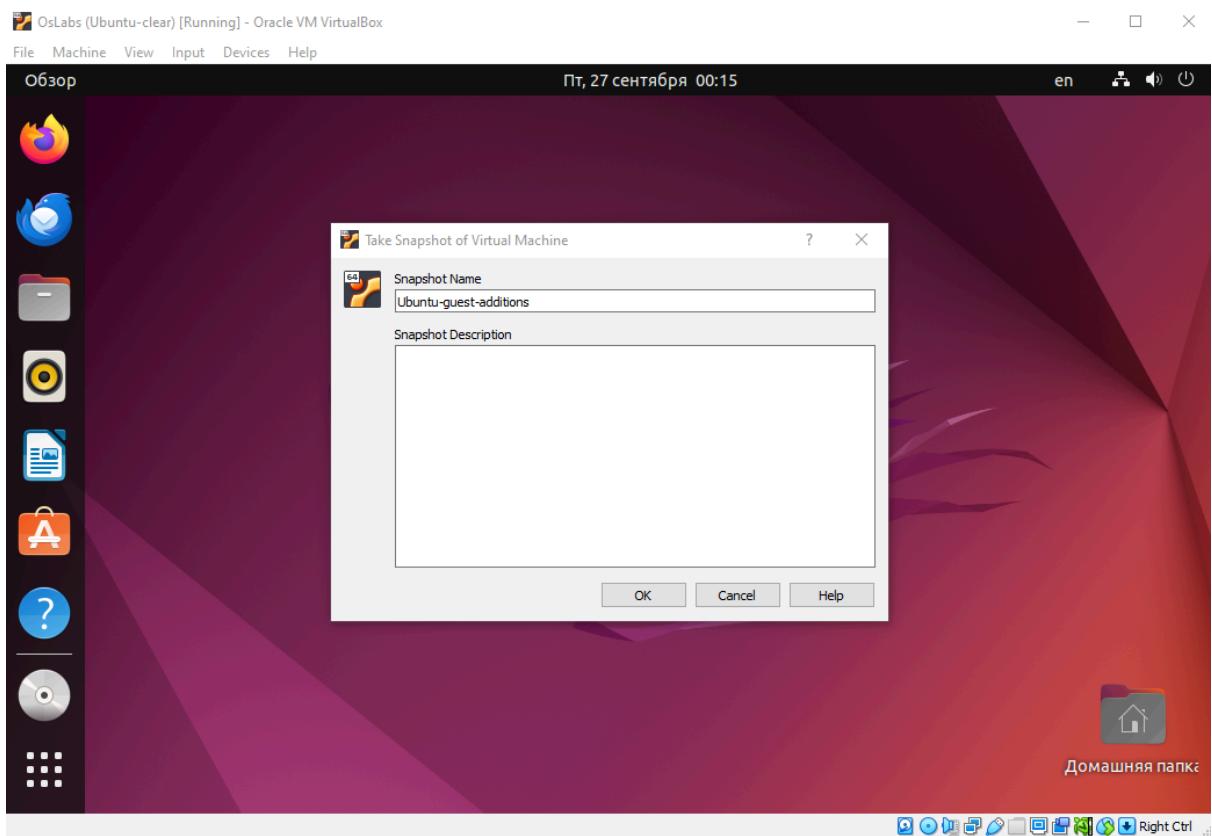


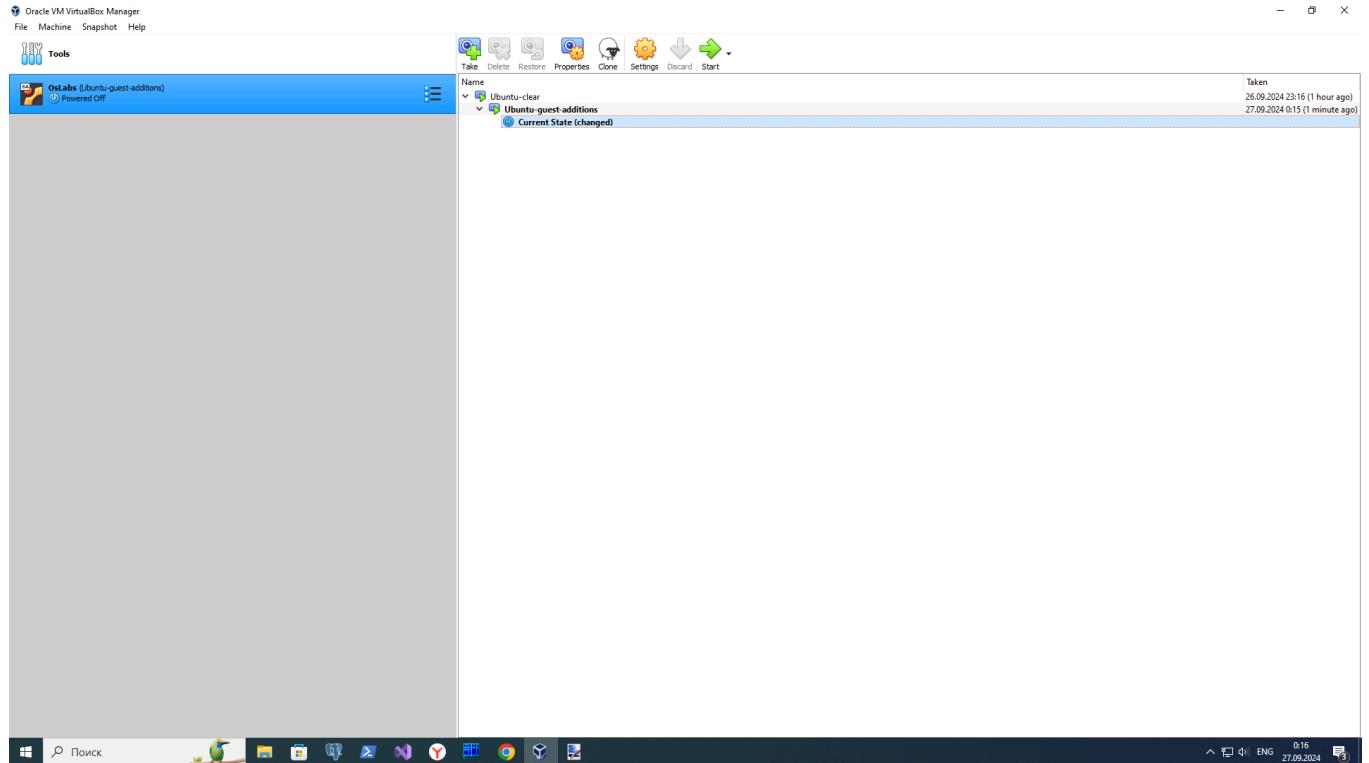
7. Установка гостевых дополнений:



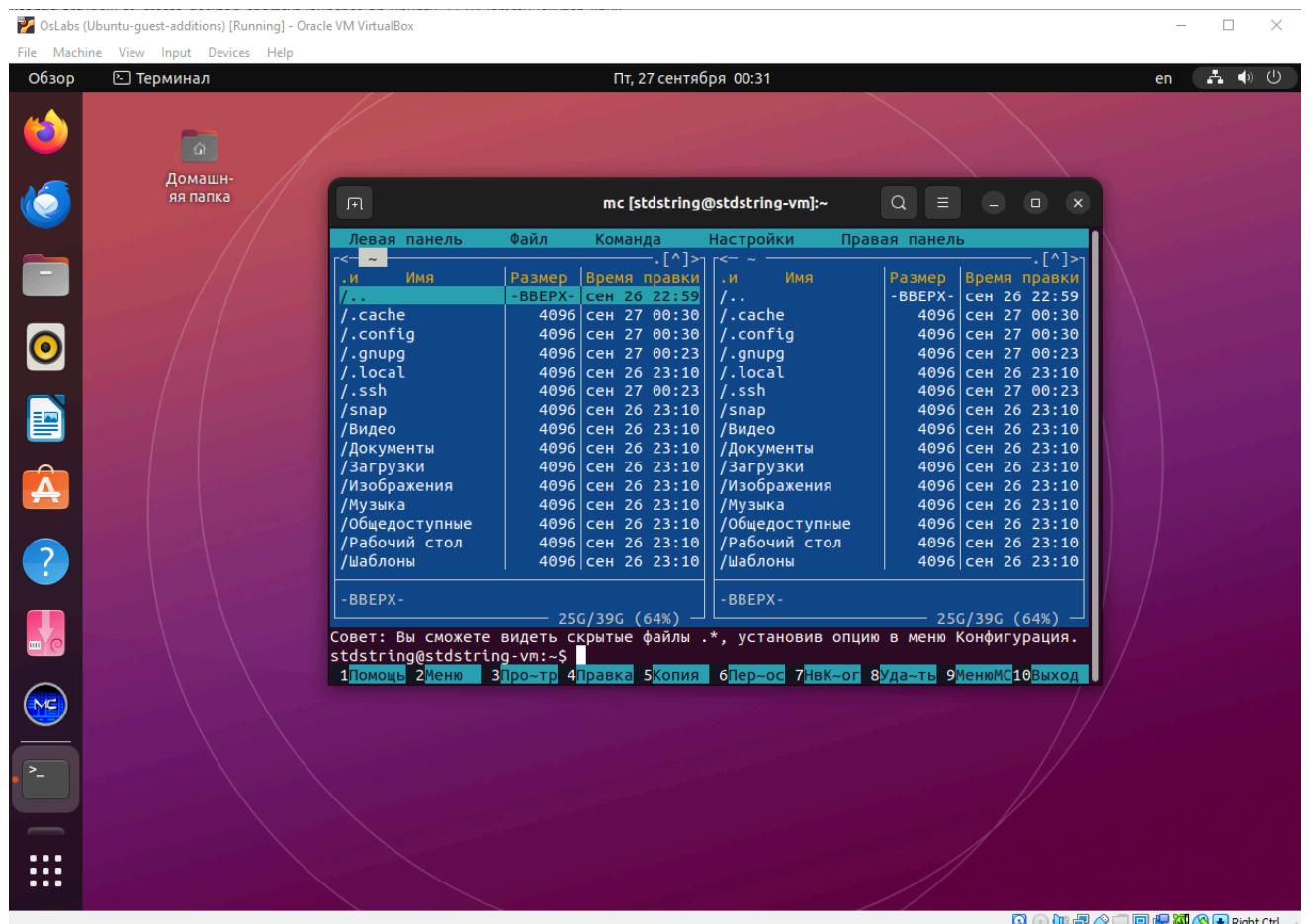


8. Создание снимка виртуальной машины с именем “Ubuntu-guest-additions”:

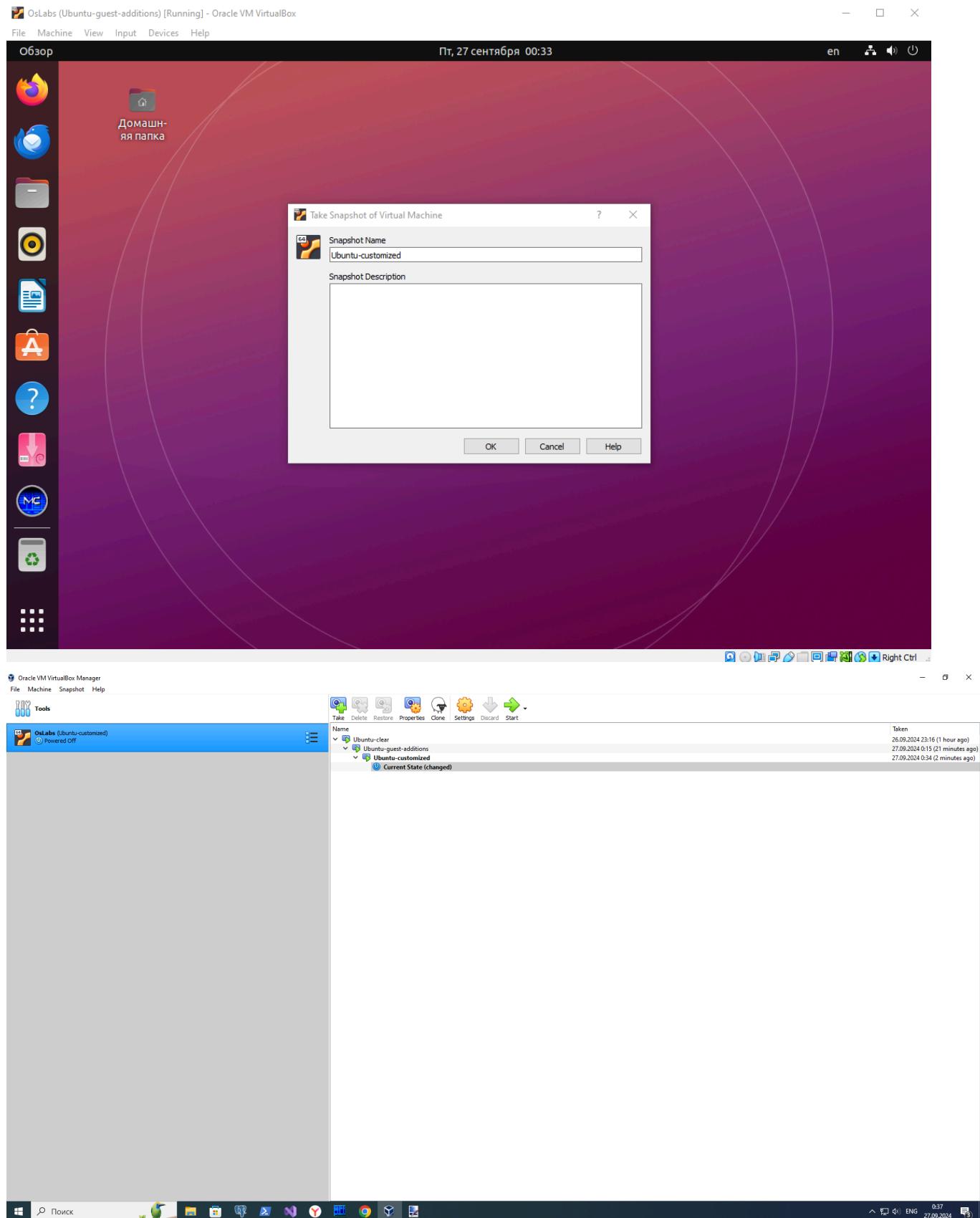




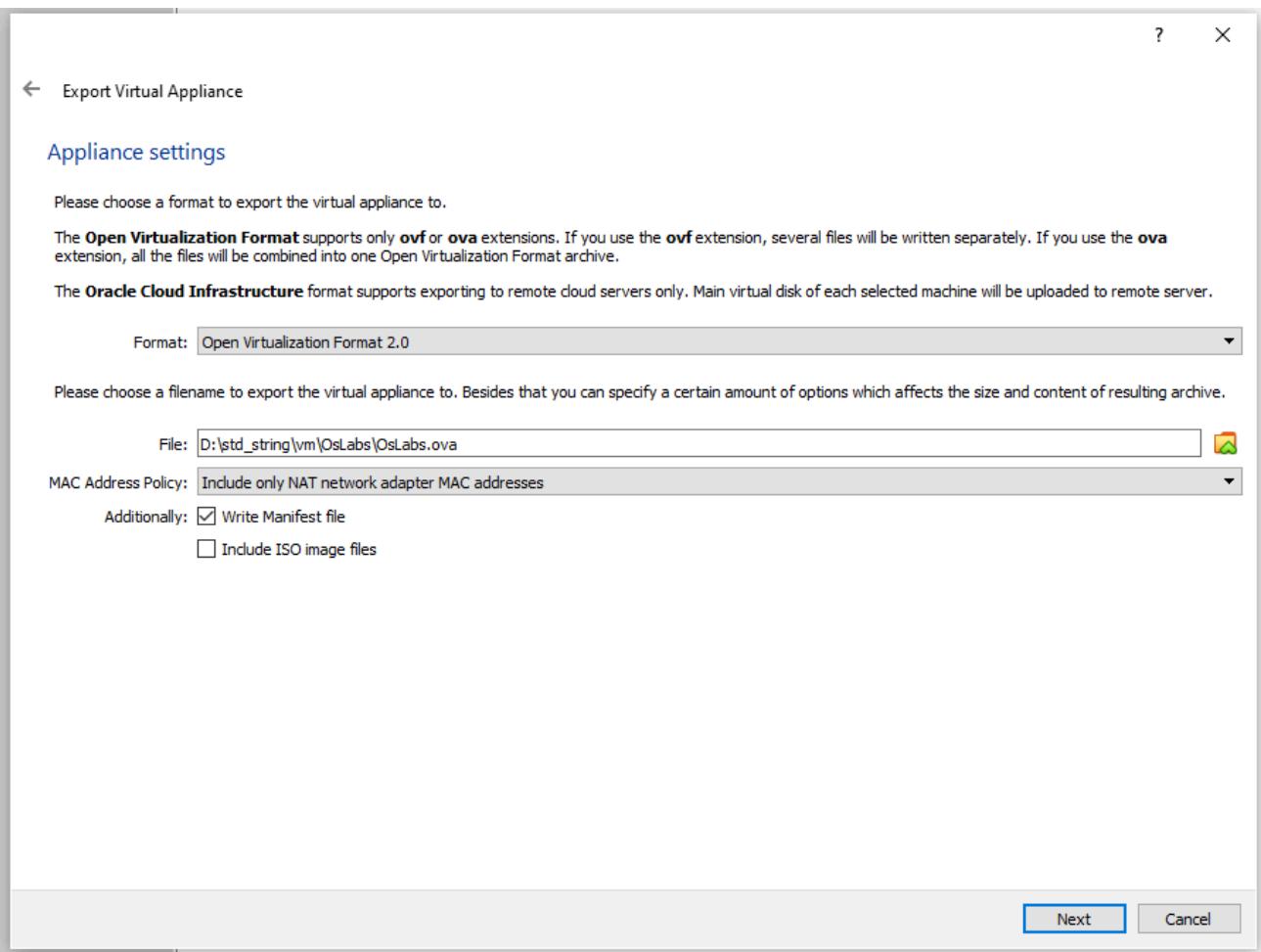
9. Настройка операционной системы в соответствии с личными предпочтениями:

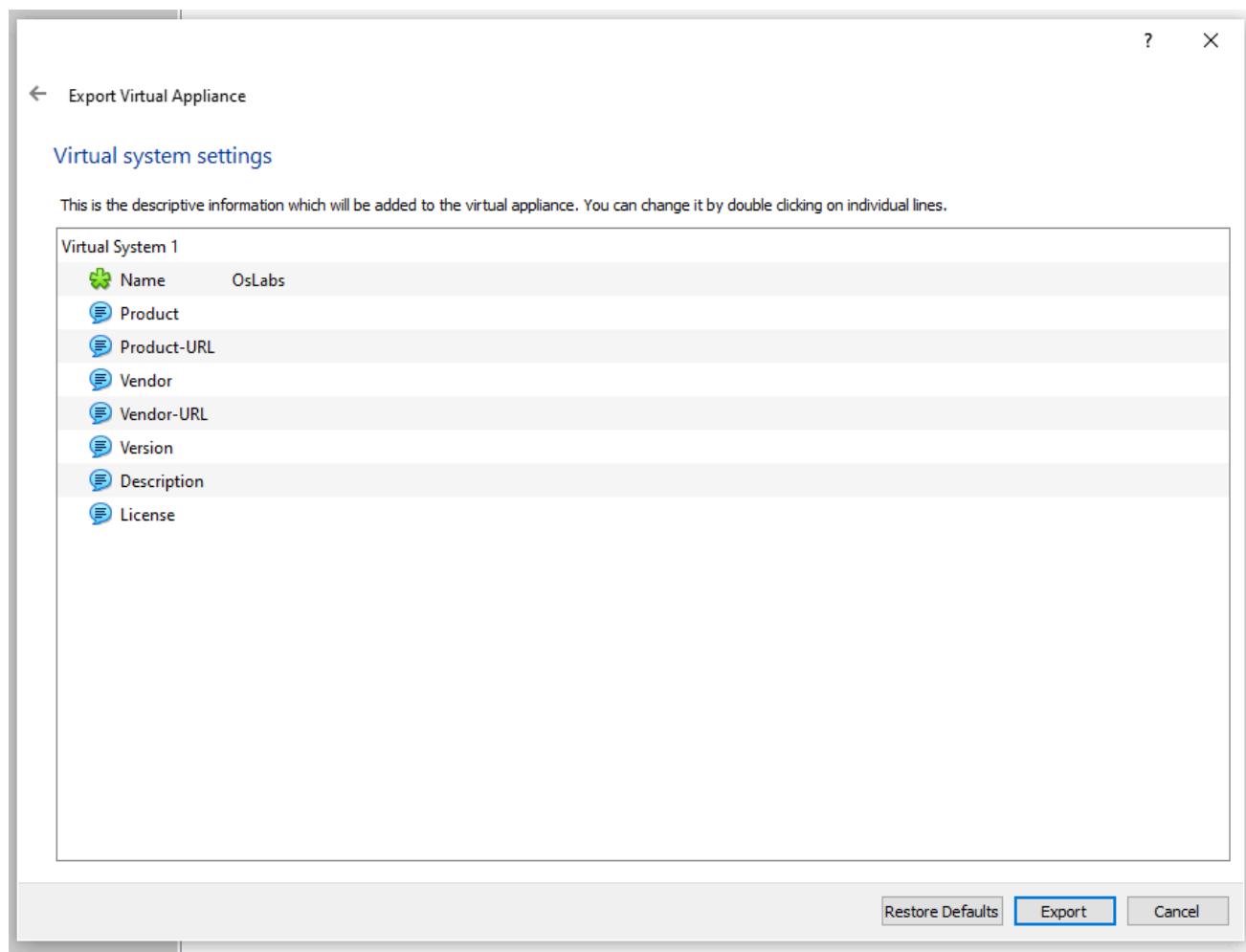


10. Создание снимка виртуальной машины с именем “Ubuntu-customized”:

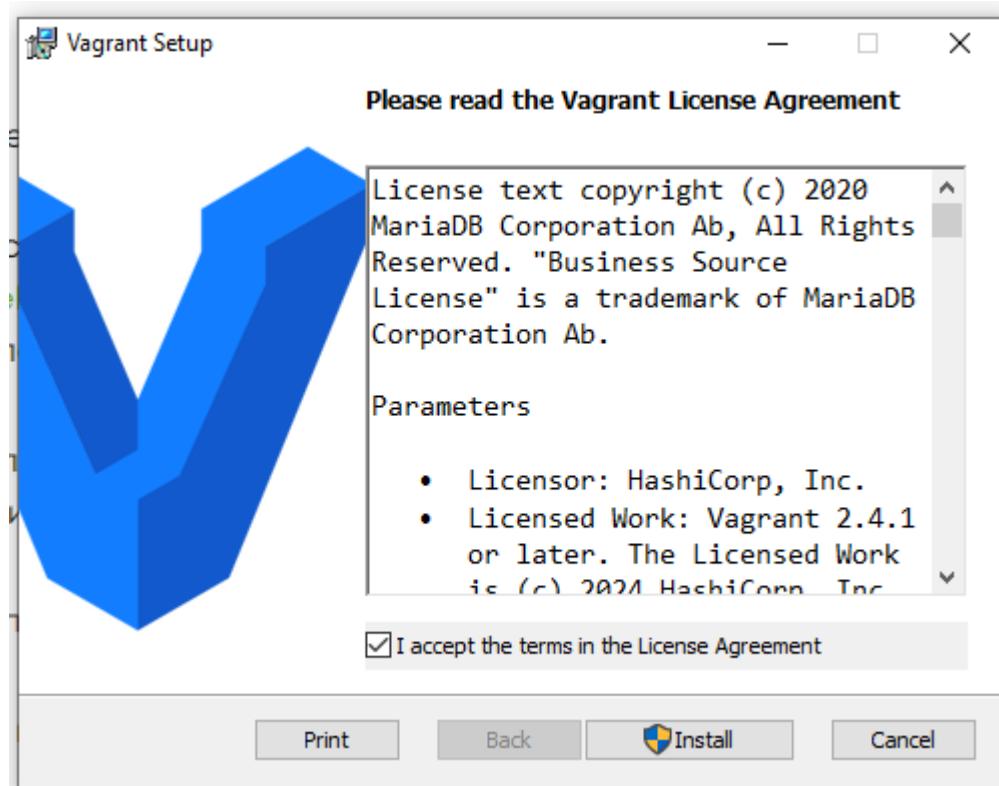


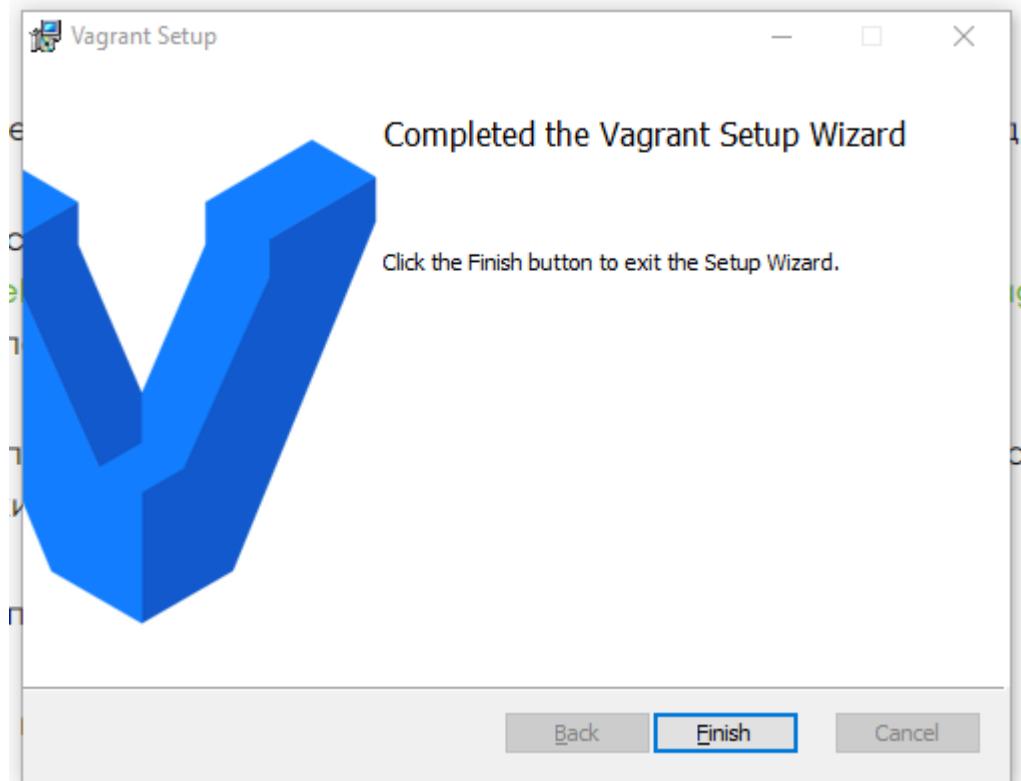
11. Экспорт виртуальной машины в формате OVA:\





12. Установка Vagrant:





13. Создание папки с именем “Linux” на компьютере:

A screenshot of a terminal window titled "Командная строка". It shows the command "mkdir Linux" being run in the directory "D:\std_string\learning\labs\os1". The output shows the directory was created successfully.

14. Открытие папки Linux в терминале:

```
D:\std_string\learning\labs\os1>mkdir Linux
D:\std_string\learning\labs\os1>cd Linux
D:\std_string\learning\labs\os1\Linux>
```

15. Инициализация образа ubuntu/jammy64:

```
2. Создать папку с именем «Linux» на компьютере (важно, чтобы путь к папке не
D:\std_string\learning\labs\os1>mkdir Linux
D:\std_string\learning\labs\os1>cd Linux
D:\std_string\learning\labs\os1\Linux>vagrant init ubuntu/jammy64
A `Vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.

D:\std_string\learning\labs\os1\Linux>dir
Том в устройстве D имеет метку storage1
Серийный номер тома: 6246-26AC

Содержимое папки D:\std_string\learning\labs\os1\Linux

27.09.2024 09:35    <DIR>      .
27.09.2024 09:35    <DIR>      ..
27.09.2024 09:35            3 465 Vagrantfile
                           1 файлов       3 465 байт
                           2 папок   1 333 278 429 184 байт свободно

D:\std_string\learning\labs\os1\Linux>
```

16. Запуск виртуальной машины:

1 Скачать и установить последнюю версию Vagrant

См. Командная строка

```
D:\std_string\learning\labs\os1\Linux>vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'ubuntu/jammy64'...
==> default: Matching MAC address for NAT networking...
==> default: Setting the name of the VM: Linux_default_1727412305284_1825
Vagrant is currently configured to create VirtualBox synced folders with
the `SharedFoldersEnableSymlinksCreate` option enabled. If the Vagrant
guest is not trusted, you may want to disable this option. For more
information on this option, please refer to the VirtualBox manual:

https://www.virtualbox.org/manual/ch04.html#sharedfolders

This option can be disabled globally with an environment variable:

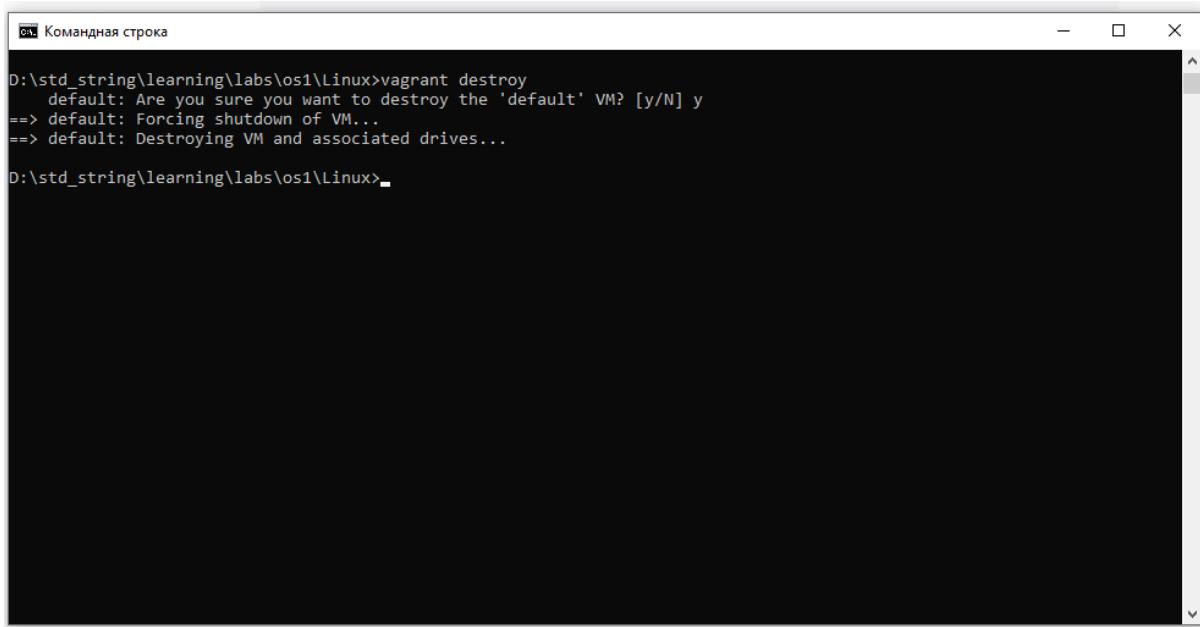
VAGRANT_DISABLE_VBOXSYMLINKCREATE=1

or on a per folder basis within the Vagrantfile:

config.vm.synced_folder '/host/path', '/guest/path', SharedFoldersEnableSymlinksCreate: false
==> default: Clearing any previously set network interfaces...
==> default: Preparing network interfaces based on configuration...
  default: Adapter 1: nat
==> default: Forwarding ports...
  default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Running 'pre-boot' VM customizations...
==> default: Booting VM...
==> default: Waiting for machine to boot. This may take a few minutes...
  default: SSH address: 127.0.0.1:2222
  default: SSH username: vagrant
  default: SSH auth method: private key
  default: Warning: Connection reset. Retrying...
  default: Warning: Connection aborted. Retrying...
  default:
  default: Vagrant insecure key detected. Vagrant will automatically replace
  default: this with a newly generated keypair for better security.
  default:
  default: Inserting generated public key within guest...
  default: Removing insecure key from the guest if it's present...
  default: Key inserted! Disconnecting and reconnecting using new SSH key...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
  default: The guest additions on this VM do not match the installed version of
  default: VirtualBox! In most cases this is fine, but in rare cases it can
  default: prevent things such as shared folders from working properly. If you see
  default: shared folder errors, please make sure the guest additions within the
  default: virtual machine match the version of VirtualBox you have installed on
  default: your host and reload your VM.
  default:
  default: Guest Additions Version: 6.0.0 r127566
  default: VirtualBox Version: 6.1
==> default: Mounting shared folders...
  default: /vagrant => D:/std_string/learning/labs/os1/Linux

D:\std_string\learning\labs\os1\Linux>
```

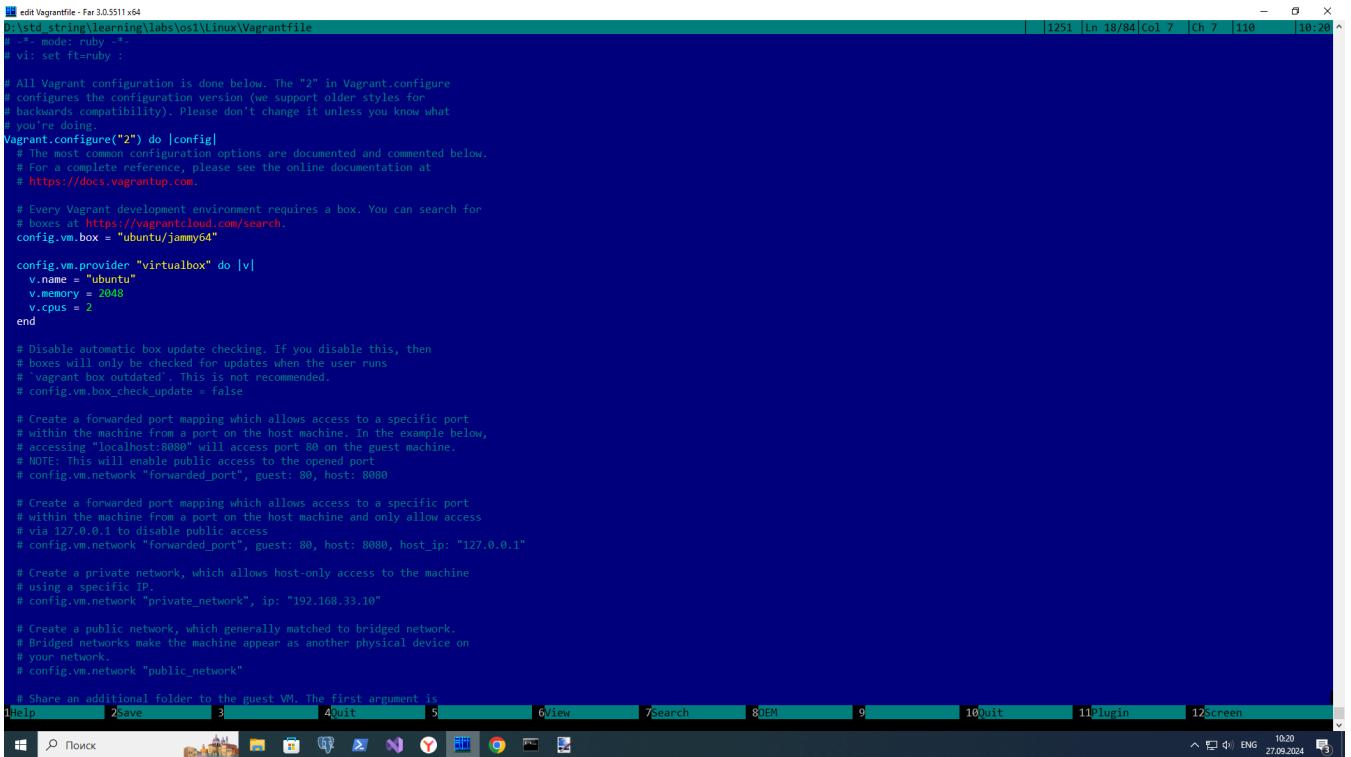
17. Остановка и удаление виртуальной машины:



```
D:\std_string\learning\labs\os1\Linux>vagrant destroy
default: Are you sure you want to destroy the 'default' VM? [y/N] y
=> default: Forcing shutdown of VM...
=> default: Destroying VM and associated drives...

D:\std_string\learning\labs\os1\Linux>
```

18. Внесение изменений в VagrantFile:



```
edit Vagrantfile - Far 3.0.5511 x64
D:\std_string\learning\labs\os1\Linux\Vagrantfile
*: mode: ruby -*
: vi: set ft:ruby :
```

```
All Vagrant configuration is done below. The "2" in Vagrant.configure
configures the configuration version (we support older styles for
backwards compatibility). Please don't change it unless you know what
you're doing.
```

```
Vagrant.configure("2") do |config|
  # The most common configuration options are documented and commented below.
  # For a complete reference, please see the online documentation at
  # https://docs.vagrantup.com
```

```
# Every Vagrant development environment requires a box. You can search for
# boxes at https://vagrantcloud.com/search.
config.vm.box = "ubuntu/jammy64"
```

```
config.vm.provider "virtualbox" do |v|
  v.name = "ubuntu"
  v.memory = 2048
  v.cpus = 2
end
```

```
# Disable automatic box update checking. If you disable this, then
# boxes will only be checked for updates when the user runs
# `vagrant box outdated`. This is not recommended.
# config.vm.box_check_update = false
```

```
# Create a forwarded port mapping which allows access to a specific port
# within the machine from a port on the host machine. In the example below,
# accessing "localhost:8080" will access port 80 on the guest machine.
# NOTE: This will enable public access to the opened port
# config.vm.network "forwarded_port", guest: 80, host: 8080
```

```
# Create a forwarded port mapping which allows access to a specific port
# within the machine from a port on the host machine and only allow access
# via 127.0.0.1 to disable public access
# config.vm.network "forwarded_port", guest: 80, host: 8080, host_ip: "127.0.0.1"
```

```
# Create a private network, which allows host-only access to the machine
# using a specific IP.
# config.vm.network "private_network", ip: "192.168.33.10"
```

```
# Create a public network, which generally matched to bridged network.
# Bridged networks make the machine appear as another physical device on
# your network.
# config.vm.network "public_network"
```

```
# Share an additional Folder to the guest VM. The first argument is
# the path to the folder on the host machine, the second is the path
# inside the VM.
```

19. Запуск виртуальной машины после изменений:

```

Командная строка
D:\std_string\learning\labs\os1\Linux>vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'ubuntu/jammy64'...
==> default: Matching MAC address for NAT networking...
==> default: Setting the name of the VM: ubuntu
==> default: Clearing any previously set network interfaces...
==> default: Preparing network interfaces based on configuration...
    default: Adapter 1: nat
==> default: Forwarding ports...
    default: 22 (guest) -> 2222 (host) (adapter 1)
==> default: Running 'pre-boot' VM customizations...
==> default: Booting VM...
==> default: Waiting for machine to boot. This may take a few minutes...
    default: SSH address: 127.0.0.1:2222
    default: SSH username: vagrant
    default: SSH auth method: private key
    default: Warning: Connection reset. Retrying...
    default: Warning: Connection aborted. Retrying...
    default:
    default: Vagrant insecure key detected. Vagrant will automatically replace
    default: this with a newly generated keypair for better security.
    default:
    default: Inserting generated public key within guest...
    default: Removing insecure key from the guest if it's present...
    default: Key inserted! Disconnecting and reconnecting using new SSH key...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
    default: The guest additions on this VM do not match the installed version of
    default: VirtualBox! In most cases this is fine, but in rare cases it can
    default: prevent things such as shared folders from working properly. If you see
    default: shared folder errors, please make sure the guest additions within the
    default: virtual machine match the version of VirtualBox you have installed on
    default: your host and reload your VM.
    default:
    default: Guest Additions Version: 6.0.0 r127566
    default: VirtualBox Version: 6.1
==> default: Mounting shared folders...
    default: /vagrant => D:/std_string/learning/labs/os1/Linux

D:\std_string\learning\labs\os1\Linux>

```

Oracle VM VirtualBox Manager

File Machine Help

Tools

OsLabs (Ubuntu-customized) Powered Off

ubuntu Running

New Settings Discard Show

General

Name: ubuntu
Operating System: Ubuntu (64-bit)

System

Base Memory: 2048 MB
Processors: 2
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x(AMD)-I, Nested Paging, PAE/NX, KVM Paravirtualization

Display

Video Memory: 16 MB
Graphics Controller: VBSvGA
Remote Desktop Server: Disabled
Recording: Disabled

Storage

Controller: IDE
Controller: SCSI
SCSI Port 0: ubuntu-jammy-22.04-douding.vmdk (Normal, 40.00 GB)
SCSI Port 1: ubuntu-jammy-22.04-douding-configdrive.vmdk (Normal, 10.00 MB)

Audio

Host Driver: Windows DirectSound
Controller: ICH AC97

Network

Adapter 1: Intel PRO/1000 MT Desktop (NAT)

USB

Disabled

Shared folders

Shared Folders: 1

Description

None

Preview

20. Создание снимка виртуальной машины:

Варианты:

- vagrant snapshot push (vagrant snapshot save) - если без имени
- vagrant snapshot save [vm-name] NAME - создание именного снапшота

```
D:\std_string\learning\labs\os1\Linux>vagrant snapshot push
--> default: Snapshotting the machine as 'push_1727415064_2076'...
--> default: Snapshot saved! You can restore the snapshot at any time by
--> default: using `vagrant snapshot restore`. You can delete it using
--> default: `vagrant snapshot delete`.  
D:\std_string\learning\labs\os1\Linux>
```

21. Подключение к виртуальной машине через SSH и обновление системы:

```
vagrant@ubuntu-jammy: ~  
D:\std_string\learning\labs\os1\Linux>vagrant ssh  
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.0-107-generic x86_64)  
  
 * Documentation: https://help.ubuntu.com  
 * Management: https://landscape.canonical.com  
 * Support: https://ubuntu.com/pro  
  
System information as of Fri Sep 27 05:32:58 UTC 2024  
  
 System load: 0.0          Processes:           100  
 Usage of /: 3.7% of 38.70GB   Users logged in: 0  
 Memory usage: 10%          IPv4 address for enp0s3: 10.0.2.15  
 Swap usage: 0%  
  
Expanded Security Maintenance for Applications is not enabled.  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
New release '24.04.1 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
vagrant@ubuntu-jammy:~$
```

```
vagrant@ubuntu-jammy:~$ sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1848 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [41.1 MB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [299 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [13.3 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [2444 kB]
Get:10 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [421 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 c-n-f Metadata [584 B]
Get:12 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [907 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [179 kB]
Get:14 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [19.4 kB]
Get:15 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.2 kB]
Get:16 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7588 B]
Get:17 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [228 B]
Get:18 http://archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:19 http://archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:20 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:21 http://archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:22 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:23 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [2066 kB]
Get:24 http://archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [357 kB]
Get:25 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [17.8 kB]
Get:26 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [2504 kB]
Get:27 http://archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [432 kB]
Get:28 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [616 B]
Get:29 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1128 kB]
Get:30 http://archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [263 kB]
Get:31 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [26.3 kB]
Get:32 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [43.3 kB]
Get:33 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.8 kB]
Get:34 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [444 B]
Get:35 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [91.6 kB]
Get:36 http://archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.1 kB]
Get:37 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:38 http://archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:39 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [31.3 kB]
Get:40 http://archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:41 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [672 B]
Get:42 http://archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Fetched 33.9 MB in 12s (2854 kB/s)
Reading package lists... Done
```

22. Выход из консоли:

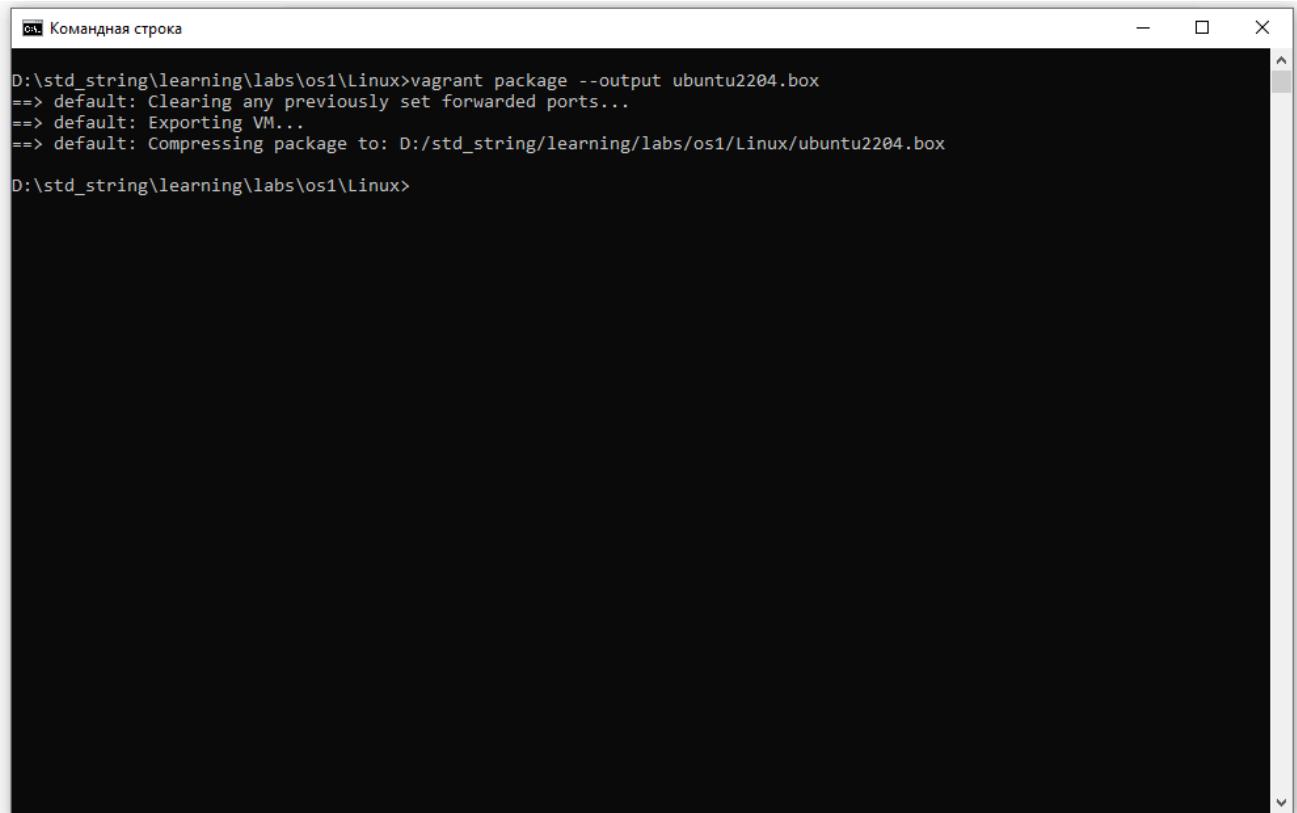
```
Get:30 http://archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [263 kB]
Get:31 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [26.3 kB]
Get:32 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [43.3 kB]
Get:33 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.8 kB]
Get:34 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [444 B]
Get:35 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [91.6 kB]
Get:36 http://archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.1 kB]
Get:37 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:38 http://archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:39 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [31.3 kB]
Get:40 http://archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:41 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [672 B]
Get:42 http://archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Fetched 33.9 MB in 12s (2854 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
94 packages can be upgraded. Run 'apt list --upgradable' to see them.
vagrant@ubuntu-jammy:~$ exit
logout
Connection to 127.0.0.1 closed.
```

23. Остановка виртуальной машины:

```
D:\std_string\learning\labs\os1\Linux>vagrant halt
==> default: Attempting graceful shutdown of VM...
D:\std_string\learning\labs\os1\Linux>
```

Инициализировать и запустить виртуальную машину.

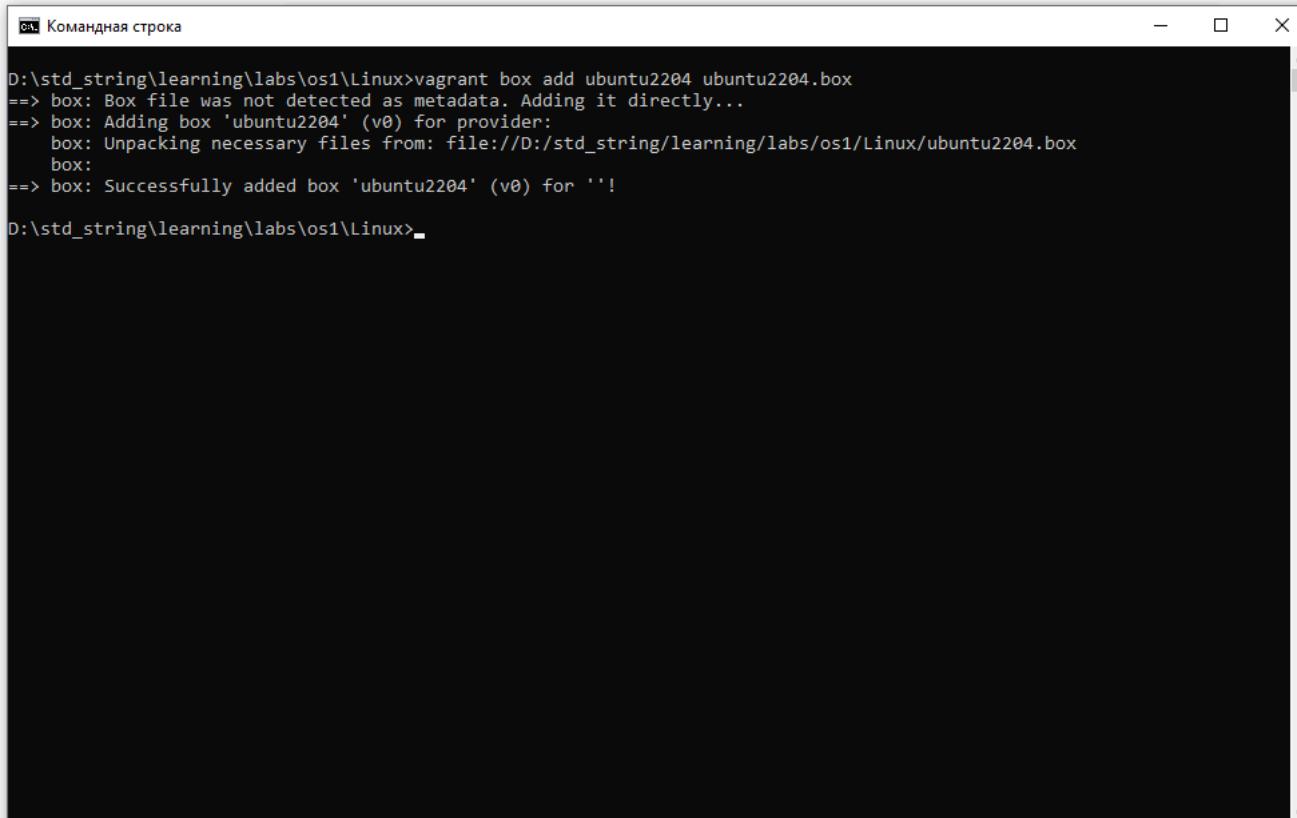
24. Упаковка виртуальной машины в образ с именем “ubuntu2204.box”:



```
D:\std_string\learning\labs\os1\Linux>vagrant package --output ubuntu2204.box
=> default: Clearing any previously set forwarded ports...
=> default: Exporting VM...
=> default: Compressing package to: D:/std_string/learning/labs/os1/Linux/ubuntu2204.box

D:\std_string\learning\labs\os1\Linux>
```

25. Загрузка образа в локальный репозиторий с именем "ubuntu2204":



```
D:\std_string\learning\labs\os1\Linux>vagrant box add ubuntu2204 ubuntu2204.box
=> box: Box file was not detected as metadata. Adding it directly...
=> box: Adding box 'ubuntu2204' (v0) for provider:
  box: Unpacking necessary files from: file:///D:/std_string/learning/labs/os1/Linux/ubuntu2204.box
  box:
=> box: Successfully added box 'ubuntu2204' (v0) for ''!

D:\std_string\learning\labs\os1\Linux>
```

26. Инициализация образа “ubuntu2204” и запуск виртуальной машины

```
Командная строка
D:\std_string\learning\labs\os1\Linux>vagrant init ubuntu2204
A `Vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.

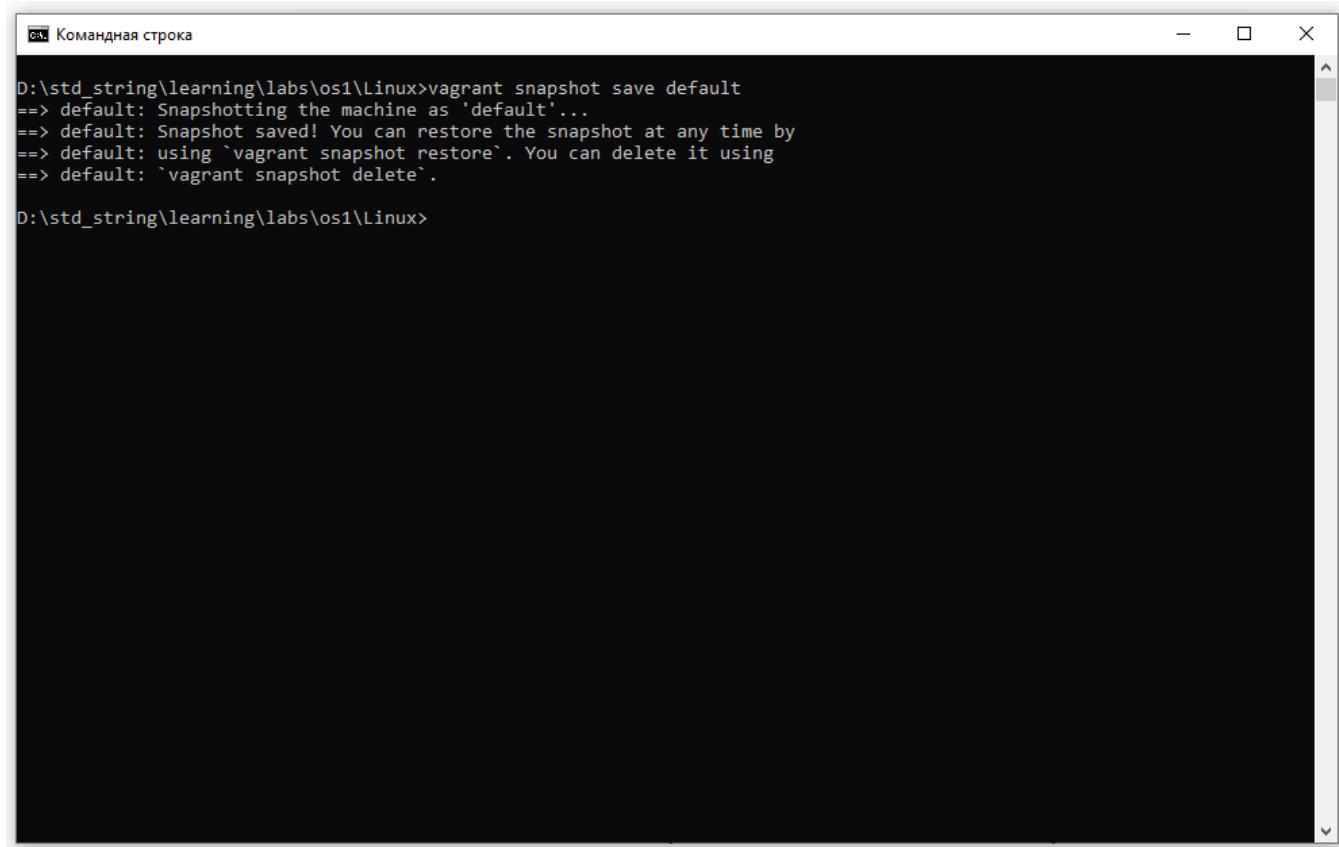
D:\std_string\learning\labs\os1\Linux>_
```

```
Командная строка
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.

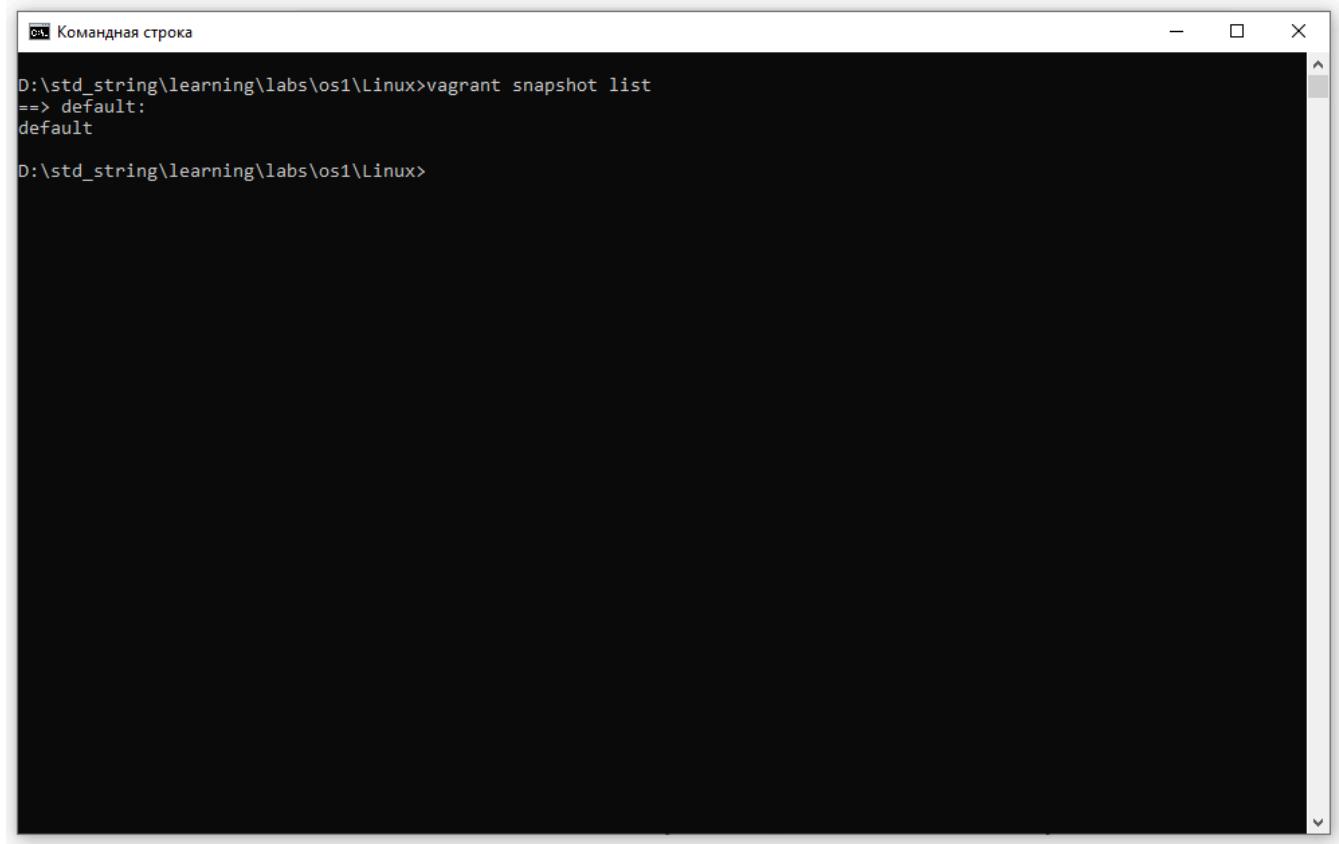
D:\std_string\learning\labs\os1\Linux>vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'ubuntu2204'...
==> default: Matching MAC address for NAT networking...
==> default: Setting the name of the VM: Linux_default_1727420896439_47403
==> default: Clearing any previously set network interfaces...
==> default: Preparing network interfaces based on configuration...
    default: Adapter 1: nat
==> default: Forwarding ports...
    default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Booting VM...
==> default: Waiting for machine to boot. This may take a few minutes...
    default: SSH address: 127.0.0.1:2222
    default: SSH username: vagrant
    default: SSH auth method: private key
    default: Warning: Connection reset. Retrying...
    default: Warning: Connection aborted. Retrying...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
    default: The guest additions on this VM do not match the installed version of
    default: VirtualBox! In most cases this is fine, but in rare cases it can
    default: prevent things such as shared folders from working properly. If you see
    default: shared folder errors, please make sure the guest additions within the
    default: virtual machine match the version of VirtualBox you have installed on
    default: your host and reload your VM.
    default:
    default: Guest Additions Version: 6.0.0 r127566
    default: VirtualBox Version: 6.1
==> default: Mounting shared folders...
    default: /vagrant => D:/std_string/learning/labs/os1/Linux

D:\std_string\learning\labs\os1\Linux>
```

27. Создание снимка виртуальной машины с именем 'default':



```
D:\std_string\learning\labs\os1\Linux>vagrant snapshot save default
==> default: Snapshotting the machine as 'default'...
==> default: Snapshot saved! You can restore the snapshot at any time by
==> default: using `vagrant snapshot restore`. You can delete it using
==> default: `vagrant snapshot delete`.
```



```
D:\std_string\learning\labs\os1\Linux>vagrant snapshot list
==> default:
default
```

28. Изменения в виртуальной машине:

```
vagrant@ubuntu-jammy:~$ vagrant@ubuntu-jammy:~$ ls -la
total 24
-rw----- 1 vagrant vagrant 21 Sep 27 05:35 .bash_history
-rw-r--r-- 1 vagrant vagrant 220 May 14 02:24 .bash_logout
-rw-r--r-- 1 vagrant vagrant 3771 May 14 02:24 .bashrc
drwx----- 2 vagrant vagrant 4096 Sep 27 05:23 .cache
-rw-r--r-- 1 vagrant vagrant 807 May 14 02:24 .profile
drwx----- 2 vagrant vagrant 4096 Sep 27 05:23 .ssh
vagrant@ubuntu-jammy:~$ mkdir MyChange
vagrant@ubuntu-jammy:~$ ls -la
total 28
-rw----- 1 vagrant vagrant 21 Sep 27 05:35 .bash_history
-rw-r--r-- 1 vagrant vagrant 220 May 14 02:24 .bash_logout
-rw-r--r-- 1 vagrant vagrant 3771 May 14 02:24 .bashrc
drwx----- 2 vagrant vagrant 4096 Sep 27 05:23 .cache
-rw-r--r-- 1 vagrant vagrant 807 May 14 02:24 .profile
drwx----- 2 vagrant vagrant 4096 Sep 27 05:23 .ssh
drwxrwxr-x 2 vagrant vagrant 4096 Sep 27 07:14 MyChange
vagrant@ubuntu-jammy:~$
```

29. Восстановление со снимка с именем “default”:

```
cmd Командная строка
D:\std_string\learning\labs\os1\Linux>vagrant snapshot restore default
=> default: Forcing shutdown of VM...
=> default: Restoring the snapshot 'default'...
=> default: Resuming suspended VM...
=> default: Booting VM...
=> default: Waiting for machine to boot. This may take a few minutes...
  default: SSH address: 127.0.0.1:2222
  default: SSH username: vagrant
  default: SSH auth method: private key
=> default: Machine booted and ready!
=> default: Machine already provisioned. Run `vagrant provision` or use the `--provision` flag to force provisioning. Provisioners marked to run always will still run.

D:\std_string\learning\labs\os1\Linux>
```

30. Проверка, что ранее внесенные изменения отсутствуют:

```
vagrant@ubuntu-jammy:~$ ls -lA
total 24
-rw----- 1 vagrant vagrant 21 Sep 27 05:35 .bash_history
-rw-r--r-- 1 vagrant vagrant 220 May 14 02:24 .bash_logout
-rw-r--r-- 1 vagrant vagrant 3771 May 14 02:24 .bashrc
drwx----- 2 vagrant vagrant 4096 Sep 27 05:23 .cache
-rw-r--r-- 1 vagrant vagrant 807 May 14 02:24 .profile
drwx----- 2 vagrant vagrant 4096 Sep 27 05:23 .ssh
vagrant@ubuntu-jammy:~$
```