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Лабораторная работа №1

Установка и конфигурация операционной системы на виртуальную машину

дисциплина: Информационная безопасность

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Группа: НПИбд-01-21

Цель работы.
Целью данной работы является приобретение практических навыков установки операционной системы на виртуальную машину, настройки минимально необходимых для дальнейшей работы сервисов.
Задачи.

1. Установить и настроить виртуальную машину Rocky Linux.
2. Установить имя пользователя и название хоста и проверить корректность проведённой установки.
3. Получить информацию с помощью команды `dmesg`:

    1. Версия ядра Linux (Linux version).
    2. Частота процессора (Detected Mhz processor).
    3. Модель процессора (CPU0).
    4. Объем доступной оперативной памяти (Memory available).
    5. Тип обнаруженного гипервизора (Hypervisor detected).
    6. Тип файловой системы корневого раздела.
    7. Последовательность монтирования файловых систем.

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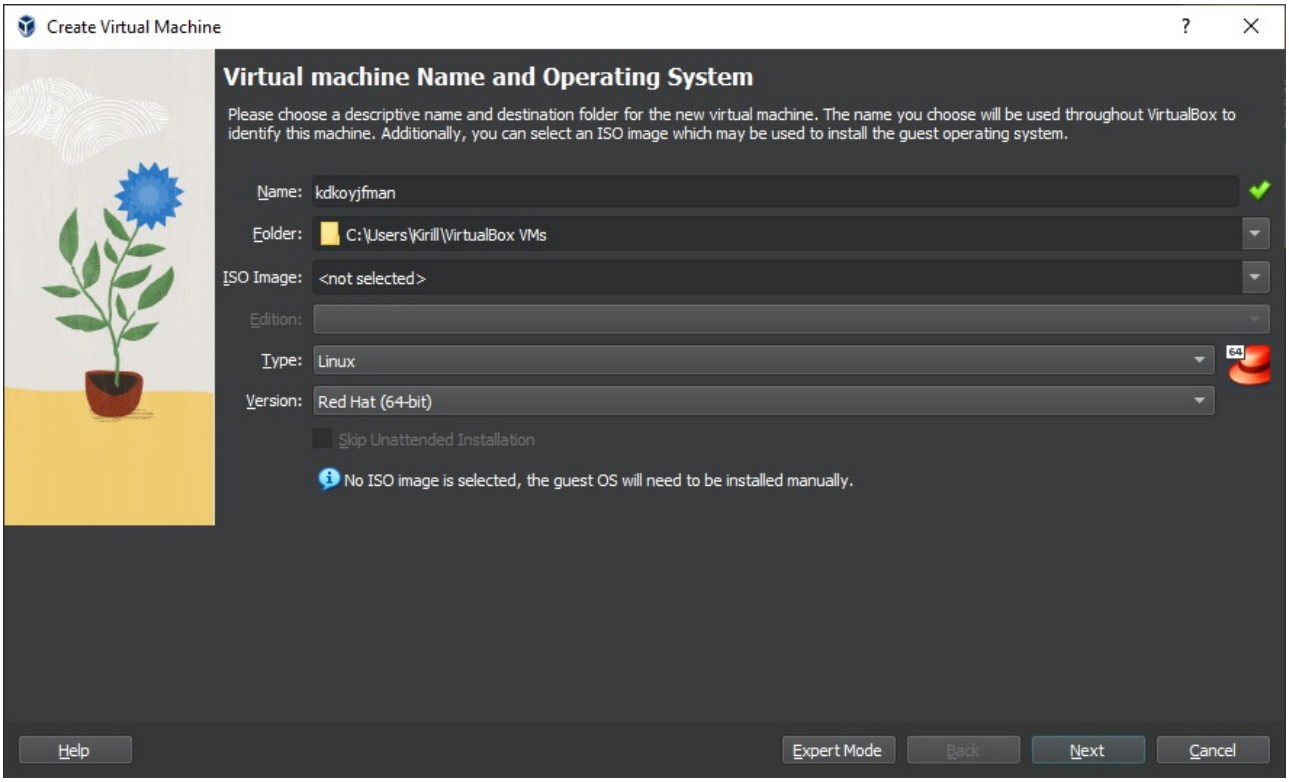
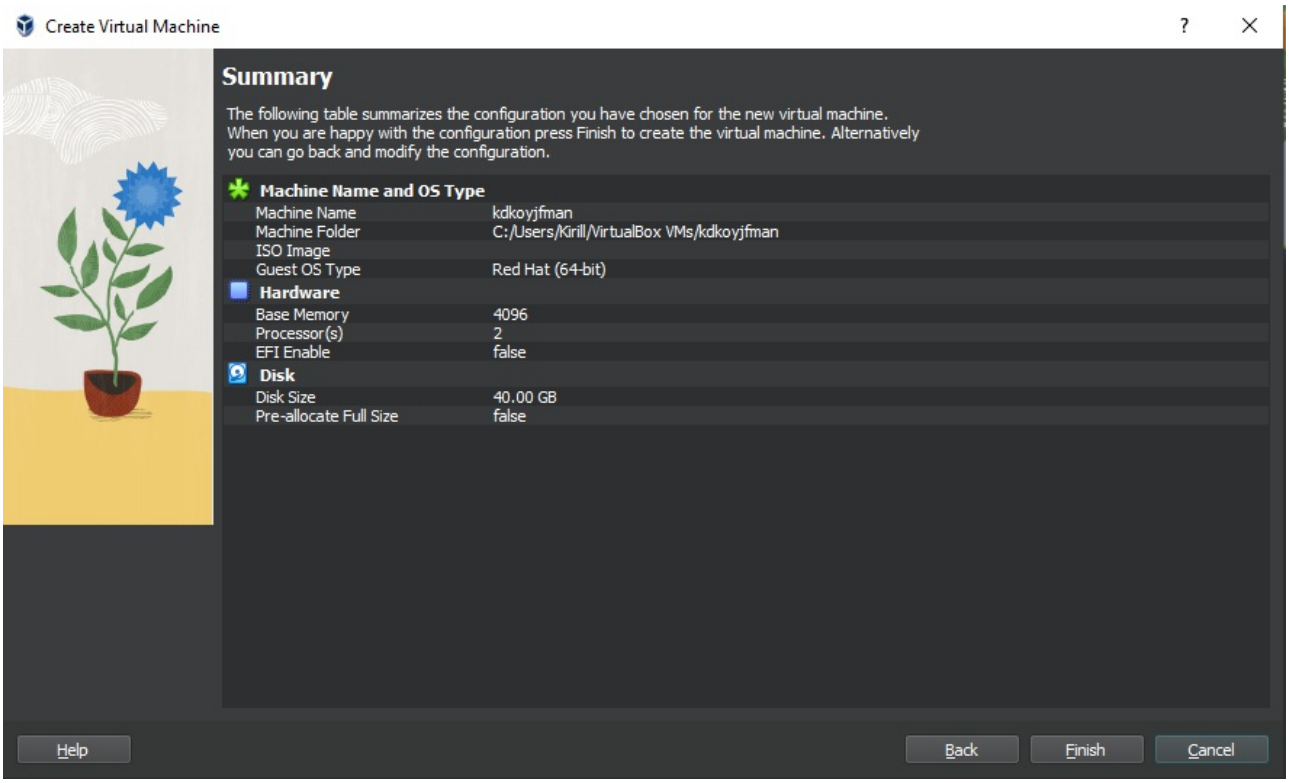
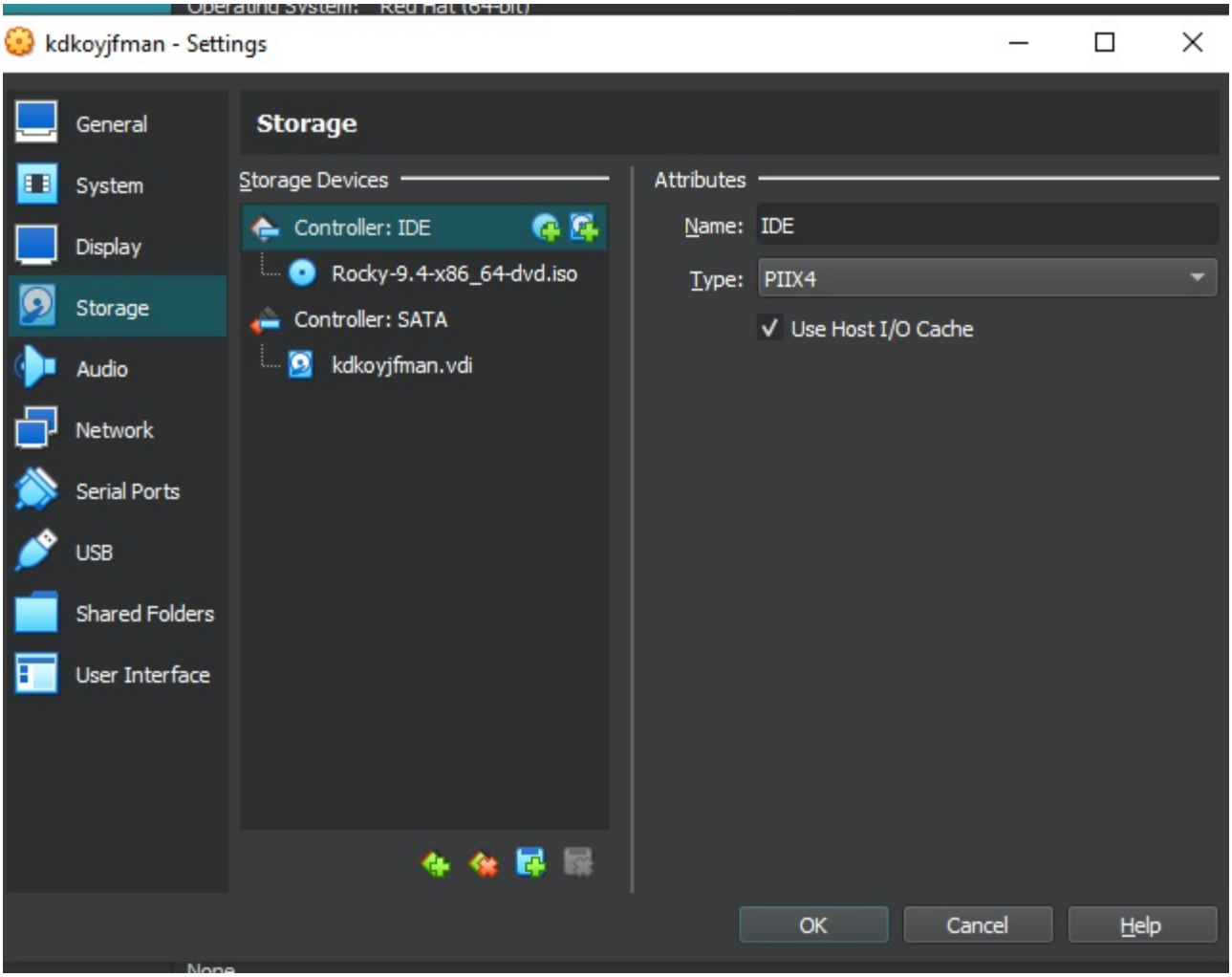
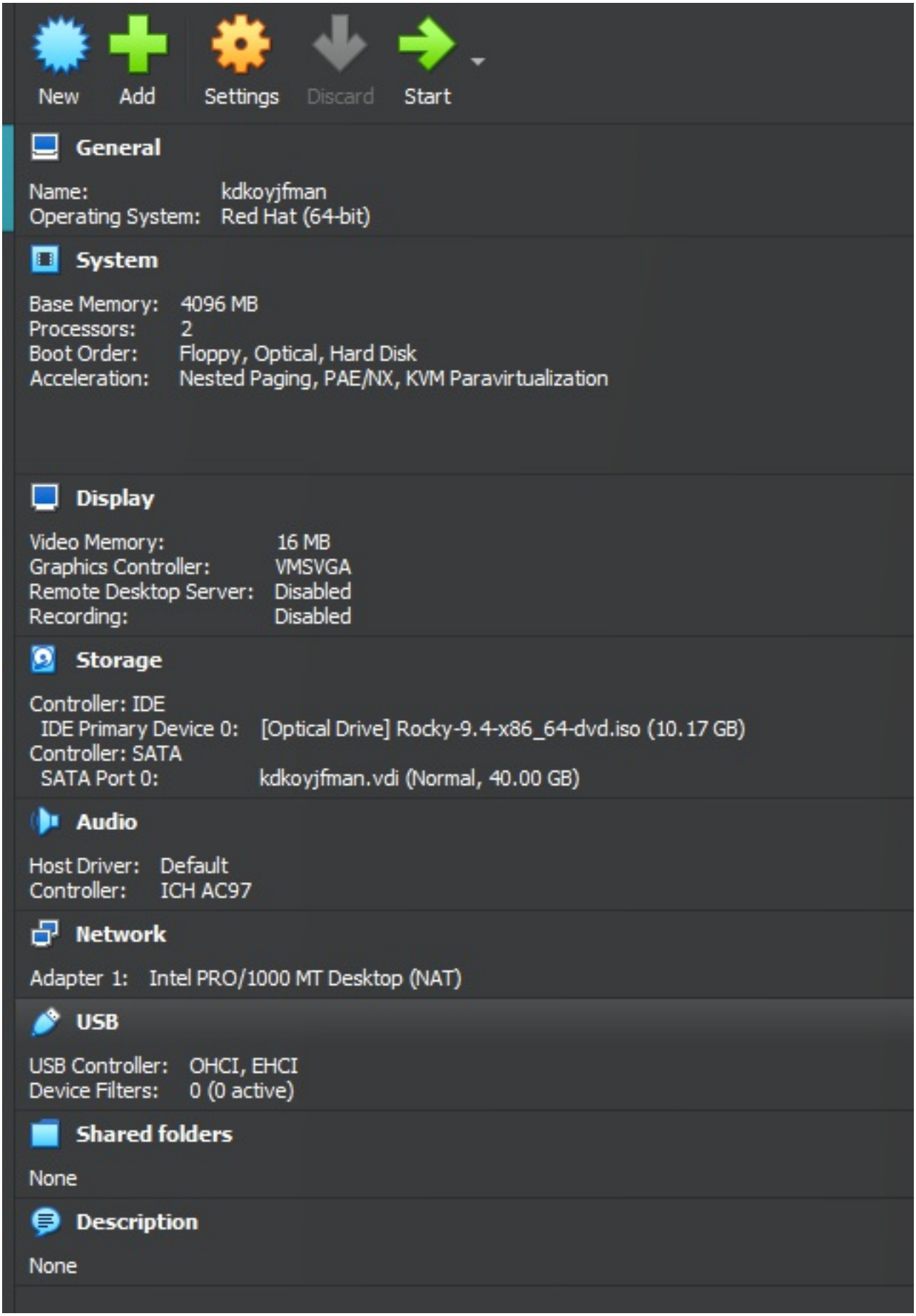
1 задание

Установка и настройка виртуальной машины:

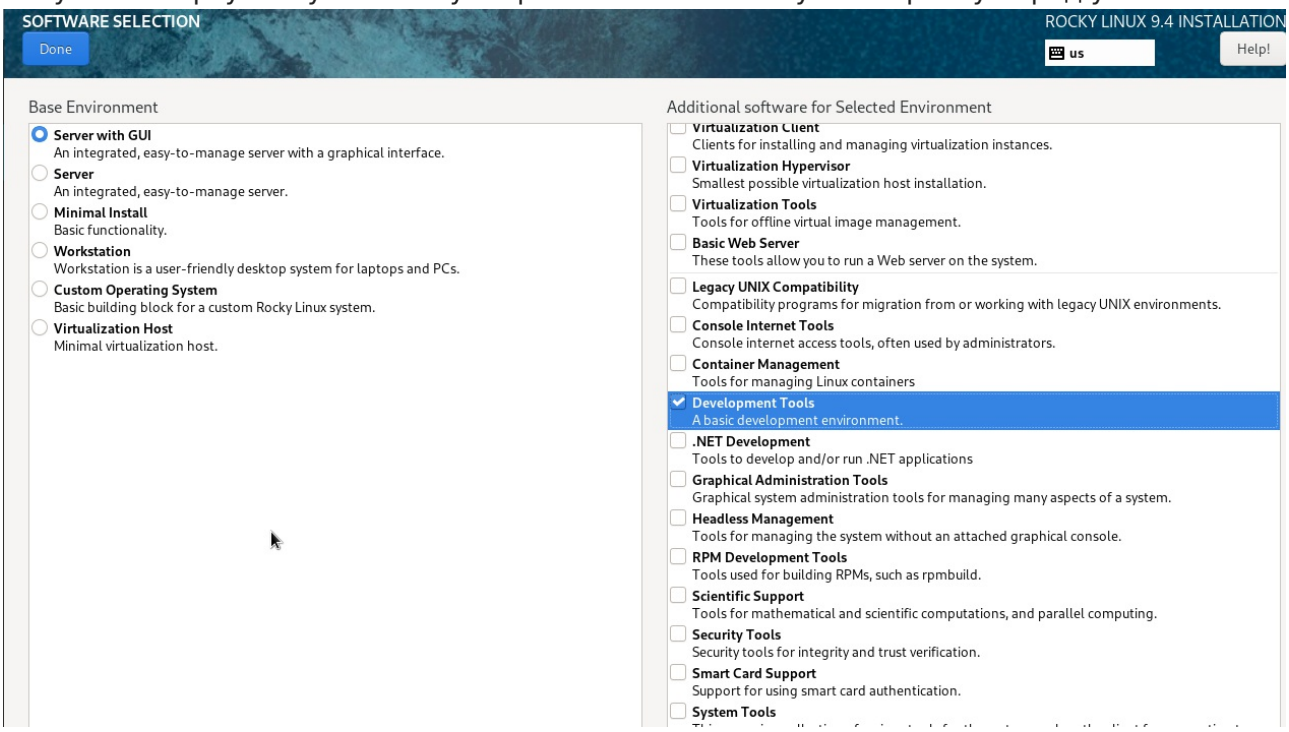

Create Virtual Machine
Virtual machine Name and Operating System
Please choose a descriptive name and destination folder for the new virtual machine. The name you choose will be used throughout VirtualBox to identify this machine. Additionally, you can select an ISO image which may be used to install the guest operating system.
Name: kdkoyjfman
Folder: C:\Users\Kirill\VirtualBox VMs
ISO Image: <not selected>
Edition:
Type: Linux
Version: Red Hat (64-bit)
Skip Unattended Installation
No ISO image is selected, the guest OS will need to be installed manually.
Help
Expert Mode
Back
Next
Cancel

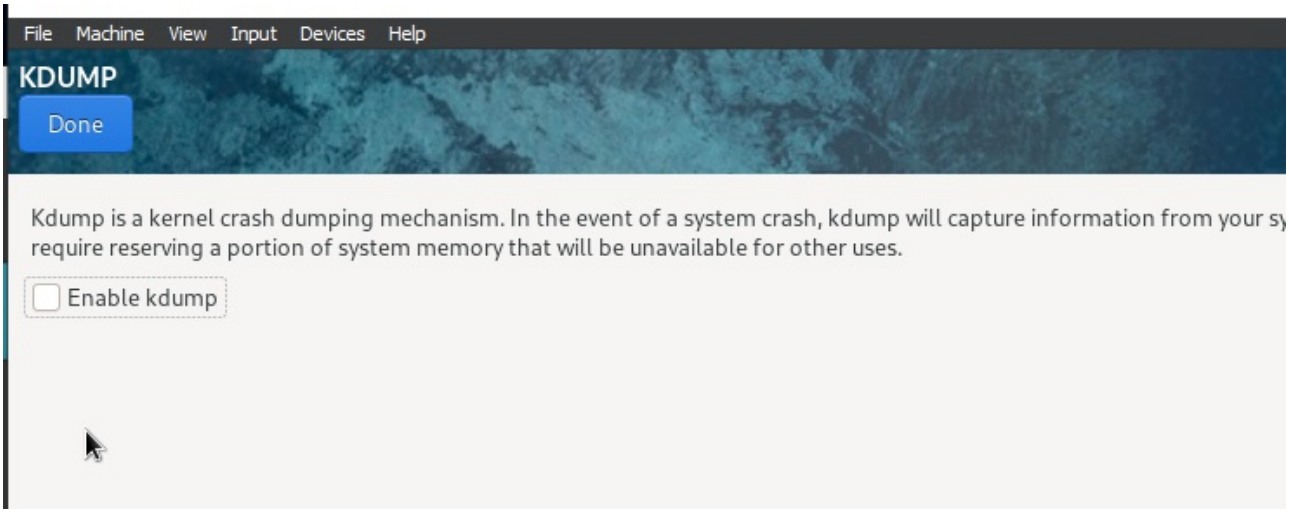

Create Virtual Machine
Summary
The following table summarizes the configuration you have chosen for the new virtual machine.
When you are happy with the configuration press Finish to create the virtual machine. Alternatively you can go back and modify the configuration.
Machine Name and OS Type
Machine Name kdkoyjfman
Machine Folder C:/Users/Kirill/VirtualBox VMs/kdkoyjfman
ISO Image
Guest OS Type Red Hat (64-bit)
Hardware
Base Memory 4096
Processor(s) 2
EFI Enable false
Disk
Disk Size 40.00 GB
Pre-allocate Full Size false
Help
Back
Finish
Cancel

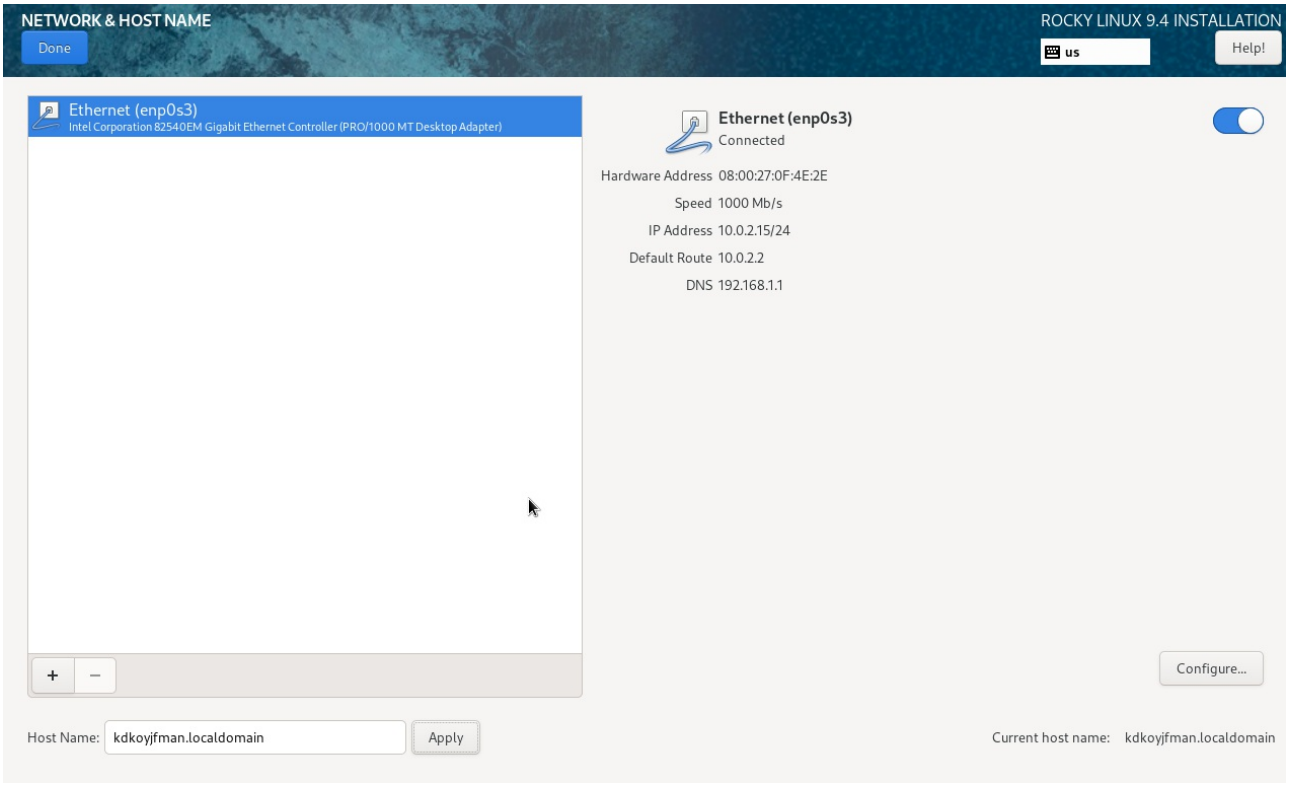

kdkoyjfman - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Rocky-9.4-x86_64-dvd.iso
Controller: SATA
kdkoyjfman.vdi
Attributes
Name: IDE
Type: PIIX4
Use Host I/O Cache
OK
Cancel
Help

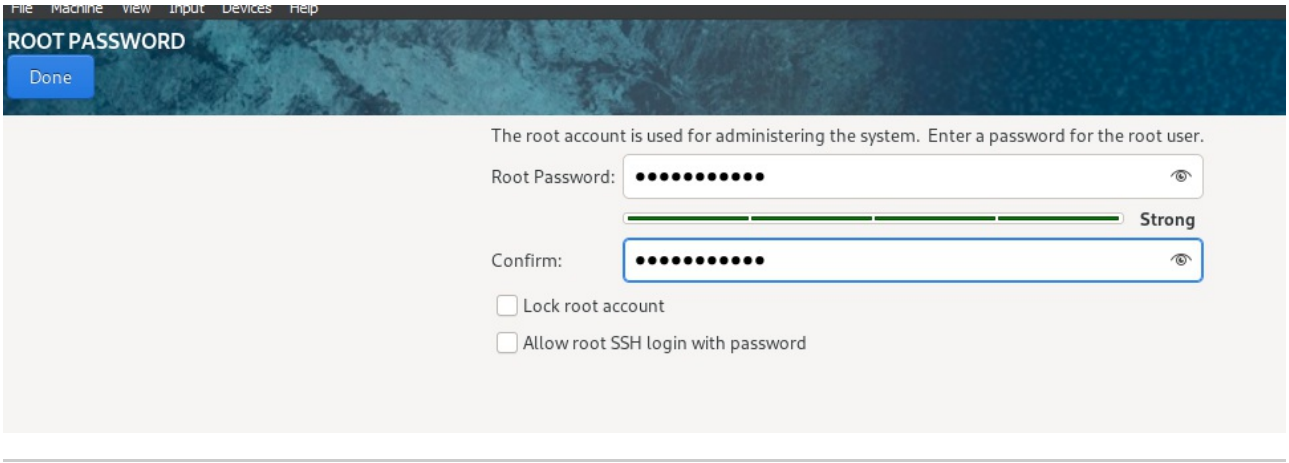

New
Add
Settings
Discard
Start
General
Name: kdkoyjfman
Operating System: Red Hat (64-bit)
System
Base Memory: 4096 MB
Processors: 2
Boot Order: Floppy, Optical, Hard Disk
Acceleration: Nested Paging, PAE/NX, KVM Paravirtualization
Display
Video Memory: 16 MB
Graphics Controller: VMSVGA
Remote Desktop Server: Disabled
Recording: Disabled
Storage
Controller: IDE
IDE Primary Device 0: [Optical Drive] Rocky-9.4-x86_64-dvd.iso (10.17 GB)
Controller: SATA
SATA Port 0: kdkoyjfman.vdi (Normal, 40.00 GB)
Audio
Host Driver: Default
Controller: ICH AC97
Network
Adapter 1: Intel PRO/1000 MT Desktop (NAT)
USB
USB Controller: OHCI, EHCI
Device Filters: 0 (0 active)
Shared folders
None
Description
None

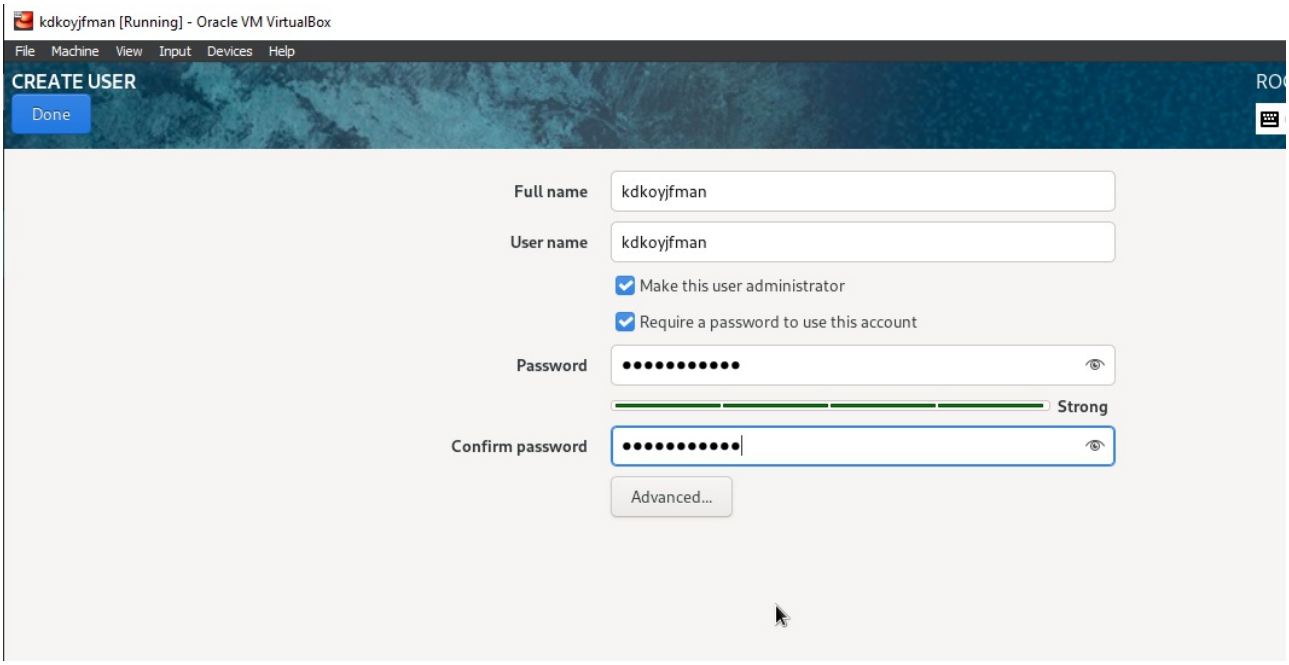
Запустили виртуальную машину и произвели её основную настройку перед установкой:

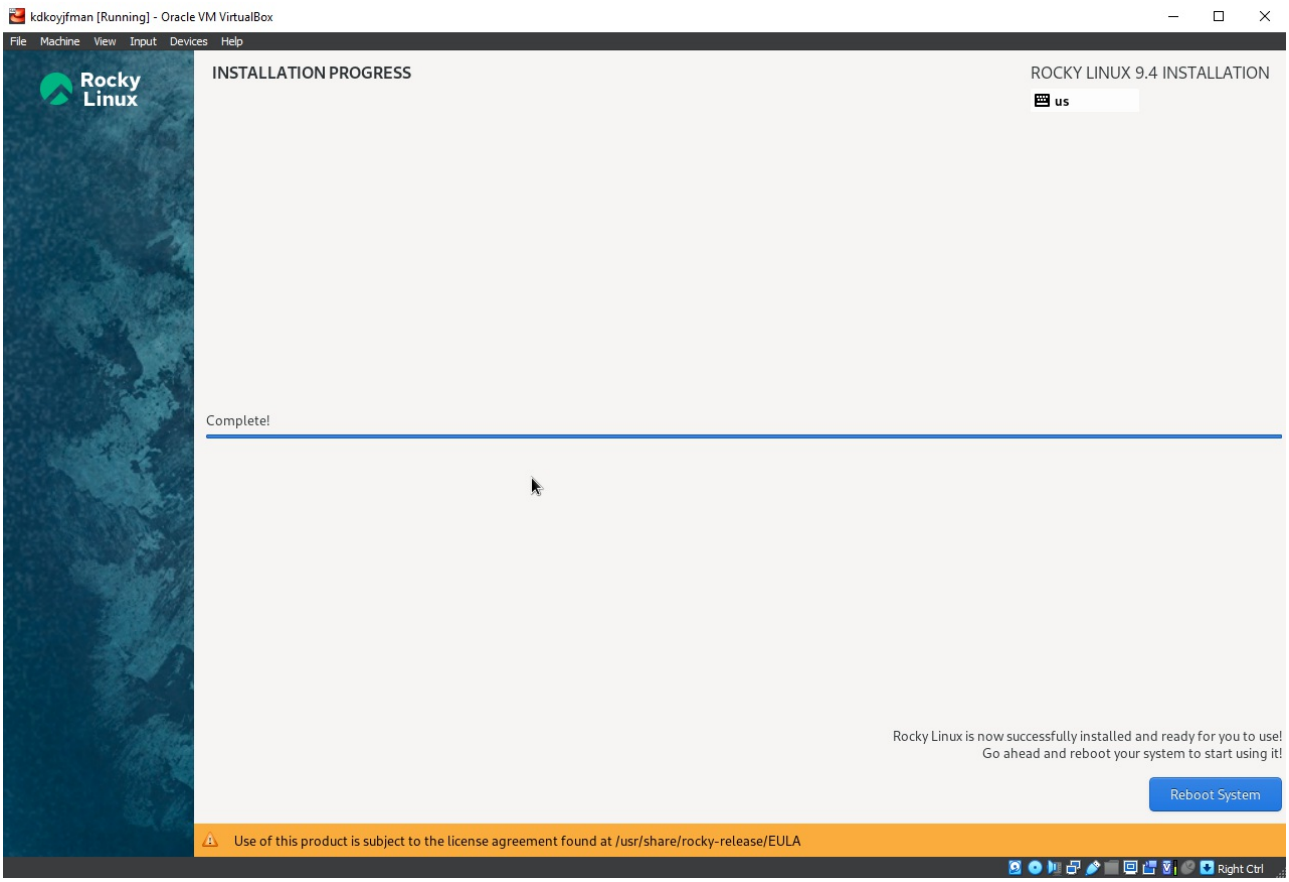


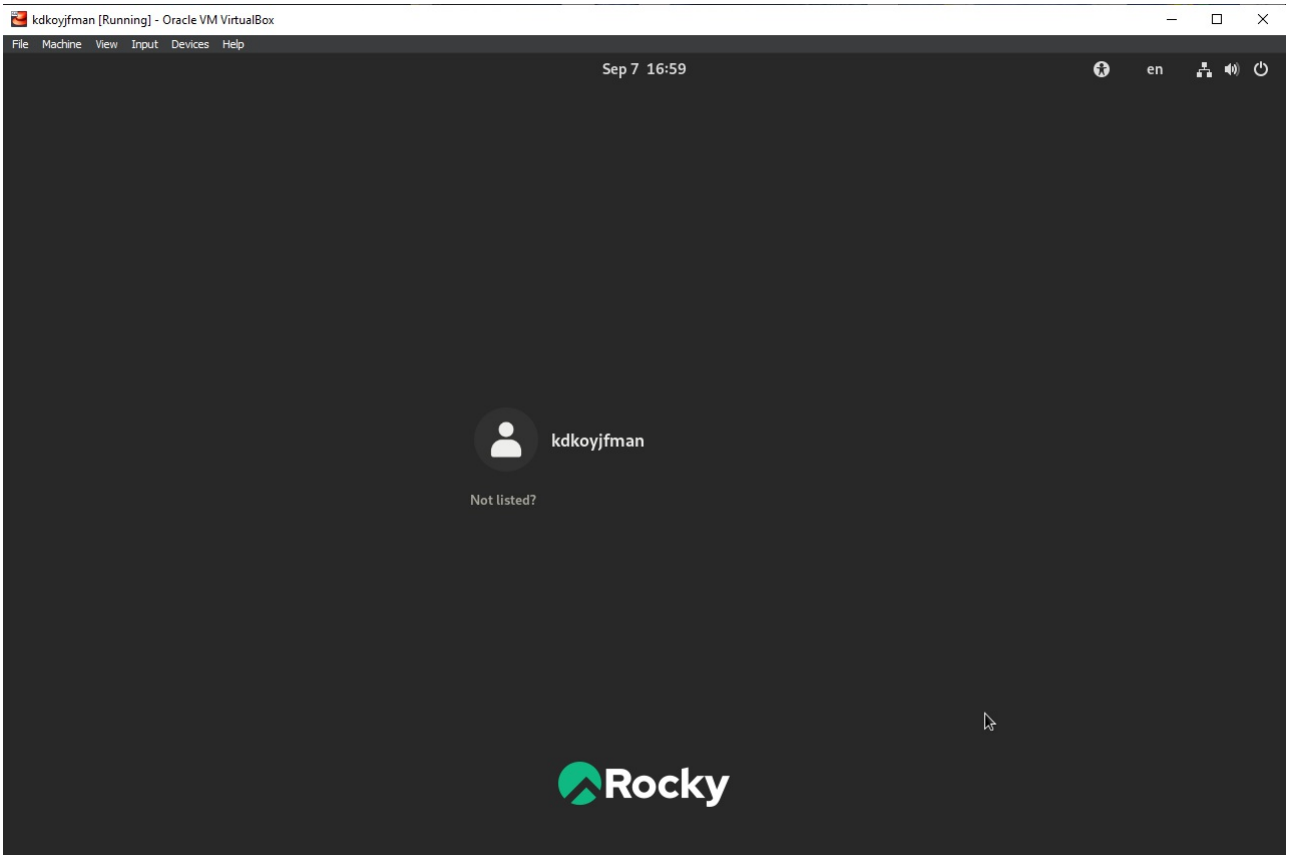



NETWORK & HOST NAME
Done
ROCKY LINUX 9.4 INSTALLATION
us
Help!
Ethernet (enp0s3)
Intel Corporation 82540EM Gigabit Ethernet Controller (PRO/1000 MT Desktop Adapter)
Ethernet (enp0s3)
Connected
Hardware Address 08:00:27:0F:4E:2E
Speed 1000 Mb/s
IP Address 10.0.2.15/24
Default Route 10.0.2.2
DNS 192.168.1.1
Configure...
Host Name: kdkoyjfman.localdomain
Apply
Current host name: kdkoyjfman.localdomain

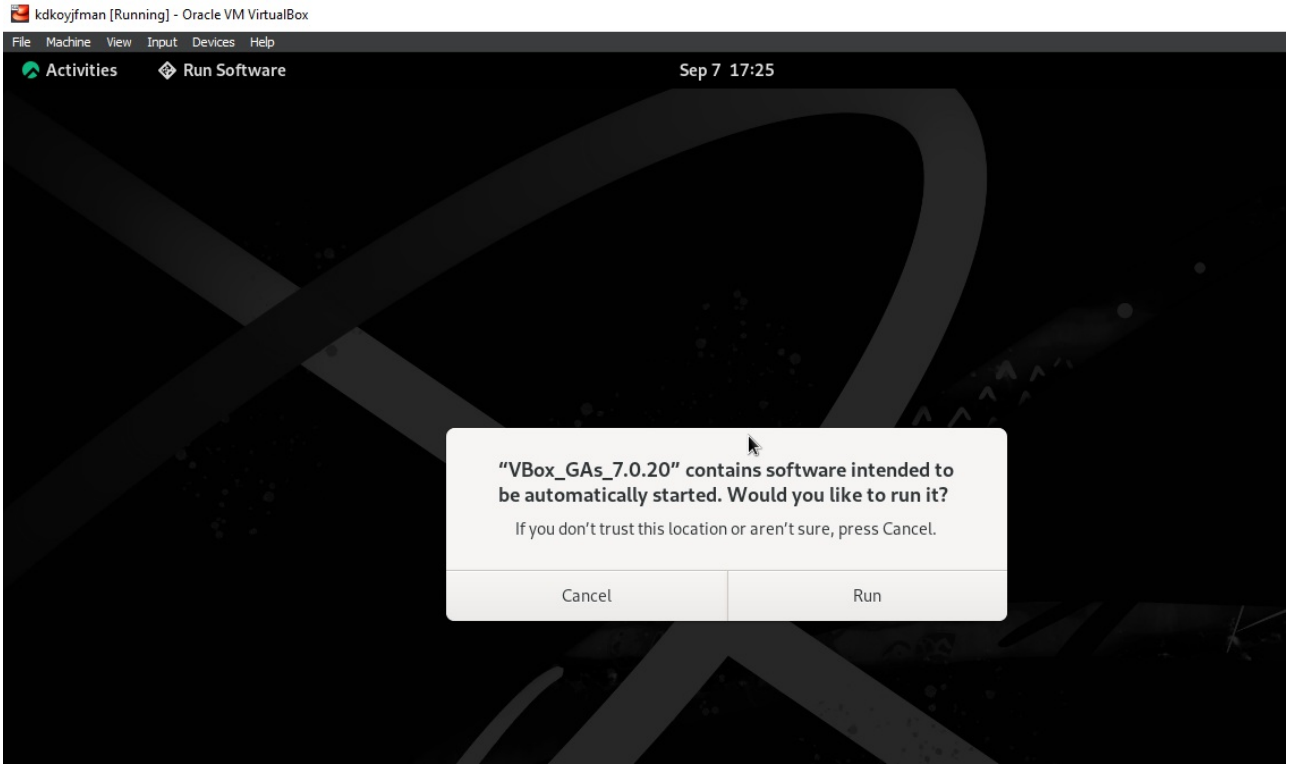

File Machine View Input Devices Help
ROOT PASSWORD
Done
The root account is used for administering the system. Enter a password for the root user.
Root Password:
Strong
Confirm:
Lock root account
Allow root SSH login with password

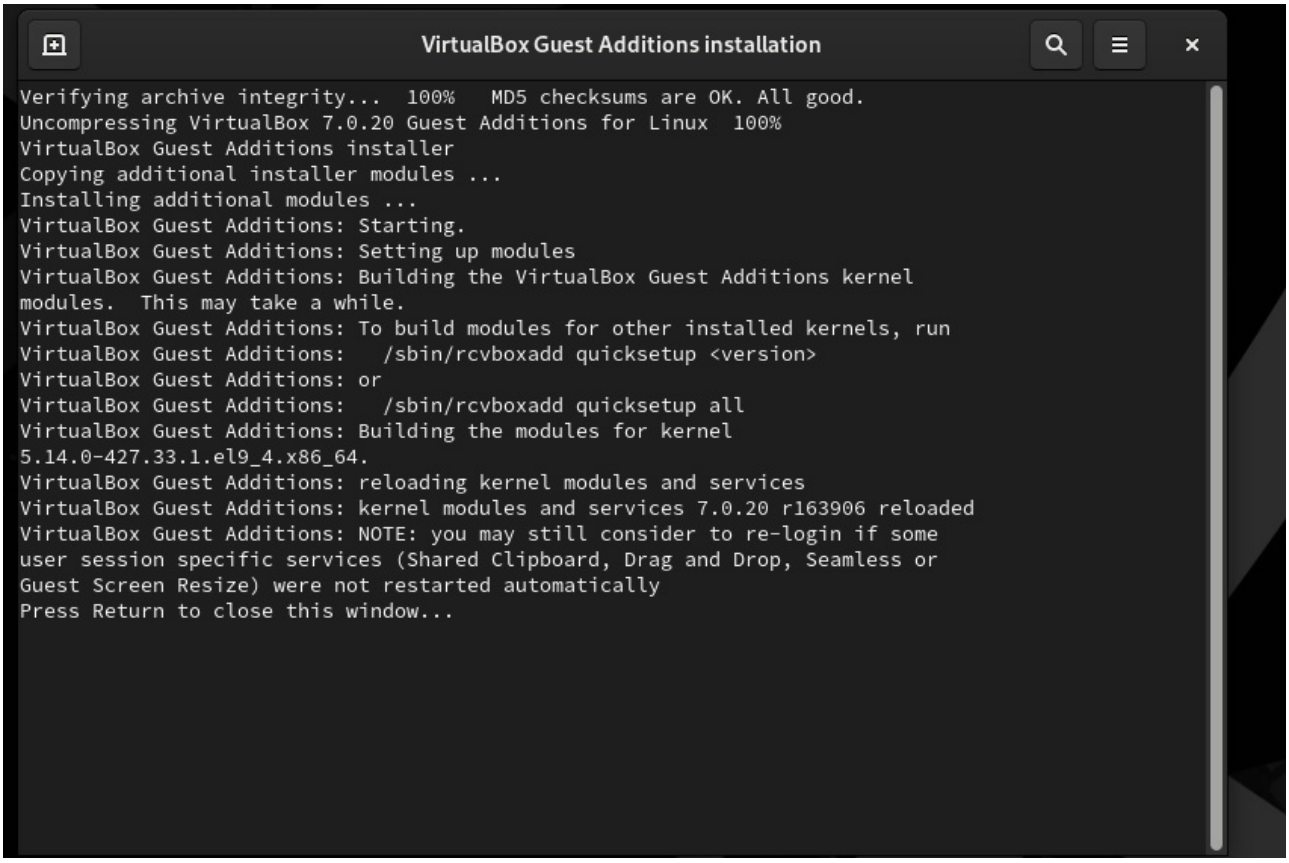

kdkoyjfman [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
CREATE USER
Done
Full name
kdkoyjfman
User name
kdkoyjfman
Make this user administrator
Require a password to use this account
Password
Strong
Confirm password
Advanced...


kdkoyjfman [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Rocky Linux
INSTALLATION PROGRESS
ROCKY LINUX 9.4 INSTALLATION
us
Complete!
Rocky Linux is now successfully installed and ready for you to use!
Go ahead and reboot your system to start using it!
Reboot System
Use of this product is subject to the license agreement found at /usr/share/rocky-release/EULA
Right Ctrl

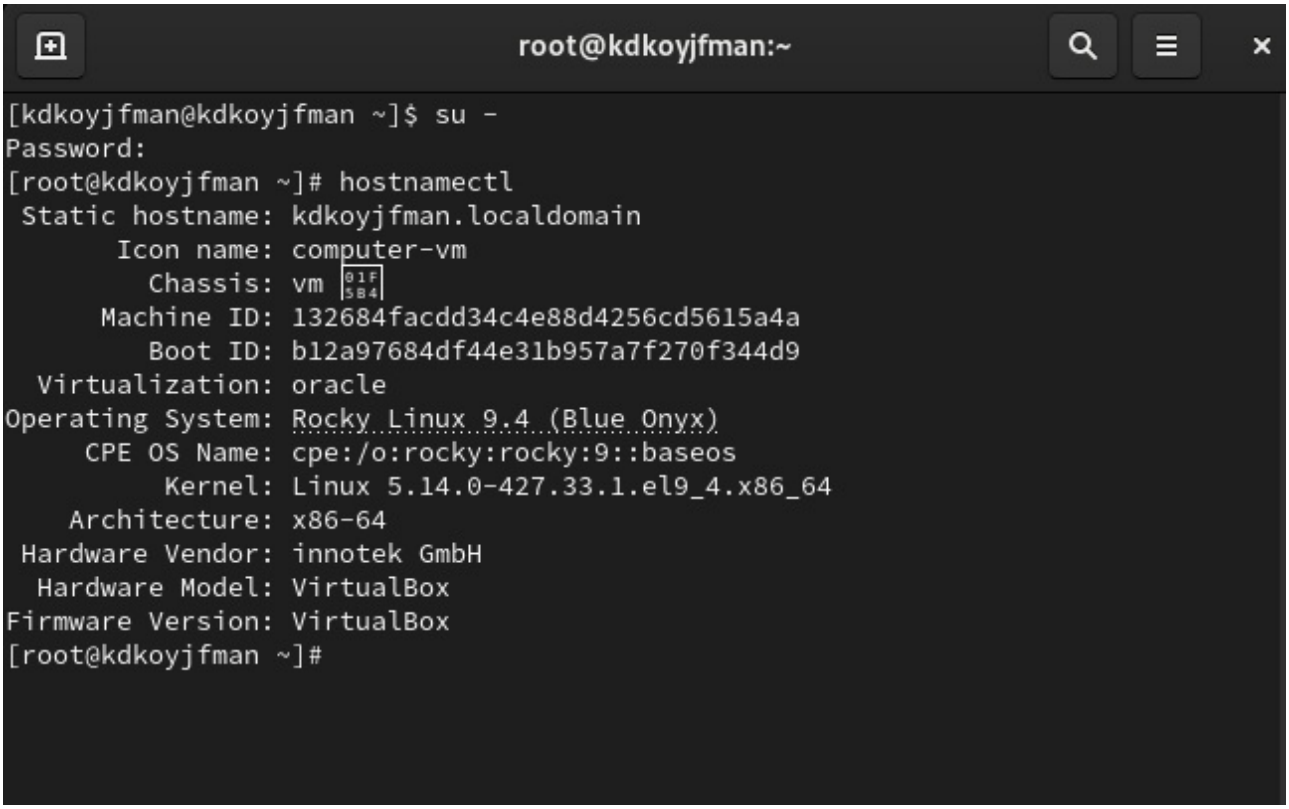


И подключили образ диска гостевой ОС:



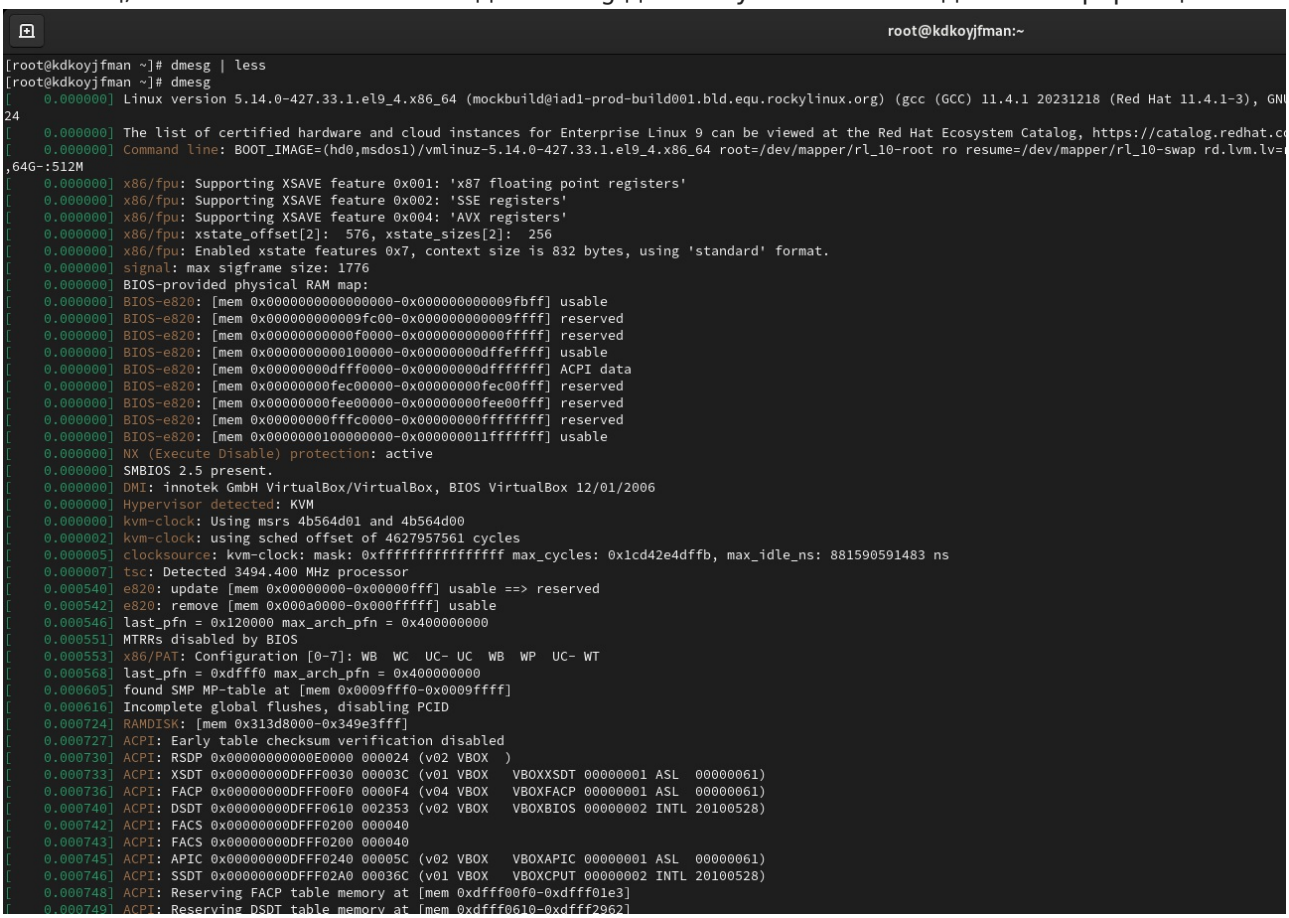


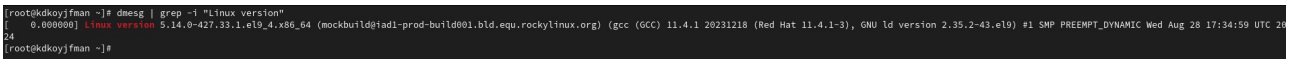
2 задание

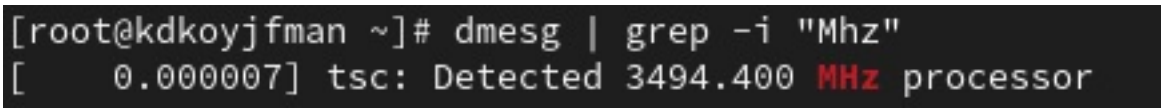


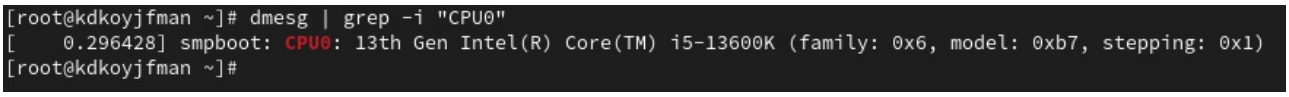
3 задание

Наконец, воспользовались командой dmesg для получения необходимой информации:









```
[root@kdkoyjfman ~]# dmesg | grep -i "filesystem"
[    2.584490] XFS (dm-0): Mounting V5 Filesystem 0f8492e8-607f-4b8b-9d4b-2c0f4ed6d5fa
[    3.838118] XFS (sda1): Mounting V5 Filesystem 52e54008-bc54-4f8b-bead-53a1ff93afc3
[root@kdkoyjfman ~]#
```

```
[root@kdkoyjfman ~]# dmesg | grep -i "mount"
[    0.177307] Mount-cache hash table entries: 8192 (order: 4, 65536 bytes, linear)
[    0.177312] Mountpoint-cache hash table entries: 8192 (order: 4, 65536 bytes, linear)
[    2.584490] XFS (dm-0): Mounting V5 Filesystem 0f8492e8-607f-4b8b-9d4b-2c0f4ed6d5fa
[    2.590787] XFS (dm-0): Ending clean mount
[    3.154662] systemd[1]: Set up automount Arbitrary Executable File Formats File System Automount Point.
[    3.164396] systemd[1]: Mounting Huge Pages File System...
[    3.166706] systemd[1]: Mounting POSIX Message Queue File System...
[    3.167345] systemd[1]: Mounting Kernel Debug File System...
[    3.168017] systemd[1]: Mounting Kernel Trace File System...
[    3.187471] systemd[1]: Starting Remount Root and Kernel File Systems...
[    3.194525] systemd[1]: Mounted Huge Pages File System.
[    3.196705] systemd[1]: Mounted POSIX Message Queue File System.
[    3.196969] systemd[1]: Mounted Kernel Debug File System.
[    3.202687] systemd[1]: Mounted Kernel Trace File System.
[    3.838118] XFS (sda1): Mounting V5 Filesystem 52e54008-bc54-4f8b-bead-53a1ff93afc3
[    3.848817] XFS (sda1): Ending clean mount
```

Спасибо за внимание!