

# Лабораторная работа №1

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# Установка и конфигуриция ОС на виртуальную машину

## Цель лабораторной работы:

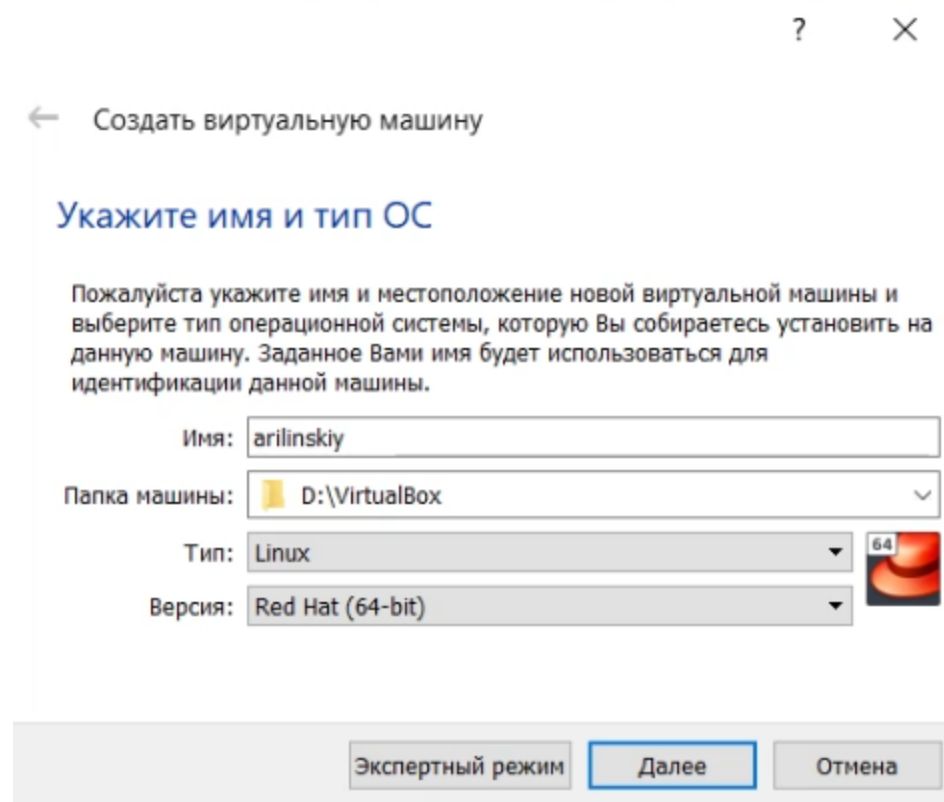
- Приобретение практических навыков установки операционной системы на виртуальную машину.
- Настройка минимально необходимого окружения для дальнейшей работы.

## Задание лабораторной работы:

- Установить дистрибутив Rocky на виртуальную машину.
- Установить дополнения необходимые для дальнейшей работы.

# Выполнение лабораторной работы

# Выполнение работы:



Создать виртуальную машину

Укажите имя и тип ОС

Пожалуйста укажите имя и местоположение новой виртуальной машины и выберите тип операционной системы, которую Вы собираетесь установить на данную машину. Заданное Вами имя будет использоваться для идентификации данной машины.

Имя: arilinskiy

Папка машины: D:\VirtualBox

Тип: Linux

Версия: Red Hat (64-bit)

Экспертный режим Далее Отмена

Рис.1 Создание виртуальной машины

# Выполнение работы:

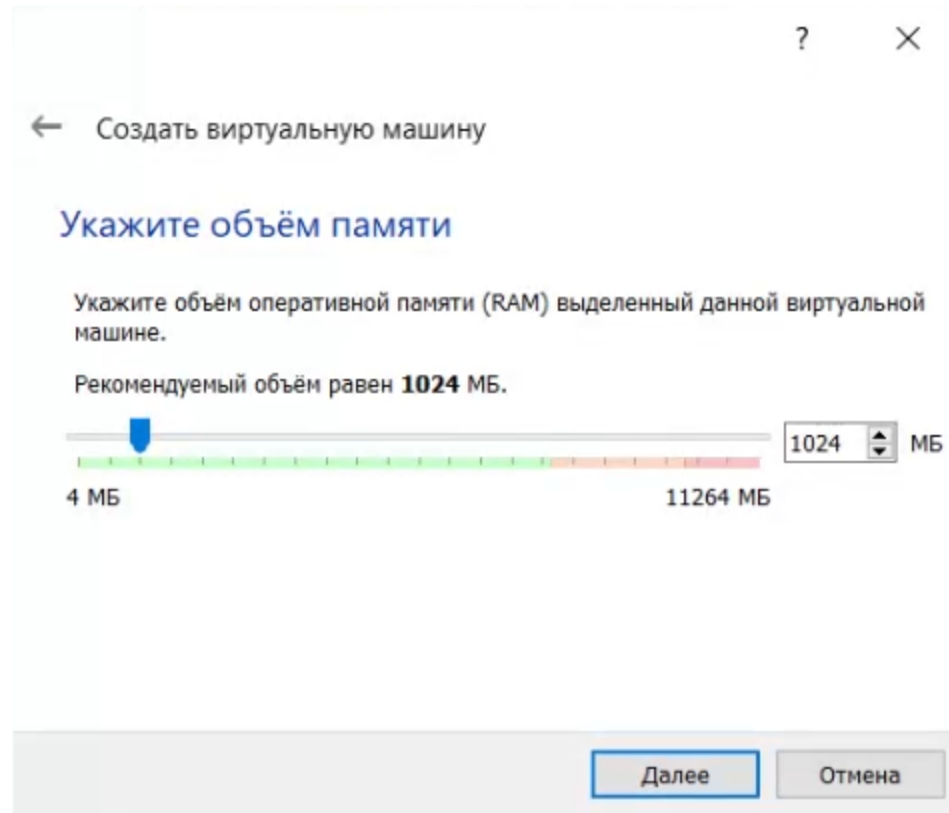


Рис.2 Объем оперативной памяти

# Выполнение работы:

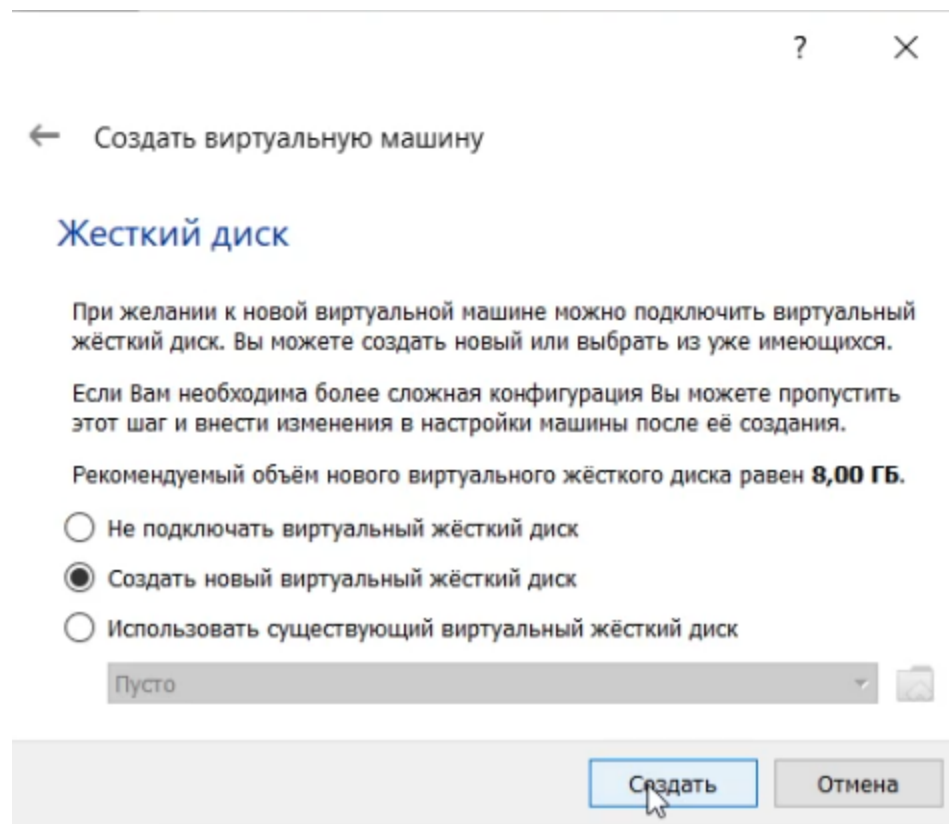


Рис.3 Выбор виртуального жесткого диска



# Выполнение работы:

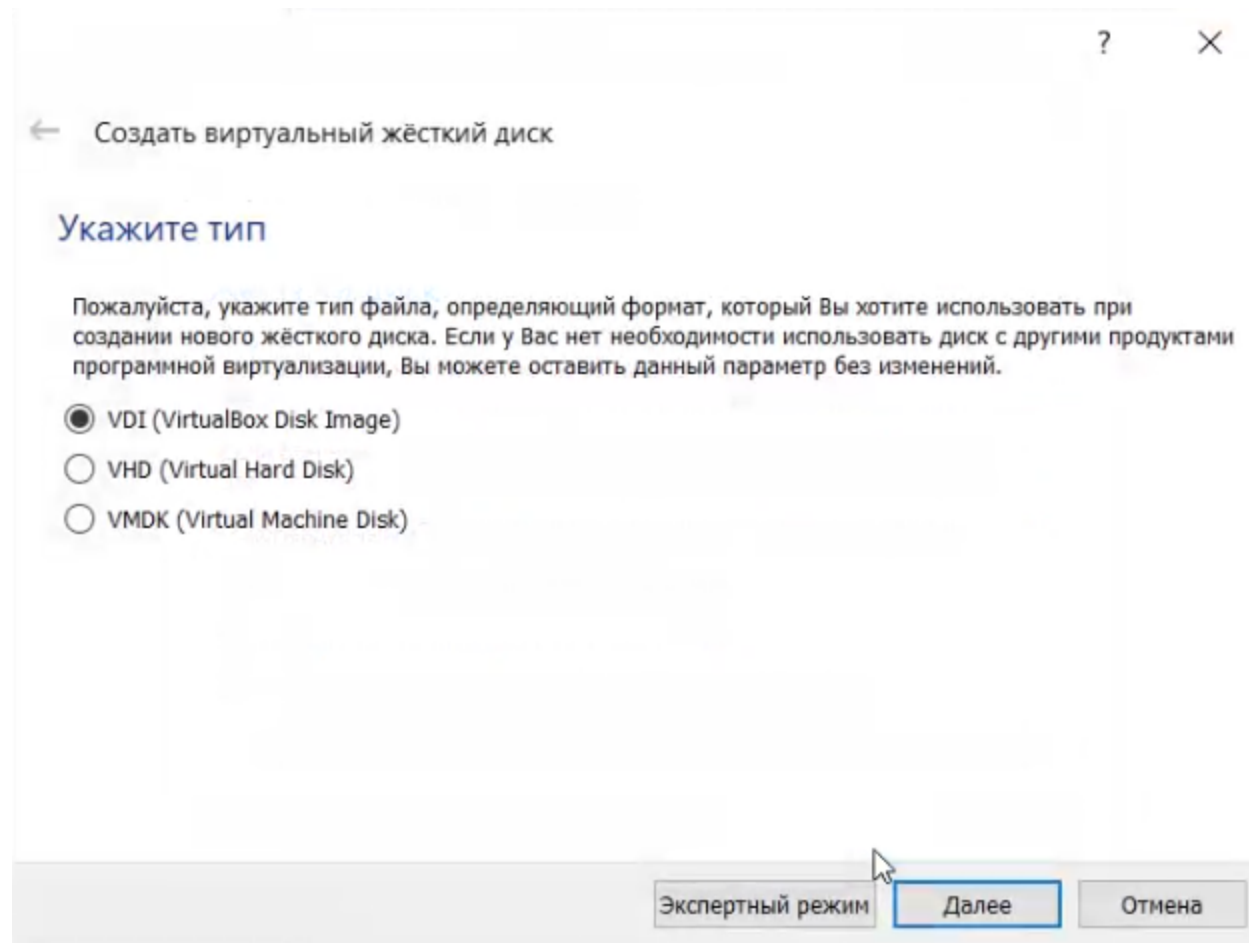


Рис.4 Тип файла диска

# Выполнение работы:

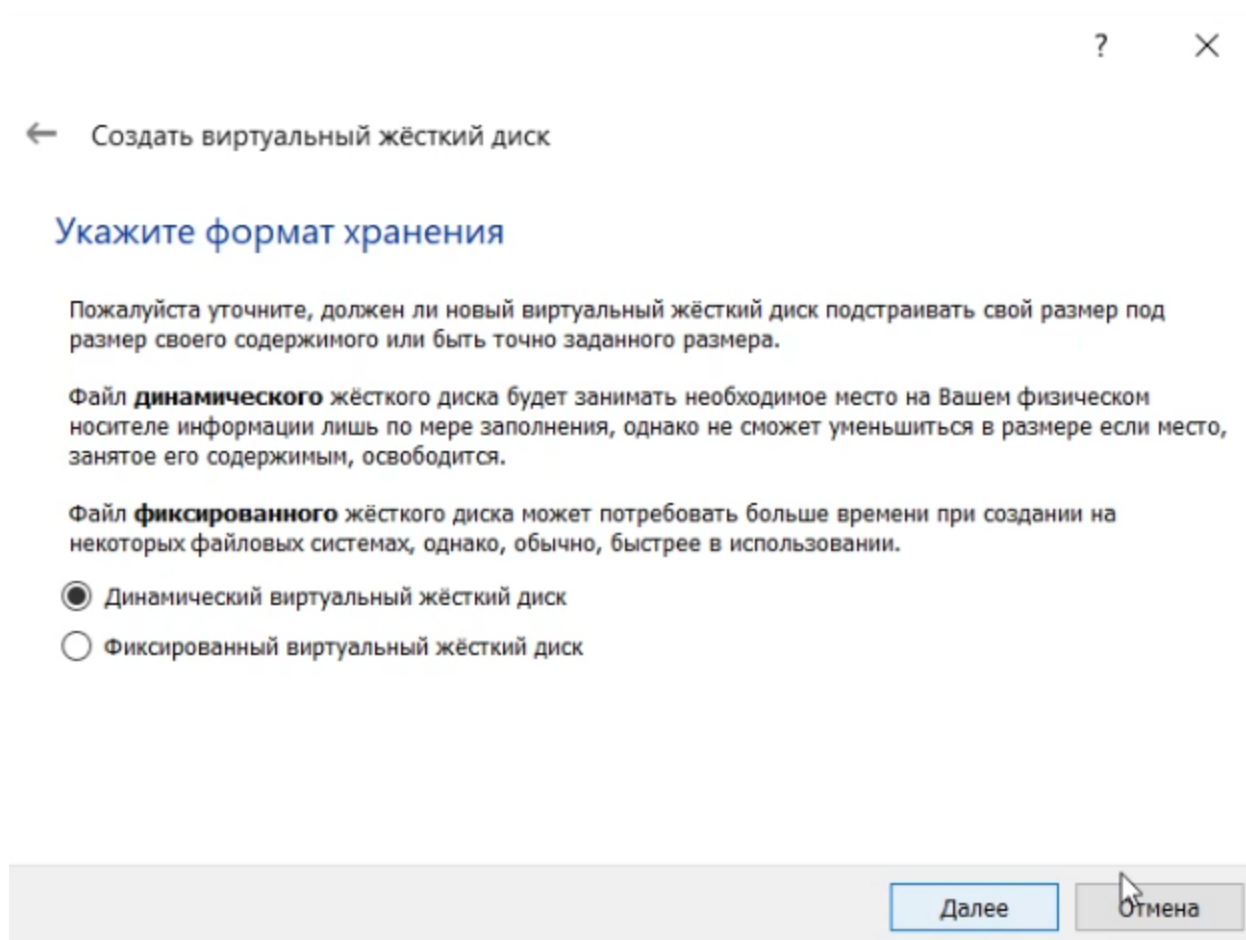


Рис.5 Формат хранения

# Выполнение работы:

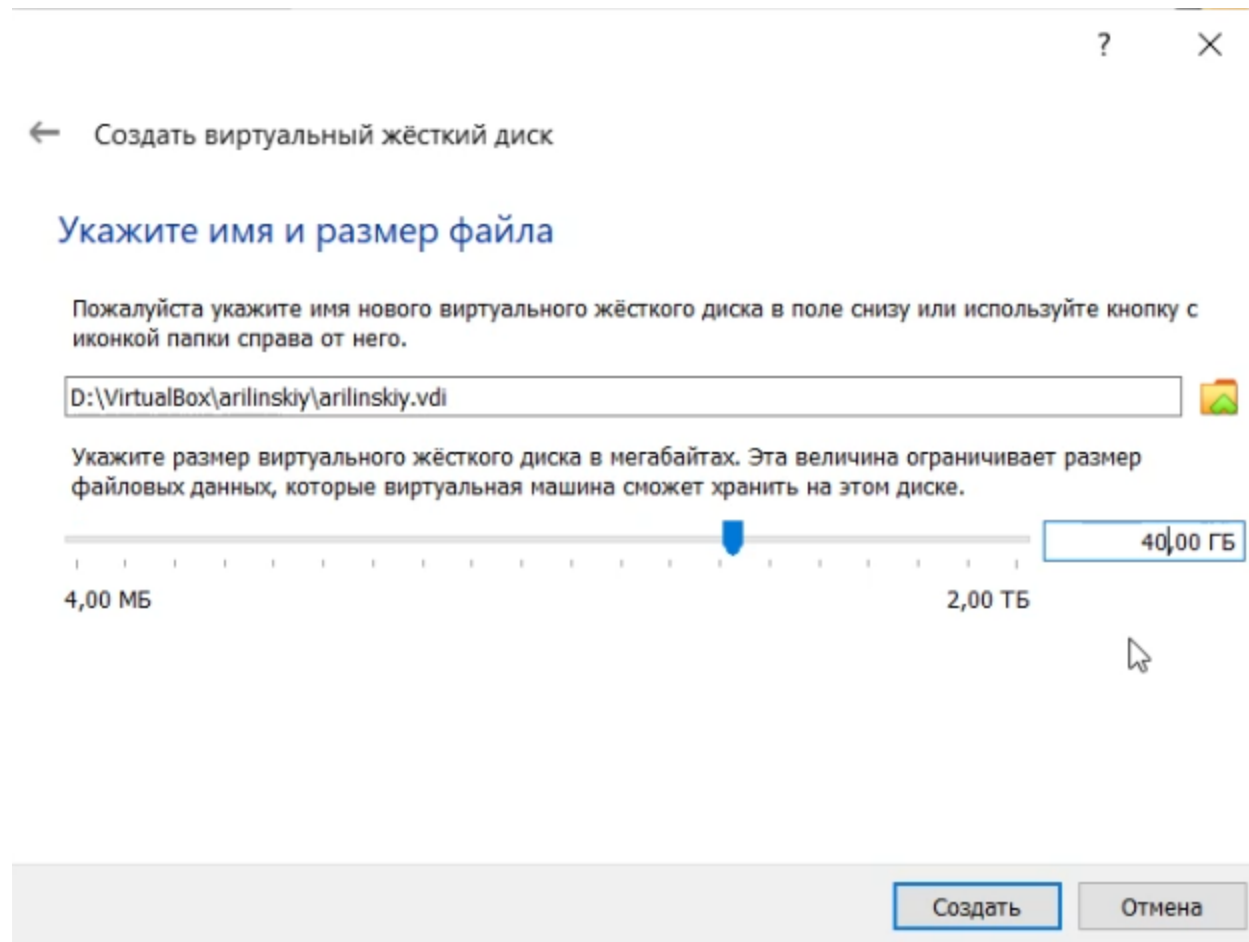


Рис.6 Размер виртуального жесткого диска

# Выполнение работы:

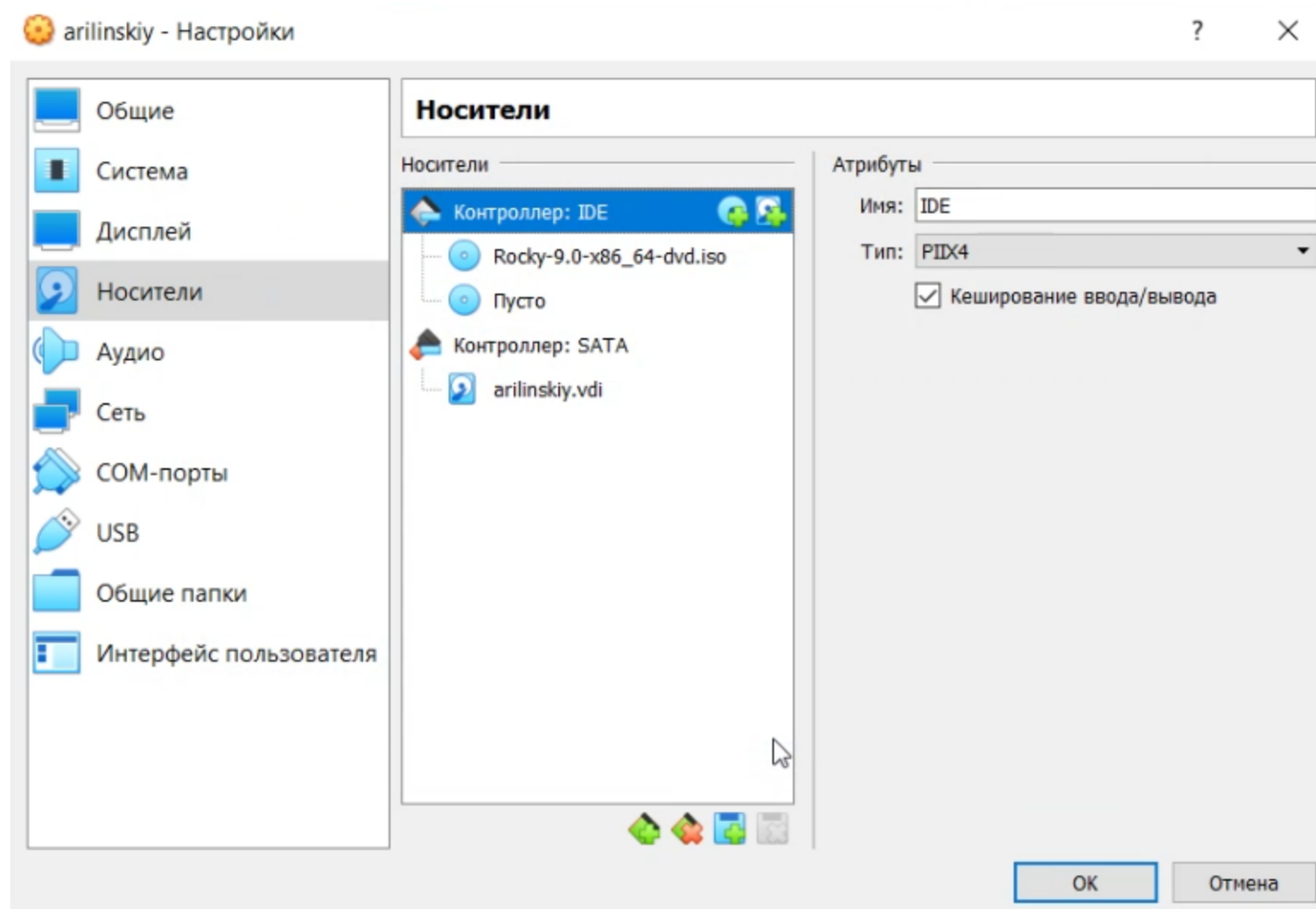


Рис.7 Выбор образа системы

# Выполнение работы:

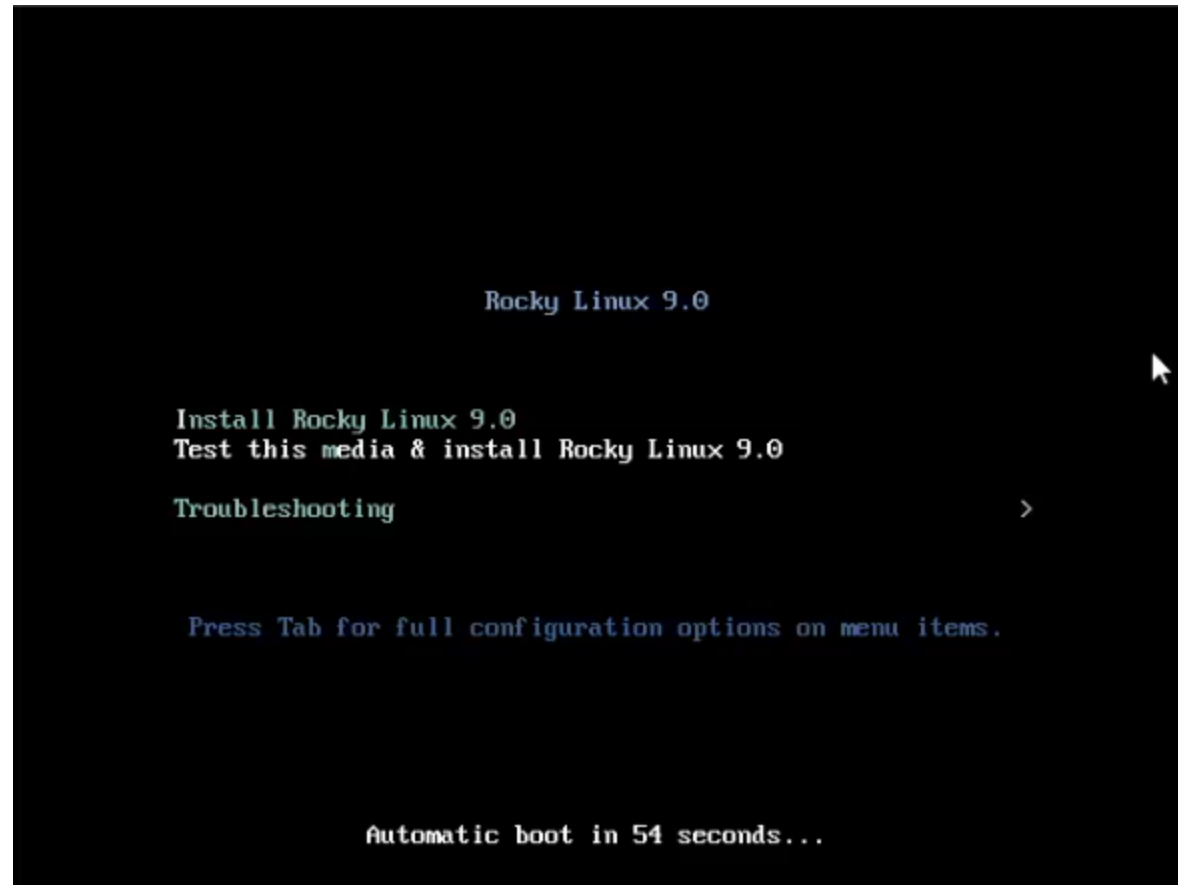


Рис.8 Начало установки

# Выполнение работы:

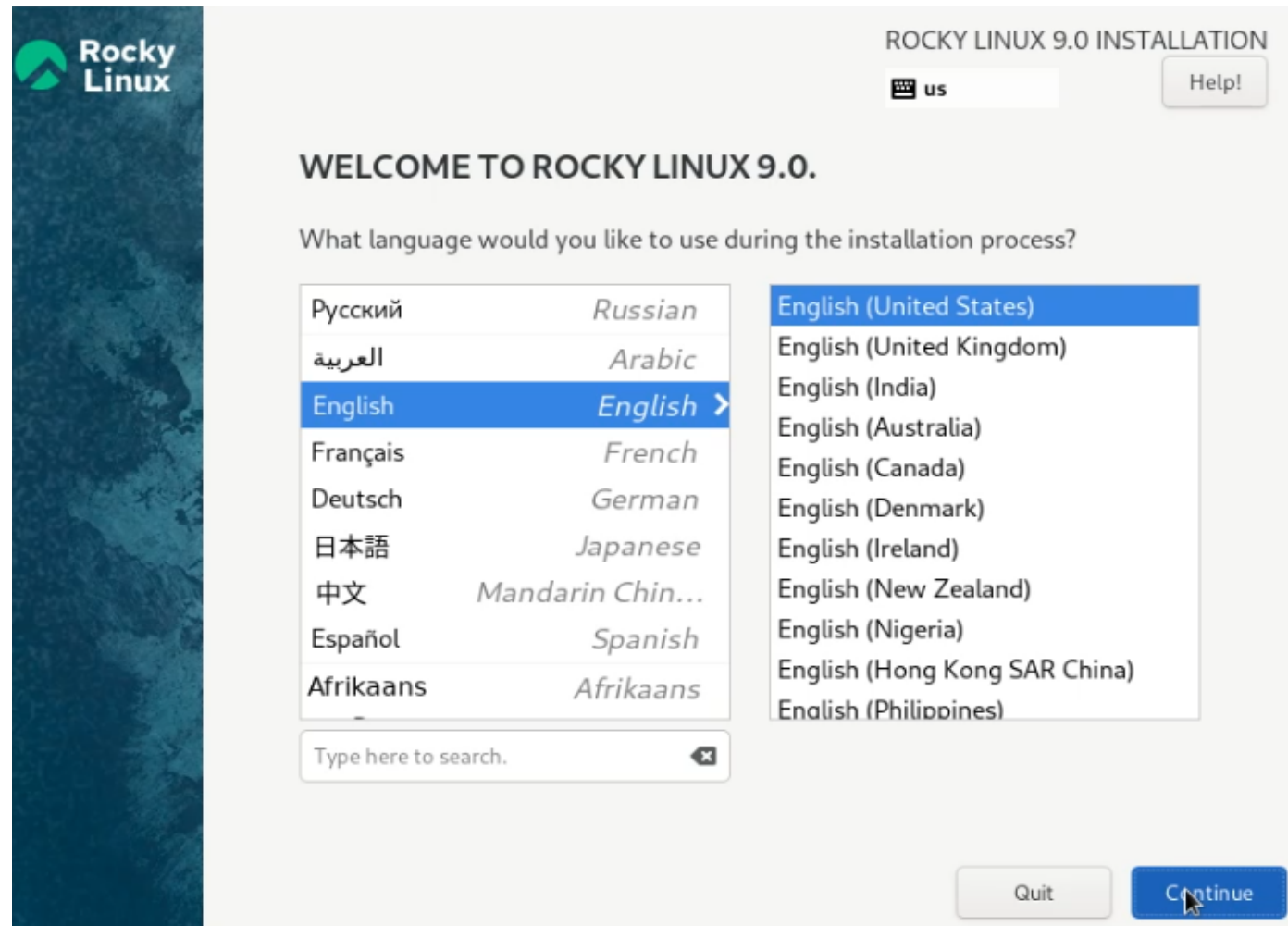


Рис.9 Выбор языка

# Выполнение работы:

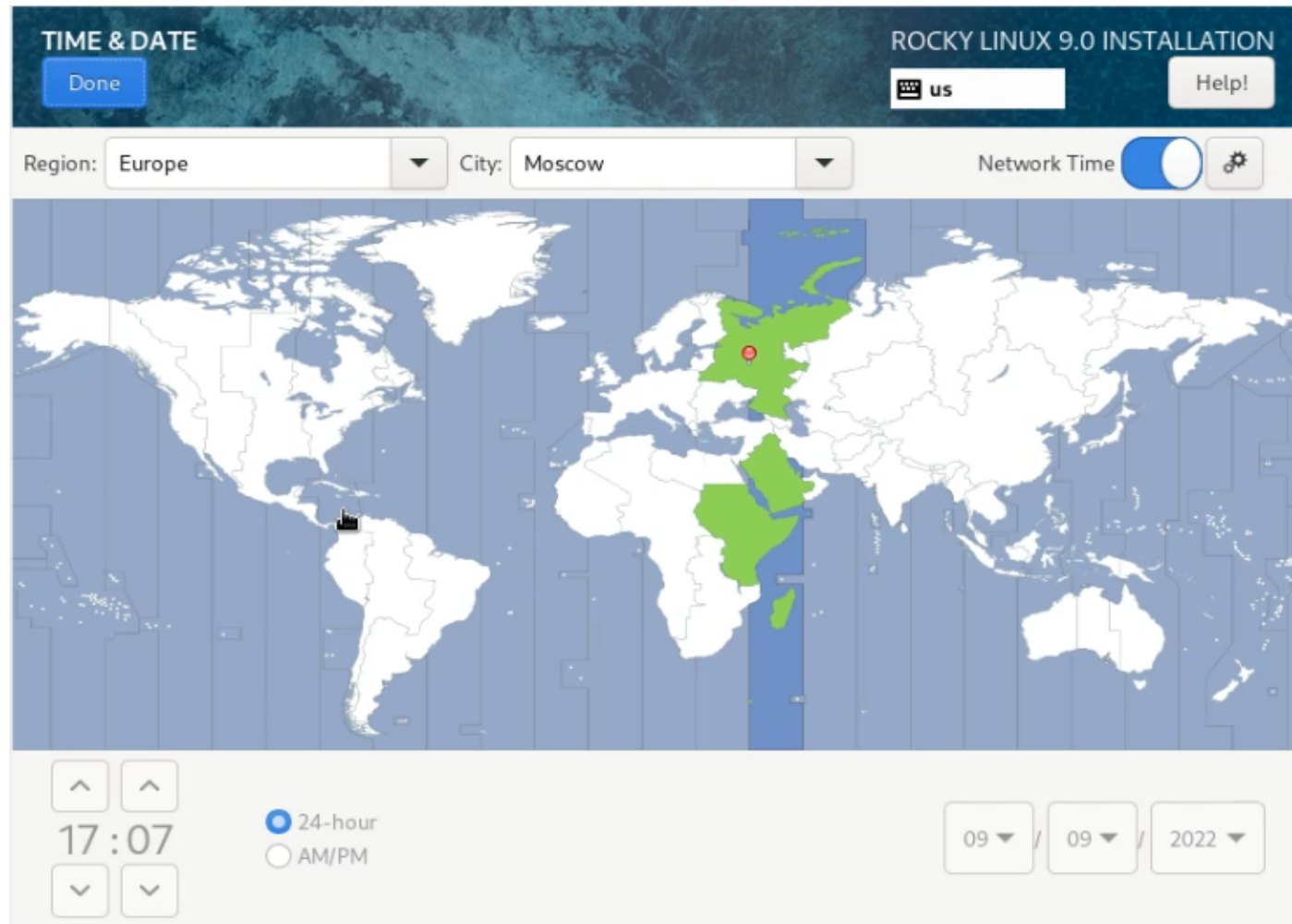
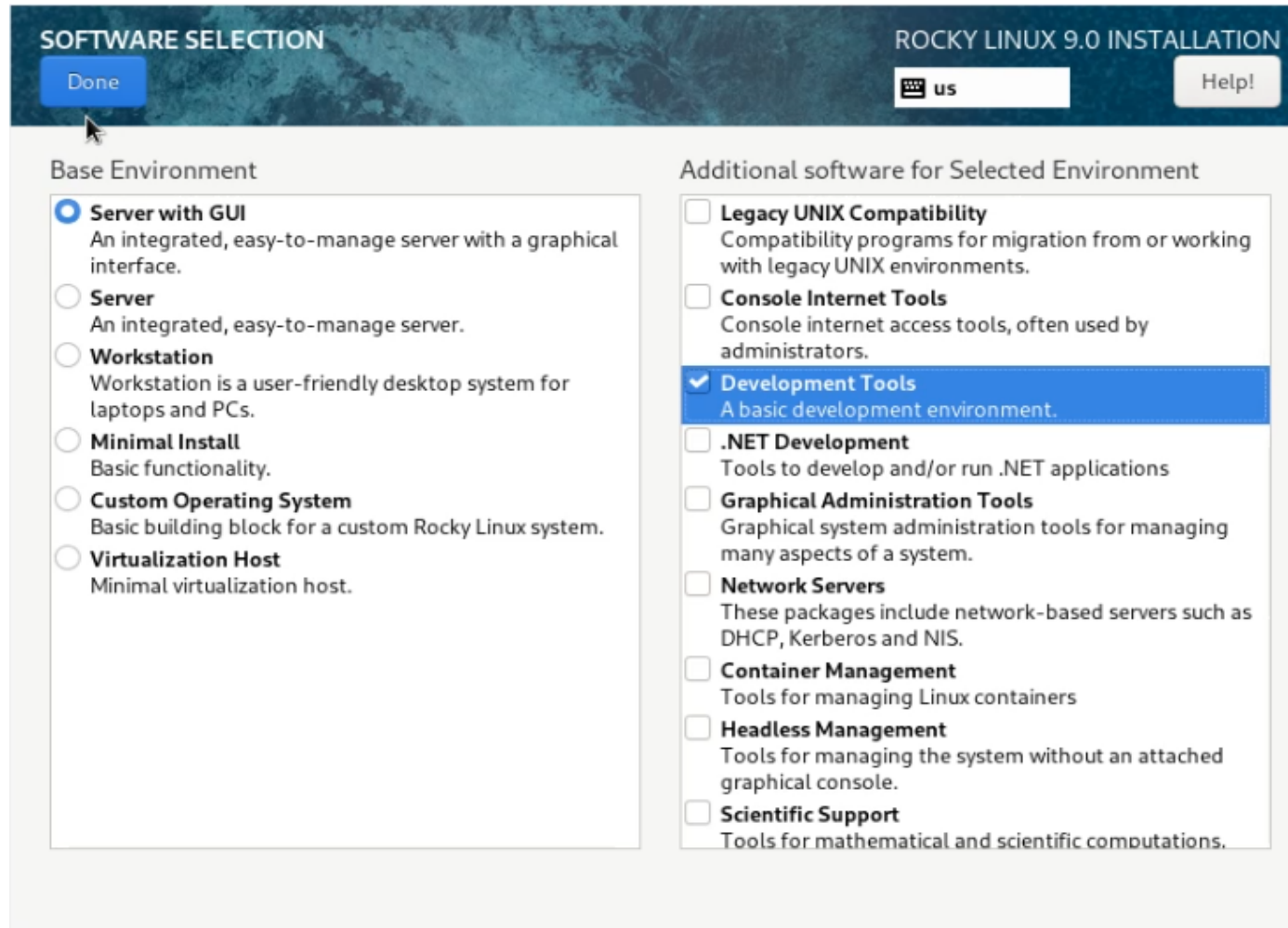


Рис.10 Выбор часового пояса

# Выполнение работы:



The image shows the 'SOFTWARE SELECTION' window of the Rocky Linux 9.0 installation process. The window has a dark blue header with the title 'SOFTWARE SELECTION' on the left, 'ROCKY LINUX 9.0 INSTALLATION' on the right, and a 'Done' button on the far left. Below the header, there are two main sections: 'Base Environment' and 'Additional software for Selected Environment'. In the 'Base Environment' section, the 'Server with GUI' option is selected with a blue radio button. In the 'Additional software for Selected Environment' section, the 'Development Tools' option is selected with a blue checkmark. Other options like 'Legacy UNIX Compatibility', 'Console Internet Tools', '.NET Development', 'Graphical Administration Tools', 'Network Servers', 'Container Management', 'Headless Management', and 'Scientific Support' are listed but not selected.

**SOFTWARE SELECTION** ROCKY LINUX 9.0 INSTALLATION Done us Help!

**Base Environment**

- ☒ **Server with GUI**  
An integrated, easy-to-manage server with a graphical interface.
- ☐ **Server**  
An integrated, easy-to-manage server.
- ☐ **Workstation**  
Workstation is a user-friendly desktop system for laptops and PCs.
- ☐ **Minimal Install**  
Basic functionality.
- ☐ **Custom Operating System**  
Basic building block for a custom Rocky Linux system.
- ☐ **Virtualization Host**  
Minimal virtualization host.

**Additional software for Selected Environment**

- ☐ **Legacy UNIX Compatibility**  
Compatibility programs for migration from or working with legacy UNIX environments.
- ☐ **Console Internet Tools**  
Console internet access tools, often used by administrators.
- ☒ **Development Tools**  
A basic development environment.
- ☐ **.NET Development**  
Tools to develop and/or run .NET applications
- ☐ **Graphical Administration Tools**  
Graphical system administration tools for managing many aspects of a system.
- ☐ **Network Servers**  
These packages include network-based servers such as DHCP, Kerberos and NIS.
- ☐ **Container Management**  
Tools for managing Linux containers
- ☐ **Headless Management**  
Tools for managing the system without an attached graphical console.
- ☐ **Scientific Support**  
Tools for mathematical and scientific computations.

Рис.11 Выбор базового окружения



# Выполнение работы:

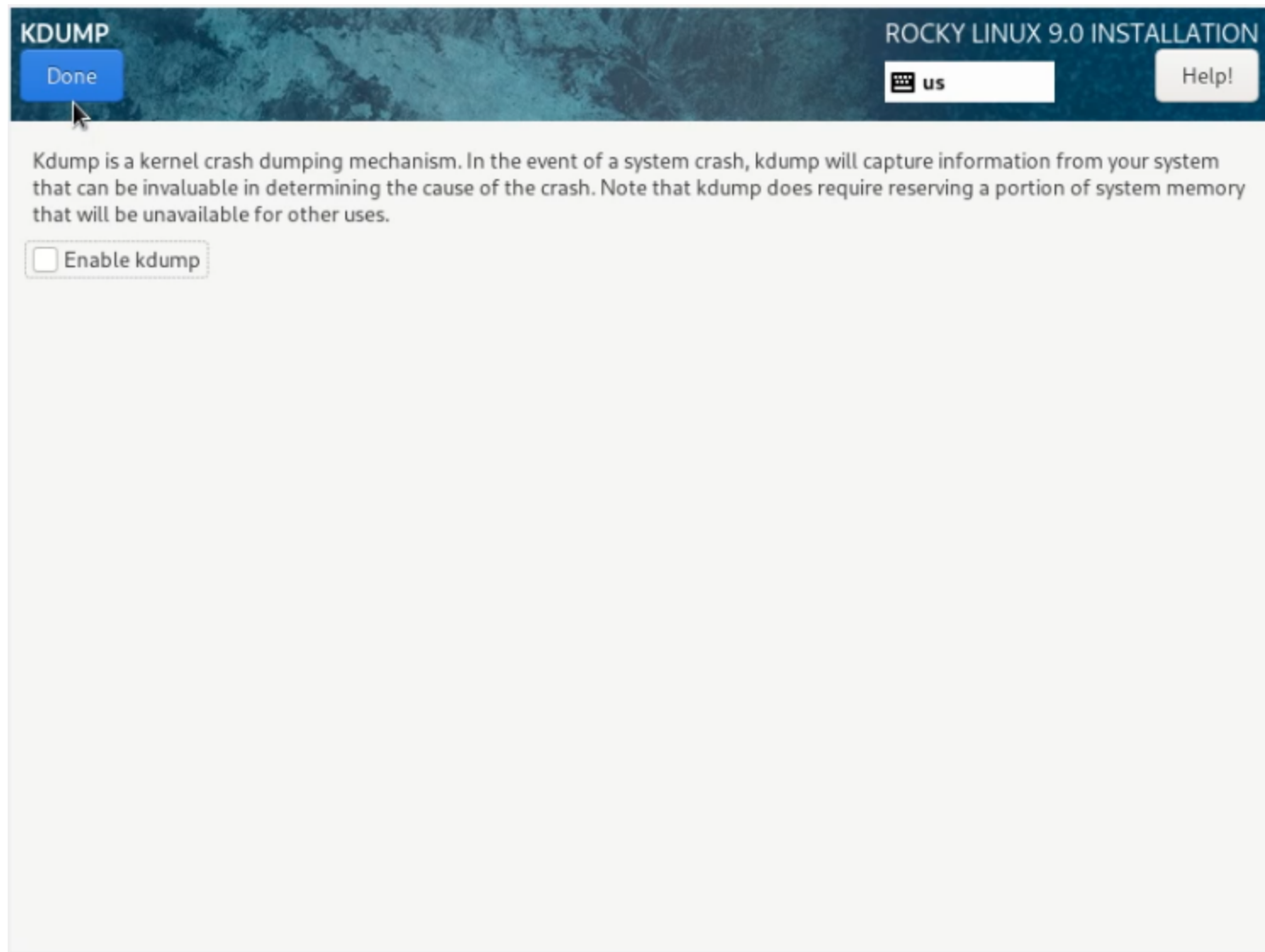


Рис.12 Выключение KDUMP

# Выполнение работы:

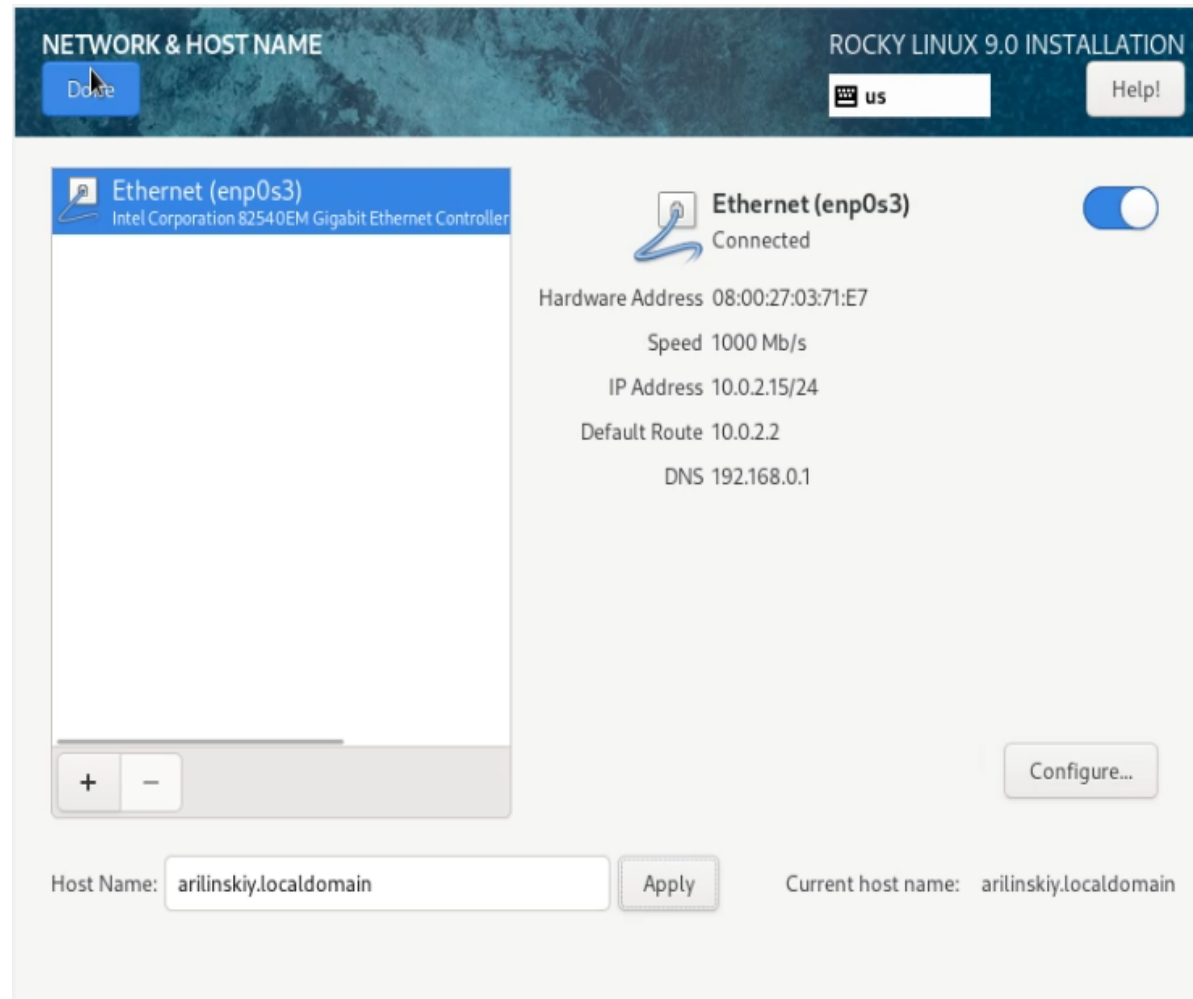
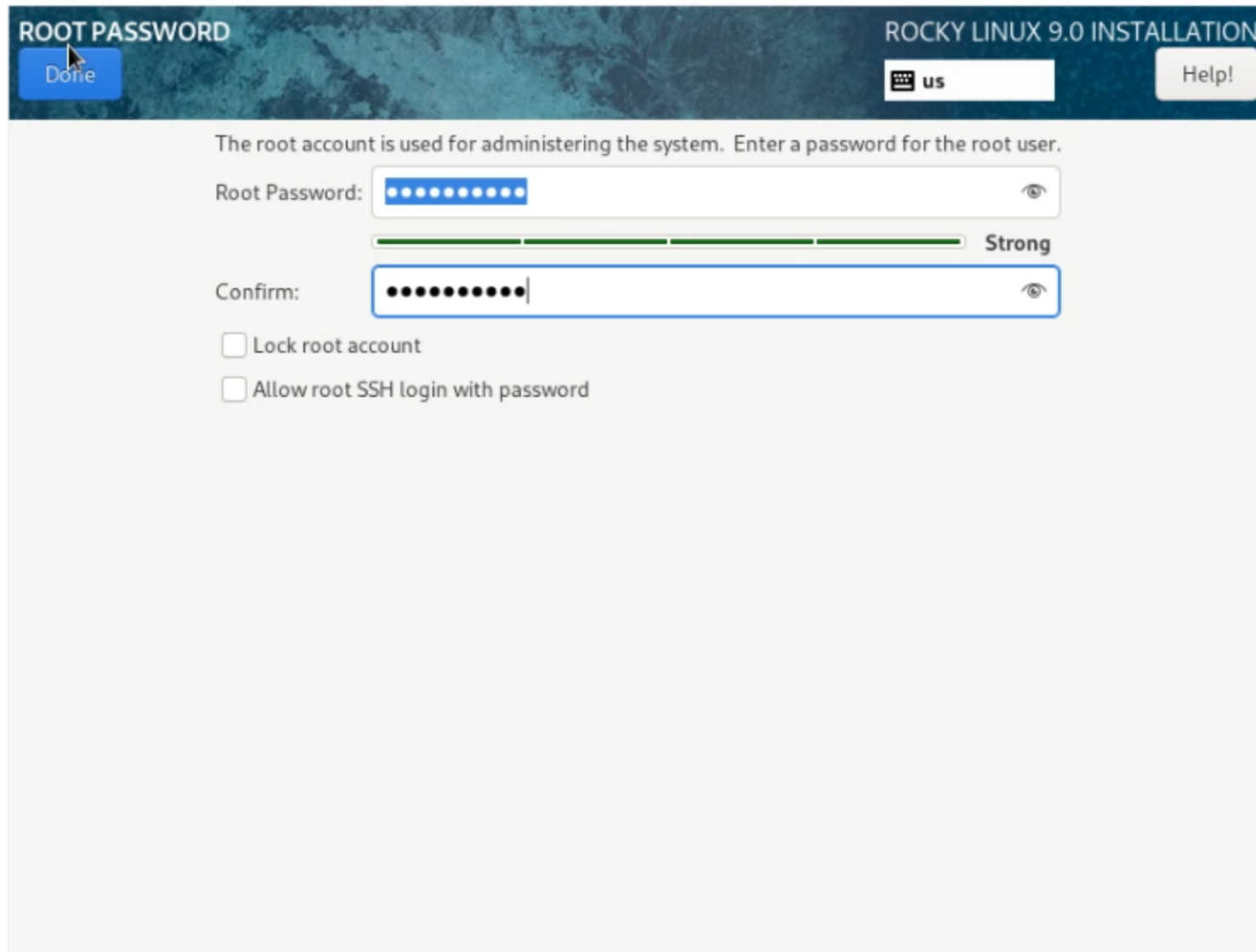


Рис.13 Подключение сети Ethernet

# Выполнение работы:



The image shows the 'ROOT PASSWORD' screen during the Rocky Linux 9.0 installation. The header bar is dark blue with 'ROOT PASSWORD' on the left, 'ROCKY LINUX 9.0 INSTALLATION' on the right, and a 'Done' button on the far left. Below the header, a text prompt reads: 'The root account is used for administering the system. Enter a password for the root user.' There are two password input fields. The first is labeled 'Root Password:' and contains ten blue dots. Below it is a green progress bar and the word 'Strong'. The second field is labeled 'Confirm:' and contains ten black dots. At the bottom, there are two unchecked checkboxes: 'Lock root account' and 'Allow root SSH login with password'. A 'Help!' button is located in the top right corner of the main content area.

ROOT PASSWORD

ROCKY LINUX 9.0 INSTALLATION

Done

us

Help!

The root account is used for administering the system. Enter a password for the root user.

Root Password: [password field]

Strong

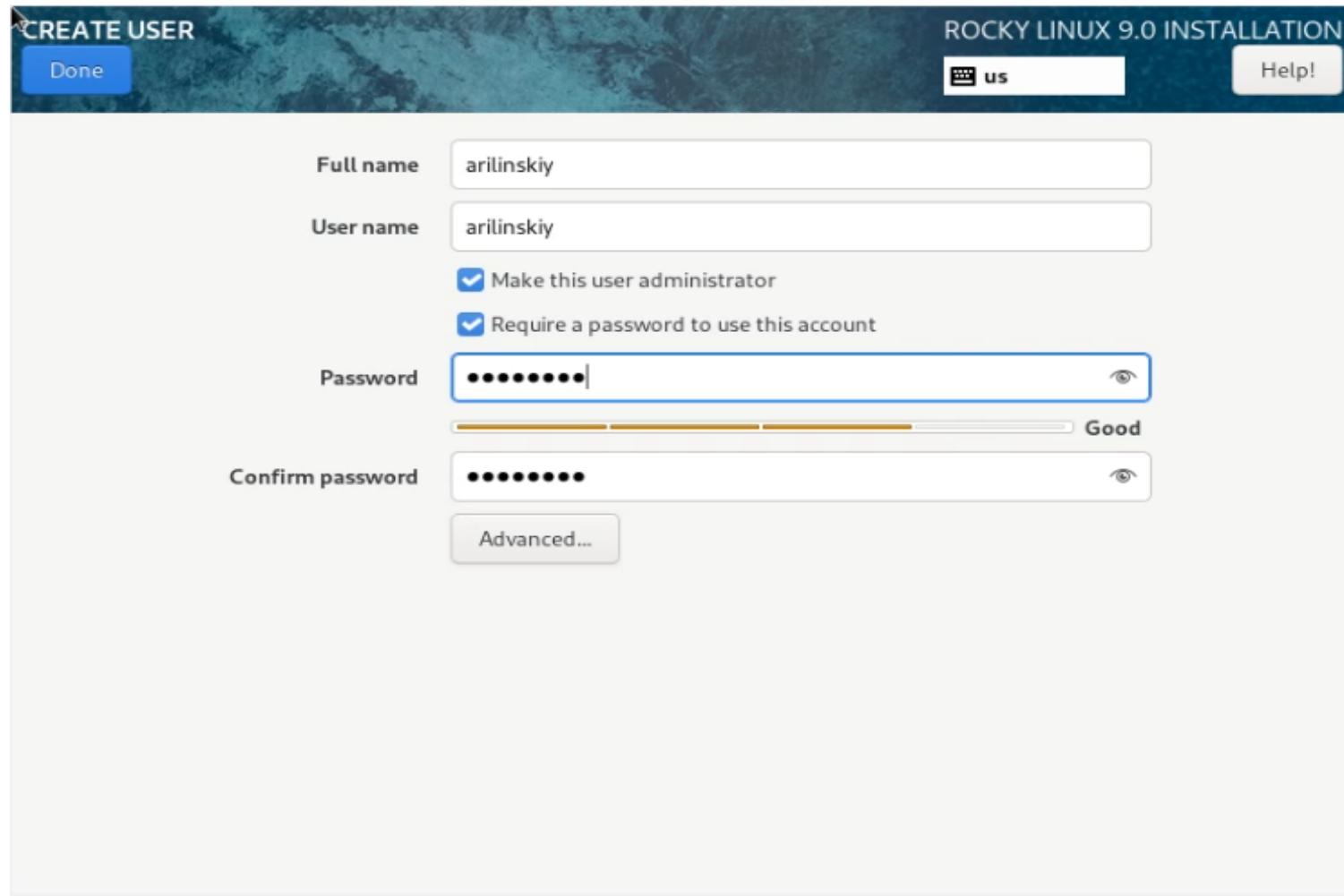
Confirm: [password field]

☐ Lock root account

☐ Allow root SSH login with password

Рис.14 Установление root пароля

# Выполнение работы:



The image shows the 'CREATE USER' screen in the Rocky Linux 9.0 installation environment. The header bar is dark blue with the title 'CREATE USER' on the left, 'ROCKY LINUX 9.0 INSTALLATION' on the right, and a 'Done' button. Below the header, there are input fields for 'Full name' and 'User name', both containing 'arilinskiy'. There are two checked checkboxes: 'Make this user administrator' and 'Require a password to use this account'. The 'Password' field is highlighted with a blue border and contains masked characters, with a password strength indicator below it showing 'Good'. The 'Confirm password' field also contains masked characters. A 'Help!' button is in the top right, and an 'Advanced...' button is at the bottom.

CREATE USER

ROCKY LINUX 9.0 INSTALLATION

Done

us

Help!

Full name arilinskiy

User name arilinskiy

☒ Make this user administrator

☒ Require a password to use this account

Password

Good

Confirm password

Advanced...

Рис.15 Создание пользователя с правами администратора

# Выполнение работы:

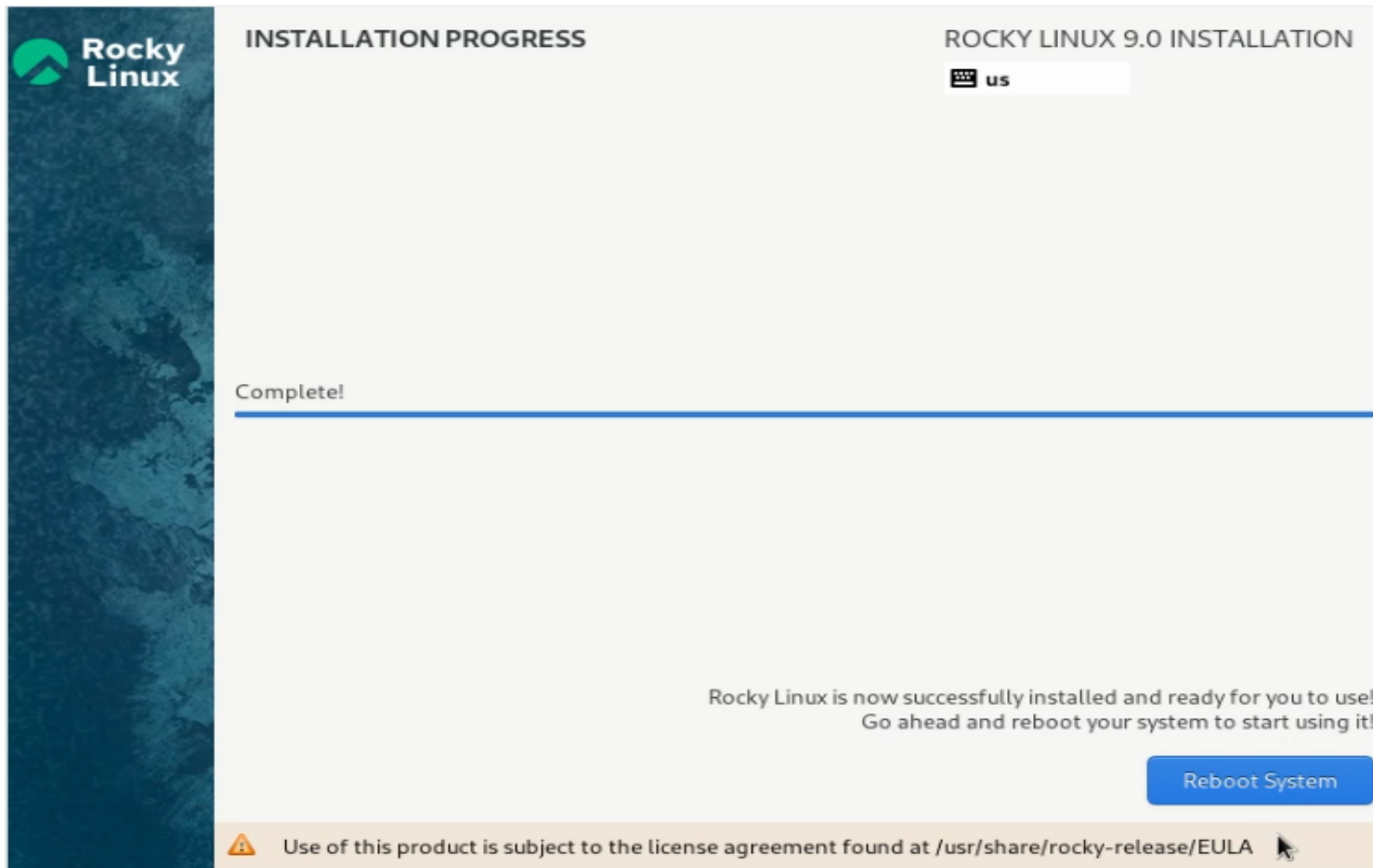


Рис.16 Перезагрузка после установки (1/2)

# Выполнение работы:

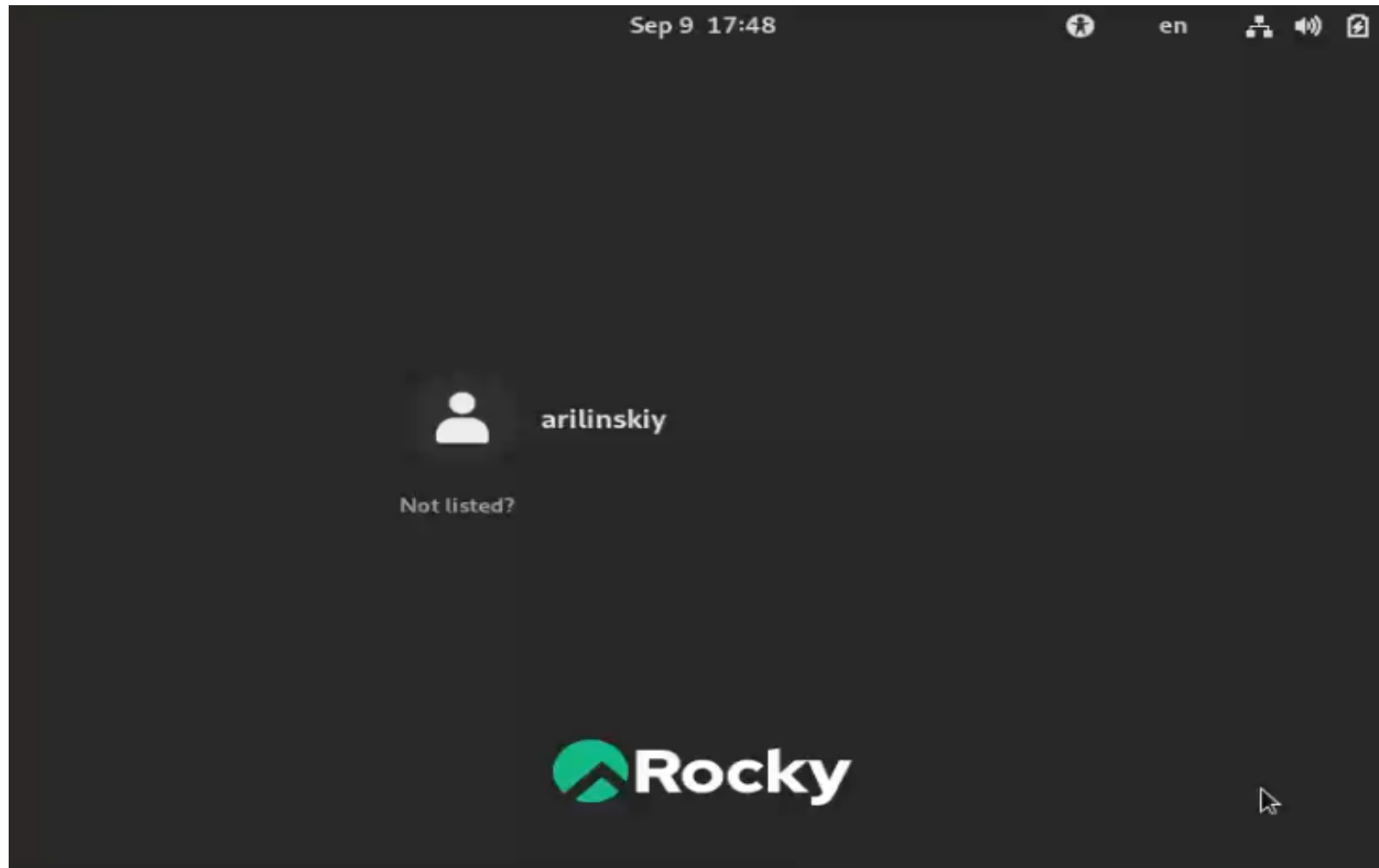


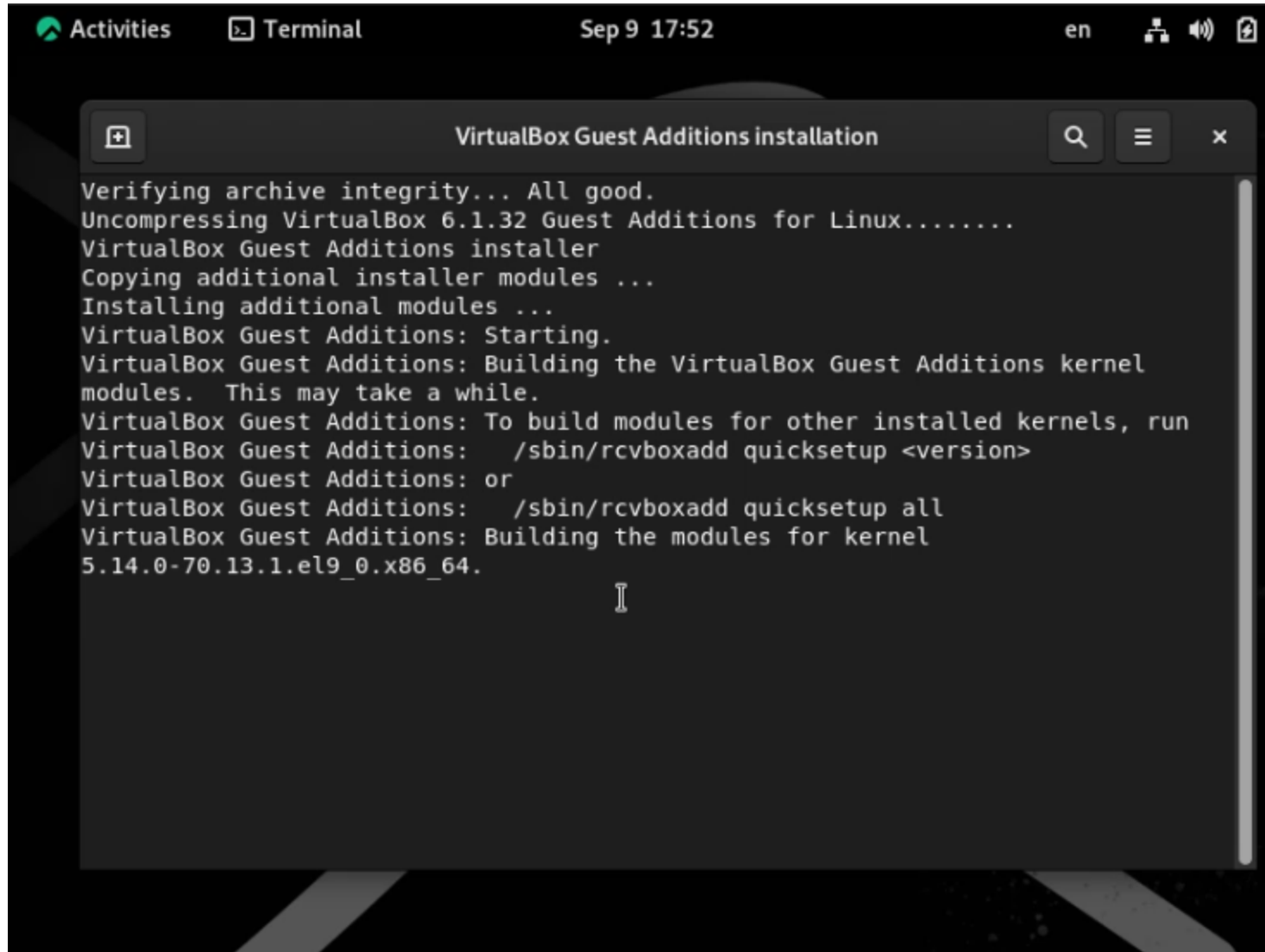
Рис.17 Перезагрузка после установки (2/2)

# Выполнение работы:



Рис.18 Подключение образа гостевой ОС (1/2)

# Выполнение работы:

A screenshot of a Linux desktop environment. At the top, a terminal window is open, displaying the output of the VirtualBox Guest Additions installation. The terminal title bar reads 'Terminal' and the system clock shows 'Sep 9 17:52'. The terminal output includes steps like 'Verifying archive integrity...', 'Uncompressing VirtualBox 6.1.32 Guest Additions for Linux...', 'Copying additional installer modules ...', and 'Installing additional modules ...'. It also provides instructions on how to build modules for other kernels using the 'quicksetup' command. A cursor is visible at the end of the last line of output.

```
VirtualBox Guest Additions installation
Verifying archive integrity... All good.
Uncompressing VirtualBox 6.1.32 Guest Additions for Linux.....
VirtualBox Guest Additions installer
Copying additional installer modules ...
Installing additional modules ...
VirtualBox Guest Additions: Starting.
VirtualBox Guest Additions: Building the VirtualBox Guest Additions kernel
modules. This may take a while.
VirtualBox Guest Additions: To build modules for other installed kernels, run
VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup <version>
VirtualBox Guest Additions: or
VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup all
VirtualBox Guest Additions: Building the modules for kernel
5.14.0-70.13.1.el9_0.x86_64.
```

Рис.19 Подключение образа гостевой ОС (2/2)



# Выполнение работы:

```
[arilinskiy@arilinskiy ~]$ dmesg | grep -i "Linux version"
[ 0.000000] Linux version 5.14.0-70.13.1.el9_0.x86_64 (mockbuild@dal1-prod-builder001.bld.equ.rockylinux.org) (gcc (GCC) 11.2.1 20220127 (Red Hat 11.2.1-9), GNU ld version 2.35.2-17.el9) #1 SMP PREEMPT Wed May 25 21:01:57 UTC 2022
[arilinskiy@arilinskiy ~]$ dmesg | grep -i "Mhz processor"
[ 0.000009] tsc: Detected 2195.874 MHz processor
[arilinskiy@arilinskiy ~]$ dmesg | grep -i "CPU0"
[ 0.052682] CPU0: Hyper-Threading is disabled
[ 0.160202] smpboot: CPU0: AMD Ryzen 7 2700U with Radeon Vega Mobile Gfx (family: 0x17, model: 0x11, stepping: 0x0)
[arilinskiy@arilinskiy ~]$ dmesg | grep -i "available"
[ 0.001869] On node 0, zone DMA: 1 pages in unavailable ranges
[ 0.001902] On node 0, zone DMA: 97 pages in unavailable ranges
[ 0.002461] On node 0, zone DMA32: 16 pages in unavailable ranges
[ 0.003013] [mem 0x40000000-0xfebfffff] available for PCI devices
[ 0.015965] Memory: 240380K/1048120K available (14345K kernel code, 5945K rwd
ata, 9052K rodata, 2548K init, 5460K bss, 126284K reserved, 0K cma-reserved)
[ 0.160942] Performance Events: PMU not available due to virtualization, using software events only.
[ 2.913926] [TTM] Zone kernel: Available graphics memory: 491822 KiB
[arilinskiy@arilinskiy ~]$ dmesg | grep -i "Hypervisor detected"
[ 0.000000] Hypervisor detected: KVM
[arilinskiy@arilinskiy ~]$ dmesg | grep -i "Filesystem"
[ 4.506505] XFS (dm-0): Mounting V5 Filesystem
[ 17.951660] XFS (sda1): Mounting V5 Filesystem
```

Рис.20 Вывод команды dmesg

# Вывод

**Спасибо за внимание**