

# Лабораторная работа

Номер 1

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01 января 1970

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# Информация

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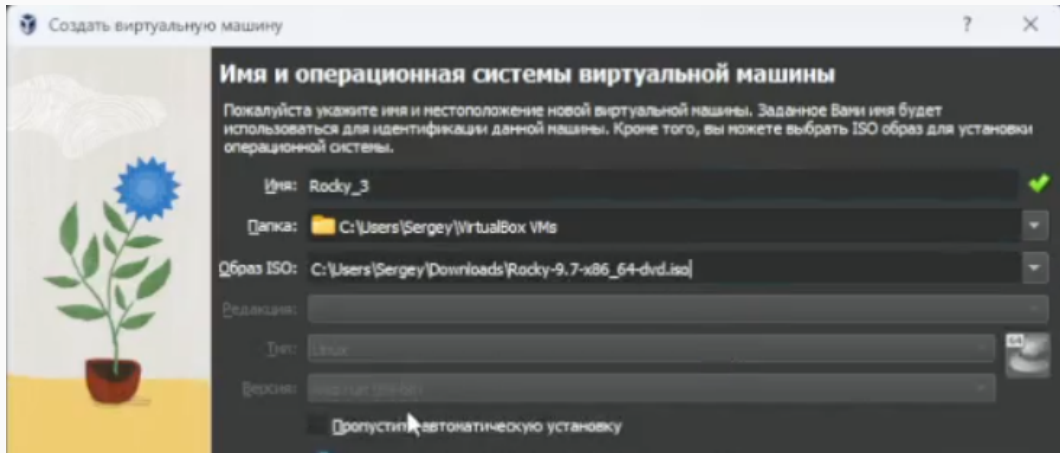
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::: :: {.column width="30%"}

Установка и конфигурация операционной системы на виртуальную машину

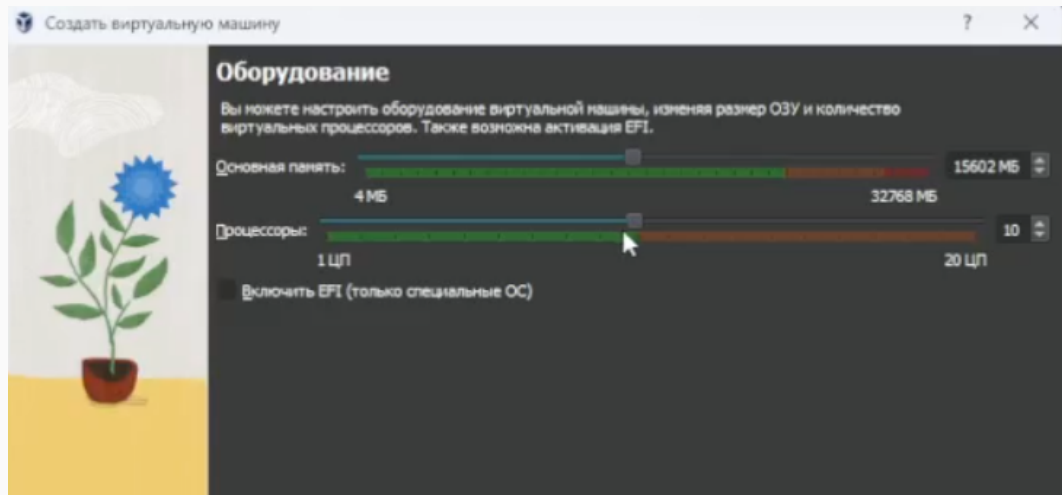
# Выбор диска

Для начала назовем нашу виртуальную машину Rocky3 и выберем установочный диск



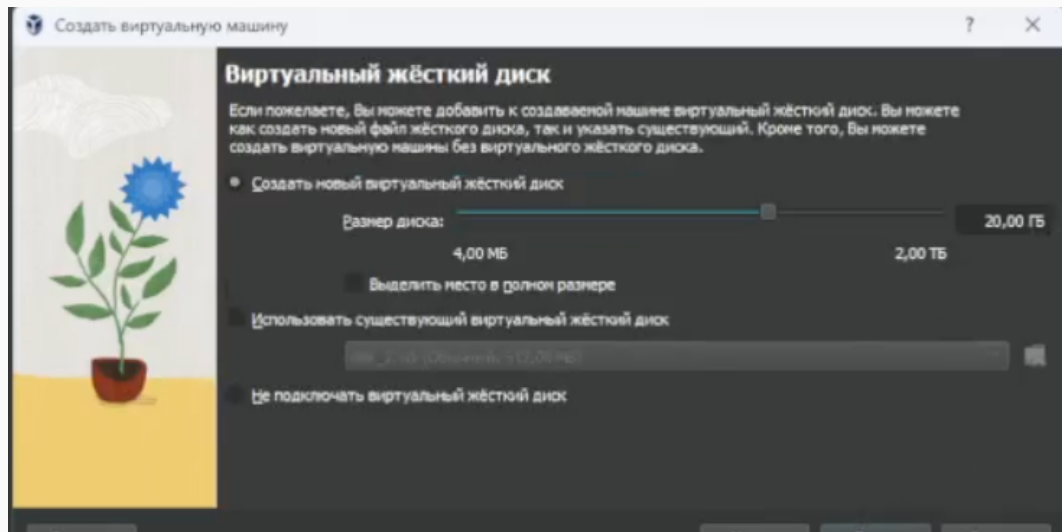
# Выделение памяти и процессора

Выделяем память и процессор



# Выделение диска

Выделяем размер диска (20 гб)



Далее выбираем язык, я выбрал русский язык

## ДОБРО ПОЖАЛОВАТЬ В ROCKY LINUX 9.7.

Какой язык вы хотите использовать в процессе установки?

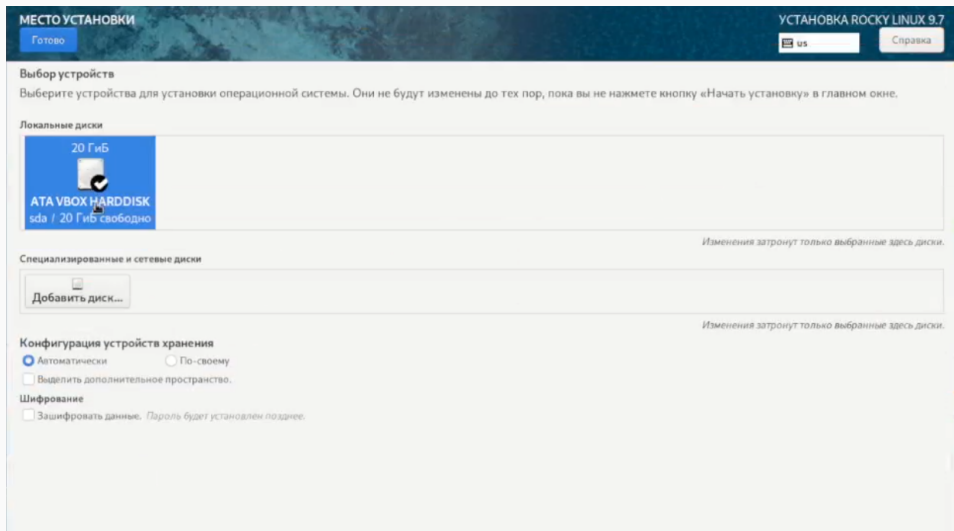
Русский	Russian
العربية	Arabic
English	English
Français	French
Deutsch	German
日本語	Japanese
中文	Mandarin Chinese
Español	Spanish
Afrikaans	Afrikaans
አማርኛ	Amharic
অসমীয়া	Assamese
Asturianu	Asturian
Беларуская	Belarusian
Български	Bulgarian
বাংলা	Bangla
Català	Catalan

Русский (Россия)

Русский (Украина)

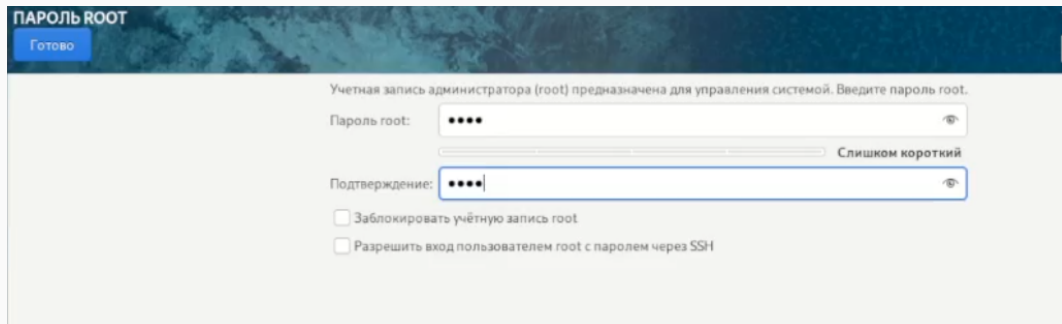


## Выбираем диск куда установится система



## Настройка пользователя

Настроим рут пользователя указав пароль для него и разрешив ему ssh



**ПАРОЛЬ ROOT**

Готово

Учетная запись администратора (root) предназначена для управления системой. Введите пароль root.

Пароль root:

Слишком короткий

Подтверждение:

☐ Заблокировать учётную запись root

☐ Разрешить вход пользователем root с паролем через SSH

Рис. 6: 7

# Экран об окончании установки

Настрою своего пользователя согласно об именовании

СОЗДАНИЕ ПОЛЬЗОВАТЕЛЯ

Готово

УСТАНОВКА ROCKY LINUX 9.7

us Справка

Полное имя kaznacheevSl

Имя пользователя kaznacheevsi

☒ Сделать этого пользователя администратором

☒ Требовать пароль для этой учетной записи

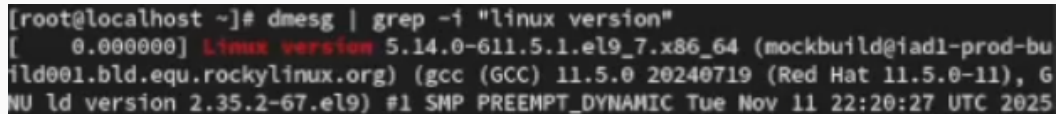
Пароль \*\*\*\* Слишком короткий

Подтвердите пароль \*\*\*\*

Дополнительно...

Рис. 7: 8

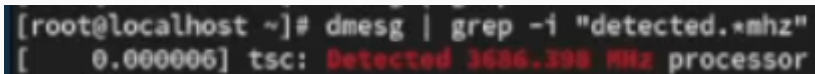
Теперь выполняем домашнее задание находим версию ядра

A terminal window showing the command 'dmesg | grep -i "linux version"' and its output. The output line is highlighted in red. The text in the terminal is: [root@localhost ~]# dmesg | grep -i "linux version"  
[ 0.000000] Linux version 5.14.0-611.5.1.el9\_7.x86\_64 (mockbuild@iad1-prod-build001.bld.equ.rockylinux.org) (gcc (GCC) 11.5.0 20240719 (Red Hat 11.5.0-11), GNU ld version 2.35.2-67.el9) #1 SMP PREEMPT\_DYNAMIC Tue Nov 11 22:20:27 UTC 2025  

```
[root@localhost ~]# dmesg | grep -i "linux version"
[ 0.000000] Linux version 5.14.0-611.5.1.el9_7.x86_64 (mockbuild@iad1-prod-build001.bld.equ.rockylinux.org) (gcc (GCC) 11.5.0 20240719 (Red Hat 11.5.0-11), GNU ld version 2.35.2-67.el9) #1 SMP PREEMPT_DYNAMIC Tue Nov 11 22:20:27 UTC 2025
```

Рис. 8: 9

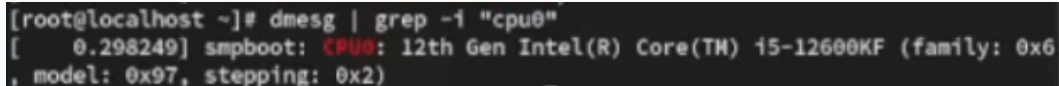
### 2) Частота процессора

A terminal window with a dark background. The prompt is [root@localhost ~]#. The command entered is dmesg | grep -i "detected.\*mhz". The output line is [ 0.000006] tsc: Detected 3686.398 MHz processor, where 'Detected' and 'MHz' are highlighted in red.

```
[root@localhost ~]# dmesg | grep -i "detected.*mhz"  
[ 0.000006] tsc: Detected 3686.398 MHz processor
```

Рис. 9: 10

### 3) Модель процессора

A terminal window with a black background and white text. The prompt is [root@localhost ~]#. The command entered is dmesg | grep -i "cpu0". The output shows a timestamp [ 0.298249] followed by smpboot: CPU0: 12th Gen Intel(R) Core(TM) i5-12600KF (family: 0x6, model: 0x97, stepping: 0x2). The word CPU0 is highlighted in red.

```
[root@localhost ~]# dmesg | grep -i "cpu0"
[ 0.298249] smpboot: CPU0: 12th Gen Intel(R) Core(TM) i5-12600KF (family: 0x6
, model: 0x97, stepping: 0x2)
```

Рис. 10: 11

## 4) Количество доступной памяти

```
[root@localhost ~]# dmesg | grep -i "memory"
[ 0.001279] ACPI: Reserving FACP table memory at [mem 0xdfff00f0-0xdfff01e3]
[ 0.001280] ACPI: Reserving DSDT table memory at [mem 0xdfff0650-0xdfff29a2]
[ 0.001281] ACPI: Reserving FACS table memory at [mem 0xdfff0200-0xdfff023f]
[ 0.001281] ACPI: Reserving FACS table memory at [mem 0xdfff0200-0xdfff023f]
[ 0.001281] ACPI: Reserving APIC table memory at [mem 0xdfff0240-0xdfff02db]
[ 0.001282] ACPI: Reserving SSDT table memory at [mem 0xdfff02e0-0xdfff064b]
[ 0.002071] Early memory node ranges
[ 0.011039] PM: hibernation: Registered nosave memory: [mem 0x00000000-0x00000fff]
[ 0.011040] PM: hibernation: Registered nosave memory: [mem 0x0009f000-0x0009ffff]
[ 0.011041] PM: hibernation: Registered nosave memory: [mem 0x000a0000-0x000effff]
[ 0.011041] PM: hibernation: Registered nosave memory: [mem 0x000f0000-0x000fffff]
[ 0.011042] PM: hibernation: Registered nosave memory: [mem 0xdfff0000-0xdfffffff]
[ 0.011042] PM: hibernation: Registered nosave memory: [mem 0xe0000000-0xfefbffff]
[ 0.011042] PM: hibernation: Registered nosave memory: [mem 0xfec00000-0xfec00fff]
[ 0.011043] PM: hibernation: Registered nosave memory: [mem 0xfec01000-0xfedfffff]
[ 0.011043] PM: hibernation: Registered nosave memory: [mem 0xfef00000-0xfef00fff]
[ 0.011043] PM: hibernation: Registered nosave memory: [mem 0xfef01000-0xfefbffff]
[ 0.011044] PM: hibernation: Registered nosave memory: [mem 0xffff0000-0xffffffff]
[ 0.194997] Freeing SMP alternatives memory: 40K
[ 1.731046] Memory: 15245816K/15975992K available (16384K kernel code, 5783K rdata, 13988K rodata, 4068K init, 7312K bss, 723264K reserved, 0K cma-reserved)
[ 1.742125] x86/mm: Memory block size: 128MB
[ 12.008761] Freeing initrd memory: 61204K
[ 12.100569] Non-volatile memory driver v1.3
[ 12.472205] Freeing unused decrypted memory: 2028K
[ 12.475760] Freeing unused kernel image (initmem) memory: 4068K
[ 12.484667] Freeing unused kernel image (rodata/data gap) memory: 348K
[ 18.920589] vmwgfx 0000:00:02.0: [drm] Legacy memory limits: VRAM = 131072 KiB, FIFO = 2048 KiB, surface = 393216 KiB
[ 18.920593] vmwgfx 0000:00:02.0: [drm] Maximum display memory size is 131072 KiB
[root@localhost ~]# dmesg | grep -i "available"
[ 0.002080] On node 0, zone DMA: 1 pages in unavailable ranges
[ 0.002130] On node 0, zone DMA: 97 pages in unavailable ranges
[ 0.009733] On node 0, zone Normal: 16 pages in unavailable ranges
[ 0.009764] On node 0, zone Normal: 3584 pages in unavailable ranges
[ 0.011044] [mem 0xe0000000-0xfefbffff] available for PCI devices
[ 1.731046] Memory: 15245816K/15975992K available (16384K kernel code, 5783K rdata, 13988K rodata, 4068K init, 7312K bss, 723264K reserved, 0K cma-reserved)
```

## 5) Найти гипервизор

```
[root@localhost ~]# dmesg | grep -i "memory"
[ 0.001279] ACPI: Reserving FACP table memory at [mem 0xdfff00f0-0xdfff01e3]
[ 0.001280] ACPI: Reserving DSDT table memory at [mem 0xdfff0650-0xdfff29a2]
[ 0.001281] ACPI: Reserving FACS table memory at [mem 0xdfff0200-0xdfff023f]
[ 0.001281] ACPI: Reserving FACS table memory at [mem 0xdfff0200-0xdfff023f]
[ 0.001281] ACPI: Reserving APIC table memory at [mem 0xdfff0240-0xdfff02db]
[ 0.001282] ACPI: Reserving SSDT table memory at [mem 0xdfff02e0-0xdfff064b]
[ 0.002071] Early memory node ranges
[ 0.011039] PM: hibernation: Registered nosave memory: [mem 0x00000000-0x00000fff]
[ 0.011040] PM: hibernation: Registered nosave memory: [mem 0x0009f000-0x0009ffff]
[ 0.011041] PM: hibernation: Registered nosave memory: [mem 0x000a0000-0x000effff]
[ 0.011041] PM: hibernation: Registered nosave memory: [mem 0x000f0000-0x000fffff]
[ 0.011042] PM: hibernation: Registered nosave memory: [mem 0xdfff0000-0xdfffffff]
[ 0.011042] PM: hibernation: Registered nosave memory: [mem 0xe0000000-0xfefbffff]
[ 0.011042] PM: hibernation: Registered nosave memory: [mem 0xfec00000-0xfec00fff]
[ 0.011043] PM: hibernation: Registered nosave memory: [mem 0xfec01000-0xfedfffff]
[ 0.011043] PM: hibernation: Registered nosave memory: [mem 0xfef00000-0xfef00fff]
[ 0.011043] PM: hibernation: Registered nosave memory: [mem 0xfef01000-0xfefbffff]
[ 0.011044] PM: hibernation: Registered nosave memory: [mem 0xffff0000-0xffffffff]
[ 0.194997] Freeing SMP alternatives memory: 40K
[ 1.731046] Memory: 15245816K/15975992K available (16384K kernel code, 5783K rdata, 13988K rodata, 4068K init, 7312K bss, 723264K reserved, 0K cma-reserved)
[ 1.742125] x86/mm: Memory block size: 128MB
[ 12.008761] Freeing initrd memory: 61204K
[ 12.100569] Non-volatile memory driver v1.3
[ 12.472205] Freeing unused decrypted memory: 2028K
[ 12.475760] Freeing unused kernel image (initmem) memory: 4068K
[ 12.484667] Freeing unused kernel image (rodata/data gap) memory: 348K
[ 18.920589] vmwgfx 0000:00:02.0: [drm] Legacy memory limits: VRAM = 131072 KiB, FIFO = 2048 KiB, surface = 393216 KiB
[ 18.920593] vmwgfx 0000:00:02.0: [drm] Maximum display memory size is 131072 KiB
[root@localhost ~]# dmesg | grep -i "available"
[ 0.002080] On node 0, zone DMA: 1 pages in unavailable ranges
[ 0.002130] On node 0, zone DMA: 97 pages in unavailable ranges
[ 0.009733] On node 0, zone Normal: 16 pages in unavailable ranges
[ 0.009764] On node 0, zone Normal: 3584 pages in unavailable ranges
[ 0.011044] [mem 0xe0000000-0xfefbffff] available for PCI devices
[ 1.731046] Memory: 15245816K/15975992K available (16384K kernel code, 5783K rdata, 13988K rodata, 4068K init, 7312K bss, 723264K reserved, 0K cma-reserved)
```



## Найти тип файловой системы корневого раздела

```
[root@localhost ~]# df -Th
```

Файловая система	Тип	Размер	Использовано	Дост	Использовано%	Смонтировано в
devtmpfs	devtmpfs	4,0M	0	4,0M	0%	/dev
tmpfs	tmpfs	7,4G	0	7,4G	0%	/dev/shm
tmpfs	tmpfs	3,0G	9,3M	3,0G	1%	/run
/dev/mapper/rl-root	xfs	17G	6,4G	11G	38%	/
/dev/sda1	xfs	960M	372M	589M	39%	/boot
tmpfs	tmpfs	1,5G	52K	1,5G	1%	/run/user/42
tmpfs	tmpfs	1,5G	132K	1,5G	1%	/run/user/1000
/dev/sr0	iso9660	53M	53M	0	100%	/run/media/kaznacheevsi/VBox_GAs_7.0.26

Рис. 13: 14

## Нати последовательность монтирования файловых систем

```
[root@localhost ~]# dmesg | grep -i "mount"
[  0.195041] Mount-cache hash table entries: 32768 (order: 6, 262144 bytes, linear)
[  0.195041] Mountpoint-cache hash table entries: 32768 (order: 6, 262144 bytes, linear)
[ 24.186777] XFS (dm-0): Mounting V5 Filesystem a2e5a515-d5be-4c06-a181-7bb7104e42a0
[ 24.202443] XFS (dm-0): Ending clean mount
[ 26.468533] systemd[1]: Set up automount Arbitrary Executable File Formats File System Automount Point.
[ 26.508090] systemd[1]: Mounting Huge Pages File System...
[ 26.509279] systemd[1]: Mounting POSIX Message Queue File System...
[ 26.510325] systemd[1]: Mounting Kernel Debug File System...
[ 26.511372] systemd[1]: Mounting Kernel Trace File System...
[ 26.865620] systemd[1]: Starting Remount Root and Kernel File Systems...
[ 33.509778] XFS (sda1): Mounting V5 Filesystem 86c3d694-ec20-41da-88da-f66a25779977
[ 33.522463] XFS (sda1): Ending clean mount
```

Рис. 14: 15

В результате выполнения лабораторной работы была установлена система Rocky.