Лабораторная работа №1

Установка и конфигурация операционной системы на виртуальную машину

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Информация

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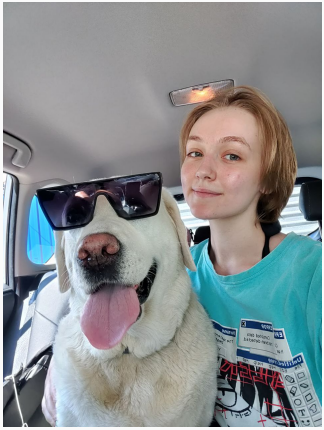


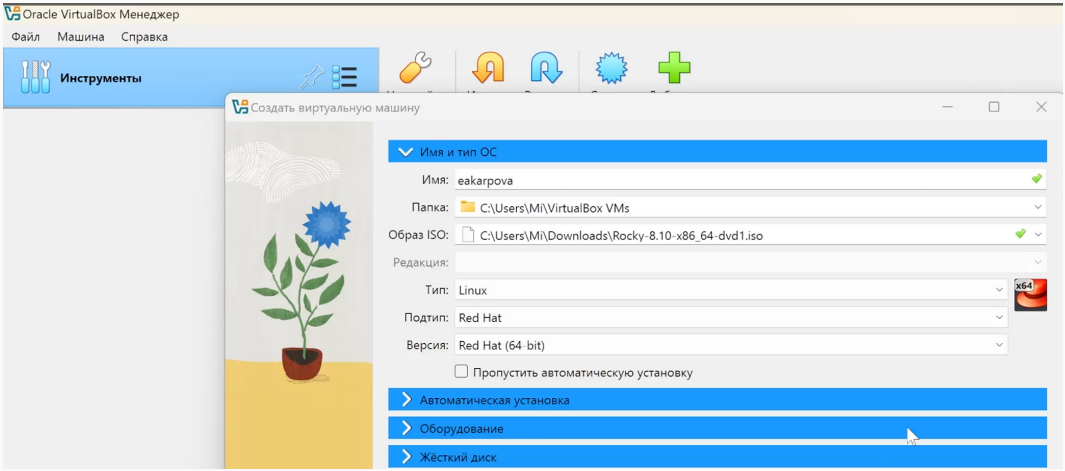
Вводная часть

Цели и задачи

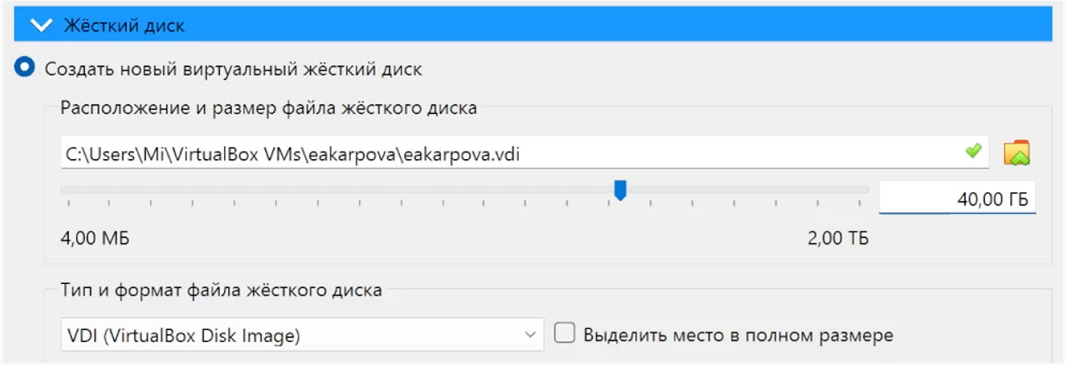
- Приобрести практические навыки установки операционной системы на ВМ
- Настройки минимально необходимых сервисов
- Выполнение домашней работы

Установка и настройка виртуальной машины

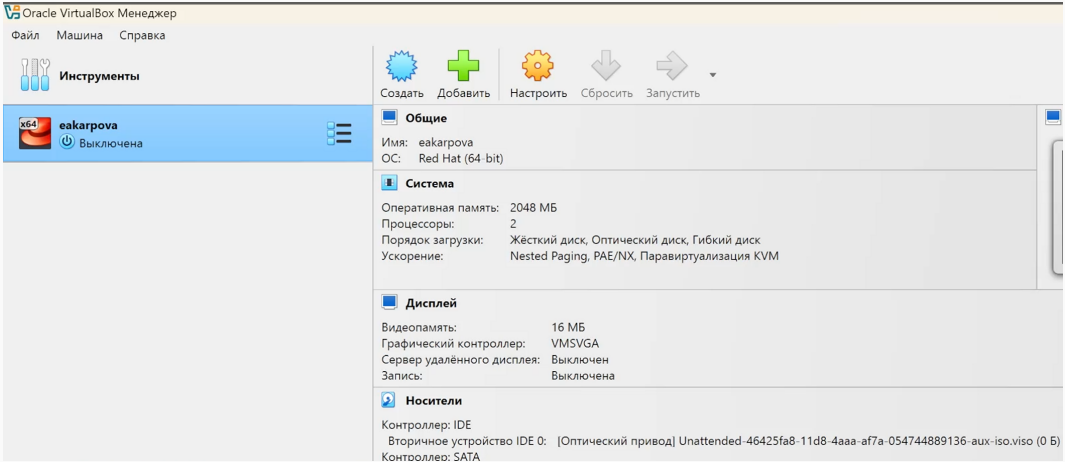
Создание виртуальной машины



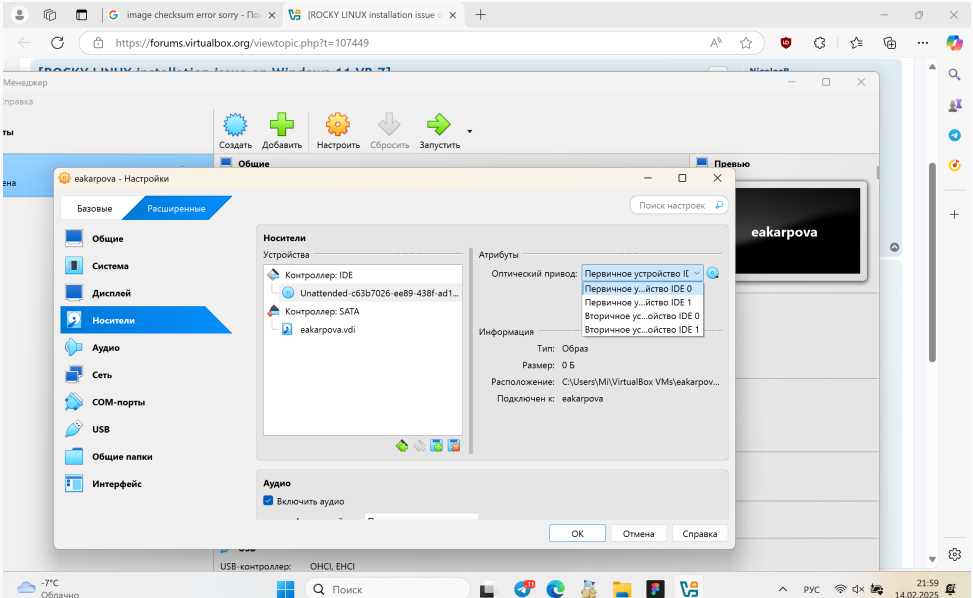
Задание настроек ВМ



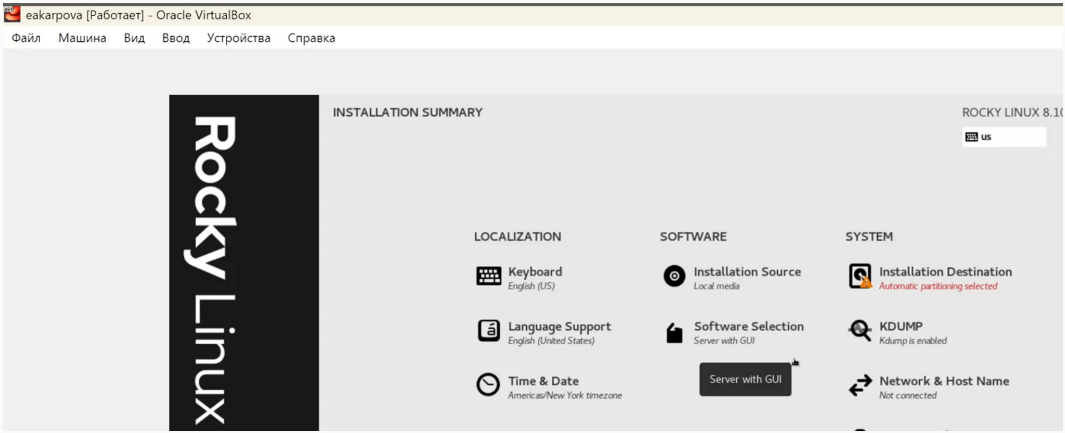
Окно с созданной ВМ



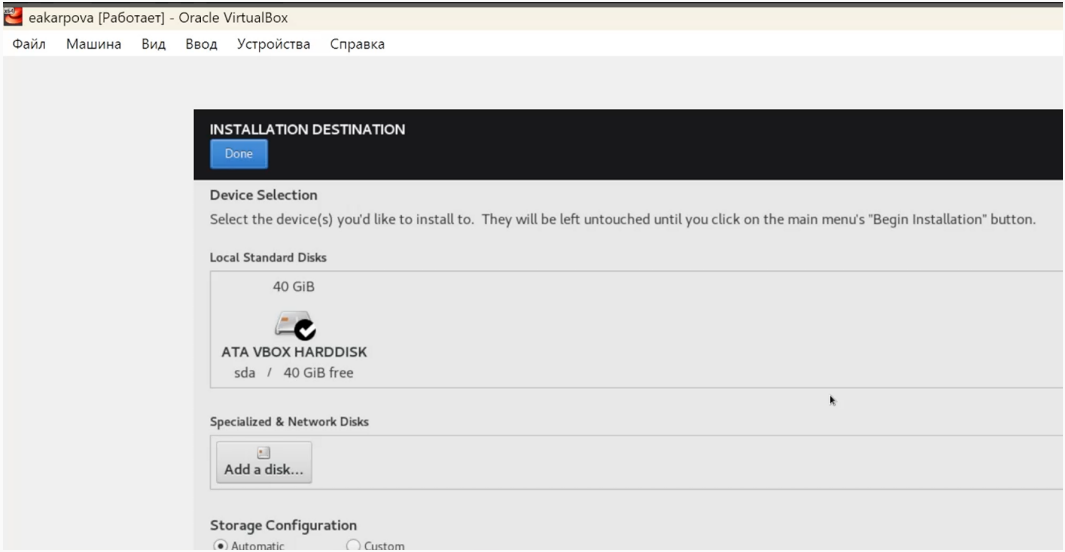
Добавление образа ОС



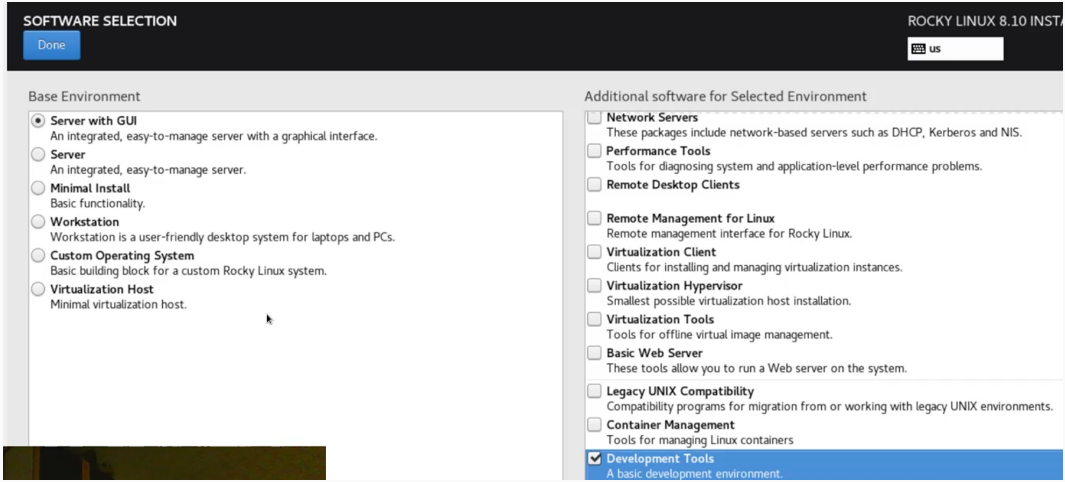
Окно настроек ОС



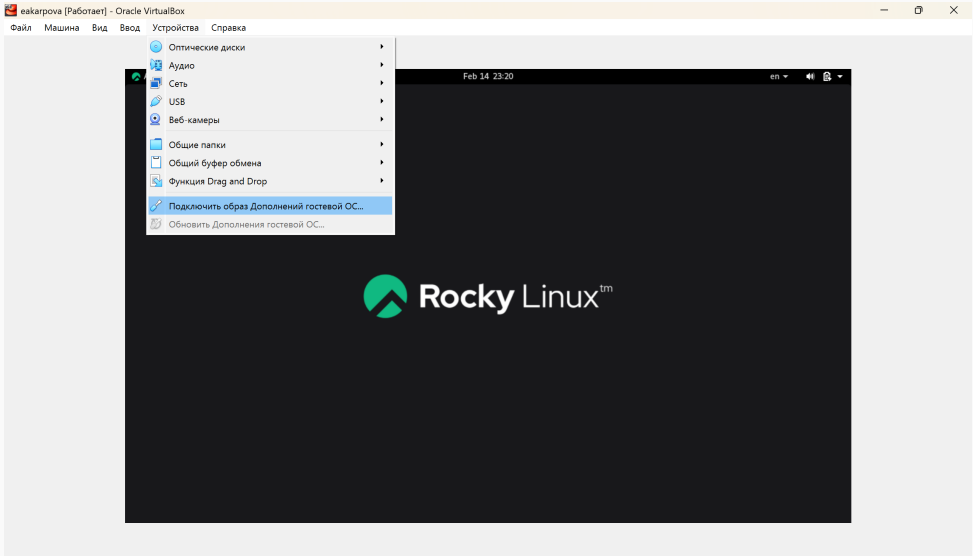
Место установки ОС]



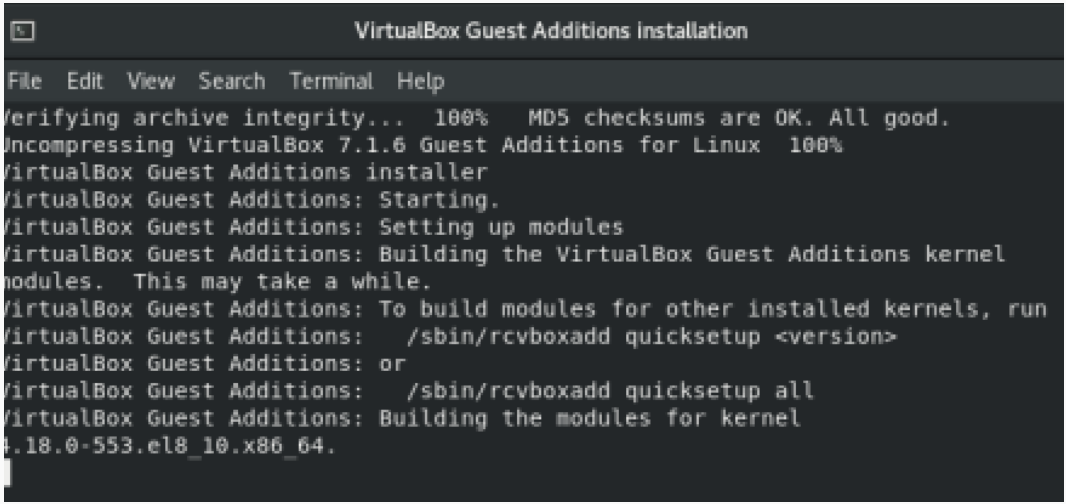
Выбор программ



Образ диска дополнений



Загрузка дополнений



Домашнее задание

Версия ядра Linux

```
[eakarpova@eakarpova ~]$ dmesg
[    0.000000] Linux version 4.18.0-553.el8_10.x86_64 (mockbuild@iad1-prod-build
001.bld.equ.rockylinux.org) (gcc version 8.5.0 20210514 (Red Hat 8.5.0-22) (GCC)
) #1 SMP Fri May 24 13:05:10 UTC 2024
[    0.000000] Command line: BOOT_IMAGE=(hd0,msdos1)/vmlinuz-4.18.0-553.el8_10.x
86_64 root=/dev/mapper/rl_eakarpova-root ro resume=/dev/mapper/rl_eakarpova-swap
 rd.lvm.lv=rl_eakarpova/root rd.lvm.lv=rl_eakarpova/swap rhgb quiet
[    0.000000] [Firmware Bug]: TSC doesn't count with P0 frequency!
[    0.000000] x86/fpu: x87 FPU will use FXSAVE
[    0.000000] signal: max sigframe size: 1440
[    0.000000] BIOS-provided physical RAM map:
[    0.000000] BIOS-e820: [mem 0x0000000000000000-0x000000000009fbff] usable
[    0.000000] BIOS-e820: [mem 0x000000000009fc00-0x000000000009ffff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000000f0000-0x00000000000fffff] reserved
[    0.000000] BIOS-e820: [mem 0x0000000000100000-0x00000007ffefffff] usable
[    0.000000] BIOS-e820: [mem 0x00000007fff0000-0x00000007ffffffff] ACPI data
[    0.000000] BIOS-e820: [mem 0x00000000fec00000-0x00000000fec00fff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000fee00000-0x00000000fee00fff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000fffc0000-0x00000000ffffffff] reserved
[    0.000000] NX (Execute Disable) protection: active
[    0.000000] SMBIOS 2.5 present.
[    0.000000] DMI: innotek GmbH VirtualBox/VirtualBox, BIOS VirtualBox 12/01/20
06
[    0.000000] Hypervisor detected: KVM
```

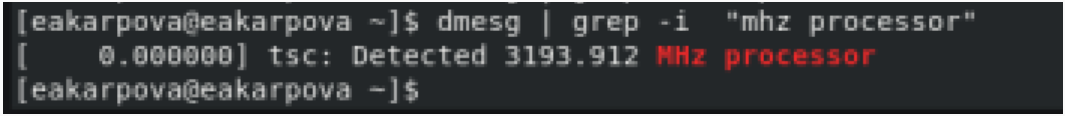


Рис. 2: dmesg | grep -i “mhz processor”

Модель процессора

```
[eakarpova@eakarpova ~]$ dmesg | grep -i  "cpu"
[    0.000000] CPU MTRRs all blank - virtualized system.
[    0.000000] ACPI: SSDT 0x000000007FFF02A0 00036C (v01 VBOX   VBOXCPUT 0000000
2 INTL 20100528)
[    0.000000] smpboot: Allowing 2 CPUs, 0 hotplug CPUs
[    0.000000] setup_percpu: NR_CPUS:8192 nr_cpumask_bits:2 nr_cpu_ids:2 nr_node
_ids:1
[    0.000000] percpu: Embedded 63 pages/cpu s221184 r8192 d28672 u1048576
[    0.000000] pcpu-alloc: s221184 r8192 d28672 u1048576 alloc=1*2097152
[    0.000000] pcpu-alloc: [0] 0 1
[    0.000000] SLUB: HWalign=64, Order=0-3, MinObjects=0, CPUs=2, Nodes=1
[    0.000000] rcu:     RCU restricting CPUs from NR_CPUS=8192 to nr_cpu_ids=2.
[    0.000000] rcu: Adjusting geometry for rcu_fanout_leaf=16, nr_cpu_ids=2
[    0.000000] random: crng done (trusting CPU's manufacturer)
[    0.125199] smpboot: CPU0: AMD Ryzen 7 6800H with Radeon Graphics (family: 0x
19, model: 0x44, stepping: 0x1)
[    0.127271] smp: Bringing up secondary CPUs ...
[    0.127830] .... node  #0, CPUs:      #1
[    0.131000] TSC synchronization [CPU#0 -> CPU#1]:
[    0.131000] Measured 93216 cycles TSC warp between CPUs, turning off TSC cloc
k.
[    0.131081] smp: Brought up 1 node, 2 CPUs
```

Объем ОП

```
[eakarpova@eakarpova ~]$ dmesg | grep -i  "memory"
[    0.000000] ACPI: Reserving FACP table memory at [mem 0x7fff00f0-0x7fff01e3]
[    0.000000] ACPI: Reserving DSDT table memory at [mem 0x7fff0610-0x7fff2962]
[    0.000000] ACPI: Reserving FACS table memory at [mem 0x7fff0200-0x7fff023f]
[    0.000000] ACPI: Reserving FACS table memory at [mem 0x7fff0200-0x7fff023f]
[    0.000000] ACPI: Reserving APIC table memory at [mem 0x7fff0240-0x7fff029b]
[    0.000000] ACPI: Reserving SSDT table memory at [mem 0x7fff02a0-0x7fff060b]
[    0.000000] Early memory node ranges
[    0.000000] PM: Registered nosave memory: [mem 0x00000000-0x00000fff]
[    0.000000] PM: Registered nosave memory: [mem 0x0009f000-0x0009ffff]
[    0.000000] PM: Registered nosave memory: [mem 0x000a0000-0x000effff]
[    0.000000] PM: Registered nosave memory: [mem 0x000f0000-0x000fffff]
[    0.000000] Memory: 261120K/2096696K available (14339K kernel code, 5957K rwd
ata, 8568K rodata, 2820K init, 13792K bss, 139744K reserved, 0K cma-reserved)
[    0.019754] Freeing SMP alternatives memory: 36K
[    0.135261] x86/mm: Memory block size: 128MB
[    0.816056] Freeing initrd memory: 52288K
[    0.920751] Non-volatile memory driver v1.3
[    1.203382] Freeing unused decrypted memory: 2028K
[    1.203773] Freeing unused kernel image (initmem) memory: 2820K
[    1.210361] Freeing unused kernel image (text/rodata gap) memory: 2016K
[    1.211018] Freeing unused kernel image (rodata/data gap) memory: 1672K
[    2.290133] vmwgfx 0000:00:02.0: [drm] Legacy memory limits: VRAM = 16384 kB,
 FIFO = 2048 kB, surface = 507904 kB
```

Тип файловой системы и гипервизора

```
[eakarpova@eakarpova ~]$ dmesg | grep -i  "hypervisor"
[    0.000000] Hypervisor detected: KVM
[    2.289801] vmwgfx 0000:00:02.0: [drm] *ERROR* vmwgfx seems to be running
an unsupported hypervisor.
[eakarpova@eakarpova ~]$ dmesg | grep -i  "filesystem"
[    3.636233] XFS (dm-0): Mounting V5 Filesystem
[    6.585021] XFS (sda1): Mounting V5 Filesystem
```

Результаты

В ходе лабораторной работы я приобрела практические навыки установки операционной системы на виртуальную машину, настройки минимально необходимых для дальнейшей работы сервисов