

# Установка и конфигурация операционной системы на виртуальную машину

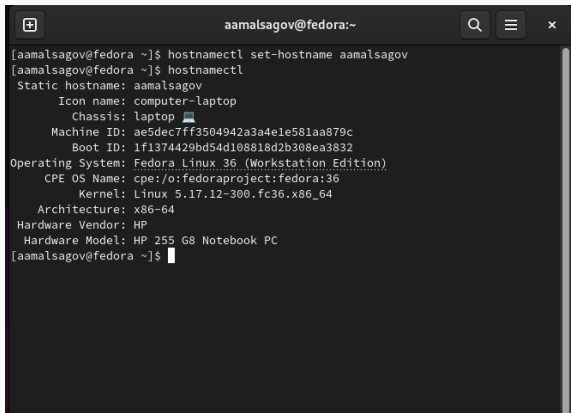
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Приобретение практических навыков установки операционной системы на виртуальную машину, настройки минимально необходимых для дальнейшей работы сервисов.

# Выполнение лабораторной работы

При установке виртуальной машины у меня возникли некоторые проблемы, которые я не смог решить. Поэтому я установил вторую операционную систему Fedora рядом с windows, указал имя пользователя и пароль при первом запуске без записи. Далее я указал имя хоста.(рис. 1)

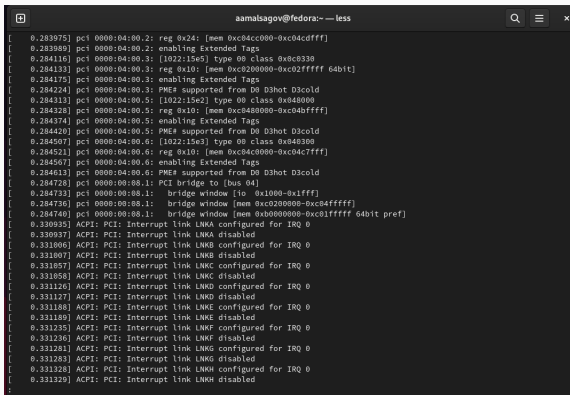
A terminal window titled 'aamalsagov@fedora:~' with search, menu, and close icons. It shows the command 'hostnamectl set-hostname aamalsagov' and its output, which lists system details like static hostname, icon, chassis, machine and boot IDs, operating system, CPE OS name, kernel, architecture, and hardware vendor/model.

```
[aamalsagov@fedora ~]$ hostnamectl set-hostname aamalsagov
[aamalsagov@fedora ~]$ hostnamectl
Static hostname: aamalsagov
Icon name: computer-laptop
Chassis: laptop
Machine ID: ae5dec7ff3504942a3a4e1e581aa879c
Boot ID: 1f1374429bd54d108818d2b308ea3832
Operating System: Fedora Linux 36 (Workstation Edition)
CPE OS Name: cpe:/o:fedoraproject:fedora:36
Kernel: Linux 5.17.12-300.fc36.x86_64
Architecture: x86-64
Hardware Vendor: HP
Hardware Model: HP 255 G8 Notebook PC
[aamalsagov@fedora ~]$
```

# Выполнение лабораторной работы

Домашнее задание:

1. В окне терминала проанализируйте последовательность загрузки системы.(рис. 2)



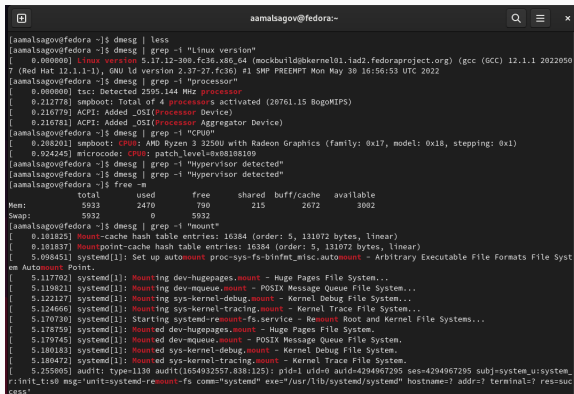
```
aamalsagov@fedora:~$ less
[ 0.283975] pci 0000:04:00.2: reg 0x24: [mem 0xc04cc000-0xc04cdfff]
[ 0.283989] pci 0000:04:00.2: enabling Extended Tags
[ 0.284116] pci 0000:04:00.3: [1022:15e5] type 00 class 0x8c8330
[ 0.284133] pci 0000:04:00.3: reg 0x10: [mem 0xc0200000-0xc02fffff 64bit]
[ 0.284178] pci 0000:04:00.3: enabling Extended Tags
[ 0.284224] pci 0000:04:00.3: PME# supported from D0 D3hot D3cold
[ 0.284313] pci 0000:04:00.5: [1022:15e2] type 00 class 0x848000
[ 0.284328] pci 0000:04:00.5: reg 0x10: [mem 0xc0480000-0xc04bffff]
[ 0.284374] pci 0000:04:00.5: enabling Extended Tags
[ 0.284420] pci 0000:04:00.5: PME# supported from D0 D3hot D3cold
[ 0.284507] pci 0000:04:00.6: [1022:15e3] type 00 class 0x848300
[ 0.284521] pci 0000:04:00.6: reg 0x10: [mem 0xc04c0000-0xc04c7fff]
[ 0.284567] pci 0000:04:00.6: enabling Extended Tags
[ 0.284613] pci 0000:04:00.6: PME# supported from D0 D3hot D3cold
[ 0.284728] pci 0000:00:08.1: PCI bridge to [bus 04]
[ 0.284733] pci 0000:00:08.1: bridge window [io 0x1000-0x1fff]
[ 0.284736] pci 0000:00:08.1: bridge window [mem 0xc0900000-0xc04ffffff]
[ 0.284740] pci 0000:00:08.1: bridge window [mem 0xb0000000-0xc01ffffff 64bit pref]
[ 0.330935] ACPI: PCI: Interrupt link LNKA configured for IRQ 0
[ 0.330937] ACPI: PCI: Interrupt link LNKA disabled
[ 0.331006] ACPI: PCI: Interrupt link LNKB configured for IRQ 0
[ 0.331007] ACPI: PCI: Interrupt link LNKB disabled
[ 0.331057] ACPI: PCI: Interrupt link LNKC configured for IRQ 0
[ 0.331058] ACPI: PCI: Interrupt link LNKC disabled
[ 0.331126] ACPI: PCI: Interrupt link LNKD configured for IRQ 0
[ 0.331127] ACPI: PCI: Interrupt link LNKD disabled
[ 0.331188] ACPI: PCI: Interrupt link LNKE configured for IRQ 0
[ 0.331189] ACPI: PCI: Interrupt link LNKE disabled
[ 0.331235] ACPI: PCI: Interrupt link LNKF configured for IRQ 0
[ 0.331236] ACPI: PCI: Interrupt link LNKF disabled
[ 0.331281] ACPI: PCI: Interrupt link LNKG configured for IRQ 0
[ 0.331283] ACPI: PCI: Interrupt link LNKG disabled
[ 0.331328] ACPI: PCI: Interrupt link LNKH configured for IRQ 0
[ 0.331329] ACPI: PCI: Interrupt link LNKH disabled
:
```

Figure 2: Последовательность загрузки системы

2. Получите следующую информацию.
  - 2.1 Версия ядра Linux (Linux version).
  - 2.2 Частота процессора (Detected Mhz processor).
  - 2.3 Модель процессора (CPU0).
  - 2.4 Объем доступной оперативной памяти (Memory available).
  - 2.5 Тип обнаруженного гипервизора (Hypervisor detected).
  - 2.6 Тип файловой системы корневого раздела.
  - 2.7 Последовательность монтирования файловых систем.

# Выполнение лабораторной работы

(рис. 3)



```
aamalsagov@fedora:~  
[aamalsagov@fedora ~]$ dmesg | less  
[aamalsagov@fedora ~]$ dmesg | grep -i "Linux version"  
[ 0.000000] Linux version 5.17.12-300.fc36.x86_64 (mockbuild@bkernel01.iad2.fedoraproject.org) (gcc (GCC) 12.1.1 20220507 (Red Hat 12.1.1-1), GNU ld version 2.37-27.fc36) #1 SMP PREEMPT Mon May 30 16:56:53 UTC 2022  
[aamalsagov@fedora ~]$ dmesg | grep -i "processor"  
[ 0.000000] tsc: Detected 2595.144 MHz processor  
[ 0.212778] smpboot: Total of 4 processors activated (26761.15 BogoMIPS)  
[ 0.216779] ACPI: Added _OSI(Processor Device)  
[ 0.216781] ACPI: Added _OSI(Processor Aggregator Device)  
[aamalsagov@fedora ~]$ dmesg | grep -i "CPU"  
[ 0.208201] smpboot: CPU0: AMD Ryzen 3 3200U with Radeon Graphics (family: 0x17, model: 0x18, stepping: 0x1)  
[ 0.024245] microcode: CPU0: patch_level=0x88108109  
[aamalsagov@fedora ~]$ dmesg | grep -i "Hypervisor detected"  
[aamalsagov@fedora ~]$ dmesg | grep -i "Hypervisor detected"  
[aamalsagov@fedora ~]$ free -m  
              total        used        free      shared  buff/cache   available  
Mem:           5933         2470         790         215         2672         3002  
Swap:           5932              0         5932  
[aamalsagov@fedora ~]$ dmesg | grep -i "mount"  
[ 0.181825] Mount-cache hash table entries: 16384 (order: 5, 131072 bytes, linear)  
[ 0.181837] Mountpoint-cache hash table entries: 16384 (order: 5, 131072 bytes, linear)  
[ 5.098451] systemd[1]: Set up automount proc-sys-fs-binfmt_misc.automount - Arbitrary Executable File Formats File System Automount Point.  
[ 5.117702] systemd[1]: Mounting dev-hugepages.mount - Huge Pages File System...  
[ 5.119821] systemd[1]: Mounting dev-mqueue.mount - POSIX Message Queue File System...  
[ 5.122127] systemd[1]: Mounting sys-kernel-debug.mount - Kernel Debug File System...  
[ 5.124666] systemd[1]: Mounting sys-kernel-tracing.mount - Kernel Trace File System...  
[ 5.170730] systemd[1]: Starting systemd-remount-fs.service - Remount Root and Kernel File Systems...  
[ 5.178759] systemd[1]: Mounted dev-hugepages.mount - Huge Pages File System.  
[ 5.179745] systemd[1]: Mounted dev-mqueue.mount - POSIX Message Queue File System.  
[ 5.180183] systemd[1]: Mounted sys-kernel-debug.mount - Kernel Debug File System.  
[ 5.180472] systemd[1]: Mounted sys-kernel-tracing.mount - Kernel Trace File System.  
[ 5.255005] audit: type=1130 audit(1654932557.838:125): pid=1 uid=0 auid=4294967295 ses=4294967295 subj=system_u:systemd:init_t:ts0 msg='unit=systemd-remount-fs comm="systemd" exe="/usr/lib/systemd/systemd" hostname=? addr=? terminal=? res=sucess'
```

Figure 3: Получение необходимой информации

Мы научились устанавливать вторую операционную систему.