

# Операционные системы

## Управление загрузкой системы

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# Section 1

## Цели и задачи работы

# Цель лабораторной работы

Получить навыки работы с загрузчиком системы GRUB2.

## Section 2

# Процесс выполнения лабораторной работы

# Получаем полномочия администратора

```
rodvish@vbox:~$ sudo -i  
[sudo] пароль для rodvish:  
root@vbox:~#
```

Рис. 1: root

В файле `/etc/default/grub` установили параметр отображения меню загрузки в течение 10 секунд



```
GNU nano 8.1 /etc/default/grub Изменен
GRUB_TIMEOUT=10
GRUB_DISTRIBUTOR="$(sed 's, release .*$,,g' /etc/system-release)"
GRUB_DEFAULT=saved
GRUB_DISABLE_SUBMENU=true
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=2G-64G:256M,64G-:512M resume=UUID=5cdb5928-1d5d-490b-aadf-d5555e732ca6 rd.lvm.lv=rl"
GRUB_DISABLE_RECOVERY="true"
GRUB_ENABLE_BLSCFG=true
```

Рис. 2: Параметр отображения меню загрузки

# Записали изменения в GRUB2, введя в командной строке

```
root@vbox:/etc/default# grub2-mkconfig > /boot/grub2/grub.cfg
Generating grub configuration file ...
Adding boot menu entry for UEFI Firmware Settings ...
done
root@vbox:/etc/default#
```

Рис. 3: GRUB2

# Просмотрели список всех файлов модулей, которые загружены в настоящее время

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
proc-sys-fs-binfmt_misc.automount	loaded	active	waiting	Arbitrary Executable File
sys-devices-pci0000:00-0000:00:01.1-ata2-host2-target2:0:0-2:0:0:0-block-sr0.device	loaded	active	plugged	VBOX_CD-ROM
sys-devices-pci0000:00-0000:00:03.0-net-enp0s3.device	loaded	active	plugged	82540EM Gigabit Ethernet
sys-devices-pci0000:00-0000:00:05.0-sound-card0-controlC0.device	loaded	active	plugged	/sys/devices/pci0000:00/00
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda1.device	loaded	active	plugged	VBOX_HARDDISK 1
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda-sda2.device	loaded	active	plugged	VBOX_HARDDISK 2
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda-sda3.device	loaded	active	plugged	VBOX_HARDDISK 3
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda.device	loaded	active	plugged	VBOX_HARDDISK
sys-devices-platform-serial8250-serial8250:0-serial8250:0.0-tty-ttyS0.device	loaded	active	plugged	/sys/devices/platform/ser
sys-devices-platform-serial8250-serial8250:0-serial8250:0.1-tty-ttyS1.device	loaded	active	plugged	/sys/devices/platform/ser
sys-devices-platform-serial8250-serial8250:0-serial8250:0.2-tty-ttyS2.device	loaded	active	plugged	/sys/devices/platform/ser
sys-devices-platform-serial8250-serial8250:0-serial8250:0.3-tty-ttyS3.device	loaded	active	plugged	/sys/devices/platform/ser
sys-devices-virtual-block-dm\x2d0.device	loaded	active	plugged	/sys/devices/virtual/bloc
sys-devices-virtual-block-dm\x2d1.device	loaded	active	plugged	/sys/devices/virtual/bloc
sys-devices-virtual-misc-rfkill.device	loaded	active	plugged	/sys/devices/virtual/misc
sys-module-configfs.device	loaded	active	plugged	/sys/module/configfs
sys-module-fuse.device	loaded	active	plugged	/sys/module/fuse
sys-subsystem-net-devices-enp0s3.device	loaded	active	plugged	82540EM Gigabit Ethernet
-.mount	loaded	active	mounted	Root Mount
boot.mount	loaded	active	mounted	/boot
dev-hugepages.mount	loaded	active	mounted	Huge Pages File System
dev-mqueue.mount	loaded	active	mounted	POSIX Message Queue File
run-user-1000-doc.mount	loaded	active	mounted	/run/user/1000/doc
run-user-1000-gvfs.mount	loaded	active	mounted	/run/user/1000/gvfs
run-user-1000.mount	loaded	active	mounted	/run/user/1000
sys-fs-fuse-connections.mount	loaded	active	mounted	FUSE Control File System
sys-kernel-config.mount	loaded	active	mounted	Kernel Configuration File
sys-kernel-debug.mount	loaded	active	mounted	Kernel Debug File System
sys-kernel-tracing.mount	loaded	active	mounted	Kernel Trace File System

lines 1-30

141 x 31

Рис. 4: Список файлов модулей



# Просмотрели задействованные переменные среды оболочки

```
rodvish@vbox:~$ systemctl show-environment
LANG=ru_RU.UTF-8
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin
XDG_DATA_DIRS=/var/lib/flatpak/exports/share:/usr/local/share:/usr/share/
rodvish@vbox:~$
```

Рис. 5: Среда оболочки

# Просмотрели список всех загруженных файлов модулей

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
proc-sys-fs-binfmt_misc.automount	loaded	active	waiting	Arbitrary Executable File Formats File System Automount
sys-devices-pci0000:00-0000:00:01.1-ata3-host2-target2:0:0-2:0:0:0-block-sr0.device	loaded	active	plugged	VBOX_CD-ROM
sys-devices-pci0000:00-0000:00:03.0-net-enp0s3.device	loaded	active	plugged	82540EM Gigabit Ethernet Controller (PRO/1000 MT Desk
sys-devices-pci0000:00-0000:00:05.0-sound-card0-controlC0.device	loaded	active	plugged	/sys/devices/pci0000:00/0000:00:05.0/sound/card0/contr
sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0:0-block-sda-sda1.device	loaded	active	plugged	VBOX_HARDDISK 1
sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0:0-block-sda-sda2.device	loaded	active	plugged	VBOX_HARDDISK 2
sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0:0-block-sda-sda3.device	loaded	active	plugged	VBOX_HARDDISK 3
sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0:0-block-sda-sda3.device	loaded	active	plugged	VBOX_HARDDISK
sys-devices-platform-serial8250-serial8250:0-serial8250:0.0-tty-ttyS0.device	loaded	active	plugged	/sys/devices/platform/serial8250/serial8250:0/serial82
sys-devices-platform-serial8250-serial8250:0-serial8250:0.1-tty-ttyS1.device	loaded	active	plugged	/sys/devices/platform/serial8250/serial8250:0/serial82
sys-devices-platform-serial8250-serial8250:0-serial8250:0.2-tty-ttyS2.device	loaded	active	plugged	/sys/devices/platform/serial8250/serial8250:0/serial82
sys-devices-platform-serial8250-serial8250:0-serial8250:0.3-tty-ttyS3.device	loaded	active	plugged	/sys/devices/platform/serial8250/serial8250:0/serial82
sys-devices-virtual-block-dn\x2d0.device	loaded	active	plugged	/sys/devices/virtual/block/dm-0
sys-devices-virtual-block-dn\x2d1.device	loaded	active	plugged	/sys/devices/virtual/block/dm-1
sys-devices-virtual-misc-rfkill.device	loaded	active	plugged	/sys/devices/virtual/misc/rfkill
sys-module-configfs.device	loaded	active	plugged	/sys/module/configfs
sys-module-fuse.device	loaded	active	plugged	/sys/module/fuse
sys-subsystem-net-devices-enp0s3.device	loaded	active	plugged	82540EM Gigabit Ethernet Controller (PRO/1000 MT Desk
-.mount	loaded	active	mounted	Root Mount
boot.mount	loaded	active	mounted	/boot
dev-hugepages.mount	loaded	active	mounted	Huge Pages File System
dev-mqueue.mount	loaded	active	mounted	POSIX Message Queue File System
run-user-1000-doc.mount	loaded	active	mounted	/run/user/1000/doc
run-user-1000-gvfs.mount	loaded	active	mounted	/run/user/1000/gvfs
run-user-1000.mount	loaded	active	mounted	/run/user/1000
sys-fs-fuse-connections.mount	loaded	active	mounted	FUSE Control File System
sys-kernel-config.mount	loaded	active	mounted	Kernel Configuration File System
sys-kernel-debug.mount	loaded	active	mounted	Kernel Debug File System
sys-kernel-tracing.mount	loaded	active	mounted	Kernel Trace File System
cups.path	loaded	active	running	CUPS Scheduler
systemd-ask-password-console.path	loaded	active	waiting	Dispatch Password Requests to Console Directory Watch
systemd-ask-password-wall.path	loaded	active	waiting	Forward Password Requests to Wall Directory Watch
init.scope	loaded	active	running	System and Service Manager

lines 1-34

170 x 35

Рис. 6: Список файлов модулей

```
rodvish@vbox:~$ systemctl reboot
```

Рис. 7: Перезагрузка

## Section 3

### Выводы по проделанной работе

Мы получили навыки работы с загрузчиком системы GRUB2.