

Операционные системы

Управление загрузкой системы

Вишняков Родион Сергеевич

Российский университет дружбы народов, Москва, Россия

22 ноября

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                                Именён
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/pci0000:00/0
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda-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-module-configfs.device	loaded	active	plugged	/sys/devices/virtual/misc
sys-module-fuse.device	loaded	active	plugged	/sys/module/configfs
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

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.autounmount	loaded	active	waiting	Arbitrary Executable File Formats File System Automounter
sys-devices-pci0000:00-0000:00:01.1-ata3-host2-target2:0-2:0:0:0-block-sr0.device	loaded	active	plugged	VBOX_CD-ROM
sys-devices-pci0000:00-0000:00:03.0-net-emp0s3.device	loaded	active	plugged	82540EM Gigabit Ethernet Controller (PRO/1000 MT Desktop)
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/controlC0
sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0-0:0:0-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-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-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-block-sda.device	loaded	active	plugged	VBOX_HARDDISK
sys-devices-platform-serial18250-serialB250:0-serialB250:0-ttyS0.device	loaded	active	plugged	/sys/devices/platform/serial18250/serialB250:0/serialB250:0/ttyS0
sys-devices-platform-serial18250-serialB250:0-serialB250:0.1-tty-ttyS1.device	loaded	active	plugged	/sys/devices/platform/serial18250/serialB250:0/serialB250:0.1/ttyS1
sys-devices-platform-serial18250-serialB250:0-serialB250:0.2-tty-ttyS2.device	loaded	active	plugged	/sys/devices/platform/serial18250/serialB250:0/serialB250:0.2/ttyS2
sys-devices-platform-serial18250-serialB250:0-serialB250:0.3-tty-ttyS3.device	loaded	active	plugged	/sys/devices/platform/serial18250/serialB250:0/serialB250:0.3/ttyS3
sys-devices-virtual-block-dm\x2d0.device	loaded	active	plugged	/sys/devices/virtual/block/dm-0
sys-devices-virtual-block-dm\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-emp0s3.device	loaded	active	plugged	82540EM Gigabit Ethernet Controller (PRO/1000 MT Desktop)
- .mount	loaded	active	mounted	Root Mount
boot.mount	loaded	active	mounted	/boot
dev-hugepages.mount	loaded	active	mounted	Huge Pages File System
dev-queue.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

170 x 35

Рис. 6: Список файлов модулей

Перезагрузили систему

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

Рис. 7: Перезагрузка

Section 3

Выводы по проделанной работе

Вывод

Мы получили навыки работы с загрузчиком системы GRUB2.