

## Отчет по лабораторной работе 11

## Управление загрузкой системы

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## Содержание

1. Цель работы.....	1
2. Задание .....	1
3. Выполнение лабораторной работы 11.....	1
4. Выводы .....	4
Список литературы.....	4

## 1. Цель работы

## Получить навыки работы с загрузчиком системы GRUB2.

## 2. Задание

Продemonстрировать навыки работы с изменением параметров GRUB и записи изменений в файл конфигурации, устранению неполадок при работе с GRUB, работы с GRUB без использования root.

### 3. Выполнение лабораторной работы 11.

Изменяем параметр в файле и сохраняем изменения в файл конфигурации.

```
[root@asvlasov ~]# gedit /etc/default/grub
```

```
(git:3024): dconf-WARNING **: 10:57:49.000: failed to commit changes (no)
```

```
(git:3024): dconf-WARNING **: 10:57:49.000: failed to commit changes (no)
```

```
(git:3024): dconf-WARNING **: 10:57:50.000: failed to commit changes (no)
```

```
1 GRUB_TIMEOUT=10
2 GRUB_DISTRIBUTOR=$(sed 's, release .*$, ' /etc/system-release)
3 GRUB_DEFAULT=saved
4 GRUB_DISABLE_SUBMENU=true
5 GRUB_TERMINAL_OUTPUT="console"
6 GRUB_CMDLINE_LINUX='resume=/dev/mapper/rl_vbox-swap rd.lvm=rl_vbox/root rd.lvm=rl_v
7 GRUB_DISABLE_RECOVERY="true"
8 GRUB_ENABLE_BLSCFG=true
```

### Изменение параметра

```
[root@asvlasov ~]# grub2-mkconfig > /boot/grub2/grub.cfg
Generating grub configuration file ...
Adding boot menu entry for UEFI Firmware Settings ...
done
[root@asvlasov ~]#
```

## Сохранение в файл конфигурации

Открываем меню GRUB для редактировани и задаем параметр rescue.target. Загружаем систему и видим режим восстановления.

```
[ OK ] Mounted FUSE Control File System.
[ OK ] Mounted Kernel Configuration File System.
[ OK ] Finished Monitoring of UPM sensors, snapshots etc. using dmccatd or progress polling.
[ 13.548677] systemd-journald[645]: Received client request to flush runtime journal.
[ OK ] Finished Load/Save OS Random Seed.
[ 13.572885] systemd-journald[645]: File /var/log/journal/632ddcdda5794c52a928423c9c31d8b/system_journal corrupted or uncleanly shut down, renaming and replacing.
[ OK ] Finished Coldplug All udev Devices.
[ OK ] Starting Wait for udev To Complete Device Initialization...
[ OK ] Finished Apply Kernel Variables.
[ OK ] Finished Flush Journal to Persistent Storage.
[ OK ] Finished Create Static Device Nodes in /dev.
[ OK ] Starting Rule-based Manager for Device Events and Files...
[ OK ] Started Rule-based Manager for Device Events and Files.
[ OK ] Starting Load Kernel Module configs...
[ OK ] Starting Load Kernel Module fuse.
[ OK ] Finished Load Kernel Module configs.
[ OK ] Finished Load Kernel Module fuse.
[ OK ] Started /usr/sbin/udevadm --autovivaction event r1_vbox.
[ OK ] Finished Wait for udev To Complete Device Initialization.
[ OK ] Reached target Preparation for Local File System.
[ OK ] Mounting /boot.
[ 15.980841] XFS (sda1): Mounting 05 filesystem de5dc8b6-61bd-4d7e-b385-b11c058288eb
[ 16.451861] XFS (sda1): Ending clean mount.
[ OK ] Mounted /boot.
[ OK ] Reached target Local File System.
[ OK ] Starting Tell Plymouth To Write Out Runtime Data...
[ OK ] Starting Automatic Boot Loader Update...
[ OK ] Starting Create Volatile Files and Directories...
[ OK ] Finished Tell Plymouth To Write Out Runtime Data.
[ OK ] Finished Automatic Boot Loader Update.
[ OK ] Finished Create Volatile Files and Directories.
[ OK ] Starting Record System Boot/Shutdown in UTMP...
[ OK ] Finished Record System Boot/Shutdown in UTMP.
[ OK ] Reached target System Initialization.
[ OK ] Starting Restore /usr/initramfs on shutdown...
[ OK ] Started Rescue Shell.
[ OK ] Reached target Rescue Mode.
[ OK ] Starting Record Rescue Change in UTMP...
[ OK ] Finished Record /usr/initramfs on shutdown.
[ OK ] Finished Record Rescue Change in UTMP.
You are in rescue mode. After logging in, type "journalctl -xb" to view
system logs, "systemctl reboot" to reboot, "systemctl default" or "exit"
to boot into default mode.
For troubleshooting rescue mode see:
man initramfs Control-9 and emergencyrescue(1).
```

Режим восстановления

Смотрим список всех файлов модулей и задействованные переменные среды оболочки

```
systemd-ask-password.plymouth.path loaded active waiting Plymouth pas
init.scope loaded active running System and
dracut-shutdown.service loaded active exited Restore /u
lvm2-monitor.service loaded active exited Monitoring
nis-domainname.service loaded active exited Read and se
plymouth-read-write.service loaded active exited Tell Plymou
plymouth-start.service loaded active exited Show Plymou
rescue.service loaded active running Rescue Shell
systemd-boot-update.service loaded active exited Automatic B
systemd-journal-flush.service loaded active exited Flush Journ
systemd-journald.service loaded active running Journal Ser
systemd-modules-load.service loaded failed failed Load Kernel
systemd-network-generator.service loaded active exited Generate ne
systemd-random-seed.service loaded active exited Load/Save G
systemd-remount-fs.service loaded active exited Remount Roc
systemd-sysctl.service loaded active exited Apply Kerne
systemd-tmpfiles-setup-dev.service loaded active exited Create Wola
systemd-tmpfiles-setup.service loaded active exited Create Wola
systemd-udev-settle.service loaded active exited Wait for ud
systemd-udev-trigger.service loaded active exited Coldplug All
systemd-udev.service loaded active running Rule-based
systemd-update-utmp.service loaded active exited Record Syst
[root@asvlasov ~]# systemctl show-environment
LANG=ru_RU.UTF-8
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin
[root@asvlasov ~]# _
```

Режим восстановления информация

Перезагружаем систему и ставим параметр emergency.target.

```
GRUB version 2.06

load_video
set gfxpayload=keep
insmod gzio
linux ($root)/vmlinuz-5.14.0-570.58.1.el9_6.x86_64 root=/dev/mapper/r1_vbox\
-root ro resume=/dev/mapper/r1_vbox-swap rd.lvm.lv=r1_vbox/root rd.lvm.lv=r\
l_vbox/swap crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M systemd.unit=emerg\
ency.target_
initrd ($root)/initramfs-5.14.0-570.58.1.el9_6.x86_64.img $tuned_initrd

Minimum Emacs-like screen editing is supported. TAB lists
completions. Press Ctrl-x or F10 to boot, Ctrl-c or F2 for
a command-line or ESC to discard edits and return to the GRUB menu.
```

Параметр загрузки

Вводим те же команды и видим, что загруженный файлов модулей меньше.

[illegible]

## Информация о запуске

## Меняем параметр запуска на rd.break

```
GRUB version 2.06

load_video
set gfxpayload=keep
insmod gzio
linux ($root)/vmlinuz-5.14.0-570.58.1.el9_6.x86_64 root=/dev/mapper/rl_vbox\
-root ro resume=/dev/mapper/rl_vbox-swap rd.lvm.lv=rl_vbox/root rd.lvm.lv=r\
l_vbox/swap crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M rd.break
initrd ($root)/initramfs-5.14.0-570.58.1.el9_6.x86_64.img $tuned_initrd
```

Minimum Emacs-like screen editing is supported. TAB lists completions. Press Ctrl-x or F10 to boot, Ctrl-c or F2 for a command-line or ESC to discard edits and return to the GRUB menu.

### Параметр загрузки

Получаем доступ к системному образу, создаем новый корневой каталог, меняем пароль root и включаем политику SELinux. Перезагружаем систему.

```

[OK] I finished File System Check on /dev/mapper/vg_rhel01_data-root...
      Mounting /sysroot...
8.2162913 SELinux with McAfee security attributes; scrub quota, no debug enabled
8.2162913 XFS (dm-0): Mounting VG Filesystem 4f4efba6-8c81-4d59-8325-415432bc3970
8.2363811 XFS (dm-0): Ending clean mount
[OK] I finished /sysroot
[OK] I Reached target Initrd Root File System.
      Starting Mountpoints Configured in the Real Root...
[OK] I Finished Mountpoints Configured in the Real Root.
[OK] I Reached target Initrd File Systems.
[OK] I Reached target Initrd Default Target.
      Starting dracut pre-plot and cleanup hook...
8.0580423 dracut-pre-plot[562]: Warning: Break before switch_root
      Starting Dracut Emergency Shell...

generating "/run/initramfs/rdsosreport.txt".

Entering emergency mode. Exit the shell to continue.
Type "journalctl" to view system logs.
You might want to save "/run/initramfs/rdsosreport.txt" to a USB stick or /boot
after mounting them and attach it to a bug report.

switch_root# cd mount && remount,rw /sysroot
switch_root# chroot /sysroot
ch-5.14 passwd
Парольное имя пользователя root.
Новый пароль:
Подтвердите Пароль: Пароль должен содержать не менее 8 символов
Введите имя нового пароля:
Различия авторизационных данных обновлены.
ch-5.14 load_policy -t -l
128-2698831 audit: type=1404 audit(1763227536.882:2): enforcing=1 old_enforcing=0 auid=4294967295 ses=4294967295 enabled=1 old-enabled=1 ism=linux-res-1
128-3746983 SELinux: policy capability network_peer_controls=1
128-3753483 SELinux: policy capability open_perms=1
128-3757293 SELinux: policy capability extended_socket_class=1
128-3760831 SELinux: policy capability always_check_network=0
128-3763523 SELinux: policy capability group_scheduling=1
128-3766173 SELinux: policy capability mpm_noid_transition=1
128-3768323 SELinux: policy capability gfs2_selabel_operations=1
128-4290881 audit: type=1403 audit(1763227536.185:3): auid=4294967295 ses=4294967295 ism=linux-res-1
ch-5.14 cmod -t shadow_1/etc/shadow
ch-5.14 reboot -t
```

## Смена root пароля

## 4. Выводы

Мы научились работать с загрузчиком системы GRUB2.

## Список литературы