

# Отчёт о лабораторной работе

## Лабораторная работа 2

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### Содержание

#### 1. Цель работы

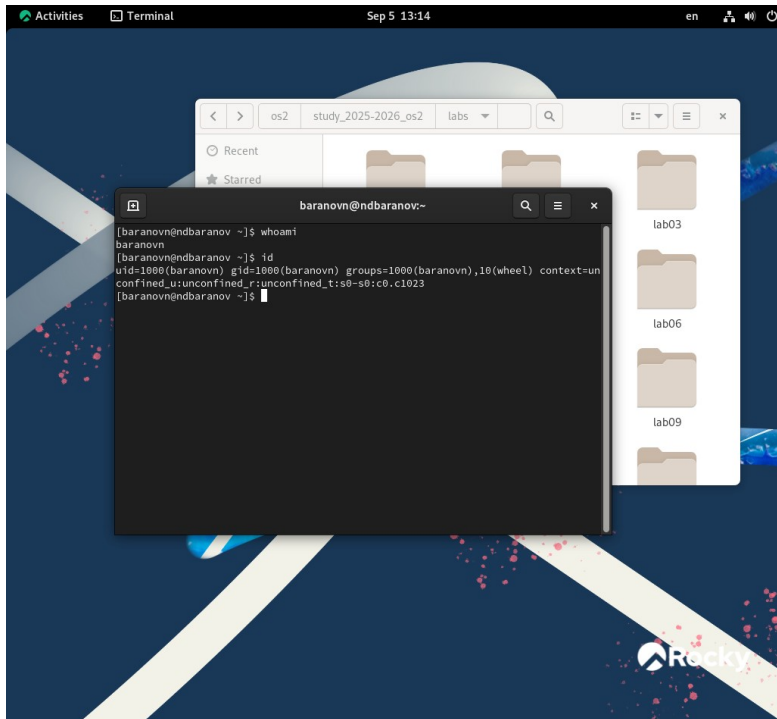
Получить представление о работе с учётными записями пользователей и группами пользователей в операционной системе типа Linux.

#### 2. Задание

Выполнить задания, прописанные в файле.

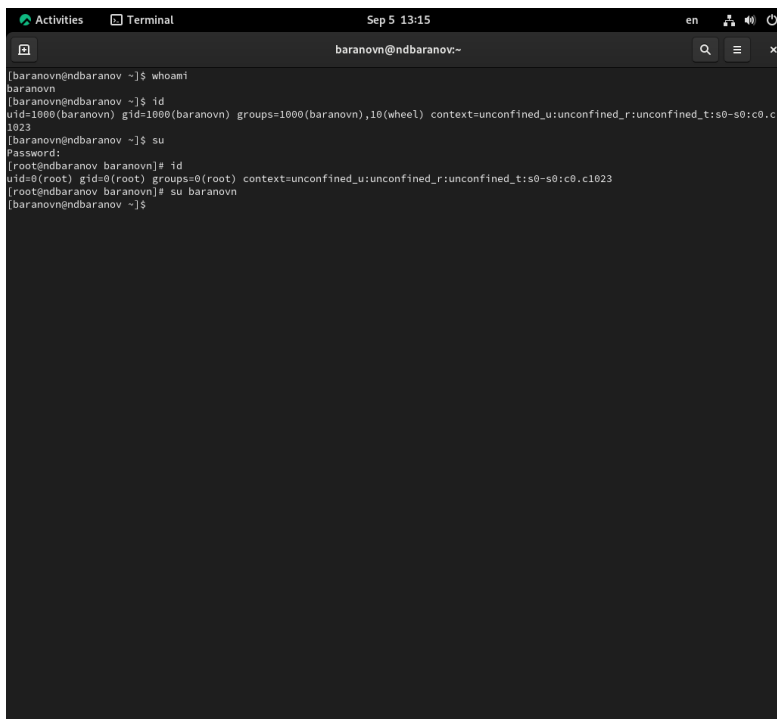
#### 3. Выполнение лабораторной работы

Определяем учетную запись и подробную информацию: пользователь - baranovn, основная группа - baranovn, член группы wheel, процессы пользователя не ограничены политиками SELinux (рис. [fig:001?]).



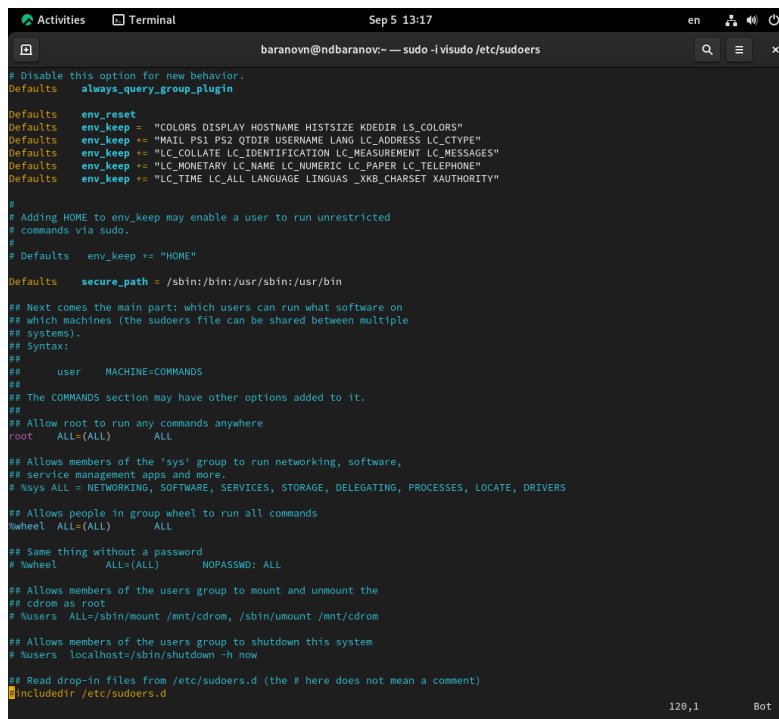
*who am i, id*

Переключаемся на суперюзера, получаем инфу: пользователь - root, член всех необходимых групп, те же настройки безопасности, что и у обычного пользователя, но с неограниченными правами (рис. [fig:002?]).



*su + id*

Просматриваем в безопасном режиме файл `/etc/sudoers`, используем `visudo`, потому что она обеспечивает безопасность и предотвращает ошибки (рис. [fig:003?]).



```
baranovm@ndbaranov:~ — sudo -i visudo /etc/sudoers
# Disable this option for new behavior.
Defaults    always_query_group_plugin

Defaults    env_reset
Defaults    env_keep += "COLORS DISPLAY HOSTNAME HISTSIZE KDEDIR LS_COLORS"
Defaults    env_keep += "MAIL PS1 PS2 QTDIR USERNAME LANG LC_ADDRESS LC_CTYPE"
Defaults    env_keep += "LC_COLLATE LC_IDENTIFICATION LC_MEASUREMENT LC_MESSAGES"
Defaults    env_keep += "LC_MONETARY LC_NAME LC_NUMERIC LC_PAPER LC_TELEPHONE"
Defaults    env_keep += "LC_TIME LC_ALL LANGUAGE LINGUAS _XKB_CHARSET XAUTHORITY"

# Adding HOME to env_keep may enable a user to run unrestricted
# commands via sudo.
# Defaults    env_keep += "HOME"
Defaults    secure_path = /sbin:/bin:/usr/sbin:/usr/bin

## Next comes the main part: which users can run what software on
## which machines (the sudoers file can be shared between multiple
## systems).
## Syntax:
##
##    user    MACHINE=COMMANDS
##
## The COMMANDS section may have other options added to it.
##
## Allow root to run any commands anywhere
root    ALL=(ALL)    ALL

## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
#sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING, PROCESSES, LOCATE, DRIVERS

## Allows people in group wheel to run all commands
wheel   ALL=(ALL)    ALL

## Same thing without a password
#wheel  ALL=(ALL)    NOPASSWD: ALL

## Allows members of the users group to mount and unmount the
## cdrom as root
#users  ALL=/sbin/mount /mnt/cdrom, /sbin/umount /mnt/cdrom

## Allows members of the users group to shutdown this system
#users  localhost:/sbin/shutdown -h now

## Read drop-in files from /etc/sudoers.d (the # here does not mean a comment)
#include_dir /etc/sudoers.d

120,1 Bot
```

## Просмотр файла

Убеждаемся, что в открытом с помощью `visudo` файле присутствует строка: группа `wheel` предоставляет всем своим участникам полные права суперпользователя через `sudo`, что позволяет безопасно делегировать административные привилегии (рис. [fig:004?]).

```
Activities Terminal Sep 5 13:18 en
baranov@ndbaranov:~$ sudo -i visudo /etc/sudoers
# Disable this option for new behavior.
Defaults    always_query_group_plugin

Defaults    env_reset
Defaults    env_keep = "COLORS DISPLAY HOSTNAME HISTSIZE KDEDIR LS_COLORS"
Defaults    env_keep += "MAIL PS1 PS2 QTDIR USERNAME LANG LC_ADDRESS LC_CTYPE"
Defaults    env_keep += "LC_COLLATE LC_IDENTIFICATION LC_MEASUREMENT LC_MESSAGES"
Defaults    env_keep += "LC_MONETARY LC_NAME LC_NUMERIC LC_PAPER LC_TELEPHONE"
Defaults    env_keep += "LC_TIME LC_ALL LANGUAGE LINGUAS _XKB_CHARSET XAUTHORITY"

#
# Adding HOME to env_keep may enable a user to run unrestricted
# commands via sudo.
#
# Defaults    env_keep += "HOME"

Defaults    secure_path = /sbin:/bin:/usr/sbin:/usr/bin

## Next comes the main part: which users can run what software on
## which machines (the sudoers file can be shared between multiple
## systems).
## Syntax:
##
##    user    MACHINE=COMMANDS
##
## The COMMANDS section may have other options added to it.
##
## Allow root to run any commands anywhere
root    ALL=(ALL)    ALL

## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
# %sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING, PROCESSES, LOCATE, DRIVERS

## Allows people in group wheel to run all commands
%wheel  ALL=(ALL)    ALL

## Same thing without a password
# %wheel    ALL=(ALL)    NOPASSWD: ALL

## Allows members of the users group to mount and unmount the
## cdrom as root
# %users    ALL=/sbin/mount /mnt/cdrom, /sbin/umount /mnt/cdrom

## Allows members of the users group to shutdown this system
# %users    localhost:/sbin/shutdown -h now

## Read drop-in files from /etc/sudoers.d (the # here does not mean a comment)
#include /etc/sudoers.d

-- INSERT --
```

ищем wheel ALL=(ALL) ALL

Создаём пользователя alice (рис. [fig:005?]).

```
Activities Terminal Sep 5 13:20 en
baranov@ndbaranov:~$ sudo -i
[baranov@ndbaranov ~]$ sudo -i EDITOR=mcedit visudo /etc/sudoers
[sudo] password for baranov:
visudo: specified editor (mcedit) doesn't exist
[baranov@ndbaranov ~]$ sudo -i useradd -G wheel alice
[baranov@ndbaranov ~]$ id alice
uid=1002(alice) gid=1002(alice) groups=1002(alice),10(wheel)
[baranov@ndbaranov ~]$
```

useradd + id

Задаём пароль для alice (рис. [fig:006?]).

```
Activities Terminal Sep 5 13:21 en
[baranov@ndbaranov ~]$ sudo -i EDITOR=mcedit visudo /etc/sudoers
[sudo] password for baranov:
visudo: specified editor (mcedit) doesn't exist
[baranov@ndbaranov ~]$ sudo -i useradd -G wheel alice
[baranov@ndbaranov ~]$ id alice
uid=1002(alice) gid=1002(alice) groups=1002(alice),10(wheel)
[baranov@ndbaranov ~]$ sudo -i passwd alice
Changing password for user alice.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
[baranov@ndbaranov ~]$ sudo -i passwd alice
Changing password for user alice.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[baranov@ndbaranov ~]$
```

*passwd*

Переключаемся на alice (рис. [fig:007?]).

```
Activities Terminal Sep 5 13:21 en
alice@ndbaranov:/home/baranov
[baranov@ndbaranov ~]$ sudo -i EDITOR=mcedit visudo /etc/sudoers
[sudo] password for baranov:
visudo: specified editor (mcedit) doesn't exist
[baranov@ndbaranov ~]$ sudo -i useradd -G wheel alice
[baranov@ndbaranov ~]$ id alice
uid=1002(alice) gid=1002(alice) groups=1002(alice),10(wheel)
[baranov@ndbaranov ~]$ sudo -i passwd alice
Changing password for user alice.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
[baranov@ndbaranov ~]$ sudo -i passwd alice
Changing password for user alice.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[baranov@ndbaranov ~]$ su alice
Password:
[alice@ndbaranov baranov]$
```

*su alice*

Создаём пользователя bob, получаем информацию (рис. [fig:008?]).

```
Activities Terminal Sep 5 13:22 en
alice@ndbaranov:/home/baranov

[baranov@ndbaranov ~]$ sudo -i EDITOR=mcedit visudo /etc/sudoers
[sudo] password for baranov:
visudo: specified editor (mcedit) doesn't exist
[baranov@ndbaranov ~]$ sudo -i useradd -G wheel alice
[baranov@ndbaranov ~]$ id alice
uid=1002(alice) gid=1002(alice) groups=1002(alice),10(wheel)
[baranov@ndbaranov ~]$ sudo -i passwd alice
Changing password for user alice.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
[baranov@ndbaranov ~]$ sudo -i passwd alice
Changing password for user alice.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[baranov@ndbaranov ~]$ su alice
Password:
[alice@ndbaranov baranov]$ sudo useradd bob

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.

[sudo] password for alice:
[alice@ndbaranov baranov]$ id bob
uid=1003(bob) gid=1003(bob) groups=1003(bob)
[alice@ndbaranov baranov]$
```

*useradd + id*

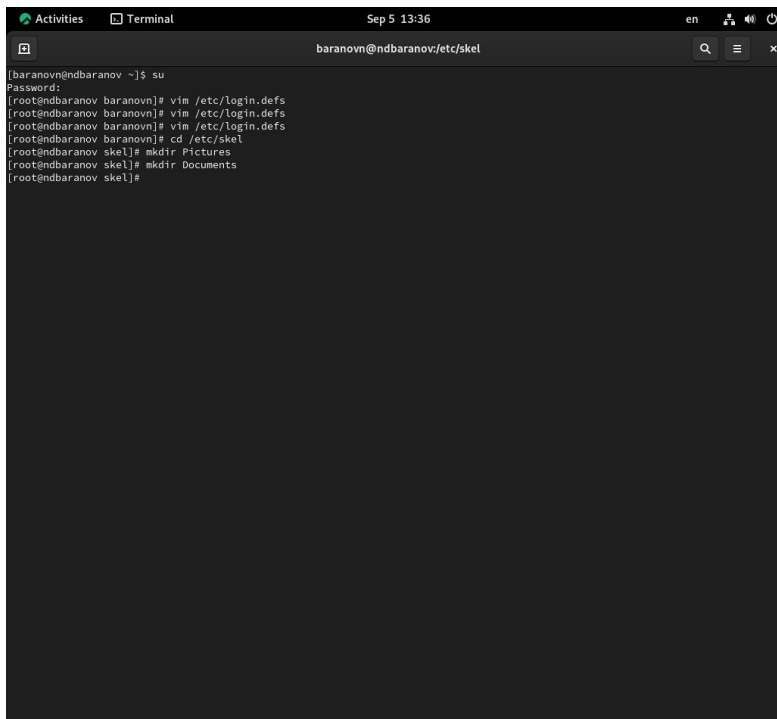
Открываем файл конфигурации /etc/login.defs для редактирования, находим параметры и изменяем (рис. [fig:009?]).

```
Activities Terminal Sep 5 13:23 en
baranov@ndbaranov:/home/baranov — vim /etc/login.defs

# Please note that the parameters in this configuration file control the
# behavior of the tools from the shadow-utils component. None of these
# tools uses the PAM mechanism, and the utilities that use PAM (such as the
# passwd command) should therefore be configured elsewhere. Refer to
# /etc/pam.d/system-auth for more information.
#
#
# Delay in seconds before being allowed another attempt after a login failure
# Note: When PAM is used, some modules may enforce a minimum delay (e.g.
#       pam_unix(8) enforces a 2s delay)
#FAIL_DELAY          3
#
# Currently FAILLOG_ENAB is not supported
#
# Enable display of unknown usernames when login(1) failures are recorded.
#LOG_UNKFAIL_ENAB    no
#
# Currently LOG_OK_LOGINS is not supported
#
# Currently LASTLOG_ENAB is not supported
#
# Limit the highest user ID number for which the lastlog entries should
# be updated.
#
# No LASTLOG_UID_MAX means that there is no user ID limit for writing
# lastlog entries.
#LASTLOG_UID_MAX
#
# Currently MAIL_CHECK_ENAB is not supported
#
# Currently OBSCURE_CHECKS_ENAB is not supported
#
# Currently PORTTIME_CHECKS_ENAB is not supported
#
# Currently QUOTAS_ENAB is not supported
#
# Currently SYSLOG_SU_ENAB is not supported
#
# Enable "syslog" logging of newgrp(1) and sg(1) activity.
#SYSLOG_SG_ENAB      yes
"/etc/login.defs" 278L, 7779B
1,1 Top
```

*vim /etc/login.defs*

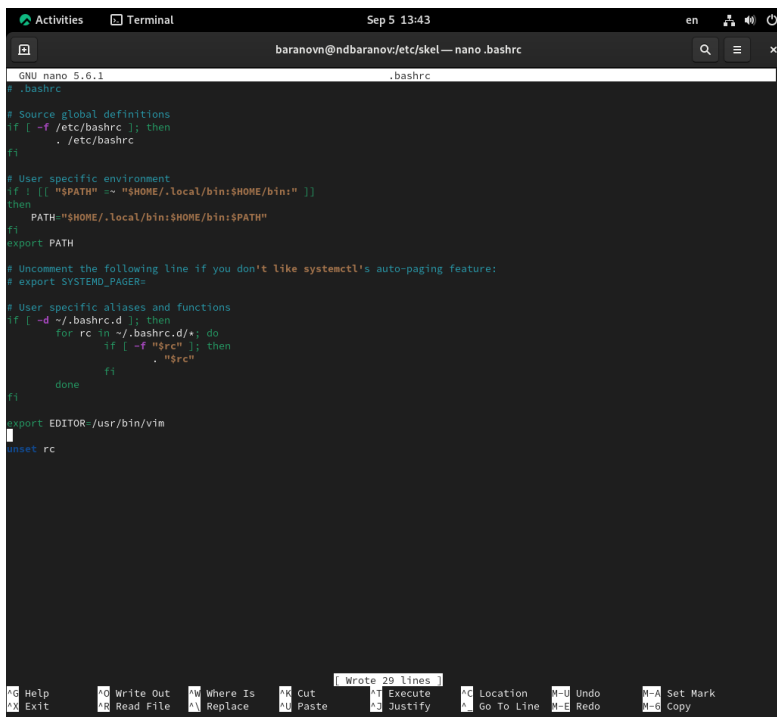
Переходим в каталог и создаём папки (рис. [fig:010?]).



```
[baranov@ndbaranov ~]$ su
Password:
[root@ndbaranov baranov]# vim /etc/login.defs
[root@ndbaranov baranov]# vim /etc/login.defs
[root@ndbaranov baranov]# cd /etc/skel
[root@ndbaranov skel]# mkdir Pictures
[root@ndbaranov skel]# mkdir Documents
[root@ndbaranov skel]#
```

`cd + mkdir`

Изменяем содержимое файла `.bashrc` с помощью nano (рис. [fig:012?]).



```
GNU nano 5.6.1 .bashrc
# .bashrc

# Source global definitions
if [ -f /etc/bashrc ]; then
    . /etc/bashrc
fi

# User specific environment
if [ [ "$PATH" =~ "$HOME/.local/bin:$HOME/bin:" ] ]
then
    PATH="$HOME/.local/bin:$HOME/bin:$PATH"
fi
export PATH

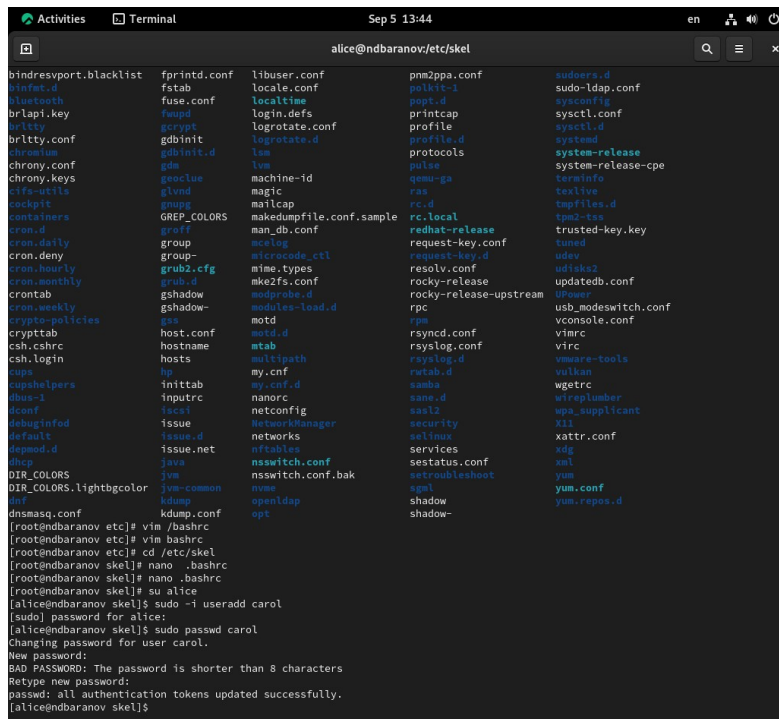
# Uncomment the following line if you don't like systemctl's auto-paging feature:
# export SYSTEMD_PAGER=

# User specific aliases and functions
if [ -d ~/.bashrc.d ]; then
    for rc in ~/.bashrc.d/*; do
        if [ -f "$rc" ]; then
            . "$rc"
        fi
    done
fi

export EDITOR=/usr/bin/vim
unset rc
```

`bashrc`

Создаём пользователя carol, задаём пароль (рис. [fig:013?]).



```
alice@ndbaranov/etc/skel
bindresvport.blacklist  fprintd.conf  libuser.conf  pnm2ppa.conf  sudoers.d
binfmt.d               fstab          localtime    polkit-1      sudo-ldap.conf
bluetooth              fuse.conf     localtime    polkit-1      sysconfig
brlapi.key             fwupd         login.defs   printcap     sysctl.conf
brltty                 gcrpypt       logrotate.conf  profile      sysctl.d
brltty.conf            gdbinit       logrotate.d   protocols    systemd
brltty.d               gdm           lvm          pulso        system-release
chrony.conf            geoclue       machine-id   qemu-ga     system-release-cpe
chrony.keys            glvnd         magic        ras         terminfo
cifs-utils             gnuPG         mailcap      ras         texlive
cockpit                GREP_COLORS  makedumpfile.conf.sample  rc.local    tftp-tss
containers             groff         man_db.conf  redhat-release  trusted-key.key
cron.d                 group        mcelog       request-key.conf  tuned
cron.daily             group-       microcode_ctl  request-key.d  udev
cron.hourly            grub2.cfg    mime.types   resolv.conf   udiskit
cron.monthly           grub2.d      mk2fs.conf   rocky-release  updatedb.conf
crontab                gshadow      modprobe.d   rocky-release-upstream  upower
cron.weekly            gshadow-     modules-load.d  rpc          usb_modeswitch.conf
crypto-policies        gss          motd         rsyncd.conf   vconsole.conf
crypttab              host.conf    motd.d       rsyslog.conf  vmirc
csh.vshrc              hostname     mtab         rsyslog.conf  vmirc
csh.login              hosts        multipath    rsyncd.conf   vmware-tools
cups                  hp           my.cnf       rsyncd.conf   vulkan
cupsfilters            inittab      my.cnf.d     samba         wgetrc
dbus-1                 inputrc      nanorc       sane.d        wireplumber
dbus                    iscsi        netconfig    selinux       wpa_supplicant
debuginfod             issue        networkmanager  security      x11
default               issue.d      nftables     selinux       xattr.conf
depmoud.d              issue.net    nftables     services      xdg
dhcp                  java         nsswitch.conf  sestatus.conf  xml
DIR_COLORS             jvm         nsswitch.conf.bak  setroubleshoot  yum
DIR_COLORS.lightbgcolor  jvm-common  nss          sel          yum.conf
dnf                    kdump        openldap     shadow        yum-repos.d
dnsmasq.conf           kdump.conf  opt          shadow-
```

```
[root@ndbaranov etc]# vim /bashrc
[root@ndbaranov etc]# vim bashrc
[root@ndbaranov etc]# cd /etc/skel
[root@ndbaranov skel]# nano .bashrc
[root@ndbaranov skel]# nano .bashrc
[root@ndbaranov skel]# su alice
[alice@ndbaranov skel]$ sudo -i useradd carol
[sudo] password for alice:
[alice@ndbaranov skel]$ sudo passwd carol
Changing password for user carol.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@ndbaranov skel]$
```

*useradd + passwd*

Смотрим информацию о carol, убеждаемся, что каталоги Pictures и Documents были созданы (рис. [fig:014?]).



```
Activities Terminal Sep 5 13:45 en
carol@ndbaranov:~
cron.daily group wcelog request-key.conf tuned
cron.deny group- wicd.conf request-key.d udev
cron.hourly grub2.cfg mime.types resolv.conf udisks2
cron.monthly grub.d mke2fs.conf rocky-release updatedb.conf
crontab gshadow modprobe.d rpm rocky-release-upstream UPower
cron.weekly gshadow- modules-load.d rpc usb_modeswitch.conf
csh.cshrc host.conf motd rsyslogd.conf vconsole.conf
csh.login hostname mtab rsyslogd.conf vmirc
cups hp multipath rsyslogd vmware-tools
cups-helpers inittab my.cnf rwtab.d vulkan
dbus-1 inputrc nanorc sane.d wgetrc
dcronf iacsi netconfig sasl2 wireplumber
debuginfo issue NetworkManager security xattr.conf
default issue.d networks selinux xdg
depmod.d issue.net nftables services xml
dhcp java nsswitch.conf setroubleshoot yum
DIR_COLORS jvm nsswitch.conf.bak sgml yum.conf
DIR_COLORS.lightbgcolor jvm-common nvme yum.repos.d
dnf kdump openldap shadow
dnsmasq.conf kdump.conf opt shadow-
[alice@ndbaranov ~]$ su carol
[alice@ndbaranov ~]$ cd /etc/skel
[alice@ndbaranov skel]$ nano .bashrc
[alice@ndbaranov skel]$ su alice
[alice@ndbaranov skel]$ sudo -i useradd carol
[sudo] password for alice:
[alice@ndbaranov skel]$ sudo passwd carol
Changing password for user carol.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@ndbaranov skel]$ su carol
Password:
[carol@ndbaranov skel]$ id
uid=1004(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[carol@ndbaranov skel]$ cd
[carol@ndbaranov ~]$ ls -Al
total 12
-rw-r--r--. 1 carol users 18 Apr 30 2024 .bash_logout
-rw-r--r--. 1 carol users 141 Apr 30 2024 .bash_profile
-rw-r--r--. 1 carol users 520 Sep 5 13:43 .bashrc
drwxr-xr-x. 2 carol users 6 Sep 5 13:36 Documents
drwxr-xr-x. 4 carol users 39 Sep 2 20:33 mozilla
drwxr-xr-x. 2 carol users 6 Sep 5 13:36 Pictures
[carol@ndbaranov ~]$
```

*id + ls*

Строка записи о пароле carol: пароль хеширован алгоритмом SHA-512 со 108000 раундами, что обеспечивает высокий уровень безопасности. Также меняем свойства пароля (рис. [fig:015?]).

```
Activities Terminal Sep 5 13:46 en
alice@ndbaranov:/home/carol
csh.cshrc hostname mtab rsyslogd.conf vmirc
csh.login hosts multipath rsyslogd vmware-tools
cups hp my.cnf rwtab.d vulkan
cups-helpers inittab my.cnf.d samba wgetrc
dbus-1 inputrc nanorc sane.d wireplumber
dcronf iacsi netconfig sasl2 wpa_supplicant
debuginfo issue NetworkManager security x11
default issue.d networks selinux xattr.conf
depmod.d issue.net nftables services xdg
dhcp java nsswitch.conf setroubleshoot xml
DIR_COLORS jvm nsswitch.conf.bak sgml yum.conf
DIR_COLORS.lightbgcolor jvm-common nvme yum.repos.d
dnf kdump openldap shadow
dnsmasq.conf kdump.conf opt shadow-
[alice@ndbaranov ~]$ su carol
[alice@ndbaranov ~]$ cd /etc/shadow | grep carol
carol:$6$rounds=108000$pkindAq3tBDgEBMe$P2Cv0uEE3PpKwqWMeH5ZUp3cPPCHWg03V9kFndU3qHBDcL2mHqYJ7NEkvuTuckLSx8.8M1TQLgYRyp9525mf3.:
20336:0:99999:7:::
[alice@ndbaranov ~]$ sudo passwd -n 30 -w 3 -x 90 carol
Adjusting aging data for user carol.
passwd: Success
[alice@ndbaranov ~]$
```

*sudo cat /etc/shadow | grep carol*

Убеждаемся в изменении в строке с данными о пароле (рис. [fig:016?]).

```
alice@ndbaranov:/home/carol
[alice@ndbaranov ~]$ sudo cat /etc/passwd | grep carol
carol:x:1004:1004:carol:/home/carol:/bin/bash
[alice@ndbaranov ~]$ sudo cat /etc/passwd | grep carol
carol:x:1004:1004:carol:/home/carol:/bin/bash
[alice@ndbaranov ~]$ sudo cat /etc/passwd | grep carol
carol:x:1004:1004:carol:/home/carol:/bin/bash
```

*sudo cat /etc/passwd | grep carol*

Убеждаемся, что alice существует во всех 3 файлах, а carol существует не во всех 3 файлах. Создаём группы main и third, добавляем alice, bob в main, добавляем carol в third (рис. [fig:017?]).

```
Activities Terminal Sep 5 13:49 en
alice@ndbaranov:~
[sudo] password for alice:
[alice@ndbaranov skel]$ sudo passwd carol
Changing password for user carol.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@ndbaranov skel]$ su carol
Password:
[carol@ndbaranov skel]$ id
uid=1004(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[carol@ndbaranov skel]$ cd
[carol@ndbaranov ~]$ ls -Al
total 12
-rw-r--r--. 1 carol users 18 Apr 30 2024 .bash_logout
-rw-r--r--. 1 carol users 141 Apr 30 2024 .bash_profile
-rw-r--r--. 1 carol users 520 Sep 5 13:43 .bashrc
drwxr-xr-x. 2 carol users 6 Sep 5 13:36 .documents
drwxr-xr-x. 4 carol users 39 Sep 2 20:33 .mozilla
drwxr-xr-x. 2 carol users 6 Sep 5 13:36 .Pictures
[carol@ndbaranov ~]$ su alice
Password:
[alice@ndbaranov carol]$ sudo cat /etc/shadow | grep carol
carol:$6$rounds=100000$pk1ndAq3tBDgEBMe$P2CYoUHEE3PpKwqWMeH5ZUp3cPPcHWg03V9kFndU3qhBDcL2mHqYJ7NEkvuTuckLSx8.8MiTQLgYRyp525mf3.:
20336:0:99999:7:::
[alice@ndbaranov carol]$ sudo passwd -n 30 -w 3 -x 90 carol
Adjusting aging data for user carol.
passwd: Success
[alice@ndbaranov carol]$ sudo cat /etc/shadow | grep carol
bash: sudo: command not found...
Similar command is: 'sudo'
[alice@ndbaranov carol]$ sudo cat /etc/shadow | grep carol
carol:$6$rounds=100000$pk1ndAq3tBDgEBMe$P2CYoUHEE3PpKwqWMeH5ZUp3cPPcHWg03V9kFndU3qhBDcL2mHqYJ7NEkvuTuckLSx8.8MiTQLgYRyp525mf3.:
20336:0:90:3:::
[alice@ndbaranov carol]$ grep alice /etc/passwd /etc/shadow /etc/group
/etc/passwd:alice:x:1002:1002:/:home/alice:/bin/bash
grep: /etc/shadow: Permission denied
/etc/group:wheel:x:10:baranovn,ndbaranov,alice
/etc/group:alice:x:1002:
[alice@ndbaranov carol]$ sudo grep carol /etc/passwd /etc/shadow /etc/group
/etc/passwd:carol:x:1004:100:/:home/carol:/bin/bash
/etc/shadow:carol:$6$rounds=100000$pk1ndAq3tBDgEBMe$P2CYoUHEE3PpKwqWMeH5ZUp3cPPcHWg03V9kFndU3qhBDcL2mHqYJ7NEkvuTuckLSx8.8MiTQLgYRyp525mf3.:20336:36:190:3:::
[alice@ndbaranov carol]$ cd
[alice@ndbaranov ~]$ sudo groupadd main
[alice@ndbaranov ~]$ sudo groupadd third
[alice@ndbaranov ~]$ sudo usermod -ag main alice
[alice@ndbaranov ~]$ sudo usermod -ag main bob
[alice@ndbaranov ~]$ sudo usermod -ag third carol
[alice@ndbaranov ~]$
```

*sudo cat /etc/shadow | grep carol, groupadd, usermod*

Убеждаемся в правильности добавления пользователей в группы:

- alice → alice, wheel
- bob → bob, main
- carol → users, third

(рис. [fig:018?]).

```
Activities Terminal Sep 5 13:52 en
alice@ndbaranov:~
passwd: all authentication tokens updated successfully.
[alice@ndbaranov skel]$ su carol
Password:
[carol@ndbaranov skel]$ id
uid=1004(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[carol@ndbaranov skel]$ cd
[carol@ndbaranov ~]$ ls -Al
total 12
-rw-r--r--. 1 carol users 18 Apr 30 2024 .bash_logout
-rw-r--r--. 1 carol users 141 Apr 30 2024 .bash_profile
-rw-r--r--. 1 carol users 520 Sep 5 13:43 .bashrc
drwxr-xr-x. 2 carol users 6 Sep 5 13:36 documents
drwxr-xr-x. 4 carol users 30 Sep 2 20:33 mozilla
drwxr-xr-x. 2 carol users 6 Sep 5 13:36 Pictures
[carol@ndbaranov ~]$ su alice
Password:
[alice@ndbaranov carol]$ sudo cat /etc/shadow | grep carol
carol:$6$rounds=100000$pk1ndAqJtBDgEBMe$P2CYuHEE3PpKwqWMeH5ZUp3cPPcHWg03V9kFndU3qh8Dcl2mHqYJ7NEkvuTuckLSx8.8M1TQLgYRyp525mF3.:
20336:0:99999:7:::
[alice@ndbaranov carol]$ sudo passwd -n 30 -w 3 -x 90 carol
Adjusting aging data for user carol.
passwd: Success
[alice@ndbaranov carol]$ ~sudo cat /etc/shadow | grep carol
bash: ~sudo: command not found...
Similar command is: 'sudo'
[alice@ndbaranov carol]$ sudo cat /etc/shadow | grep carol
carol:$6$rounds=100000$pk1ndAqJtBDgEBMe$P2CYuHEE3PpKwqWMeH5ZUp3cPPcHWg03V9kFndU3qh8Dcl2mHqYJ7NEkvuTuckLSx8.8M1TQLgYRyp525mF3.:
20336:0:99999:7:::
[alice@ndbaranov carol]$ grep alice /etc/passwd /etc/shadow /etc/group
/etc/passwd:alice:x:1002:1002:/home/alice:/bin/bash
grep: /etc/shadow: Permission denied
/etc/group:wheel:x:10:baranov,ndbaranov,alice
/etc/group:alice:x:1002:
[alice@ndbaranov carol]$ sudo grep carol /etc/passwd /etc/shadow /etc/group
/etc/passwd:carol:x:1004:100:/home/carol:/bin/bash
/etc/shadow:carol:$6$rounds=100000$pk1ndAqJtBDgEBMe$P2CYuHEE3PpKwqWMeH5ZUp3cPPcHWg03V9kFndU3qh8Dcl2mHqYJ7NEkvuTuckLSx8.8M1TQLgYRyp525mF3.:20336:0:99999:7:::
[alice@ndbaranov carol]$ cd
[alice@ndbaranov ~]$ sudo groupadd main
[alice@ndbaranov ~]$ sudo groupadd third
[alice@ndbaranov ~]$ sudo usermod -aG main alice
[alice@ndbaranov ~]$ sudo usermod -aG main bob
[alice@ndbaranov ~]$ sudo usermod -aG third carol
[alice@ndbaranov ~]$ id carol
uid=1004(carol) gid=100(users) groups=100(users),1005(third)
[alice@ndbaranov ~]$ id bob
uid=1003(bob) gid=1003(bob) groups=1003(bob),1004(main)
[alice@ndbaranov ~]$ id alice
uid=1002(alice) gid=1002(alice) groups=1002(alice),10(wheel),1004(main)
[alice@ndbaranov ~]$
```

id

## 4. Выводы

Мы получили представление о работе с учётными записями пользователей и группами пользователей в операционной системе типа Linux.

## Список литературы