

Лабораторная работа №2

Управление пользователями и группами

Жибицкая Е.Д.

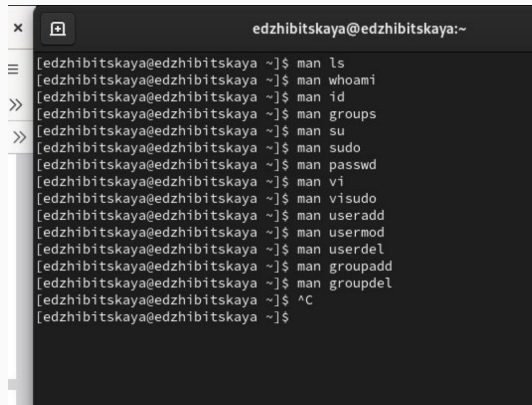
Российский университет дружбы народов, Москва, Россия

Цель работы

- Продолжение изучения Linux. Приобретение навыков по работе с учетными записями пользователей и группами пользователей данной ОС.

Выполнение работы

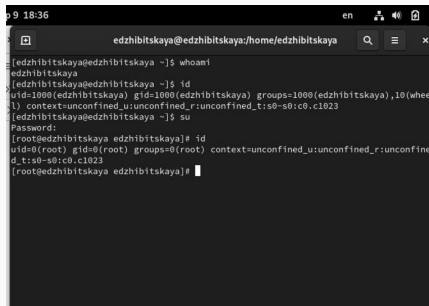
Изучение команд с помощью man



```
edzhibitskaya@edzhibitskaya:~  
[edzhibitskaya@edzhibitskaya ~]$ man ls  
[edzhibitskaya@edzhibitskaya ~]$ man whoami  
[edzhibitskaya@edzhibitskaya ~]$ man id  
[edzhibitskaya@edzhibitskaya ~]$ man groups  
[edzhibitskaya@edzhibitskaya ~]$ man su  
[edzhibitskaya@edzhibitskaya ~]$ man sudo  
[edzhibitskaya@edzhibitskaya ~]$ man passwd  
[edzhibitskaya@edzhibitskaya ~]$ man vi  
[edzhibitskaya@edzhibitskaya ~]$ man visudo  
[edzhibitskaya@edzhibitskaya ~]$ man useradd  
[edzhibitskaya@edzhibitskaya ~]$ man usermod  
[edzhibitskaya@edzhibitskaya ~]$ man userdel  
[edzhibitskaya@edzhibitskaya ~]$ man groupadd  
[edzhibitskaya@edzhibitskaya ~]$ man groupdel  
[edzhibitskaya@edzhibitskaya ~]$ ^C  
[edzhibitskaya@edzhibitskaya ~]$
```

Рис. 1: Знакомство с командами

2.4.1. Переключение учетных записей

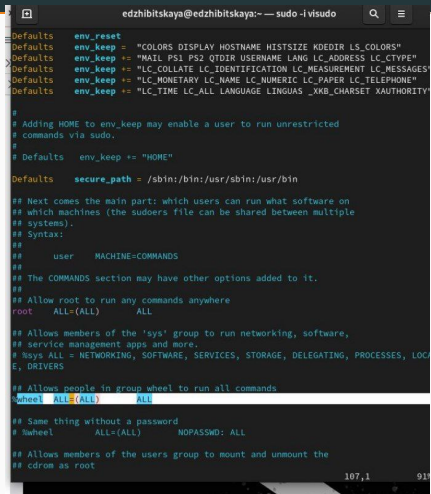
A screenshot of a terminal window with a dark background. The window title is 'edzhibitskaya@edzhibitskaya: /home/edzhibitskaya'. The terminal shows the following commands and output:

```
[edzhibitskaya@edzhibitskaya ~]$ whoami
edzhibitskaya
[edzhibitskaya@edzhibitskaya ~]$ id
uid=1000(edzhibitskaya) gid=1000(edzhibitskaya) groups=1000(edzhibitskaya),10(wheel) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[edzhibitskaya@edzhibitskaya ~]$ su
Password:
[root@edzhibitskaya edzhibitskaya]# id
uid=0(root) gid=0(root) groups=0(root) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[root@edzhibitskaya edzhibitskaya]#
```

Рис. 2: Информация о пользователе

В терминале командами `whoami` и `id` получаем информацию о пользователе. Команда `whoami` показывает только имя пользователя, команда `id` - имя и идентификатор пользователя, имя и идентификатор основной группы и, при наличии, дополнительных групп

2.4.1



```
edzhibitskaya@edzhibitskaya:~ — sudo -i visudo
# 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, LOC
E, 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
```

строка %wheel ALL=(ALL) ALL

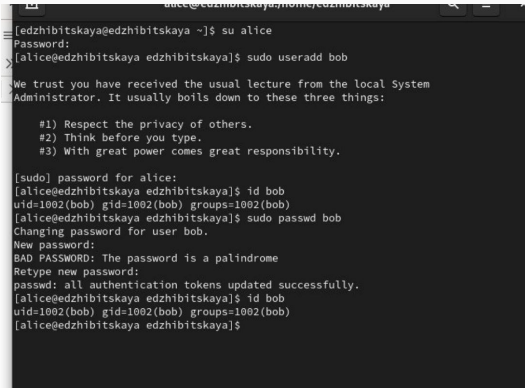
Рис. 3: Файл /etc/sudoers

2.4.1

```
0_c100 307c0:c1023
[root@edzhbitskaya edzhbitskaya]# su edzhbitskaya
[edzhbitskaya@edzhbitskaya ~]$ sudo -i visudo
[sudo] password for edzhbitskaya:
visudo: /etc/sudoers.tmp unchanged
[edzhbitskaya@edzhbitskaya ~]$ sudo -i useradd -G wheel alice
[edzhbitskaya@edzhbitskaya ~]$ id
uid=1000(edzhbitskaya) gid=1000(edzhbitskaya) groups=1000(edzhbitskaya),10(wheel) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[edzhbitskaya@edzhbitskaya ~]$ 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
[edzhbitskaya@edzhbitskaya ~]$ 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.
[edzhbitskaya@edzhbitskaya ~]$
```

Рис. 4: Создание пользователя Alice

2.4.1

A terminal window with a dark background and light text. The prompt is 'alice@edzhbitskaya: ~/home/edzhbitskaya'. The user runs 'su alice' and enters a password. Then they run 'sudo useradd bob'. A message appears: '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.' Then they run 'sudo passwd for alice:'. The prompt changes to '[alice@edzhbitskaya edzhbitskaya]\$'. They run 'id bob' and see 'uid=1002(bob) gid=1002(bob) groups=1002(bob)'. Then they run 'sudo passwd bob'. A message says 'Changing password for user bob.' They enter a new password, but it's rejected with 'BAD PASSWORD: The password is a palindrome'. They retype the password, and a message says 'passwd: all authentication tokens updated successfully.' Finally, they run 'id bob' again and see the same output as before.

```
alice@edzhbitskaya: ~/home/edzhbitskaya
[edzhbitskaya@edzhbitskaya ~]$ su alice
Password:
[alice@edzhbitskaya edzhbitskaya]$ 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@edzhbitskaya edzhbitskaya]$ id bob
uid=1002(bob) gid=1002(bob) groups=1002(bob)
[alice@edzhbitskaya edzhbitskaya]$ sudo passwd bob
Changing password for user bob.
New password:
BAD PASSWORD: The password is a palindrome
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@edzhbitskaya edzhbitskaya]$ id bob
uid=1002(bob) gid=1002(bob) groups=1002(bob)
[alice@edzhbitskaya edzhbitskaya]$
```

Рис. 5: Создание пользователя Bob

2.4.2. Создание учетных записей

```
uid=1002(000) gid=1002(000) groups=1002(000)
[alice@edzhbitskaya edzhbitskaya]$ su
Password:
[root@edzhbitskaya edzhbitskaya]# vim /etc/login.defs
[root@edzhbitskaya edzhbitskaya]# cd /etc/skel
[root@edzhbitskaya skel]# mkdir Pictures
[root@edzhbitskaya skel]# mkdir Documents
```

Рис. 6: Открытие файлов и создание каталогов

Переключимся на суперпользователя, откроем файл конфигурации и изменим несколько параметров. Сразу создадим в каталоге `/etc/skel` подкаталоги `Pictures` и `Documents`.

2.4.2

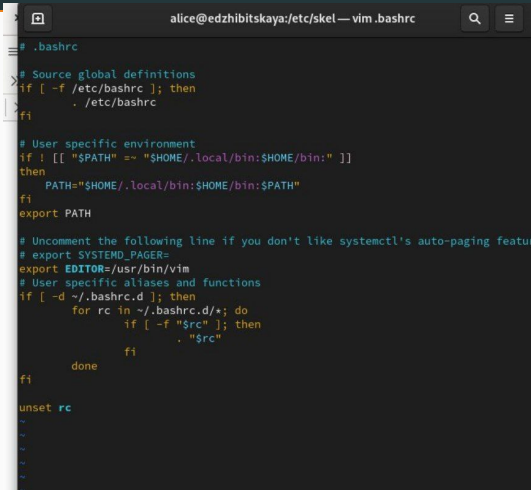
```
#
# 0 is the default value and disables this feature.
#
#MAX_MEMBERS_PER_GROUP 0
#
# If useradd(8) should create home directories for users by default (non
# system users only).
# This option is overridden with the -M or -m flags on the useradd(8)
# command-line.
#
CREATE_HOME yes
#
# Force use shadow, even if shadow passwd & shadow group files are
# missing.
#
#FORCE_SHADOW yes
#
# Select the HMAC cryptography algorithm.
# Used in pam_timestamp module to calculate the keyed-hash message
# authentication code.
#
# Note: It is recommended to check hmac(3) to see the possible algorithms
# that are available in your system.
#
HMAC_CRYPTO_ALGO SHA512
```

Рис. 7: Параметр CREATE_HOME

```
alice@edzhibitskaya:/home/edzhibitskaya — vim /etc/login.defs
#USERDEL_CMD /usr/sbin/userdel_local
#
# Enables userdel(8) to remove user groups if no members exist.
#
USERGROUPS_ENAB no
#
# If set to a non-zero number, the shadow utilities will make sure that
# groups never have more than this number of users on one line.
# This permits to support split groups (groups split into multiple lines,
# with the same group ID, to avoid limitation of the line length in the
# group file).
```

Рис. 8: Установка USERGROUPS_ENAB

2.4.2



```
# .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=
export EDITOR=/usr/bin/vim

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

unset rc
```

Добавляем строку `export EDITOR=/usr/bin/vim`.

Эта запись означает, что текстовый редактор `vim` будет установлен по умолчанию для инструментов, которые нуждаются в изменении текстовых.

Рис. 9: Изменение файла `.bashrc`

```
[root@edzhibitskaya skel]# su alice
[alice@edzhibitskaya skel]$ sudo -i useradd carol
[sudo] password for alice:
[alice@edzhibitskaya 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@edzhibitskaya skel]$ su carol
Password:
[carol@edzhibitskaya skel]$ id
uid=1003(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r
:unconfined_t:s0-s0:c0.c1023
[carol@edzhibitskaya skel]$ cd
[carol@edzhibitskaya ~]$ ls -Al
total 12
-rw-r--r--. 1 carol users 18 Apr 30 14:28 .bash_logout
-rw-r--r--. 1 carol users 141 Apr 30 14:28 .bash_profile
-rw-r--r--. 1 carol users 518 Sep 9 18:59 .bashrc
drwxr-xr-x. 2 carol users 6 Sep 9 18:51 Documents
drwxr-xr-x. 4 carol users 39 Sep 4 21:36 .mozilla
drwxr-xr-x. 2 carol users 6 Sep 9 18:51 Pictures
[carol@edzhibitskaya ~]$
```

Рис. 10: Создание пользователя Carol

```
[carol@edzhibitskaya ~]$ su alice
Password:
[alice@edzhibitskaya carol]$ sudo cat /etc/shadow | grep carol
carol:$6$WxlexiBbGLllUGK1$qVehOv3.bNHML/2/Twjon8Na5hbtU29BMAfNskELGuHlvhdrqtmFMsra
pqQbh0C1bwMv/5ak5v6.nbbU6zgJ6.:19975:0:99999:7:::
[alice@edzhibitskaya carol]$ sudo passwd -n 30 -w 3 -x 90 caro
passwd: Unknown user name 'caro'.
[alice@edzhibitskaya carol]$ sudo passwd -n 30 -w 3 -x 90 carol
Adjusting aging data for user carol.
passwd: Success
[alice@edzhibitskaya carol]$ sudo cat /etc/shadow | grep carol
carol:$6$WxlexiBbGLllUGK1$qVehOv3.bNHML/2/Twjon8Na5hbtU29BMAfNskELGuHlvhdrqtmFMsra
pqQbh0C1bwMv/5ak5v6.nbbU6zgJ6.:19975:30:90:3:::
[alice@edzhibitskaya carol]$ grep alice /etc/passwd /etc/shadow /etc/group
/etc/passwd:alice:x:1001:1001::/home/alice:/bin/bash
grep: /etc/shadow: Permission denied
/etc/group:wheel:x:10:edzhibitskaya,alice
/etc/group:alice:x:1001:
[alice@edzhibitskaya carol]$ sudo grep carol /etc/passwd /etc/shadow /etc/group
/etc/passwd:carol:x:1003:100::/home/carol:/bin/bash
/etc/shadow:carol:$6$WxlexiBbGLllUGK1$qVehOv3.bNHML/2/Twjon8Na5hbtU29BMAfNskELGuHlvhdrqtmFMsrapqQbh0C1bwMv/5ak5v6.nbbU6zgJ6.:19975:30:90:3:::
[alice@edzhibitskaya carol]$
```

Рис. 11: Данные о пароле

Изучим запись о пароле этого пользователя. Изменим эти параметры. Теперь срок действия пароля истекает через 90 дней (-x 90). За три дня до истечения срока действия пользователь получит предупреждение (-w 3). Пароль должен использоваться как минимум за 30 дней (-n 30) до того, как его можно будет изменить.

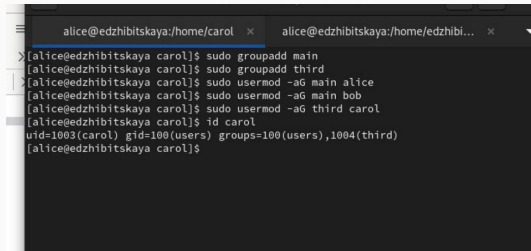
```
[carol@edzhibitskaya ~]$ su alice
Password:
[alice@edzhibitskaya carol]$ sudo cat /etc/shadow | grep carol
carol:$6$WxlexiBbGllUGK1$qVehOv3.bNHML/2/Twjon8Na5hbtU29BMAfNskELGuHlvhdrqtmFMsra
pqQbh0C1bwMv/5ak5v6.nbbU6zgJ6.:19975:0:99999:7:::
[alice@edzhibitskaya carol]$ sudo passwd -n 30 -w 3 -x 90 caro
passwd: Unknown user name 'caro'.
[alice@edzhibitskaya carol]$ sudo passwd -n 30 -w 3 -x 90 carol
Adjusting aging data for user carol.
passwd: Success
[alice@edzhibitskaya carol]$ sudo cat /etc/shadow | grep carol
carol:$6$WxlexiBbGllUGK1$qVehOv3.bNHML/2/Twjon8Na5hbtU29BMAfNskELGuHlvhdrqtmFMsra
pqQbh0C1bwMv/5ak5v6.nbbU6zgJ6.:19975:30:90:3:::
[alice@edzhibitskaya carol]$ grep alice /etc/passwd /etc/shadow /etc/group
/etc/passwd:alice:x:1001:1001::/home/alice:/bin/bash
grep: /etc/shadow: Permission denied
/etc/group:wheel:x:10:edzhibitskaya,alice
/etc/group:alice:x:1001:
[alice@edzhibitskaya carol]$ sudo grep carol /etc/passwd /etc/shadow /etc/group
/etc/passwd:carol:x:1003:100::/home/carol:/bin/bash
/etc/shadow:carol:$6$WxlexiBbGllUGK1$qVehOv3.bNHML/2/Twjon8Na5hbtU29BMAfNskELGuHlvhdrqtmFMsrapqQbh0C1bwMv/5ak5v6.nbbU6zgJ6.:19975:30:90:3:::
[alice@edzhibitskaya carol]$
```

Рис. 12: Данные о пароле

Используя команду `sudo cat /etc/shadow | grep carol`, мы убедимся, что данные изменились. Также проверим, что идентификатор `alice` существует во всех трёх файлах: `grep alice /etc/passwd /etc/shadow /etc/group`, а идентификатор `carol` существует не во всех трёх файлах: `sudo grep carol /etc/passwd /etc/shadow /etc/group`

2.4.3. Работа с группами

Перейдем в запись Alice, создадим две группы - main и third, добавим туда Alice и Bob. В группу third добавим Carol, проверим информацию о ней(она входит в группы users(основная) и third(второстепенная))

A terminal window with two tabs. The first tab is titled 'alice@edzhbitskaya:/home/carol' and the second is 'alice@edzhbitskaya:/home/edzhibi...'. The terminal shows a series of commands and their outputs. The commands are: 'sudo groupadd main', 'sudo groupadd third', 'sudo usermod -aG main alice', 'sudo usermod -aG main bob', and 'sudo usermod -aG third carol'. The output of the last command is 'id carol', which shows 'uid=1003(carol) gid=100(users) groups=100(users),1004(third)'.

```
alice@edzhbitskaya:/home/carol x  alice@edzhbitskaya:/home/edzhibi... x
> [alice@edzhbitskaya carol]$ sudo groupadd main
[alice@edzhbitskaya carol]$ sudo groupadd third
[alice@edzhbitskaya carol]$ sudo usermod -aG main alice
[alice@edzhbitskaya carol]$ sudo usermod -aG main bob
[alice@edzhbitskaya carol]$ sudo usermod -aG third carol
[alice@edzhbitskaya carol]$ id carol
uid=1003(carol) gid=100(users) groups=100(users),1004(third)
[alice@edzhbitskaya carol]$
```

Рис. 13: Создание групп


```

[alice@edzhibitskaya carol]$ sudo -i useradd dan
[alice@edzhibitskaya carol]$ sudo passwd dan
Changing password for user dan.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@edzhibitskaya carol]$ sudo -i useradd dave
[alice@edzhibitskaya carol]$ sudo passwd dave
Changing password for user dave.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@edzhibitskaya carol]$ sudo -i useradd david
[alice@edzhibitskaya carol]$ sudo passwd david
Changing password for user david.
New password:
BAD PASSWORD: The password contains the user name in some form
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
[alice@edzhibitskaya carol]$ sudo passwd david
Changing password for user david.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.

```

Рис. 14: Добавление пользователей

```

alice@edzhibitskaya:/home/carol
alice@edzhibitskaya:/home/carol x  alice@edzhibitskaya:/home/e
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[alice@edzhibitskaya carol]$ sudo usermod -aG third dan
[alice@edzhibitskaya carol]$ sudo usermod -aG third dave
[alice@edzhibitskaya carol]$ sudo usermod -aG third david
[alice@edzhibitskaya carol]$ id dan
uid=1004(dan) gid=100(users) groups=100(users),1004(third)
[alice@edzhibitskaya carol]$ id dave
uid=1005(dave) gid=100(users) groups=100(users),1004(third)
[alice@edzhibitskaya carol]$ id david
uid=1006(david) gid=100(users) groups=100(users),1004(third)
[alice@edzhibitskaya carol]$

```

Рис. 15: Добавление в группы и id

Вывод

- В ходе работы были приобретены навыки по работе с пользователями, их учетными записями и группами. Прделаны различные действия по работе с ними.