

Лабораторная работа №2

Управление пользователями и группами

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Цель работы

Цель

- Изучить управление пользователями и группами в Linux
- Освоить работу с `su`, `sudo`, `visudo`
- Получить навыки настройки окружения пользователей

Ход выполнения работы

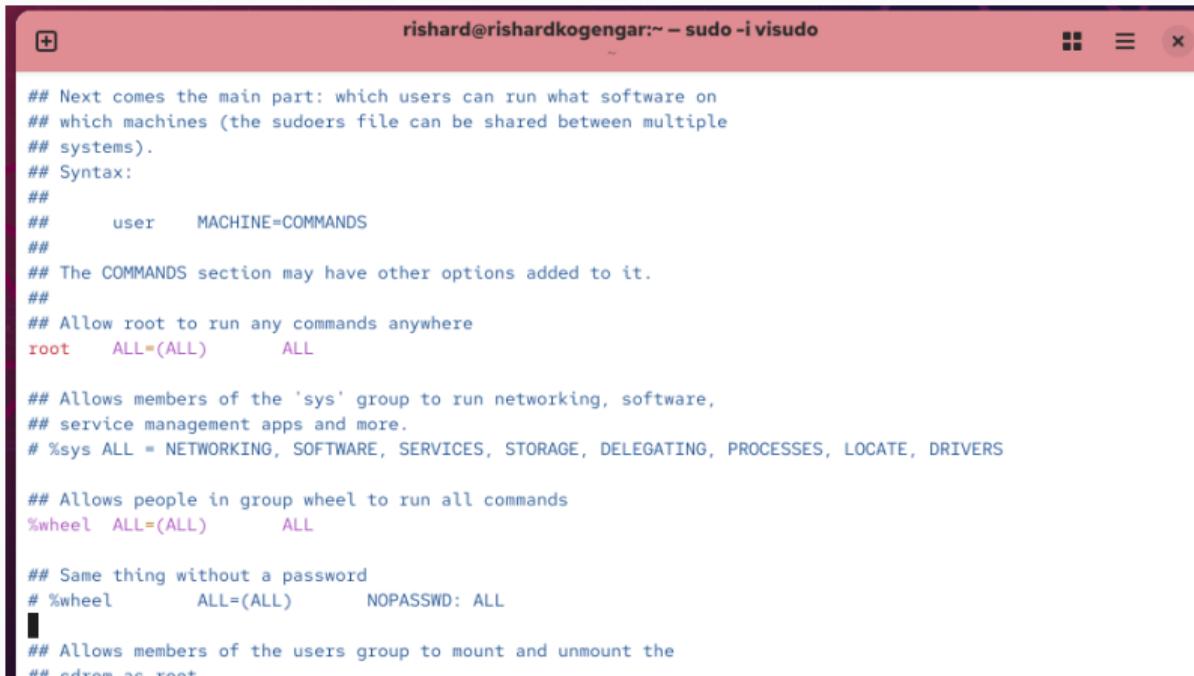
Идентификация пользователя

- Проверка активной учётной записи
- Анализ UID, GID и групп
- Проверка наличия группы wheel

```
rishard@rishardkogengar:~$ whoami
rishard
rishard@rishardkogengar:~$ id
uid=1000(rishard) gid=1000(rishard) groups=1000(rishard),10(wheel) context=uncon
fined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
rishard@rishardkogengar:~$
rishard@rishardkogengar:~$ su
Password:
root@rishardkogengar:/home/rishard# id
uid=0(root) gid=0(root) groups=0(root) context=unconfined_u:unconfined_r:unconfi
ned_t:s0-s0:c0.c1023
root@rishardkogengar:/home/rishard#
exit
rishard@rishardkogengar:~$ █
```

Получение прав администратора

- Переключение на суперпользователя
- Проверка UID и GID
- Подтверждение административных прав



The screenshot shows a terminal window with a red header bar containing the text "rishard@rishardkogengar:~ – sudo -i visudo". The main area of the terminal displays the contents of the /etc/sudoers file. The file includes sections for user permissions, group permissions, and specific command restrictions. It also contains comments explaining the syntax and purpose of the file.

```
## 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
```

Безопасная работа с sudoers

- Открытие файла через visudo
- Проверка правила для группы wheel
- Обоснование использования visudo

```
rishard@rishardkogengar:~$ sudo -i useradd -G wheel alice
rishard@rishardkogengar:~$ id alice
uid=1001(alice) gid=1001(alice) groups=1001(alice),10(wheel)
rishard@rishardkogengar:~$ sudo -i passwd alice
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
rishard@rishardkogengar:~$ su alice
Password:
alice@rishardkogengar:/home/rishard$ sudo useradd bob
```

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

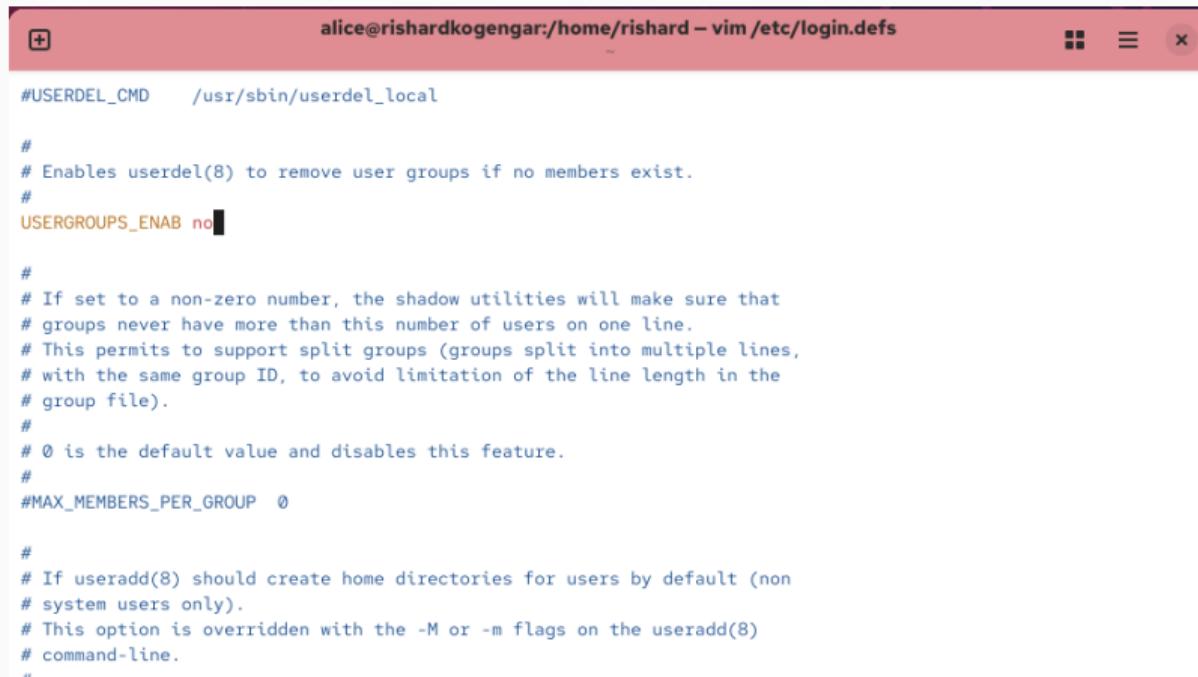
- #1) Respect the privacy of others.
- #2) Think before you type.
- #3) With great power comes great responsibility.

For security reasons, the password you type will not be visible.

```
[sudo] password for alice:
alice@rishardkogengar:/home/rishard$ sudo passwd bob
```

Пользователи alice и bob

- Создание учётных записей
- Назначение паролей
- Проверка групп и прав доступа



```
#USERDEL_CMD    /usr/sbin/userdel_local

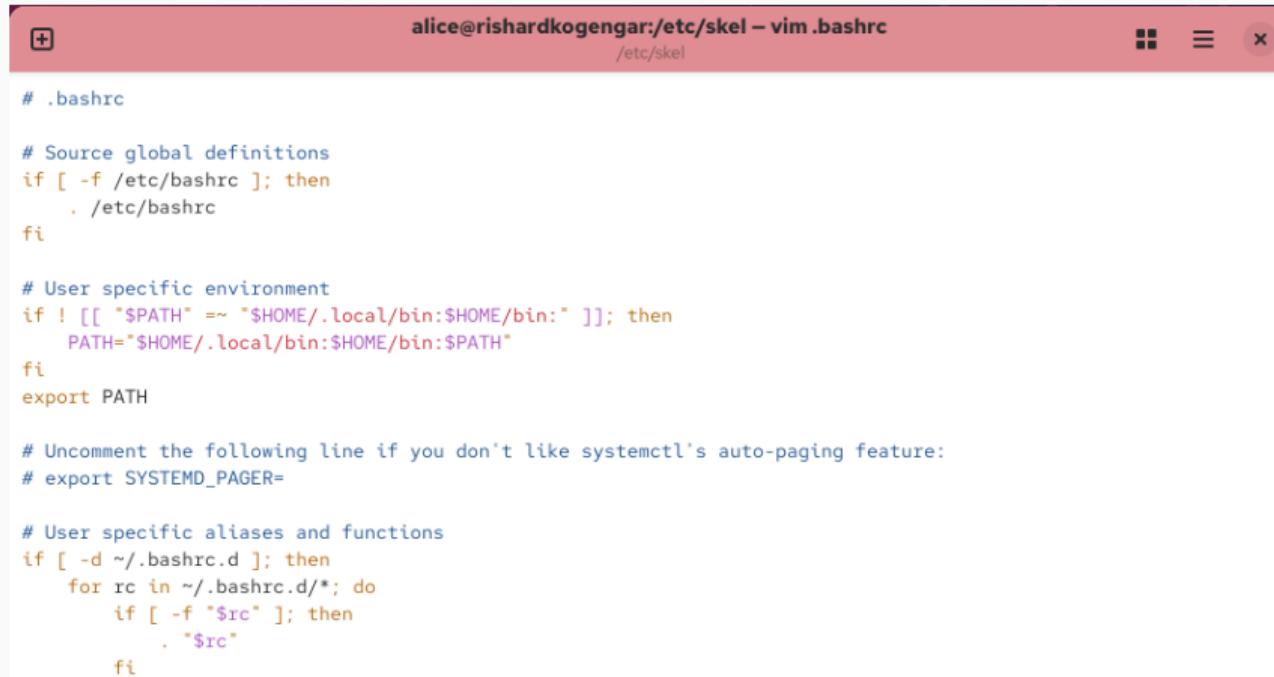
#
# Enables userdel(8) to remove user groups if no members exist.
#
USERGROUPS_ENAB no

#
# 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).
#
# 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.
#
```

Файл login.defs

- Включено создание домашнего каталога
- Использование общей группы **users**
- Подготовка системы к созданию пользователей



The screenshot shows a terminal window with a red header bar. The header bar displays the text "alice@rishardkogengar:/etc/skel – vim .bashrc" and the path "/etc/skel". The main area of the terminal shows the content of the .bashrc file, which is a shell script. The script includes global definitions, user-specific environment settings, and user-specific aliases and functions. It also includes a comment about the auto-paging feature of systemctl.

```
# .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
```

Каталог /etc/skel

- Добавлены каталоги **Pictures**, **Documents**
- Назначен редактор по умолчанию
- Применение шаблона к новым пользователям

```
root@rishardkogengar:/etc/skel# su alice
alice@rishardkogengar:/etc/skel$ sudo -i useradd carol
alice@rishardkogengar:/etc/skel$ sudo passwd carol
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
alice@rishardkogengar:/etc/skel$ su carol
Password:
carol@rishardkogengar:/etc/skel$ id
uid=1003(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
carol@rishardkogengar:/etc/skel$ cd
carol@rishardkogengar:~$ ls -Al
total 12
-rw-r--r--. 1 carol users 18 Oct 29 2024 .bash_logout
-rw-r--r--. 1 carol users 144 Oct 29 2024 .bash_profile
-rw-r--r--. 1 carol users 549 Jan 18 12:50 .bashrc
drwxr-xr-x. 2 carol users 6 Jan 18 12:49 Documents
drwxr-xr-x. 4 carol users 39 Jan 18 12:17 .mozilla
drwxr-xr-x. 2 carol users 6 Jan 18 12:49 Pictures
carol@rishardkogengar:~$
```

Проверка окружения

- Создание пользователя
- Проверка групп
- Проверка структуры домашнего каталога

```
carol@rishardkogengar:~$ su alice
Password:
alice@rishardkogengar:/home/carol$ sudo cat /etc/shadow | grep carol
carol:$j9T$WhOHmS$CI3TzpqEOGoNwN1$YoJsNrMuB4zbmfqtWDqav09/lR08G2Q/t6N1/zT9Yx2:20471:0:99999:7:::
alice@rishardkogengar:/home/carol$ sudo passwd -n 30 -w 3 -x 90 carol
passwd: password changed.

alice@rishardkogengar:/home/carol$ sudo cat /etc/shadow | grep carol
carol:$j9T$WhOHmS$CI3TzpqEOGoNwN1$YoJsNrMuB4zbmfqtWDqav09/lR08G2Q/t6N1/zT9Yx2:20471:30:90:3:::
alice@rishardkogengar:/home/carol$ sudo grep alice /etc/passwd /etc/shadow /etc/group
/etc/passwd:alice:x:1001:1001::/home/alice:/bin/bash
/etc/shadow:alice:$j9T$VZQy6VU26jH/V5vgUlg5F/$J1xAf5lSjpuoxTxAP/0vFjAmI2mVsgU3j66aNqjVcB7:20471:0:99999:7:::
/etc/group:wheel:x:10:rishard,alice
/etc/group:alice:x:1001:
alice@rishardkogengar:/home/carol$ sudo grep carol /etc/passwd /etc/shadow /etc/group
/etc/passwd:carol:x:1003:100::/home/carol:/bin/bash
/etc/shadow:carol:$j9T$WhOHmS$CI3TzpqEOGoNwN1$YoJsNrMuB4zbmfqtWDqav09/lR08G2Q/t6N1/zT9Yx2:20471:30:90:3:::
alice@rishardkogengar:/home/carol$
```

Рис. 7: Пользователь carol

Управление группами

- Созданы группы `main` и `third`
- Пользователи распределены по группам
- Проверка членства

```
alice@rishardkogengar:/home/carol$  
alice@rishardkogengar:/home/carol$ sudo groupadd main  
alice@rishardkogengar:/home/carol$ sudo groupadd third  
alice@rishardkogengar:/home/carol$ sudo usermod -aG main alice  
alice@rishardkogengar:/home/carol$ sudo usermod -aG main bob  
alice@rishardkogengar:/home/carol$ sudo usermod -aG third carol  
alice@rishardkogengar:/home/carol$ id carol  
uid=1003(carol) gid=100(users) groups=100(users),1004(third)  
alice@rishardkogengar:/home/carol$ id alice  
uid=1001(alice) gid=1001(alice) groups=1001(alice),10(wheel),1003(main)  
alice@rishardkogengar:/home/carol$ id bob  
uid=1002(bob) gid=1002(bob) groups=1002(bob),1003(main)  
alice@rishardkogengar:/home/carol$ █
```

Рис. 8: Группы пользователей

Выводы

Итоги работы

- Освоено управление пользователями и группами
- Настроены права доступа через sudo
- Изучена политика паролей
- Цель лабораторной работы достигнута