

Лабораторная работа №2

Управление пользователями и группами

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Цель работы

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

Ход выполнения работы

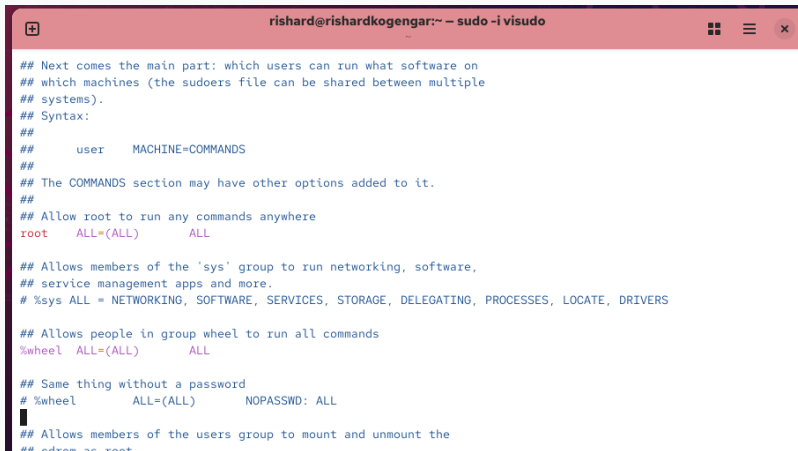
Идентификация пользователя

- 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=unconfined_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:unconfined_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



```
rishard@rishardkogengar:~ – sudo -i visudo
## 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
```

Безопасная работа с sudoers

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

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

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

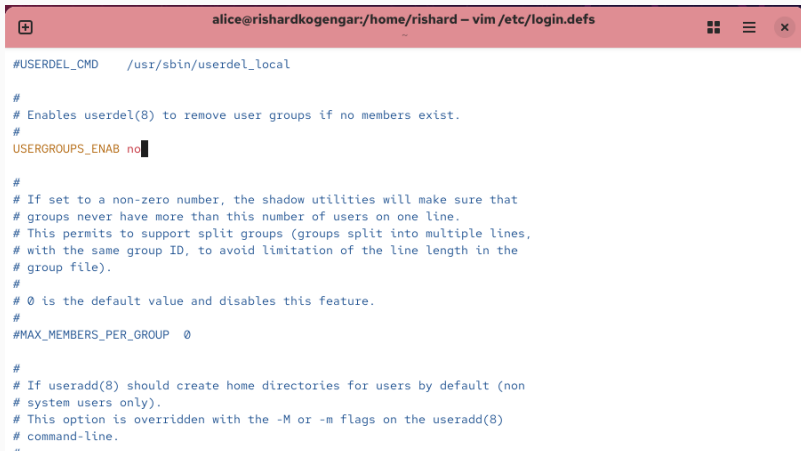
- #1) Respect the privacy of others.
- #2) Think before you type.
- #3) With great power comes great responsibility.

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

```
[sudo] password for alice:
alice@risardkogengar:/home/risard$ sudo passwd bob
```

Пользователи alice и bob

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



The screenshot shows a terminal window with a pink title bar. The title bar text is "alice@rishardkogengar:/home/rishard - vim /etc/login.defs". On the right side of the title bar are three icons: a plus sign in a square, a hamburger menu, and a close button (X). The terminal content shows the following lines of code:

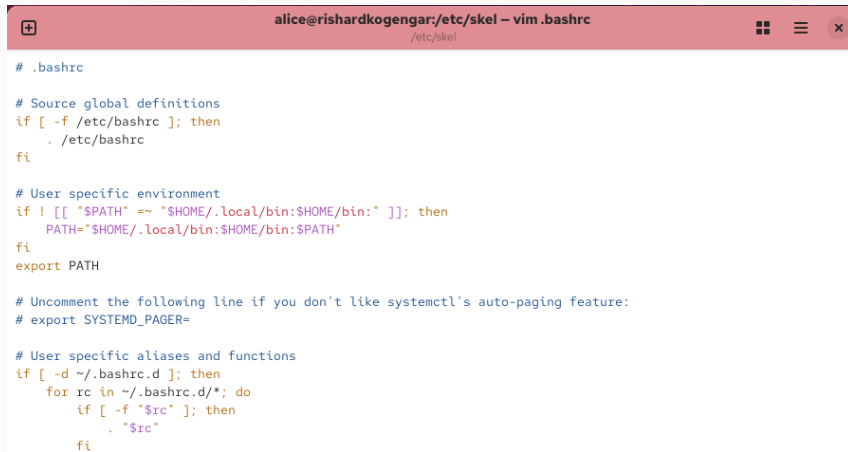
```
#USERDEL_CMD    /usr/sbin/userdel_local

#
# 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.
#
```


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



The screenshot shows a terminal window with a pink title bar. The title bar contains a plus icon, the text 'alice@rishardkogengar:/etc/skel – vim .bashrc', and window control icons (maximize, close). Below the title bar, the text '/etc/skel' is visible. The main area of the terminal displays the content of the .bashrc file in a monospaced font with syntax highlighting. The code includes comments for global definitions, user-specific environment setup, and user-specific aliases and functions.

```
# .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
```

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

```
root@rishardkogengar:/etc/skel#  
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:$y$j9T$WhOHmS/CI3TzpqEOGoNwN1$YoJsNrMuB4zbfqTWDqav09/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:$y$j9T$WhOHmS/CI3TzpqEOGoNwN1$YoJsNrMuB4zbfqTWDqav09/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:$y$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:$y$j9T$WhOHmS/CI3TzpqEOGoNwN1$YoJsNrMuB4zbfqTWDqav09/LR08G2Q/t6N1/zT9Yx2:20471:30:90:3:::
alice@rishardkogengar:/home/carol$ █
```

Рис. 7: Пользователь carol

- 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

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