

Отчёт по лабораторной работе №2

Управление пользователями и группами

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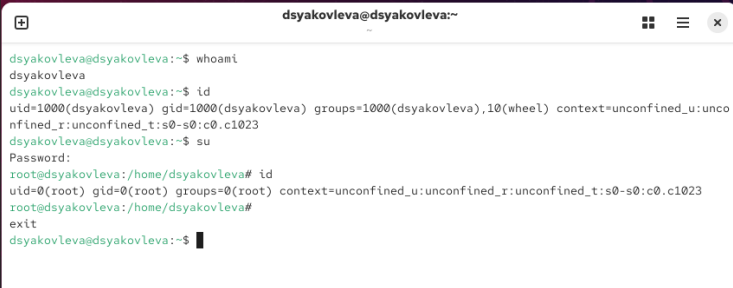
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Цель работы

Получить практические навыки работы с учётными записями пользователей и группами в операционной системе Linux.

Выполнение лабораторной работы

Определение текущего пользователя



```
dsyakovleva@dsyakovleva:~$ whoami
dsyakovleva
dsyakovleva@dsyakovleva:~$ id
uid=1000(dsyaovleva) gid=1000(dsyaovleva) groups=1000(dsyaovleva),10(wheel) context=unconfined_u:unco
nfinel_r:unconfined_t:s0-s0:c0.c1023
dsyakovleva@dsyakovleva:~$ su
Password:
root@dsyakovleva:/home/dsyakovleva# id
uid=0(root) gid=0(root) groups=0(root) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
root@dsyakovleva:/home/dsyakovleva#
exit
dsyakovleva@dsyakovleva:~$
```

Рис. 1: Команда id

```
dsyakovleva@dsyakovleva:~ -- sudo -i visudo

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
```

Создание пользователей

```
dsyakovleva@dsyakovleva:~$ sudo -i useradd -G wheel alice
dsyakovleva@dsyakovleva:~$ id alice
uid=1001(alice) gid=1001(alice) groups=1001(alice),10(wheel)
dsyakovleva@dsyakovleva:~$ sudo -i passwd alice
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
dsyakovleva@dsyakovleva:~$ su alice
Password:
alice@dsyakovleva:/home/dsyakovleva$
alice@dsyakovleva:/home/dsyakovleva$ 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@dsyakovleva:/home/dsyakovleva$ sudo passwd bob
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
alice@dsyakovleva:/home/dsyakovleva$ id bob
uid=1002(bob) gid=1002(bob) groups=1002(bob)
alice@dsyakovleva:/home/dsyakovleva$
```

Конфигурация параметров учётных записей



The screenshot shows a terminal window with the title bar "alice@dnyakovleva:/home/dnyakovleva - vim /etc/login.defs". The window displays the contents of the /etc/login.defs file, which is a configuration file for user and group creation. The file contains several commented-out lines and a few active lines. The active lines are: "USERDEL_CMD /usr/sbin/userdel_local", "USERGROUPS_ENAB no", and "CREATE_HOME yes". The cursor is positioned at the end of the "CREATE_HOME yes" line. At the bottom of the window, the text "-- INSERT --" is visible, indicating that the user is in insert mode in vim. The status bar at the bottom right shows "280,19" and "94%".

```
alice@dnyakovleva:/home/dnyakovleva - vim /etc/login.defs

# Currently ENVIRON_FILE is not supported

#
# If defined, this command is run when removing a user.
# It should remove any at/cron/print jobs etc. owned by
# the user to be removed (passed as the first argument).
#
#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.
#
CREATE_HOME     yes

-- INSERT --
```




The screenshot shows a terminal window with a pink title bar. The title bar text is 'alice@dsyakovleva:/etc/skel - vim .bashrc'. Below the title bar, the content of the .bashrc file is displayed in a monospaced font with syntax highlighting. The code includes comments for global definitions, user-specific environment, and aliases. The cursor is positioned at the end of the line 'export EDITOR=/usr/bin/vim'. At the bottom of the window, the text '-- INSERT --' is visible.

```
alice@dsyakovleva:/etc/skel - vim .bashrc
/etc/skel

# .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
unset rc
export EDITOR=/usr/bin/vim
~
~
~
~
~
~
-- INSERT --
```

Создание пользователя carol

```
alice@dsyakovleva:/home/dsyakovleva$ su
Password:
root@dsyakovleva:/home/dsyakovleva# vim /etc/login.defs
root@dsyakovleva:/home/dsyakovleva#
root@dsyakovleva:/home/dsyakovleva# cd /etc/skel
root@dsyakovleva:/etc/skel# mkdir Pictures Documents
root@dsyakovleva:/etc/skel# vim .bashrc
root@dsyakovleva:/etc/skel# su alice
alice@dsyakovleva:/etc/skel$ sudo -i useradd carol
alice@dsyakovleva:/etc/skel$ sudo passwd carol
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
alice@dsyakovleva:/etc/skel$ su carol
Password:
carol@dsyakovleva:/etc/skel$ id
uid=1003(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0
.c1023
carol@dsyakovleva:/etc/skel$ cd
carol@dsyakovleva:~$ 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 Sep  7 18:55 .bashrc
drwxr-xr-x. 2 carol users   6 Sep  7 18:54 Documents
drwxr-xr-x. 4 carol users  39 Sep  1 18:39 .mozilla
drwxr-xr-x. 2 carol users   6 Sep  7 18:54 Pictures
carol@dsyakovleva:~$
```

Рис. 6: Проверка параметров carol

Настройка политики паролей

```
carol@dsyakovleva:~$ su alice
Password:
alice@dsyakovleva:/home/carol$ sudo cat /etc/shadow | grep carol
carol:$y$j9T$mia/QFAHA6u3wDzXQLjId.$VvzX7g7UayxjGzJuVa.StAgJ0jwoLG3zZPGH/cv1yw/:20338:0:99999:7:::
alice@dsyakovleva:/home/carol$ sudo passwd -n 30 -w 3 -x 90 carol
passwd: password changed.
alice@dsyakovleva:/home/carol$ sudo cat /etc/shadow | grep carol
carol:$y$j9T$mia/QFAHA6u3wDzXQLjId.$VvzX7g7UayxjGzJuVa.StAgJ0jwoLG3zZPGH/cv1yw/:20338:30:90:3:::
alice@dsyakovleva:/home/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:dsyakovleva,alice
/etc/group:alice:x:1001:
alice@dsyakovleva:/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$MhJBK0CJr.2X62qZnVVAI0$hpGIvcvEN92ToUn6M2f/L0ta2G8Gz7wBHZ4wzGcTsCa:20338:0:999
9:7:::
/etc/group:wheel:x:10:dsyakovleva,alice
/etc/group:alice:x:1001:
alice@dsyakovleva:/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$mia/QFAHA6u3wDzXQLjId.$VvzX7g7UayxjGzJuVa.StAgJ0jwoLG3zZPGH/cv1yw/:20338:30:90
3:::
alice@dsyakovleva:/home/carol$
```

Рис. 7: Проверка параметров carol

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

Рис. 8: Проверка групп пользователей

Контрольные вопросы

- `id`
- `whoami`
- `groups`

- `su` — переключение на другого пользователя (пароль этого пользователя)
- `sudo` — выполнение команды от root (пароль текущего пользователя)
- Файл `/etc/sudoers`
- Редактирование через `visudo`
- Группа `wheel` имеет полный доступ

- `/etc/login.defs`
- `/etc/skel/`

- `/etc/passwd` (основная группа)
- `/etc/group` (дополнительные группы)

Итоги работы

Были приобретены навыки управления пользователями и группами в Linux: создание учётных записей, назначение паролей, настройка политик безопасности, а также работа с группами и sudo.