

# Презентация по лабораторной работе №2

Управление пользователями и группами

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Агджабекова Эся Рустамовна

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Российский университет дружбы народов, Москва, Россия

## Цели и задачи работы

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Получить практические навыки работы с учётными записями пользователей и группами в ОС Linux, изучить механизмы разграничения доступа и администрирования.

## Ход выполнения работы

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# Определение текущего пользователя

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

Рис. 1: Вывод команд whoami и id

# Работа с root и sudoers

```
eragdzhabekova@eragdzhabekova:~ -- sudo -i visudo
#
# 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
```

## Создание пользователей alice и bob

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

# Настройка параметров login.defs



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

#
# 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.
-- INSERT --
```



# Изменение скелетного каталога и .bashrc



The screenshot shows a terminal window with a pink title bar. The title bar text is "alice@eragdzhabekova:/etc/skel - vim .bashrc". Below the title bar, the file path "/etc/skel" is displayed. The main area of the window shows the content of the .bashrc file, which is a shell configuration script. The script includes comments and code for sourcing global definitions, setting user-specific environment variables like PATH, and defining user-specific aliases and functions. The code is color-coded: blue for comments, orange for control structures (if, fi, done, unset), and purple for variable assignments. The cursor is positioned at the end of the line "export EDITOR=/usr/bin/vim".

```
# .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
~
~
~
```

Рис. 5: Изменение .bashrc

## Создание пользователя carol

```
alice@eragdzhabekova:/home/eragdzhabekova$ su
Password:
root@eragdzhabekova:/home/eragdzhabekova# vim /etc/login.defs
root@eragdzhabekova:/home/eragdzhabekova#
root@eragdzhabekova:/home/eragdzhabekova# cd /etc/skel
root@eragdzhabekova:/etc/skel# mkdir Pictures
root@eragdzhabekova:/etc/skel# mkdir Documents
root@eragdzhabekova:/etc/skel# vim .bashrc
root@eragdzhabekova:/etc/skel#
root@eragdzhabekova:/etc/skel# su alice
alice@eragdzhabekova:/etc/skel$ sudo -i useradd carol
[sudo] password for alice:
alice@eragdzhabekova:/etc/skel$ sudo passwd carol
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
alice@eragdzhabekova:/etc/skel$ su carol
Password:
carol@eragdzhabekova:/etc/skel$ id
uid=1003(carol) gid=100(users) groups=100(users) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
carol@eragdzhabekova:/etc/skel$ cd
carol@eragdzhabekova:~$ 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 19:43 .bashrc
drwxr-xr-x. 2 carol users 6 Sep 7 19:41 Documents
drwxr-xr-x. 4 carol users 39 Sep 2 16:36 .mozilla
drwxr-xr-x. 2 carol users 6 Sep 7 19:40 Pictures
carol@eragdzhabekova:~$
carol@eragdzhabekova:~$
```

Рис. 6: Создание пользователя carol и проверка каталогов

## Настройка параметров пароля carol

```
carol@eragdzhabekova:~$  
carol@eragdzhabekova:~$ su alice  
Password:  
alice@eragdzhabekova:/home/carol$ sudo cat /etc/shadow | grep carol  
carol:$y$j9T$TUR/WrRrZfNzhzLukbRga0$8i6PHVPv35/8V9Quvk2DBuuVrJXndlha114aT3ZkwR7:20338:0:99999:7:::  
alice@eragdzhabekova:/home/carol$ sudo passwd -n 30 -w 3 -x 90 carol  
passwd: password changed.  
alice@eragdzhabekova:/home/carol$ sudo cat /etc/shadow | grep carol  
carol:$y$j9T$TUR/WrRrZfNzhzLukbRga0$8i6PHVPv35/8V9Quvk2DBuuVrJXndlha114aT3ZkwR7:20338:30:90:3:::  
alice@eragdzhabekova:/home/carol$ sudo grep alice /etc/passwd /etc/shadow /etc/group  
/etc/passwd:alice:x:1001:1001:./home/alice:/bin/bash  
/etc/shadow:alice:$y$j9T$PXybgmeCPR9NMdU.hykW4/$fAHQ.Ie09A3.K5yRN2gpSx3tzlZj.hUYPkKUKeyPwf6:20338:0:99999:7:::  
/etc/group:wheel:x:10:eragdzhabekova,alice  
/etc/group:alice:x:1001:  
alice@eragdzhabekova:/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$TUR/WrRrZfNzhzLukbRga0$8i6PHVPv35/8V9Quvk2DBuuVrJXndlha114aT3ZkwR7:20338:30:90:3:::  
alice@eragdzhabekova:/home/carol$
```

Рис. 7: Изменение свойств пароля carol

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

Рис. 8: Проверка групп пользователей

## Итоги работы

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В ходе работы были освоены приёмы управления пользователями и группами в Linux: создание учётных записей, настройка параметров паролей, изменение конфигурационных файлов, работа с группами и `sudo`. Получены практические навыки администрирования.