

Лабораторная работа 3

Права доступа в Linux

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Настройка базовых и специальных прав доступа для групп пользователей.

Выполнить задания, прописанные в файле.

Создание каталогов и изменение владельцев

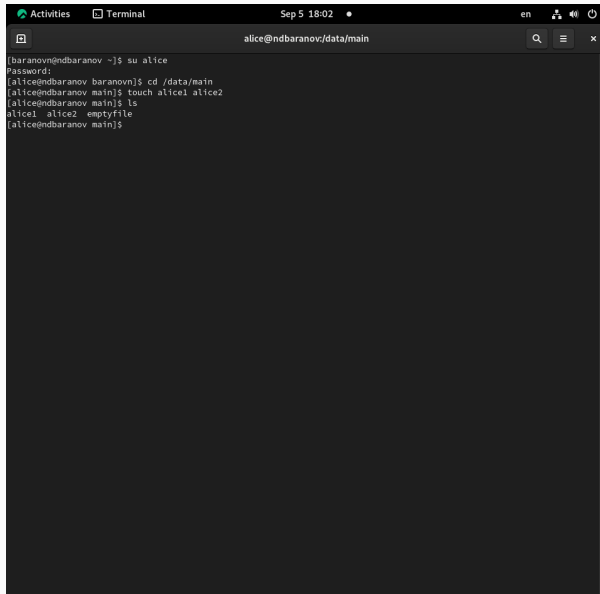
```
Activities Terminal Sep 5 17:56 en
root@ndbaranov:~
[baranov@ndbaranov ~]$ su -
Password:
[root@ndbaranov ~]# mkdir -p /data/main
[root@ndbaranov ~]# ls
anaconda-ks.cfg
[root@ndbaranov ~]# mkdir -p /data/main /data/third
[root@ndbaranov ~]# ls -Al /data
total 0
drwxr-xr-x. 2 root root 6 Sep  5 17:53 main
drwxr-xr-x. 2 root root 6 Sep  5 17:54 third
[root@ndbaranov ~]# chgrp main /data/main
[root@ndbaranov ~]# chgrp third /data/third
[root@ndbaranov ~]# ls -Al /data
total 0
drwxr-xr-x. 2 root main 6 Sep  5 17:53 main
drwxr-xr-x. 2 root third 6 Sep  5 17:54 third
[root@ndbaranov ~]# chmod 770 /data/main
[root@ndbaranov ~]# chmod 770 /data/third
[root@ndbaranov ~]# ls -Al /data
total 0
drwxrwx---. 2 root main 6 Sep  5 17:53 main
drwxrwx---. 2 root third 6 Sep  5 17:54 third
[root@ndbaranov ~]#
```

Проверка прав пользователя bob

```
Activities Terminal Sep 5 18:00 en
bob@ndbaranov:~

[baranov@ndbaranov ~]$ su - bob
Password:
su: Authentication failure
[baranov@ndbaranov ~]$ su - bob
Password:
su: Authentication failure
[baranov@ndbaranov ~]$ sudo useradd bob
[sudo] password for baranov:
useradd: user 'bob' already exists
[baranov@ndbaranov ~]$ su - bob
Password:
su: Authentication failure
[baranov@ndbaranov ~]$ su - bob
Password:
su: Authentication failure
[baranov@ndbaranov ~]$ id bob
uid=1003(bob) gid=1003(bob) groups=1003(bob),1004(main)
[baranov@ndbaranov ~]$ sudo passwd bob
Changing password for user bob.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[baranov@ndbaranov ~]$ su - bob
Password:
[bob@ndbaranov ~]$ cd /data/main
[bob@ndbaranov main]$ touch emptyfile
[bob@ndbaranov main]$ ls -Al
total 0
-rw-r--r--. 1 bob bob 0 Sep  5 17:59 emptyfile
[bob@ndbaranov main]$ cd /data/third
-bash: cd: /data/third: Permission denied
[bob@ndbaranov main]$ ls
emptyfile
[bob@ndbaranov main]$ cd
[bob@ndbaranov ~]$ cd /data/third
-bash: cd: /data/third: Permission denied
[bob@ndbaranov ~]$
```

Создание файлов пользователем alice



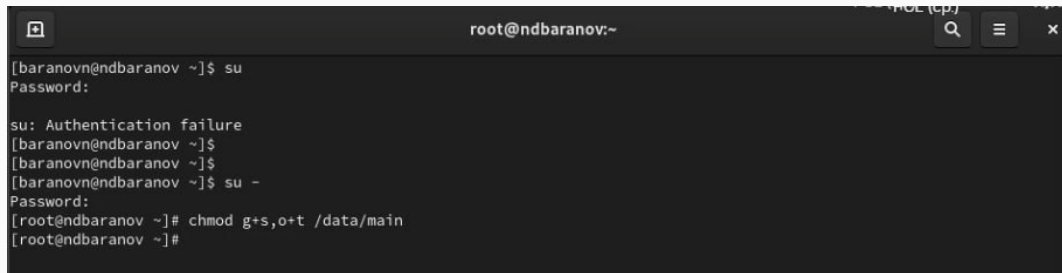
```
Activities Terminal Sep 5 18:02 en
alice@ndbaranov:/data/main
[baranov@ndbaranov ~]$ su alice
Password:
[alice@ndbaranov baranov]$ cd /data/main
[alice@ndbaranov main]$ touch alice1 alice2
[alice@ndbaranov main]$ ls
alice1 alice2 emptyfile
[alice@ndbaranov main]$
```

Создание файлов пользователем bob и проверка

```
Activities Terminal Sep 5 18:05 en
bob@ndbaranov:/data/main

[baranov@ndbaranov ~]$ su bob
Password:
[bob@ndbaranov baranov]$ exit
exit
[baranov@ndbaranov ~]$ su - bob
Password:
[bob@ndbaranov ~]$ ls
[bob@ndbaranov ~]$ cd /data/main
[bob@ndbaranov main]$ ls -l
total 0
-rw-r--r--. 1 alice alice 0 Sep  5 18:01 alice1
-rw-r--r--. 1 alice alice 0 Sep  5 18:01 alice2
-rw-r--r--. 1 bob  bob  0 Sep  5 17:59 emptyfile
[bob@ndbaranov main]$ rm -f alice*
[bob@ndbaranov main]$ ls
emptyfile
[bob@ndbaranov main]$ ls -l
total 0
-rw-r--r--. 1 bob bob 0 Sep  5 17:59 emptyfile
[bob@ndbaranov main]$ touch bob1 bob2
[bob@ndbaranov main]$ ls
bob1 bob2 emptyfile
[bob@ndbaranov main]$
```

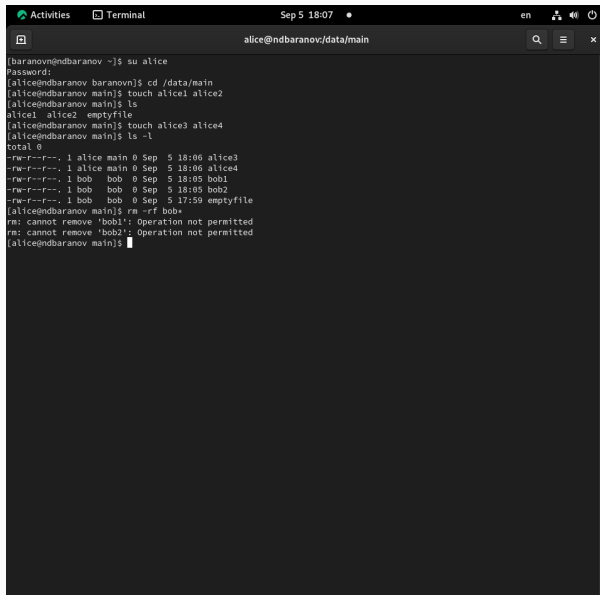

Установка SGID и sticky-бита



```
root@ndbaranov:~  
[baranov@ndbaranov ~]$ su  
Password:  
su: Authentication failure  
[baranov@ndbaranov ~]$  
[baranov@ndbaranov ~]$  
[baranov@ndbaranov ~]$ su -  
Password:  
[root@ndbaranov ~]# chmod g+s,o+t /data/main  
[root@ndbaranov ~]#
```

Рисунок 5: Устанавливаем бит идентификатора группы

Попытка удаления чужих файлов



```
Activities Terminal Sep 5 18:07 en
alice@ndbaranov:/data/main

[baranov@ndbaranov ~]$ su alice
Password:
[alice@ndbaranov baranov]$ cd /data/main
[alice@ndbaranov main]$ touch alice1 alice2
[alice@ndbaranov main]$ ls
alice1 alice2 emptyfile
[alice@ndbaranov main]$ touch alice3 alice4
[alice@ndbaranov main]$ ls -l
total 0
-rw-r--r--. 1 alice main 0 Sep  5 18:06 alice3
-rw-r--r--. 1 alice main 0 Sep  5 18:06 alice4
-rw-r--r--. 1 bob  bob  0 Sep  5 18:05 bob1
-rw-r--r--. 1 bob  bob  0 Sep  5 18:05 bob2
-rw-r--r--. 1 bob  bob  0 Sep  5 17:59 emptyfile
[alice@ndbaranov main]$ rm -rf bob*
rm: cannot remove 'bob1': Operation not permitted
rm: cannot remove 'bob2': Operation not permitted
[alice@ndbaranov main]$
```

Настройка ACL для каталогов

```
Activities Terminal Sep 5 18:17 en
root@ndbaranov:~

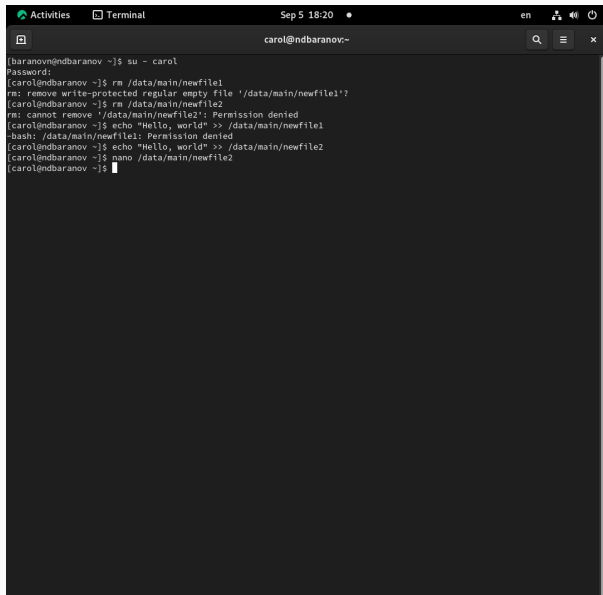
[baranov@ndbaranov ~]$ su -
Password:
[root@ndbaranov ~]# setfacl -m g:third:rx /data/main
[root@ndbaranov ~]# setfacl -m g:main:rx /data/third
[root@ndbaranov ~]# getfacl /data/main
getfacl: Removing leading '/' from absolute path names
# file: data/main
# owner: root
# group: main
# flags: -st
user::rwx
group::rwx
group:third:r-x
mask::rwx
other::---

[root@ndbaranov ~]# getfacl /data/third
getfacl: Removing leading '/' from absolute path names
# file: data/third
# owner: root
# group: third
user::rwx
group::rwx
group:main:r-x
mask::rwx
other::---

[root@ndbaranov ~]# touch /data/main/newfile1
[root@ndbaranov ~]# getfacl /data/main/newfile1
getfacl: Removing leading '/' from absolute path names
# file: data/main/newfile1
# owner: root
# group: main
user::rw-
group::r--
other::r--

[root@ndbaranov ~]# touch /data/third/newfile1
[root@ndbaranov ~]# getfacl /data/third/newfile1
getfacl: Removing leading '/' from absolute path names
# file: data/third/newfile1
# owner: root
# group: third
user::rwx
group::rwx
group:main:r-x
mask::rwx
other::---
```

Проверка ACL пользователем группы third



A terminal window titled "Terminal" with a search bar and window controls. The terminal shows a user switching to 'carol' and attempting to remove files with 'rm'. The first removal of '/data/main/newfile1' is successful. The second attempt to remove '/data/main/newfile2' fails with a 'Permission denied' error. Subsequent attempts to echo 'Hello, world' into both files also fail with 'Permission denied' errors. Finally, the user opens a nano editor for '/data/main/newfile2'.

```
[baranov@ndbaranov ~]$ su - carol
Password:
[carol@ndbaranov ~]$ rm /data/main/newfile1
rm: remove write-protected regular empty file '/data/main/newfile1'?
[carol@ndbaranov ~]$ rm /data/main/newfile2
rm: cannot remove '/data/main/newfile2': Permission denied
[carol@ndbaranov ~]$ echo "Hello, world" >> /data/main/newfile1
-bash: /data/main/newfile1: Permission denied
[carol@ndbaranov ~]$ echo "Hello, world" >> /data/main/newfile2
[carol@ndbaranov ~]$ nano /data/main/newfile2
[carol@ndbaranov ~]$
```

Получены навыки настройки базовых и специальных прав доступа для групп пользователей в Linux.