

1) Analyze the structure of the /etc/passwd and /etc/group file, what fields are present in it, what users exist on the system? Specify several pseudo-users, how to define them?

username: passwd: uid: gid: uid comments: directory: shell

group_name :password :group_id :list

Pseudo users are not registered in the system and are only needed to confirm ownership of the processes.

2) What are the uid ranges? What is UID? How to define it?

User identifier - 16 bit value (rarely 32 bit)

0 - root

1-999 - pseudo

1000 and more - real users

3) What is GID? How to define it?

GID - unique identifier of the group within the system to which the user belongs

groupmod -g groupID username

4) How to determine belonging of user to the specific group?

student@CsnKhai:~/test\$ id -Gn

student adm cdrom sudo dip plugdev lpadmin sambashare

student@CsnKhai:~/test\$ groups

student adm cdrom sudo dip plugdev lpadmin sambashare

or look for information in cat /etc/group

5) What are the commands for adding a user to the system? What are the basic parameters required to create a user?

useradd [-c uid comment] [-d dir] [-e expire] [-f inactive] [-g gid] [-m [-k skel_dir]] [-s shell] [-u uid [-o]] username

adduser [options] [--home DIR] [--shell SHELL] [--no-create-home] [--uid ID] [--firstuid ID] [--lastuid ID] [--ingroup GROUP | --gid ID] [--disabled-password] [--disabled-login] [--gecos GECOS] [--add_extra_groups] [--encrypt-home] user

6) How do I change the name (account name) of an existing user?

root@CsnKhai:/# useradd test

root@CsnKhai:/# id test

uid=1001(test) gid=1001(test) groups=1001(test)

root@CsnKhai:/# usermod -l new_test test

root@CsnKhai:/# id new_test

uid=1001(new_test) gid=1001(test) groups=1001(test)

root@CsnKhai:/# id test

id: test: no such user

7) What is skell_dir? What is its structure?

/etc/skel Основа для создания домашнего каталога пользователя

root@CsnKhai:~# ls -al /etc/skel

total 20

drwxr-xr-x 2 root root 4096 Dec 21 19:19 .

drwxr-xr-x 84 root root 4096 Dec 22 12:58 ..

-rw-r--r-- 1 root root 220 Apr 9 2014 .bash_logout

-rw-r--r-- 1 root root 3637 Apr 9 2014 .bashrc

-rw-r--r-- 1 root root 675 Apr 9 2014 .profile

8) How to remove a user from the system (including his mailbox)?

Delete user with mailbox -

userdel -r new_test

9) What commands and keys should be used to lock and unlock a user account?

Любой из способов

passwd -l student

usermod -L student

student: !\$6\$xEUhj3q.\$ETR1D3F1D0i14mJcGI37fDnEX1VjZYHVhbKtAThUyL7/
LNmwLw2UcQ6Zs1.z3Ajpgjh4aVjMsZ4viwbT6UEeNA.:16693:0:99999:7:::

passwd -u student

usermod -U student

student:\$6\$xEUhj3q.\$ETR1D3F1D0i14mJcGI37fDnEX1VjZYHVhbKtAThUyL7/
LNmwLw2UcQ6Zs1.z3Ajjgh4aVjMsZ4viwbT6UEeNA.:16693:0:99999:7:::

10) How to remove a user's password and provide him with a password-free login for subsequent password change?

passwd -d student – беспарольный вход
passwd expire student – запрос нового пароля при первом входе

11) Display the extended format of information about the directory, tell about the information columns displayed on the terminal.

ls -al
drwxrwxr-x 2 student student 4096 Dec 21 19:49 test_directory

12) What access rights exist and for whom (i. e., describe the main roles)? Briefly describe the acronym for access rights.

|user|group|other| |rwx|rwx|rwx| |7|7|7|
SUID
SGID
Sticky-bit

13) What is the sequence of defining the relationship between the file and the user?

If the UID of the file is the same as the UID of the process, the user is the owner of the file
If the GID of the file matches the GID of any group the user belongs to, he is a member of the group to which the file belongs.
If neither the UID no the GID of a file overlaps with the UID of the process and the list of groups that the user running it belongs to, that user is an outsider

14)What commands are used to change the owner of a file (directory), as well as the mode of access to the file? Give examples, demonstrate on the terminal.

chown
chgrp
chmod

chgrp root test_directory

chmod o+t test_directory

```
drwxrwxr-x 2 student student 4096 Dec 21 19:49 test_directory/
drwxrwxr-x 2 student root    4096 Dec 21 19:49 test_directory/
drwxrwxr-t 2 student root    4096 Dec 21 19:49 test_directory/
```

15) What is an example of octal representation of access rights? Describe the umask command.

Umask – права доступа файлов по умолчанию (при создании файла)

sU|sG|t|rU|wU|xU|rG|wG||xG|rO|wO|xO

Как посчитать (определить) права файла для маски 022 (пользователь root):

Права по умолчанию: 666

Вычитаемое значение umask: 022 (-)

Итоговые права: 644

Как посчитать (определить) права директории для маски 022 (пользователь root):	
Права по умолчанию:	777
Вычитаемое значение umask:	022 (-)
Итоговые права:	755

16) Give definitions of sticky bits and mechanism of identifier substitution. Give an example of files and directories with these attributes.

Sticky Bit is mainly used on folders in order to avoid deletion of a folder and it's content by other users though they having write permissions on the folder contents. If Sticky bit is enabled on a folder, the folder contents are deleted by only owner who created them and the root user. No one else can delete other users data in this folder(Where sticky bit is set). This is a security measure to avoid deletion of critical folders and their content(sub-folders and files), though other users have full permissions
drwxrwxrwt 2 root root 4096 Dec 22 14:17 tmp/

17) What file attributes should be present in the command script?

“execute to all” permission