**Topic: "Changing owners and file access rights in Linux"**

**Performed by students RPZ-93B group**

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**The purpose of the work:**

1. Gaining practical skills in working with the Bash shell.
2. Familiarity with basic actions when changing file owners .
3. Familiarity with the basic actions when changing file permissions

**Material support of classes**

1. Computer type IBM PC.

2. Windows family of operating systems (Windows 7).

3. Virtual machine - Virtual Box (Oracle).

4. GNU / Linux operating system - CentOS.

5. Cisco Network Academy website netacad.com and its online Linux courses

**Tasks for preliminary preparation.**

1. Read brief theoretical information for laboratory work and make a small dictionary of basic English terms on the purpose of commands and their parameters.

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1. On the basis of the considered material give answers to the following questions:
   1. What is the purpose of the id command?

The id command is intended to call the utility of the same name that displays information about the user account. This utility allows you to get information about the user's account ID and name, the user's primary group ID and name, the user's other group IDs and names, and the SELinux context associated with the user's account.

The basic command syntax is as follows:

$id [options] [username]

When the utility is used without parameters and without a username, it will display information about the account ID of the user who called it, the ID and name of its main group, and the IDs and names of its other groups. If you specify a username, it will display the same information for that user without requiring superuser privileges.

* 1. How do I see what permissions the file owner has?

File ownership also applies to hidden files in the system. Hidden files, which begin with the period . character are listed using the -a option of the ls command. The first two hidden files listed are the current . and parent .. directories respectively. The ownership of all files and subdirectories within the current directory can be listed using the ls -la command.

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* 1. How to change group owner?

You can change the owner and group of a file or directory using the chown command. Please note that you can only do this if you are the root user or owner of the file.

Set file owner:

$ chown username somefile

After this command is called, the new owner of somefile will be the username. The owner of the file group will not change. Instead of a username, you can also enter a numeric user ID here if you wish.

You can also set a file group at the same time. If the username is followed by a colon and a group name, the file group will also be changed.

$ chown username: usergroup somefile

After providing this command, somefile The new owner will be username and usergroup.

You can set the directory owner just as you set the file owner:

$ chown username somedir

Note that after providing this command, only the owner of the directory will change. The owner of the files inside the directory will not change.

In order to establish ownership of the directory and all files in this directory, you will need the -R option file:

$ chown -R username somedir

Here R means recursive because this command will recursively change the ownership of directories and their contents. After issuing this example command, the user username will be the owner of the somedir directory, as well as every file in this directory.

* 1. How can I view the current file type in the terminal? Give examples for different file types?

If you need to know the file extensions in the entire directory, you will need the **file \*** command. Or if you need to analyze a single file - then use the

**file Name** command.

1. Learn Cisco Academy Online Course Materials:

* NDG Linux Essentials ( Chapter 17 all Topics )

1. Take the NDG Linux Essentials course on the following topics:

* Chapter 1 7 Exam

1. Prepare the initial version of the report in electronic form:

* Title page, topic and purpose of the work
* Glossary of terms
* Answers to paragraphs 2.1-2.3 of the tasks for preliminary training

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**Progress.**

* 1. Initial work in CLI mode in Linux Linux family:
  2. Start the VirtualBox virtual machine, select CentOS, and start it. Log in under the user: CentOS, login password: reverse ***(if you are performing LR in room 401)*** and lower the terminal.
  3. Start the Ubuntu\_PC virtual machine ***(if you are performing LR tasks through the netacad academy)***
  4. Start your Linux operating system ***(if you are running your own PC and have it installed)*** and start the terminal.
  5. Study all the examples of commands presented in the laboratory work of the ***NDG Linux Essentials course:***
* ***Lab 1 7 : Ownership and Permissions***
  1. Create a table of commands studied in paragraph 2 of the work in the following form:

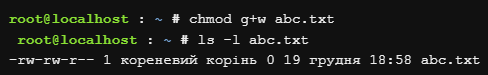
|  |  |
| --- | --- |
| Command name | Its purpose and functionality |
| chmod | This command has the typical syntax for linux commands, first the command, then the options, and finally the file or folder to which it is to be applied |
| chown | The chown command allows you to change the user and/or group ownership of a given file, directory, or symbolic link. |
| chgrp | chgrp command in Linux is used to change the group ownership of a file or directory. |
| mkdir | The mkdir command in Linux/Unix allows users to create or make new directories. mkdir stands for “make directory.” |
| ls | The ls command is one of the many Linux commands that allow a user to list files or directories from the CLI. |
| stat | The stat is a command which gives information about the file and filesystem |

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**Test questions**

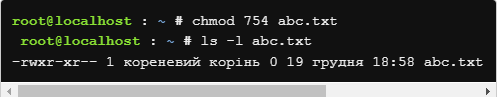
1. Give examples of changing access rights by Symbolic Method ?

For example, to give the group owner permission to write to a file named abc.txt, you can use the following command:



1. Give examples of changing access rights by numeric method (numeric method, octal method)?

For example, to set permissions on a file named abc.txt, rwxr-xr - you can use the following command:



1. What is the purpose of the umask team ?

The umask command is a function that is used to define the read permissions that are set when creating a file or directory. The new umask only applies to files and directories created during this session. When a new shell is launched, the default umaska will work again.

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1. If we change the access rights and permissions in the current session, will they be retained in the next one? .

Yes, rights and permits are retained.

1. Is there a template that the system uses for rights and access when creating new files. How can I change the default permissions ?

The shell checks to see if you are the owner of the file you want to access. If you are the owner, you get permissions and the shell stops checking.

If you are not the owner of the file, the shell will check to see if you are a member of a group that has permissions to the file. If you are a member of this group, you will access the file with the permissions that the group has set, and the shell will stop checking.

If you are neither a user nor the owner of a group, you are given the rights of other users (Other).

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**Conclusion:** I gained practical skills in working with the Bash shell, learned the basic actions when changing file owners and basic actions when changing file access rights.