Kyiv Professional College of Communications

Computer Engineering Cycle Commission

**REPORT**

**LABORATORY WORK №9**

in the discipline: "Operating Systems"

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

Completed by:

Students of the RPZ-93b group

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The teacher:

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**The purpose of the work:**

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

**Material support:**

1. Computer type IBM PC.

2. 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***

***Prepared material by student Usenko B.A.***

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

|  |  |
| --- | --- |
| id | The id command can be useful for verifying which user account you are using and which groups you have  available to use. By viewing the output of this command, you can see the users identity information expressed both as  a number and as a name. |
| chgrp | The syntax for changing the group then vich the fillet belongs hear simple. Just write the shgrp command, folloved by the group name and then the object name. |
| chmod a+x file | Gives everyone execute permission |
| chmod g-w file | Removes write permission for group owners |
| chmod go+r file | Adds read permission for group owner and others |
| chmod o=rwx | Sets others permissions to read, write and execute |
| stat | The syntax of the command is very simple. It needs to be given options and the path to the file for which you want to view the information: $ stat опції /шлях/до/файлу |
| chown | The syntax of chown, like other similar linux commands, is very simple:  $chown користувач опції /шлях/до/файлу |

1. On the basis of the considered material give answers to the following questions:
   1. id is a UNIX utility that provides information about the specified USERNAME user or the current user who ran this command without parameters. By default, numeric user IDs (UIDs) and groups (GIDs), valid (personal) user and group IDs, and IDs of other groups to which the user belongs are specified.
   2. The sequence-rw-r - r - shows access rights for the user who owns the file, the users who are members of the owner group, and all other users. The first character in this series (-) indicates the file type.

2.3<chown - change the owner of the file>

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.

2.4Touch command

The touch utility was developed primarily to change the time of the last access to the file. If the specified file is missing, it creates it.

To create a text file, enter the touch command, then the path and name of the new file

touch /path/to/file/filename.txt

For example, create a text file in the current terminal\_work directory named file.txt

teacher @ teacher-VirtualBox: ~ / terminal\_work $ touch file.txt

teacher @ teacher-VirtualBox: ~ / terminal\_work $ ls

file.txt

3. Study Cisco Academy Online Course Materials:

- NDG Linux Essentials (Chapter 17 all Topics)

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

- Chapter 17 Exam

**Progress**

***Prepared material by student Melnichuk M.A.***

* 1. Initial work in CLI mode in Linux OS of the Linux family:
  2. Start the Ubuntu\_PC virtual machine ***(if you perform LR tasks through the netacad academy)***
  3. Study all the examples of commands presented in the laboratory work of the course ***NDG Linux Essentials:***
* ***Lab 17: Ownership and Permissions***
  1. Create a table of commands studied in paragraph 2 in the following form:

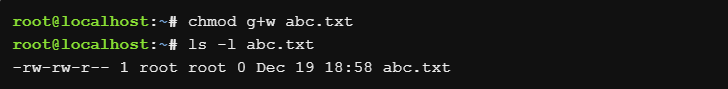
|  |  |
| --- | --- |
| **Command name** | **Its purpose and functionality** |
| mkdir priv-dir pub-dir | Create two directories called priv-dir and pub-dir. |
| touch priv-dir/priv-file  rouch pub-dir/pub-file | Create two files, one file called priv-file in the priv-dir directory and another file called pub-file in the pub-dir directory. |
| ls –l priv-dir  ls –l pub-dir | View the contents of the new directories. |
| chmod 0-rx priv-dir/ | Remove the others' permissions for read and execute. |
| chmod a+x file | Give everyone execute permission. |
| chmod go+r file | Add read permission for group owner and others. |
| chmod g-rw, o-r priv-dir/priv-file | Remove any permission from the group and others on the priv-file. |
| echo “date” > test.sh | Create a test.sh file in the /tmp containing the content "date". |
| chmod u+x test.sh  ls –l test.sh  ./test.sh | Execute test.sh. |
| stat test.sh | The *stat* command displays more detailed information about a file, including providing the group ownership both by group name and GID number. |
| chown | Change both the user and group that owns a file. |
| chqrp | Change the group that owns a file. |
| chown root:root pub-dir | Change the user and group owner of pub-dir to the root user and the root group. |
| chown bin pub-dir/pub-file | Change the user owner of the pub-file to the bin user. |

**Answers to control questions:**

***Prepared material by students Melnichuk M.A., Usenko B.A.***

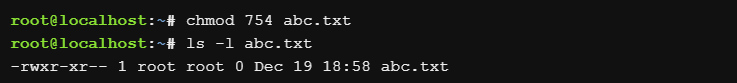
1. If you want to modify some of the current permissions, the symbolic method is usually easier to use. With this method, you specify which permissions you want to change on the file, and the other permissions remain as they are.

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



2. The numeric method (also called the octal method) is useful when changing many permissions on a file. It is based on the octal numbering system in which each permission type is assigned a numeric value.

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



3. On Linux and other Unix-like operating systems, new files are created with a default set of permissions. Specifically, a new file's permissions may be restricted in a specific way by applying a permissions "mask" called the *umask*. The *umask* command is used to set this mask, or to show you its current value.

4. Yes, they will be saved.

*5.* We enter the SSH protocol on the BBC with root privileges.

Go with the cd command to the directory where the folder we need is located. In this case it is / var / www:

cd / var / www

Use chmod to set recursive permissions for mysite:

chmod -R 777 mysite SFTP

We will use FileZilla to connect to the SFTP server. This program is free, supports Russian and is cross-platform. You can download it from the official website: https://filezilla-project.org/. Note that the left column displays the directory tree of your computer, and the right remote machine, in this case the BBC.

**Conclusion:**

We gained practical skills in working with the Bash shell, learned the basic steps when changing file owners and file access rights.