“Kyiv Professional College of Communications”

Computer Engineering Cycle Commission

**PERFORMANCE REPORT**

**LABORATORY WORK №4**

in the discipline: "Operating Systems"

**Topic: "Linux commands for process management"**

Performed by students

RPZ-93B group

Team:

Бушовська О.В,

Білобровенко О.С.,

Скворцов Д.Є.

The teacher checked:

Сушанова В.С.

Київ 2022

**The goal of the work:**

1. Gaining practical skills in working with the Bash command shell.

2. Familiarity with basic commands for process management.

**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.**

***Готувала матеріал студентка Білобровенко Олександра***

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.
2. On the basis of the considered material give answers to the following questions:

1.1 What commands do you know to monitor the status of processes? How to view their possible parameters?

1.2 Can the ps command monitor the status of processes in real time?

1.3 By what parameters is it possible to sort processes in the top command? How to switch between them?

1.4 What commands do you know to complete the processes?

2. Learn Cisco Academy Online Course Materials:

-NDG Linux Unhatched (Chapter 14 - 18 all Topics)

3. Answer the following questions (based on the course studied):

3.1. What filter commands do you know?

3.2. What are regular expressions and base patterns, what are they used for?

3.3. What basic network configuration commands do you know?

3.4. What package management systems do you know why you need them?

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

- Title page, topic and purpose of the work

- Glossary of terms

- Answers to clauses 2.1-2.4 and clause 3.1-c of tasks for preliminary preparation.

Progress.

***Готував матеріал студент Скворцов Дмитро***

1. Initial work in CLI mode in Linux Linux family:

1.1 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.

1.2 Start the Ubuntu\_PC virtual machine (if you are performing LR tasks through the netacad academy)

1.3 Start your Linux operating system (if you are running your own PC and have it installed) and start the terminal.

1. Start the terminal, and on the command line, follow these steps to familiarize yourself with working with directories:

* display the contents of the directory / proc. Where is it located and what is it for? Describe the information about its content.
* display current user sessions. What team can do this?
* display information about all running processes. What parameters should be used?
* display information about the processes of one user. What parameters should be used?
* display information only about system processes. What parameters should be used?
* display information about the processes according to your chosen criteria (5 examples). What parameters are used?

1. When working with processes, it is often necessary to start and work with background processes. Answer the following questions:

* What is the difference between the background process and the usual. Where are they used?
* Describe the following commands and explain what they do - the jobs, bg, fg command.
* Which command can you use to view information about background processes and tasks running on your system?
* How to pause the background process, then resume it and restart if necessary?

Test questions

***Готувала матеріал студентка Бушовська Ольга***

1. What is the purpose of the / proc directory on Linux systems? What information does it store?
2. How do you dynamically determine which of the three processes currently uses the most memory? What percentage of memory does it consume?
3. How to get a hierarchy of parent processes in Linux systems? Give its structure and describe.
4. How is the top command different from ps?
5. What additional features does htop implement compared to top?
6. Describe the components of your mobile OS that allow you to monitor the processes running in the system?
7. Does your mobile system support terminal process control? If so, describe exactly how.
8. Is it possible to install third-party software that will allow you to organize the management and monitoring of processes in your mobile phone. Briefly describe them.

**Conclusion:** I gained practical skills in working with the Bash command shell. I got acquainted with the basic commands for process management.