“Київський фаховий коледж зв’язку”

Циклова комісія комп’ютерної та програмної інженерії

**ЗВІТ ПО ВИКОНАННЮ**

**ЛАБОРАТОРНОЇ РОБОТИ №4**

з дисципліни: «Операційні системи»

**Тема: “ Захист системи та користувачів у Linux. Створення користувачів та груп”**

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1. **What is the concept of UPG (User Private Groups), and when is it appropriate to use them?**
2. **Which commands can be used to create user groups? Provide examples.**
3. **Which commands can be used to modify user group settings? Provide examples.**

**1.**

**User Private Groups (UPG):**  
UPG is a system where every user has their own private group created with the same name as their username. It is useful in environments where file permissions are critical because it simplifies collaboration and reduces the risk of permission conflicts. UPGs are especially appropriate in systems where users frequently share files within teams.

**2. Commands to create user groups:**

groupadd groupname: Creates a new group.

**Example:**

groupadd developers

useradd -G groupname username: Adds a user to a group while creating the user.  
**Example:**

useradd -G team john

**3. Commands to modify user group settings:**

groupmod: Modifies group properties, such as renaming or changing GID.  
**Examples:**

groupmod -n newgroupname oldgroupname

-g 2000 groupname

usermod -aG groupname username: Adds a user to an additional group without removing existing group memberships.  
**Example:**

usermod -aG developers john

gpasswd: Manages group passwords and memberships.  
**Examples:**

gpasswd -a username groupname

-d username groupname

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**2. Process all the command examples presented in the lab works of the NDG Linux Essentials course - Lab 15: System and User Security and Lab 16: Creating Users and Groups. Create a table to describe these commands.**

|  |  |
| --- | --- |
| **Command name** | **its purpose, and functionality** |
| su | Switches to another user account. Requires the target user's password unless executed with sudo. |
| sudo | Executes a command with superuser or other specified user privileges. |
| id | Displays user ID (UID), group ID (GID), and group memberships of the current or specified user. |
| exit | Logs out from the current session or terminates a shell. |
| head | Displays the first few lines (default is 10) of a file. |
| grep | Searches for specific patterns in files or input streams using regular expressions. |
| getent passwd username | Retrieves the password database entry for the specified username. |
| getent | Queries system databases, such as passwd, group, or hosts, using the Name Service Switch (NSS). |
| who | Displays a list of users currently logged into the system. |
| w | Shows information about users currently logged in and their activities. |
| last | Displays a list of recent user logins. |
| groupadd | Creates a new group in the system. |
| groupmod | Modifies an existing group’s properties, such as its name or GID. |
| useradd | Adds a new user account to the system. |
| passwd | Updates a user's password and password-related information. |
| usermod | Modifies user account settings, such as home directory, groups, or login shell. |
| -r | Option to remove associated files or set system-level properties (depends on the command). |
| -n | Renames a user or group when used with usermod or groupmod. |
| -g | Sets the primary group ID for a user when used with usermod or groupmod. |
| groupdel | Deletes a group from the system. |
| -d | Displays or sets default options for user creation with useradd. |
| -k | Retains certain files or performs specific actions when used with commands like useradd or usermod. |
| -f 30 | Sets the number of days after password expiration before the account is disabled with useradd. |
| nano | Opens the Nano text editor to edit files. |
| -m | Creates a home directory for the user with useradd. |
| lastb | Displays failed login attempts. Requires root privileges. |
| usermode -l student | Locks the account of user student, preventing login. |
| usermode -u student | Unlocks the account of user student, allowing login. |
| userdel student | Deletes the user account student from the system. |
| userdel -r student | Deletes the user account student and removes their home directory and mail spool. |