DAY 11 **DATE:10/05/2025**

NAME: ANNIE JOHN

USER ID:27739

Batch: 25VID0885_DC_Batch4

TITLE: GROUP ADMINISTRATION

- **Groups in Linux -** In Linux, groups are used to manage a collection of users and their access to system resources such as files and directories.
- **Key Concepts**
  - **Group ID (GID):**
    Each group has a unique numeric identifier called the **GID**.
  - **Group Information Storage:**
    Group names and GIDs are stored in the /etc/group file.
  - **Private Group for Each User:**
    When a new user is created, a private group with the same name is typically created and assigned as their **primary group**.
  - **Primary and Secondary Groups:**
    1. **Primary Group: -** Defined in the /etc/passwd file. Every user must belong to one primary group. Files created by the user are associated with this group by default.
    2. **Secondary Groups: -** Listed in the /etc/group file. A user can be part of **multiple secondary groups**. These groups grant additional access to files and directories.
- **Creating a Group with default options**
  - To create a group the syntax is - **#groupadd <name for the group>**

```
dani:x:1007:
root@Annie:/home/annie# groupadd group1
root@Annie:/home/annie# tail -4 /etc/group
admin:x:1005:
admin2:x:1006:
dani:x:1007:
group1:x:1008:
root@Annie:/home/annie#
```

- **Creating a group with user specified group id (GID)**
  - **#groupadd -g <groupid> <groupname>**
  - Verify it in **tail /etc/group**

```
root@Annie:/home/annie# groupadd -g 1024 group2
root@Annie:/home/annie# tail -4 /etc/group
admin2:x:1006:
dani:x:1007:
group1:x:1008:
group2:x:1024:
root@Annie:/home/annie#
```

- **Changing the name of the group**

  The syntax for changing the group name is
  - **#groupmod –n <new name > < existing name >**

```
root@Annie:/home/annie# groupmod -n linux group2
root@Annie:/home/annie# tail -4 /etc/group
admin2:x:1006:
dani:x:1007:
group1:x:1008:
linux:x:1024:
root@Annie:/home/annie#
```

- **Adding and Removing Members to a Group:**

Adding the members to the group is to add users to the group. To add the members to the group the syntaxes are

- To add a **single user** to the group.

#usermod –G <group name > < username>

```
root@Annie:/home/annie# usermod -G group1 dani
root@Annie:/home/annie# tail -4 /etc/group
admin2:x:1006:
dani:x:1007:
group1:x:1008:dani
linux:x:1024:
root@Annie:/home/annie#
```

- **Adding multiple single or multiple users to the group with various attributes:**

#gpasswd < option> <arguments> <group name>

Options:

- **-M For Adding Multiple users to a group.**
- **-A for Adding a group Administrator.**
- **-a for Adding a single user to a group.**
- **-d removing a user from a group**

#gpasswd –M <user>,<user>,<user> <group>

```
root@Annie:/home/annie# gpasswd -M user1,user2 admin2
root@Annie:/home/annie# tail -4 /etc/group
admin2:x:1006:user1,user2
dani:x:1007:
group1:x:1008:dani
linux:x:1024:
root@Annie:/home/annie#
```

- **Making a user as a administrator**
  - **#gpasswd -A username groupname**
  - **verify it in /etc/gshadow**

```
oot@Annie:/home/annie# gpasswd -A dani linux
oot@Annie:/home/annie# tail -4 /etc/shadow
ser2:$y$j9T$ic.5HWGQ1shxwfSiFMZUW0$7GCrcZtPcBSeuYRbJ8/jncQFWjbgss8SJS7pW9hfdd
0218:0:99999:7:::
ser1:$y$j9T$i7X/pJiv9FW1ap/kJjPxL/$ntu1FgDRDwWbfxlkBHKU89S5/f4hi92Lw3KUa/Rqyr
0218:0:99999:7:::
ser3:!:20218:0:99999:7:::
ani:!:20218:0:99999:7:::
oot@Annie:/home/annie#
```

- **Removing a user from the group:**
  - **#gpasswd –d <username><groupname>**

```
root@Annie:/home/annie# tail -4 /etc/group
admin2:x:1006:user1,user2
dani:x:1007:
group1:x:1008:dani
linux:x:1024:
root@Annie:/home/annie# gpasswd -d user1 admin2
Removing user user1 from group admin2
root@Annie:/home/annie# tail -4 /etc/group
admin2:x:1006:user2
dani:x:1007:
group1:x:1008:dani
linux:x:1024:
root@Annie:/home/annie#
```

- **Delete Group:**
  groupdel <groupname>

```
root@Annie:/home/annie# groupdel linux
root@Annie:/home/annie# tail -4 /etc/group
admin:x:1005:
admin2:x:1006:user2
dani:x:1007:
group1:x:1008:dani
root@Annie:/home/annie#
```

- **To find what process runs in system**


root@Annie:/home/annie# ps -ef
UID PID PPID C STIME TTY TIME CMD
root 1 0 0 09:58 ? 00:00:15 /sbin/init splash
root 2 0 0 09:58 ? 00:00:00 [kthreadd]
root 3 2 0 09:58 ? 00:00:00 [pool_workqueue_release]
root 4 2 0 09:58 ? 00:00:00 [kworker/R-rcu_g]
root 5 2 0 09:58 ? 00:00:00 [kworker/R-rcu_p]
root 6 2 0 09:58 ? 00:00:00 [kworker/R-slub_]
root 7 2 0 09:58 ? 00:00:00 [kworker/R-netns]
root 9 2 0 09:58 ? 00:00:03 [kworker/0:1-rcu_par_gp]
root 11 2 0 09:58 ? 00:00:00 [kworker/u256:0]
root 12 2 0 09:58 ? 00:00:00 [kworker/R-mm_pe]
root 13 2 0 09:58 ? 00:00:00 [rcu_tasks_kthread]
root 14 2 0 09:58 ? 00:00:00 [rcu_tasks_rude_kthread]
root 15 2 0 09:58 ? 00:00:00 [rcu_tasks_trace_kthread
root 16 2 0 09:58 ? 00:00:00 [ksoftirqd/0]
root 17 2 0 09:58 ? 00:00:04 [rcu_preempt]
root 18 2 0 09:58 ? 00:00:00 [migration/0]
root 19 2 0 09:58 ? 00:00:00 [idle_inject/0]
root 20 2 0 09:58 ? 00:00:00 [cpuhp/0]