# Assignment #7: Linux User and Group Management [3%]

This assignment relates to the following Course Learning Requirements:

CLR 2 – Using the knowledge of the purpose and function of operating system components, explore commands that provide and configure system information.

CLR 3 – Work with the GUI and command-line interfaces.

Objective of this Assignment:

This assignment examines user and group commands.

# Pre-Assignment Instructions:

1. Launch the VMWare Workstation and run the Ubuntu Virtual Machine instance from last week.
2. Launch the Terminal Window.

**Assignment Tasks:**

Follow the exercises by entering the commands and recording the results into the word file provided in this assignment. Once completed, upload the Word file to Brightspace.

Note: Whenever you are unsure of a command, you can look up the definition and usage using the keyword **man** (short for **manual page**) and the command name.

**Exercise #1: Creating a new user and assigning password**

1. Log in to root account with the command: **su - root**
2. Create the following account using **useradd** command:

username: user501

home directory: /home/user501home (create the user’s home directory if not exist)

login shell: /bin/bash

Record the command you use: useradd -d /home/user501home -m -s /bin/bash user501\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Define password for this user account and record the command you use

\_\_\_\_\_\_\_\_passwd user501\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Verify that the information of the new user account is recorded in the /etc/passwd file by typing commands:

**cat /etc/passwd | grep user501**

**cat /etc/group | grep user501**

1. What is the initial group of user501? \_\_\_\_\_user501\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise #2: Deleting a user account**

Delete the user account, user501. Make sure the user's home directory is removed, as well as all files stored in it.

1. Record the command you use:

\_\_\_\_\_\_\_\_userdel -r user501\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Record the commands you use to verify the user account and the user's home directory are deleted.

to see user: typed: less /etc/passwd to find username in list, couldn’t find it. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_to find if home directory is deleted, did cd /home/user501home to which the shell replied that it did not exist. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Record the output of the command: grep user501 /etc/group

\_\_\_\_\_\_\_\_\_\_\_absolutely no output.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise #3: Create a new user account**

Use the **useradd** command to create the following user account:

username: user502

home directory: /home/user502 (create the user’s home directory if not exist)

initial group: users

login shell: /bin/bash

expiration date: 2025-12-31

1. Record the command you use useradd -d /home/user502 -m -g users -e 2025-12-31 -s /bin/bash user502\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Define password for this user account using passwd command
3. Record the commands you use to verify the user account is created:

\_\_\_\_grep user502 /etc/passwd

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Log in to user502 with the command: su – user502, and copy /etc/fstab to user502’s home directory with the following command:

**cp /etc/fstab ~/**

1. List all files in user502’s home directory with the command:

**ls /home/user502**

**Exercise #4: Assign a different home directory to user account**

Switch to root user account with the command su – root, and change the home directory of user502 to /home/user502home, (Please note that the contents of the current home directory should be moved to the new home directory, which should be created if it does not already exist.)

a) Record the command you use:

\_\_usermod -m -d /home/user502home user502\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Log in to user502 with the command: **su - user502**

c) Record the commands you use to verify the user's home directory has changed to /home/user502home

grep /home/user502home /etc/passwd

**Exercise #5: Assign a different login shell to a user account.**

Log in as user502, and change the login shell of user502 to /bin/sh

1. Record the command you use:

“Chsh” when logged in as user502, since they do not have permissions to use usermod.

1. What is the command you use to verify the login shell has been changed to /bin/sh?

\_\_\_”grep /bin/sh /etc/passwd”, find user502 in list, at the end of their entry is the login shell, which displayed as /bin/sh

1. Switch to root, and change the login shell back to /bin/bash for user502, record the command used:

\_\_\_\_\_usermod -s /bin/bash user502\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise #6: Create a new Group and assign a user to it.**

1. Change the primary (initial) group of user502 to root, and record the command you use:

\_\_usermod -g root user502\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Create a new group named cst8102labs, and record the command you use:

\_\_\_\_\_\_\_\_groupadd cst8102labs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Let user502 join the group cst8102labs as a supplementary group, and record the command you use:

\_\_\_usermod -G cst8102labs user502\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the output of the command: groups user502?

User502 : root cst8102labs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise #7: Updating a user’s group ID**

Log in to user502 with the command **su - user502**, and change user502’s group ID (initial group) to cst8102labs for the duration of current session, and record the command you use:

\_\_\_\_\_\_\_\_\_newgrp cst8102labs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the output of the command: groups?

\_\_\_\_\_\_cst8102labs root\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Log in to root and create a new group named test

Create a password for the group test, and record the command you use:

\_\_\_\_\_\_\_\_\_\_\_gpasswd test\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Log in to user502 with the command su – user502, and change User502’s group ID (initial group) to test for the duration of current session, and record the command you use:

\_\_\_\_\_\_\_newgrp test\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the output of the command: groups?

Test root cst8102labs\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise #8: Assigning a group administrator**

1. Create the following user accounts using useradd commands:

* Mick Jagger - login name: mickj
* Jones Brian - login name: jonesb
* Keith Richards - login name: keithr
* Charlie Watts - login name: charliew

1. Create a group named stones, record the command used

\_\_\_\_\_\_groupadd stones\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Designate Mick Jagger as the group administrator, and record the command you use:

\_\_\_\_\_\_gpasswd -A mickj stones\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Login as mickj, and add all the above user accounts to the group stones, record the commands you use:

\_\_\_\_\_gpasswd -a mickj stones\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_gpasswd -a jonesb stones\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_gpasswd -a keithr stones\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_gpasswd -a charliew stones\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the output of the command **cat /etc/group | grep stones**?

\_\_\_\_\_\_stones:x:1007:mickj,jonesb,keithr,charliew\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_