Practice: Running Commands as root

Guided exercise

In this lab, you will practice running commands as **root**.

Outcomes
Use the **su** with and without login scripts to switch users. Use **sudo** to run commands with privilege.

Before you begin...
Reset your serverX system.

☐ 1. Log into the GNOME desktop on serverX as **student** with a password of **student**.

☐ 2. Open a window with a Bash prompt.

Select **Applications** > **Utilities** > **Terminal**.

☐ 3. Explore characteristics of the current student login environment.

☐ 3.1. View the user and group information and display the current working directory.

```
[student@serverX ~]$ id
uid=1000(student) gid=1000(student) groups=1000(student),10(wheel)
 context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[student@serverX ~]$ pwd
/home/student
```

☐ 3.2. View the variables which specify the home directory and the locations searched for executable files.

```
[student@serverX ~]$ echo $HOME
/home/student
[student@serverX ~]$ echo $PATH
/usr/local/bin:/usr/local/sbin:/usr/bin:/usr/sbin:/bin:/sbin:/home/
student/.local/bin:/home/student/bin
```

☐ 4. Switch to root without the dash and explore characteristics of the new environment.

☐ 4.1. Become the **root** user at the shell prompt.

```
[student@serverX ~]$ su
Password: redhat
```

☐ 4.2. View the user and group information and display the current working directory. Note the identity changed, but not the current working directory.

```
[root@serverX student]# id
uid=0(root) gid=0(root) groups=0(root)
 context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[root@serverX student]# pwd
```

```
/home/student
```

- ☐ 4.3. View the variables which specify the home directory and the locations searched for executable files. Look for references to the student and root accounts.

```
[root@serverX student]# echo $HOME
/root
[root@serverX student]# echo $PATH
/usr/local/bin:/usr/local/sbin:/usr/bin:/usr/sbin:/bin:/sbin:/home/
student/.local/bin:/home/student/bin
```

- ☐ 4.4. Exit the shell to return to the **student** user.

```
[root@serverX student]# exit
exit
```

☐ 5. Switch to root with the dash and explore characteristics of the new environment.

- ☐ 5.1. Become the **root** user at the shell prompt. Be sure all the login scripts are also executed.

```
[student@serverX ~]$ su -
Password: redhat
```

- ☐ 5.2. View the user and group information and display the current working directory.

```
[root@serverX ~]# id
uid=0(root) gid=0(root) groups=0(root)
 context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023
[root@serverX ~]# pwd
/root
```

- ☐ 5.3. View the variables which specify the home directory and the locations searched for executable files. Look for references to the student and root accounts.

```
[root@serverX ~]# echo $HOME
/root
[root@serverX ~]# echo $PATH
/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin:/root/bin
```

- ☐ 5.4. Exit the shell to return to the **student** user.

```
[root@serverX ~]# exit
logout
```

☐ 6. Run several commands as student which require root access.

- ☐ 6.1. View the last 5 lines of the **/var/log/messages**.

```
[student@serverX ~]$ tail -5 /var/log/messages
tail: cannot open '/var/log/messages' for reading: Permission denied
```

```
[student@serverX ~]$ sudo tail -5 /var/log/messages
Feb  3 15:07:22 localhost su: (to root) root on pts/0
Feb  3 15:10:01 localhost systemd: Starting Session 31 of user root.
Feb  3 15:10:01 localhost systemd: Started Session 31 of user root.
Feb  3 15:12:05 localhost su: (to root) root on pts/0
Feb  3 15:14:47 localhost su: (to student) root on pts/0
```

☐ 6.2. Make a backup of a configuration file in the **/etc** directory.

```
[student@serverX ~]$ cp /etc/motd /etc/motdOLD
cp: cannot create regular file '/etc/motdOLD': Permission denied
[student@serverX ~]$ sudo cp /etc/motd /etc/motdOLD
```

☐ 6.3. Remove the **/etc/motdOLD** file that was just created.

```
[student@serverX ~]$ rm /etc/motdOLD
rm: remove write-protected regular empty file '/etc/motdOLD'? y
rm: cannot remove '/etc/motdOLD': Permission denied
[student@serverX ~]$ sudo rm /etc/motdOLD
```

☐ 6.4. Edit a configuration file in the **/etc** directory.

```
[student@serverX ~]$ echo "Welcome to class" >> /etc/motd
-bash: /etc/motd: Permission denied
[student@serverX ~]$ sudo vim /etc/motd
```