Linux Lab 2, users and groups

Hand In: Turn in your answers for the last questions marked with **

Reading

Read the PowerPoint in Canvas entitled Linux Users and Groups

Read (or listen to) CyberAces Module 1 Linux, Session 4, Users and Groups
https://tutorials.cyberaces.org/tutorials/view/1-1-4.html
Do the exercises in the CyberAces module!

Read about su and sudo in "The Linux Command Line", from "Changing Identities" in Chapter 9 to the end of the chapter, pp 87-93 (printed version) or pp 101 - 109 in the pdf.

Lab

Ubuntu locks the root account for security reasons, but most other distributions do not. To give you practice in the way other distributions use the su command, we will enable the root account by giving it a password. Do not fall into the habit that Ubuntu is trying to prevent, which is running everything as the root user!

Enter this command to assign a password to the root account:
`sudo passwd root`
Then enter the password twice.
Obviously, you want to remember the password…

1) Create a new user. I will refer to it as testuser, but you can call it whatever you want. Note: Remember that your regular user will not have the power to add users, so you will have to use `sudo` or switch to the root account with `su -` to get root privileges. Note: The Ubuntu version of `adduser` takes you through entering a password and GECOS information (Ubuntu decides the GECOS/comment field should include Full Name, Room Number, Work Phone, Home Phone, and Other. You will see those in the /etc/passwd file, separated by commas. The separator between the main fields of /etc/passwd like username, password, etc., is a colon (':').
2) Give testuser a password, hopefully something you can remember.
3) Change to user testuser. If you are comfortable switching users at the terminal, you can just use the command
   `su - testuser`
   If you get confused over which user account you are using, log out and log back in as testuser.
4) Try to use `sudo` when you are logged in as test user, `sudo` plus some command. For example, you could use `sudo ls` (`sudo` will check your password and membership in the sudoers file, even if the command you use doesn't require extra rights.) It should not work, because you haven't given testuser permission to use `sudo`.
5) By default, in Ubuntu, members of the groups named "adm" and "sudo" have access to the sudo command; in CentOS, the "wheel" group gives access. Use a command from the slides to add testuser to the sudo group (or wheel for CentOS.) Note: there is also a command `usermod`, but it has a gotcha--if you are not careful, you'll give testuser membership in sudo but remove

all its other groups (see *, below). (You'll have to add testuser to the sudo group as root. Use `su -` to become root, add testuser to the sudo group, and then `exit` to be back to testuser.)

6) Once testuser is in the group sudo (wheel for CentOS) try `sudo` again. You will need to exit the current terminal and open a new one to get Ubuntu to check the sudoers file. Then it should work.
7) Use `su -` to become root. Examine the file, /etc/sudoers, using `less`. You should be able to find the line that allows root to use sudo for ALL commands, and other lines that allow members of the adm and sudo groups to do the same. The sudoers file can also give users the permission to run selected commands. Some installations give all users permission to mount CD-ROMs or shutdown the computer by adding lines to /etc/sudoers.
8) Use the less command to examine the /etc/group file. You should see that the user you installed Ubuntu with is a member of adm, sudo (wheel for CentOS), and several other groups.
9) Use privileged access (either su - to get to the root account, or sudo from your own account) to remove testuser from the sudo group
   `gpasswd -d testuser sudo` (from root) (CentOS remove the user from wheel) or
   `sudo gpasswd -d testuser sudo` (from your account) (CentOS remove the user from wheel.)
10) Exit from root if you used su -. Test sudo for testuser to make sure it no longer works.

Hand in

11) ** How are su and sudo different?
12) ** Write down the commands you would use to:
    a. create a user called webadmin
    b. set its password to Guru0fHtml
    c. give it the same rights to the web server that the group apache has (your VM may not have an apache group, so pretend that the group exists—or, you could create a group called apache)

Now that you are finished, lock the root password so your VM is like normal Ubuntu again.
`sudo passwd -l root` (`-l` is a lower case "L")

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The usermod command will replace the list of supplementary groups with the new one
unless you tell it to append.

[root@john ~]# usermod --help
Usage: usermod [options] LOGIN

Options:
  -c, --comment COMMENT         new value of the GECOS field
  -d, --home HOME_DIR           new home directory for the user account
  -e, --expiredate EXPIRE_DATE  set account expiration date to EXPIRE_DATE
  -f, --inactive INACTIVE       set password inactive after expiration
                                to INACTIVE
  -g, --gid GROUP               force use GROUP as new primary group
  -G, --groups GROUPS           new list of supplementary GROUPS
  -a, --append                  append the user to the supplemental GROUPS
                                mentioned by the -G option without removing
                                him/her from other groups
  -h, --help                    display this help message and exit
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  -l, --login NEW_LOGIN         new value of the login name
  -L, --lock                    lock the user account
  -m, --move-home               move contents of the home directory to the
                                new location (use only with -d)
  -o, --non-unique              allow using duplicate (non-unique) UID
  -p, --password PASSWORD       use encrypted password for the new password
  -R, --root CHROOT_DIR         directory to chroot into
  -s, --shell SHELL             new login shell for the user account
  -u, --uid UID                 new UID for the user account
  -U, --unlock                  unlock the user account
  -Z, --selinux-user SEUSER     new SELinux user mapping for the user account
```

[root@john ~]# usermod -G wheel testuser (Removes supplementary groups, changes primary to wheel)
[root@john ~]# usermod -a -G wheel testuser (adds wheel as a supplementary group, leaves the rest unchanged)