

ASSIGNMENT ON LINUX FUNDAMENTALS

PROBLEM

Your login name: altschool i.e., home directory /home/altschool. The home directory contains the following sub-directories: code, tests, personal, misc Unless otherwise specified, you are running commands from the home directory.

a.Change directory to the tests directory using absolute pathname

b.Change directory to the tests directory using relative pathname

c.Use echo command to create a file named fileA with text content 'Hello A' in the misc directory

d.Create an empty file named fileB in the misc directory. Populate the file with a dummy content afterwards

e.Copy contents of fileA into fileC

f.Move contents of fileB into fileD

g.Create a tar archive called misc.tar for the contents of misc directory

h.Compress the tar archive to create a misc.tar.gz file

I. Create a user and force the user to change his/her password upon login

J. Lock a users password

K. Create a user with no login shell

L. Disable password based authentication for ssh

M. Disable root login for ssh

Mode of submission:

you are going to push the required commands to your github repositories.

Deadline: 10th Feb 2024

SOLUTION

1. Change directory to the tests directory using absolute pathname

```
altschool-cloud@ubuntu-focal: /home/altschool
Last login: Thu Feb 8 15:07:54 2024 from 10.0.2.2
vagrant@ubuntu-focal:~$ su - altschool-cloud
Password:
altschool-cloud@ubuntu-focal:~$ cd /home
altschool-cloud@ubuntu-focal:~$ ls
altschool-cloud  ubuntu  vagrant
altschool-cloud@ubuntu-focal:~$ mkdir altschool
mkdir: cannot create directory 'altschool': Permission denied
altschool-cloud@ubuntu-focal:~$ sudo mkdir altschool
[sudo] password for altschool-cloud:
altschool-cloud@ubuntu-focal:~$ cd altschool
altschool-cloud@ubuntu-focal: /home/altschool$ sudo mkdir code tests personal misc
altschool-cloud@ubuntu-focal: /home/altschool$ cd /home/altschool/tests
```

2. Change directory to the tests directory using relative pathname

```
altschool-cloud@ubuntu-focal: /home/altschool$ cd /home/altschool/tests$ cd ..
altschool-cloud@ubuntu-focal: /home/altschool$ cd ./tests
altschool-cloud@ubuntu-focal: /home/altschool/tests$ cd
```

3. Use echo command to create a file named fileA with text content 'Hello A' in the misc directory

```
altschool-cloud@ubuntu-focal: /home/altschool/tests$ cd ..
altschool-cloud@ubuntu-focal: /home/altschool$ sudo echo "Hello A" > ./misc/fileA
-bash: ./misc/fileA: Permission denied
altschool-cloud@ubuntu-focal: /home/altschool$ echo "Hello A" > /home/altschool/misc/fileA
-bash: /home/altschool/misc/fileA: Permission denied
altschool-cloud@ubuntu-focal: /home/altschool$ sudo echo "Hello A" > /home/altschool/misc/fileA
-bash: /home/altschool/misc/fileA: Permission denied
altschool-cloud@ubuntu-focal: /home/altschool$ cd misc
altschool-cloud@ubuntu-focal: /home/altschool/misc$ sudo echo "Hello A" > /home/altschool/misc/fileA
-bash: /home/altschool/misc/fileA: Permission denied
altschool-cloud@ubuntu-focal: /home/altschool/misc$ echo "Hello A" | sudo tee fileA
[sudo] password for altschool-cloud:
Hello A
altschool-cloud@ubuntu-focal: /home/altschool/misc$ ls
fileA
altschool-cloud@ubuntu-focal: /home/altschool/misc$ cat fileA
Hello A
```

4. Create an empty file named fileB in the misc directory. Populate the file with a dummy content afterwards

```
altschool-cloud@ubuntu-focal: /home/altschool/misc$ touch fileB
touch: cannot touch 'fileB': Permission denied
altschool-cloud@ubuntu-focal: /home/altschool/misc$ sudo touch fileB
altschool-cloud@ubuntu-focal: /home/altschool/misc$ echo "I present to you dummy content:)" > fileB
-bash: fileB: Permission denied
altschool-cloud@ubuntu-focal: /home/altschool/misc$ echo "I present to you dummy content:)" | sudo tee fileB
I present to you dummy content:)
altschool-cloud@ubuntu-focal: /home/altschool/misc$ cat fileB
I present to you dummy content:)
```

5. Copy contents of fileA into fileC

```
altschool-cloud@ubuntu-focal: /home/altschool/misc$ sudo cp fileA fileC
altschool-cloud@ubuntu-focal: /home/altschool/misc$ ls
fileA fileB fileC
```

6. Move contents of fileB into fileD

```
altschool-cloud@ubuntu-focal: /home/altschool/misc$ sudo mv fileB fileD
altschool-cloud@ubuntu-focal: /home/altschool/misc$ ls
fileA fileC fileD
```

7. Create a tar archive called misc.tar for the contents of misc directory

```
altschool-cloud@ubuntu-focal: /home/altschool$ sudo tar -cvf misc.tar ./misc
./misc/
./misc/fileD
./misc/fileA
./misc/fileC
altschool-cloud@ubuntu-focal: /home/altschool$ ls
code  misc  misc.tar  personal  tests
```

8. Compress the tar archive to create a misc.tar.gz file

```
altschool-cloud@ubuntu-focal: /home/altschool$ sudo gzip misc.tar
altschool-cloud@ubuntu-focal: /home/altschool$ ls
code  misc  misc.tar.gz  personal  tests
```

9. Create a user and force the user to change his/her password upon login

```
Last login: Fri Feb 9 14:06:17 2024 from 10.0.2.2
vagrant@ubuntu-focal:~$ su - altschool-cloud
Password:
altschool-cloud@ubuntu-focal:~$ sudo useradd dummyuser2
[sudo] password for altschool-cloud:
altschool-cloud@ubuntu-focal:~$ sudo passwd --expire dummyuser2
passwd: password expiry information changed.
```

10. Lock a users password

```
altschool-cloud@ubuntu-focal:~$ sudo passwd --lock dummyuser2
passwd: password expiry information changed.
```

11. Create a user with no login shell

```
altschool-cloud@ubuntu-focal:~$ sudo adduser --system --no-create-home --shell /usr/sbin/nologin dummyuser3
Adding system user 'dummyuser3' (UID 114) ...
Adding new user 'dummyuser3' (UID 114) with group 'nogroup' ...
Not creating home directory '/home/dummyuser3'.
```

12. Disable password based authentication for ssh

```
altschool-cloud@ubuntu-focal:~$ sudo nano /etc/ssh/sshd_config
altschool-cloud@ubuntu-focal:~$ sudo systemctl restart sshd
altschool-cloud@ubuntu-focal:~$ exit
logout
vagrant@ubuntu-focal:~$ exit
logout
connection to 127.0.0.1 closed.
```

```
mssea@DESKTOP-HOPF8F3 MINGW64 ~/Documents/ALTSCHOOL-CLOUD/vagrant/box
$ vagrant halt
=> default: Attempting graceful shutdown of VM...
```

```
mssea@DESKTOP-HOPF8F3 MINGW64 ~/Documents/ALTSCHOOL-CLOUD/vagrant/box
$
```

13. Disable root login for ssh

```
altschool-cloud@ubuntu-focal:~$ sudo nano /etc/ssh/sshd_config
altschool-cloud@ubuntu-focal:~$ sudo systemctl restart sshd
altschool-cloud@ubuntu-focal:~$ exit
logout
vagrant@ubuntu-focal:~$ exit
logout
connection to 127.0.0.1 closed.
```

```
mssea@DESKTOP-HOPF8F3 MINGW64 ~/Documents/ALTSCHOOL-CLOUD/vagrant/box
$ vagrant halt
=> default: Attempting graceful shutdown of VM...
```

```
mssea@DESKTOP-HOPF8F3 MINGW64 ~/Documents/ALTSCHOOL-CLOUD/vagrant/box
$
```

FULLSCREEN IMAGES ATTACHED IN THE IMAGES DIRECTORY