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Assignment 01

The user in this my exercise is **/home/vagrant. That is the present working directory (pwd) that I am using.**

Your login name: **vagrant** i.e. **home/vagrant**. The Home directory contains the following sub-directories: code, tests, personal, misc. You can run command from the home directory except otherwise specified.

**//Creating the directories**

**vagrant@ubuntu-focal:~$ mkdir code**

**vagrant@ubuntu-focal:~$ mkdir tests**

**vagrant@ubuntu-focal:~$ mkdir personal**

**vagrant@ubuntu-focal:~$ mkdir misc**

vagrant@ubuntu-focal:~$ ls

Doc1 Doc2 Doc3 **code** **misc**  **personal** **tests**

1. **Change directory to the tests directory using absolute pathname.**

**vagrant@ubuntu-focal:~$ cd /home/vagrant/tests**

vagrant@ubuntu-focal:~/tests$ ls

**vagrant@ubuntu-focal:~/tests$**

1. **Change directory to the test directory using relative pathname**

**vagrant@ubuntu-focal:~$ cd tests**

vagrant@ubuntu-focal:~/tests$ ls

vagrant@ubuntu-focal:~/tests$

vagrant@ubuntu-focal:~/tests$

1. **Use echo command to create a file named fileA with text content ‘Hello A’ in the misc directory**

**vagrant@ubuntu-focal:~/tests$ cd**

**vagrant@ubuntu-focal:~$ cd misc**

**vagrant@ubuntu-focal:~/misc$ echo -e 'Hello A' >> fileA.txt**

**vagrant@ubuntu-focal:~/misc$ ls**

**fileA.txt**

**vagrant@ubuntu-focal:~/misc$ cat fileA.txt**

**Hello A**

**vagrant@ubuntu-focal:~/misc$**

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

vagrant@ubuntu-focal:~/misc$ touch fileB.txt

vagrant@ubuntu-focal:~/misc$ ls

fileA.txt fileB.txt

vagrant@ubuntu-focal:~/misc$ nano fileB.txt

**vagrant@ubuntu-focal:~/misc$ cat fileB.txt**

Here is file B and i will be filling it with dummy content.

Lorem ipsum dolor sit amet, consectetur adipisci elit, sed eiusmod tempor incidunt ut labore et dolore magna aliqua.

Ut enim ad minim veniam,

quis nostrum exercitationem ullam corporis suscipit laboriosam,

nisi ut aliquid ex ea commodi consequatur. Quis aute iure

reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

x

Excepteur sint obcaecat cupiditat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

vagrant@ubuntu-focal:~/misc$

1. **Copy contents of fileB into fileC**

vagrant@ubuntu-focal:~/misc$ ls

fileA.txt fileB.txt

vagrant@ubuntu-focal:~/misc$ touch fileC.txt

vagrant@ubuntu-focal:~/misc$ ls

fileA.txt fileB.txt fileC.txt

vagrant@ubuntu-focal:~/misc$ cat fileC.txt

vagrant@ubuntu-focal:~/misc$ cp fileB.txt fileC.txt

vagrant@ubuntu-focal:~/misc$ cat fileC.txt

Here is file B and i will be filling it with dummy content.

Lorem ipsum dolor sit amet, consectetur adipisci elit, sed eiusmod tempor incidunt ut labore et dolore magna aliqua.

Ut enim ad minim veniam,

quis nostrum exercitationem ullam corporis suscipit laboriosam,

nisi ut aliquid ex ea commodi consequatur. Quis aute iure

reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

x

Excepteur sint obcaecat cupiditat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

vagrant@ubuntu-focal:~/misc$

1. **Move content of fileB into fileD**

**vagrant@ubuntu-focal:~/misc$ ls**

**fileA.txt fileB.txt fileC.txt**

**vagrant@ubuntu-focal:~/misc$ touch fileD.txt**

**vagrant@ubuntu-focal:~/misc$ cat fileD.txt**

**vagrant@ubuntu-focal:~/misc$ mv fileB.txt fileD.txt**

**vagrant@ubuntu-focal:~/misc$ cat fileD.txt**

Here is file B and i will be filling it with dummy content.

Lorem ipsum dolor sit amet, consectetur adipisci elit, sed eiusmod tempor incidunt ut labore et dolore magna aliqua.

Ut enim ad minim veniam,

quis nostrum exercitationem ullam corporis suscipit laboriosam,

nisi ut aliquid ex ea commodi consequatur. Quis aute iure

reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

x

Excepteur sint obcaecat cupiditat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

vagrant@ubuntu-focal:~/misc$

1. **Create a tar archive called misc.tar for the content of misc directory.**

**vagrant@ubuntu-focal:~/misc$ touch misc.tar**

vagrant@ubuntu-focal:~/misc$ ls

fileA.txt fileC.txt fileD.txt misc.tar

vagrant@ubuntu-focal:~/misc$

1. **Compress the tar archive to create a misc.tar.gz file**

**vagrant@ubuntu-focal:~/misc$ ls**

fileA.txt fileC.txt fileD.txt misc.tar

**vagrant@ubuntu-focal:~/misc$ gzip misc.tar**

vagrant@ubuntu-focal:~/misc$ ls

fileA.txt fileC.txt fileD.txt misc.tar.gz

vagrant@ubuntu-focal:~/misc$

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

// Sudo adduser –force-badname username (johnson has been created at the end)

vagrant@ubuntu-focal:~$ pwd

/home/vagrant

**vagrant@ubuntu-focal:~$ sudo adduser --force-badname johnson**

Adding user `johnson' ...

Adding new group `johnson' (1008) ...

Adding new user `johnson' (1006) with group `johnson' ...

Creating home directory `/home/johnson' ...

Copying files from `/etc/skel' ...

New password:

Retype new password:

passwd: password updated successfully

Changing the user information for johnson

Enter the new value, or press ENTER for the default

Full Name []:

Room Number []:

Work Phone []:

Home Phone []:

Other []:

Is the information correct? [Y/n] y

vagrant@ubuntu-focal:~$ cat /etc/passwd

root:x:0:0:root:/root:/bin/bash

daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin

bin:x:2:2:bin:/bin:/usr/sbin/nologin

sys:x:3:3:sys:/dev:/usr/sbin/nologin

sync:x:4:65534:sync:/bin:/bin/sync

games:x:5:60:games:/usr/games:/usr/sbin/nologin

man:x:6:12:man:/var/cache/man:/usr/sbin/nologin

lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin

mail:x:8:8:mail:/var/mail:/usr/sbin/nologin

news:x:9:9:news:/var/spool/news:/usr/sbin/nologin

uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin

proxy:x:13:13:proxy:/bin:/usr/sbin/nologin

www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin

backup:x:34:34:backup:/var/backups:/usr/sbin/nologin

list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin

irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin

gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin

nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin

systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin

systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin

systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin

messagebus:x:103:106::/nonexistent:/usr/sbin/nologin

syslog:x:104:110::/home/syslog:/usr/sbin/nologin

\_apt:x:105:65534::/nonexistent:/usr/sbin/nologin

tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false

uuidd:x:107:112::/run/uuidd:/usr/sbin/nologin

tcpdump:x:108:113::/nonexistent:/usr/sbin/nologin

sshd:x:109:65534::/run/sshd:/usr/sbin/nologin

landscape:x:110:115::/var/lib/landscape:/usr/sbin/nologin

pollinate:x:111:1::/var/cache/pollinate:/bin/false

fwupd-refresh:x:112:116:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin

vagrant:x:1000:1000:,,,:/home/vagrant:/bin/bash

systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin

ubuntu:x:1001:1001:Ubuntu:/home/ubuntu:/bin/bash

lxd:x:998:100::/var/snap/lxd/common/lxd:/bin/false

Nte:x:1002:1002::/home/Nte:/bin/sh

unyime:x:1003:1003::/home/unyime:/bin/sh

declan:x:1004:1004::/home/declan:/bin/sh

ime:x:1005:1007::/home/ime:/bin/sh

**johnson:x:1006:1008:,,,:/home/johnson:/bin/bash**

vagrant@ubuntu-focal:~$ ;3~

1. **Lock a user password**

gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin

nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin

systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin

systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin

systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin

messagebus:x:103:106::/nonexistent:/usr/sbin/nologin

syslog:x:104:110::/home/syslog:/usr/sbin/nologin

\_apt:x:105:65534::/nonexistent:/usr/sbin/nologin

tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false

uuidd:x:107:112::/run/uuidd:/usr/sbin/nologin

tcpdump:x:108:113::/nonexistent:/usr/sbin/nologin

sshd:x:109:65534::/run/sshd:/usr/sbin/nologin

landscape:x:110:115::/var/lib/landscape:/usr/sbin/nologin

pollinate:x:111:1::/var/cache/pollinate:/bin/false

fwupd-refresh:x:112:116:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin

vagrant:x:1000:1000:,,,:/home/vagrant:/bin/bash

systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin

ubuntu:x:1001:1001:Ubuntu:/home/ubuntu:/bin/bash

lxd:x:998:100::/var/snap/lxd/common/lxd:/bin/false

Nte:x:1002:1002::/home/Nte:/bin/sh

unyime:x:1003:1003::/home/unyime:/bin/sh

declan:x:1004:1004::/home/declan:/bin/sh

ime:x:1005:1007::/home/ime:/bin/sh

johnson:x:1006:1008:,,,:/home/johnson:/bin/bash

**vagrant@ubuntu-focal:~$ sudo usermod -L johnson**

vagrant@ubuntu-focal:~$

1. Create a user with no login shell(username is ben to be created)

**vagrant@ubuntu-focal:~$ sudo useradd -s /bin/false ben**

vagrant@ubuntu-focal:~$ cat /etc/passwd

root:x:0:0:root:/root:/bin/bash

daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin

bin:x:2:2:bin:/bin:/usr/sbin/nologin

sys:x:3:3:sys:/dev:/usr/sbin/nologin

sync:x:4:65534:sync:/bin:/bin/sync

games:x:5:60:games:/usr/games:/usr/sbin/nologin

man:x:6:12:man:/var/cache/man:/usr/sbin/nologin

lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin

mail:x:8:8:mail:/var/mail:/usr/sbin/nologin

news:x:9:9:news:/var/spool/news:/usr/sbin/nologin

uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin

proxy:x:13:13:proxy:/bin:/usr/sbin/nologin

www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin

backup:x:34:34:backup:/var/backups:/usr/sbin/nologin

list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin

irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin

gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin

nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin

systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin

systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin

systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin

messagebus:x:103:106::/nonexistent:/usr/sbin/nologin

syslog:x:104:110::/home/syslog:/usr/sbin/nologin

\_apt:x:105:65534::/nonexistent:/usr/sbin/nologin

tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false

uuidd:x:107:112::/run/uuidd:/usr/sbin/nologin

tcpdump:x:108:113::/nonexistent:/usr/sbin/nologin

sshd:x:109:65534::/run/sshd:/usr/sbin/nologin

landscape:x:110:115::/var/lib/landscape:/usr/sbin/nologin

pollinate:x:111:1::/var/cache/pollinate:/bin/false

fwupd-refresh:x:112:116:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin

vagrant:x:1000:1000:,,,:/home/vagrant:/bin/bash

systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin

ubuntu:x:1001:1001:Ubuntu:/home/ubuntu:/bin/bash

lxd:x:998:100::/var/snap/lxd/common/lxd:/bin/false

Nte:x:1002:1002::/home/Nte:/bin/sh

unyime:x:1003:1003::/home/unyime:/bin/sh

declan:x:1004:1004::/home/declan:/bin/sh

ime:x:1005:1007::/home/ime:/bin/sh

johnson:x:1006:1008:,,,:/home/johnson:/bin/bash

**ben:x:1007:1009::/home/ben:/bin/false**

1. Disable password based authentication for ssh

* Sudo nano /etc/ssh/sshd\_config
* This will open the SSH Server Configuration, look for **PasswordAuthentication** and set it to NO & save Changes. In my machine, it is already set to NO.

#HostKey /etc/ssh/ssh\_host\_ed25519\_key # Ciphers and keying #RekeyLimit default none # Logging #SyslogFacility AUTH #LogLevel INFO # Authentication: #LoginGraceTime 2m #PermitRootLogin prohibit-password #StrictModes yes #MaxAuthTries 6 #MaxSessions 10 #PubkeyAuthentication yes # Expect .ssh/authorized\_keys2 to be disregarded by default in future. #AuthorizedKeysFile .ssh/authorized\_keys .ssh/authorized\_keys2 #AuthorizedPrincipalsFile none #AuthorizedKeysCommand none #AuthorizedKeysCommandUser nobody # For this to work you will also need host keys in /etc/ssh/ssh\_known\_hosts #HostbasedAuthentication no # Change to yes if you don't trust ~/.ssh/known\_hosts for # HostbasedAuthentication #IgnoreUserKnownHosts no # Don't read the user's ~/.rhosts and ~/.shosts files #IgnoreRhosts yes # To disable tunneled clear text passwords, change to no here! **PasswordAuthentication no** #PermitEmptyPasswords no # Change to yes to enable challenge-response passwords (beware issues with

1. **Disable root login for ssh**

**Sudo nano /etc/ssh/sshd\_config**

This will open the SSH Server Configuration, look for **PermitRootLogin** and set it to NO & save Changes. In my machine, it is already set to NO.

#HostKey /etc/ssh/ssh\_host\_ed25519\_key # Ciphers and keying #RekeyLimit default none # Logging #SyslogFacility AUTH #LogLevel INFO # Authentication: #LoginGraceTime 2m **PermitRootLogin no** #StrictModes yes #MaxAuthTries 6 #MaxSessions 10 #PubkeyAuthentication yes # Expect .ssh/authorized\_keys2 to be disregarded by default in future. #AuthorizedKeysFile .ssh/authorized\_keys .ssh/authorized\_keys2 #AuthorizedPrincipalsFile none #AuthorizedKeysCommand none #AuthorizedKeysCommandUser nobody # For this to work you will also need host keys in /etc/ssh/ssh\_known\_hosts #HostbasedAuthentication no # Change to yes if you don't trust ~/.ssh/known\_hosts for # HostbasedAuthentication #IgnoreUserKnownHosts no # Don't read the user's ~/.rhosts and ~/.shosts files #IgnoreRhosts yes # To disable tunneled clear text passwords, change to no here! PasswordAuthentication no #PermitEmptyPasswords no # Change to yes to enable challenge-response passwords (beware issues with

**Note: All code is copied from my vagrant ssh directly and pasted here. Thank you sir.**