

Lab Test 1

zzz is server1

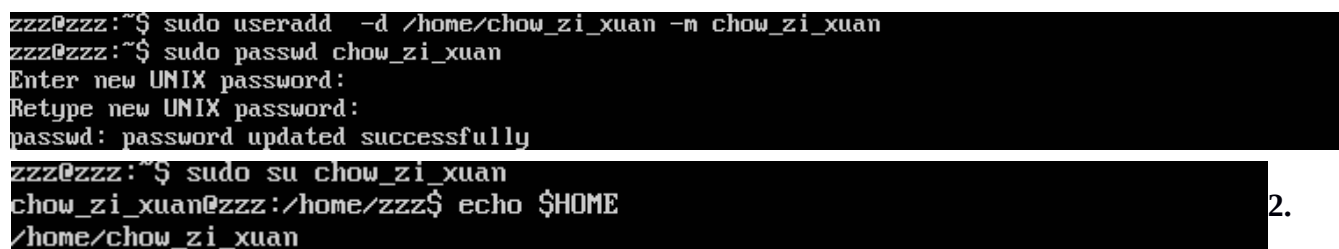
b622 is server2

1.

Command

```
sudo useradd -d /home/chow_zi_xuan -m chow_zi_xuan
sudo passwd chow_zi_xuan
scam605
scam605
sudo su chow_zi_xuan
echo $HOME
```

Screenshot

A terminal window showing the execution of commands to create a user and switch to it. The commands are: 'sudo useradd -d /home/chow_zi_xuan -m chow_zi_xuan', 'sudo passwd chow_zi_xuan', 'Enter new UNIX password:', 'Retype new UNIX password:', 'passwd: password updated successfully', 'sudo su chow_zi_xuan', and 'echo \$HOME'. The output shows the user 'chow_zi_xuan' at the 'zzz' prompt with the home directory '/home/chow_zi_xuan'.

```
zzz@zzz:~$ sudo useradd -d /home/chow_zi_xuan -m chow_zi_xuan
zzz@zzz:~$ sudo passwd chow_zi_xuan
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
zzz@zzz:~$ sudo su chow_zi_xuan
chow_zi_xuan@zzz:/home/zzz$ echo $HOME
/home/chow_zi_xuan
```

2.

2.

Command

```
sudo usermod -aG sudo chow_zi_xuan
```

Screenshot

A terminal window showing the command 'sudo usermod -aG sudo chow_zi_xuan' being executed.

```
zzz@zzz:~$ sudo usermod -aG sudo chow_zi_xuan
```

3.

File to be edited

etc/network/interfaces

Command to check / show the network interface available:

```
sudo vim etc/network/interfaces
```

```
iface enp03s inet static
    address 192.168.40.101
    netmask 255.255.255.0
    network 192.168.40.0
    gateway 192.168.40.254
    dns-nameservers 8.8.8.8
```

Save and Exit

```
:wq
```

Screenshot

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto enp0s3
iface enp0s3 inet static
    address 192.168.40.101
    netmask 255.255.255.0
    network 192.168.40.0
    gateway 192.168.40.254
    dns-nameservers 8.8.8.8_
```

Commands to make the new configuration of network interface takes effect
systemctl restart networking.service

```
chow_zi_xuan@zzz:/etc/network$ systemctl restart networking.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ====
Authentication is required to restart 'networking.service'.
Multiple identities can be used for authentication:
 1. zzz,, (zzz)
 2. chow_zi_xuan
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ====
```

4.

Command

hostnamectl set-hostname server2
logout and login again

Screenshot

```
b622@b622:~$ hostnamectl set-hostname server2
==== AUTHENTICATING FOR org.freedesktop.hostname1.set-static-hostname ====
Authentication is required to set the statically configured local host name, as well as the pretty h
ost name.
Authenticating as: b622,, (b622)
Password:
==== AUTHENTICATION COMPLETE ====
```

5.

Command

ping 192.168.40.101

Screenshot

```
b622@server2:~$ ping 192.168.40.101
PING 192.168.40.101 (192.168.40.101) 56(84) bytes of data.
64 bytes from 192.168.40.101: icmp_seq=1 ttl=64 time=0.680 ms
64 bytes from 192.168.40.101: icmp_seq=2 ttl=64 time=0.706 ms
64 bytes from 192.168.40.101: icmp_seq=3 ttl=64 time=0.567 ms
64 bytes from 192.168.40.101: icmp_seq=4 ttl=64 time=0.656 ms
64 bytes from 192.168.40.101: icmp_seq=5 ttl=64 time=0.702 ms
^C
--- 192.168.40.101 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4000ms
rtt min/avg/max/mdev = 0.567/0.662/0.706/0.053 ms
```

6.

Command

sudo service ssh status

Screenshot

```
b622@server2:~$ sudo service ssh status
sudo: unable to resolve host server2: Connection timed out
• ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2018-03-29 14:51:04 MYT; 3min 13s ago
 Main PID: 1148 (sshd)
   Tasks: 1
  Memory: 1.6M
     CPU: 13ms
  CGroup: /system.slice/ssh.service
          └─1148 /usr/sbin/sshd -D

Mar 29 14:51:04 server2 systemd[1]: Starting OpenBSD Secure Shell server...
Mar 29 14:51:04 server2 sshd[1148]: Server listening on 0.0.0.0 port 22.
Mar 29 14:51:04 server2 systemd[1]: Started OpenBSD Secure Shell server.
Mar 29 14:51:04 server2 sshd[1148]: Server listening on :: port 22.
```

7.

Command

sudo service ssh status

or

vi /etc/ssh/sshd_config

Screenshot

```
# Package generated configuration file
# See the sshd_config(5) manpage for details

# What ports, IPs and protocols we listen for
Port 22
```

8.

Command

ssh-keygen

Screenshot

```
b622@server2:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/b622/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/b622/.ssh/id_rsa.
Your public key has been saved in /home/b622/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:117M/2DpYUym2qOKDeZbFlA3SfiAHTzoDMkTaON/8Is b622@server2
The key's randomart image is:
+---[RSA 2048]-----+
|  o.o =o++ .      |
|  + = o.*...      |
| o . =.  +        |
|  . . o. +.       |
|  . o S +  o      |
|  . oo o o =      |
|  oo.+  X         |
|  Eo.*  *.+       |
|  +.o.o.o..       |
+---[SHA256]-----+
```

9.

Command

```
ssh-copy-id -i ~/.ssh/id_rsa.pub chow_zi_xuan@192.168.40.101
```

Screenshot

```
b622@server2:~$ ssh-copy-id -i ~/.ssh/id_rsa.pub chow_zi_xuan@192.168.40.101
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/b622/.ssh/id_rsa.pub"
The authenticity of host '192.168.40.101 (192.168.40.101)' can't be established.
ECDSA key fingerprint is SHA256:oM3twG1Bc/hvTnnEvEBfXHsoiEqt3bREC+2+q+tZY2M.
Are you sure you want to continue connecting (yes/no)? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install all the new keys
chow_zi_xuan@192.168.40.101's password:

Number of key(s) added: 1

Now try logging into the machine, with:  "ssh 'chow_zi_xuan@192.168.40.101'"
and check to make sure that only the key(s) you wanted were added.
```

10.

Command

```
sudo vi /etc/ssh/sshd_config/
```

Screenshot

```
# Package generated configuration file
# See the sshd_config(5) manpage for details

# What ports, IPs and protocols we listen for
Port 10022
```

11.

Command

```
sudo service ssh restart
```

Screenshot

```
chow_zi_xuan@zzz:/home/zzz$ sudo service ssh restart
chow_zi_xuan@zzz:/home/zzz$ sudo service ssh status
■ ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2018-03-29 15:13:57 +08; 12s ago
 Main PID: 1915 (sshd)
    Tasks: 1
   Memory: 716.0K
      CPU: 7ms
   CGroup: /system.slice/ssh.service
           └─1915 /usr/sbin/sshd -D

Mar 29 15:13:57 zzz systemd[1]: Starting OpenBSD Secure Shell server...
Mar 29 15:13:57 zzz sshd[1915]: Server listening on 0.0.0.0 port 10022.
Mar 29 15:13:57 zzz sshd[1915]: Server listening on :: port 10022.
Mar 29 15:13:57 zzz systemd[1]: Started OpenBSD Secure Shell server.
```

12.

Command

```
sudo pvcreate /dev/sdb
```

Screenshot

```
zzz@server1:~$ sudo pvcreate /dev/sdb
WARNING: ext4 signature detected on /dev/sdb at offset 1080. Wipe it? [y/n]: y
Wiping ext4 signature on /dev/sdb.
Physical volume "/dev/sdb" successfully created
```

13.

Command

```
sudo vgcreate vg-db /dev/sdb
```

Screenshot

```
zzz@server1:~$ sudo vgcreate vg-db /dev/sdb
Volume group "vg-db" successfully created
```

14.

Command

```
sudo lvcreate -n dbvol -l 100%FREE vg-db
```

Screenshot

```
zzz@server1:~$ sudo lvcreate -n dbvol -l 100%FREE vg-db
Logical volume "dbvol" created.
```

15.

Command

```
sudo lvdisplay
```

Screenshot

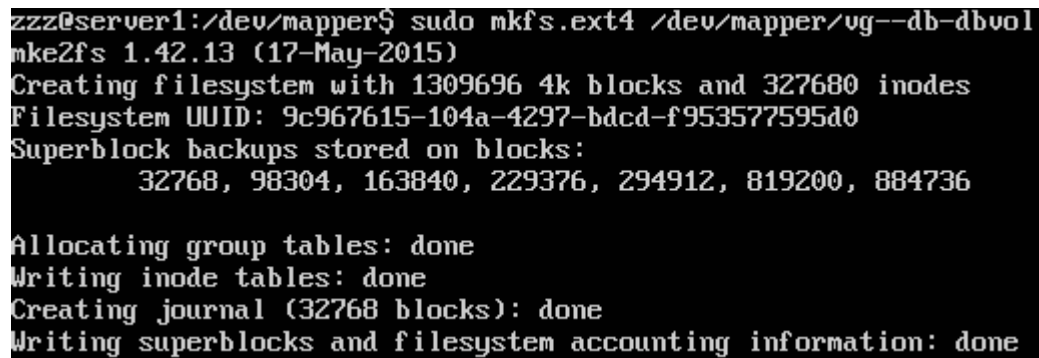
```
zzz@server1:~$ sudo lvdisplay
--- Logical volume ---
LV Path                /dev/vg-db/dbvol
LV Name                 dbvol
VG Name                 vg-db
LV UUID                 g8ufHz-JT6Z-6YBI-ch1u-413x-eMPz-0qKOHJ
LV Write Access         read/write
LV Creation host, time  server1, 2018-03-29 15:46:27 +0800
LV Status                available
# open                  0
LV Size                 5.00 GiB
Current LE              1279
Segments                1
Allocation               inherit
Read ahead sectors      auto
- currently set to     256
Block device            252:0
```

16.

Command

```
sudo mkfs.ext4 /dev/mapper/vg--db-dbvol
```

Screenshot

A terminal window screenshot showing the execution of the command 'sudo mkfs.ext4 /dev/mapper/vg--db-dbvol'. The output shows the mkfs version (1.42.13), the creation of the filesystem with 1309696 4k blocks and 327680 inodes, the filesystem UUID (9c967615-104a-4297-bdcd-f953577595d0), and the superblock backups stored on blocks: 32768, 98304, 163840, 229376, 294912, 819200, 884736. The final steps shown are 'Allocating group tables: done', 'Writing inode tables: done', 'Creating journal (32768 blocks): done', and 'Writing superblocks and filesystem accounting information: done'.

```
zzz@server1:/dev/mapper$ sudo mkfs.ext4 /dev/mapper/vg--db-dbvol
mkfs 1.42.13 (17-May-2015)
Creating filesystem with 1309696 4k blocks and 327680 inodes
Filesystem UUID: 9c967615-104a-4297-bdcd-f953577595d0
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done
```