[SECTION I]

1] IP-Configuration

Create a New connection with a static network connection using the settings given below. Be sure to replace the X with the correct number of your system. Parameter Settings IP ADDRESS 172.25.250.X NETMASK 255.255.255.0 GATEWAY 172.25.250.254 NAME SERVER 172.25.254.254

[root-servera] # nmcli connection show

[root-servera] # nmcli con modify "Wired connection1" ipv4.addresses "172.25.250.10/24"

[root-servera] # nmcli con modify "Wired connection 1" gw4 172.25.250.254

[root-servera] # nmcli con modify "Wired connection 1" ipv4.dns 172.25.250.254

[root-servera] # nmcli con modify “wired connection 1” ipv4.method manual

[root-servera] # nmcli con up "Wired connection 1"

[root-servera] # ping 172.25.250.10

2] Hostnamectl

Set a hostname as device3.servera.lab.example.com

[root-servera] # hostnamectl

[root-servera] # hostnamectl set-hostname servera.lab.example.com

3] Yum configuration

Configure you servera.example.com as yum client so that you can download and install package from your yum repository at

http://content.example.com/rhel8.2/x86_64/dvd/BaseOS

http://content.example.com/rhel7.0/x86_64/dvd/AppStream

[root-servera] # cd /etc/yum.repos.d

[root-servera /etc/yum.repos.d] # vim server.repo

[server]

baseurl=http://content.example.com/rhel8.2/x86_64/dvd/BaseOS

enabled=1

gpgcheck=0

name=rhel8.0

[server1]

baseurl=http://content.example.com/rhel8.2/x86_64/dvd/AppStream

enabled=1

gpgcheck=0

name=rhel8.0.1

:wq

4] User Management

Add user natasha , harry , sarah set password as password. Create a group admin. Natasha and harry are secondary member of group of admin group. Sarah should not have interactive shell prompt. Make a directory /mnt/vm . group admin must belong to the directory. All user in the group have read and write each other files

[root-servera] # useradd natasha

[root-servera] # useradd harry

[root-servera] # useradd sarah

[root-servera] # passwd natasha

[root-servera] # passwd harry

[root-servera] # passwd sarah

[root-servera] # groupadd admin

[root-servera] # usermod -a -G admin natasha

[root-servera] # usermod -a -G admin harry

[root-servera] # mkdir -p /mnt/vm

[root-servera] # chmod 770 /mnt/vm

[root-servera] # chmod 2770 /mnt/vm

[root-servera] # chgrp admin /mnt/vm

[root-servera] # usermod -s /sbin/nologin sarah

[root-servera] # usermod -u 5635 sarah

5] File Permission

Create One File and give them permission such that root have read, group have full permission and other user have write permission.

[root-servera] # touch file1

[root-servera] # chmod 472 file1

Create One File and give them permission such that root have full permission, group have read and other user have read & execute permission.

[root-servera] # touch file2

[root-servera] # chmod U+7,G+4,O+5 file2

6] ACL

Copy directory /etc/fstab to /var/tmp/fstab. - Assign natasha read,write ACL permission on /var/tmp/fstab - Assign harry read only permission on /var/tmp/fstab - sarah has no permission, and other users have read only permission

[root-servera] # cp /etc/fstab /var/tmp/fstab

[root-servera] # setfacl -m u:natasha:rw- /var/tmp/fstab

[root-servera] # setfacl -m u:harry:r-- /var/tmp/fstab

[root-servera] # setfacl -m u:sarah:--- /var/tmp/fstab

[root-servera] # setfacl -m o:r-- /var/tmp/fstab

[root-servera] # getfacl /var/tmp/fstab

7] Crontab

set a cronjob for user natasha that run every 5 minutes.

[root-servera] # su - natasha

[root-servera natasha] $ crontab -e

```
*/5     *       *       *       *       /bin/echo "hello world"
```

```
:wq
crontab -l
```

exit

8] Autofs

Direct

[root-servera] # yum -y install autofs

[root-servera] # vim /etc/auto.master.d/direct.autofs

```
/-      /etc/auto.direct
:wq
```

[root-servera] # vim /etc/auto.direct

```
/external       -rw,sync,fstpe=nfs4 serverb.lab.example.com:/shares/direct/external
```

:wq

[root-servera] # systemctl restart autofs

[root-servera] # systemctl enable autofs

Indirect

[root-servera] # yum -y install autofs

[root-servera] # vim /etc/auto.master.d/indirect.autofs

/internal /etc/auto.indirect

:wq

[root-servera] # vim /etc/auto.direct

* -rw,sync,fstpe=nfs4 serverb.lab.example.com:/shares/indirect/&

:wq

[root-servera] # systemctl restart autofs

[root-servera] # systemctl enable autofs

9] Tar

create a tar file /tmp/root.tar.gz that compress the /root

[root-servera] # tar cvzf /tmp/root.tar.gz /root

create a tar file /tmp/root.tar.bz2 that compress the /root

[root-servera] # tar cvjf /tmp/root.tar.bz2 /root

create a tar file /tmp/root.tar.xz that compress the /root

[root-servera] # tar cvJf /tmp/root.tar.xz /root

10] Find

Find all files owned by harry, and copy it to catalog: /opt/dir

[root-servera] # mkdir -p /opt/dir

[root-servera] # find / -user harry -exec cp {} /opt/dir \;

11] grep

copy ‘strato’ /usr/share/dict/words to the directory /tmp/data

[root-servera] # grep 'strato' /usr/share/dict/words > /tmp/file

[root-servera] # cat /tmp/file

copy ‘root’ /etc/passwd to the directory /tmp/data1

[root-servera] # grep 'root' /etc/passwd > /tmp/file1

[root-servera] # cat /tmp/file1

12] Httpd-Port-Labeling

[root-servera] # systemctl status httpd.service

[root-servera] # systemctl is-active httpd

[root-servera] # sealert -a /var/log/audit/audit.log

[root-servera] # semanage port -l | grep http

[root-servera] # semanage port -a -t http_port_t -p tcp 82

[root-servera] # systemctl enable --now httpd.service

[root-servera] # systemctl is-active httpd

[root-servera] # systemctl is-enabled httpd

[root-servera] # firewall-cmd --permanent –add-port=82/tcp

[root-servera] # firewall-cmd --reload

[root-servera] # curl http://servera.lab.example.com:82

SECTION II

1] Root Password

Reset a serverb password as Account5.and all user should have a password Redhat.

linux ----> rd.break

mount -o remount,rw /sysroot

chroot /sysroot

passwd root

redhat

redhat

touch /.autorelabel

exit

exit

2] Yum Configure

Configure you servera.example.com as yum client so that you can download and install package from your yum repository at

http://content.example.com/rhel8.2/x86_64/dvd/BaseOS

http://content.example.com/rhel7.0/x86_64/dvd/AppStream

[root-serverb] # cd /etc/yum.repos.d

[root-serverb /etc/yun/repos.d] # vim server.repo

[server1]

baseurl=http://content.example.com/rhel8.2/x86_64/dvd/BaseOS

enabled=1

gpgcheck=0

name=rhel8.0

[server2]

baseurl=http://content.example.com/rhel8.2/x86_64/dvd/AppStream

enabled=1

gpgcheck=0

name=rhel8.0.1

:wq

3] NTP

configure a NTP server as classroom.example.com

[root-serverb] # timedatectl

[root-serverb] # vim /etc/chrony.conf

server classroom.example.com iburst

:wq

[root-serverb] # systemctl restart chronyd

[root-serverb] # systemctl enable chronyd

[root-serverb] # timedatectl

4] LVM create

Create logical volume 'lv1' with volume group 'group' .The logical volume 'lv1' should be of size 60 extend . create Volume group "vgroup " PE size should be 4 mb .Filesystem type is ext4. This logical volume must be mounted at /mnt/redhat.

[root-serverb] # fdisk /dev/vdb

--->n->enter->enter->+1G+->t->8e->p->w

[root-serverb] # partprobe

[root-serverb] # pvcreate /dev/vdb1

[root-serverb] # pvdisplay

[root-serverb] # vgcreate -s 4 group /dev/vdb1

[root-serverb] # vgdisplay

[root-serverb] # lvcreate -l 60 -n lv1 group

[root-serverb] # lvdisplay

[root-serverb] # mkfs -t ext4 /dev/group/lv1

[root-serverb] # mkdir -p /mnt/redhat

[root-serverb] # vim /etc/fstab

/dev/group/lv1 /mnt/redhat ext4 defaults 0 0

:wq

[root-serverb] # mount -a

[root-serverb] # lsblk

FOR EXTENDING THE LV BY 10 EXTEND

[root-serverb] # lvextend -l +10 /dev/group/lv1

[root-serverb] # resize2fs /dev/vg1/group

[root-serverb] # lsblk

5] Resize The Partition

Resize the lvm size to 200M the mount point is “/sbi” and remember that lv size must in

between 180M to 220M.

[note:- First look the size of the lv if it is more than 200M then LV must be reduce in between 180-220M and if LV size is less than 200M then LV must be extend such that (given lv size + value that should require to extend the lv) ex:- given lv is 100M and we should be extend by 200M then 100+100=200M]

Lv size = 400M

[root-serverb] # umount /sbi

[root-serverb] # fsck -f /dev/vg1/lv1

[root-serverb] # resize2fs /dev/vg1/lv1 180M

[root-serverb] # lvreduce -L 180M /dev/vg1/lv1

[root-serverb] # mount -a

[root-serverb] # lsblk

Lv size = 100M

[root-serverb] # Lvextend -L +100M /dev/vg1/lv1

[root-serverb] # resize2fs /dev/vg1/lv1

[root-serverb] # mount -a

[root-serverb] # lsblk

6] Swap Partition

create a swap partition of size 985M on vdb and remember that old partition may not deleted.

[root-serverb] # fdisk /dev/vdb

--->n->enter->enter->+985M+->t->82->p->w

[root-serverb] # partprobe

[root-serverb] # mkswap /dev/vdb2

[root-serverb] # vim /etc/fstab

/dev/vdb2 swap swap defaults 0 0

:wq

[root-serverb] # swapon -a

[root-serverb] # swapon -s

[root-serverb] # free

[root-serverb] # lsblk

7] Tuned

set a tuned profile as recommended

[root-serverb] # yum -y install tuned

[root-serverb] # tuned-adm recommend

[root-serverb] # tuned-adm profile virtual-guest

[root-serverb] # tuned-adm active

8] VDO

create a logical vdo name “vdo1” on /dev/vdd on the size of 51GB[note:- VDO always done at unpartitioned disk]

[root-serverb] # lsblk

[root-serverb] # vdo create --name=vdo1 --device=/dev/vdd --vdoLogicalSize=51G

[root-serverb] # mkfs.xfs -K /mapper/dev/vdd

[root-serverb] # udevadm settle

[root-serverb] # lablk --output=UUID /mapper/dev/vdd

[root-serverb] # mkdir /jio

[root-serverb] # vim /etc/fstab

UUID=45ea69d9-6c67-40b8-9621-f875f228ac53 /jio xfs defaults,x-systemd.requires=vdo.service 0 0

:wq

[root-serverb] # mount -a

[root-serverb] # lsblk

9] Container-review

yum -y module install container-tools

login as podsvc user

[root-serverb] # ssh podsvc@serverb

podman login registry.lab.example.com

username=admin

password=redhat321

[podsvc-serverb] $ mkdir ~/db_data

[podsvc-serverb] $ chmod 777 ~/db_data

[podsvc-serverb] $ skopeo inspect docker://registry.lab.example.com/rhel8/mariadb-103

[podsvc-serverb] $ podman run -d --name inventorydb -p 13306:3306 -v ~/db_data:/var/lib/mysql/data:Z -e MYSQL_USER=operator1 -e MYSQL_PASSWORD=redhat -e MYSQL_DATABASE=inventory -e MYSQL_ROOT_PASSWORD=redhat registry.lab.example.com/rhel8/mariadb-103:1-86

```
[podsvc-serverb] $  ~/containers-review/testdb.sh

[podsvc-serverb] $  mkdir  -p ~/.audit/systemd/user
[podsvc-serverb] $  cd ~/.audit/systemd/user

[podsvc-serverb] $  podman generate systemd --name inventorydb --files --new
[podsvc-serverb] $  podman stop inventorydb
[podsvc-serverb] $  podman rm inventorydb

[podsvc-serverb] $  systemctl --user daemon-reload
[podsvc-serverb] $  systemctl --user enable --now container-inventorydb-service

[podsvc-serverb] $  ~/containers-review/testdb.sh

[podsvc-serverb] $  loginctl enable-linger
```