

RHCSA EXAM QUESTIONS

Lab setup:

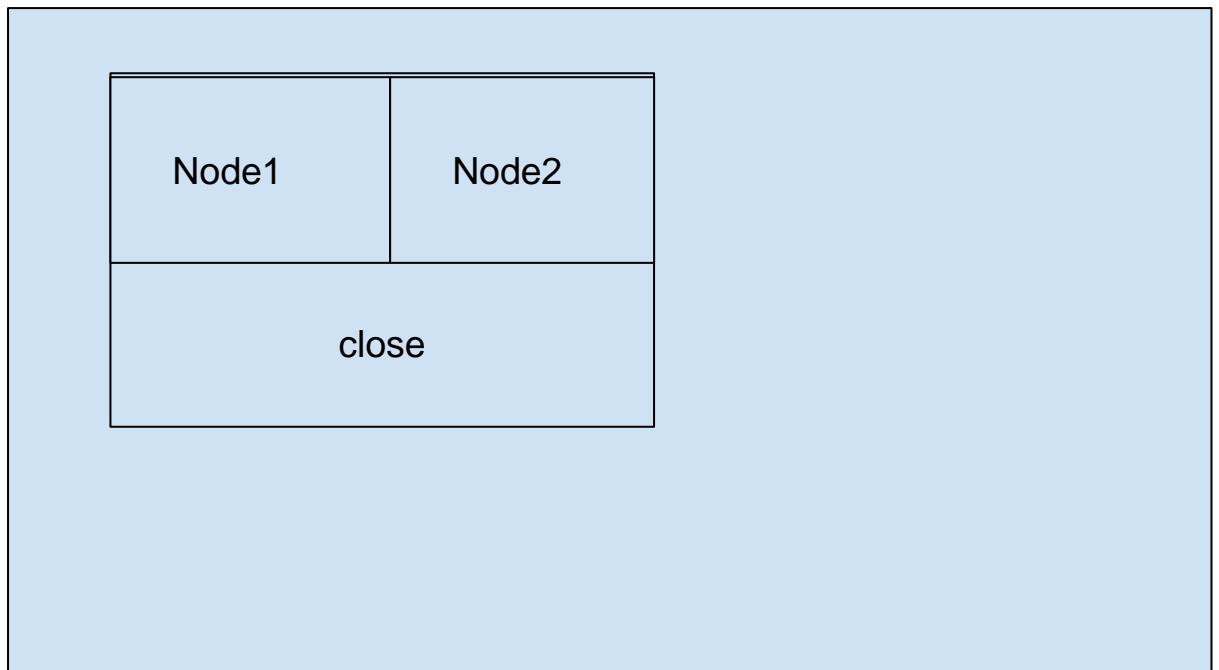
Activities(click on activities below options will be displayed with their respective icons)

Exam view

VM monitor

Terminal

- If we click on exam view exam question paper will be displayed
- If we click on vm monitor



- If we click on Node1

Start node1

Open node1
Close node1
Node1 console
Delete node1

- We need to click on **node1 console** (console of node1 will be opened)
- Similarly for node2

*****Note: Network question need to do in console and after that we need to do reboot(after network config. We can use ssh root@(hostname) for use node in terminal)*****

NODE1

1. Configure the network.

Assign hostname and ip address 1for your virtual machine.

Hostname - servera.lab.example.com

Ip address - 172.25.250.11

Netmask - 255.255.255.0

Gateway - 172.25.250.254

NameServer - 172.25.250.254

```
#hostnamectl set-hostname servera.lab.example.com
```

```
#nmcli connection show (Note ethernet type)
```

```
#nmcli connection modify "Wired connection 1" ipv4.addresses 172.25.250.11/24
```

```
#nmcli connection modify "Wired connection 1" ipv4.gateway 172.25.250.254
```

```
#nmcli connection modify "Wired connection 1" ipv4.dns 172.25.250.254
```

```
#nmcli connection modify "Wired connection 1" ipv4.method manual
```

```
#nmcli connection up "Wired connection 1"
```

```
#ping 172.25.250.11 (To check ping with ip
```

```
#ping 172.25.250.254 (To check ping with gateway)
```

```
#ping 172.25.250.254 (To check ping with DNS)
#hostnamectl
#reboot
```

2. Create a repository

http://classroom.example.com/rhel8.0/x86_64/devd/AppStream
http://classroom.example.com/rhel8.0/x86_64/devd/BaseOS

In console of node1 (we need to do this in console because there is no ip or hostname assigned to take remote connectivity)

```
#vi /etc/yum.repos.d/local.repo
[1(any name, should be in square braces)]
name=AppStream(any name)
baseurl:http://classroom.example.com/rhel8.0/x86\_64/devd/AppStream
enabled=1
gpgcheck=0
```

```
[2(any name, should be in square braces)]
name=BaseOS(any name)
baseurl:http://classroom.example.com/rhel8.0/x86\_64/devd/AppStream
enabled=1
gpgcheck=0
```

```
esc:wq
```

```
#yum list
```

```
#yum repolist all (it lists the repositories)
```

```
#yum install httpd -y (if it won't install the issue may be in repo file or setting ip address or dns or gateway)
```

3. Configure the Selinux

(a) Your webcontent has been configured in port 82 at the /var/www/html directory (Don't alter or remove any files in this directory) Make the content accessible.

```
#yum install httpd -y
```

```
#sealeart -a /var/log/audit/audit.log
#semanage port -l | grep http (check whether port 82 is enabled or if not use
below command to add)
#semanage port -a -t http_port_t -p tcp 82 (-a=add, -t= type, -p=protocol)
#semanage port -l | grep http (verify port 82 is added or not)
#systemctl restart httpd
#systemctl enable httpd
#firewall-cmd --permanent --add-port=82/tcp
#firewall-cmd --reload
#firewall-cmd --list-all (check port 82 is added or not)
#curl http://servera.lab.example.com:82
```

4. Create the following users, groups and group memberships:

(a) A group named admin.

(b) A user harry who belongs to admin as a secondary group.

(c) A user natasha who belongs to admin as a secondary group.

(d) A user sarah who does not have access to an interactive shell on the system and who is not a member of admin.

(e) The users harry, natasha, sarah should all have password of password.

```
#groupadd admin
#useradd -G admin harry (-G= secondary group, -g=primary group)
#useradd -G admin natasha
#useradd -s /sbin/nologin sarah (-s=shell)
#passwd --stdin harry
#passwd --stdin natasha
#passwd --stdin sarah
```

Note: --stdin is not mandatory, if we use it no need to retype password and also it shows the password you typed.

```
[root@serverb ~]# passwd --stdin harry
Changing password for user harry.
harry123
passwd: all authentication tokens updated successfully.
[root@serverb ~]# passwd harry
Changing password for user harry.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@serverb ~]#
```

5. Create a collaborative directory /common/admin with the following characteristics:

(a) Group ownership of /common/admin is admin.

(b) The directory should be readable, writable and accessible to members of admin, but not any other user.

(It is understood that root has access to all files and directories on the system.)

(c) Files created in /common/admin automatically have group ownership set to the admin group.

```
#mkdir -p /common/admin      (-p=parent directory)
#chgrp admin /common/admin
#chmod 2770 /common/admin
#ls -ld /common/admin
#su - harry
$touch /common/admin/file1
$ls -ltr /common/admin/file1 (you need to get group ownership as admin)
$logout
```

6. Configure AutoFS

- **All Ldapuser2 home directory is exported via NFS, which is available on classroom.example.com (172.25.254.254) and your NFS-exports directory is**

/home/guests for Ldapuser2,

- **Ldapuser2's home directory is classroom.example.com:/home/guests/ldapuse2**
- **Ldapuser2's home directory should be automount autofs service.**
- **Home directories must be writable by their users.**
- **while you are able to log in as any of the user ldapuser1 through ldapuser20, the only home directory that is accessible from your system is ldapsuser2**

```
#yum install autofs -y
#vim /etc/auto.master.d/rhome.autofs
    /home/guests    /etc/auto.rhome
#vim /etc/auto.rhome
    *    -rw,sync,fstype=nfs4
serverb.lab.example.com:/home/guests/&
#systemctl restart autofs
#systemctl enable autofs
#cd /home/guests/ldapsuser2(or go in ldapsuser2 and #ls
/home/guests )
```

7. Set a Cron job for harry on 12.30 at noon print /bin/echo on "hello".

```
#crontab -eu harry
    30 12 * * * /bin/echo "hello"
#crontab -lu harry (it should show crontabs of that user)
(-l=list, -u=user, -e=edit)
```

Or

```
#su - harry
#crontab -e
    30 12 * * * /bin/echo "hello"
#crontab -e
#cat /var/log/cron (it shows list of cronjobs)
```

Extra:

```
#cat /etc/crontab (it shows details about cronjob)
```

8. Configure Acl permission

copy the file /etc/fstab to /var/tmp. Configure the permission of /var/tmp/fstab so that:

- (a) The file /var/tmp/fstab is owned by root user
- (b) The file /var/tmp/fstab belongs to the group root.
- (c) The file /var/tmp/fstab should not be executable by anyone.
- (d) The user harry is able to read and write by /var/tmp/fstab.
- (e) The user natasha can neither read nor write /var/tmp/fstab.
- (f) All other users (current/future) have the ability to read /var/tmp/fstab

```
#cp /etc/fstab /var/tmp
#setfacl -m u:harry:rw- /var/tmp/fstab
#setfacl -m u:natasha:--- /var/tmp/fstab
#setfacl -m o:r-- /var/tmp/fstab
#getfacl /var/tmp/fstab
```

9. Configure the NTP

- a) Configure your system so that it is an NTP client of classroom.example.com.

```
#vim /etc/chrony.conf
    Server classroom.example.com iburst
Esc:wq
#systemctl restart chronyd.service
#systemctl enable chronyd.service
#timedatectl
```

10. Locate the Files

- (a) Find the owner of the file harry and copy the file to given path of /root/find.user

```
#mkdir /root/find.user
#find / -user harry -exec cp -ar {} /root/find.user \;
```

```
#ls -a /root/find.user
```

12. Create a user account

a) Create a new user with UID 1326 and user name as alies.

```
#useradd -u 1326 alies
```

13. Create a archive file

(a)Backup the /var/tmp as /root/test.tar.gz

```
#tar -zcvf /root/test.tar.gz /var/tmp    (-J for xz, -j for bz2, -z for gz )  
#ls /root
```

Note: For Practise 14 and 15 Questions

a) In Our lab do this in "servere".

b) In the Redhat lab do this in "servera".

14. Create the container as a system startup service.

(a)Create the container name as logserver with the images rsyslog are stored in registry on paradise user

(b) The container should be configured as system startup services

(c)The container directory is container_ journal should be created on paradise user

(see lab containers-services)

15. Configure the Container as persistent storage and create logs for container

(a)Configure the container with the persistent storage that mounted on /var/log/journal to /home/paradise/container

(b)The container directory contains all journal files

16.1 Set the permission

(a) All new creating files for user natasha as -r----- as default permission.

(b) All new creating directories for user natasha as dr-x----- as default permission.

```
#echo "umask 277" >> /home/natasha/.bashrc
#su - natasha
$umask
$mkdir dir1
$ls -l ( o/p directory should have dr-x----- permissions)
$touch file1
$ls -l ( o/p file should have -r----- permissions)
$exit
```

Extra

Umask octal value permission

(0=rwx,1=rw-,2=r-x,3=r--,4=-wx,5=-w-,6=-x,7=--)

16.2 Set the Password expire date

(a) The password for all new users in serverb.lab.example.com should expires after 20 days.

```
#vim /etc/login.defs
    PASS_MAX_DAYS    20
Esc:wq
```

16.3 Assign Sudo Privilege

(a) Assign the Sudo Privilege for Group "admin" and Group members can administrate without any password.

```
#vim /etc/sudoers.d/admin
    %admin ALL=(ALL) NOPASSWD=ALL
Esc:wq!
```

(for user #vim /etc/sudoers.d/harry
harry ALL=(ALL) NOPASSWD=ALL)

16.4 Create the script file

```
#vim script.sh
#!/bin/bash
If [ "$1" == "GM" ] ; then
echo "good morning"
elif [ "$1" == "GN" ] ; then
echo "good night"
else
echo "enter gm|gn for output"
fi
#chmod 755 script.sh
#./script.sh GM
#./script.sh GN
```

NODE 2

1. Assign root user password as northale.

In console:

Click on ctrl+alt+del(it will be there at the top right corner)

Press e

Rd.break console=tty0

Ctrl+x

#mount -o remount,rw /sysroot

#chroot /sysroot

#passwd root

Type password:

Retype password:

#touch /.autorelabel

#exit

#exit

2. Create a repository file

http://classroom.example.com/content/thel8.0/x86_64/dvd/AppStream

http://classroom.example.com/content/thel8.0/x86_64/dvd/BaseOS

```
#vi /etc/yum.repos.d/local.repo
```

```
[1(any name, should be in square braces)]
```

```
name=AppStream(any name)
```

```
baseurl:http://classroom.example.com/content/thel8.0/x86\_64/dvd/AppStream
```

```
enabled=1
```

```
gpgcheck=0
```

```
[2(any name, should be in square braces)]
```

```
name=BaseOS(any name)
```

```
baseurl:http://classroom.example.com/content/thel8.0/x86\_64/dvd/BaseOS
```

```
enabled=1
```

```
gpgcheck=0
```

```
esc:wq
```

```
#yum list
```

```
#yum repolist all (it lists the repositories)
```

```
#yum install httpd -y (if it won't install the issue may be in repo file or setting  
ip address or dns or gateway)
```

3. Create a swap partition 512MB size.

```
#lsblk
```

```
#fdisk /dev/vdb
```

```
n (for new)
```

```
Press Enter (for primary)
```

```
Press Enter (for partition )
```

```
Press Enter (for starting size)
```

```
+512M (need to provide size as given in question)
```

```
t (type)
```

```
82 (for swap)
```

```
P(for show)
```

```
W (to save and exit)
```

```
#udevadm settle
```

```
#partprobe
```

```
#lsblk (to check)
```

```
#mkswap /dev/vdb1
```

```
#vim /etc/fstab
```

```
    /dev/vdb1    swap    swap    defaults    0 0
```

```
Esc :wq
```

```
#swapon -a
```

```
#swapon -s
```

```
#free -h
```

**4. Create one logical volume named database and it should be on datastore volume group with size 50 extent and assign the filesystem as ext3.
the datastore volume group extend should be 8MiB (mount the logical volume under mount point /mnt/database.**

```
#fdisk /dev/vdb
```

```
    n
```

```
    Press Enter
```

```
    Press Enter
```

```
    Press enter
```

```
    +2G
```

```
    t
```

```
    8e
```

```
    w
```

```
#udevadm settle
```

```
#partprobe
```

```
#lsblk
```

```
#vgcreate -s 8M datastore /dev/vdb2
```

```
#lvcreate -l 50 -n database datastore  
(-l for extends and -L for size)
```

```
#mkfs.ext3 /dev/datastore/database
```

```
#mkdir /mnt/database
```

```
#vi /etc/fstab
```

```
        /dev/datastore/database /mnt/database ext3 defaults 0 0  
Esc :wq
```

```
#mount -a
```

```
#df -hT
```

5. Create the vectra volume using the VDO with the logical size 50GB and mount under test directory

```
#yum install vdo -y
```

```
#systemctl start vdo
```

```
#systemctl enable vdo
```

```
#lsblk (we need unused disk)
```

```
#vdo create --name=vectra --device=/dev/vdc --vdoLogicalSize=50G
```

```
#mkfs.xfs -K /dev/mapper/vectra
```

```
#udevadm settle
```

```
#mkdir /test
```

```
#vi /etc/fstab
```

```
        /dev/mapper/vectra /test xfs defaults,x-systemd.requires=vdo.service 0 0  
Esc :wq
```

```
#mount -a
```

```
#systemctl daemon-reload
```

```
#df -hT
```

```
#systemctl restart vdo
```

```
#lsblk
```

```
#reboot (check for ctrl+D error)
```

6. Resize the logical volume size of 100 extent on /mnt/database directory.

```
#lsblk (check /mnt/database mount point disk)
#lvextend -l +100 /dev/myvg/lv (if size is there then -L +sizeM)
#resize2fs /dev/myvg/lv (if fstype is xfs then use xfs_growfs [options] mountpoint)
```

7. Set the recommended tuned profile for your system.

```
#yum install tuned -y
#systemctl start tuned
#systemctl enable tuned
#tuned-adm recommended
#tuned-adm profile virtual-guest
#systemctl restart tuned
#tuned-adm active
```