

QUESTION 1

Configure your Host Name, IP Address, Gateway and DNS.

Host name: station.domain40.example.com

/etc/sysconfig/network

hostname=abc.com

hostname abc.com

IP Address:172.24.40.40/24

Gateway172.24.40.1

DNS:172.24.40.1

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# cd /etc/sysconfig/network-scripts/
```

```
# ls
```

```
# vim ifcfg-eth0 (Configure IP Address, Gateway and DNS) IPADDR=172.24.40.40
```

```
GATEWAY=172.24.40.1
```

```
DNS1=172.24.40.1
```

```
# vim /etc/sysconfig/network
```

```
(Configure Host Name)
```

```
HOSTNAME= station.domain40.example.com
```

OR

Graphical Interfaces:

System->Preference->Network Connections (Configure IP Address, Gateway and DNS) Vim /etc/sysconfig/network

(Configure Host Name)

QUESTION 2

Add 3 users: harry, natasha, tom.

The requirements: The Additional group of the two users: harry, Natasha is the admin group. The user: tom's login shell should be non-interactive.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# useradd -G admin harry
```

```
# useradd -G admin natasha
```

```
# useradd -s /sbin/nologin tom
```

```
# id harry;id Natasha (Show additional group)
```

```
# cat /etc/passwd
```

```
(Show the login shell)
```

OR

```
# system-config-users
```

QUESTION 3

Create a catalog under /home named admins. Its respective group is requested to be the admin group. The group users could read and write, while other users are not allowed to access it. The files created by users from the same group should also be the admin group.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# cd /home/  
# mkdir admins /  
# chown .admin admins/  
# chmod 770 admins/  
# chmod g+s admins/
```

QUESTION 4

Configure a task: plan to run echo hello command at 14:23 every day.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# which echo  
# crontab -e  
23 14 * * * /bin/echo hello  
# crontab -l (Verify)
```

QUESTION 5

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

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# cd /opt/  
# mkdir dir  
# find / -user harry -exec cp -rfp {} /opt/dir/ \;
```

QUESTION 6

Find the rows that contain abcde from file /etc/testfile, and write it to the file/tmp/testfile, and the sequence is requested as the same as /etc/testfile.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# cat /etc/testfile | while read line;  
do  
echo $line | grep abcde | tee -a /tmp/testfile  
done
```

OR

```
grep `abcde` /etc/testfile > /tmp/testfile
```

QUESTION 7

Create a 2G swap partition which take effect automatically at boot-start, and it should not affect the original swap partition.

Section: (none)

Explanation

Explanation/Reference:

```
# fdisk /dev/sda
p
(check Partition table)
n
(create new partition: press e to create extended partition, press p to create the main partition, and the
extended partition is further divided into logical partitions) Enter
+2G
t
l
W
partx -a /dev/sda
partprobe
mkswap /dev/sda8
```

```
Copy UUID
swapon -a
vim /etc/fstab
UUID=XXXXXX swap swap defaults 0 0
```

(swapon -s)

QUESTION 8

Create a user named alex, and the user id should be 1234, and the password should be alex111.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# useradd -u 1234 alex
# passwd alex
alex111
alex111
```

OR

```
echo alex111|passwd -stdin alex
```

QUESTION 9

Install a FTP server, and request to anonymous download from /var/ftp/pub catalog. (it needs you to configure yum direct to the already existing file server.)

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# cd /etc/yum.repos.d
# vim local.repo
[local]
name=local.repo
```

```
baseurl=file:///mnt
enabled=1
```

```
# yum makecache
# yum install -y vsftpd
# service vsftpd restart
# chkconfig vsftpd on
# chkconfig --list vsftpd
# vim /etc/vsftpd/vsftpd.conf
anonymous_enable=YES
```

QUESTION 10

Configure a HTTP server, which can be accessed through <http://station.domain40.example.com>. Please download the released page from <http://ip/dir/example.html>.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

```
# yum install -y httpd
# chkconfig httpd on
# cd /var/www/html
# wget http://ip/dir/example.html
# cp example.com index.html
# vim /etc/httpd/conf/httpd.conf
NameVirtualHost 192.168.0.254:80
<VirtualHost 192.168.0.254:80>
DocumentRoot /var/www/html/
ServerName station.domain40.example.com
</VirtualHost>
```

QUESTION 11

Configure the verification mode of your host account and the password as LDAP. And it can ldapuser40. The password is set as "password". And the certificate login successfully through can be downloaded from <http://ip/dir/ldap.crt>. After the user logs on , the user has no host directory unless you configure the autofs in the following questions.

Correct Answer: Answer see in the explanation.

Section: (none)

Explanation

Explanation/Reference:

system-config-authentication
LDAP Server: ldap//instructor.example.com (In domain form, not write IP)

OR

```
# yum groupinstall directory-client (1.krb5-workstation 2.pam-krb5 3.sssd)
# system-config-authentication
```

- 1.User Account Database: LDAP
 - 2.LDAP Search Base DN: dc=example,dc=com
 - 3.LDAP Server: ldap://instructor.example.com (In domain form, not write IP)
 - 4.Download CA Certificate
 - 5.Authentication Method: LDAP password
 - 6.Apply
- ```
getent passwd ldapuser40
```

#### QUESTION 12

Configure autofs to make sure after login successfully, it has the home directory autofs, which is shared as / rhome/ldapuser40 at the ip: 172.24.40.10. and it also requires that, other ldap users can use the home directory

**Correct Answer:** Answer see in the explanation.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

```
chkconfig autofs on
cd /etc/
vim /etc/auto.master
/rhome /etc/auto.ldap
cp auto.misc auto.ldap
vim auto.ldap
ldapuser40 -rw,soft,intr 172.24.40.10:/rhome/ldapuser40
* -rw,soft,intr 172.16.40.10:/rhome/&
service autofs stop
server autofs start
showmount -e 172.24.40.10
su - ldapuser40
```

### QUESTION 13

Configure the system synchronous as 172.24.40.10.

**Correct Answer:** Answer see in the explanation.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Graphical Interfaces:

System-->Administration-->Date & Time

OR

```
system-config-date
```

### QUESTION 14

Change the logical volume capacity named vo from 190M to 300M. and the size of the floating range should set between 280 and 320. (This logical volume has been mounted in advance.)

**Correct Answer:** Answer see in the explanation.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

```
vgdisplay
(Check the capacity of vg, if the capacity is not enough, need to create pv , vgextend , lvextend)
lvdisplay (Check lv)
lvextend -L +110M /dev/vg2/lv2
resize2fs /dev/vg2/lv2
```

```
mount -a
```

```
(Verify)
```

```
----- (Decrease lvm)
```

```
umount /media
fsck -f /dev/vg2/lv2
resize2fs -f /dev/vg2/lv2 100M
lvreduce -L 100M /dev/vg2/lv2
mount -a
lvdisplay (Verify)
```

OR

```
e2fsck -f /dev/vg1/lvm02
resize2fs -f /dev/vg1/lvm02
mount /dev/vg1/lvm01 /mnt
lvreduce -L 1G -n /dev/vg1/lvm02
lvdisplay (Verify)
```

## QUESTION 1

### SIMULATION

Install the Kernel Upgrade.

Install suitable kernel update from:

<http://server.domain11.example.com/pub/updates>.

Following requirements must be met:

Updated kernel used as the default kernel of system start-up.

The original kernel is still valid and can be guided when system starts up.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: Using the browser open the URL in the question, download kernel file to root or home directory.

`uname -r` // check the current kernel version

`rpm -ivh kernel-*.rpm`

`vi /boot/grub.conf` // check

Some questions are: Install and upgrade the kernel as required. To ensure that grub2 is the default item for startup.

Yum repo : <http://content.example.com/rhel7.0/x86-64/errata>

OR

`uname -r` // check kernel

`Yum-config-manager --add-repo="http://content.example.com/rhel7.0/x86-64/ errata"`

`Yum clean all`

`Yum list kernel` // install directly

`Yum -y install kernel` // stuck with it, do not pipe! Please do not pipe!

Default enable new kernel `grub2-editenv list` // check

Modify `grub2-set-default` "kernel full name"

`Grub2-mkconfig -o/boot/grub2/grub.cfg` // Refresh

## QUESTION 2

### SIMULATION

Binding to an external validation server.

System [server.domain11.example.com](http://server.domain11.example.com) provides a LDAP validation service, your system should bind to this service as required:

Base DN of validation service is `dc=example,dc=com`

LDAP is used for providing account information and validation information Connecting and using the certification of <http://server.domain11.example.com/pub/EXAMPLE-CA-CERT> to encrypt

After the correct configuration, `ldapuser1` can log into your system, it does not have HOME directory until you finish autofs questions, `ldapuser1` password is password.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: `yum -y install sssd authconfig-gtk krb5-workstation authconfig-gtk` // open the graphical interface

Modify user account database to ldap, fill up DN and LDAP SERVER as questions required, use TLS to encrypt connections making tick, write `http://server.domain11.example.com/pub/EXAMPLE-CA-CERT` to download ca, authentication method choose ldap password.

You can test if the ldapuser is added by the following command:

```
Id ldapuser1
```

Note: user password doesn't need to set

### **QUESTION 3**

#### **SIMULATION**

Configure NTP.

Configure NTP service, Synchronize the server time, NTP server: `classroom.example.com`

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: Configure the client:

```
Yum -y install chrony
```

```
Vim /etc/chrony.conf
```

Add: `server classroom.example.com iburst`

Start: `systemctl enable chronyd`

`systemctl restart chronyd`

Validate: `timedatectl status`

### **QUESTION 4**

#### **SIMULATION**

Configure autofs.

Configure the autofs automatically mount to the home directory of LDAP, as required:

`server.domain11.example.com` use NFS to share the home to your system. This file system contains a pre

configured home directory of user ldapuserX.

Home directory of ldapuserX is:

`server.domain11.example.com /home/guests/ldapuser`

Home directory of ldapuserX should automatically mount to the ldapuserX of the local `/home/guests` Home directory's write permissions must be available for users ldapuser1's password is password

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: `yum install -y autofs`

```
mkdir /home/rehome
```

```
/etc/auto.master
```

```
/home/rehome/etc/auto.ldap
```

Keep then exit

```
cp /etc/auto.misc /etc/auto.ldap
```



```
ldapuserX -fstype=nfs,rw server.domain11.example.com:/home/guests/
```

Keep then exit

```
systemctl start autofs
systemctl enable autofs
su - ldapuserX// test
```

If the above solutions cannot create files or the command prompt is -bash-4.2\$, it maybe exist multi-level directory, this needs to change the server.domain11.example.com:/home/guests/ to server.domain11.example.com:/home/guests/ldapuserX. What is multi-level directory? It means there is a directory of ldapuserX under the /home/guests/ldapuserX in the questions. This directory is the real directory.

## QUESTION 5

### SIMULATION

Configure a user account.

Create a user iar, uid is 3400. Password is redhat

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: useradd -u 3400 iar  
passwd iar

## QUESTION 6

### SIMULATION

Add a swap partition.

Adding an extra 500M swap partition to your system, this swap partition should mount automatically when the system starts up. Don't remove and modify the existing swap partitions on your system.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:  
fdisk -cu /dev/vda// in the way of expanding the partition, don't make main partition  
partx -a /dev/vda  
mkswap /dev/vdax  
swapon /dev/vdax  
swapon -s  
vi /etc/fstab  
/dev/vdaxswapswapdefaults0 0  
mount -a

## QUESTION 7

### SIMULATION

Search files.

Find out files owned by jack, and copy them to directory /root/findresults

**Correct Answer:** See explanation below.

## **Explanation**

### **Explanation/Reference:**

Explanation: mkdir/root/findfiles

find / -user jack -exec cp -a {} /root/findfiles/ \; ls /root/findresults

## **QUESTION 8**

### **SIMULATION**

Search a String

Find out all the columns that contains the string seismic within /usr/share/dict/words, then copy all these columns to /root/lines.tx in original order, there is no blank line, all columns must be the accurate copy of the original columns.

**Correct Answer:** See explanation below.

**Section: (none)**

### **Explanation**

### **Explanation/Reference:**

Explanation: grep seismic /usr/share/dict/words > /root/lines.txt

## **QUESTION 9**

### **SIMULATION**

Create a backup

Create a backup file named /root/backup.tar.bz2, contains the content of /usr/local, tar must use bzip2 to compress.

**Correct Answer:** See explanation below.

**Section: (none)**

### **Explanation**

### **Explanation/Reference:**

Explanation:

cd /usr/local

tar -jcvf /root/backup.tar.bz2

mkdir /test

tar -jxvf /root/backup.tar.bz2 -C /test// Decompression to check the content is the same as the /usr/loca after

If the questions require to use gzip to compress. change -j to -z.

## **QUESTION 10**

### **SIMULATION**

Create a logical volume

Create a new logical volume as required:

Name the logical volume as database, belongs to datastore of the volume group, size is 50 PE.

Expansion size of each volume in volume group datastore is 16MB.

Use ext3 to format this new logical volume, this logical volume should automatically mount to /mnt/database

**Correct Answer:** See explanation below.

**Section: (none)**

### **Explanation**

Explanation: fdisk -cu /dev/vda// Create a 1G partition, modified when needed  
partx -a /dev/vda  
pvcreate /dev/vdax  
vgcreate datastore /dev/vdax -s 16M  
lvcreate -l 50 -n database datastore  
mkfs.ext3 /dev/datastore/database  
mkdir /mnt/database  
mount /dev/datastore/database /mnt/database/ df -Th  
vi /etc/fstab  
/dev/datastore /database /mnt/database/ ext3 defaults 0 0 mount -a

Restart and check all the questions requirements.

## **QUESTION 11**

### **SIMULATION**

Configure your Host Name, IP Address, Gateway and DNS.

Host name: dtop5.dn.ws.com  
IP Address: 172.28.10.5/4  
Gateway: 172.28.10.1  
DNS: 172.28.10.1

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

1. Configure Host Name

vim /etc/sysconfig/network NETWORKING=yes HOSTNAME=dtop5.dn.ws.com GATEWAY=172.28.10.1

2. Configure IP Address, Gateway and DNS

Configure the network by Network Manager:

Connection name:

☒ Connect automatically

Wired 802.1x Security **IPv4 Settings** IPv6 Settings

Method:

**Addresses**

| Address     | Netmask       | Gateway     |
|-------------|---------------|-------------|
| 172.28.10.5 | 255.255.255.0 | 172.28.10.1 |

DNS servers:

Search domains:

DHCP client ID:

☒ Require IPv4 addressing for this connection to complete

☒ Available to all users

Note: Please remember to choose two options:

Connect automatically

Available to all users

Click "Apply", save and exit, and restart your network services:

# Service network restart

3. Validate these profiles:

a) Check gateway: # vim / etc / sysconfig / network

**NETWORKING=yes**

**HOSTNAME=dtop5.dn.ws.com**

**GATEWAY=172.28.10.1**

b) Check Host Name: # vim /etc/hosts

```
172.28.10.5 dtop5.dn.ws.com dtop5 # Added by NetworkManager
127.0.0.1 localhost.localdomain localhost
::1 dtop.dn.ws.com dtop5 localhost6.localdomain6 localhost6
```

c) Check DNS: # vim /etc/resolv.conf

**# Generated by NetworkManager**

**Search dn.ws.com**

**Nameserver 172.28.10.1**

d) Check Gateway: # vim /etc/sysconfig/network-scripts/ifcfg-eth0

```
DEVICE="eth0"
NM_CONTROLLED="yes"
ONBOOT=yes
TYPE=Ethernet
BOOTPROTO=none
IPADDR=172.28.10.5
PREFIX=24
GATEWAY=172.28.10.1
DNS1=172.28.10.1
DOMAIN=dn.ws.com
DEFROUTE=yes
IPV4_FAILURE_FATAL=yes
IPV6INIT=no
NAME="System eth0"
UUID=5fb06bd0-0bb0-7ffb-45f1-d6edd65f3e03
HWADDR=00:0c:29:0E:A6:C8
```

## QUESTION 12

### SIMULATION

Create a 2G swap partition which take effect automatically at boot-start, and it should not affect the original swap partition.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation: # fdisk /dev/sda

p

(check Partition table)

n

(create new partition: press e to create extended partition, press p to create the main partition, and the extended partition is further divided into logical partitions)

Enter

+2G t

8 l

82

W

partx -a /dev/sda

partprobe

mkswap /dev/sda8

Copy UUID

swapon -a

vim /etc/fstab

UUID=XXXXXX swap swap defaults 0 0

(swapon -s)

### QUESTION 13

#### SIMULATION

Please open the ip\_forward, and take effect permanently.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

```
vim /etc/sysctl.conf net.ipv4.ip_forward = 1
sysctl -w (takes effect immediately)
```

If no "sysctl.conf" option, use these commands:

```
sysctl -a |grep net.ipv4
sysctl -P net.ipv4.ip_forward = 1
sysctl -w
```

### QUESTION 14

#### SIMULATION

Open kmcrl value of 5 , and can verify in /proc/ cmdline

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

```
vim /boot/grub/grub.conf
kernel/vmlinuz-2.6.32-71.el6.x86_64 ro root=/dev/mapper/GLSvg-GLSrootrd_LVM_LV=GLSvg/GLSroot
rd_LVM_LV=GLSvg/GLSswaprds_NO_LUKSrd_NO_MDrd_NO_DM
LANG=en_US.UTF-8 SYSFONT=latarcyrheb-sun16 KEYBOARDTYPE=pc KEYTABLE=us crashkernel=auto
rhgb quiet kmcrl=5
```

Restart to take effect and verification:

```
cat /proc/cmdline
ro root=/dev/mapper/GLSvg-GLSroot rd_LVM_LV=GLSvg/GLSroot rd_LVM_LV=GLSvg/GLSswap
rd_NO_LUKS rd_NO_MD rd_NO_DM
```

```
LANG=en_US.UTF-8 SYSFONT=latarcyrheb-sun16 KEYBOARDTYPE=pc KEYTABLE=us rhgb quiet kmcrl=5
```

### QUESTION 15

#### SIMULATION

Upgrade the kernel, start the new kernel by default. kernel download from this address:

<ftp://server1.domain10.example.com/pub/update/new.kernel>

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

Explanation: Download the new kernel file and then install it.  
[root@desktop8 Desktop]# ls  
kernel-2.6.32-71.7.1.el6.x86\_64.rpm  
kernel-firmware-2.6.32-71.7.1.el6.noarch.rpm  
[root@desktop8 Desktop]# rpm -ivh kernel-\*  
Preparing... #####  
[100%]  
1:kernel-firmware  
##### [ 50%]  
2:kernel  
##### [100%]

Verify the grub.conf file, whether use the new kernel as the default boot. [root@desktop8 Desktop]# cat /boot/grub/grub.conf  
default=0  
title Red Hat Enterprise Linux Server (2.6.32-71.7.1.el6.x86\_64)  
root (hd0,0)

kernel /vmlinuz-2.6.32-71.7.1.el6.x86\_64 ro root=/dev/mapper/vol0-root rd\_LVM\_LV=vol0/root rd\_NO\_LUKS  
rd\_NO\_MD

rd\_NO\_DM LANG=en\_US.UTF-8 SYSFONT=latarcyrheb-sun16 KEYBOARDTYPE=pc KEYTABLE=us  
crashkernel=auto rhgb quiet  
initrd /initramfs-2.6.32-71.7.1.el6.x86\_64.img

## QUESTION 16

### SIMULATION

Configure iptables, there are two domains in the network, the address of local domain is 172.24.0.0/16 other domain is 172.25.0.0/16, now refuse domain 172.25.0.0/16 to access the server.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
iptables -F
service iptables save
iptables -A INPUT -s 172.25.0.0/16 -j REJECT
service iptables save
service iptables restart
```

## QUESTION 17

### SIMULATION

A YUM source has been provided in the  
<http://instructor.example.com/pub/rhel6/dvd>  
Configure your system and can be used normally.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
/etc/yum.repos.d/base.repo
[base]
```

baseurl=http://instructor.example.com/pub/rhel6/dvd  
gpgcheck=0

yum list

### QUESTION 18

#### SIMULATION

There are two different networks, 192.168.0.0/24 and 192.168.1.0/24. Your System is in 192.168.0.0/24 Network. One RHEL6 Installed System is going to use as a Router. All required configuration is already done on Linux Server. Where 192.168.0.254 and 192.168.1.254 IP Address are assigned on that Server. How will make successfully ping to 192.168.1.0/24 Network's Host?

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
vi /etc/sysconfig/network GATEWAY=192.168.0.254
```

OR

```
vi /etc/sysconfig/network-scripts/ifcfg-eth0 DEVICE=eth0
```

```
BOOTPROTO=static
```

```
ONBOOT=yes
```

```
IPADDR=192.168.0.?
```

```
NETMASK=255.255.255.0
```

```
GATEWAY=192.168.0.254
```

```
service network restart
```

Gateway defines the way to exit the packets. According to question System working as a router for two networks have IP Address 192.168.0.254 and 192.168.1.254.

### QUESTION 19

#### SIMULATION

Make a swap partition having 100MB. Make Automatically Usable at System Boot Time.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Use fdisk /dev/hda ->To create new partition.

Type n-> For New partition

It will ask for Logical or Primary Partitions. Press l for logical.

It will ask for the Starting Cylinder: Use the Default by pressing Enter Key.

Type the Size: +100M ->You can Specify either Last cylinder or Size here.

Press P to verify the partitions lists and remember the partitions name. Default System ID is 83 that means Linux Native.

Type t to change the System ID of partition.

Type Partition Number

Type 82 that means Linux Swap.

Press w to write on partitions table.

Either Reboot or use partprobe command.

mkswap /dev/hda? ->To create Swap File system on partition.

swapon /dev/hda? ->To enable the Swap space from partition.

free -m ->Verify Either Swap is enabled or not.



Reboot the System and verify that swap is automatically enabled or not.

## QUESTION 20

### SIMULATION

There are two different networks 192.168.0.0/24 and 192.168.1.0/24. Where 192.168.0.254 and 192.168.1.254 IP Address are assigned on Server. Verify your network settings by pinging 192.168.1.0/24 Network's Host.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
vi /etc/sysconfig/network NETWORKING=yes HOSTNAME=station?.example.com GATEWAY=192.168.0.254
service network restart
```

```
2.vi /etc/sysconfig/network-scripts/ifcfg-eth0 DEVICE=eth0
ONBOOT=yes
BOOTPROTO=static
IPADDR=X.X.X.X
NETMASK=X.X.X.X
GATEWAY=192.168.0.254
ifdown eth0
ifup eth0
```

## QUESTION 21

### SIMULATION

One Logical Volume is created named as myvol under vo volume group and is mounted. The Initial Size of that Logical Volume is 400MB. Make successfully that the size of Logical Volume 200MB without losing any data. The size of logical volume 200MB to 210MB will be acceptable.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
First check the size of Logical Volume: lvdisplay /dev/vo/myvol
Make sure that the filesystem is in a consistent state before reducing:
fsck -f /dev/vo/myvol
Now reduce the filesystem by 200MB.
resize2fs /dev/vo/myvol 200M
```

```
It is now possible to reduce the logical volume. #lvreduce /dev/vo/myvol -L 200M
Verify the Size of Logical Volume: lvdisplay /dev/vo/myvol
Verify that the size comes in online or not: df -h
```

## QUESTION 22

### SIMULATION

One Logical Volume named /dev/test0/testvolume1 is created. The initial Size of that disk is 100MB now you required more 200MB. Increase the size of Logical Volume, size should be increase on online.

**Correct Answer:** See explanation below.

## **Explanation**

### **Explanation/Reference:**

Explanation:

```
lvextend -L+200M /dev/test0/testvolume1 Use lvdisplay /dev/test0/testvolume1)
```

```
ext2online -d /dev/test0/testvolume1
```

lvextend command is used to increase the size of Logical Volume. Other command lvresize command also here to resize. And to bring increased size on online we use the ext2online command.

## **QUESTION 23**

### **SIMULATION**

Who ever creates the files/directories on archive group owner should be automatically should be the same group owner of archive.

**Correct Answer:** See explanation below.

**Section: (none)**

### **Explanation**

### **Explanation/Reference:**

Explanation:

```
chmod g+s /archive
```

Verify using: `ls -ld /archive` Permission should be like:

```
drwxrws--- 2 root sysuser 4096 Mar 16 18:08 /archive
```

If SGID bit is set on directory then who every users creates the files on directory group owner automatically the owner of parent directory.

To set the SGID bit: `chmod g+s directory`

To Remove the SGID bit: `chmod g-s directory`

## **QUESTION 24**

### **SIMULATION**

Make on /archive directory that only the user owner and group owner member can fully access.

**Correct Answer:** See explanation below.

**Section: (none)**

### **Explanation**

### **Explanation/Reference:**

Explanation:

```
chmod 770 /archive
```

Verify using: `ls -ld /archive` Preview should be like:

```
drwxrwx--- 2 root sysuser 4096 Mar 16 18:08 /archive
```

To change the permission on directory we use the chmod command. According to the question that only the owner user (root) and group member (sysuser) can fully access the directory so: `chmod 770 /archive`

## **QUESTION 25**

### **SIMULATION**

Notes:

NFS: `NFS instructor.example.com:/var/ftp/pub/rhel6/dvd`

YUM: `http://instructor.example.com/pub/rhel6/dvd`

ldap: `http://instructor.example.com/pub/EXAMPLE-CA-CERT`

Install dialog package.

**Correct Answer:** yum install dialog

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 26

### SIMULATION

SELinux must run in force mode.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: /etc/sysconfig/selinux

SELINUX=enforcing

## QUESTION 27

### SIMULATION

The firewall must be open.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: /etc/init.d/iptables start

iptables -F

iptables -X

iptables -Z

/etc/init.d/iptables save

chkconfig iptables on

## QUESTION 28

### SIMULATION

In the system, mounted the iso image /root/examine.iso to/mnt/iso directory. And enable automatically mount (permanent mount) after restart system.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

/etc/fstab:

/root/examine.iso /mnt/iso iso9660 loop 0 0 mount -a

mount | grep examine

## QUESTION 29

### SIMULATION

Configure your NFS services. Share the directory by the NFS Shared services.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: /etc/init.d/rpcbind start  
/etc/init.d/nfslock start  
/etc/init.d/nfs start  
chkconfig rpcbind on  
chkconfig nfslock on  
chkconfig nfs on  
showmount -e localhost

### **QUESTION 30**

**SIMULATION**

1. Find all sizes of 10k file or directory under the /etc directory, and copy to /tmp/findfiles directory.
2. Find all the files or directories with Lucy as the owner, and copy to /tmp/findfiles directory.

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

(1)find /etc -size 10k -exec cp {} /tmp/findfiles \;

(2)find / -user lucy -exec cp -a {} /tmp/findfiles \;

Note: If find users and permissions, you need to use cp -a options, to keep file permissions and user attributes etc.

### **QUESTION 31**

**SIMULATION**

There is a local logical volumes in your system, named with common and belong to VGSRV volume group, mount to the /common directory. The definition of size is 128 MB.

Requirement:

Extend the logical volume to 190 MB without any loss of data. The size is allowed between 160-160 MB after extending.

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: lvextend -L 190M /dev/mapper/vgsrv-common resize2fs /dev/mapper/vgsrv-common

### **QUESTION 32**

**SIMULATION**

There is a local logical volumes in your system, named with shrink and belong to VGSRV volume group, mount to the /shrink directory. The definition of size is 320 MB.

Requirement:

Reduce the logical volume to 220 MB without any loss of data. The size is allowed between 200-260 MB after reducing.

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

```
Explanation: cd;umount /shrink
e2fsck -f /dev/mapper/vgsrv-shrink
resize2fs /dev/mapper/vgsrv-shrink 220M
lvreduce -L 220M /dev/mapper/vgsrv-shrink
mount -a
```

**QUESTION 33****SIMULATION**

Create a swap space, set the size is 600 MB, and make it be mounted automatically after rebooting the system (permanent mount).

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
if=/dev/zero of=/swapfile bs=1M count=600 mkswap /swapfile
/etc/fstab:
/swapfile swap swap defaults 0 0 mount -a
```

**QUESTION 34****SIMULATION**

According the following requirements to create user, user group and the group members:

- A group named admin.
  - A user named mary, and belong to admin as the secondary group.
  - A user named alice, and belong to admin as the secondary group.
  - A user named bobby, bobby's login shell should be non-interactive. Bobby not belong to admin as the secondary group.
- Mary, Alice, bobby users must be set "password" as the user's password.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
groupadd admin
useradd -G admin mary
useradd -G admin alice
useradd -s /sbin/nologin bobby
echo "password" | passwd --stdin mary
echo "password" | passwd --stdin alice
echo "password" | passwd --stdin bobby
```

**QUESTION 35****SIMULATION**

According the following requirements to create a local directory /common/admin.

This directory has admin group.

This directory has read, write and execute permissions for all admin group members.

Other groups and users don't have any permissions.

All the documents or directories created in the /common/admin are automatically inherit the admin group.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

mkdir -p /common/admin

chgrp admin /common/admin

chmod 2770 /common/admin

### **QUESTION 36**

**SIMULATION**

Update the kernel from ftp://instructor.example.com/pub/updates.

According the following requirements:

The updated kernel must exist as default kernel after rebooting the system.

The original kernel still exists and is available in the system.

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: rpm -ivh kernel-firm...

rpm -ivh kernel...

### **QUESTION 37**

**SIMULATION**

User mary must configure a task.

Requirement: The local time at 14:23 every day echo "Hello World.".

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: crontab -u mary -e

23 14 \* \* \* echo "Hello World."

### **QUESTION 38**

**SIMULATION**

The user authentication has been provided by ldap domain in 192.168.0.254. According the following requirements to get ldapuser.

-LdapuserX must be able to login your system, X is your hostname number. But the ldapuser's home directory cannot be mounted, until you realize automatically mount by autofs server.

- All ldap user's password is "password".

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: system-config-authentication &

Identity & Authentication    Advanced Options

### User Account Configuration

User Account Database: LDAP

LDAP Search Base DN: dc=example,dc=com

LDAP Server: ldap://instructor.examp

☒ Use TLS to encrypt connections

 Download CA Certificate...

### Authentication Configuration

Authentication Method: LDAP password

 Revert     Cancel     Apply

#### QUESTION 39 SIMULATION

According the following requirements, configure autofs service and automatically mount to user's home directory in the ldap domain.

- Instructor.example.com (192.168.0.254) has shared /home/guests/ldapuserX home directory to your system by over NFS export, X is your hostname number.
- LdapuserX's home directory is exist in the instructor.example.com: /home/ guests/ldapuserX
- LdapuserX's home directory must be able to automatically mount to /home/ guests/ldapuserX in your system.
- Home directory have write permissions for the corresponding user.

However, you can log on to the ldapuser1 - ldapuser99 users after verification. But you can only get your corresponding ldapuser users. If your system's hostname is server1.example.com, you can only get ldapuser1's home directory.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: `mkdir -p /home/guests`

`cat /etc/auto.master:`

`/home/guests /etc/auto.ldap`

`cat /etc/auto.ldap:`

`ldapuser1 -rw instructor.example.com:/home/guests/ldapuser1`

`automatically mount all the user's home directory #* -rw instructor.example.com:/home/guests/&`

## SIMULATION

Copy /etc/fstab document to /var/TMP directory. According the following requirements to configure the permission of this document.

The owner of this document must be root.

This document belongs to root group.

User mary have read and write permissions for this document.

User alice have read and execute permissions for this document.

Create user named bob, set uid is 1000. Bob have read and write permissions for this document.

All users has read permission for this document in the system.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: cp /etc/fstab /var/tmp

chown root:root /var/tmp/fstab

chmod a-x /var/tmp/fstab

setfacl -m u:mary:rw /var/tmp/fstab

setfacl -m u:alice:rx /var/tmp/fstab

useradd -u 1000 bob

## QUESTION 41

### SIMULATION

Configure the NTP service in your system.

**Correct Answer:** See explanation below.

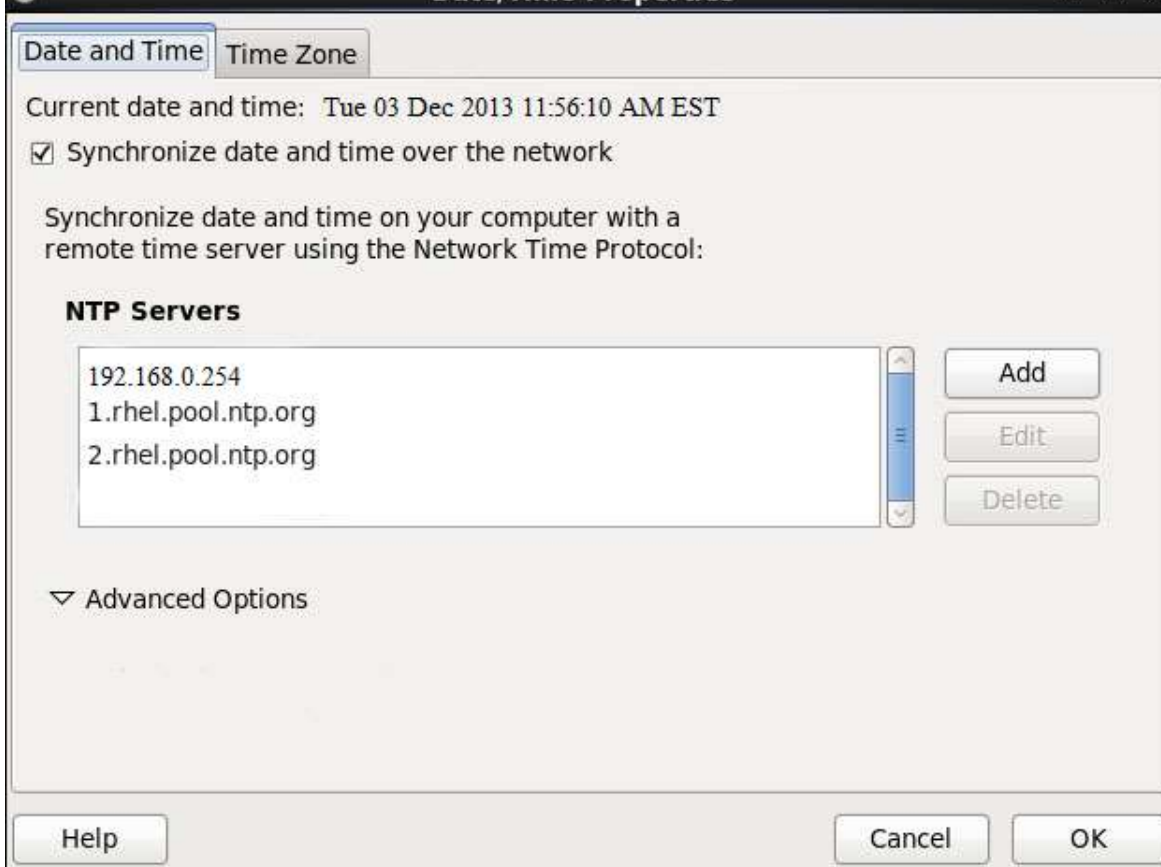
**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: system-config-date &





**QUESTION 42**  
SIMULATION

Configure the FTP service in your system, allow remote access to anonymous login and download the program by this service. Service is still running after system rebooting.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: yum install vsftpd  
/etc/init.d/vsftpd start  
chkconfig vsftpd on

**QUESTION 43**  
SIMULATION

Configure your web services, download from <http://instructor.example.com/pub/serverX.html> And the services must be still running after system rebooting.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: cd /var/www/html

chkconfig httpd on

#### QUESTION 44

##### SIMULATION

Create a volume group, and set the size is 500M, the size of single PE is 16M. Create logical volume named lv0 in this volume group, set size is 20 PE, make it as ext3 file system, and mounted automatically under data.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: fdisk /dev/vda  
pvcreate /dev/vda3  
vgcreate -s 16M vg0 /dev/vda3  
lvcreate -n lv0 -l 20 vg0  
mkfs.ext3 /dev/mapper/vg0-lv0  
mkdir /data  
/etc/fstab:  
/dev/mapper/vg0-lv0 /data ext3 defaults 0 0  
mount -a  
mount | grep data

#### QUESTION 45

##### SIMULATION

Download the document from ftp://instructor.example.com/pub/testfile, find all lines containing [abcde] and redirect to /MNT/answer document, then rearrange the order according to the original content.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: Download the file to /tmp first  
grep [abcde] /tmp/testfile > /mnt/answer

#### QUESTION 46

##### SIMULATION

SELinux must be running in the Enforcing mode.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:  
getenforce // Check the current mode of SELinux // SELinux runs in enforcing mode // Check  
getenforce 1  
getenforce  
vim /etc/selinux/config selinux=enforcing // To temporarily enable SELinux  
: wg  
sestatus

#### QUESTION 47

##### SIMULATION

A YUM repository has been provided at [http://server.domain11.example.com/pub/x86\\_64/Server](http://server.domain11.example.com/pub/x86_64/Server).  
Configure your system to use this location as a default repository.

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation: vim/etc/yum.repos/base.repo

[base]

name=base

baseurl= [http://server.domain11.example.com/pub/x86\\_64/Server](http://server.domain11.example.com/pub/x86_64/Server)

gpgcheck=0

enable=1

Save and Exit

Use yum list for validation, the configuration is correct if list the package information. If the Yum configuration is not correct then maybe cannot answer the following questions.

## QUESTION 48

### SIMULATION

Resize the logical volume vo and its filesystem to 290 MB. Make sure that the filesystem contents remain intact.

Note: Partitions are seldom exactly the same size requested, so a size within the range of 260 MB to 320 MiB is acceptable.

**Correct Answer:** See explanation below.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

df -hT

lvextend -L +100M /dev/vg0/vo

lvscan

xfs\_growfs /home/ // home is LVM mounted directory

Note: This step is only need to do in our practice environment, you do not need to do in the real exam

resize2fs /dev/vg0/vo // Use this comand to update in the real exam df -hT

OR

e2fsck -f/dev/vg0/vo

umount /home

resize2fs /dev/vg0/vo required partition capacity such as 100M lvreduce -l 100M /dev/vg0/vo mount /dev/vg0/vo /home

df -Ht

## QUESTION 49

### SIMULATION

Create the following users, groups, and group memberships:

A group named adminuser.

A user natasha who belongs to adminuser as a secondary group A user harry who also belongs to adminuser as a secondary group.

adminuser, natasha, harry, and sarah should all have the password of redhat.

**Correct Answer:** See explanation below.

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
groupadd sysmgrs
```

```
useradd -G sysmgrs Natasha
```

We can verify the newly created user by `cat /etc/passwd`)

```
useradd -G sysmgrs harry
```

```
useradd -s /sbin/nologin sarrah
```

```
passwd Natasha
```

```
passwd harry
```

```
passwd sarrah
```