RHCSA Exam Paper

❖ **Crack The Root Password:**

- Kernel
- Press e
- After UTF-8(space)rd. Break
- Ctrl+x
- mount(space)-o(space)remount(space),rw(space)/sysroot/
- chroot(space)/sysroot/
- passwd(type 2 times new password)
- touch(space)/.autorelabel
- exit
- reboot
- systemctl(space)set-default(space)graphical.target
- reboot

Before Start Exam VERIFICATION

- systemctl(space)mask(space)iptables.service
- systemctl(space)mask(space)ip6tables.service

Ping 172.25.0.10 (desktop)
Ping 172.25.0.11(server)
Ping 172.25.254.254(base system)

Hostname
Ping example.com

1) Network Setup:

- nmcli (space)connection(space) add(space) con-name(space) iant (space)ifname(space) eth0(space) type(space) ethernet(space) ip4 (space)172.25.1.11/24 (space) gw4(space) 172.25.1.254
- nmcli(space) connection (space)modify(space) iant(space) ipv4.dns(space) 172.25.254.254

- nmcli(space) connection(space) show
- nmcli(space) connection(space) modify (space) "System eth0" (space) connection.autoconnect (space) no
- nmcli (space)connection(space) modify(space) iant (space)connection.autoconnect (space) yes
- systemctl(space) restart(space) Networkmanager
- systemctl(space) enable(space) Networkmanager
- hostnamectl (space)set-hostname (space)server1.example.com
- hostname

2) Configure Selinux?

- vim(space) /etc/selinux/config
- press 'i'
- SELINUX=enforcing
- Esc
- :wq! (save)
- init 6

3) Create a New 100MB Physical Partition mounted under /gluster?

- fdisk -l
- fdisk (space) /dev/vdb
- n
- p
- enter
- enter
- +100M
- w
- partprobe
- mkfs.ext4 (space)/dev/vdb1
- mkdir (space)-p(space) /gluster
- blkid (copy UUID)
- vim /etc/fstab
- press 'i'
- UUID(tab)/gluster(tab)ext4(tab)defaults(tab)0(space)0
- :wq! (save)

- mount -a
- init 6
- fdisk -l

4) **Create a new 150MB swap partition f/s.?**

- free -m
- fdisk -l
- fdisk (space)/dev/vdb
- n
- p
- enter
- enter
- +150M
- l
- t
- enter
- 82
- w
- partprobe
- mkswap (space)/dev/vdb2
- swapon (space) /dev/vdb2
- swapon(space) -a
- blkid (copy the UUID of /dev/vdb2)
- vim(space) /etc/fstab
- press 'i'
- UUID(tab)swap(tab)swap(tab)defaults(tab)0(space)0
- :wq! (save)
- init 6

❖ **Verification:**

- free -m
- fdisk -l

5) **Create a repositary for http://content.example.com/rhel7.0/x86_64/dvd?**

- vim /etc/yum.repos.d/iant.repo
- press 'i'

- [iant]
- name=this is a repo file
- baseurl=http://content.example.com/rhel7.0/x86_64/dvd
- gpgcheck=0
- esc
- :wq!
- yum repolist

6) **Create the following user,group and group memberships:**
   - **A Group named sysgrp**
   - **A user andrew who belongs to sysgrp as a secondary group**
   - **A user susan also belongs to sysgrp as a secondary group**
   - **A user sarah who does not have access to an interactive shell on system and who not a member of sysgrp**
   - **Andrew,susan,sarah password="postroll"**
     - groupadd sysgrp
     - useradd andrew
     - useradd susan
     - usermod -aG sysgrp andrew
     - usermod -aG sysgrp susan
     - useradd -s /sbin/nologin sarah
     - passwd andrew(postroll)
     - passwd susan(postroll)
     - passwd sarah(postroll)

❖ **Verification:**
- id andrew
- id susan
- su - sarah

7) **Create a collaborative directory /redhat/sysgrp with the following characteristics:**
   - **Group ownership of /redhat/sysgrp is sysgrp.**
   - **The directory should be readable,writeable and accessable to members of sysgrp, but not to any other user.**

- **Files created in /redhat/sysgrp automatically have group ownership set to the sysgrp group.**
  - mkdir -p /redhat/sysgrp
  - chgrp sysgrp /redhat/sysgrp
  - chmod 2770 /redhat/sysgrp

❖ **Verification:**

- ls -ltr /redhat
- cd /redhat/sysgrp
- touch xyz.txt
- ls -ltr xyz.txt (check the group ownership)

8) **Install the appropriate kernel update from http://content.example.com/rhel7.0/x86_64/errata**

- **The following criteria must also be met:**
- **The update kernel is the default kernel when the system rebooted.**
- **The original kernel remains available and bootable on the system.**
  - **uname -rms**
  - vim /etc/yum.repos.d/rhca.repo
  - press 'i'
  - [kernelrepo]
  - name=this is for kernel repo
  - baseuri=http://content.example.com/rhel7.0/x86_64/errata
  - gpgcheck=0
  - enabled=1
  - :wq! (save)
  - yum install kernel
  - init 6
  - uname -rms

9) **Enable IP forwarding on your machine?**

- vim /etc/sysctl.conf
- press 'i'
- net.ipv4.ip_forward=1
- :wq!

- sysctl -p (enable ip)

10) **Bind with LDAP used provided by classroom.example.com for user authentication.**

- **Note the following:**
- **The LDAP search base DN is dc=example,dc=com**
- **The LDAP certificate file is http://classroom.example.com/pub/EXAMPLE-CA-CERT**
- **ldapuserX should be able to log into your system,where X is your ServerX(hint:where X is your domain number),but will not have a home directory,until you have completed the autofs requirements,below all LDAP users have password "password".**

- yum install authconfig-gtk sssd krb5-workstation
- yum install auth* -y
- yum install sssd* -y
- authconfig-gtk
- enter
- select LDAP
- DN :- dc=example,dc=com
- Server :- ldap://classroom.example.com
- Choose TLS
- Click on Download CA Certificate
- Link :- http://classroom.example.com/pub/EXAMPLE-CA-CERT
- Authentication Method :- LDAP password
- Apply
- systemctl enable sssd.service
- systemctl start sssd.service

❖ **Verification:**

- getent passwd ldapuser0

11) **Configure autofs to automount the home directories of LDAP users, Note the following:**

- **Classroom.example.com(172.25.254.254,NFS-exports /home/guests to your system, where X is your server Number.**

- **LDAP userX's home directory is classroom.example.com:/home/guests/ldapuserX**
- **Ldapuser's home directory should be automounted locally beneth /home as /home/guests/ldapuserX**
- **Home directories must be writable by their users.**
- **While you are able to login as any of the users ldapuser1 through ldapuser20 the only home directory that is accessible from your system is ldapuserX.**

➢ yum install autofs
➢ vim /etc/auto.master.d/home.autofs
➢ press 'i'
➢ /home/guests(tab)/etc/auto.home
➢ :wq! (save)
➢ vim /etc/auto.home
➢ press 'i'
➢ ldapuser0(tab)-rw,sync(tab)classroom.example.com:/home/guests/&
➢ :wq! (save)
➢ systemctl enable autofs.service
➢ systemctl start autofs.service
➢ ssh ldapuser0@localhost
➢ password=password

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

➢ yum install chrony
➢ vim /etc/chrony.conf
➢ press 'i'
➢ (disable all server using #)
➢ server(tab)classroom.example.com(tab)iburst
➢ :wq! (save)
➢ systemctl restart chronyd.service
➢ systemctl enable chronyd.service

❖ **Verification:**

- chronyc sources -V (check reach level=17)

13) **Copy the file /etc/fstsb to /var/tmp configure the permission of /var/tmp/fstab so that the file /var/tmp/fstab is owned by the root user,belongs to the group root should not be executable by anyone.**

- **The user andrew is able to read & write /var/tmp/fstab.**
- **The user susan can neither write nor read /var/tmp/fstab.**
- **All other users (current or future) have the ability to read /var/tmp/fstab.**

- Cp(space) /etc/fstab(space) /var/tmp
- cd /var/tmp
- ls fstab
- setfacl(space) –m(space) u:andrew:rw- (space) /var/tmp/fstab
- setfacl (space)–m (space)u:susan:--- (space)/var/tmp/fstab
- getfacl /var/tmp/fstab

16) **Create a new physical volume, create a new volume group in the name of datacontainer, vg extent is 16.00MB create a new logical volume in the name of datacopy with the size of 50 extents and file system must vfat then mount it under /datasource.**

- fdisk -l
- fdisk /dev/vdb
- n
- p
- enter
- enter
- +802M
- l
- t
- 8e
- p
- w
- partprobe
- partx(space) /dev/vdb

- pvcreate (space)/dev/vdb3
- vgcreate (space) -s (space)16M(space) datacontainer(space) /dev/vdb3
- vgdisplay (check groupname, size)
- lvcreate (space) -l (space)50 (space)-n (space)datacopy (space)datacontainer
- lvdisplay
- mkfs.vfat(space) /dev/datacontainer/datacopy
- mkdir (space)–p(space) /datasource
- blkid (space) /dev/datacontainer/datacopy (copy UUID)
- vim(space) /etc/fstab
- press 'i'
- UUID(tab)/datasource(tab)vfat(tab)defaults(tab)0(space)0
- :wq! (save)
- mount(space) –a
- init 6

14) Resize the logical volume, logical-data and it filesystem to 400MB. Make sure that the filesystem contents remain intact.

- df (space)-Th
- umount (space)/datasource/
- e2fsck (space) -f(space) /dev/datacontainer/datacopy
- lvreduce (space) -L(space) 400M(space) /dev/datacontainer/datacopy
- mount (space) -a
- init 6

❖ **Verification:**

- lvdisplay

15) Add the user talusan with userid 2985. Find the file which owned by user julice and copy the file into /root/findresults directory.

- useradd(space) -u(space) 2985(space) talusan
- mkdir (space)–p (space)/root/findresults
- useradd (space) julice
- find (space) /(space) -user(space) julice (space) -exec(space) cp(space) {}(space) /root/findresults/(space) \;

❖ **Verification:**

- cd (space) /root/findresults
- ls

17)Create an archive file /root/local.tgz for /usr/local. It should be compressed by gzip.

- tar(space) -cvzf(space) /root/local.tgz(space) /usr/local
- ls

18)Search the string sarah in the /etc/passwd file and save the output in /root/lines.

- grep (space) sarah(space) /etc/passwd (space) >(space) /root/lines
- cat (space)/root/lines

9) The user andrew must configure a cron job that runs at 14:23 local time and executes - /bin/echo hiya

-> yum install cronie

-> systemctl enable crond

-> systemctl restart crond

-> crontab -eu andrew

-> 23 14 * * * /bin/echo hiya

->Verification

-> crontab -eu andrew