

## Node:1 1)

```
Red Hat Enterprise Linux 9.0 (Plow)
Kernel 5.14.0-70.13.1.el9_0.x86_64 on an x86_64

Activate the web console with: systemctl enable --now cockpit.socket

serverb login: root
Password:
[root@serverb ~]#
[root@serverb ~]# hostnamectl set-hostname serverb.lab.example.com
[root@serverb ~]#
[root@serverb ~]# hostname
serverb.lab.example.com
[root@serverb ~]#
[root@serverb ~]# nmcli connection
NAME                                UUID                                TYPE      DEVICE
Wired connection 1                 3968ff88-8373-3810-a63f-1cd8b096767e ethernet eth0
[root@serverb ~]#
[root@serverb ~]# nmcli connection modify "Wired connection 1" ipv4.addresses 172.25.250.11/24 ipv4.gateway 172.25.250.254
ipv4.dns 172.25.250.254 ipv4.method manual
[root@serverb ~]#
[root@serverb ~]# nmcli connection up "Wired connection 1"
Connection successfully activated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/2)
[root@serverb ~]#
[root@serverb ~]# ping 172.25.250.11
PING 172.25.250.11 (172.25.250.11) 56(84) bytes of data.
64 bytes from 172.25.250.11: icmp_seq=1 ttl=64 time=0.125 ms
^C
--- 172.25.250.11 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/ndev = 0.125/0.125/0.125/0.000 ms
[root@serverb ~]#
[root@serverb ~]# ping 172.25.250.254
PING 172.25.250.254 (172.25.250.254) 56(84) bytes of data.
64 bytes from 172.25.250.254: icmp_seq=1 ttl=64 time=0.625 ms
^C
--- 172.25.250.254 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/ndev = 0.625/0.625/0.625/0.000 ms
[root@serverb ~]#
[root@serverb ~]# vi /etc/ssh/sshd_config
```

```
#LoginGraceTime 2m
PermitRootLogin yes
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10
```

# reboot

2)

```
[student@workstation ~]$ ssh root@172.25.250.11
Warning: Permanently added '172.25.250.11' (ED25519) to the list of known hosts.
Activate the web console with: systemctl enable --now cockpit.socket

Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Wed Nov 23 00:33:56 2022
[root@serverb ~]#
[root@serverb ~]# vi /etc/yum.repos.d/local.repo
[root@serverb ~]#
[root@serverb ~]# cat /etc/yum.repos.d/local.repo
[repo-1]
name=appstream
baseurl=http://content/rhel9.0/x86_64/dvd/AppStream
gpgcheck=0
enabled=1

[repo-2]
name=baseos
baseurl=http://content/rhel9.0/x86_64/dvd/BaseOS
gpgcheck=0
enabled=1
[root@serverb ~]#
[root@serverb ~]# dnf clean all
0 files removed
[root@serverb ~]#
[root@serverb ~]# dnf repolist all
repo id                                repo name                                status
repo-1                                appstream                                enabled
repo-2                                baseos                                   enabled
rhel-9.0-for-x86_64-appstream-rpms     Red Hat Enterprise Linux 9.0 AppStream (dvd) enabled
rhel-9.0-for-x86_64-baseos-rpms       Red Hat Enterprise Linux 9.0 BaseOS (dvd)  enabled
[root@serverb ~]#
[root@serverb ~]# dnf install vim -y
appstream                               35 MB/s | 5.8 MB    00:00
baseos                                  37 MB/s | 1.7 MB    00:00
Red Hat Enterprise Linux 9.0 BaseOS (dvd) 43 MB/s | 1.7 MB    00:00
Red Hat Enterprise Linux 9.0 AppStream (dvd) 47 MB/s | 5.8 MB    00:00
Package vim-enhanced-2:8.2.2637-15.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@serverb ~]#
```

3)

```
[root@serverb ~]# semanage port -l | grep http
http_cache_port_t      tcp      8080, 8118, 8123, 10001-10010
http_cache_port_t      udp      3130
http_port_t            tcp      80, 81, 443, 488, 8008, 8009, 8443, 9000
pegasus_http_port_t    tcp      5988
pegasus_https_port_t   tcp      5989
[root@serverb ~]#
[root@serverb ~]# semanage port -a -t http_port_t -p tcp 82
[root@serverb ~]#
[root@serverb ~]# semanage port -l | grep http
http_cache_port_t      tcp      8080, 8118, 8123, 10001-10010
http_cache_port_t      udp      3130
http_port_t            tcp      82, 80, 81, 443, 488, 8008, 8009, 8443, 9000
pegasus_http_port_t    tcp      5988
pegasus_https_port_t   tcp      5989
[root@serverb ~]#
[root@serverb ~]# firewall-cmd --permanent --add-port=82/tcp
success
[root@serverb ~]#
[root@serverb ~]# firewall-cmd --reload
success
[root@serverb ~]#
```

```
[root@serverb ~]# dnf install httpd -y
Last metadata expiration check: 0:04:41 ago on Wed 23 Nov 2022 12:51:06 AM EST.
Package httpd-2.4.51-7.el9_0.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@serverb ~]# systemctl start httpd
[root@serverb ~]#
[root@serverb ~]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@serverb ~]#
[root@serverb ~]# vim /etc/httpd/conf/httpd.conf
```

```
# Supplemental configuration
#
# Load config files in the "/etc/httpd/conf.d" directory, if any.
IncludeOptional conf.d/*.conf
<virtualhost 172.25.250.11:82>
servername serverb.lab.example.com
documentroot /var/www/html
</virtualhost>
```

```
# Supplemental configuration
#
# Load config files in the "/etc/httpd/conf.d" directory, if any.
IncludeOptional conf.d/*.conf
<virtualhost 172.25.250.11:82>
servername serverb.lab.example.com
documentroot /var/www/html
</virtualhost>
```

4)

```
[root@serverb ~]# groupadd admin
[root@serverb ~]#
[root@serverb ~]# useradd -G admin harry
[root@serverb ~]#
[root@serverb ~]# useradd -G admin natasha
[root@serverb ~]#
[root@serverb ~]# useradd -s /sbin/nologin sarah
[root@serverb ~]#
[root@serverb ~]# passwd --stdin harry
Changing password for user harry.
password
passwd: all authentication tokens updated successfully.
[root@serverb ~]#
[root@serverb ~]# passwd --stdin natasha
Changing password for user natasha.
password
passwd: all authentication tokens updated successfully.
[root@serverb ~]#
[root@serverb ~]# passwd --stdin sarah
Changing password for user sarah.
password
passwd: all authentication tokens updated successfully.
[root@serverb ~]#
```



5)

```
[root@serverb ~]# mkdir -p /common/admin
[root@serverb ~]#
[root@serverb ~]# chgrp admin /common/admin
[root@serverb ~]#
[root@serverb ~]# chmod 770 /common/admin
[root@serverb ~]#
[root@serverb ~]# chmod g+s /common/admin
[root@serverb ~]#
[root@serverb ~]# ls -ld /common/admin
drwxrws---. 2 root admin 6 Nov 23 01:09 /common/admin
[root@serverb ~]#
[root@serverb ~]# su - harry
[harry@serverb ~]$
[harry@serverb ~]$ touch /common/admin/file1
[harry@serverb ~]$
[harry@serverb ~]$ ls -l /common/admin/file1
-rw-r--r--. 1 harry admin 0 Nov 23 01:10 /common/admin/file1
[harry@serverb ~]$
logout
[root@serverb ~]#
```

6)

```
[student@workstation ~]$ ### Only for Practise
[student@workstation ~]$
[student@workstation ~]$ lab start rhcsa-compreview3

Starting lab.

• Checking lab systems ..... SUCCESS
• Installing sshpass on servera ..... SUCCESS
• Installing sshpass on serverb ..... SUCCESS
• Ensuring clean authorized_keys file on servera ..... SUCCESS
• Ensuring clean SSH keypair on serverb ..... SUCCESS
• Backing up SELinux configuration on servera ..... SUCCESS
• Ensuring clean SELinux Boolean setting on serverb ..... SUCCESS
• Creating the production5 user on servera ..... SUCCESS
• Creating the production5 user on serverb ..... SUCCESS
• Exporting /user-homes/production5 from servera ..... SUCCESS
• Ensuring clean firewall settings on serverb ..... SUCCESS
• Configuring Apache HTTPD on serverb ..... SUCCESS
• Ensuring no SELinux context for 30080/tcp on serverb ..... SUCCESS

[student@workstation ~]$
```

```
[root@serverb ~]# dnf install autofs -y
Last metadata expiration check: 0:20:25 ago on Wed 23 Nov 2022 12:56:06 AM EST.
Package autofs-1:5.1.7-27.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@serverb ~]#
[root@serverb ~]# systemctl start autofs
[root@serverb ~]#
[root@serverb ~]# systemctl enable autofs
Created symlink /etc/systemd/system/multi-user.target.wants/autofs.service → /usr/lib/systemd/system/autofs.service.
[root@serverb ~]#
[root@serverb ~]# getent passwd production5
production5:x:5001:5001::/localhome/production5:/bin/bash
[root@serverb ~]#
[root@serverb ~]# vim /etc/auto.master
```

```
# same will not be seen as the first read key seen takes
# precedence.
#
+auto.master

/localhome    /etc/auto.misc
```

```
[root@serverb ~]# vim /etc/auto.misc
```

```
#floppy          -fstype=auto           :/dev/fd0
#floppy          -fstype=ext2           :/dev/fd0
#e2floppy        -fstype=ext2           :/dev/fd0
#jaz             -fstype=ext2           :/dev/sdc1
#removable       -fstype=ext2           :/dev/hdd
production5      -rw,soft,intr servera.lab.example.com:/user-homes/production5
```

```
[root@serverb ~]# vim /etc/auto.misc
[root@serverb ~]#
[root@serverb ~]# systemctl restart autofs
[root@serverb ~]#
[root@serverb ~]# su - production5
[production5@serverb ~]$
logout
[root@serverb ~]#
[root@serverb ~]# passwd --stdin production5
Changing password for user production5.
Redhat
passwd: all authentication tokens updated successfully.
[root@serverb ~]#
```

7)

```
[root@serverb ~]# crontab -eu harry
no crontab for harry - using an empty one
crontab: installing new crontab
[root@serverb ~]#
[root@serverb ~]# crontab -lu harry
30 12 * * * /bin/echo "hello"

*/3 * * * * /bin/echo "MSG"

*/2 * * * * logger user.debug "MSG"
[root@serverb ~]#
```

8)

```
[root@serverb ~]# vim /etc/chrony.conf
```

```
# Use public servers from the pool.ntp.org project.
# Please consider joining the pool (http://www.pool.ntp.org/join.html).
#server 0.rhel.pool.ntp.org iburst
#server 1.rhel.pool.ntp.org iburst
#server 2.rhel.pool.ntp.org iburst
#server 3.rhel.pool.ntp.org iburst
#server 172.25.254.254 iburst
server classroom.example.com iburst

# Ignore stratum in source selection.
```

```
[root@serverb ~]#
[root@serverb ~]# systemctl restart chronyd
[root@serverb ~]#
[root@serverb ~]# chronyc sources
MS Name/IP address         Stratum Poll Reach LastRx Last sample
=====
^* 172.25.254.254           3      6    17      3   -15us[ -24us] +/-  55ms
[root@serverb ~]#
```

9)

```
[root@serverb ~]# mkdir /root/find.user
[root@serverb ~]#
[root@serverb ~]# find / -user sarah -type f
find: '/proc/27878/task/27878/fdinfo/5': No such file or directory
find: '/proc/27878/fdinfo/6': No such file or directory
/var/spool/mail/sarah
/home/sarah/.bash_logout
/home/sarah/.bash_profile
/home/sarah/.bashrc
[root@serverb ~]#
[root@serverb ~]# find / -user sarah -type f -exec cp {} /root/find.user/ \;
find: '/proc/27891/task/27891/fdinfo/5': No such file or directory
find: '/proc/27891/fdinfo/6': No such file or directory
[root@serverb ~]#
[root@serverb ~]# ls -a /root/find.user/
.  ..  .bash_logout  .bash_profile  .bashrc  sarah
[root@serverb ~]#
```

10)

```
[root@serverb ~]#
[root@serverb ~]# grep "home" /etc/passwd
student:x:1000:1000:Student User:/home/student:/bin/bash
devops:x:1001:1001:Devops User:/home/devops:/bin/bash
harry:x:1002:1003::/home/harry:/bin/bash
natasha:x:1003:1004::/home/natasha:/bin/bash
sarah:x:1004:1005::/home/sarah:/sbin/nologin
production5:x:5001:5001::/localhome/production5:/bin/bash
[root@serverb ~]#
[root@serverb ~]# grep "home" /etc/passwd > /root/search.txt
[root@serverb ~]#
[root@serverb ~]# cat /root/search.txt
student:x:1000:1000:Student User:/home/student:/bin/bash
devops:x:1001:1001:Devops User:/home/devops:/bin/bash
harry:x:1002:1003::/home/harry:/bin/bash
natasha:x:1003:1004::/home/natasha:/bin/bash
sarah:x:1004:1005::/home/sarah:/sbin/nologin
production5:x:5001:5001::/localhome/production5:/bin/bash
[root@serverb ~]#
```



11)

```
[root@serverb ~]# useradd -u 1326 alies
[root@serverb ~]#
```

12)

Points to remember,

Backup the /var/tmp as /root/test.tar.gz  
or -zcvf  
Backup the /var/tmp as /root/test.tar.tgz

Backup the /var/tmp as /root/test.tar.bz2  
or -jcvf  
Backup the /var/tmp as /root/test.tar.tbz2

```
[root@serverb ~]#
[root@serverb ~]# dnf install gzip bzip2 -y
Last metadata expiration check: 1:04:36 ago on Wed 23 Nov 2022 12:56:06 AM EST.
Package gzip-1.10-9.el9_0.x86_64 is already installed.
Package bzip2-1.0.8-8.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@serverb ~]#
[root@serverb ~]# tar -zcvf /root/test.tar.gz /var/tmp
tar: Removing leading `/' from member names
/var/tmp/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-dbus-broker.service-yMLLGv/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-dbus-broker.service-yMLLGv/tmp/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-systemd-logind.service-Lb0aks/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-systemd-logind.service-Lb0aks/tmp/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-httpd.service-Pm5VKJ/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-httpd.service-Pm5VKJ/tmp/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-chrond.service-3n3fXr/
/var/tmp/systemd-private-78a391e59d284780a3dc62c16d1dca87-chrond.service-3n3fXr/tmp/
[root@serverb ~]#
[root@serverb ~]# ls
find.user search.txt test.tar.gz
[root@serverb ~]#
```

15.1)

```
[root@serverb ~]# su - natasha
[natasha@serverb ~]$
[natasha@serverb ~]$ vim .bash_profile
```

```
# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
    . ~/.bashrc
fi

# User specific environment and startup programs
umask 277
```

```
[natasha@serverb ~]$ source .bash_profile
[natasha@serverb ~]$
[natasha@serverb ~]$ umask
0277
[natasha@serverb ~]$ touch file1
[natasha@serverb ~]$ mkdir dir1
[natasha@serverb ~]$
[natasha@serverb ~]$ ls -l
total 0
dr-x-----. 2 natasha natasha 6 Nov 23 02:32 dir1
-r-----.. 1 natasha natasha 0 Nov 23 02:32 file1
[natasha@serverb ~]$
logout
[root@serverb ~]#
```

15.2)

```
[root@serverb ~]# vim /etc/login.defs
```

```
#      PASS_MIN_LEN
#      PASS_WARN_AGE
#
PASS_MAX_DAYS      20
PASS_MIN_DAYS      0
PASS_WARN_AGE      7
```

15.3)

```
[root@serverb ~]#
[root@serverb ~]# vim /etc/sudoers
```

```
%admin  ALL=(ALL)  NOPASSWD: ALL
```

15.4)

```
[root@serverb ~]# su - alies
[alies@serverb ~]$
[alies@serverb ~]$ vim .bash_profile
```



```
# User specific environment and startup programs
RHCSA="Welcome to Advantage Pro"
export RHCSA
echo $RHCSA
~
~
~
```

```
[alies@serverb ~]$
[alies@serverb ~]$ source .bash_profile
Welcome to Advantage Pro
[alies@serverb ~]$
[alies@serverb ~]$
logout
[root@serverb ~]# su - alies
Last login: Wed Nov 23 02:37:50 EST 2022 on pts/0
Welcome to Advantage Pro
[alies@serverb ~]$
logout
[root@serverb ~]# █
```

15.5)

```
[root@serverb ~]# mkdir /root/myfiles
[root@serverb ~]#
[root@serverb ~]# vim /usr/local/bin/mysearch
```

```
#!/bin/sh

find /usr/share -type f -size -1M -exec cp {} /root/myfiles/ \;

find /usr/share -type f -size +400k -size -800k -exec cp {} /root/myfiles/ \;

find /usr/share -type f -size -1M -perm /4000 -exec cp {} /root/myfiles/ \;
# have to set suid or u+s

find /usr/share -type f -size -1M -perm /2000 -exec cp {} /root/myfiles/ \;
# have to set sgid or g+s

~
~
```

```
[root@serverb ~]#
[root@serverb ~]# chmod +x /usr/local/bin/mysearch
[root@serverb ~]#
[root@serverb ~]# mysearch
[root@serverb ~]#
[root@serverb ~]# ls /root/myfiles/
ca-bundle.legacy.default.crt  Compose      icons  README.deepbind.deepbind  XLC_LOCALE
ca-bundle.legacy.disable.crt  disclaimer   po.js  XI18N_OBJS
[root@serverb ~]# █
```

## Node:2

1)

```
[student@workstation ~]$  
[student@workstation ~]$ lab start boot-resetting
```

Starting lab.

```
• Checking lab systems ..... SUCCESS  
• Updating GRUB2 countdown on servera ..... SUCCESS  
• Updating root password on servera ..... SUCCESS  
• Removing dracut packages on servera ..... SUCCESS  
• Installing rescue kernel on servera ..... SUCCESS  
• Regenerating initramfs on servera ..... SUCCESS  
• Rebooting servera ..... SUCCESS
```

```
[student@workstation ~]$
```

2) refer node-1 2<sup>nd</sup> qns

3)

```
[root@servera ~]# free -h  
              total        used        free      shared  buff/cache   available  
Mem:          1.9Gi         187Mi        1.6Gi         5.0Mi         143Mi         1.6Gi  
Swap:          0B           0B           0B  
[root@servera ~]#  
[root@servera ~]# lsblk  
NAME MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS  
vda   253:0    0   10G  0 disk  
├─vda1 253:1    0    1M  0 part  
├─vda2 253:2    0  200M  0 part /boot/efi  
├─vda3 253:3    0  500M  0 part /boot  
└─vda4 253:4    0   9.3G  0 part /  
vdb   253:16   0    5G  0 disk  
vdc   253:32   0    5G  0 disk  
vdd   253:48   0    5G  0 disk  
[root@servera ~]#  
[root@servera ~]# fdisk /dev/vdb
```

```
Command (m for help): n  
Partition type  
  p   primary (0 primary, 0 extended, 4 free)  
  e   extended (container for logical partitions)  
Select (default p): p  
Partition number (1-4, default 1): 1  
First sector (2048-10485759, default 2048):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-10485759, default 10485759): +512M
```

Created a new partition 1 of type 'Linux' and of size 512 MiB.

```
Command (m for help): t  
Selected partition 1  
Hex code or alias (type L to list all): swap  
Changed type of partition 'Linux' to 'Linux swap / Solaris'.
```

```
Command (m for help): w  
The partition table has been altered.  
Calling ioctl() to re-read partition table.  
Syncing disks.
```

```
[root@servera ~]#
```

```
[root@servera ~]# mkswap /dev/vdb1
Setting up swapspace version 1, size = 512 MiB (536866816 bytes)
no label, UUID=219c38ec-0ee6-427f-b559-d0b58a4e3400
[root@servera ~]#
[root@servera ~]# vim /etc/fstab
```

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

```
[root@servera ~]# free -h
```

	total	used	free	shared	buff/cache	available
Mem:	1.9Gi	182Mi	1.6Gi	5.0Mi	148Mi	1.6Gi
Swap:	0B	0B	0B			

```
[root@servera ~]#
[root@servera ~]# swapon -a
[root@servera ~]#
[root@servera ~]# free -h
```

	total	used	free	shared	buff/cache	available
Mem:	1.9Gi	182Mi	1.6Gi	5.0Mi	148Mi	1.6Gi
Swap:	511Mi	0B	511Mi			

```
[root@servera ~]#
```

4)

```
[root@servera ~]# lsblk
```

NAME	MAJ:MIN	RM	SIZE	RO	TYPE	MOUNTPOINTS
vda	253:0	0	10G	0	disk	
├vda1	253:1	0	1M	0	part	
├vda2	253:2	0	200M	0	part	/boot/efi
├vda3	253:3	0	500M	0	part	/boot
└vda4	253:4	0	9.3G	0	part	/
vdb	253:16	0	5G	0	disk	
└vdb1	253:17	0	512M	0	part	[SWAP]
vdc	253:32	0	5G	0	disk	
vdd	253:48	0	5G	0	disk	

```
[root@servera ~]#
[root@servera ~]# fdisk /dev/vdb
```

```
Welcome to fdisk (util-linux 2.37.4).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

This disk is currently in use - repartitioning is probably a bad idea.
It's recommended to umount all file systems, and swapoff all swap
partitions on this disk.

Command (m for help):
```



```
Command (m for help): n
Partition type
  p   primary (1 primary, 0 extended, 3 free)
  e   extended (container for logical partitions)
Select (default p): p
Partition number (2-4, default 2): 2
First sector (1050624-10485759, default 1050624):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (1050624-10485759, default 10485759): +2G

Created a new partition 2 of type 'Linux' and of size 2 GiB.

Command (m for help): t
Partition number (1,2, default 2): 2
Hex code or alias (type L to list all): lvm

Changed type of partition 'Linux' to 'Linux LVM'.

Command (m for help): w
The partition table has been altered.
Syncing disks.

[root@servera ~]#
```

```
[root@servera ~]# vgcreate -s 8M datastore /dev/vdb2
Physical volume "/dev/vdb2" successfully created.
Creating devices file /etc/lvm/devices/system.devices
Volume group "datastore" successfully created
[root@servera ~]#
[root@servera ~]# lvcreate -l 50 -n database datastore
Logical volume "database" created.
[root@servera ~]#
[root@servera ~]# mkfs.ext3 /dev/datastore/database
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 409600 1k blocks and 102400 inodes
Filesystem UUID: becf2f56-404a-4981-b301-547bfb9c367d
Superblock backups stored on blocks:
    8193, 24577, 40961, 57345, 73729, 204801, 221185, 401409

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

[root@servera ~]#
[root@servera ~]# mkdir /mnt/database
[root@servera ~]#
[root@servera ~]# vim /etc/fstab
```

```
/dev/datastore/database /mnt/database ext3 defaults 0 0
```

```

[root@servera ~]# mount -a
[root@servera ~]#
[root@servera ~]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
vda                                 253:0    0   10G  0 disk
├─vda1                             253:1    0    1M  0 part
├─vda2                             253:2    0  200M  0 part /boot/efi
├─vda3                             253:3    0  500M  0 part /boot
└─vda4                             253:4    0   9.3G  0 part /
vdb                                 253:16   0    5G  0 disk
├─vdb1                             253:17   0  512M  0 part [SWAP]
└─vdb2                             253:18   0    2G  0 part
    └─datastore-database 252:0    0  400M  0 lvm  /mnt/database
vdc                                 253:32   0    5G  0 disk
vdd                                 253:48   0    5G  0 disk
[root@servera ~]#

```

5)

```

[root@servera ~]# df -hT
Filesystem      Type      Size  Used Avail Use% Mounted on
devtmpfs        devtmpfs  966M   0    966M   0% /dev
tmpfs           tmpfs     984M   0    984M   0% /dev/shm
tmpfs           tmpfs     394M   5.5M  388M   2% /run
/dev/vda4       xfs       9.4G   1.7G   7.7G  18% /
/dev/vda3       xfs       495M   172M   324M  35% /boot
/dev/vda2       vfat      200M   7.0M   193M   4% /boot/efi
tmpfs           tmpfs     197M   0    197M   0% /run/user/0
/dev/mapper/datastore-database ext3      365M   47K   345M   1% /mnt/database
[root@servera ~]#
[root@servera ~]# lvextend -l 100 -r /dev/mapper/datastore-database
Size of logical volume datastore/database changed from 400.00 MiB (50 extents) to 800.00 MiB (100 extents).
Logical volume datastore/database successfully resized.
resize2fs 1.46.5 (30-Dec-2021)
Filesystem at /dev/mapper/datastore-database is mounted on /mnt/database; on-line resizing required
old_desc_blocks = 2, new_desc_blocks = 4
The filesystem on /dev/mapper/datastore-database is now 819200 (1k) blocks long.
[root@servera ~]# █

```

6)

```

[root@servera ~]# dnf install tuned -y
Last metadata expiration check: 2:03:10 ago on Wed 23 Nov 2022 01:15:27 AM EST.
Package tuned-2.18.0-1.el9.noarch is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@servera ~]# systemctl start tuned
[root@servera ~]#
[root@servera ~]# systemctl enable tuned
[root@servera ~]#
[root@servera ~]# tuned-adm recommend
virtual-guest
[root@servera ~]#
[root@servera ~]# tuned-adm profile virtual-guest
[root@servera ~]#
[root@servera ~]# tuned-adm active
Current active profile: virtual-guest ⓘ
[root@servera ~]#
[root@servera ~]# systemctl restart tuned
[root@servera ~]# █

```