

## TASK 1 REDHAT

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Server Steps:

1-Mount /dev/sr0 /var/www/html

```
[root@jimmy ~]# df
Filesystem            1K-blocks      Used Available Use% Mounted on
devtmpfs               4096          0        4096   0% /dev
tmpfs                 990640         0     990640   0% /dev/shm
tmpfs                 396260        7996     388264   3% /run
/dev/mapper/rhel-root 17141760    4720364   12421396  28% /
/dev/nvme0n1p2         983040     269900     713140  28% /boot
/dev/sda1             10419200    105740   10313460   2% /SDA1DRIVE
/dev/nvme0n1p1         613184        7204     605980   2% /boot/efi
tmpfs                 198128         112     198016   1% /run/user/0
/dev/sr0              10825576 10825576         0 100% /var/www/html
[root@jimmy ~]#
```

2- Write the local repo inside /etc/yum.repos.d

```
root@jimmy:~ — /usr/bin/vim /etc/yum.repos.d/local.repo

[AppStream_Local]
name=AppStream_On_SERVER
baseurl=file:///run/media/root/RHEL-9-4-0-BaseOS-x86_64/AppStream
enable=1
gpgcheck=0

[BaseOS_local]
name=BaseOS_ON_SERVER
baseurl=file:///run/media/root/RHEL-9-4-0-BaseOS-x86_64/BaseOS
enable=1
gpgcheck=0

~
```

### 3- Close firewalld

Systemctl stop firewalld

### 4-Enable and start httpd

Systemctl -enable --now httpd

```
root@jimmy:~ — systemctl status httpd

[root@jimmy ~]# systemctl status firewalld
○ firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
   Active: inactive (dead) since Mon 2025-12-08 22:03:13 EET; 28min ago
     Duration: 2min 53.381s
    Docs: man:firewalld(1)
   Process: 950 ExecStart=/usr/sbin/firewalld --nofork --nopid $FIREWALLD_ARGS (code=exited, status=0/SUCCESS)
   Main PID: 950 (code=exited, status=0/SUCCESS)
      CPU: 827ms

Dec 08 22:00:19 jimmy.com systemd[1]: Starting firewalld - dynamic firewall daemon...
Dec 08 22:00:19 jimmy.com systemd[1]: Started firewalld - dynamic firewall daemon.
Dec 08 22:03:13 jimmy.com systemd[1]: Stopping firewalld - dynamic firewall daemon...
Dec 08 22:03:13 jimmy.com systemd[1]: firewalld.service: Deactivated successfully.
Dec 08 22:03:13 jimmy.com systemd[1]: Stopped firewalld - dynamic firewall daemon.
[root@jimmy ~]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Active: active (running) since Mon 2025-12-08 22:00:20 EET; 31min ago
     Docs: man:httpd.service(8)
  Main PID: 1071 (httpd)
    Status: "Total requests: 19; Idle/Busy workers 100/0;Requests/sec: 0.00994; Bytes served/sec: 4.9KB/sec"
    Tasks: 230 (limit: 11984)
   Memory: 47.7M
      CPU: 2.806s
   CGroup: /system.slice/httpd.service
           └─1071 /usr/sbin/httpd -DFOREGROUND
             └─1125 /usr/sbin/httpd -DFOREGROUND
               └─1126 /usr/sbin/httpd -DFOREGROUND
                 └─1127 /usr/sbin/httpd -DFOREGROUND
                   └─1129 /usr/sbin/httpd -DFOREGROUND
```

### 6- verify using

Yum repolist

```
root@jimmy:~

[root@jimmy ~]# yum repolist
repo id                                repo name
AppStream_Local                        AppStream_On_SERVER
BaseOS_local                           BaseOS_ON_SERVER
epel                                    Extra Packages for Enterprise Linux 8 - x86_64
[root@jimmy ~]#
```

Client:

1- Write Client local repo

```
[AppStreamViaServer]
name=AppStream_Local
enable=1
gpgcheck=0
baseurl=http://192.168.65.128/AppStream

[BaseOSViaServer]
name=BaseOS_Local
enable=1
gpgcheck=0
baseurl=http://192.168.65.128/BaseOS
~
~
```

2-Verify

Using yum list all

```
[root@Client ~]#
[root@Client ~]# yum list all
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use "rhc" or "subscription-manager" to register.

Last metadata expiration check: 0:01:08 ago on Mon 08 Dec 2025 08:11:41 PM EET.
Installed Packages
ModemManager.x86_64                                1.20.2-1.el9                                @anaconda
ModemManager-glib.x86_64                          1.20.2-1.el9                                @anaconda
NetworkManager.x86_64                             1:1.46.0-4.el9_4                            @anaconda
NetworkManager-adsl.x86_64                       1:1.46.0-4.el9_4                            @anaconda
NetworkManager-bluetooth.x86_64                  1:1.46.0-4.el9_4                            @anaconda
NetworkManager-config-server.noarch               1:1.46.0-4.el9_4                            @anaconda
NetworkManager-libnm.x86_64                      1:1.46.0-4.el9_4                            @anaconda
NetworkManager-team.x86_64                       1:1.46.0-4.el9_4                            @anaconda
NetworkManager-tui.x86_64                        1:1.46.0-4.el9_4                            @anaconda
NetworkManager-wifi.x86_64                       1:1.46.0-4.el9_4                            @anaconda
NetworkManager-wwan.x86_64                      1:1.46.0-4.el9_4                            @anaconda
PackageKit.x86_64                                 1.2.6-1.el9                                 @AppStream
PackageKit-command-not-found.x86_64               1.2.6-1.el9                                 @AppStream
PackageKit-glib.x86_64                           1.2.6-1.el9                                 @AppStream
PackageKit-gstreamer-plugin.x86_64                1.2.6-1.el9                                 @AppStream
PackageKit-gtk3-module.x86_64                    1.2.6-1.el9                                 @AppStream
aardvark-dns.x86_64                               2:1.9.0-1.el9                               @AppStream
abattis-cantarell-fonts.noarch                    0.301-4.el9                                 @AppStream
```

Verify using repolist

```
[root@Client ~]# yum repolist
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use "rhc" or "subscription-manager" to register.

repo id                               repo name
AppStreamViaServer                    AppStream_Local
BaseOSViaServer                       BaseOS_Local
[root@Client ~]#
```

Verify using FireFox



## TASK 2 REDHAT

Write a chron tab for backup

```
root@jimmy:~ — crontab -e
0 1 * * * rsync -avz /root /HomeBackup/${date +%H":"%M":"%d"."%m"."%Y}
```

### TASK 3 REDHAT

Add some services to pass from firewall at zone dmz

```
[root@jimmy ~]# firewall-cmd --add-service=ntp --add-service=ftp --add-service=ssh --add-service=vnc-server --add-service=dns --add-service=http --zone=dmz
```

```
rich rules:
[root@jimmy ~]# firewall-cmd --list-all --zone=dmz
dmz
  target: default
  icmp-block-inversion: no
  interfaces:
  sources:
  services: dns ftp http ntp ssh vnc-server
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
```

```
[root@jimmy ~]#
```

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### TASK 4 REDHAT

Added a hardisk and make primary and extended disks

```
Command (m for help): p
Disk /dev/nvme0n2: 10 GiB, 10737418240 bytes, 20971520 sectors
Disk model: VMware Virtual NVMe Disk
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x0ce6c0cd

Device      Boot   Start    End      Sectors Size Id Type
/dev/nvme0n2p1      2048    2099199    2097152    1G 83 Linux
/dev/nvme0n2p4      2099200 20971519 18872320    9G  5 Extended
/dev/nvme0n2p5      2101248 4198399    2097152    1G 83 Linux

Command (m for help):
```

## TASK 5 REDHAT

Extending my rhel

Adding a partition that takes all 15G from a new harddisk and make it LVM

```
Command (? for help): n
Partition number (1-128, default 1):
First sector (34-31457246, default = 2048) or {+-}size{KMGTP}:
Last sector (2048-31457246, default = 31457246) or {+-}size{KMGTP}:
Current type is 8300 (Linux filesystem)
Hex code or GUID (L to show codes, Enter = 8300): 8e00
Changed type of partition to 'Linux LVM'
```

Extending our rhel group using this 15G partition

```
[root@jimmy ~]# pvcreate /dev/nvme0n5p1
Physical volume "/dev/nvme0n5p1" successfully created.
[root@jimmy ~]# pvs
  PV          VG   Fmt  Attr PSize   PFree
  /dev/nvme0n1p3 rhel lvm2 a--  18.41g     0
  /dev/nvme0n5p1      lvm2 ---  <15.00g <15.00g
[root@jimmy ~]# vgextend rhel /dev/nvme0n5p1
Volume group "rhel" successfully extended
[root@jimmy ~]# vgs
  VG   #PV #LV #SN Attr   VSize   VFree
  rhel   2   2   0 wz--n- <33.41g <15.00g
```

Adding 14G from this partition into RHEL (Left 1GB) in harddisk I will add them using extent

```
[root@jimmy ~]# lvextend -r -L +14G /dev/rhel/root /dev/nvme0n5p1
Size of logical volume rhel/root changed from 16.41 GiB (4201 extents) to 30.41 GiB (7785 extents).
File system xfs found on rhel/root mounted at /.
Extending file system xfs to 30.41 GiB (32652656640 bytes) on rhel/root...
xfs_growfs /dev/rhel/root
meta-data=/dev/mapper/rhel-root isize=512    agcount=4, agsize=1075456 blks
        =                       sectsz=512   attr=2, projid32bit=1
        =                       crc=1        finobt=1, sparse=1, rmapbt=0
        =                       reflink=1    bigtime=1 inobtcount=1 nnext64=0
data      =                       bsize=4096   blocks=4301824, imaxpct=25
        =                       sunit=0      swidth=0 blks
naming    =version 2              bsize=4096   ascii-ci=0, ftype=1
log       =internal log          bsize=4096   blocks=16384, version=2
        =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime  =none                  extsz=4096   blocks=0, rtextents=0
data blocks changed from 4301824 to 7971840
xfs_growfs done
Extended file system xfs on rhel/root.
Logical volume rhel/root successfully resized.
[root@jimmy ~]#
```

Here we added last 1G using extent method -l

```
[root@jimmy ~]# lvextend -r -L +1G /dev/rhel/root /dev/nvme0n5p1
Insufficient free space: 256 extents needed, but only 255 available
[root@jimmy ~]# lvextend -r -l +255 /dev/rhel/root /dev/nvme0n5p1
Size of logical volume rhel/root changed from 30.41 GiB (7785 extents) to <31.41 GiB (8040 extents).
File system xfs found on rhel/root mounted at /.
Extending file system xfs to <31.41 GiB (33722204160 bytes) on rhel/root...
xfs_growfs /dev/rhel/root
meta-data=/dev/mapper/rhel-root  isize=512    agcount=8, agsize=1075456 blks
        =                       sectsz=512   attr=2, projid32bit=1
        =                       crc=1        finobt=1, sparse=1, rmapbt=0
        =                       reflink=1    bigtime=1 inobtcount=1 nrext64=0
data      =                       bsize=4096   blocks=7971840, imaxpct=25
        =                       sunit=0      swidth=0 blks
naming    =version 2              bsize=4096   ascii-ci=0, ftype=1
log        =internal log         bsize=4096   blocks=16384, version=2
        =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime  =none                  extsz=4096   blocks=0, rtextents=0
data blocks changed from 7971840 to 8232960
xfs_growfs done
Extended file system xfs on rhel/root.
Logical volume rhel/root successfully resized.
[root@jimmy ~]# pvs
PV          VG      Fmt Attr PSize  PFree
/dev/nvme0n1p3 rhel lvm2 a--  18.41g    0
/dev/nvme0n5p1 rhel lvm2 a--   <15.00g    0
[root@jimmy ~]# vgs
VG      #PV #LV #SN Attr   VSize  VFree
rhel    2   2   0 wz--n- <33.41g    0
```

```
[root@jimmy ~]# lsblk
NAME            MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
sr0              11:0    1  10.3G  0 rom  /run/media/root/RHEL-9-4-0-BaseOS-x86_64
nvme0n1         259:0    0   20G  0 disk
├─nvme0n1p1     259:1    0   600M  0 part /boot/efi
├─nvme0n1p2     259:2    0    1G  0 part /boot
├─nvme0n1p3     259:3    0  18.4G  0 part
│   └─rhel-root 253:0    0  31.4G  0 lvm  /
│       └─rhel-swap 253:1    0    2G  0 lvm  [SWAP]
└─nvme0n2       259:4    0   10G  0 disk
    ├─nvme0n2p1  259:5    0    1G  0 part /root/medial
    ├─nvme0n2p4  259:6    0    1K  0 part
    ├─nvme0n2p5  259:7    0    1G  0 part
    ├─nvme0n2p6  259:8    0    1G  0 part
    └─nvme0n2p7  259:9    0    7G  0 part
nvme0n3         259:10   0    7G  0 disk
├─nvme0n3p1     259:17   0    5G  0 part
└─nvme0n3p2     259:18   0    2G  0 part
nvme0n4         259:13   0    5G  0 disk
└─nvme0n4p1     259:16   0    2.8G  0 part
nvme0n5         259:15   0   15G  0 disk
└─nvme0n5p1     259:14   0   15G  0 part
    └─rhel-root 253:0    0  31.4G  0 lvm  /
```

## TASK 6 REDHAT

Resetting password using rdbreak

