

## Increase the size of the OS disk (RHEL 8.6)

Reference URL: [Expand virtual hard disks on a Linux VM - Azure Virtual Machines | Microsoft Learn](#)

#df -Th

#lsblk

#lsblk -f

```
root@RHEL201:~# df -Th
Filesystem                Type      Size  Used Avail Use% Mounted on
devtmpfs                   devtmpfs  3.8G   0  3.8G   0% /dev
tmpfs                      tmpfs     3.8G   0  3.8G   0% /dev/shm
tmpfs                      tmpfs     3.8G  8.6M  3.8G   1% /run
tmpfs                      tmpfs     3.8G   0  3.8G   0% /sys/fs/cgroup
/dev/mapper/rootvg-rootlv  xfs       2.0G   74M  2.0G   4% /
/dev/mapper/rootvg-varlv   xfs       10G   1.8G  8.3G  18% /var
/dev/sda1                  xfs       496M  181M  315M  37% /boot
/dev/mapper/rootvg-homelv  xfs      1014M   40M  975M   4% /home
/dev/mapper/rootvg-tmplv   xfs       2.0G   47M  2.0G   2% /tmp
/dev/sda15                 vfat     495M   5.8M  489M  1% /boot/efi
/dev/mapper/rootvg-varlv   xfs       8.0G  383M  7.7G   5% /var
/dev/sdb1                  ext4     16G   43M  15G   1% /mnt
tmpfs                      tmpfs     777M   0  777M   0% /run/user/1000

root@RHEL201:~#
root@RHEL201:~# lsblk
root@RHEL201:~# lsblk
NAME            MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda              8:0    0   64G  0 disk
├─sda1           8:1    0 500M  0 part /boot
├─sda2           8:2    0   63G  0 part
│   ├─rootvg-tmplv 253:0    0   2G  0 lvm /tmp
│   ├─rootvg-usrlv 253:1    0   10G  0 lvm /usr
│   ├─rootvg-homelv 253:2    0   1G  0 lvm /home
│   ├─rootvg-varlv 253:3    0   8G  0 lvm /var
│   └─rootvg-rootlv 253:4    0   2G  0 lvm /
├─sda14          8:14    0   4M  0 part
├─sda15          8:15    0 495M  0 part /boot/efi
└─sdb            8:16    0  16G  0 disk
   ├─sdb1        8:17    0  16G  0 part /mnt
   └─sr0         11:0    1 629K  0 rom

root@RHEL201:~#
root@RHEL201:~# lsblk -f
NAME            FSTYPE     LABEL UUID                                MOUNTPOINT
sda              xfs                                     b2623ed6-080d-469c-a8dd-c50a91e8ae96 /boot
├─sda2           lvm2_member dVeFAa-3u5x-WZ5k-p0Zg-yn3o-4y8h-Ho8Ifj /tmp
│   ├─rootvg-tmplv xfs         e7409702-130a-4193-baef-616b14ba734e /tmp
│   ├─rootvg-usrlv xfs         4826c7df-459a-4501-a234-91f49ae59380 /usr
│   ├─rootvg-homelv xfs         cd984cf0-91e6-4a6f-917c-6383ba4576a8 /home
│   ├─rootvg-varlv xfs         922d9a12-7757-4e29-ab15-88588343d18e /var
│   └─rootvg-rootlv xfs         dcc3ff66-00fa-4f51-ad7a-36c729c3961b /
├─sda14          vfat        28CE-173B /boot/efi
└─sdb            ext4        63b24b52-ac0c-410b-a2dd-9e93568e75f3 /mnt
sr0              rom
```

# vgdisplay rootvg

```
root@RHEL201:~#
[root@RHEL201 ~]# vgdisplay rootvg
--- Volume group ---
VG Name                rootvg
System ID
Format                 lvm2
Metadata Areas         1
Metadata Sequence No   6
VG Access               read/write
VG Status               resizable
MAX LV                 0
Cur LV                 5
Open LV                 5
Max PV                 0
Cur PV                 1
Act PV                 1
VG Size                 <63.02 GiB
PE Size                 4.00 MiB
Total PE                16133
Alloc PE / Size         5888 / 23.00 GiB
Free PE / Size          10245 / <40.02 GiB
VG UUID                ednjwJ-sLPL-sVGW-TcT7-Le8x-1Joc-2AfZMs

[root@RHEL201 ~]#
```

To check growpart utility installed or not, most of the Market place RHEL images contain growpart utility installed

**# rpm -qa | grep -i growpart**

```
root@RHEL201:~  
[root@RHEL201 ~]#  
[root@RHEL201 ~]# rpm -qa | grep -i growpart  
cloud-utils-growpart-0.33-0.el8.noarch  
[root@RHEL201 ~]#
```

To make sure it is up to date

**# yum install cloud-utils-growpart gdisk**

```
[root@RHEL201 ~]# yum install cloud-utils-growpart gdisk  
Red Hat Enterprise Linux 8 for x86_64 - AppStream - Extended Update Support from RHUI (RPMs) 35 MB/s | 46 MB 00:01  
Red Hat Enterprise Linux 8 for x86_64 - BaseOS - Extended Update Support from RHUI (RPMs) 34 MB/s | 64 MB 00:01  
Red Hat CodeReady Linux Builder for RHEL 8 x86_64 - Extended Update Support from RHUI (RPMs) 17 MB/s | 7.1 MB 00:00  
Last metadata expiration check: 0:00:02 ago on Sat 24 Feb 2024 01:11:59 AM UTC.  
Package cloud-utils-growpart-0.33-0.el8.noarch is already installed.  
Package gdisk-1.0.3-11.el8.x86_64 is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@RHEL201 ~]#
```

**# pvscan**

```
root@RHEL201:~  
[root@RHEL201 ~]#  
[root@RHEL201 ~]#  
[root@RHEL201 ~]# pvscan  
PV /dev/sda2 VG rootvg lvm2 [<63.02 GiB / <40.02 GiB free]  
Total: 1 [<63.02 GiB] / in use: 1 [<63.02 GiB] / in no VG: 0 [0 ]  
[root@RHEL201 ~]#
```

**# poweroff**

```
root@RHEL201:~  
[root@RHEL201 ~]#  
[root@RHEL201 ~]#  
[root@RHEL201 ~]# pvscan  
PV /dev/sda2 VG rootvg lvm2 [<63.02 GiB / <40.02 GiB free]  
Total: 1 [<63.02 GiB] / in use: 1 [<63.02 GiB] / in no VG: 0 [0 ]  
[root@RHEL201 ~]#  
[root@RHEL201 ~]#  
[root@RHEL201 ~]# poweroff
```

Change the disk size from Home -> Disk -> Navigate to the disk → Size & Performance

After Increase the size from 64GB to 80GB

# df -Th

# lsblk

# lsblk -f

```
[root@RHEL201 ~]# df -Th
Filesystem      Type      Size  Used Avail Use% Mounted on
devtmpfs        devtmpfs  3.8G   0  3.8G   0% /dev
tmpfs           tmpfs     3.8G   0  3.8G   0% /dev/shm
tmpfs           tmpfs     3.8G  8.6M  3.8G   1% /run
tmpfs           tmpfs     3.8G   0  3.8G   0% /sys/fs/cgroup
/dev/mapper/rootvg-rootlv xfs       2.0G  74M  2.0G   4% /
/dev/mapper/rootvg-usriv xfs       10G  1.8G  8.3G  18% /usr
/dev/sda1       xfs       496M 181M 315M 37% /boot
/dev/mapper/rootvg-tmplv xfs       2.0G  47M  2.0G   3% /tmp
/dev/mapper/rootvg-homelv xfs      1014M  40M  975M   4% /home
/dev/sda15     vfat      495M  5.8M 489M   2% /boot/efi
/dev/mapper/rootvg-varlv xfs       0.0G  593M  7.5G   8% /var
/dev/sdb1      ext4      16G   45M  15G   1% /mnt
tmpfs          tmpfs     777M   0  777M   0% /run/user/1000

[root@RHEL201 ~]# lsblk
[root@RHEL201 ~]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
--sdal      8:0    0   80G  0 disk
--sdal1     8:1    0 500M  0 part /boot
--sda2     8:2    0   63G  0 part
|--rootvg-tmplv 253:0  0   2G  0 lvm  /tmp
|--rootvg-usriv 253:1  0  10G  0 lvm  /usr
|--rootvg-homelv 253:2  0   1G  0 lvm  /home
|--rootvg-varlv 253:3  0   8G  0 lvm  /var
|--rootvg-rootlv 253:4  0   2G  0 lvm  /
--sda14    8:14   0    4M  0 part
--sda15    8:15   0 495M  0 part /boot/efi
sdb        8:16   0   16G  0 disk
--sdb1     8:17   0   16G  0 part /mnt

[root@RHEL201 ~]# lsblk -f
[root@RHEL201 ~]# lsblk -f
NAME        FSTYPE      LABEL UUID                                MOUNTPOINT
--sdal      xfs          b2623ed6-080d-469c-a8dd-c50a91e8ae96 /boot
--sda2      LVM2_member dVeFAa-3u5x-W25k-p02g-ym3o-4ySh-HoEIfJ
|--rootvg-tmplv xfs          e7409702-830a-4193-ba6f-616b14ba734e /tmp
|--rootvg-usriv xfs          422fc78f-4890-45d1-a534-92f49de83280 /usr
|--rootvg-homelv xfs          cd9b4cf0-91e6-4a6f-917c-63b3bb457ea8 /home
|--rootvg-varlv xfs          922da1c2-7757-4e29-ab15-88588343d18e /var
|--rootvg-rootlv xfs          dcc3ff86-00fa-4f51-ad7a-34c729c5961b /
--sda14    vfat        28CB-173B /boot/efi
sdb        ext4        5a629114-d0ac-4137-b1d6-41ae5409f287 /mnt

[root@RHEL201 ~]#
```

# vgdisplay rootvg

```
[root@RHEL201 ~]# vgdisplay rootvg
--- Volume group ---
VG Name                rootvg
System ID
Format                 lvm2
Metadata Areas         1
Metadata Sequence No   6
VG Access              read/write
VG Status              resizable
MAX LV                 0
Cur LV                5
Open LV                5
Max PV                 0
Cur PV                1
Act PV                1
VG Size                <63.02 GiB
PE Size                4.00 MiB
Total PE               16133
Alloc PE / Size        5888 / 23.00 GiB
Free PE / Size         10245 / <40.02 GiB
VG UUID                ednjwJ-sLPL-sVGW-TcT7-1e8x-1Joc-2AfZMs

[root@RHEL201 ~]#
```

## # pvscan

```
[root@RHEL201 ~]# pvscan
PV /dev/sda2   VG rootvg          lvm2 [<63.02 GiB / <40.02 GiB free]
Total: 1 [<63.02 GiB] / in use: 1 [<63.02 GiB] / in no VG: 0 [0  ]
[root@RHEL201 ~]#
[root@RHEL201 ~]#
```

## # lsblk /dev/sda2

```
[root@RHEL201 ~]# lsblk /dev/sda2
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda2                                8:2    0   63G  0 part
├--rootvg-tmplv                     253:0    0    2G  0 lvm  /tmp
├--rootvg-usrlv                     253:1    0   10G  0 lvm  /usr
├--rootvg-homelv                    253:2    0    1G  0 lvm  /home
├--rootvg-varlv                     253:3    0    8G  0 lvm  /var
└--rootvg-rootlv                    253:4    0    2G  0 lvm  /
[root@RHEL201 ~]#
```

## # growpart /dev/sda2

```
[root@RHEL201 ~]# growpart /dev/sda 2
CHANGED: partition=2 start=2050048 old: size=132165632 end=134215679 new: size=165722079 end=167772126
[root@RHEL201 ~]#
[root@RHEL201 ~]#
```

## # lsblk /dev/sda2

```
[root@RHEL201 ~]# lsblk /dev/sda2
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda2                                8:2    0   79G  0 part
├--rootvg-tmplv                     253:0    0    2G  0 lvm  /tmp
├--rootvg-usrlv                     253:1    0   10G  0 lvm  /usr
├--rootvg-homelv                    253:2    0    1G  0 lvm  /home
├--rootvg-varlv                     253:3    0    8G  0 lvm  /var
└--rootvg-rootlv                    253:4    0    2G  0 lvm  /
[root@RHEL201 ~]#
```

## # pvresize /dev/sda2

```
[root@RHEL201 ~]# pvresize /dev/sda2
Physical volume "/dev/sda2" changed
1 physical volume(s) resized or updated / 0 physical volume(s) not resized
[root@RHEL201 ~]#
[root@RHEL201 ~]#
```

## # pvscan

```
[root@RHEL201 ~]# pvscan
PV /dev/sda2   VG rootvg          lvm2 [<79.02 GiB / <56.02 GiB free]
Total: 1 [<79.02 GiB] / in use: 1 [<79.02 GiB] / in no VG: 0 [0  ]
[root@RHEL201 ~]#
```

## # lsblk /dev/sda2

```
[root@RHEL201 ~]# lsblk /dev/sda2
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda2                  8:2    0   79G  0 part
├─rootvg-tmplv        253:0    0    2G  0 lvm  /tmp
├─rootvg-usrlv        253:1    0   10G  0 lvm  /usr
├─rootvg-homelv       253:2    0    1G  0 lvm  /home
├─rootvg-varlv        253:3    0    8G  0 lvm  /var
└─rootvg-rootlv       253:4    0    2G  0 lvm  /
[root@RHEL201 ~]#
```

In this scenario Adding /var 10GB, current size of /var= 8GB, after adding the additional space

Total /var=18GB

## # lvresize -r -L +10G /dev/mapper/rootvg-varlv

```
[root@RHEL201 ~]# lvresize -r -L +10G /dev/mapper/rootvg-varlv
Size of logical volume rootvg/varlv changed from 8.00 GiB (2048 extents) to 18.00 GiB (4608 extents).
Logical volume rootvg/varlv successfully resized.
meta-data=/dev/mapper/rootvg-varlv isize=512    agcount=4, agsize=524288 blks
         =                       sectsz=4096   attr=2, projid32bit=1
         =                       crc=1         finobt=1, sparse=1, rmapbt=0
         =                       reflink=1      bigtime=0 inobtcount=0
data     =                       bsize=4096    blocks=2097152, imaxpct=25
         =                       sunit=0       swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0, ftype=1
log      =internal log          bsize=4096   blocks=2560, version=2
         =                       sectsz=4096   sunit=1 blks, lazy-count=1
realtime =none                  extsz=4096   blocks=0, rtextents=0
data blocks changed from 2097152 to 4718592
[root@RHEL201 ~]#
```

## # df -Th

```
[root@RHEL201 ~]# df -Th
Filesystem            Type      Size  Used Avail Use% Mounted on
devtmpfs              devtmpfs  3.8G   0   3.8G   0% /dev
tmpfs                 tmpfs     3.8G   0   3.8G   0% /dev/shm
tmpfs                 tmpfs     3.8G  8.6M   3.8G   1% /run
tmpfs                 tmpfs     3.8G   0   3.8G   0% /sys/fs/cgroup
/dev/mapper/rootvg-rootlv xfs       2.0G   74M   2.0G   4% /
/dev/mapper/rootvg-usrlv xfs       10G   1.8G   8.3G  18% /usr
/dev/sdal             xfs       496M  181M  315M  37% /boot
/dev/mapper/rootvg-tmplv xfs       2.0G   47M   2.0G   3% /tmp
/dev/mapper/rootvg-homelv xfs      1014M   40M  975M   4% /home
/dev/sdal5            vfat     495M   5.8M  489M   2% /boot/efi
/dev/mapper/rootvg-varlv xfs       18G   664M   18G   4% /var
/dev/sdb1             ext4      16G   45M   15G   1% /mnt
tmpfs                 tmpfs     777M   0   777M   0% /run/user/1000
[root@RHEL201 ~]#
```

## # pvscan

```
[root@RHEL201 ~]# pvscan
PV /dev/sda2   VG rootvg          lvm2 [<79.02 GiB / <46.02 GiB free]
Total: 1 [<79.02 GiB] / in use: 1 [<79.02 GiB] / in no VG: 0 [0  ]
[root@RHEL201 ~]#
```