

## Mounting Raw and qcow2 Images

Written by BiRU

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Mounting Raw and qcow2 images in order to inspect and use them doesn't have to be difficult. After searching the internet, we found a couple of recommendations on how to do it. Here is what we did ourselves on an Ubuntu 16.04 Linux host.

### Mounting The Raw Image

Associate the raw image with a loop device:

```
losetup /dev/loop0 image.raw
```

Map the partitions to loop devices:

```
kpartx -a /dev/loop0
```

You should be able to mount the partitions now:

```
mount /dev/mapper/loop0p1 /mnt/t01
```

where /mnt/t01 is a previously-existing mount point or directory.

For LVM partitions, determine the volume group name and activate it:

```
vgscan vgchange -ay vg_volgroupname
```

Mount the desired logical volume:

```
mount /dev/mapper/vg_volgroupname-lv_logicalgroupname /mnt/t02
```

where /mnt/t02 is another pre-existing mount point or directory.

### Unmounting The Raw Image

Unmount the previously mounted partitions:

```
umount /dev/t02 umount /dev/t01
```

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Deactivate the volume group:

```
vgchange -an vg_volgroupname
```

Undo the mapping of the partitions to the loop devices:

```
kpartx -d /dev/loop0
```

Destroy the loop:

```
losetup -d /dev/loop0
```

## Mounting The qcow2 Image

Here, we shall use the QEMU Network Block Device Driver for the purposes of mounting the qcow2 image.

First, load the nbd driver.

```
modprobe nbd max_part=63
```

Connect nbd to the image using qemu-nbd:

```
qemu-nbd -c /dev/nbd0 disk1.qcow2
```

Using fdisk, check the existing partitions. Mount the regular Linux partitions as is:

```
mount /dev/nbd0p1 /mnt/t01
```

For LVM partitions, associate a loopback device to the LVM partition:

```
losetup /dev/loop0 /dev/nbd0p2
```

See the LVM partitions under /dev/mapper:

```
ls -l /dev/mapper
```

You should also be able to display the logical partitions using lvdisplay and the volume groups with vgdisplay. Use vgchange as above to activate the volume group.

Mount the regular LVM partitions as usual:

```
mount /dev/mapper/vg_volgroupname-lv_logicalgroupname /mnt/t02
```

## Unmounting the

### qcow2 Image

Unmount the partitions from the qcow2 image:

```
umount /mnt/t02 umount /mnt/t01
```

Deactivate the volume group:

```
vgchange -an vg_volgroupname
```

Remove the loopback device:

```
losetup -d /dev/loop0
```

Disconnect the nbd device:

```
qemu-nbd -d /dev/nbd0
```

Finally, remove the nbd kernel module:

```
rmmod nbd
```

We have successfully used the above procedures in mounting and unmounting raw and qcow2 images used in Linux KVM.