



### Exercise 24.1 Creating a RAID Device

Normally when creating a **RAID** device we would use partitions on separate disks. However, for this exercise we probably don't have such hardware available. Thus we will need to have two partitions on the same disk.

The process will be the same whether the partitions are on one drive or several (Although there is obviously little reason to actually create a **RAID** on a single device).

1. Create two 200 MB partitions of type **raid** (**fd**) either on your hard disk using **fdisk**, or using **LVM**.
2. Create a **RAID 1** device named **/dev/md0** using the two partitions.
3. Format the **RAID** device as an **ext4** filesystem. Then mount it at **/myraid** and make the mount persistent.
4. Place the information about **/dev/md0** in **/etc/mdadm.conf** file using **mdadm**. (Depending on your distribution, this file may not previously exist.)
5. Examine **/proc/mdstat** to see the status of your **RAID** device.

### Solution 24.1

1. If you need to create new partitions do:

```
$ sudo fdisk /dev/sda
```

and create the partitions as we have done before. For purposes of being definite, we will call them **/dev/sdaX** and **/dev/sdaY**. You will need to run **partprobe** or **kpartx** or reboot after you are done to make sure the system is properly aware of the new partitions.

2. 

```
$ sudo mdadm -C /dev/md0 --level=1 --raid-disks=2 /dev/sdaX /dev/sdaY
```

3. 

```
$ sudo mkfs.ext4 /dev/md0
$ sudo mkdir /myraid
$ sudo mount /dev/md0 /myraid
```

and add to **/etc/fstab**

```
/dev/md0 /myraid ext4 defaults 0 0
```

4. 

```
$ mdadm --detail --scan >> /etc/mdadm.conf
```

5. 

```
$ cat /proc/mdstat
Personalities : [raid1]
md0 : active raid1 dm-14[1] dm-13[0]
      204736 blocks [2/2] [UU]

unused devices: <none>
```

You should probably verify that with a reboot, the **RAID** volume is mounted automatically. When you are done, you probably will want to clean up by removing the line from **/etc/fstab**, and then getting rid of the partitions.