

Chapter 6: Linux Software RAID Lab

1. Start and login to your Kali Linux virtual machine as user **kali** with a password of **kali**.
2. Enter **sudo lsblk --scsi** to list SCSI disk block devices. You should see **sda**, **sdb**, and **sd**c disk devices. These are three separate disks. We will create a disk mirror between **sdb** and **sd**c.
3. Enter **sudo fdisk /dev/sdb** and press ENTER. Press **n** (new partition), and then press ENTER four times to create a primary partition that consumes the entire disk.
4. Press **t** to change the partition type, and then enter **fd** to set the type to Linux raid autodetect.
5. Press **w** to write the changes to disk.
6. Repeat steps 4–6 in this exercise, except enter **sudo fdisk /dev/sdc** instead of **sudo fdisk /dev/sdb**.
7. Enter **sudo fdisk -l /dev/sdb /dev/sdc** to verify that the Linux RAID autodetect partition flag has been set on both disk partitions (look under the Type heading). Notice the partitions are **/dev/sdb1** and **/dev/sdc1** (look under the Device heading).
8. Install the **mdadm** software RAID tool by typing **sudo apt-get install mdadm**.
9. Create a software RAID 1 (mirroring) configuration by typing **sudo mdadm --create /dev/md1 --level=1 --raid-devices=2 /dev/sdb1 /dev/sdc1**. Take note of the double dashes (--) before the **reate** and **raid-devices** parameters.
10. Press **y** (for yes, to continue creating the array).
11. Verify your work by typing **sudo mdadm --detail /dev/md1**. In the bottom right under the State column you should see “active sync” for each of the mirrored disk partitions **/dev/sdb1** and **/dev/sdc1**.
12. Make a mount directory by typing **sudo mkdir /cust_trans**.
13. Format the file system by typing **sudo mkfs -t ext4 /dev/md1**. Mount the file system to a directory so it is ready to use by typing **sudo mount /dev/md1 /cust_trans**. Files can now be added to the **/cust_trans** folder as you normally would with any folder, the difference is that now a copy of each file will be mirrored to a second disk partition.
14. Enter the following command to verify the **/cust_trans** mount point is using the disk mirror device **/dev/md1**: **sudo mount | grep /dev/md1**