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Partitioning sdb:

1. First, call fdisk with sdb using the following command:

**fdisk /dev/sdb**

1. Type the **n** command to add a new partition
2. Choose the partition type as primary by typing: **p**
3. When prompted for the partition number type: **1**
4. Use the default value for the First Sector by pushing enter
5. Use the default value for the Last Sector by pushing enter
6. Type: **w** to write table to disk and exit

Creating a physical volume in sdb1:

1. To create a physical volume in sdb1 type the following:

**pvcreate /dev/sdb1**

Creating a new volume group:

1. To create a new volume group named “vg\_new”, type the following:

**vgcreate vg\_new /dev/sdb1**

Creating two logical volumes(lv\_home and lv\_tmp):

1. To create the logical volume “lv\_home” of size 5GB inside volume group “vg\_new” you type the following command:

**lvcreate –L 5000000000b –n lv\_home vg\_new**

1. To create the logical volume “lv\_tmp” of size 1GB inside volume group “vg\_new” you type the following command:

**lvcreate –L 1000000000b –n lv\_tmp vg\_new**

Creating a filesystem for both “lv\_home” and “lv\_tmp”:

1. To create an xfs filesystem for lv\_home type the following:

**mkfs.xfs /dev/vg\_new/lv\_home**

1. To create an xfs filesystem for lv\_tmp type the following:

**mkfs.xfs /dev/vg\_new/lv\_tmp**

To copy the home directory’s contents into lv\_home:

1. First mount lv\_home by running:

**mount /dev/vg\_new/lv\_home /mnt**

1. Then run the copy command with the flag –a to preserve the timestamps and ownerships:

**cp –ar /home/\* /mnt/**

1. Lastly, unmount lv\_home with the following command:

**umount /mnt**

To copy the tmp directory’s contents into lv\_tmp:

1. First you need to create a tmp folder inside of mount, this is so when you mount lv\_tmp, you can copy the hidden contents of tmp into it.
2. Next mount lv\_tmp by running:

**mount /dev/vg\_new/lv\_tmp /mnt/tmp**

1. Then run the copy command with the flag –a to preserve the timestamps and ownerships:

**cp –ar /tmp /mnt**

1. Lastly, unmount lv\_tmp with the following command:

**umount /mnt/tmp**

To remove the files in the home and tmp directories:

1. To remove the files in the home directory run the following command:

**rm –rf /home/\***

1. To remove the files in the tmp directory first go into the tmp directory:

**cd /tmp**

1. Next, to see all of the hidden files, run:

**ls -a**

1. Remove all of the individual hidden files (except “.” and ”..”) by running the following command once for each hidden file:

**rm –rf <filename>**

To mount the logical volumes lv\_home and lv\_tmp where they belong and update /etc/fstab:

1. First mount lv\_home to the home directory, run:

**mount /dev/vg\_new/lv\_home /home**

1. Next mount lv\_tmp to the tmp directory, run:

**mount /dev/vg\_new/lv\_tmp /tmp**

1. To update /etc/fstab first run:

**vim etc/fstab**

1. Next press “i” for insert and add the following two lines to the end of the file:

/dev/vg\_new/lv\_home /home xfs nodev 0 0

/dev/vg\_new/lv\_tmp /tmp xfs nodev,nosuid,noexec 0 0

1. Press “esc” and type “**:wq**” to save the file and quit.