# Solution M6: FHS, Disks, Filesystems, and Archives

One possible solution could be:

1. **time sudo tar cJvf etc.tar.xz /etc**
2. **time sudo tar czvf etc.tar.gz /etc**
3. Old way could be like this: **time GZIP=-9 sudo tar czvf etc-max.tar.gz /etc**

Today accepted solution would be: **time sudo tar -cv /etc | gzip -9 > etc-max.tar.gz**

Both #2 and #3 may return the same as typically by default the compression is set to maximum level

1. **ls -al etc\***
2. Stop the machine and add a new drive, then start the machine again
3. **gdisk /dev/sdb**
   1. **n, 1, 2048, +100M, 8300**
   2. **n, 2, 206848, +100M, 8200**
   3. **n, 3, 411648, +50M, 8300**
   4. **n, 4, 514048, +100M, 8e00**
   5. **n, 5, 718848, +300M, 8e00**
   6. **n, 6, 1333248, +300M, 8e00**
4. **mkdir -p /addon/{xfs,ext4,lvm}**
5. We can do:
   1. **mkfs -t xfs /dev/sdb1**
   2. **mount -t xfs /dev/sdb1 /addon/xfs**
   3. Issue **blkid /dev/sdb1** and copy the **UUID** string
   4. Then open **/etc/fstab** with **vi** and add for example:

**UUID=d8caa1ac-8502-4eb4-b7d1-9f1e40a08d26 /addon/xfs xfs defaults 0 0**

* 1. Then save and exit

1. We can do:
   1. **mkswap /dev/sdb2**
   2. **swapon /dev/sdb2**
   3. If we haven’t copied the **UUID** after the **mkswap** command, then we can issue **blkid /dev/sdb2**
   4. Then open **/etc/fstab** with **vi** and add for example:

**UUID=5ec6cb11-c153-4e73-84ab-fe39719ac70e swap swap defaults 0 0**

* 1. Then save and exit

1. We can do:
   1. **mkfs -t ext4 /dev/sdb3**
   2. **mount -t ext4 /dev/sdb3 /addon/ext4**
   3. Issue **blkid /dev/sdb3** and copy the **UUID** string
   4. Then open **/etc/fstab** with **vi** and add for example:

**UUID=dfaf9d7e-99a4-4f8c-821b-3170c482bb04 /addon/ext4 ext4 defaults 0 0**

* 1. Then save and exit

1. We can do:
   1. **pvcreate /dev/sdb4**
   2. **pvcreate /dev/sdb5**
   3. **pvcreate /dev/sdb6**
2. **vgcreate vg\_addon /dev/sdb4 /dev/sdb5 /dev/sdb6**
3. **lvcreate -n lv\_addon -L 400m vg\_addon**
4. We can do:
   1. **mkfs -t ext4 /dev/vg\_addon/lv\_addon**
   2. **mount -t ext4 /dev/vg\_addon/lv\_addon /addon/lvm**
   3. **blkid /dev/vg\_addon/lv\_addon**
   4. Then open **/etc/fstab** with **vi** and add for example:

**UUID=eadc923c-bc2a-4200-b870-04498fec12ec /addon/lvm ext4 defaults 0 0**

* 1. Then save and exit

1. **lvextend -l +100%FREE /dev/vg\_addon/lv\_addon**
2. **resize2fs /dev/vg\_addon/lv\_addon**
3. We can do:
   1. **reboot**
   2. Then login
   3. Then check with **mount**
   4. And then with **lsblk**