Today's Topic

➔ **LVM**

CYBERPHOTON

Logical Volume Management (LVM)

- *LVM makes it easier to manage disk space.*
- *If a file system needs more space, it can be added to its logical volumes from the free spaces in its volume group and the file system can be re-sized as we wish.*
- *It is flexible to expand the space at any time.*
- *Any file systems can be installed and handle.*
- *To increase the size of the partition and to reduce the size of the partition*

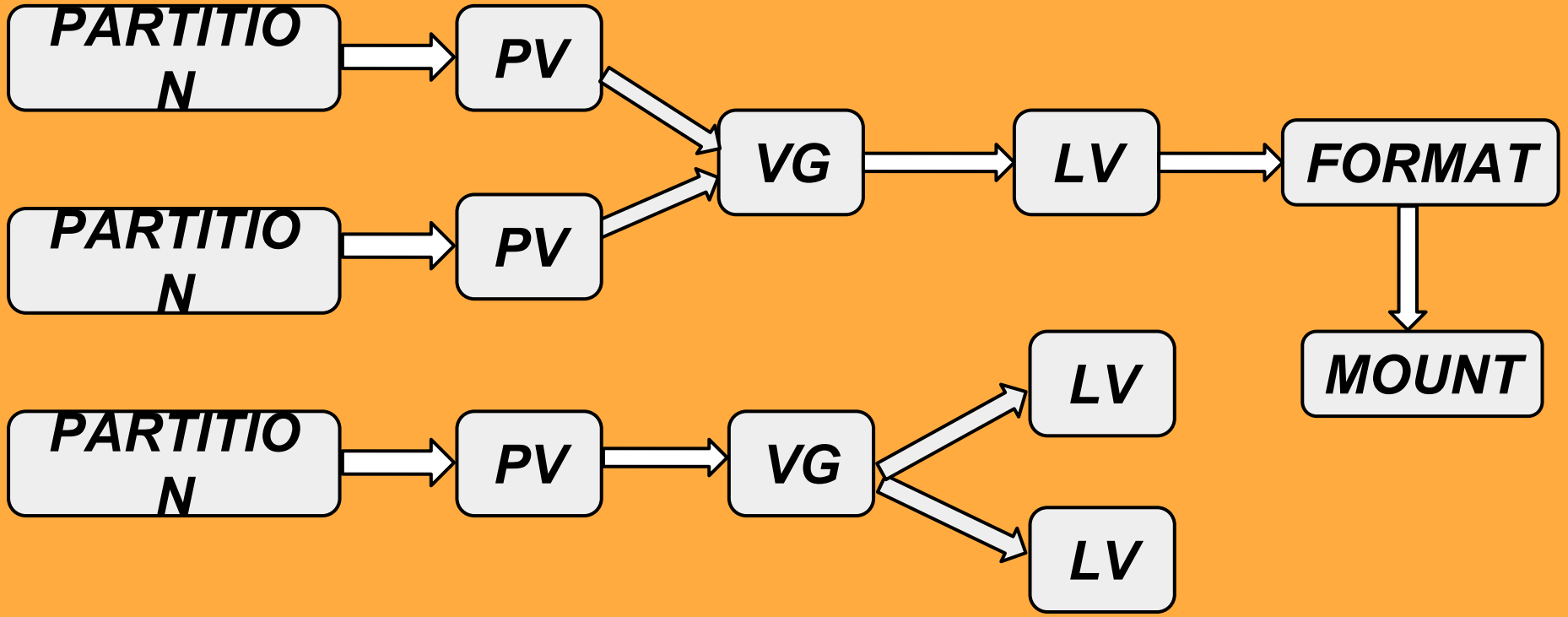
CYBERPHOTON

Logical Volume Management Parts

- *This LVM works on three concepts/features*
- *Physical Volume (PV)*
- *Volume Group (VG)*
- *Logical Volume (LV)*

CYBERPHOTON

STRUCTURE OF LVM



CYBERPHOTON

Physical Volume (PV)

- *Physical volume is the actual storage device that will be used in the LVM configuration.*
- *It can be an entire disk of a partition on disk.*
- *We can use **pvcreate** command to create the physical volume.*
- *We can also use **pvs** or **pvdisplay** command that will display the output in a configurable form.*
- *# pvcreate [disk partition name]*

CYBERPHOTON

Volume Group (VG)

- *Physical volumes are combined into volume groups (VGs)*
- *It creates a pool of disk space out of which logical volumes can be allocated.*
- *We can use **vgcreate** command to create the volume volume.*
- *We can also use **vgs** or **vgdisplay** command that will display the output in a configurable form.*
- *# vgcreate [VG_name] [PV_name]*

CYBERPHOTON

Logical Volume (LV)

- *A volume group is divided up into logical volumes.*
- *Create a partition inside the volume group.*
- *We can use **lvcreate** command to create the logical volume.*
- *We can also use **lvs** or **lvdisplay** command that will display the output in a configurable form.*
- *# lvcreate -L [size] -n [LV_name] [VG_name]*

CYBERPHOTON

Create LVM

- # pvcreate /dev/vdb7
- # pvs (PV info without description)
- # pvdisplay (PV info with description)
- # vgcreate cp /dev/vdb7
- # vgs (VG info without description)
- # vgdisplay (VG info with description)
- # lvcreate -L 400M -n linux coss
- # lvs (LV info without description)
- # lvdisplay (LV info with description)

CYBERPHOTON

- *# mkfs.ext4 /dev/cp/linux (formating)*
- *# mkdir /lvm*

For permanent mounting

- *#vim /etc/fstab*
- *At last type*
- ***/dev/cp/linux /lvm ext4 defaults 0 0***
- *:wq!*
- *#mount -a*
- *#cd /lvm*
- *#ls*
- *df -Th*

CYBERPHOTON

To Extend the logical volume

- # lvs
- # lvextend -L +300M /dev/cp/linux
- # lvs
- # df -Th (not come)
- # resize2fs /dev/cp/linux
- # df -Th

CYBERPHOTON

Reducing the LVM Size

- *# umount /lvm*
- *# e2fsck -f /dev/cp/linux*
- *# resize2fs /dev/cp/linux 500M*
- *# lvreduce –L 500M /dev/cp/linux*
- *# mount –a*
- *# df –Th*

CYBERPHOTON

To Extend and Reduce the volume group

- *# pvcreate /dev/vdb9*
- *# vgextend cp /dev/vdb9*
- *# vgs*
- *# vgreduce cp /dev/vdb10*

CYBERPHOTON

Tomorrow's Topic

- ***Sudo User***
- ***Ssh Server***

CYBERPHOTON