

## ~ LVM Creation ~

### *LVM Created in Three Steps*

1. *Physical Volume (PV)*
2. *Volume Group (VG)*
3. *Logical Volume (LV)*

### *Steps to Create LVM*

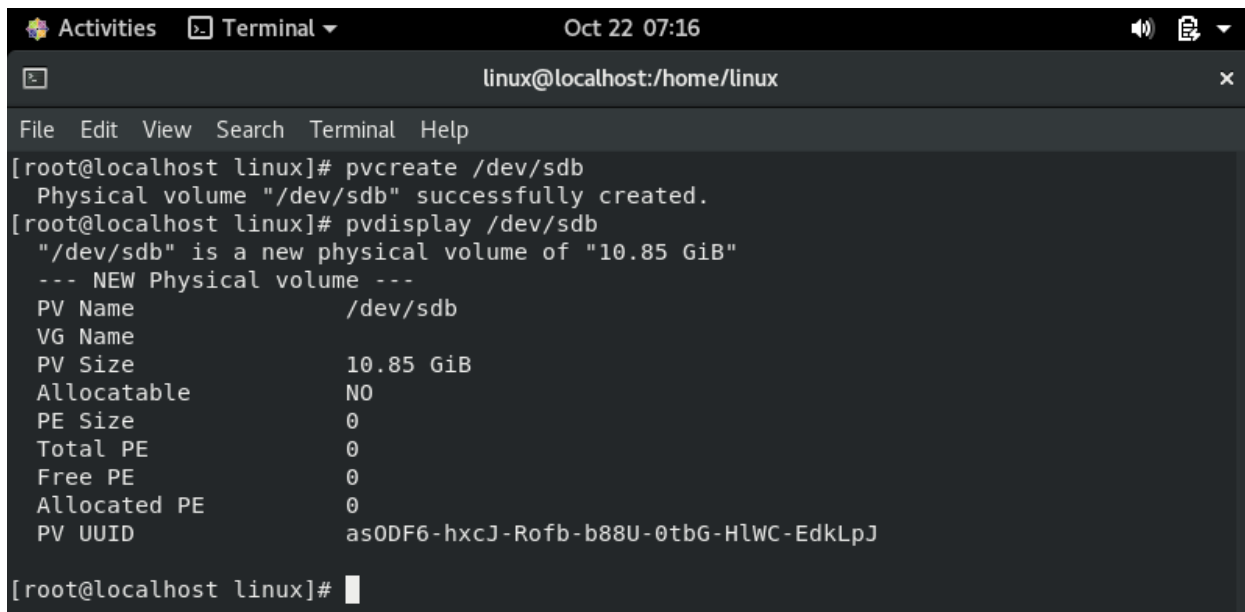
#### *Step 1: Create Physical Volume (PV)*

1. *Create Physical Volume (PV) by using following command*

**>> *pvcreate /dev/sdb***

2. *Display the PV by using Following Command*

**>> *pvdisplay /dev/sdb***



```
Activities Terminal Oct 22 07:16
linux@localhost:/home/linux
File Edit View Search Terminal Help
[root@localhost linux]# pvcreate /dev/sdb
Physical volume "/dev/sdb" successfully created.
[root@localhost linux]# pvdisplay /dev/sdb
"/dev/sdb" is a new physical volume of "10.85 GiB"
--- NEW Physical volume ---
PV Name           /dev/sdb
VG Name
PV Size           10.85 GiB
Allocatable       NO
PE Size           0
Total PE          0
Free PE           0
Allocated PE       0
PV UUID           as0DF6-hxcJ-Rofb-b88U-0tbG-HlWC-EdkLpJ
[root@localhost linux]#
```

## Step 2: Create Volume Group (VG)

1. Create Volume Group Default PE size use following command

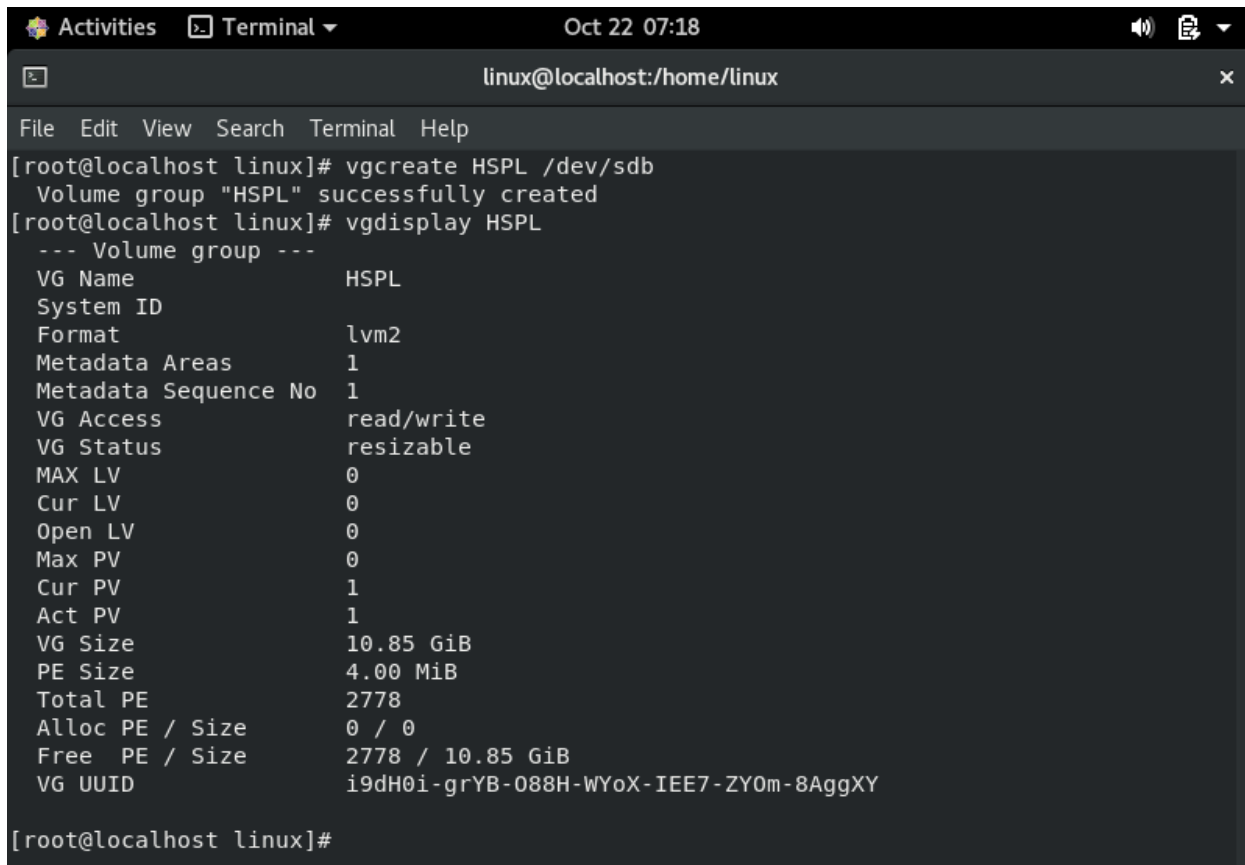
>> **vgcreate HSPL /dev/sdb**

2. Create VG with Specific PE (Physical Extends) Size

>> **vgcreate -s 8 HSPL /dev/sdb**

3. Command to Display VG

>> **vgdisplay HSPL /dev/sdb**



```
Activities Terminal Oct 22 07:18
linux@localhost:/home/linux
File Edit View Search Terminal Help
[root@localhost linux]# vgcreate HSPL /dev/sdb
Volume group "HSPL" successfully created
[root@localhost linux]# vgdisplay HSPL
--- Volume group ---
VG Name                HSPL
System ID
Format                 lvm2
Metadata Areas         1
Metadata Sequence No   1
VG Access               read/write
VG Status               resizable
MAX LV                 0
Cur LV                 0
Open LV                 0
Max PV                  0
Cur PV                 1
Act PV                  1
VG Size                 10.85 GiB
PE Size                 4.00 MiB
Total PE                2778
Alloc PE / Size         0 / 0
Free PE / Size          2778 / 10.85 GiB
VG UUID                 i9dH0i-grYB-088H-WYoX-IEE7-ZY0m-8AggXY

[root@localhost linux]#
```

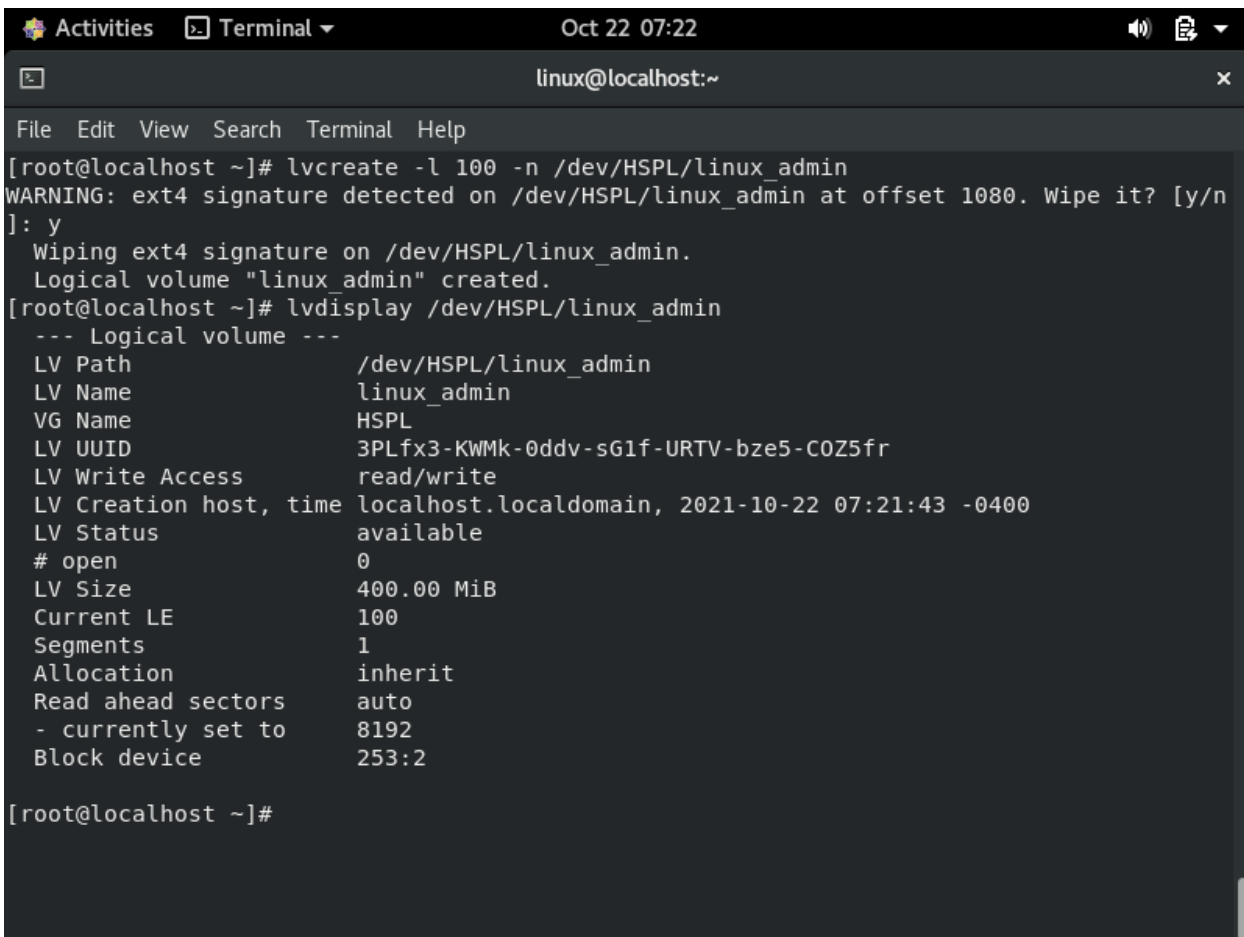
### Step 3: Create Logical Volume

1. Create LV with specific PE size use following command

```
>> lvcreate -l 100 -n /dev/HSPL/linux_admin
```

2. To display LV use following command

```
>> lvdisplay /dev/HSPL/linux_admin
```



```
Activities Terminal Oct 22 07:22
linux@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# lvcreate -l 100 -n /dev/HSPL/linux_admin
WARNING: ext4 signature detected on /dev/HSPL/linux_admin at offset 1080. Wipe it? [y/n]
]: y
Wiping ext4 signature on /dev/HSPL/linux_admin.
Logical volume "linux_admin" created.
[root@localhost ~]# lvdisplay /dev/HSPL/linux_admin
--- Logical volume ---
LV Path                /dev/HSPL/linux_admin
LV Name                 linux_admin
VG Name                HSPL
LV UUID                 3PLfx3-KWMk-0ddv-sG1f-URTV-bze5-C0Z5fr
LV Write Access         read/write
LV Creation host, time localhost.localdomain, 2021-10-22 07:21:43 -0400
LV Status                available
# open                  0
LV Size                 400.00 MiB
Current LE              100
Segments                1
Allocation               inherit
Read ahead sectors      auto
- currently set to      8192
Block device            253:2

[root@localhost ~]#
```

## Step 4: Create File System

1. Following command is use to make file system

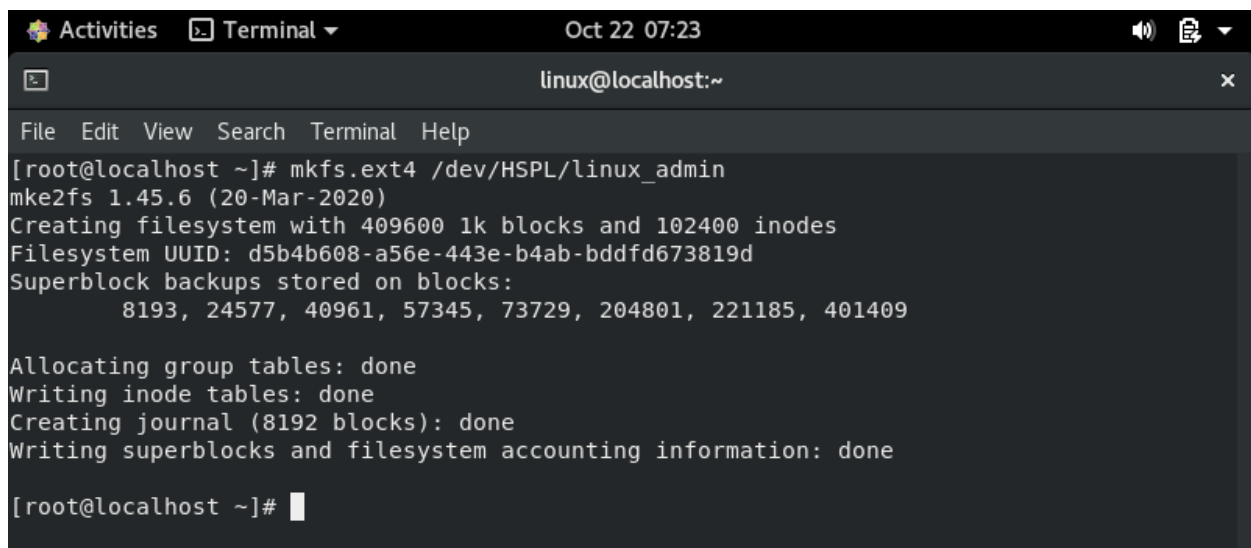
>> **mkfs.ext4 /dev/HSPL/linux\_admin**

2. Make directory to mount the partition

>> **mkdir /cloud**

3. Now add the entry in the “/etc/fstab ” ass follows

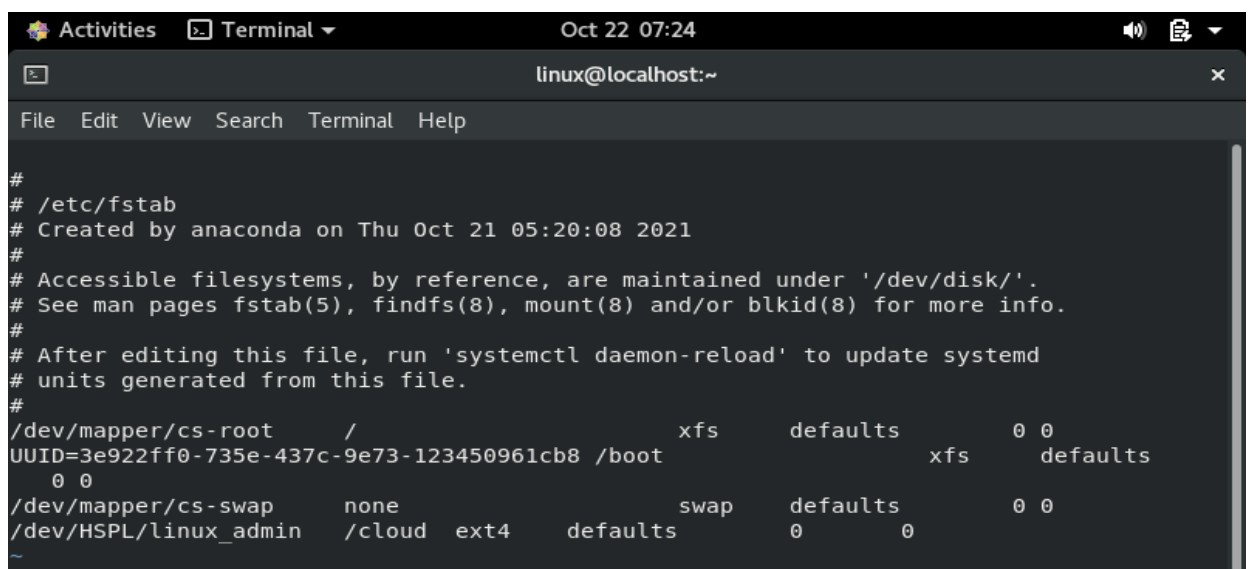
>> **/dev/HSPL/linux\_admin      /cloud      ext4    defaults      0    0**



```
Oct 22 07:23
linux@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# mkfs.ext4 /dev/HSPL/linux_admin
mke2fs 1.45.6 (20-Mar-2020)
Creating filesystem with 409600 1k blocks and 102400 inodes
Filesystem UUID: d5b4b608-a56e-443e-b4ab-bddfd673819d
Superblock backups stored on blocks:
    8193, 24577, 40961, 57345, 73729, 204801, 221185, 401409

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

[root@localhost ~]#
```



```
Oct 22 07:24
linux@localhost:~
File Edit View Search Terminal Help
#
# /etc/fstab
# Created by anaconda on Thu Oct 21 05:20:08 2021
#
# Accessible filesystems, by reference, are maintained under '/dev/disk/'.
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
/dev/mapper/cs-root      /                       xfs     defaults        0 0
UUID=3e922ff0-735e-437c-9e73-123450961cb8 /boot                  xfs     defaults        0 0
/dev/mapper/cs-swap      none                   swap    defaults        0 0
/dev/HSPL/linux_admin    /cloud                 ext4    defaults        0 0
```

**Step 5: Remove LV, VG, PV**

1. First Remove Permanent Mounting Record Form “**/etc/fstab**”
2. Then unmount LVM >> **umount Cloud**
3. Remove LV >> **lvremove /dev/HSPL/linux\_admin**
4. Remove VG >> **Vgremove HSPL**
5. Remove PV >> **pvremove /dev/sdb**
6. Last remove Partition >> **fdisk /dev/sdb**