LAB - 03

- ☐ **All screenshots, must have your username at command prompt and screenshot should be legible.** Snipping tool is advised for the screen shots, no full page screenshot.
- ☐ **For LAB REPORT, The screenshots should be pasted in Word Document in order of the lab questions and submitted in Blackboard as a single document only. Plagiarism is awarded zero.**
- ☐ Refer to course details posted in BB for more info on Lab report and screenshots.
- ☐ **Do NOT login as root or user with UID=0 to do the lab, use sudo ONLY when required.**
- ☐ **Do not use changeme username** to do the lab, the lab(s) MUST be done using your own username as specified in PART-B of LAB-1
- ☐ **Strictly NO screenshots with full screen of terminal or desktop or partly taken screenshots**
- ☐ **It is highly required to following naming conventions and instructions and it would affect evaluation.**

PRE-LAB ACTIVITY: *(need to be completed before start of LAB-03)*

IN-CLASS Activity: 1-47 *(including PRE-LAB ACTIVITY)*

PART-F: STORAGE DEVICES *(all activity in toronto)*

26. List the block devices and check the options available with it
27. Check the file system disk space usage with **df**. Familiarise with the mountpoints, filesystems, fstype, use% displayed
28. Find the difference between **df**, **df -h**, **df -i**, **df -Th,** note the filesystem type for root and also the pseudo filesystem types.
29. Also try **df -Th /** , **df -Th /dev**, **df -Th /run**, note **df** with options can be used with **mountpoint** to display information on that mountpoint.
30. Find the disk usage of **your home directory**, **/etc**, **/var/log**, using **du** command. Also try **du -h** and **du -sh** commands with **your home directory**, **/etc and /var/log** and note the difference.

SCREENSHOTS: a) history |grep -E 'df|du'

31. Using **100MB** of disk create one single partition of the available space and using filesystem type **xfs** mount it as **/finance**
32. Using **400MB** of disk create a partition of 80M and mount it as **/tech**, second partion of 150M and mount it as **/databases** and the third partition with remaining space mount it as **/apps**. Filesystem used is **xfs**
33. Using **300MB** of disk create a partition of 200M and mount it as **/logistics** and remaining space as second partition and mount it as **/purchases**. File system used is **xfs**.

SCREENSHOTS: a) lsblk b)df -Th c) ls -ld /finance /tech /databases /apps /logistics /purchases

PART-G : LVM using 250MB HDD *(all activity in toronto)*

34. Create VG, **vg-media** using LVM with 250MB HDD, and two Logical volumes **lv-music** for 100MB and **lv-videos** for the remaining size available in the volume group.
35. Mount **lv-music** as **/music** and **lv-videos** as **/videos**, with **xfs** as the filesystem.
36. Create files **music1**, **music2** and **music3** in **/music** and **video1**, **video2**, **video3** in **/videos** without using **sudo**

SCREENSHOTS: Display **a)** **vg-media** only **b)** **lv-music** only **c)** **lv-videos** only **d)** **df -Th /music /videos e)** **ls -ld /music /videos f)** **ls -l /music /videos g)** **pvs h)** **vgs i)** **lvs**

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PART-H : EXTEND VG AND LV *(all activity in toronto)*

37. Extend the Volume Group **vg-media**, by adding the 350MB hard disk. Then extend the logical volume **lv-music** by **200MB** and **lv-videos** by the remaining available free size.

38. Display **vg-media** and **lv-music** and **lv-videos (SCREENSHOT)** check if size is extended.

39. Also check if the respective mountpoints are extended **df -Th /music /videos (SCREENSHOT)**?
SCREENSHOTS: a) ls -ld /music /videos b) ls -l /music /videos c) pvs d) vgs e) lvs

PART – I : RESIZE THE MOUNTPOINTS*(all activity in toronto)*

40. Resize mount point **/music** and **/videos SCREENSHOTS: a) ls -ld /music /videos b) ls -l /music /videos c) pvs -v d) vgs -v e) lvs -v f) df -Th /music /videos**

PART – J : VDO*(all activity in montreal)*

41. In **montreal** use 5GB HDD to create VDO of logical volume of 25GB named **vdo-data** and mount it as **/data** using **xfs** filesystem. (vdoSlabSize is 128M). **SCREENSHOT: a)df -Th /data b)lsblk**

PART-K: /etc/fstab

42. List the UUID and filesystem for the partitions/disks in your system using **blkid (SCREENSHOT)**

43. Change **root** password using **sudo passwd root** and note it down

44. Configure the **/finance /tech /databases /apps /logistics /purchases** mount points to mounted automatically everytime when the system is started. (**SCREENSHOT: cat /etc/fstab**)

45. Update **/etc/fstab** file for **/data** to mounted everytime the systems starts.

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