

ITIM

PRACTICAL - 4

Name : Yagna Patel

Enrollment No. : 211621020

Batch : 61(CBA)



Tasks :

Question 1: Create and format a partition such that it can be used as swap memory, Ensure that the swap memory is persistent change in your memory. The swap memory size must be 1.5 GB.

Question 2: Demonstrate how to check the swap memory usage details.

Question 3: Delete the created swap memory partition on server B and ensure it is a persistent configuration.

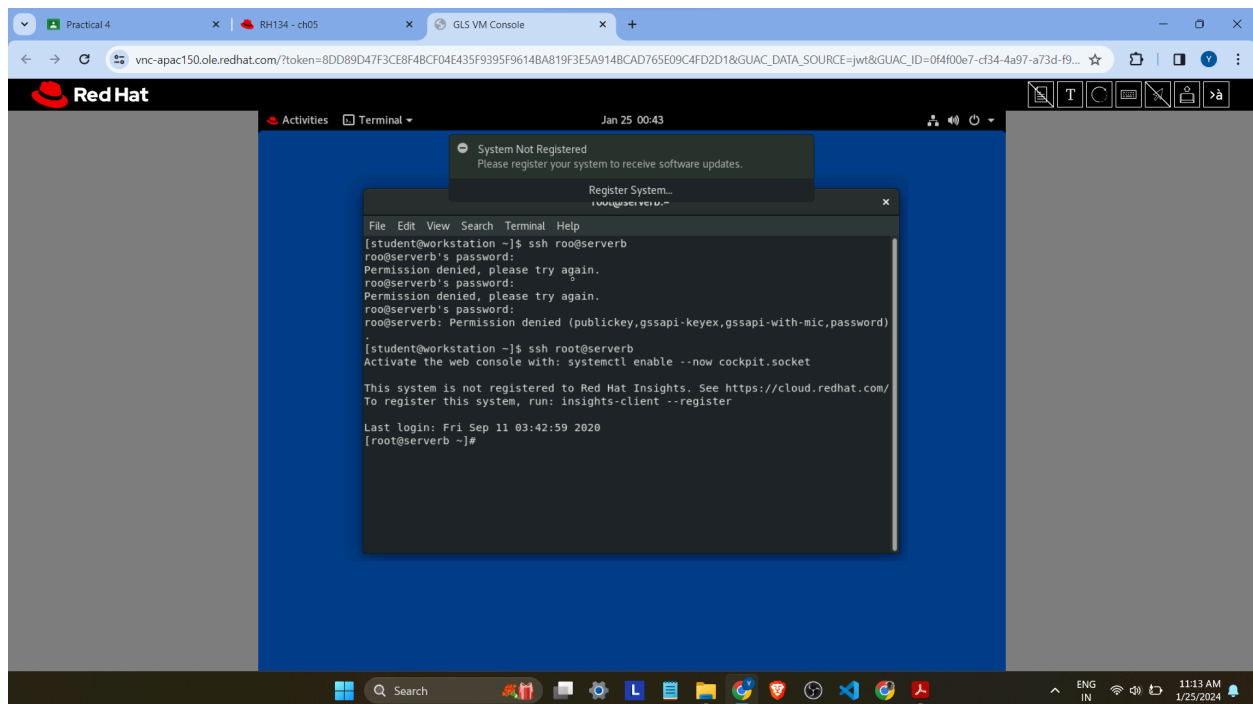
Question 4: Using which command you will be able to get the partition ID of the created partition?

Steps :

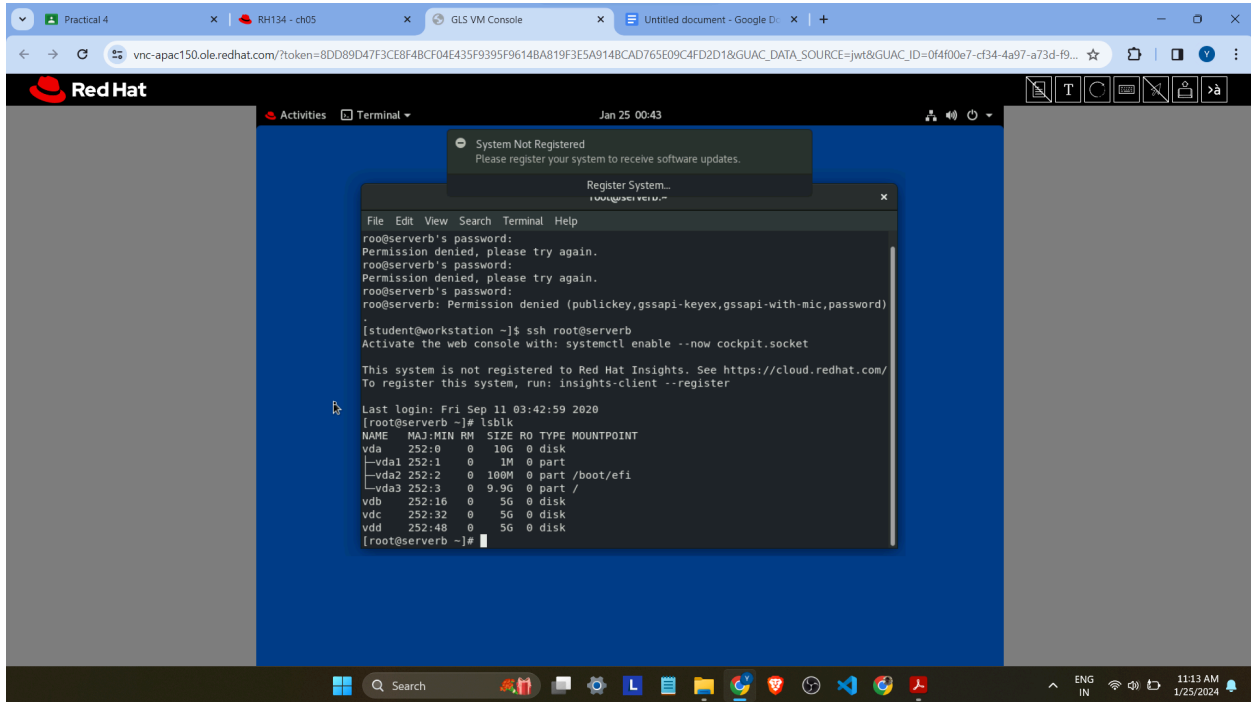
Question 1 :

Create and format a partition such that it can be used as swap memory, ensuring that the swap memory is a persistent change in your memory. The swap memory size must be 1.5 GB.

First Login as a root user into serverb using **root@serverb**



Lsblk to know the current partitions



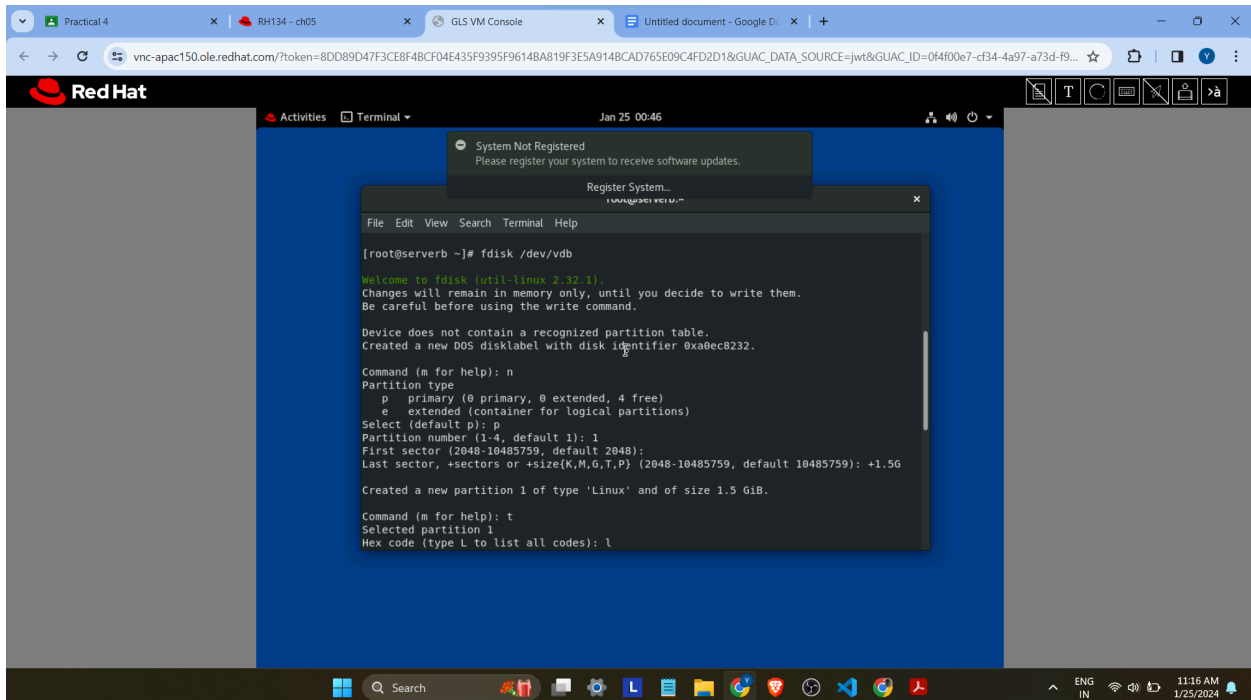
```
root@serverb:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
vda         252:0    0   10G  0 disk 
├─vda1      252:1    0    1M  0 part 
├─vda2      252:2    0  100M  0 part /boot/efi
├─vda3      252:3    0   9.9G  0 part /
vdb         252:16   0    5G  0 disk 
vdc         252:32   0    5G  0 disk 
vdd         252:48   0    5G  0 disk
```

Create a partition of vdb using **fdisk /dev/vdb**

Then type **n** to create new partition

Let first sector be default

Type **+1.5G** in last sector to make partition of 1.5 Gb.



```
[root@serverb ~]# fdisk /dev/vdb
Welcome to fdisk (util-linux 2.32.1).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS disklabel with disk identifier 0xa0ec8232.

Command (m for help): n
Partition type:
  p   primary (0 primary, 0 extended, 4 free)
  e   extended (container for logical partitions)
Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-10485759, default 2048):
Last sector, +sectors or +size(K,M,G,T,P) (2048-10485759, default 10485759): +1.5G
Created a new partition 1 of type 'Linux' and of size 1.5 GiB.

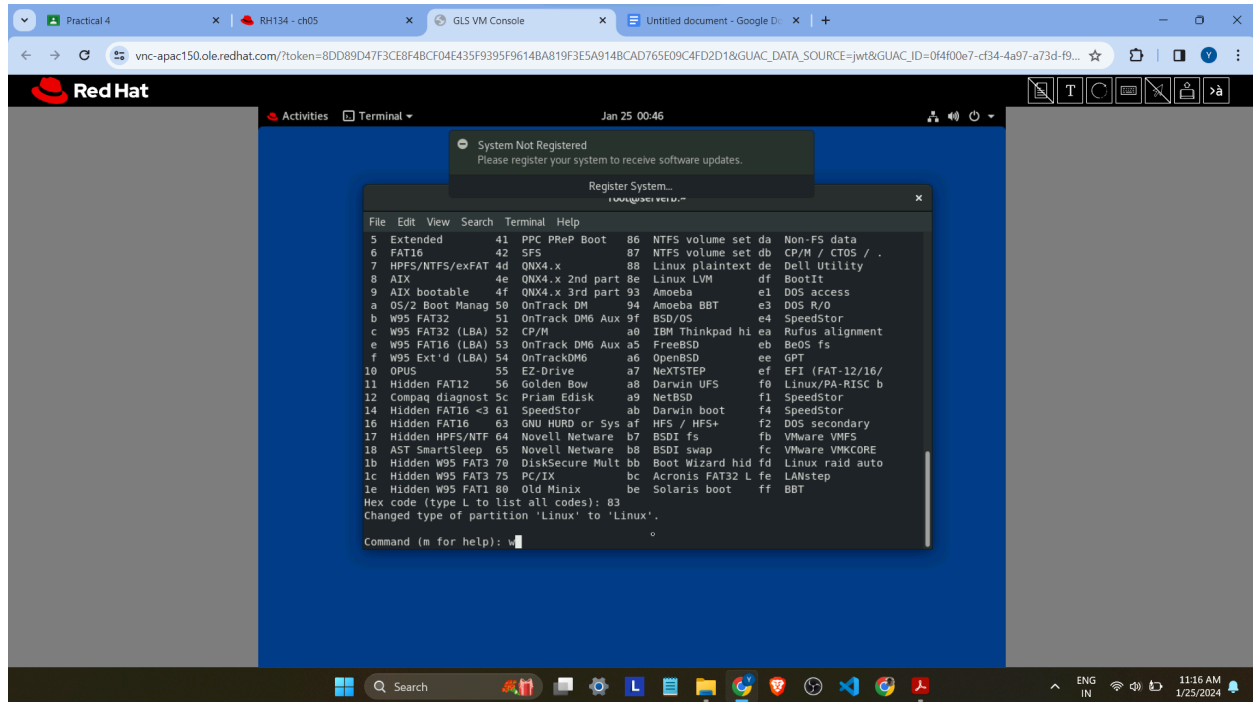
Command (m for help): t
Selected partition 1
Hex code (type L to list all codes): l
```

Then type **t** to change the type of the partition

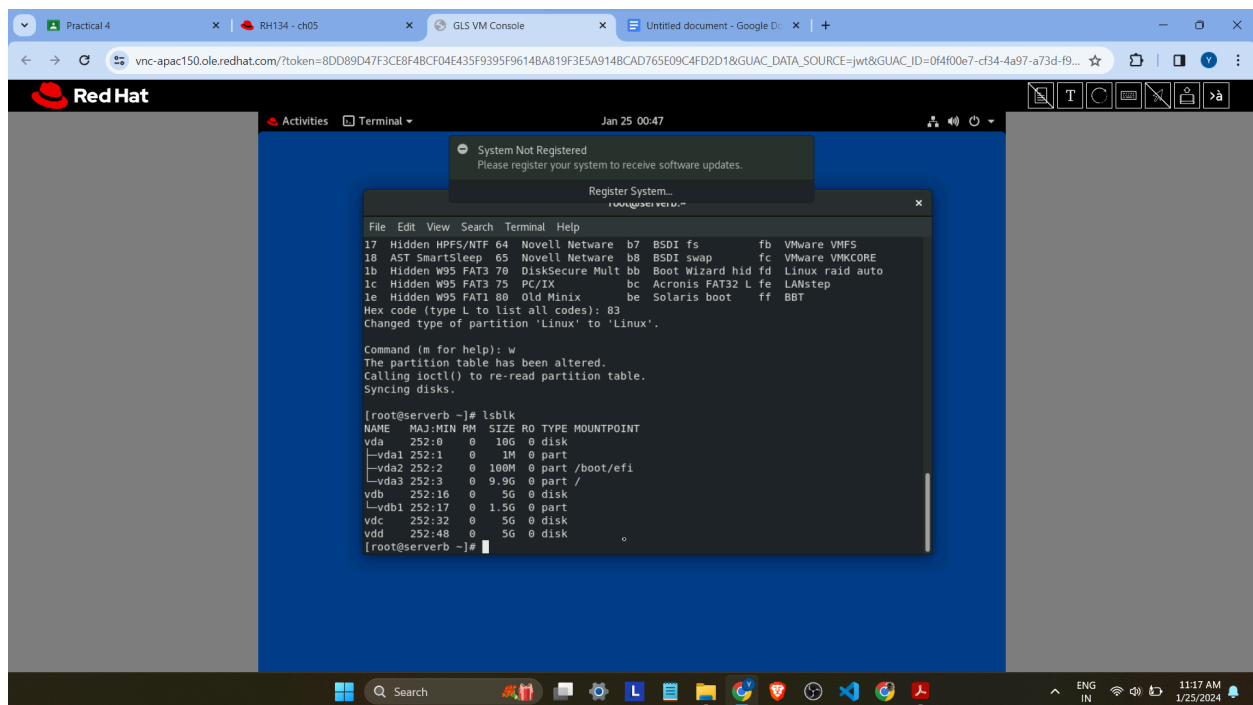
Here we can use **L** to get all the possible types and their hex codes

Then type **83** which is the hexcode of Linux

Finally press **w** to save changes



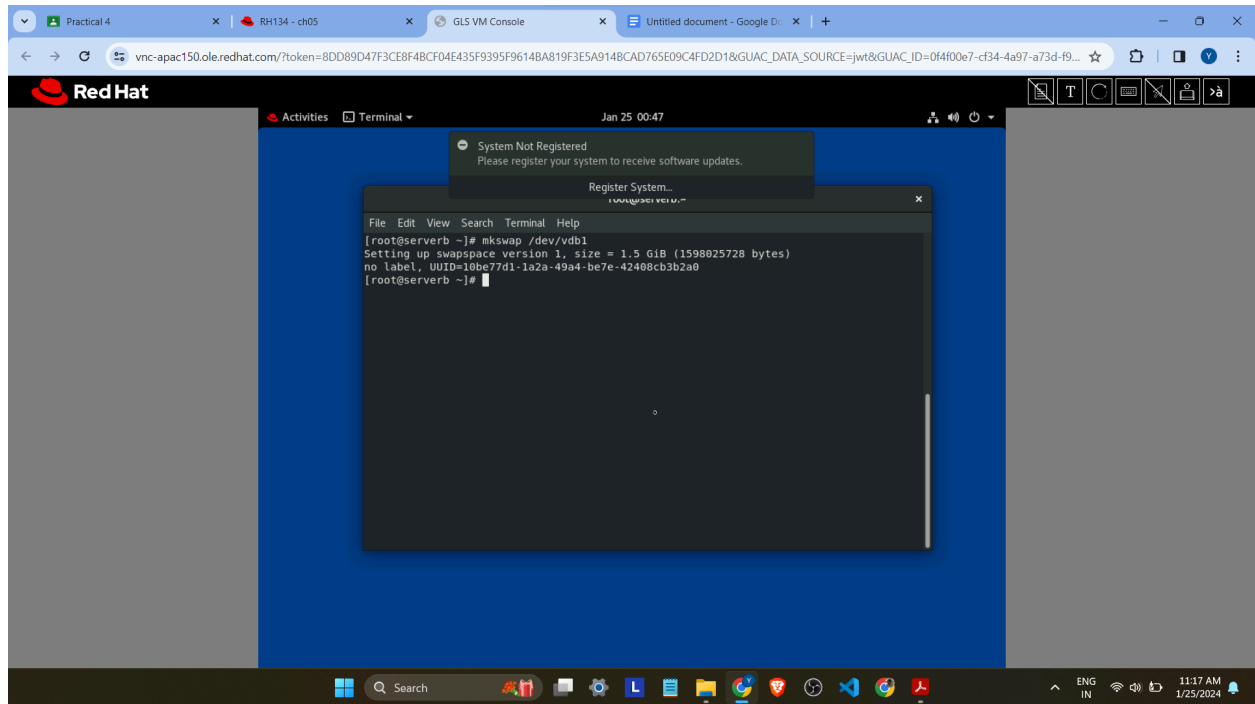
```
File Edit View Search Terminal Help
5 Extended 41 PPC PreP Boot 86 NTFS volume set da Non-FS data
6 FAT16 42 SFS 87 NTFS volume set db CP/M / CTOS / .
7 HPFS/NTFS/exFAT 4d QNX4.x 88 Linux plaintext de Dell Utility
8 AIX 4e QNX4.x 3rd part 8e Linux LVM df BootIt
9 AIX bootable 4f QNX4.x 3rd part 93 Amoeba e1 DOS access
a OS/2 Boot Manag 50 OnTrack DM 94 Amoeba BBT e3 DOS R/O
b W95 FAT32 51 OnTrack DM6 Aux 9f BSD/OS e4 SpeedStor
c W95 FAT32 (LBA) 52 CP/M a0 IBM Thinkpad hi ea Rufus alignment
e W95 FAT16 (LBA) 53 OnTrack DM6 Aux a5 FreeBSD eb BeOS fs
f W95 Ext'd (LBA) 54 OnTrackDM6 a6 OpenBSD ee GPT
10 OPUS 55 EZ-Drive a7 NextSTEP ef EFI (FAT-12/16/
11 Hidden FAT12 56 Golden Bow a8 Darwin UFS f0 Linux/PA-RISC b
12 Compaq diagnost 5c Priam Edisk a9 NetBSD f1 SpeedStor
14 Hidden FAT16 <3 61 SpeedStor ab Darwin boot f4 SpeedStor
16 Hidden FAT16 63 GNU HURD or Sys af HFS / HFS+ f2 DOS secondary
17 Hidden HPFS/NTF 64 Novell Netware b7 BSDI fs fb VMware VMFS
18 AST SmartSleep 65 Novell Netware b8 BSDI swap fc VMware VMKORE
1b Hidden W95 FAT3 70 DiskSecure Mult bb Boot Wizard hid fd Linux raid auto
1c Hidden W95 FAT3 75 PC/IX bc Acronis FAT32 L fe LANstep
1e Hidden W95 FAT1 80 Old Minix be Solaris boot ff BBT
Hex code (type L to list all codes): 83
Changed type of partition 'Linux' to 'Linux'.
Command (m for help):
```



```
File Edit View Search Terminal Help
17 Hidden HPFS/NTF 64 Novell Netware b7 BSDI fs fb VMware VMFS
18 AST SmartSleep 65 Novell Netware b8 BSDI swap fc VMware VMKORE
1b Hidden W95 FAT3 70 DiskSecure Mult bb Boot Wizard hid fd Linux raid auto
1c Hidden W95 FAT3 75 PC/IX bc Acronis FAT32 L fe LANstep
1e Hidden W95 FAT1 80 Old Minix be Solaris boot ff BBT
Hex code (type L to list all codes): 83
Changed type of partition 'Linux' to 'Linux'.
Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.
[root@serverb ~]# lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
vda 252:0 0 100G 0 disk
├─vda1 252:1 0 1M 0 part
├─vda2 252:2 0 100M 0 part /boot/efi
├─vda3 252:3 0 9.9G 0 part /
├─vdb 252:16 0 5G 0 disk
├─vdb1 252:17 0 1.5G 0 part
├─vdc 252:32 0 5G 0 disk
├─vdd 252:48 0 5G 0 disk
[root@serverb ~]#
```

Now to use the Partition as Swap memory.

Write `mkswap /dev/vdb1` to make partition vdb1 a swap memory



Save and exit the file

Then we will use it as SWAP memory with the command: **swapon**

Also reboot the server after swapon using **reboot**

```
[root@serverb ~]# mkswap /dev/vdb1
Setting up swspace version 1, size = 1.5 GiB (1598025728 bytes)
no label, UUID=10be77d1-1a2a-49a4-be7e-42408cb3b2a0
[root@serverb ~]# vi /etc/fstab
[root@serverb ~]# swapon
[root@serverb ~]# reboot
Connection to serverb closed by remote host.
Connection to serverb closed.
[student@workstation ~]$
```

Moved to server a because it was not working in server b

Question 2: Demonstrate how to check the swap memory usage details

Check if the swap memory is created using **lsblk** and **free**

```
[student@workstation ~]$ ssh root@servera
^C
[student@workstation ~]$ ssh root@servera
Activate the web console with: systemctl enable --now cockpit.socket

This system is not registered to Red Hat Insights. See https://cloud.redhat.com/
To register this system, run: insights-client --register

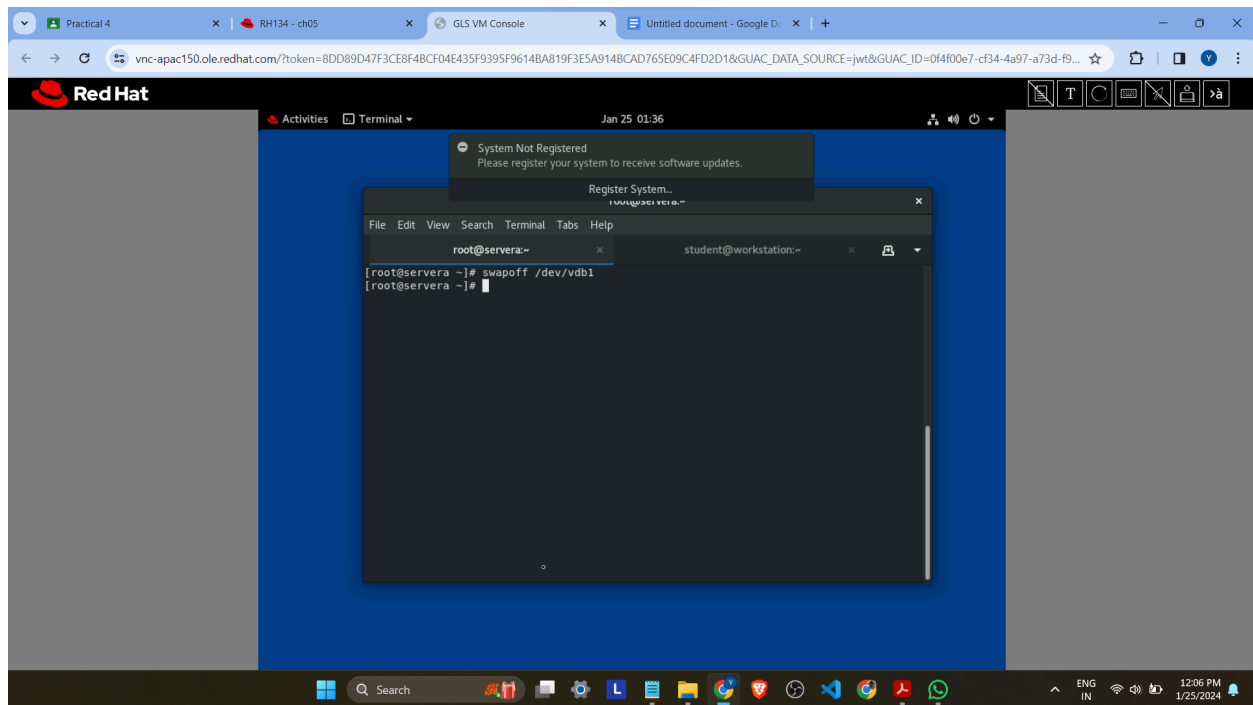
Last login: Thu Jan 25 01:00:57 2024 from 172.25.250.9
[root@servera ~]# lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
vda 252:0 0 10G 0 disk
├─vda1 252:1 0 1M 0 part
├─vda2 252:2 0 100M 0 part /boot/efi
├─vda3 252:3 0 9.9G 0 part /
vdb 252:16 0 5G 0 disk
├─vdb1 252:17 0 1.5G 0 part [SWAP]
vdc 252:32 0 5G 0 disk
vdd 252:48 0 5G 0 disk
[root@servera ~]# free
              total        used        free      shared  buff/cache   available
Mem:      1870600      185600      1466808        16868       218192      1521556
Swap:      1560572           0       1560572
```

Here we can see there is swap memory and i haven't used it so it is showing 0 in used

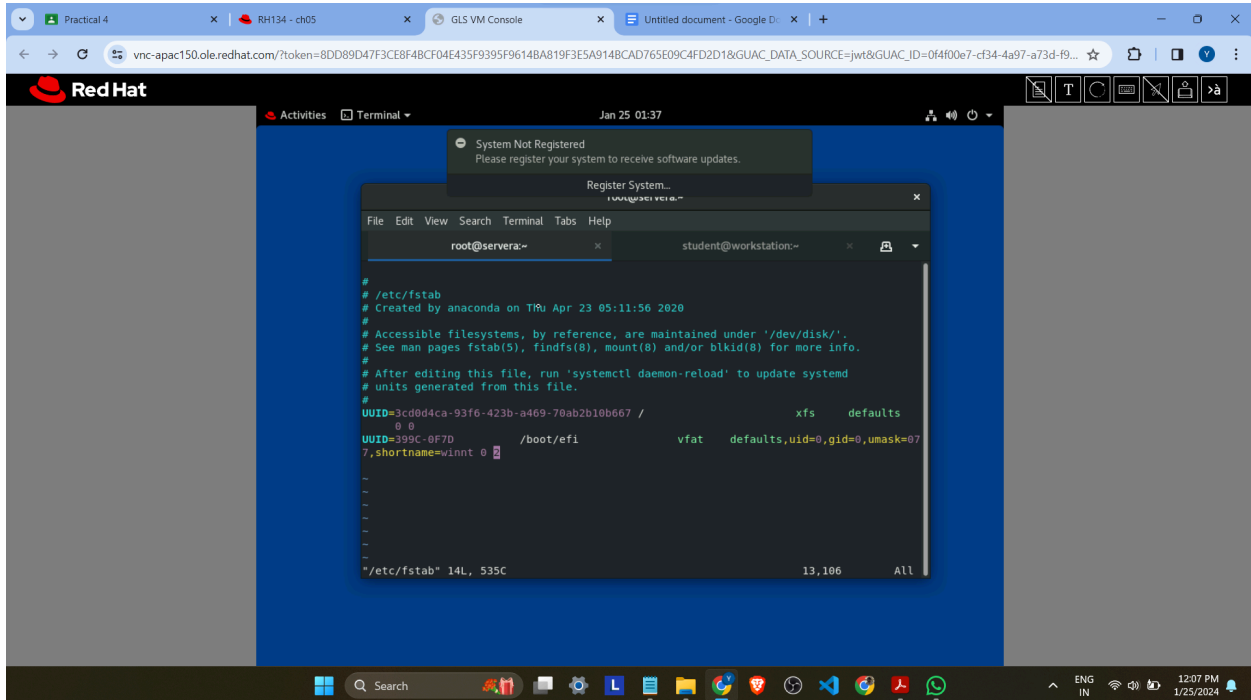
Question 3: Delete the created swap memory partition on server and ensure it is a persistent configuration.

For delete swap memory we'll do all the part in reverse order to delete swap memory

First command is `swapoff /dev/vdb1`



The we delete UUID from the fstab file of vdb1



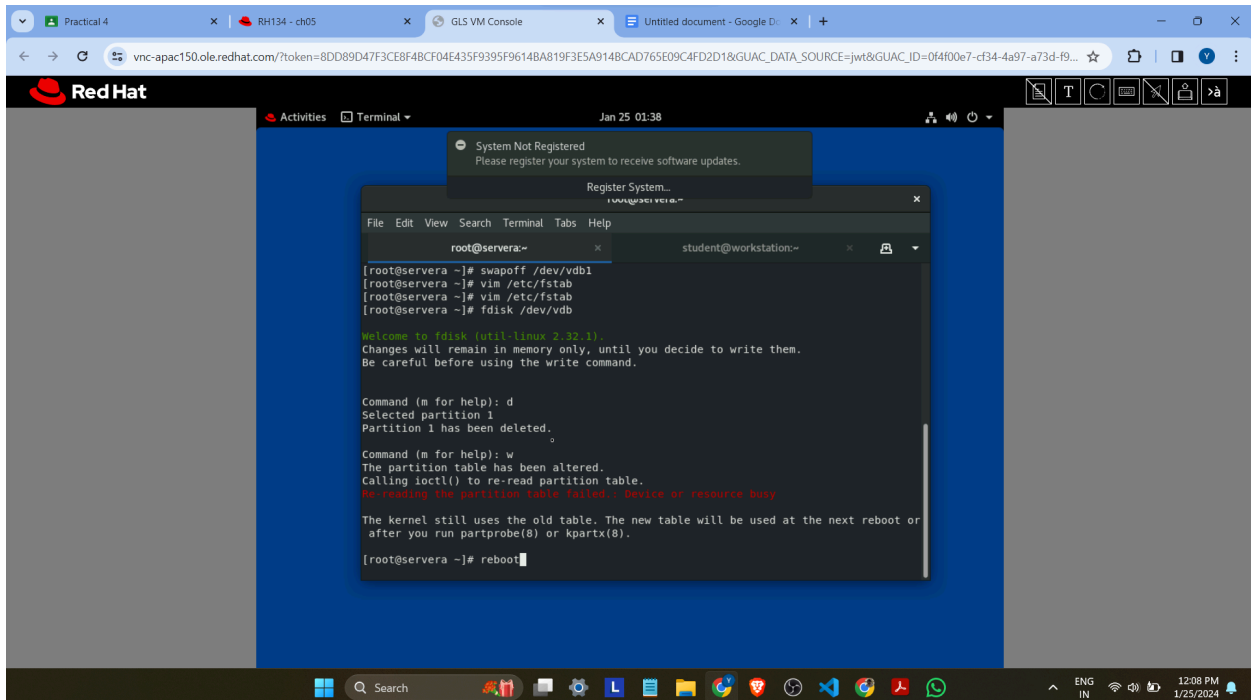
```
# /etc/fstab
# Created by anaconda on Thu Apr 23 05:11:56 2020
#
# Accessible filesystems, by reference, are maintained under '/dev/disk/'.
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
UUID=3cd0d4ca-93f6-423b-a469-70ab2b10b667 /                xfs     defaults
0 0
UUID=399C-0F7D /boot/efi          vfat    defaults,uid=0,gid=0,umask=07
7,shortname=winnt 0 0

"/etc/fstab" 14L, 535C
```

Then we delete partition with command: `fdisk /dev/vdb`

We'll write **d** for delete partition

Then write **w** to save changes



```
[root@servera ~]# swapoff /dev/vdb1
[root@servera ~]# vim /etc/fstab
[root@servera ~]# vim /etc/fstab
[root@servera ~]# fdisk /dev/vdb

Welcome to fdisk (util-linux 2.32.1).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Command (m for help): d
Selected partition 1
Partition 1 has been deleted.

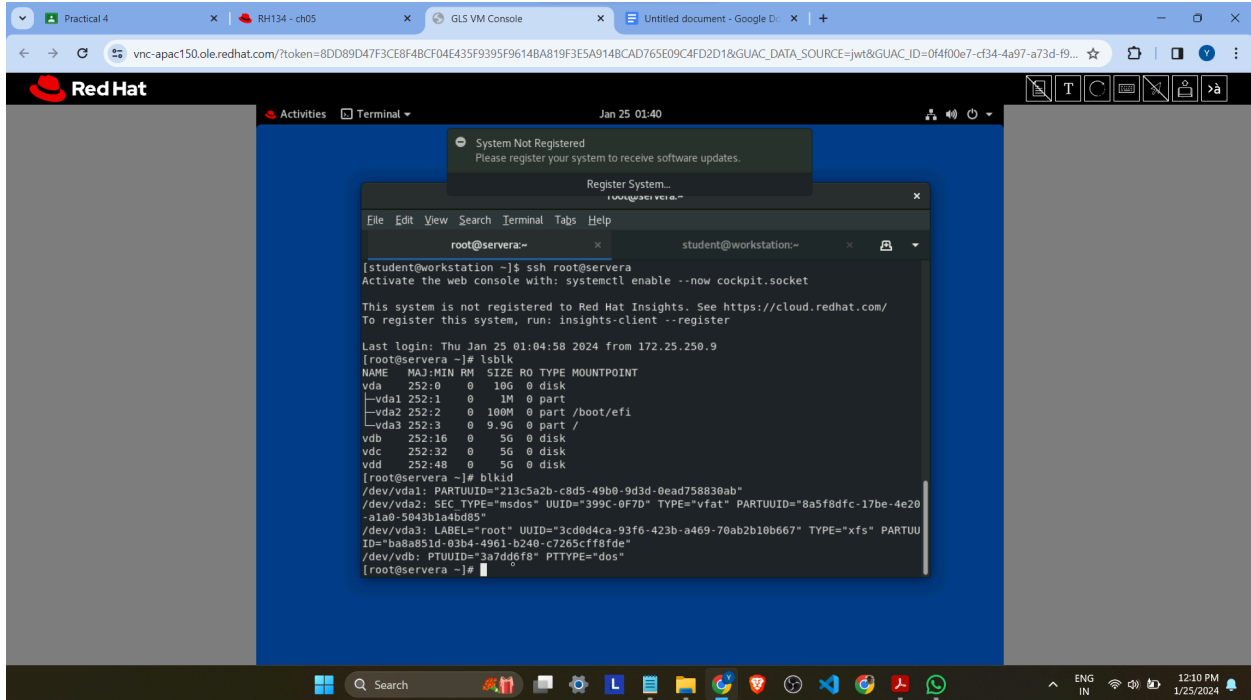
Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Re-reading the partition table failed.: Device or resource busy

The kernel still uses the old table. The new table will be used at the next reboot or
after you run partprobe(8) or kpartx(8).
[root@servera ~]# reboot
```

Question 4: Using which command you will be able to get the partition ID of the created partition?

With command : **Blkid** we can able to get partition ID of all partitions

Now we can see with **lsblk** that our partition is deleted or not



The screenshot shows a Red Hat VM console window. A terminal window is open, displaying the output of the `lsblk` and `blkid` commands. The `lsblk` command lists the disk structure, and the `blkid` command shows the partition IDs and UUIDs for the disks.

```
root@servera:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
vda         252:0    0   10G  0 disk 
├─vda1      252:1    0    1M  0 part 
├─vda2      252:2    0  100M  0 part /boot/efi
└─vda3      252:3    0   9.9G  0 part /
vdb         252:16   0    5G  0 disk 
vdc         252:32   0    5G  0 disk 
vdd         252:48   0    5G  0 disk 

root@servera:~# blkid
/dev/vda1: PARTUUID="213c5a2b-c8d5-49b0-9d3d-0ead758830ab"
/dev/vda2: SEC_TYPE="msdos" UUID="399C-0F7D" TYPE="vfat" PARTUUID="8a5f8dfc-17be-4e20-a1a0-5043b1a4b085"
/dev/vda3: LABEL="root" UUID="3cd0d4ca-93f6-423b-a469-70ab2b10b667" TYPE="xfs" PARTUU
ID="ba8a851d-03b4-4961-b240-c7265cfff8de"
/dev/vdb: PTUUID="3a7dd6f8" PTTYPE="dos"
root@servera:~#
```