

Information Engineering and Technology Faculty
German University in Cairo
Networks Department
Dr. Maggie Mashaly
Eng. Badr Tarek



Red Hat System Administration II
Template Practical final submission
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Take screenshots for each of the following, take multiple screenshots if necessary (for the scripts).

Name this file - id_labnumber, where labnumber is your designated lab number. I.e if your lab slot is on Wed and your id is 49-1234 and the file would be save as '49-1234_p2.pdf' (Wed ->p2, Sat(2nd slot) ->p3, Sat(4th slot) →p4)

Submit this word file in the following google form:

<https://forms.gle/TLxkZgNGgASSe5wy6>

Task 1.1

- `lsblk -fs`

The screenshot shows a terminal window titled "Fedora 64-bit" running on a Fedora desktop environment. The terminal displays the output of the command `lsblk --fs`. The output lists various storage devices and their file system details, including LVM volumes and swap partitions. The desktop background features a green and blue abstract design with the Fedora logo.

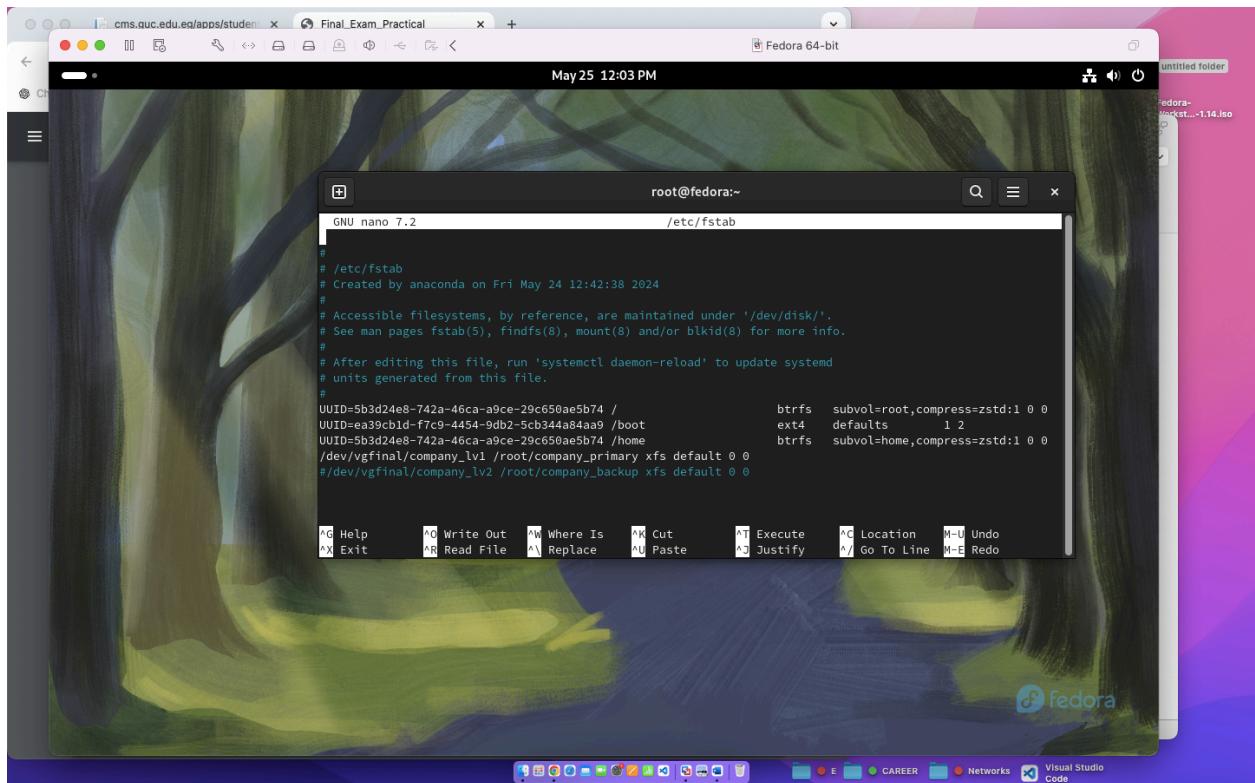
```
root@fedora:~# lsblk --fs
NAME          FSTYPE   FSVER LABEL  UUID
sda
└─sda1        LVM2_member LVM2 001  M1Sm10-Dfro-NwUG-gMvO-b0r1-gUUB-Jsnkxb
  ├─vgfinal-company_lv1  vfat
  └─vgfinal-company_lv2
sda2
└─sda3        LVM2_member LVM2 001  8kzkkg2-j0mw-M2uF-ubMn-xcQj-XPQy-PBL7ov
sr0
zram0
nvme0n1
└─nvme0n1p1
nvme0n1p2      ext4      1.0    ea39cb1d-f7c9-4454-9db2-5cb344a84aa9  648.3M  26% /boot
nvme0n1p3      btrfs     1.0    fedora 5b3d24e8-742a-46ca-a9ce-29c650ae5b74  14.3G  24% /home
                                         [SWAP]
root@fedora: #
```

- `mount | tail -n 10`

The screenshot shows a terminal window titled "Fedora 64-bit" running on a Fedora desktop environment. The terminal displays the output of the command `mount | tail -n 10`. The output lists the currently mounted file systems, including the root partition, swap, and home directory. The desktop background features a green and blue abstract design with the Fedora logo.

```
root@fedora:~# mount | tail -n 10
fusectl on /sys/fs/fuse/connections type fusectl (rw,nosuid,nodev,noexec,relatime)
tmpfs on /tmp type tmpfs (rw,nosuid,nodev,seclabel,nr_inodes=1048576,inode64)
/dev/nvme0n1p2 on /boot type ext4 (rw,relatime,seclabel)
/dev/nvme0n1p3 on /home type btrfs (rw,relatime,seclabel,compress=zstd:1:ssd,space_cache=v2,subvol=/home)
/dev/mapper/vgfinal-company_lv1 on /root/company_primary type xfs (rw,relatime,seclabel,attr2,inode64,logbufs=8,logbsize=32k,noquota)
binfmt_misc on /proc/sys/fs/binfmt_misc type binfmt_misc (rw,nosuid,nodev,noexec,relatime)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw,relatime)
tmpfs on /run/user/1000 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=300120k,nr_inodes=75030,mode=700,uid=1000,gid=1000,inode64)
gvfsd-fuse on /run/user/1000/gvfs type fuse.gvfsd-fuse (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
portal on /run/user/1000/doc type fuse.portal (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
root@fedora:~#
```

- cat /etc/fstab



The screenshot shows a Fedora 64-bit desktop environment. A terminal window titled "root@fedora:~" is open, showing the contents of the /etc/fstab file. The file contains configuration for mounting filesystems, including UUIDs for drives and mount points like /boot, /home, and /root. The terminal window has a dark background with light-colored text. At the bottom, there is a menu bar with various keyboard shortcuts for nano editor commands.

```
# /etc/fstab
# Created by anaconda on Fri May 24 12:42:38 2024
#
# 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=5b3d24e8-742a-46ca-a9ce-29c650ae5b74 / btrfs subvol=root,compress=zstd:1 0 0
UUID=ea39cb1d-f7c9-4454-9db2-5cb34484a9 /boot ext4 defaults 1 2
UUID=5b3d24e8-742a-46ca-a9ce-29c650ae5b74 /home btrfs subvol=home,compress=zstd:1 0 0
/dev/vgfinal/company_lv1 /root/company_primary xfs default 0 0
/dev/vgfinal/company_lv2 /root/company_backup xfs default 0 0
```

Task 1.2

- nano -l script1.sh

Note: Replace script1.sh with the name of the first script name you created for monitoring the logical volumes.

```
GNU nano 7.2                                     script1.sh
1 #REQUIRED
2 cusage = $(df -h /dev/vgfinal/company_lv1 | awk 'NR==2 {print $4}')
3 threshold = 100MB
4 if ["$cusage -less threshold"];
5 lvextend -l +50MB /dev/vgfinal/company_lv1
6 lvextend -l +20MB /dev/vgfinal/company_lv2
7 xfs_growfs /dev/vgfinal/company_lv1
8 xfs_growfs /dev/vgfinal/company_lv2
9 fi
10
11 #BONUS
12 cusage = $(df -h /dev/vgfinal/company_lv1 | awk 'NR==2 {print $5}')
13 threshold = 90%
14 vusage = $(df -h /dev/vgfinal | awk 'NR==2 {print $5}')
15 vgthreshold = 100%
16 if ["$cusage -eq threshold"];
17     lvextend -l +20VG /dev/vgfinal/company_lv1
18     xfs_growfs /dev/vgfinal/company_lv2
19     if ["$vusage -less vgthreshold"];
20         lvextend -l +20MB /dev/vgfinal/company_lv2
21         xfs_growfs /dev/vgfinal/company_lv2
22     else
23         echo "Warning, no space available"
24         break
25     fi
26
27 fi
```

- nano -l script2.sh

Note: Replace script2.sh with the name of the second script you created for monitoring the volume group.

A screenshot of a Fedora 64-bit desktop environment. A terminal window titled "root@fedora:-" is open, showing the following content:

```
GNU nano 7.2                                         script2.sh
cusage = $(vgdisplay | awk 'NR == 19 {print $5}')
threshold = 0
if(['cusage -eq threshold']);
    vgextend vgfinal /dev/sda3
fi
```

The terminal window has a menu bar at the bottom with options like Help, Exit, Write Out, Read File, Replace, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, and Read 8 lines.

- **cat scheduling_file**
- Note: Replace scheduling_file with the file you edited to schedule the scripts

A screenshot of a Fedora 64-bit desktop environment. A terminal window titled "root@fedora:-" is open, showing the following content:

```
root@fedora:~# crontab -l
* 16 * * Fri /root/script1.sh
* 13 * * Fri /root/script2.sh
root@fedora:~#
```