Name:

Red Hat Lab – Chapter 15

BC

Use **Red Hat Lab Environment** to complete the lab. Issue the following commands immediately before step 1:

```
history -c
history -w
```

These commands should be repeated for each user@machine prompt. See boxes below.

Paste a screenshot in the box below of the command output from the command below. Include the command itself in the screenshot:

`lab grade fs-review`

```
[student@workstation ~]$ lab grade fs-review

Grading lab.

 · Checking lab systems ..................................................... SUCCESS
 · Verifying that /dev/vdb1 is mounted ...................................... SUCCESS
 · Verifying disk usage report of /usr/share ................................ SUCCESS
 · Verifying search result of rsyslog.conf .................................. SUCCESS
 · Verifying search results of find command ................................. SUCCESS

Overall lab grade: PASS
```

Issue the command `history` after the last step for root@serverb. Paste a screenshot of the history in the proper box below. Include the command itself and the full history of commands.

root@serverb

```
[root@serverb ~]# history
    1  history -w
    2  lsblk -fp /dev/vdb
    3  mkdir /mnt/freespace
    4  mount UUID="ab06e797-2ffd-4494-97af-d3aff113e2cb" /mnt/freespace
    5  lsblk -fp /dev/vdb1
    6  du /usr/share > /mnt/freespace/results.txt
    7  updatedb
    8  locate rsyslog.conf > /mnt/freespace/search1.txt
    9  find /usr/share -size +50M -size -100M > /mnt/freespace/search2.txt
   10  history
```

Lab Manual

Use the VirtualBox RHELv9 virtual machine for this lab. Do not use the Red Hat Lab Environment. Issue the following commands in the Terminal window before starting the lab on the next page:

```
history -c
history -w
```

Repeat these commands for root@RHELv8 if necessary.

Paste the results of the history command in the box at the end of the lab.

Lab 24: Finding Files

1. Display all files with the word hostname in the file name.
2. Display all files with the word hostname in the file name regardless of case (small or capital letters).
3. Find the file hostname in the /etc directory while redirecting the error stream to discard any error messages.
4. Find all files in /etc which were modified less than 2 days ago.
5. Find all files in /etc which were modified less than 30 minutes ago.
6. Display all files larger than 8 MB in size.
7. Create an empty file named *sample* in your home directory.
8. Find all empty files in your home directory.
9. Display all directories in your home directory.
10. Display all the files in /etc directory structure that end in .conf.
11. Limit the depth of the above command to only one directory deep.
12. Find all the files starting with hosts in the /etc directory structure and display detailed information about them (long listing).
13. Copy all files in /etc that have the conf extension to your home directory.
14. Find all the files in your home directory that end in .conf and delete them with using one line.

```
student@localhost:~$ history
    1  locate hostname
    2  locate -i hostname
    3  find /etc -name hostname 2>/dev/null
    4  locate /etc/hostname 2>/dev/null
    4  sudo find /etc -mtime -2
    5  sudo find /etc -mmin -30
    6  sudo find / -size +8M
    7  touch sample
    8  sudo find /home/student -type f -empty
    9  find /home/student/* -type d
   10  sudo find /etc -type f -name "*.conf"
   11  find /etc -maxdepth 1 -type f -name "*.conf"
   12  sudo find /etc -type f -name "hosts*" -ls
   13  sudo cp $(find /etc -type f -name "*.conf") /home/student
   14  sudo find . -name "*.conf" -delete
   15  history
```

Lab 25: Creating Partitions & Mounting File Systems

Before starting this exercise, add a second hard drive to your RHELv9 machine. Shut down your machine. Right-click the VM and select Settings. Click the Add button and click Next. Select SATA and click Next. Create a new 25 GB virtual disk stored as a single file. Be sure to click the folder to select an appropriate location to store your new hard. Click Finish. Switch to the root account and clear the history.

1. Display the current partitions. The disk /dev/sdb is the new virtual drive you just created. Use this drive for the following steps.
2. Open fdisk for your new virtual hard disk.
3. Display help.
4. Display the current partition table.
5. Create a new primary partition using partition number 1.
6. Accept the default starting block or sector and change the last sector to create a 200 MB partition.
7. Display the partition table.
8. Save your partition table.
9. Reboot to have the kernel recognize the new partitions.
10. Switch to the root account.
11. Verify the new partition was created using the ls command.
12. Format the partition as an ext4 partition.
13. Create a directory to use as the mount point called /data.
14. Mount the new partition to the created directory.
15. Display the UUID for the new partition. Use it in the next step.
16. Add the new mount to the fstab file using default options.
17. Verify the change.
18. Activate the fstab changes without rebooting.
19. Unmount the /data file system
20. Remount specifying only the mount point.
21. Create a second primary partition. Use the default start and last sectors.
22. Save the changes and reboot.
23. Switch to the root account.
24. Change the partition type for the second primary partition to use as a swap partition. Write your changes to disk.
25. Verify the new partitions have been created in /dev.
26. Format the partition as swap space with a name of myswap.
27. View the current swap space for the system.
28. Add the new swap partition to the current swap space.
29. View the current swap space for the system.
30. Display the UUID for the new swap partition. Use it in the next step.
31. Edit fstab so the new swap partition is enabled automatically at boot.
32. Verify your changes.
33. Instead of rebooting, test the new entry in fstab by viewing which swap spaces are currently being used.

34. Remove the partition from swap space.
35. View swap spaces again.
36. Reactivate the swap space to test the new entry.
37. View swap spaces once again. Note: Steps 33-37 test the new swap space. If you had made any errors, and rebooted, your system may have been unbootable.
38. Create a 100 MB file of all zeroes called swapfile.
39. Convert swapfile into a swap file.
40. Add swapfile to the current swap space.
41. Verify the new swap space.
42. Edit the fstab file so the new swap file is automatically enabled at boot.
43. Verify the changes in the fstab file
44. View the swap space.
45. Instead of rebooting, remove the swap file from swap space.
46. View swap spaces
47. Reactivate the swap space.
48. View the swap space again to verify.

Steps 1-15:

```
root@localhost:~# history
    1  fdisk -l
    2  fdisk /dev/sdb
    3 (m)
    4 (p) fdisk -l /dev/sdb
    5 (n)
    6 (enter) + (+200M)
    7 (p)
    8 (w)
    9  systemctl reboot
   10 sudo -i
   11  ls /dev/sd*
```

Step 16: fstab line

```
   16  vim /etc/fstab  UUID=1b0e4236-6250-4e57-8a8f-691c7e56258c /data ext4    defaults        0 0
```

Steps 17-30:

```
   17  mount
   18  mount -o remount /data
   19  umount /data
   20  mount /dev/sdb1
   21  parted /dev/sdb
   22  systemctl reboot
   23  sudo -i
   24  gdisk /dev/sdb
   25  ls /dev
   26  swapon /myswap
   27  chmod 600 /myswap
```

Step 31: fstab line

```
   31 vim /etc/fstab  UUID=09b5292a-e7a2-44ff-a8d3-ec24dcf32589     swap       swap       defaults       0 0
```

Steps 32-41:

```
32  swapon
33  swapon -s
34  swapoff /myswap
35  swapon -s
36  swapon -a
37  swapon -s
38  dd if=/dev/zero of=/var/swapfile bs=100M count=100
39  mkswap /var/swapfile
40  swapon /var/swapfile
41  chmod 600 /var/swapfile
42  swapon /var/swapfile
```

Step 42: fstab line

```
42 vim /etc/fstab  UUID=69beada0-1897-47a9-9eb7-1d1ea5a2f15e     swap       swap       defaults       0 0
```

Steps 43-48:

```
43  swapon /var/swapfile
44  mount -a
45  swapon
46  free --mega
47  swapoff /var/swapfile
48  free --mega
49  swapon /var/swapfile
50  free --mega
```