

## Practical exercise 4-3: Managing Files and Directories

This Practical Exercise will take students through the process of making and removing files and directories, and monitoring log files with different commands.

Open VirtualBox and start the openSUSE VM. Run snapshot 4-1 for the correctly configured environment. To run snapshot 4-1:

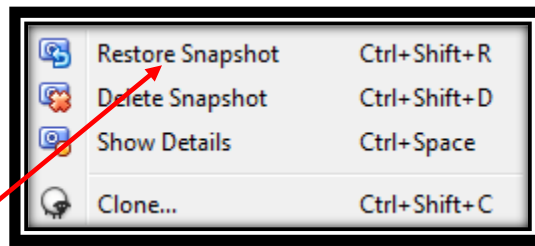
1. Open the Oracle VM VirtualBox manager by double clicking this icon on your desktop:



2. Click "Snapshots" in the top right of the Oracle VM Virtualbox Manager.



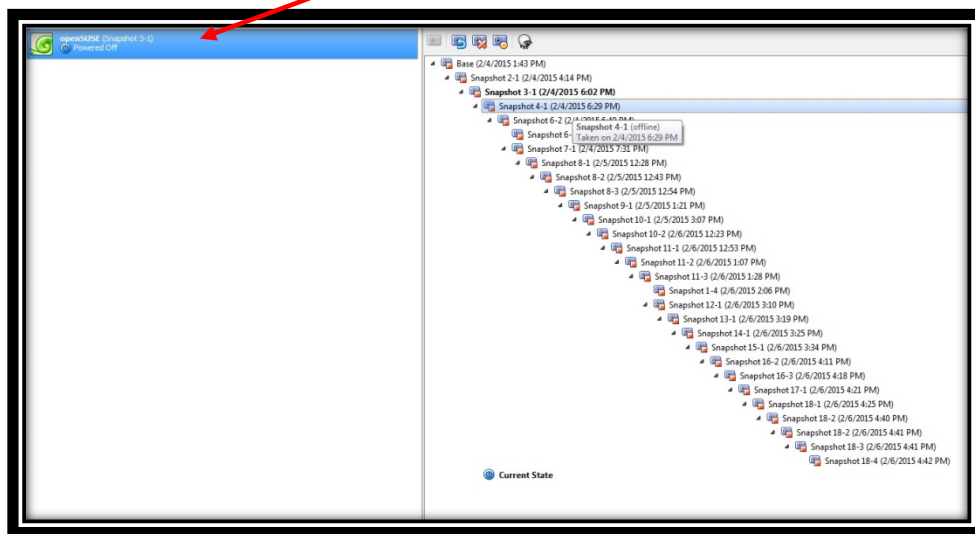
3. In the right side box populated with snapshots scroll up and find the one titled "Snapshot 3-1" and right click on it. The following box should appear:



4. Select "Restore Snapshot" and the following pop-up should appear:



5. Uncheck the "Create a Snapshot of the current machine state" box and then click the "Restore" button. If the pop up box does not have the check box, just click "Restore."
6. You should now see in the left box the openSUSE (Snapshot 4-1) with a status of "Powered Off." Power it on by double clicking it.



7. A separate window should open and you should see the openSUSE Linux OS booting.

8. Log in as the user student with the password: **student**; then press CTRL+ALT+F1.
9. At your login prompt, authenticate to the system as the user: **student** and password: **student** again.
10. Create a new directory in your home directory by entering **mkdir MyFiles**.
11. Enter **ls** and verify that the new directory exists.
12. Create a new file in the MyFiles directory called myfile.txt by entering **touch ~/MyFiles/myfile.txt**.
13. Enter **ls ~/MyFiles** and verify that the file exists.
14. Change to your root user account by entering **su -** and entering a password of **student**.
15. View your system log file by entering **cat /var/log/messages | more**.
16. Page through a few pages of the file and then press **ctrl-c** to break out to the shell prompt.
17. View the last few entries in the log file by entering **tail /var/log/messages**.
18. Monitor your /var/log/messages log file while you stop and start services by doing the following:
  - a. At the shell prompt, enter **tail -f /var/log/messages**. You should see that the log file is now being monitored by tail.
  - b. Open a new terminal window and switch to your root user account using the **su -** command and your root user's password.
  - c. Disable your system's network card by entering **ifdown enp0s3** at the shell prompt.
  - d. Switch to the terminal session where tail is running. You should see new lines added to the file as the network board is disabled.
  - e. Switch back to the second shell prompt and enter **systemctl restart network**. Again, you should see new lines added to the file as the network board is re-enabled in the first terminal window.

- f. Enter **exit** twice to close the second terminal window.
  - g. Switch to the terminal session where tail is running and press **ctrl-c** to break out of tail.
- 19.** Switch back to your regular user account by entering **exit**.
- 20.** Delete the MyFiles directory in your home directory by entering **rm -r ~/MyFiles**.
- 21.** Enter **ls** and verify that the directory and its contents are gone.
- 22.** Make a copy of your home directory files and subdirectories in /tmp by entering **cp -R ~/tmp**.
- 23.** View the contents of /tmp by entering **ls /tmp**. Verify that your home directory was copied.
- 24.** Work with symbolic links by doing the following:
- a. Create a symbolic link from a directory named docs in your home directory to the /usr/share/doc directory by entering **ln -s /usr/share/doc/ ~/docs**.
  - b. Enter **ls -l**. Verify that the docs file points to /usr/share/doc/.
  - c. Enter **cd docs**.
  - d. Enter **pwd**. What directory are you in?
  - e. Enter **ls**. You should see the contents of the /usr/share/doc/ directory even though you are still in ~/docs.

**--End of Practical Exercise--**