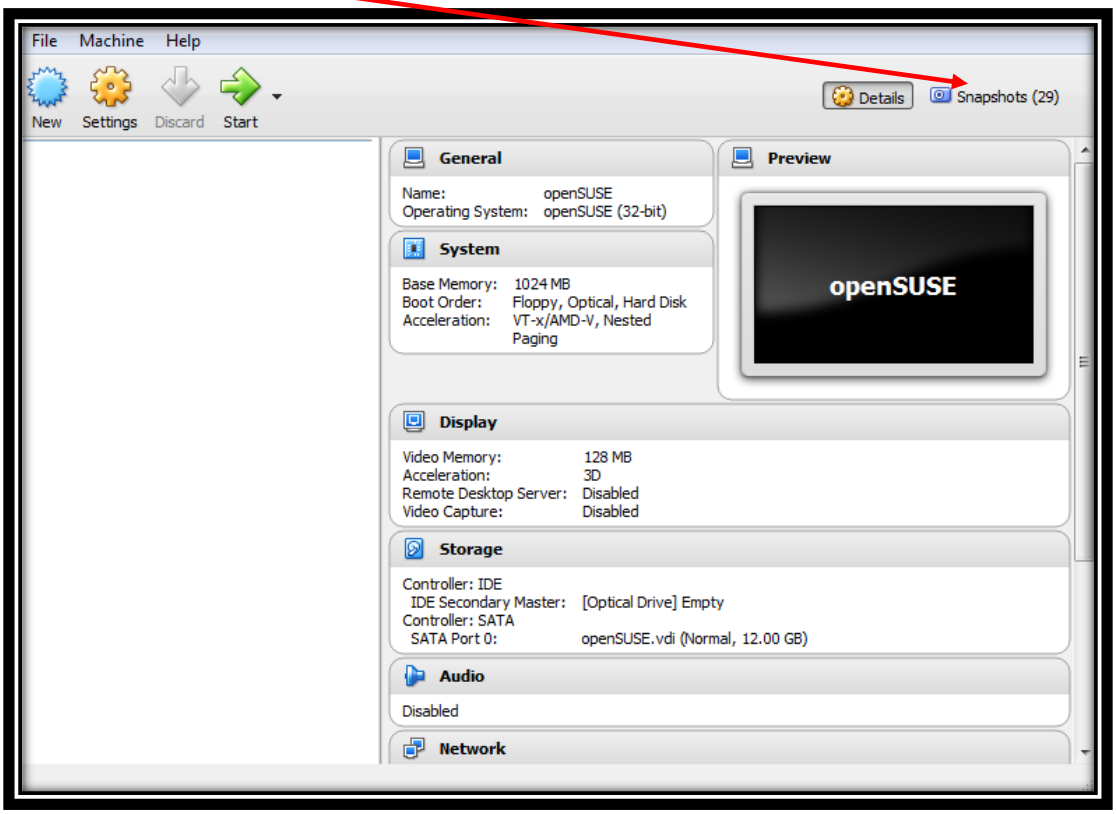
Practical Exercise 8-2: Scheduling Linux Processes

This Practical Exercise will take students through the process of scheduling processes to run in the future through the use of the cron utility.

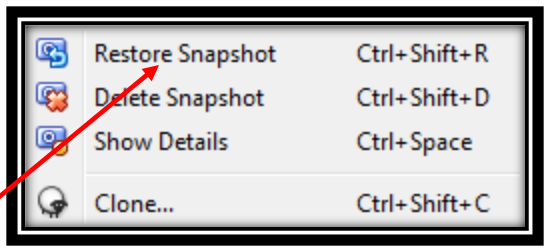
Open VirtualBox and start the openSUSE VM. Run snapshot 13-1 for the correctly configured environment. To run snapshot 13-1:

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

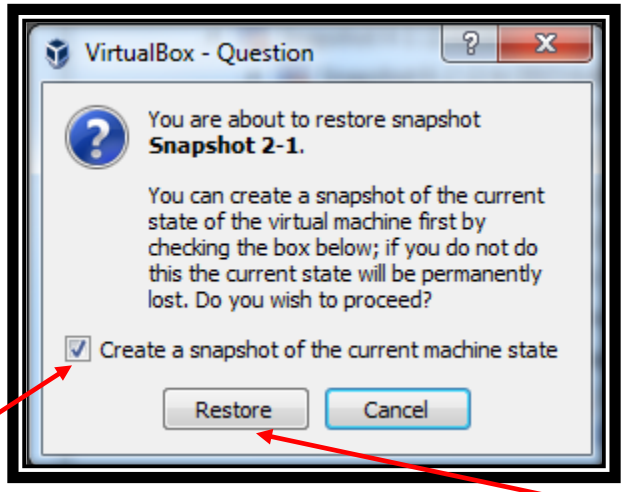
2. Click "Snapshots" in the top right of the Oracle VM Virtualbox Manager.



3. In the right side box populated with snapshots scroll up and find the one titled "Snapshot 13-1" and right click on it. The following box should appear:

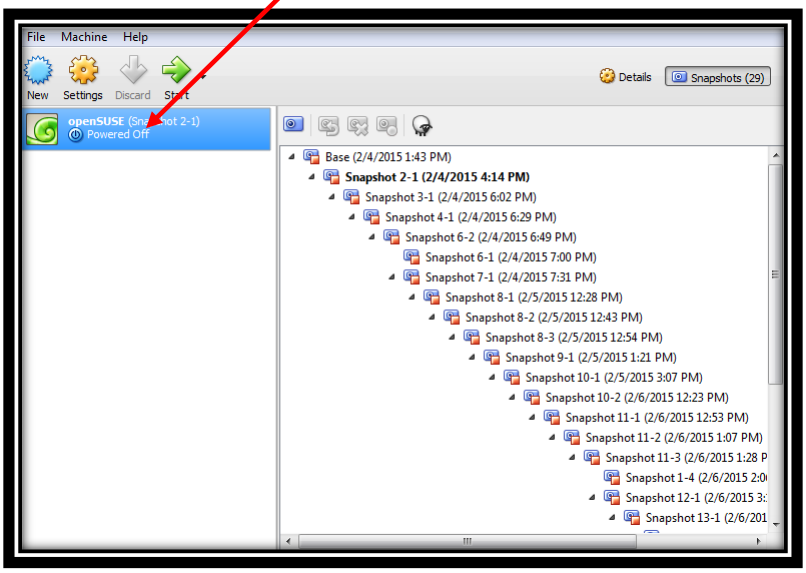


4. Select "Restore Snapshot" and the following pop-up should appear:



5. Uncheck the "Create a Snapshot of the current machine state" box and then click the "Restore" button.

6. You should now see in the left box the openSUSE (Snapshot 13-1) 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. Press **CTRL+ALT+F1** and log in with the username: **root** and the password: **student**.

9. Practice using the at daemon by doing the following:

    a. At the shell prompt, enter **systemctl status atd**.

    b. Verify that the at daemon is running. If it isn't, enter **systemctl start atd** at the shell prompt.

    c. At the shell prompt, enter **at now +5 minutes**.

    d. At the at prompt, enter **ps –ef > ~/psoutput.txt**.

    e. Press **CTRL-D**.

    f. Generate a listing of pending at jobs by entering **atq**. You should see the job you just created.

    g. Wait for the pending at job to complete.

    h. Enter **cat ~/psoutput.txt** and verify that the output from the ps command was generated correctly.

    i. At the shell prompt, enter **at 2 pm tomorrow**.

    j. At the at prompt, enter **ps –ef > ~/psoutput.txt**.

    k. Press **CTRL-D**.

    l. Generate a listing of pending at jobs by entering **atq**. You should see the job you just created. Note its job number.

    m. Remove the pending job by entering **atrm job_number** (The job number from the last step).

    n. Enter **atq** again. The pending job should be gone.

10. Practice using cron by completing the following:

a. Log out of your root user account by entering **exit**.

b. Log into the student account with the username: **student** and password: **student**.

c. At the shell prompt, enter **crontab –e**.

d. Press **INSERT**.

e. Configure your system to create a backup of your user's home directory every day at 5:05 p.m. by entering the following:

05 17 * * * /bin/tar –cvf ~/mybackup.tar ~/

f. If you don't want to wait until 5:05 p.m., you could instead specify a time value that is only two or three minutes in the future.

g. Press **ESC**.

h. Enter **:wq**. You should see a message on the screen indicating that a new crontab has been installed.

i. Enter **crontab –l** and verify that the job was created correctly.

j. Wait until the time you specified in the crontab file; then check your user's home directory and verify that the mybackup.tar file was created.

k. Remove your user's crontab file by entering **crontab –r** at the shell prompt.

--End of Practical Exercise--