

Lab 2: Learning Snapshot Feature in VirtualBox

Objectives

1. Understand the concept of snapshots in VirtualBox.
2. Create files and directories inside a Linux virtual machine.
3. Take a snapshot of the VM's current state.
4. Modify and delete data after snapshot creation.
5. Restore the VM to a previous snapshot state.
6. Validate data recovery after restoration.

Tools and Technologies Used

1. Oracle VirtualBox
2. Ubuntu Linux Virtual Machine
3. Terminal / Bash Shell

Procedure

Step 1: Access Local Ubuntu Virtual Machine

1. Start the Ubuntu VM in VirtualBox.
2. Open the Terminal.
3. Go to local vm

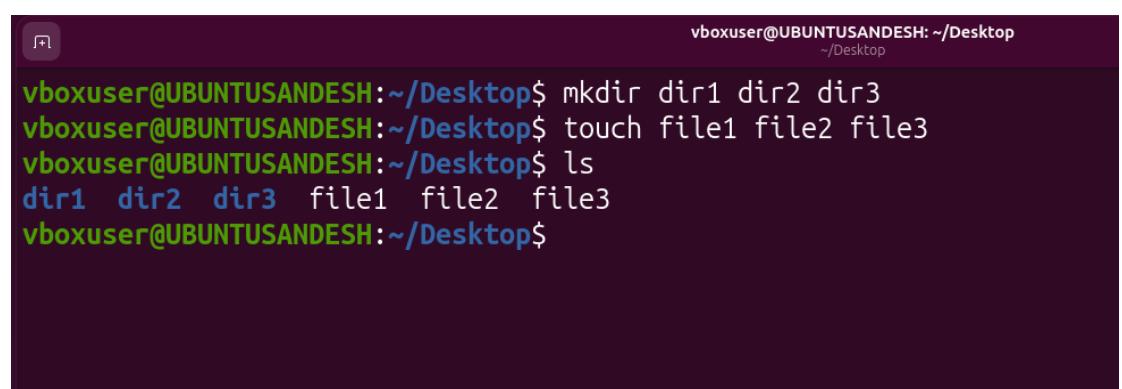
- a. Create a directory

```
Mkdir dir1 dir2 dir3
```

- b. Create some files

```
Touch file1 file2 file3
```

```
Create snapshot
```



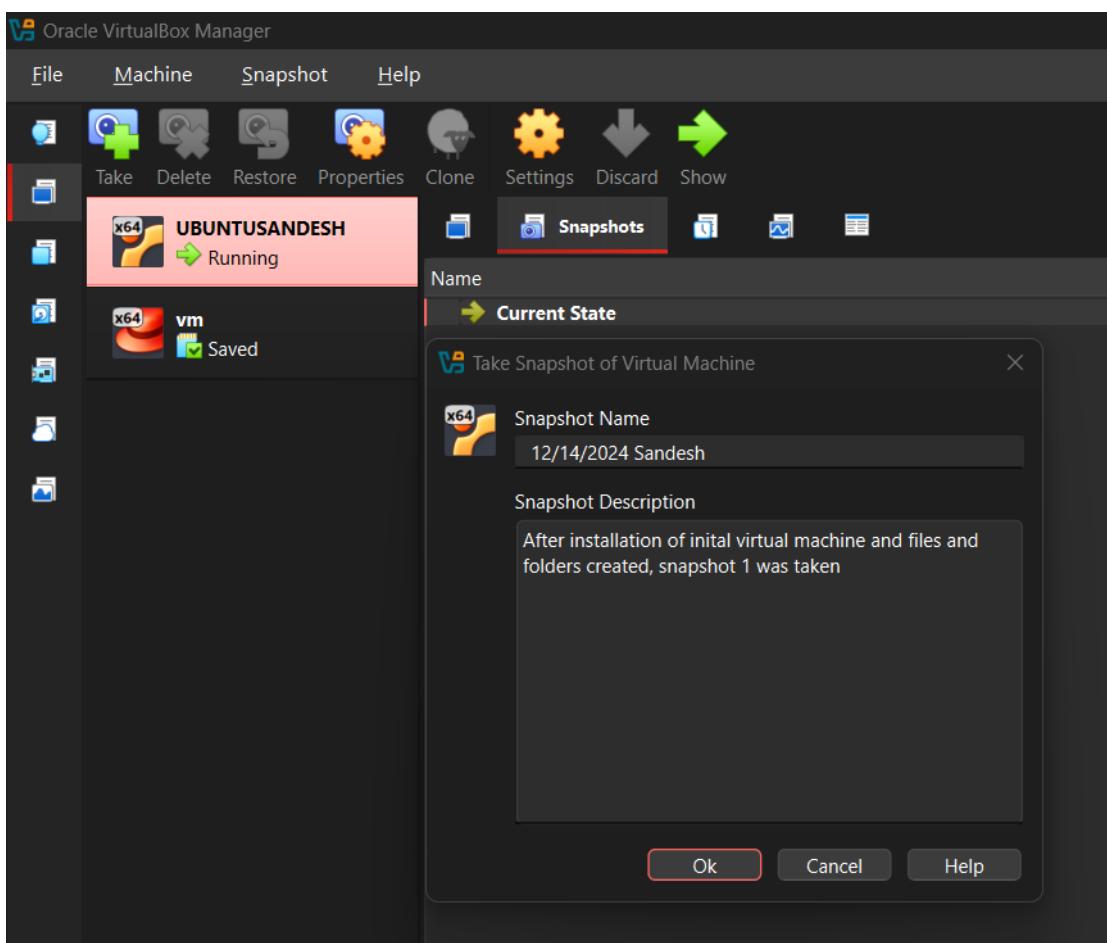
The screenshot shows a terminal window with a dark background and light-colored text. At the top, it says "vboxuser@UBUNTUSANDESH: ~/Desktop". The user has run several commands:

```
vboxuser@UBUNTUSANDESH:~/Desktop$ mkdir dir1 dir2 dir3
vboxuser@UBUNTUSANDESH:~/Desktop$ touch file1 file2 file3
vboxuser@UBUNTUSANDESH:~/Desktop$ ls
dir1 dir2 dir3 file1 file2 file3
vboxuser@UBUNTUSANDESH:~/Desktop$
```

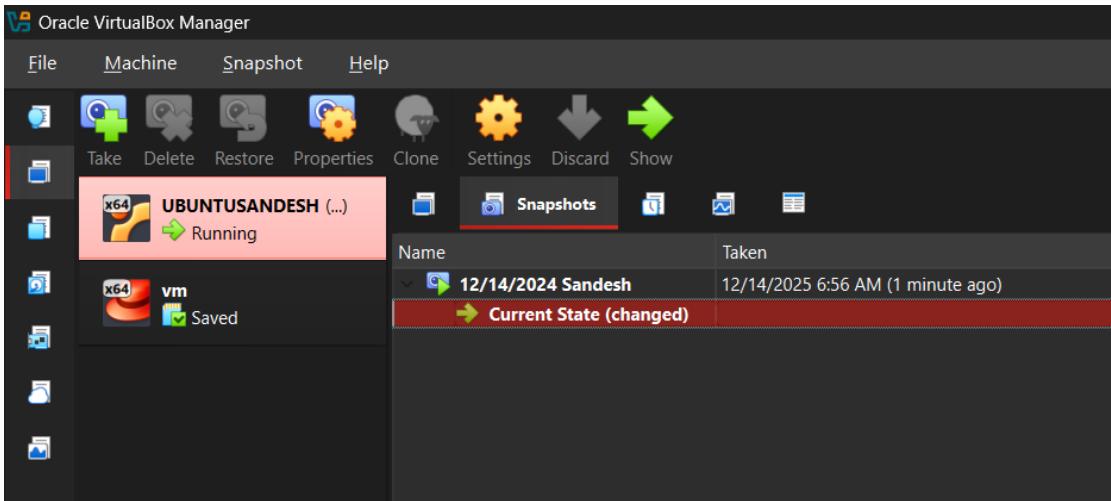
Step 2: Create a Snapshot

1. Power off or keep the VM running (as per VirtualBox settings).
2. In VirtualBox Manager, select the VM.
3. Open the Snapshots section.
4. Click Take Snapshot.
5. Provide:
 - a. Snapshot Name
 - b. Snapshot Description
6. Click OK.

Snapshot is successfully created and saved.



Snapshot done:



Step 3: Delete Files and Directories

Return to the Ubuntu VM terminal and delete all files and folders:

Delete all files from ubuntu:

1. rm -rf *
2. ls

A screenshot of the Ubuntu VM terminal window. The title bar reads "UBUNTUSANDESH (12/14/2024 Sandesh) [Running] - Oracle VirtualBox". The terminal prompt is "vboxuser@UBUNTUSANDESH: ~/Desktop". The user runs the command "rm -rf *", which removes all files and folders in the current directory. Then, they run "ls" to show the empty directory again. The desktop environment icons are visible on the left.

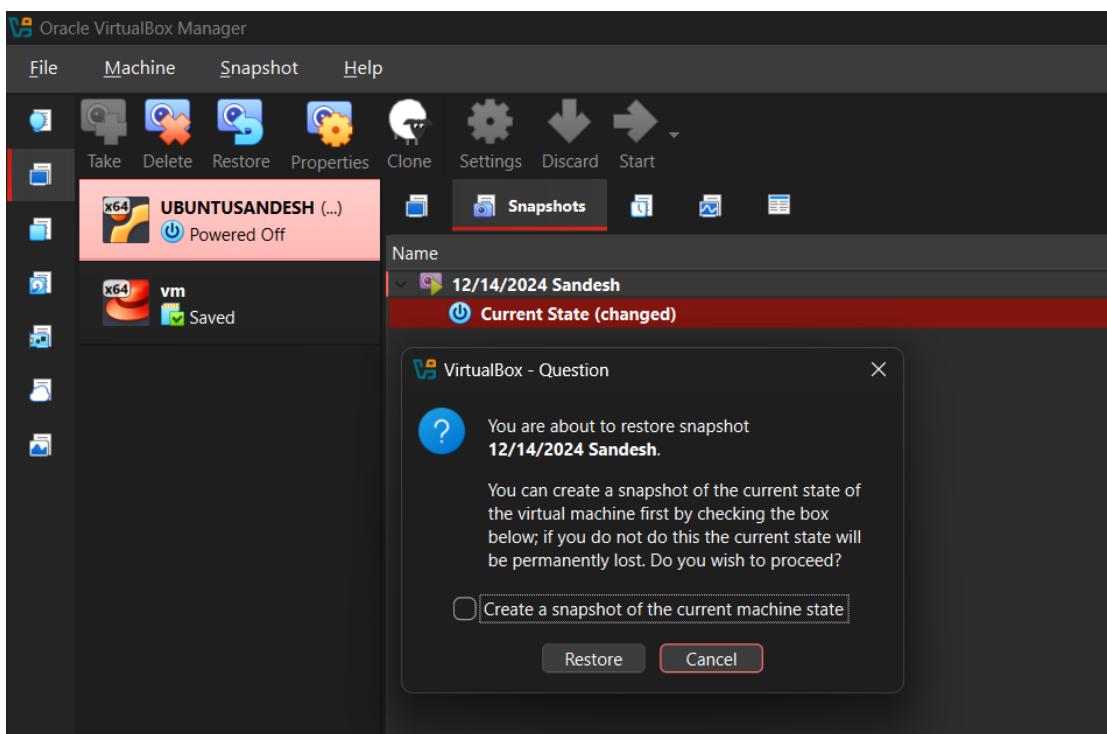
Step 4: Power off the machine

1. Sudo poweroff

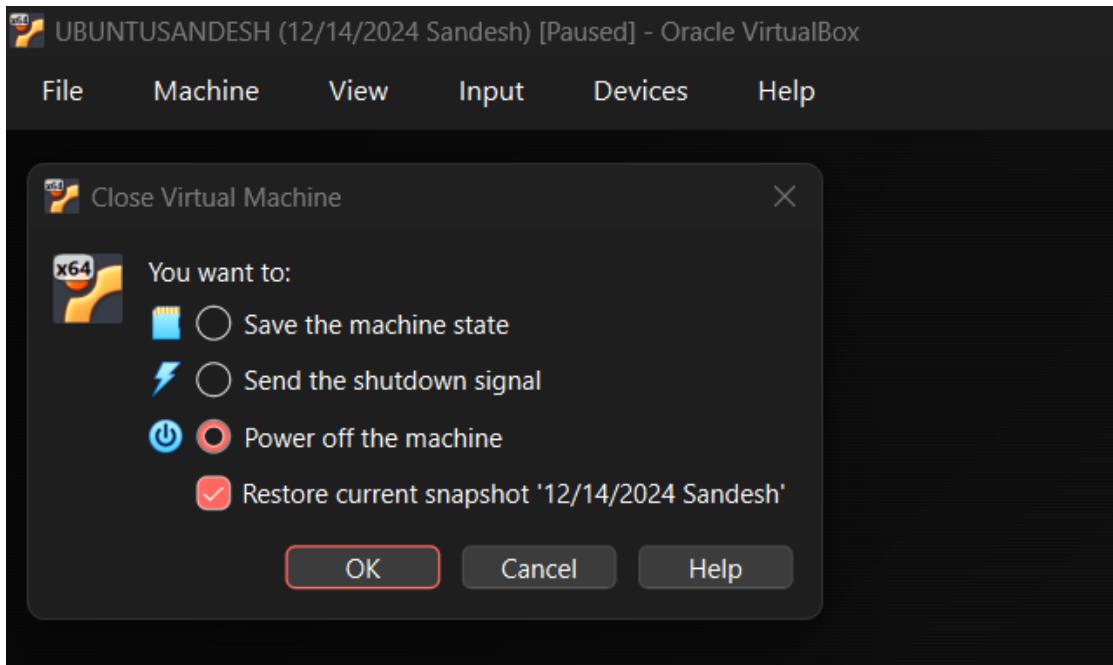
A screenshot of the Ubuntu VM terminal window. The title bar reads "UBUNTUSANDESH (12/14/2024 Sandesh) [Running] - Oracle VirtualBox". The terminal prompt is "vboxuser@UBUNTUSANDESH: ~/Desktop". The user runs the command "sudo poweroff", which initiates a shutdown process. The desktop environment icons are visible on the left.

Step 5: Restore the Snapshot

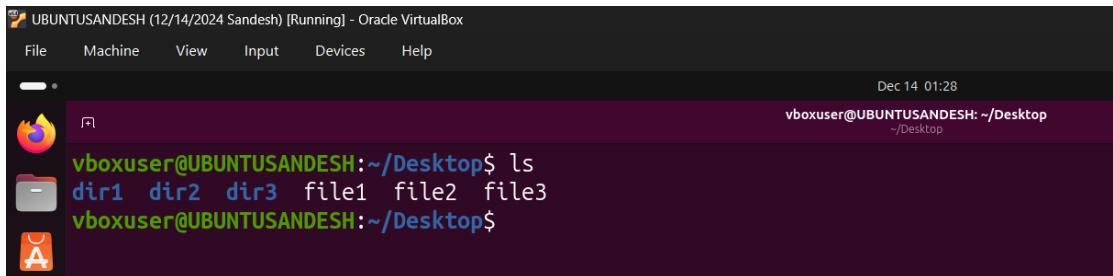
2. Open VirtualBox Manager.
3. Select the VM and go to Snapshots.
4. Choose the previously created snapshot.
5. Click Restore Snapshot.
6. Confirm the restore operation.
7. VirtualBox reverts the VM to the exact state captured in the snapshot.



Step 6: Restore current snapshot



Restored file validation



Conclusion:

This lab demonstrated the snapshot feature in VirtualBox, which allows saving the complete state of a virtual machine at a specific point in time. By restoring the snapshot, all system changes made after snapshot creation were reversed. Snapshots are useful for testing, experimentation, and recovery without affecting the base system configuration.