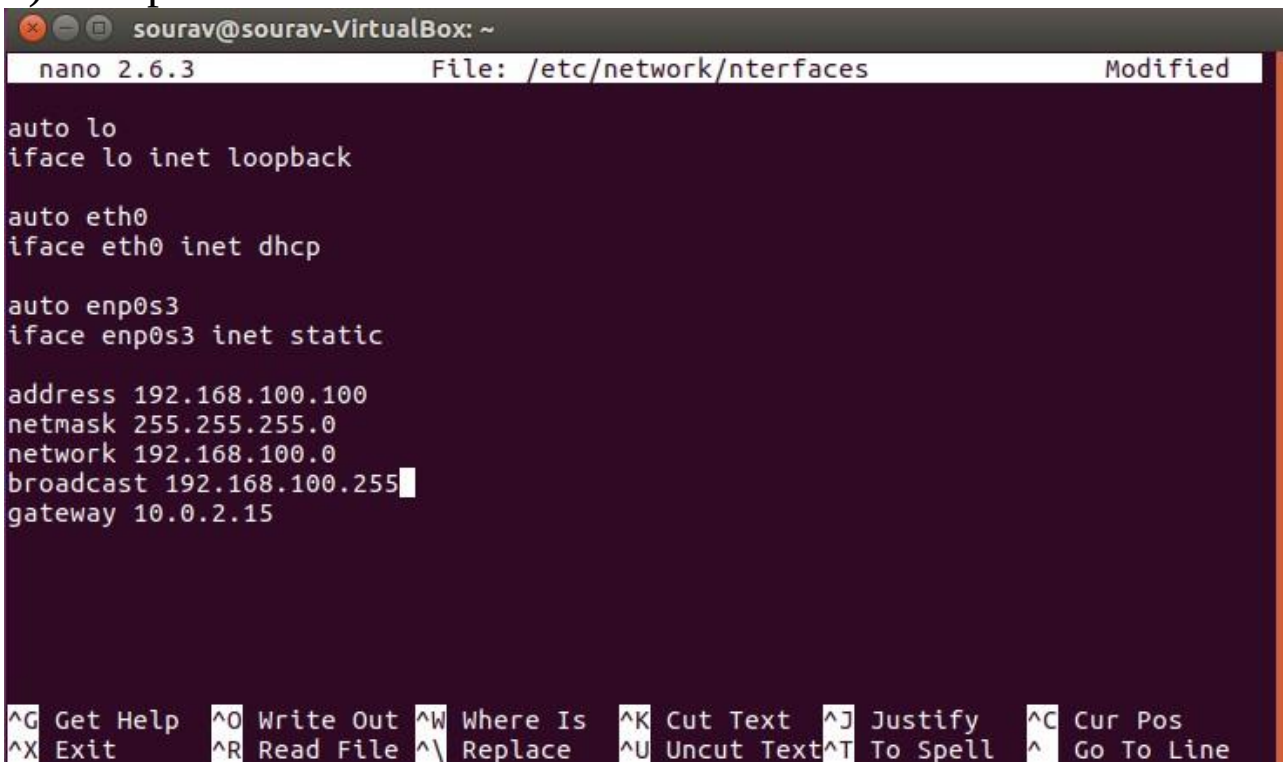
**NFS, or Network File System**, is a distributed file system protocol that allows you to mount remote directories on your server. This lets you manage storage space in a different location and write to that space from multiple clients. NFS provides a relatively quick and easy way to access remote systems over a network and works well in situations where the shared resources will be accessed regularly.

**Aim:** Our aim is to set NFS servers on two virtual machines (Ubuntu Operating system) specifically Ubuntu 16.04.

Before proceeding the 1st step would be ***setting our own ip address*** on two virtual machines .

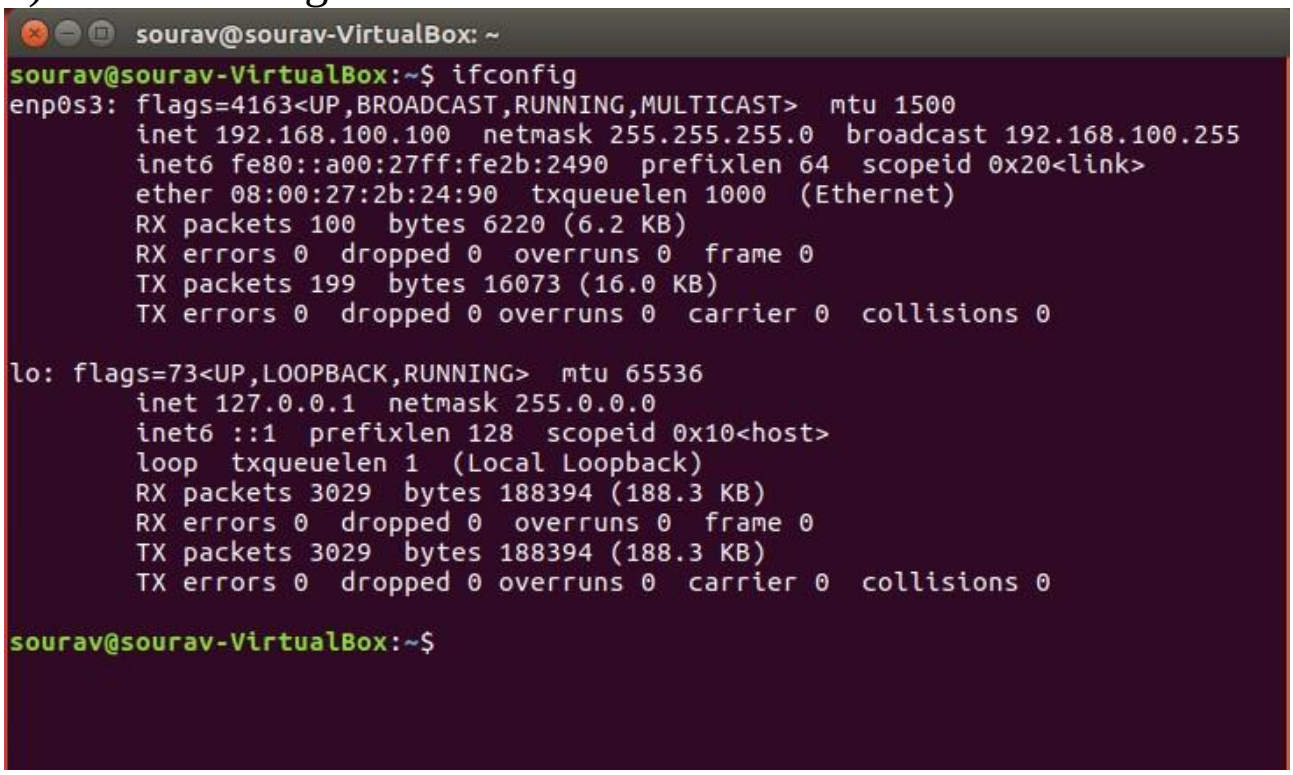
**Host**

1)sudo pico /etc/network/interfaces



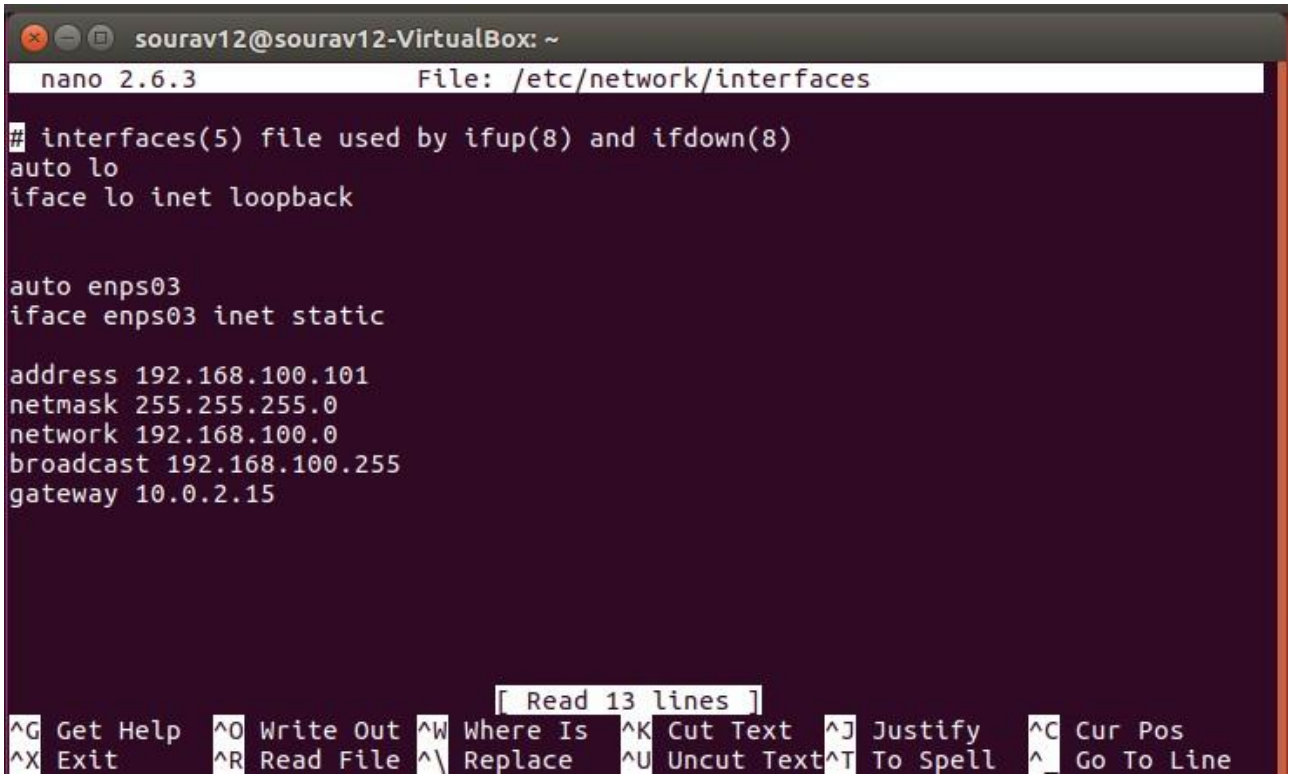
2)sudo service networking

3)restart ifconfig



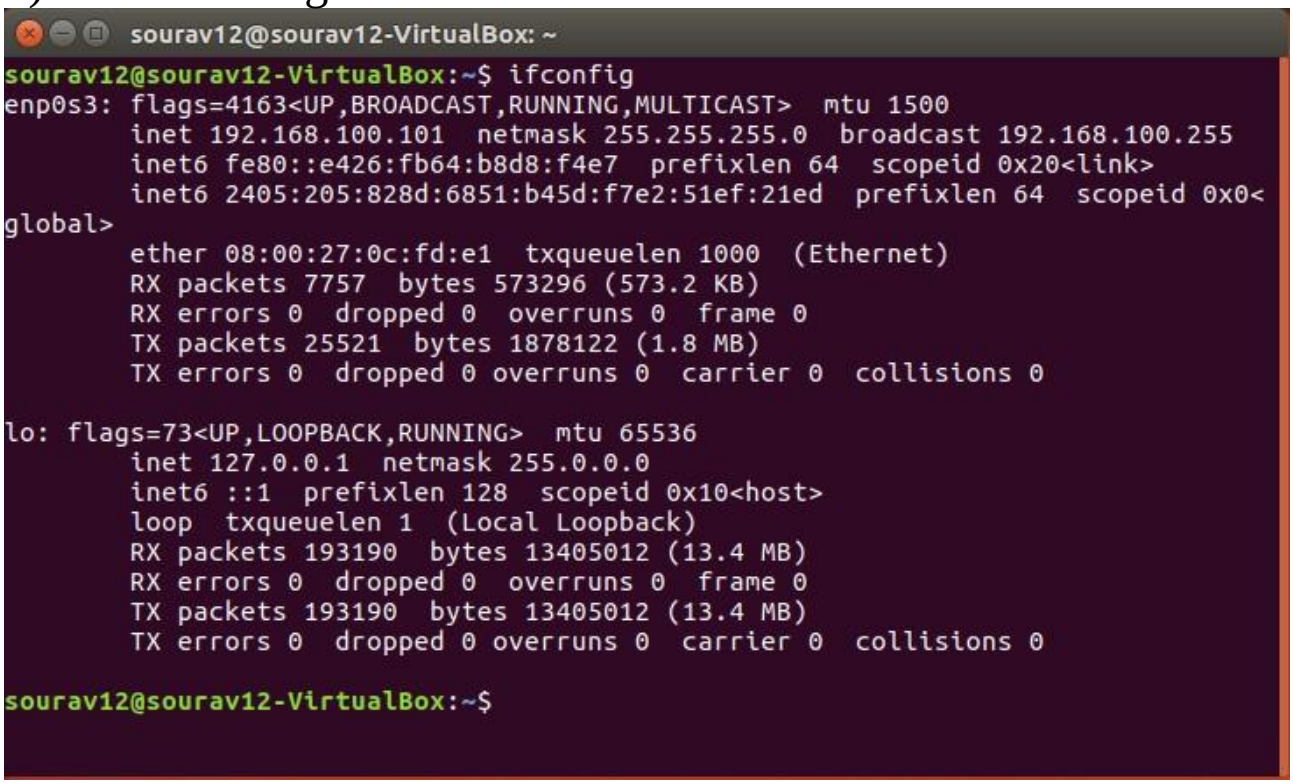

**Client**

1)sudo pico /etc/network/interfaces




2)sudo service networking

3)restart ifconfig

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*Host ip address : 192.168.100.100*

*Client ip address : 192.168.100.101*

**Host**

4)sudo apt get-update

5)sudo apt-get install nfs-kernel-server portmap

```
sourav@sourav-VirtualBox:~$ sudo apt-get install nfs-kernel-server portmap
[sudo] password for sourav:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'rpcbind' instead of 'portmap'
nfs-kernel-server is already the newest version (1:1.2.8-9.2ubuntu1).
rpcbind is already the newest version (0.2.3-0.5).
0 upgraded, 0 newly installed, 0 to remove and 259 not upgraded.
sourav@sourav-VirtualBox:~$
```

6)sudo mkdir /mirror //*making a mirror directory which is also a shared folder for sharing of files between host and client*

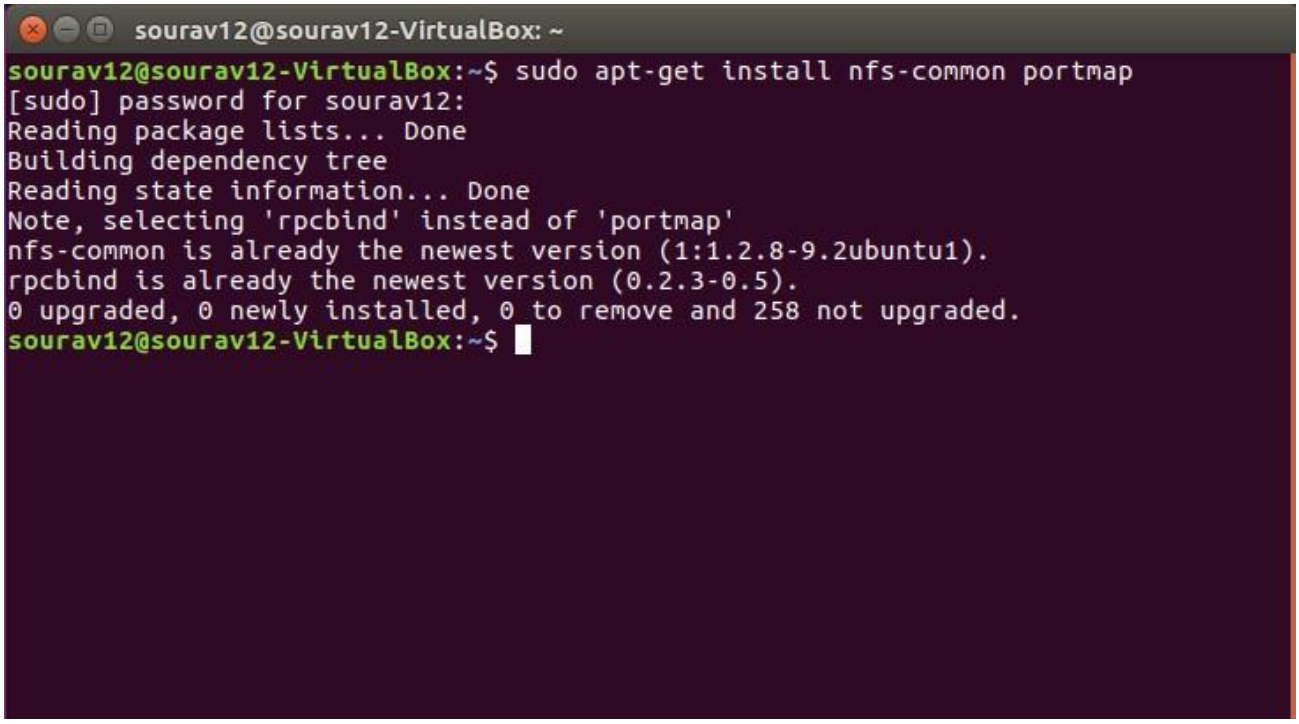
7)sudo chown nobody:nogroup /mirror //*the purpose of this step to change access of our mirror directory to nobody so that it can be accessed by the client computer*

```
sourav@sourav-VirtualBox: /mirror
sourav@sourav-VirtualBox:~$ sudo apt-get install nfs-kernel-server portmap
[sudo] password for sourav:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'rpcbind' instead of 'portmap'
nfs-kernel-server is already the newest version (1:1.2.8-9.2ubuntu1).
rpcbind is already the newest version (0.2.3-0.5).
0 upgraded, 0 newly installed, 0 to remove and 259 not upgraded.
sourav@sourav-VirtualBox:~$ cd mirror
bash: cd: mirror: No such file or directory
sourav@sourav-VirtualBox:~$ cd /mirror
sourav@sourav-VirtualBox:/mirror$ ls
a2         hui.txt  ok          r3.txt      t1.txt  test2.txt  x1.txt
hello.txt  ikj.txt  prayag.txt  sourav.txt  test    test3.txt  zone.txt
sourav@sourav-VirtualBox:/mirror$
```

**Client**

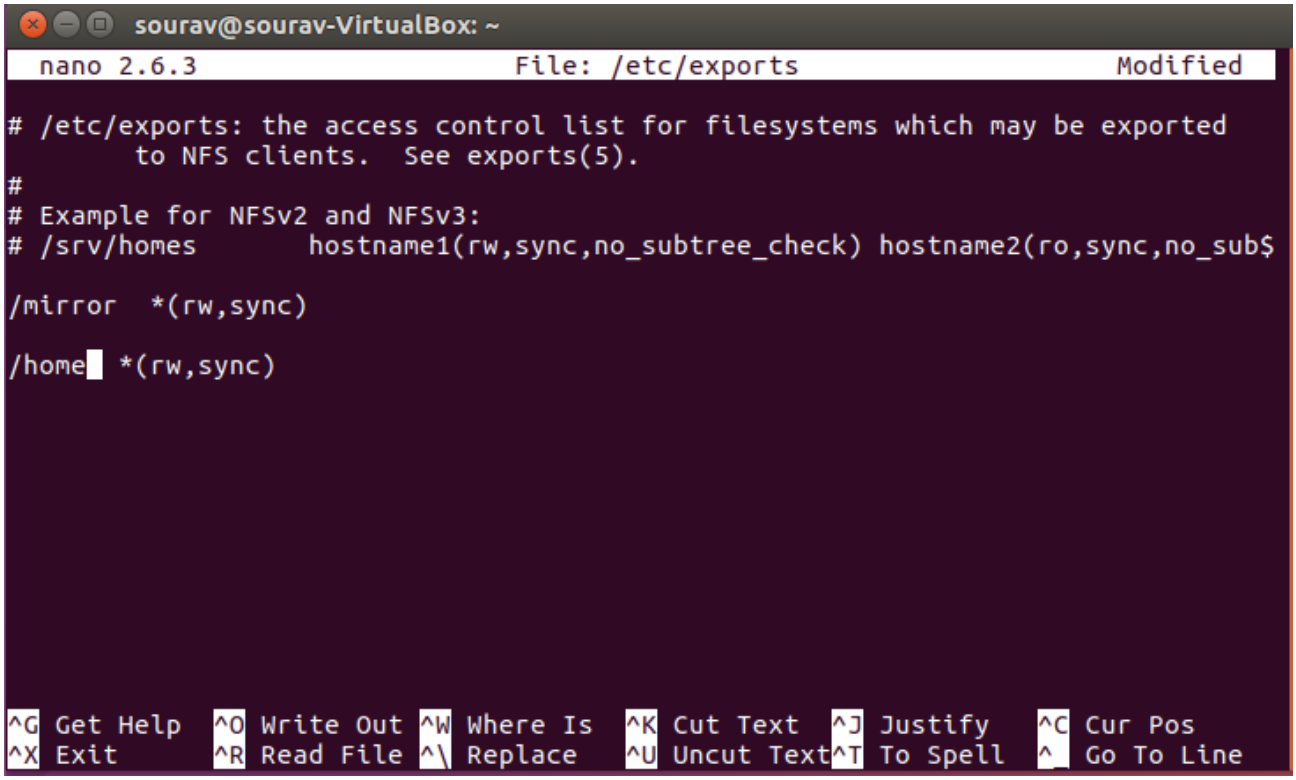
4)sudo apt-get update

5)sudo apt-get install nfs-common portmap




**Host**

8)sudo pico /etc/exports //*here we add the directories which we want to share with the client computer*




**rw**: *This option gives the client computer both read and write access to the volume*.

**sync**: *This option forces NFS to write changes to disk before replying. This results in a more stable and consistent environment since the reply reflects the actual state of the remote volume. However, it also reduces the speed of file operations.*

*Here we have specified the * so that our directory becomes public and any other ip address can mount our directory into itself. If we want to specify that only a particular p address should be allowed to access our directories we can specify the ip address*

9)sudo exportfs -a //*To export our directory to the client computer*

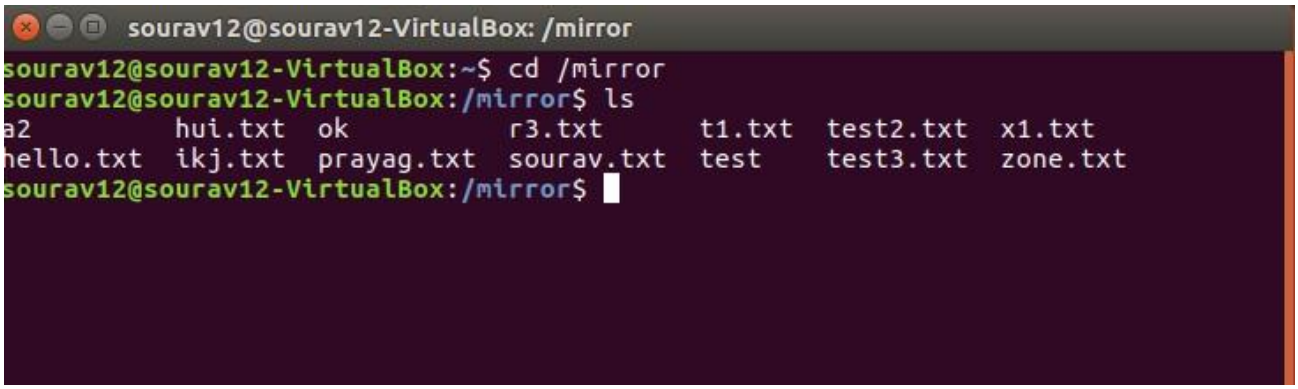
## Client

6)sudo mkdir -p /mirror //*We are making a new directory in the client where we can mount the mirror folder of the mirror folder of the host computer.*

7)sudo mount 192.168.100.100:/mirror /mirror //*mounting the mirror directory of host to client*

8)sudo mount 192.168.100.100:/home /home //*mounting the home directory of host to client*

9)df -h //*To check if our directories our actually mounted or not*




**Host**

10)sudo /etc/init.d/nfs-kernel-server start // *starting up of server*

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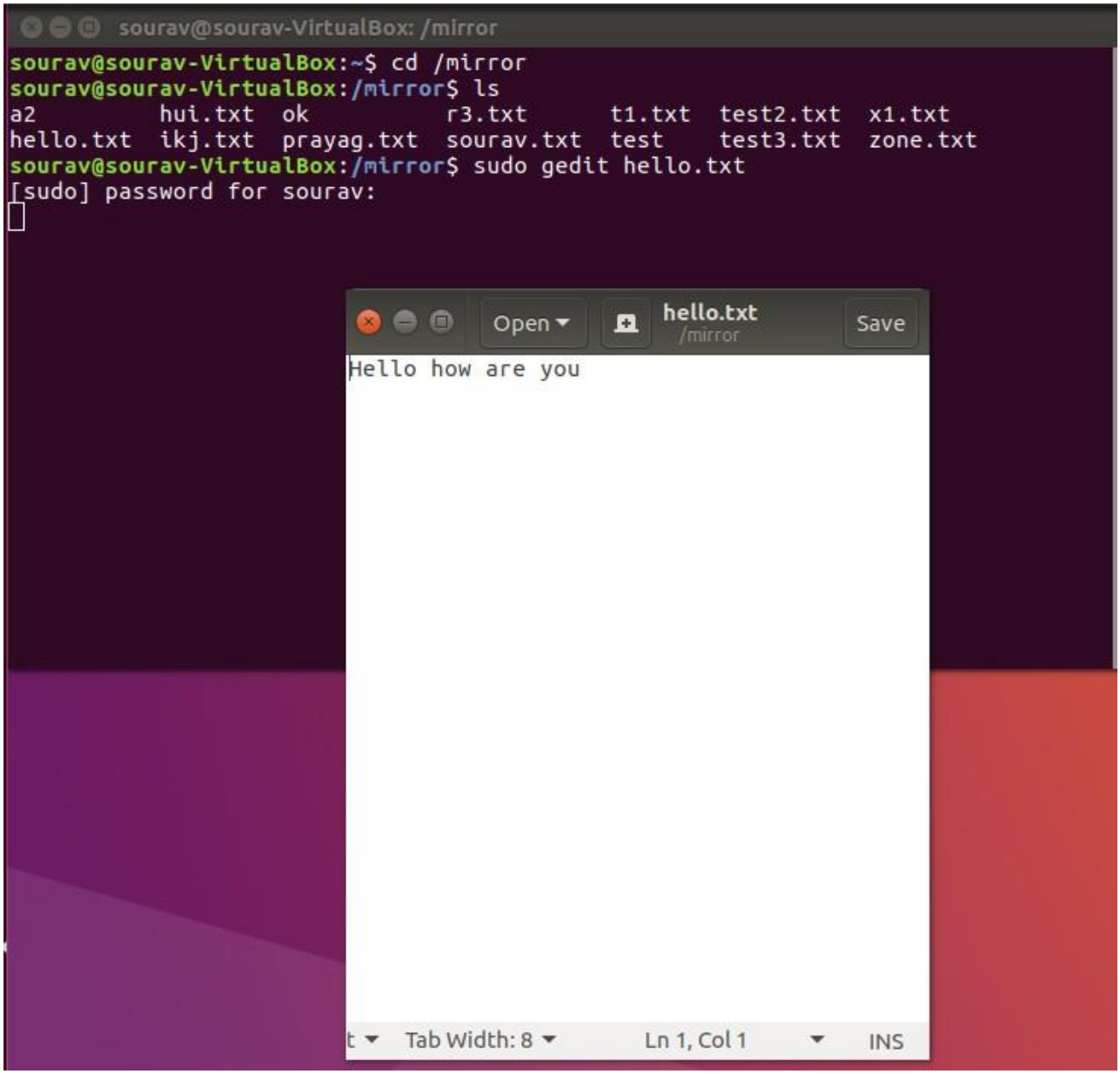
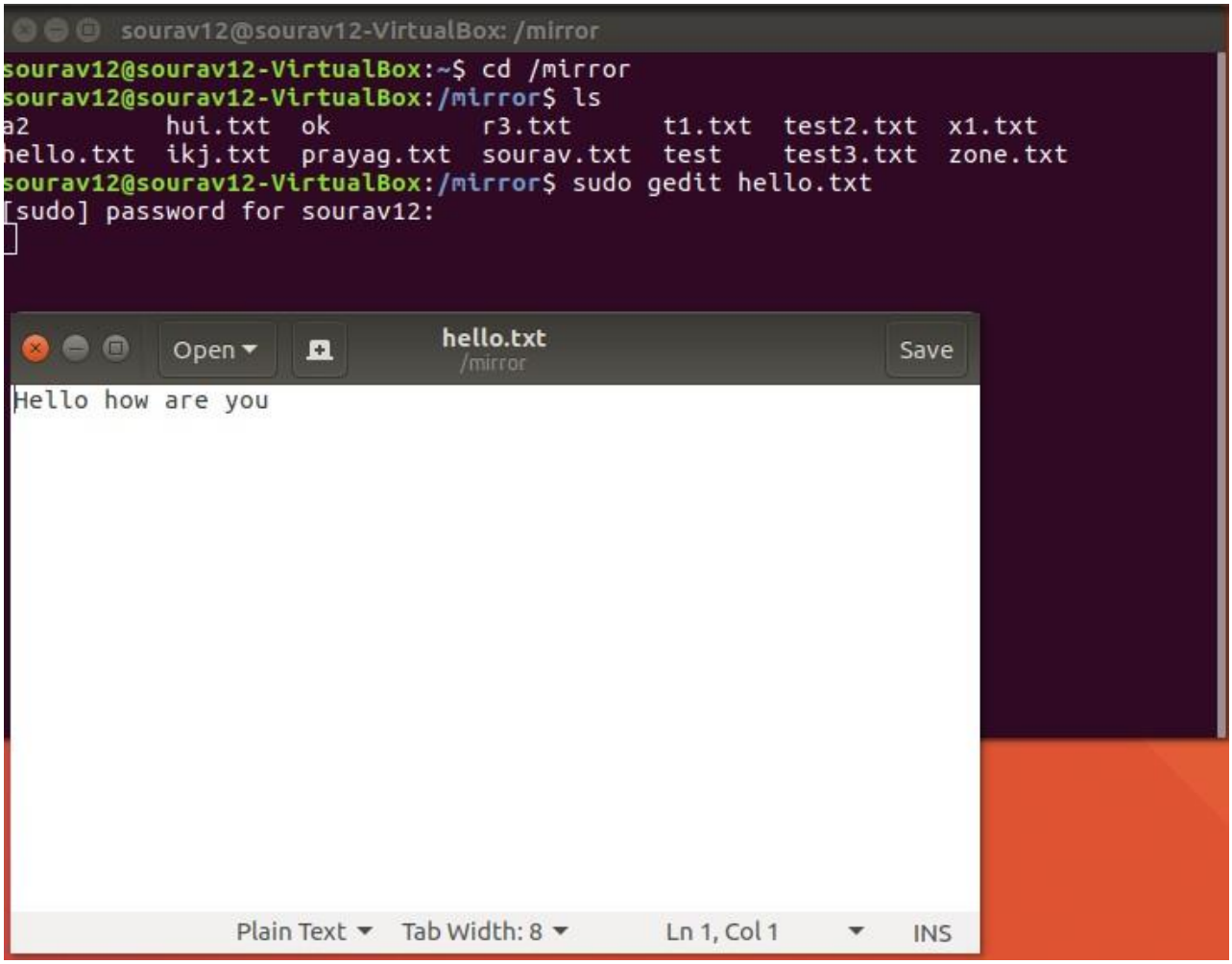

sourav@sourav-VirtualBox: /mirror
sourav@sourav-VirtualBox:~$ cd /mirror
sourav@sourav-VirtualBox:/mirror$ ls
a2 hui.txt ok r3.txt t1.txt test2.txt x1.txt
hello.txt ikj.txt prayag.txt sourav.txt test test3.txt zone.txt
sourav@sourav-VirtualBox:/mirror$ sudo gedit hello.txt
[sudo] password for sourav:
Open
hello.txt
/mirror
Save
Hello how are you
Tab Width: 8
Ln 1, Col 1
INS


sourav12@sourav12-VirtualBox: /mirror
sourav12@sourav12-VirtualBox:~$ cd /mirror
sourav12@sourav12-VirtualBox:/mirror$ ls
a2 hui.txt ok r3.txt t1.txt test2.txt x1.txt
hello.txt ikj.txt prayag.txt sourav.txt test test3.txt zone.txt
sourav12@sourav12-VirtualBox:/mirror$ sudo gedit hello.txt
[sudo] password for sourav12:
Open
hello.txt
/mirror
Save
Hello how are you
Plain Text
Tab Width: 8
Ln 1, Col 1
INS