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Roll No.: A-25

Section: A

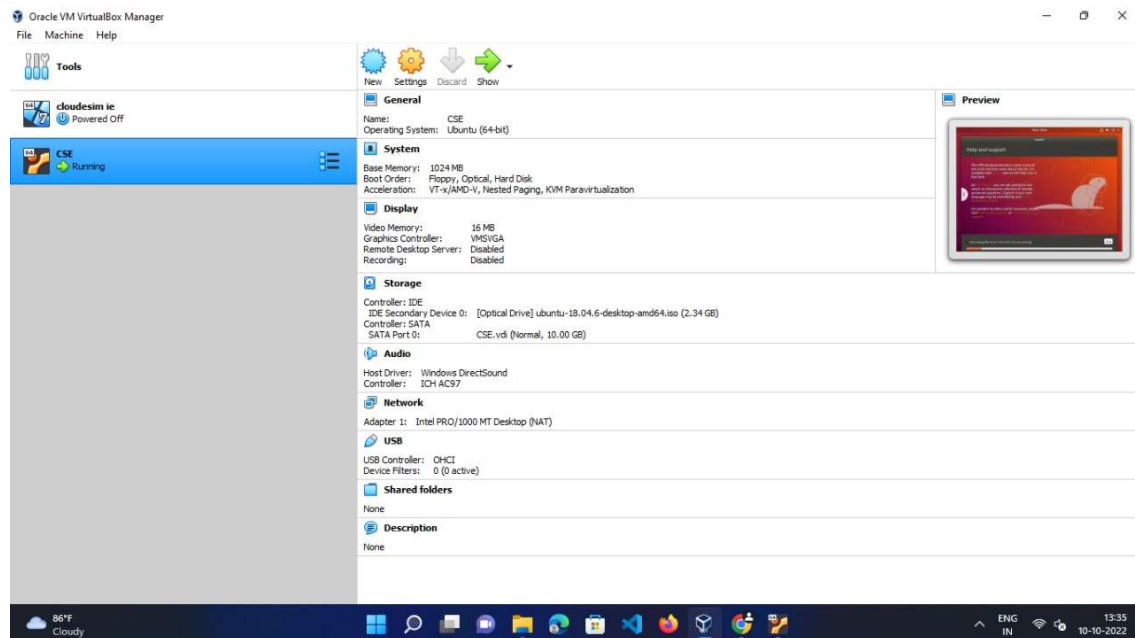
Semester: VII

Shift: I

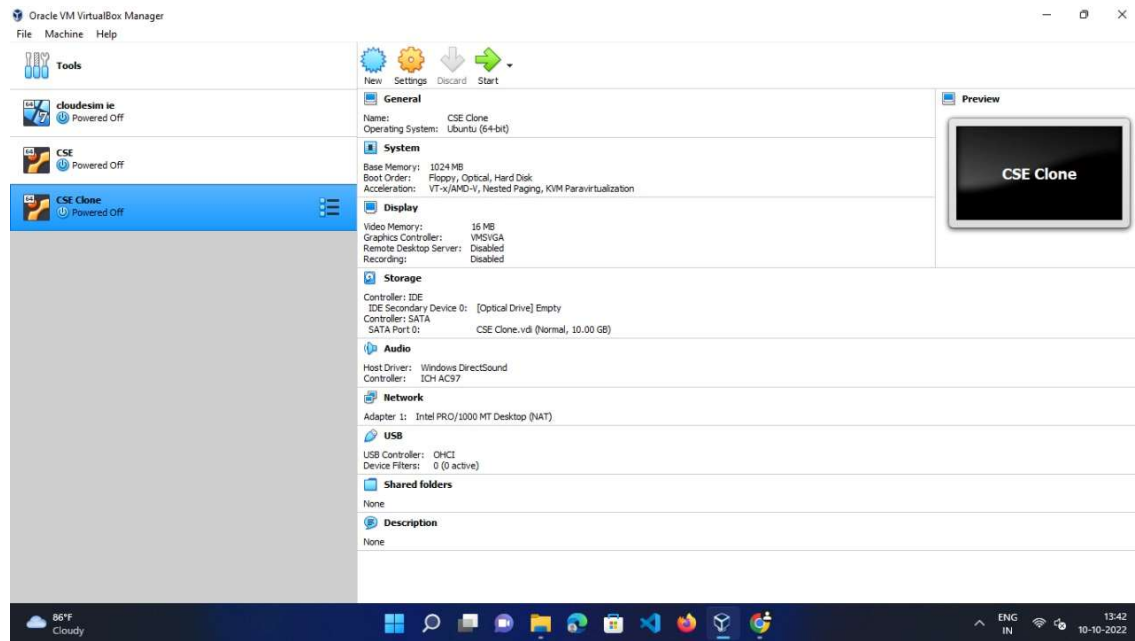
Batch: A1

Aim: To show the Virtual Machine Migration based on the certain condition from one node to the other.

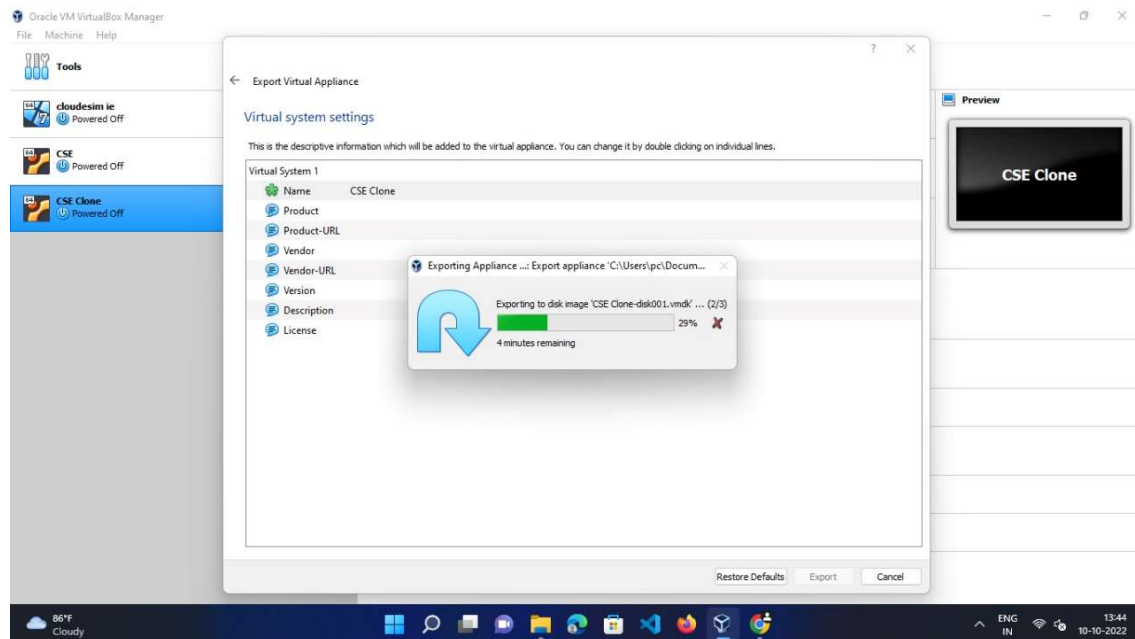
Outputs:



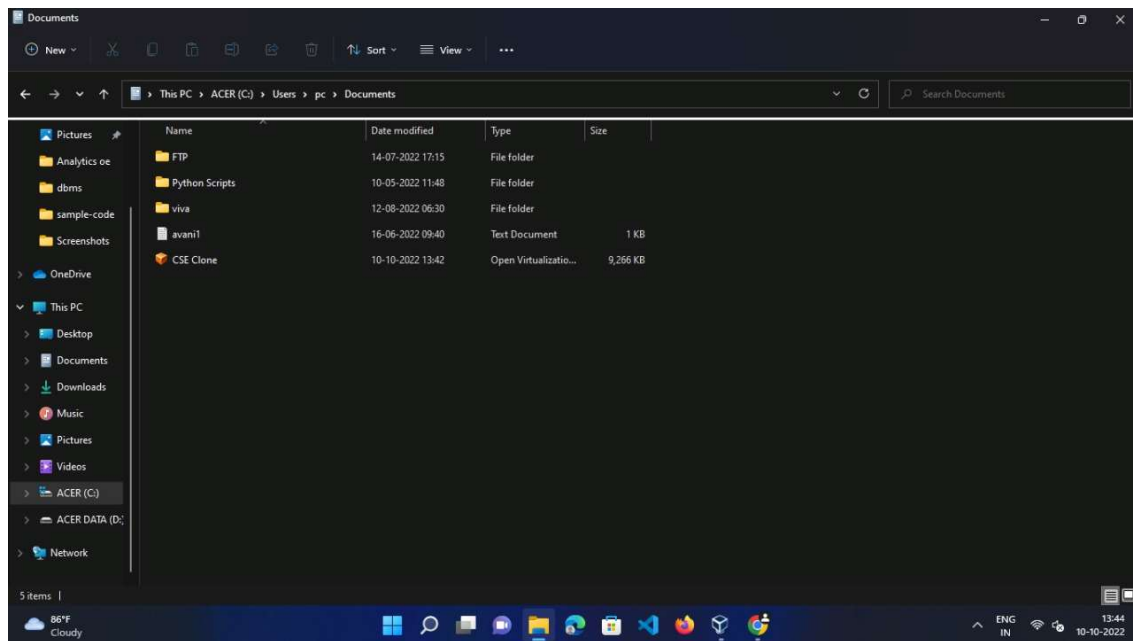
We create a VM named CSE in the oracle virtualbox



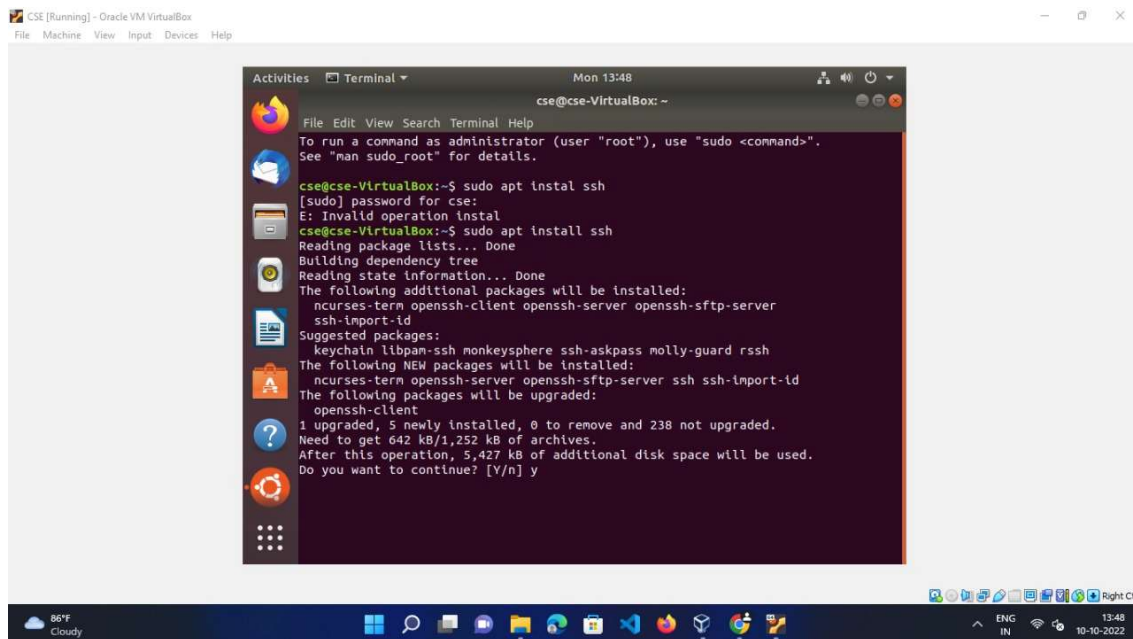
We then right click on the CSE VM and select clone option to clone it. After cloning CSE Clone has been created



We now export it to some other folder with the help of Export Appliance option in File



The CSE Clone virtual machine has been successfully exported to another folder



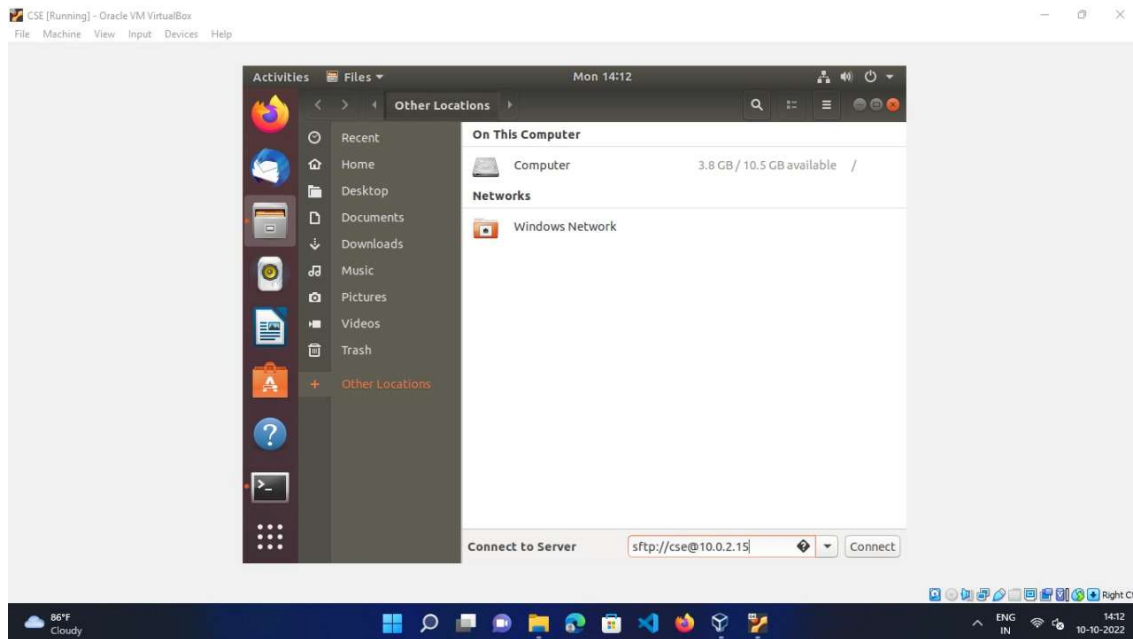
We now open the CSE virtual machine and install SSH in it

```
Mon 13:49
cse@cse-VirtualBox: ~
File Edit View Search Terminal Help
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  ncurses-term openssh-client openssh-server openssh-sftp-server
  ssh-import-id
Suggested packages:
  keychain libpam-ssh monkeysphere ssh-askpass molly-guard rssh
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh ssh-import-id
The following packages will be upgraded:
  openssh-client
1 upgraded, 5 newly installed, 0 to remove and 238 not upgraded.
Need to get 642 kB/1,252 kB of archives.
After this operation, 5,427 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ln.archive.ubuntu.com/ubuntu bionic-updates/main amd64 openssh-sft
p-server amd64 1:7.6p1-4ubuntu0.7 [45.5 kB]
Get:2 http://ln.archive.ubuntu.com/ubuntu bionic-updates/main amd64 openssh-ser
ver amd64 1:7.6p1-4ubuntu0.7 [332 kB]
Get:3 http://ln.archive.ubuntu.com/ubuntu bionic-updates/main amd64 ssh all 1:7
.6p1-4ubuntu0.7 [5,192 B]
Get:4 http://ln.archive.ubuntu.com/ubuntu bionic-updates/main amd64 ncurses-sft
m all 6.1-1ubuntu1.18.04 [248 kB]
Get:5 http://ln.archive.ubuntu.com/ubuntu bionic-updates/main amd64 ssh-import-
id all 5.7-0ubuntu1.1 [10.9 kB]
Fetched 642 kB in 8s (77.4 kB/s)
```

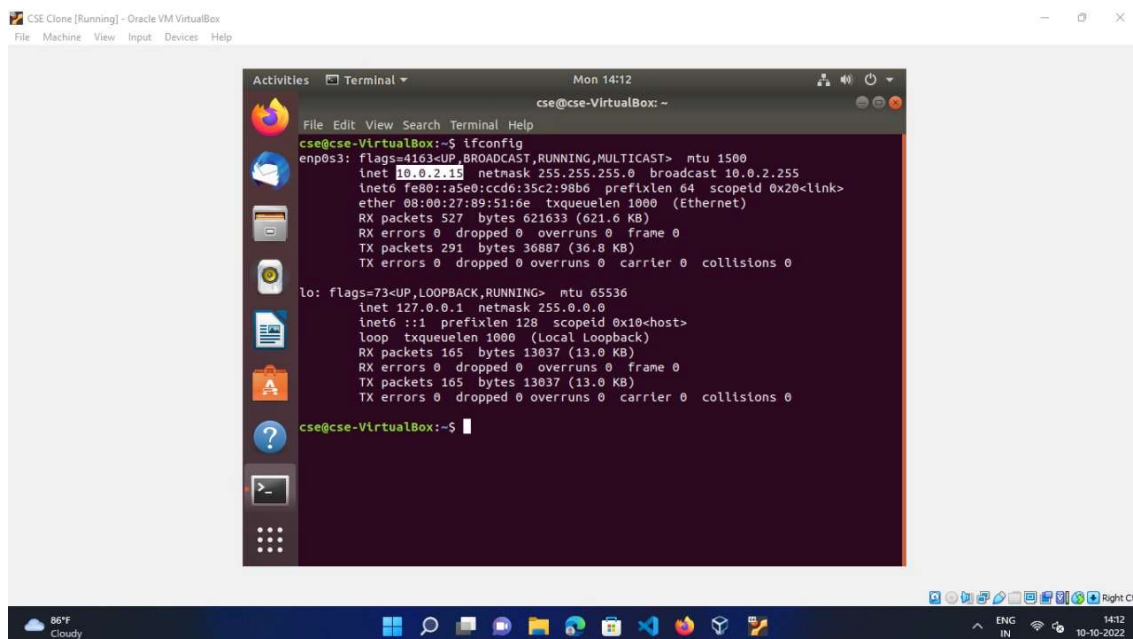
SSH is being installed on the virtual machine

```
Mon 13:55
cse@cse-VirtualBox: ~
File Edit View Search Terminal Help
Setting up ncurses-term (6.1-1ubuntu1.18.04) ...
Setting up openssh-client (1:7.6p1-4ubuntu0.7) ...
Setting up ssh-import-id (5.7-0ubuntu1.1) ...
Setting up openssh-sftp-server (1:7.6p1-4ubuntu0.7) ...
Setting up openssh-server (1:7.6p1-4ubuntu0.7) ...
Creating config file /etc/ssh/sshd_config with new version
Creating SSH2 RSA key; this may take some time ...
2048 SHA256:9viaTddoxn+xbisVPsV2JGpCRcNweKyISjAqB7UUnD4 root@cse-VirtualBox (RS
A)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:NpNpe/8tZD/njCpk3vAlHwN3FtBJH8kQ6I0PEH8KSl4 root@cse-VirtualBox (EC
DSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:Be12ZlzsXDxcQCwVLgp+K4YeEPX/cq3InABZ06TyUTU root@cse-VirtualBox (ED
25519)
Created symlink /etc/systemd/system/ssh.service → /lib/systemd/system/ssh.serv
ice.
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/
systemd/system/ssh.service.
Setting up ssh (1:7.6p1-4ubuntu0.7) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for systemd (237-3ubuntu10.52) ...
cse@cse-VirtualBox:~$
```

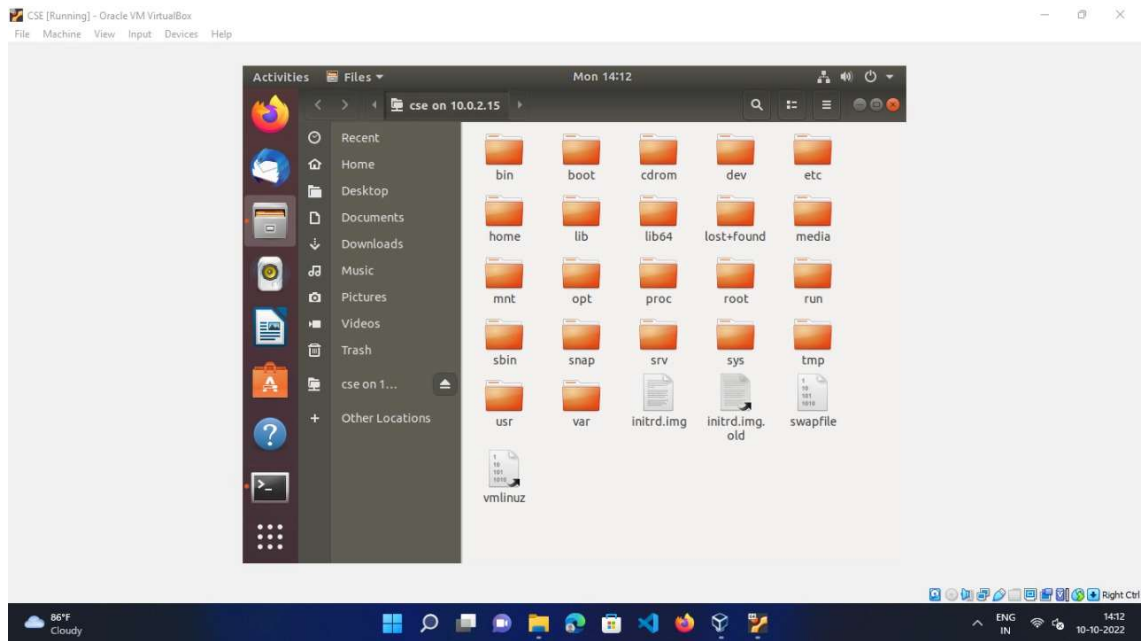
SSH has been installed successfully



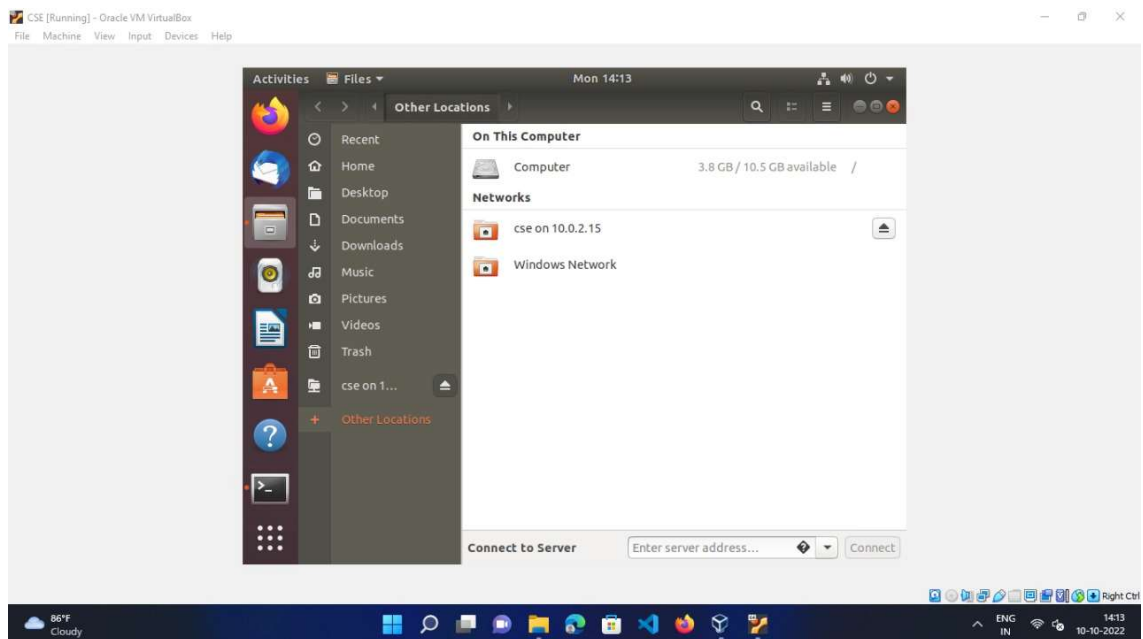
We now go to the Files and navigate to Other Locations option and there in the connect to server field we write the URL sftp://[Name of the VM]@[IP Address of Cloned VM] so the URL becomes sftp://cse@10.0.2.15



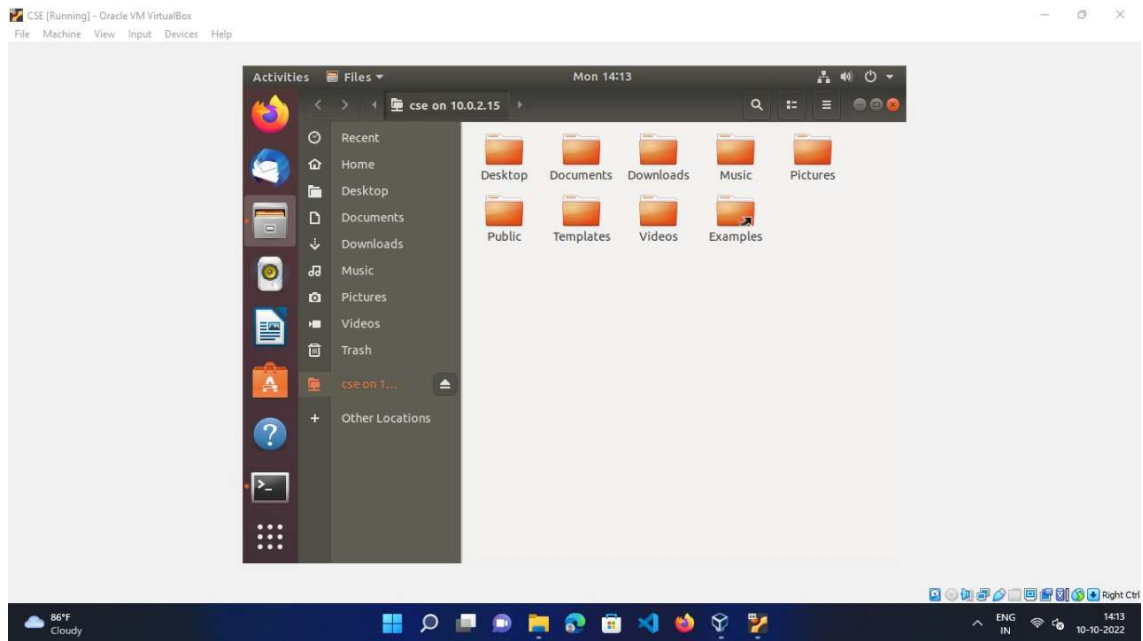
We can find the ip address of the VM using the ifconfig command and same can be done for Cloned VM



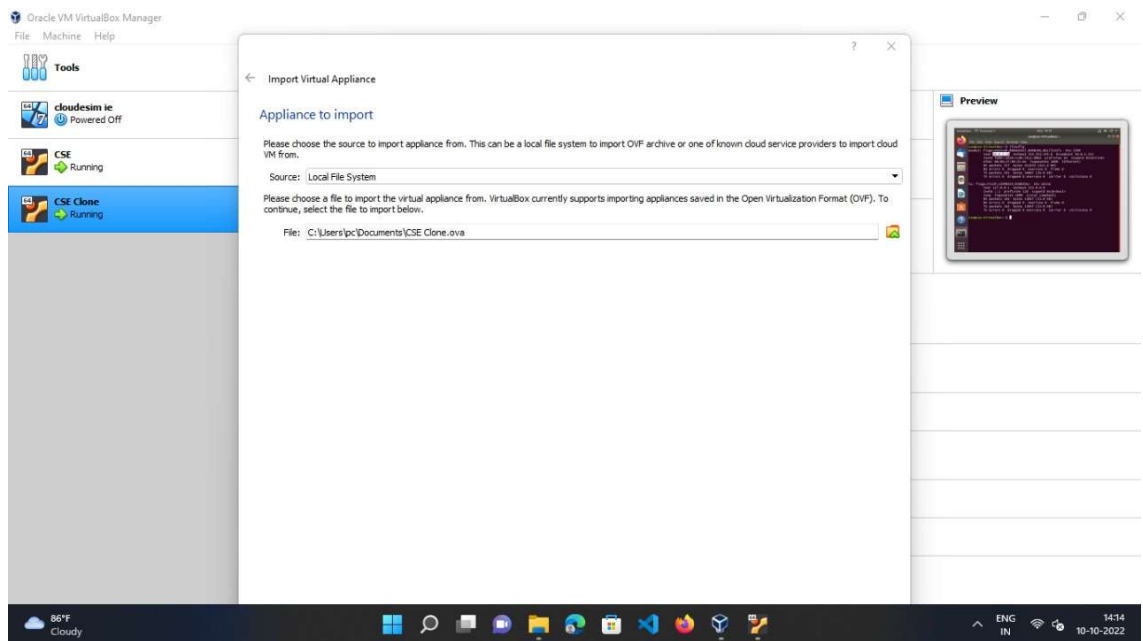
After we run the URL we can see the files of the cloned VM



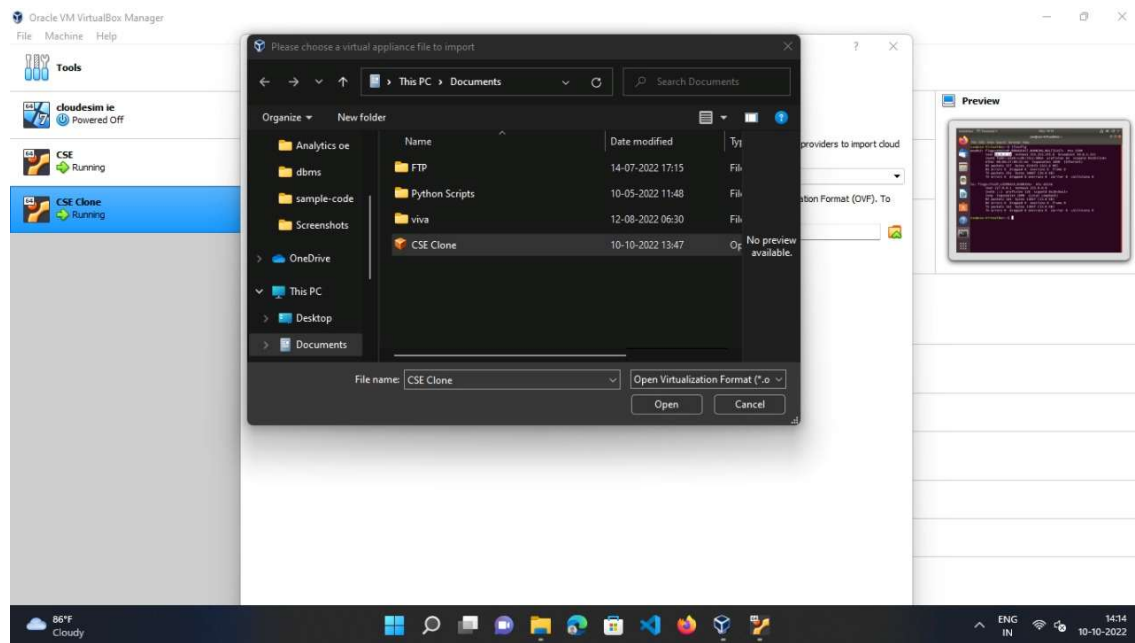
In the Other Locations options we can now see that Cloned VM has been added successfully with the name cse on 10.0.2.15



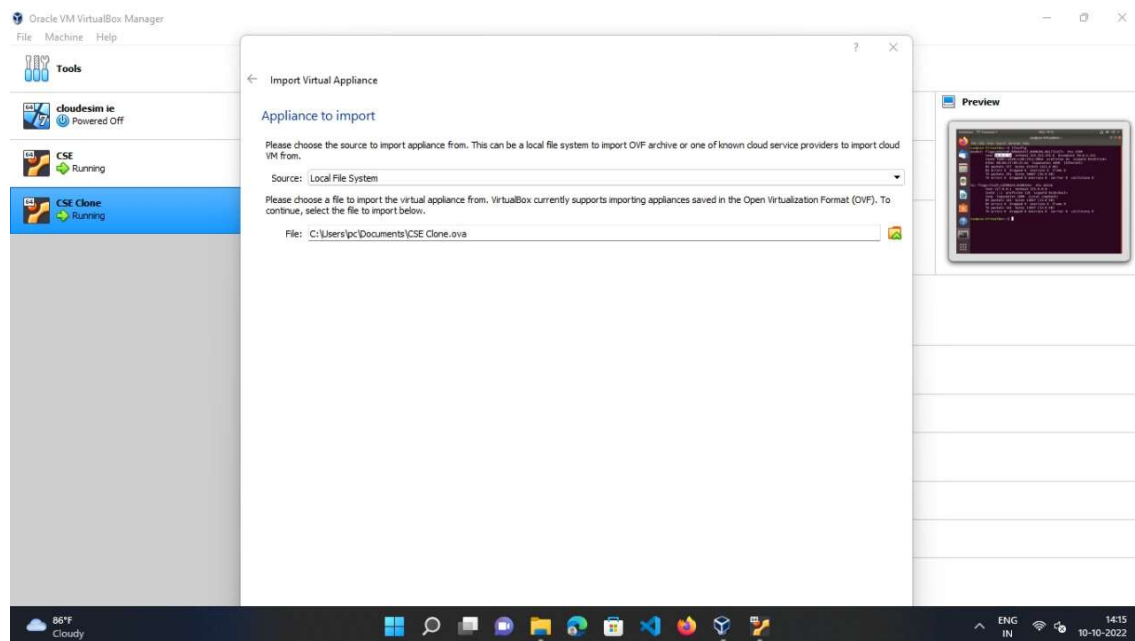
We now access any file of cse on 10.0.2.15



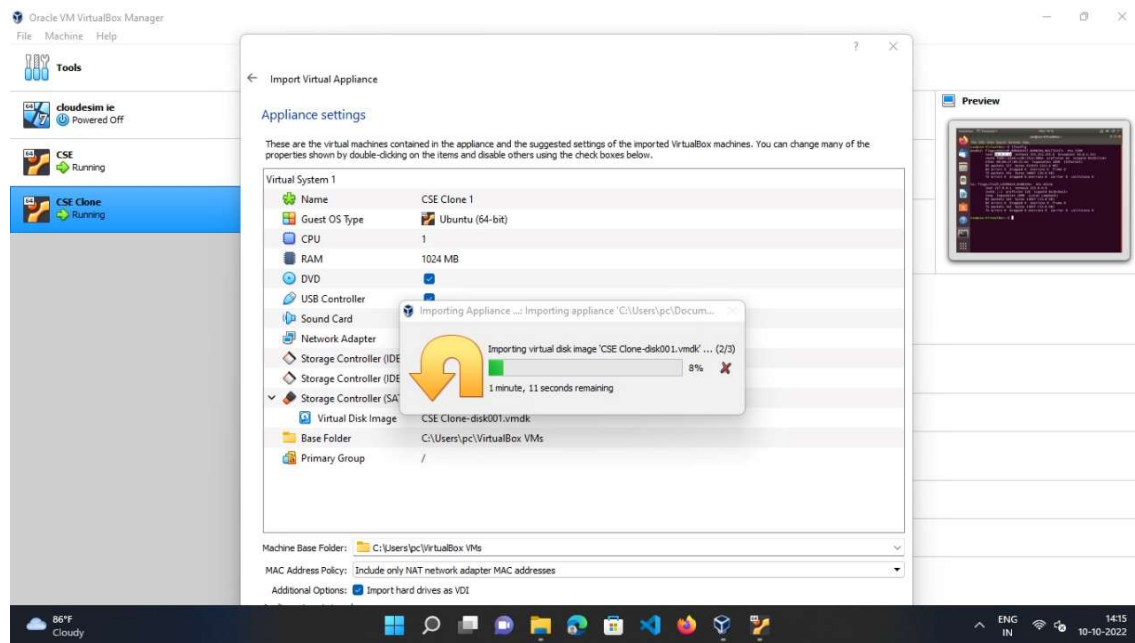
Now we go back to oracle virtualbox and click on File and select Import Appliance option. We give the path of file to be imported



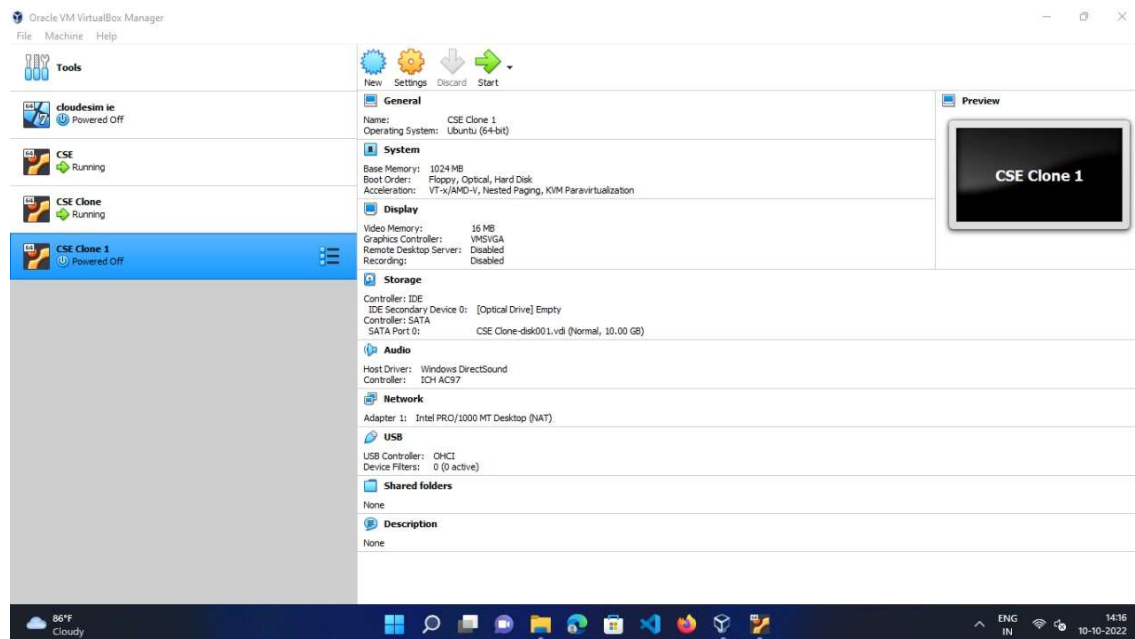
We select CSE Clone VM which we had exported before to another folder from that folder



We browse the path, select it and then click import



The VM is being imported successfully



After the VM has been imported we can see that CSE Clone 1 VM has been created in the oracle virtualbox

Conclusion:

The Virtual Machine Migration can be seen as the process of moving a certain VM from one physical server to another while the VM is still running. This is done in order to improve the performance or to avoid any potential issues that might occur on the current server. There are different types of VM Migration, but the most common one is the live migration.

The live migration is a process of moving a VM from one server to another without any downtime. This means that the VM is still running and the users can still access it during the migration process. The main advantage of this type of migration is that it is very fast and there is no downtime for the users. However, it can be a bit more complicated to set up and it requires that the servers are on the same network.

The other type of VM migration is the storage migration. This is a process of moving the VM files from one storage location to another. This can be done while the VM is running or when it is turned off. The advantage of this type of migration is that it is very simple to set up and it can be done without any downtime. However, the downside is that it can be a bit slower than the live migration.

In conclusion, the VM Migration is a process of moving a VM from one server to another while the VM is still running. This can be done in order to improve the performance or to avoid any potential issues that might occur on the current server. The most common type of VM Migration is the live migration, which is a process of moving a VM from one server to another without any downtime.