VM Setup - Lubuntu 20.04.3 LTS (Focal Foss)

Last updated by | Shridhar | 30 Dec 2021 at 19:56 GMT

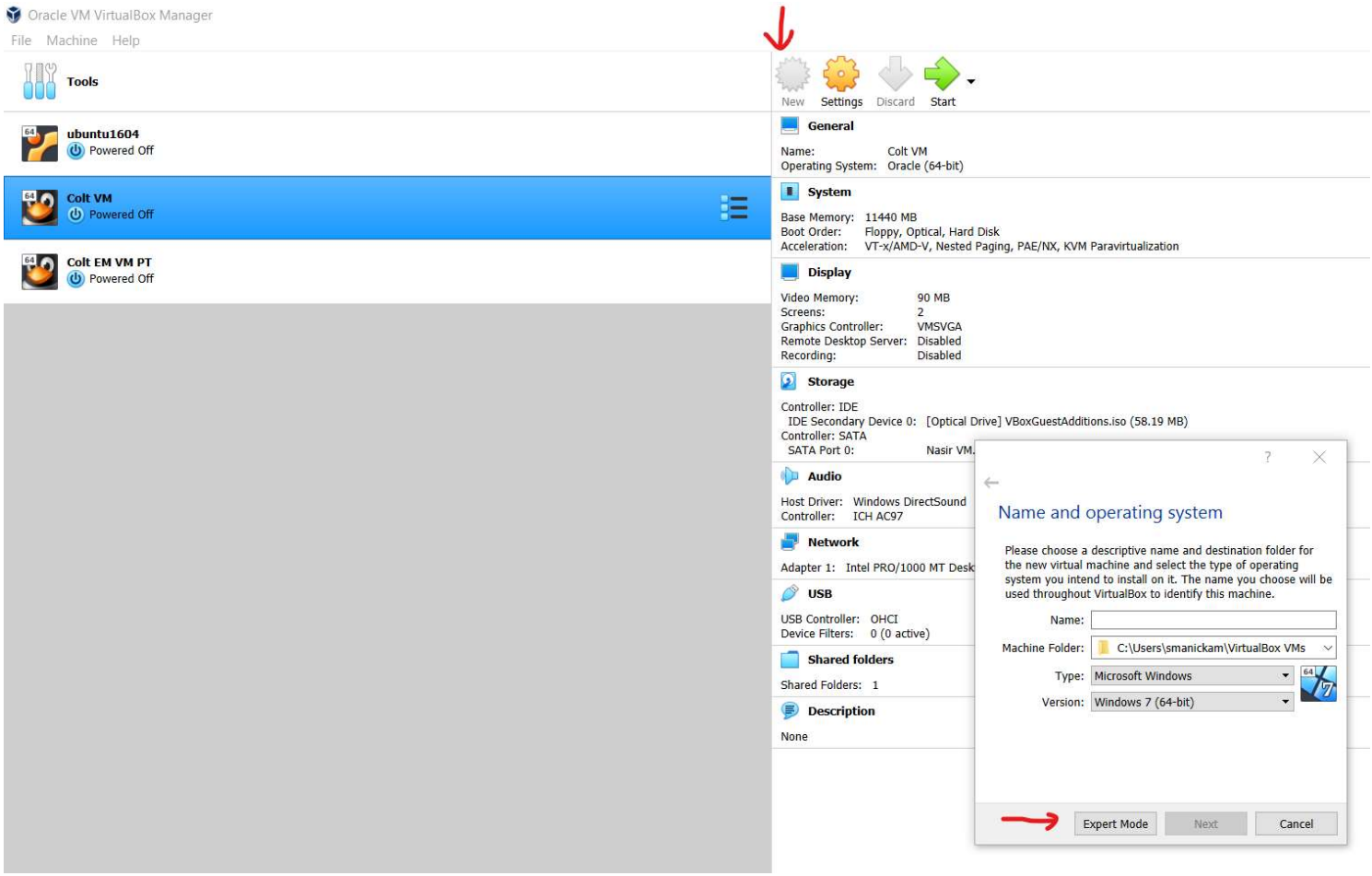
Please follow the below steps to install and set-up your own VM from scratch. This instructions are for Lubuntu 20.04.3 LTS (Focal Foss) version.

Step 1:

Download Lubuntu 20.04.3 (LTS version (ISO) from https://lubuntu.me/downloads/

Step 2:

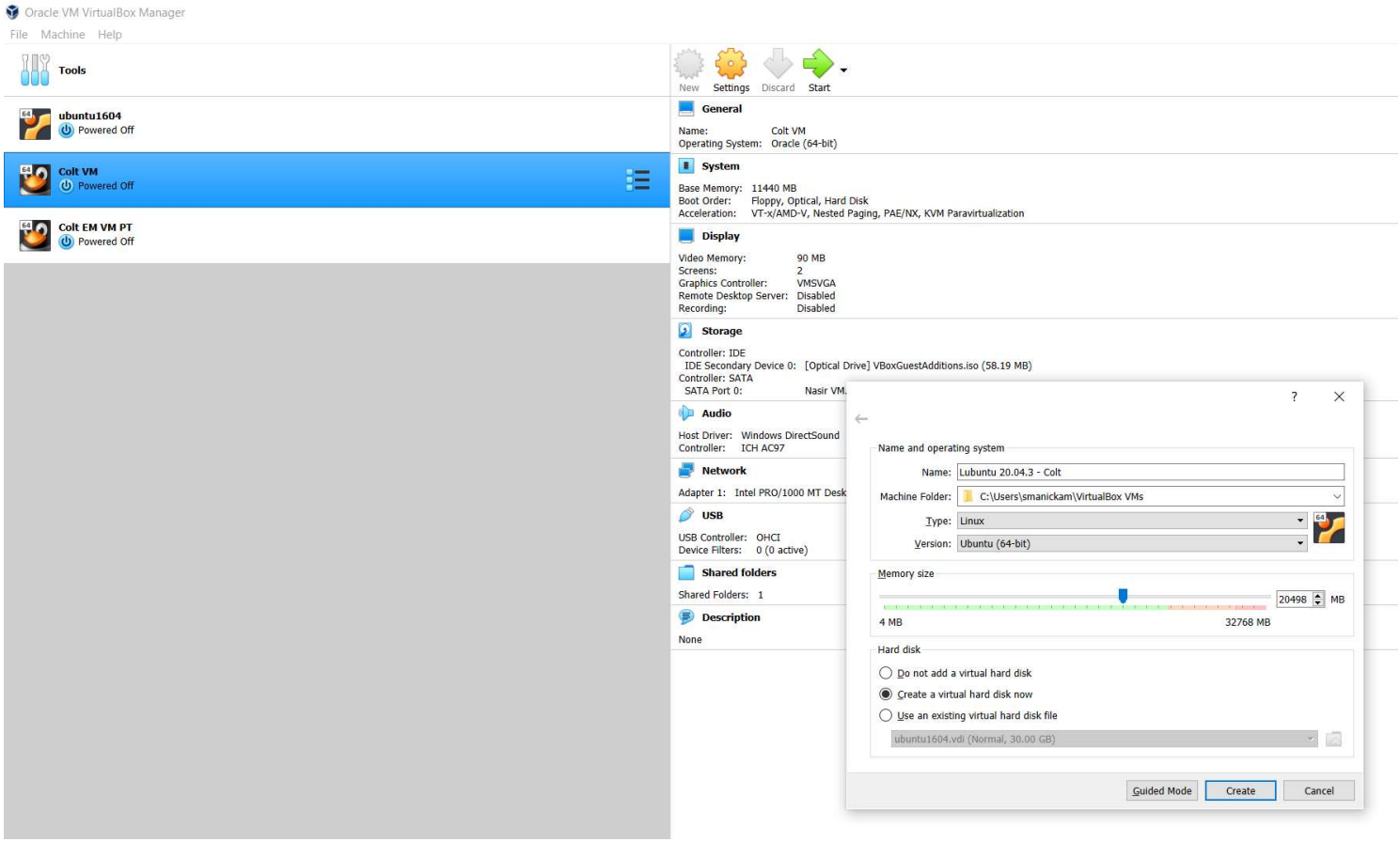
Open Oracle VM VirtualBox Manager application (Please contact IT if this software is not installed on your Colt Laptop (Host)). Set the setup wizard to "Expert Mode"



Step 3:

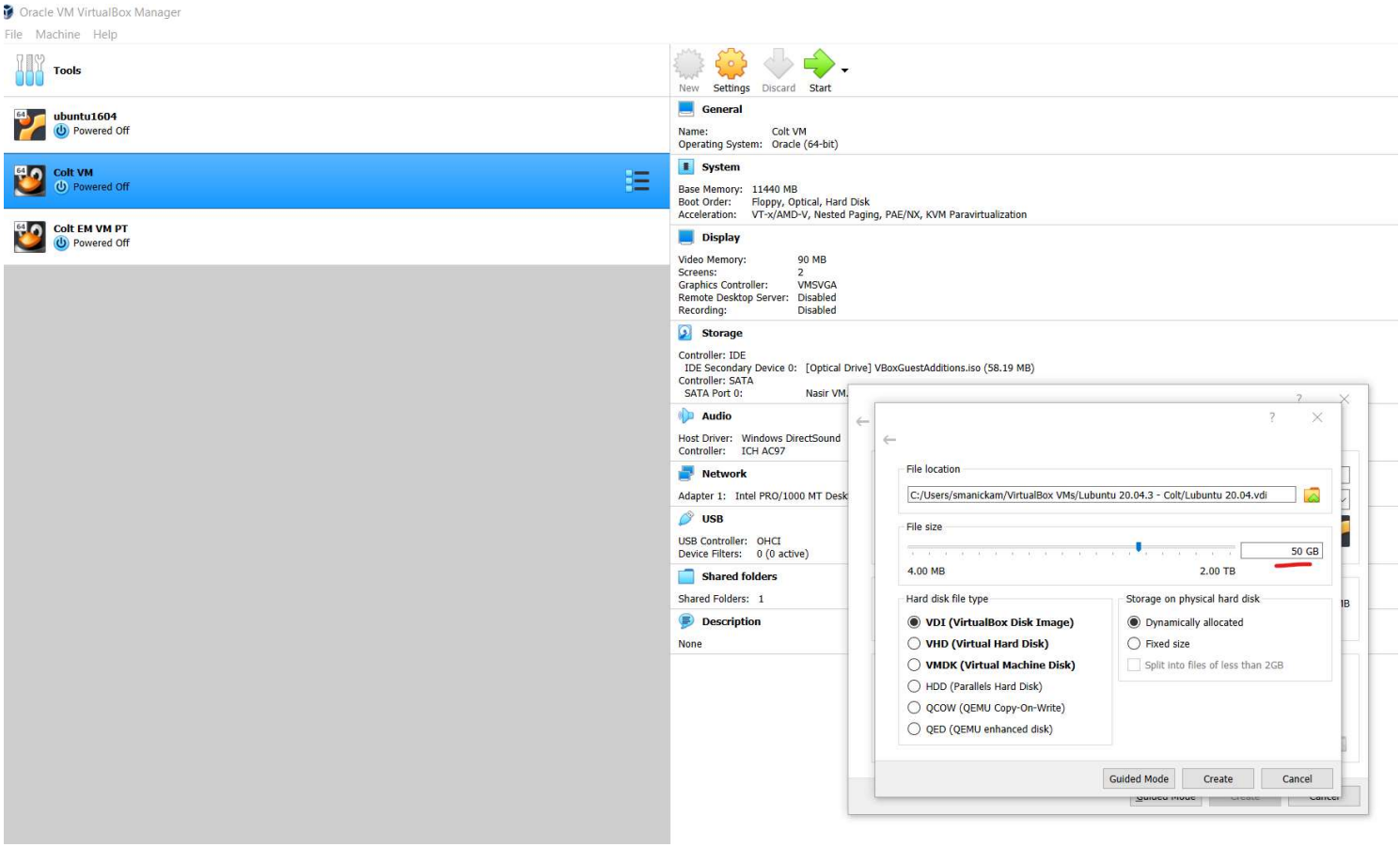
Please set the attributes as indicated in the image below and click on "Create"

Note: The RAM size may differ according to your host. Please do not exceed the red threshold. if we do so, the host operating system may not have sufficient RAM to work normally and you may experience lag.



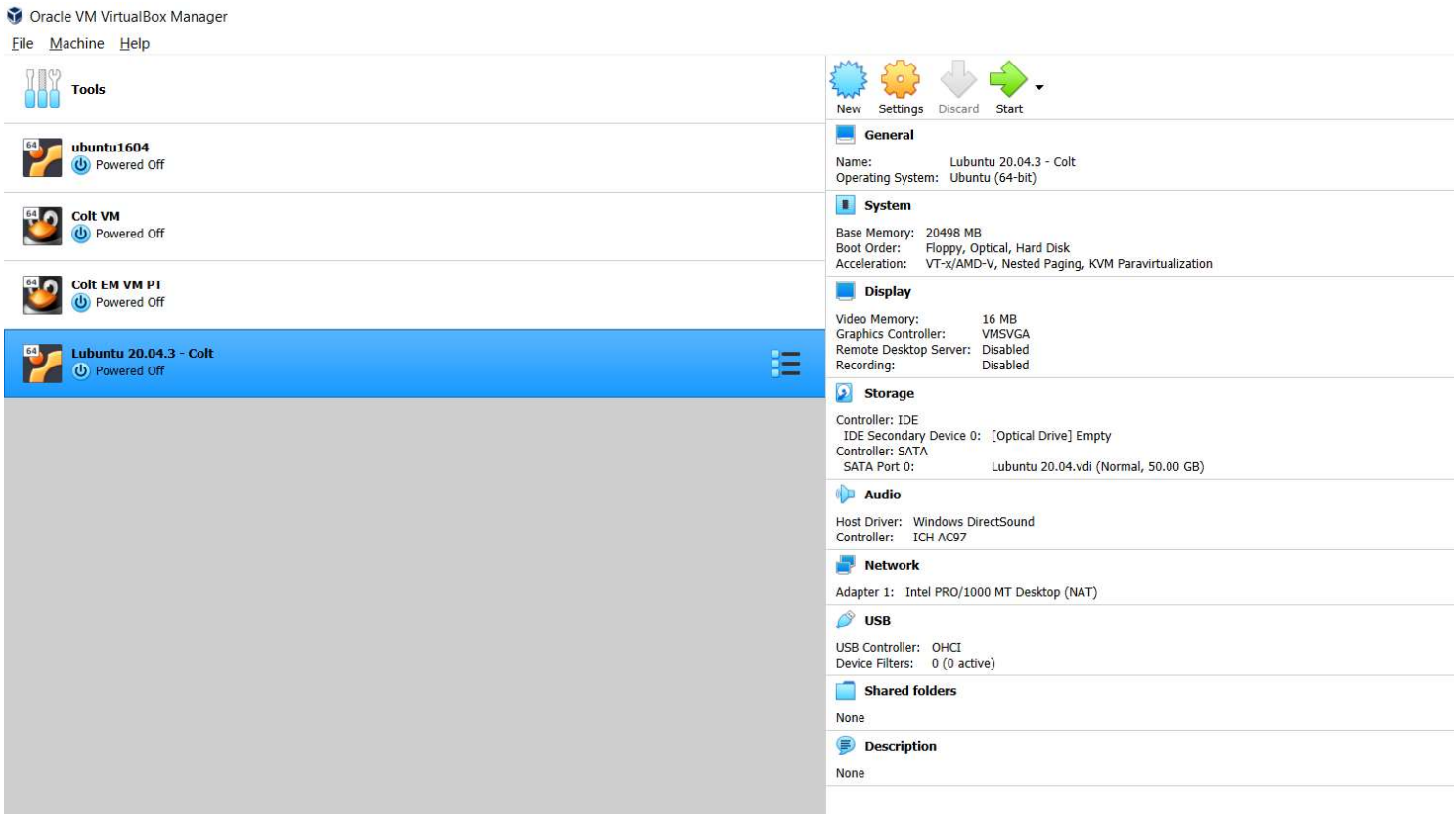
Step 4:

Please create a Virtual disk image based on the available storage on your laptop. Minimum recommended is 30 GB. if we select dynamically allocated option, we can expand this latter, however try to allocate as much memory as possible now. Click on "Create" button.



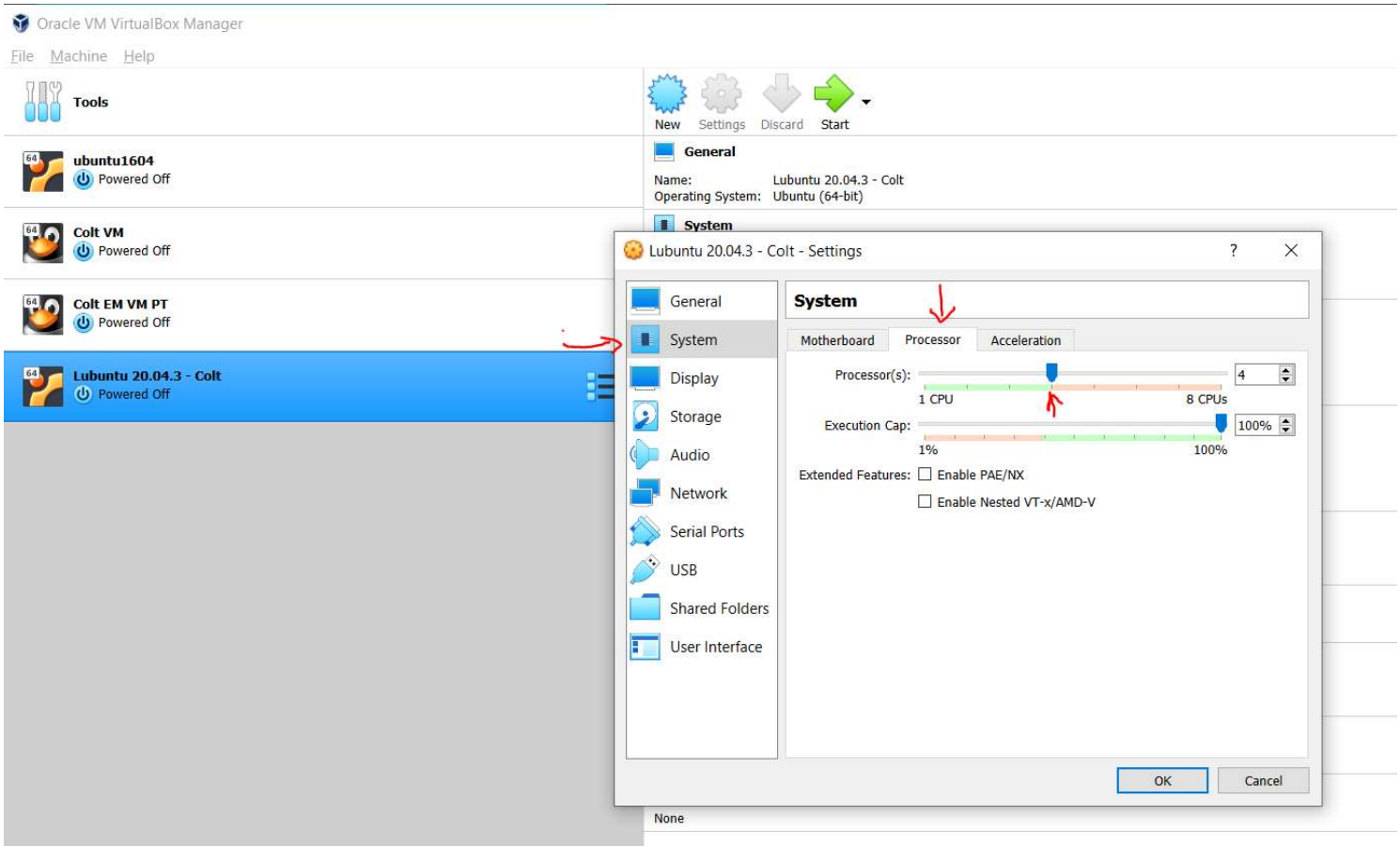
Step 5:

Now you should be seeing the VM created.



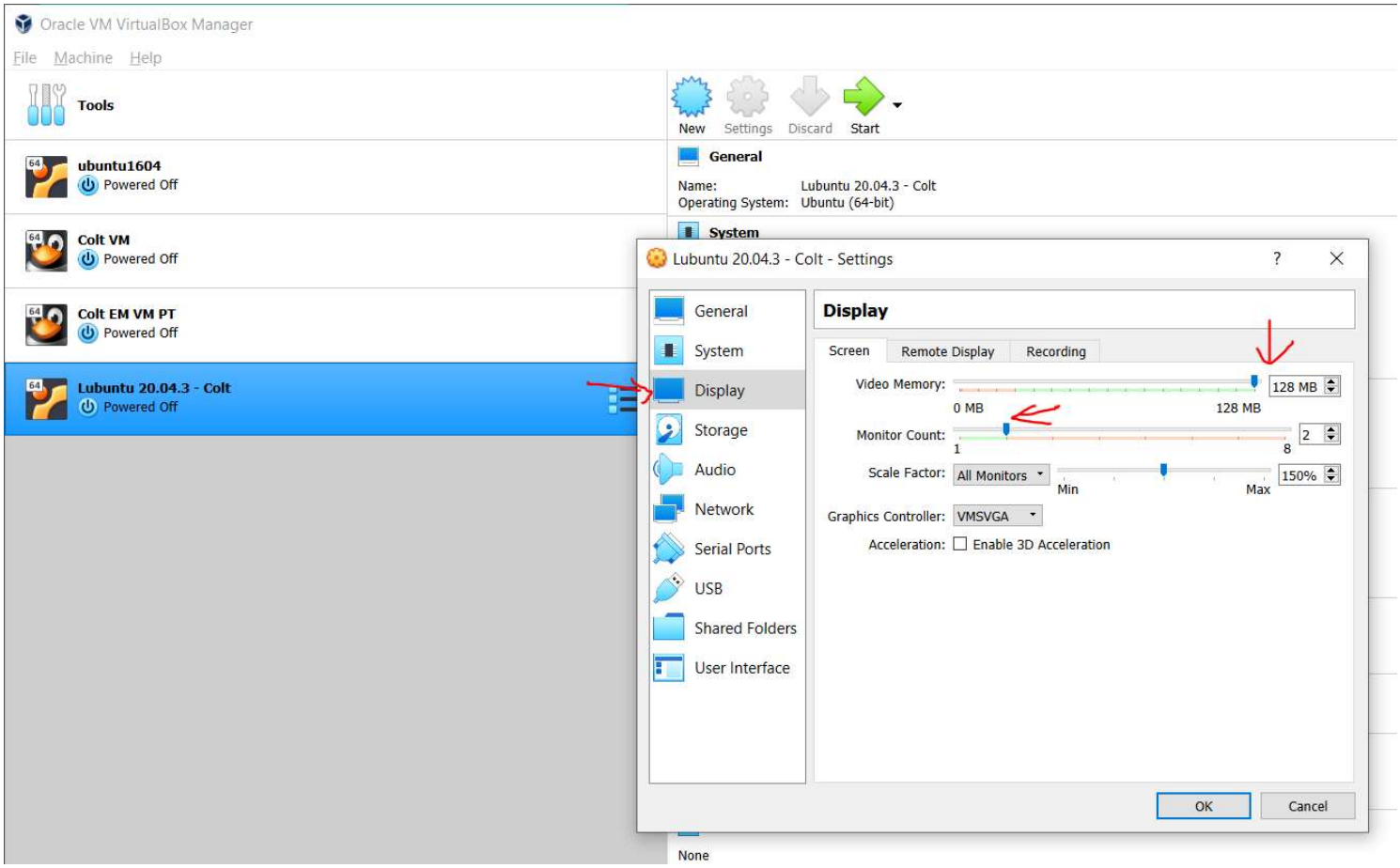
Step 6:

Set the number of processors which this VM instance can use (Recommended not exceed the green threshold).



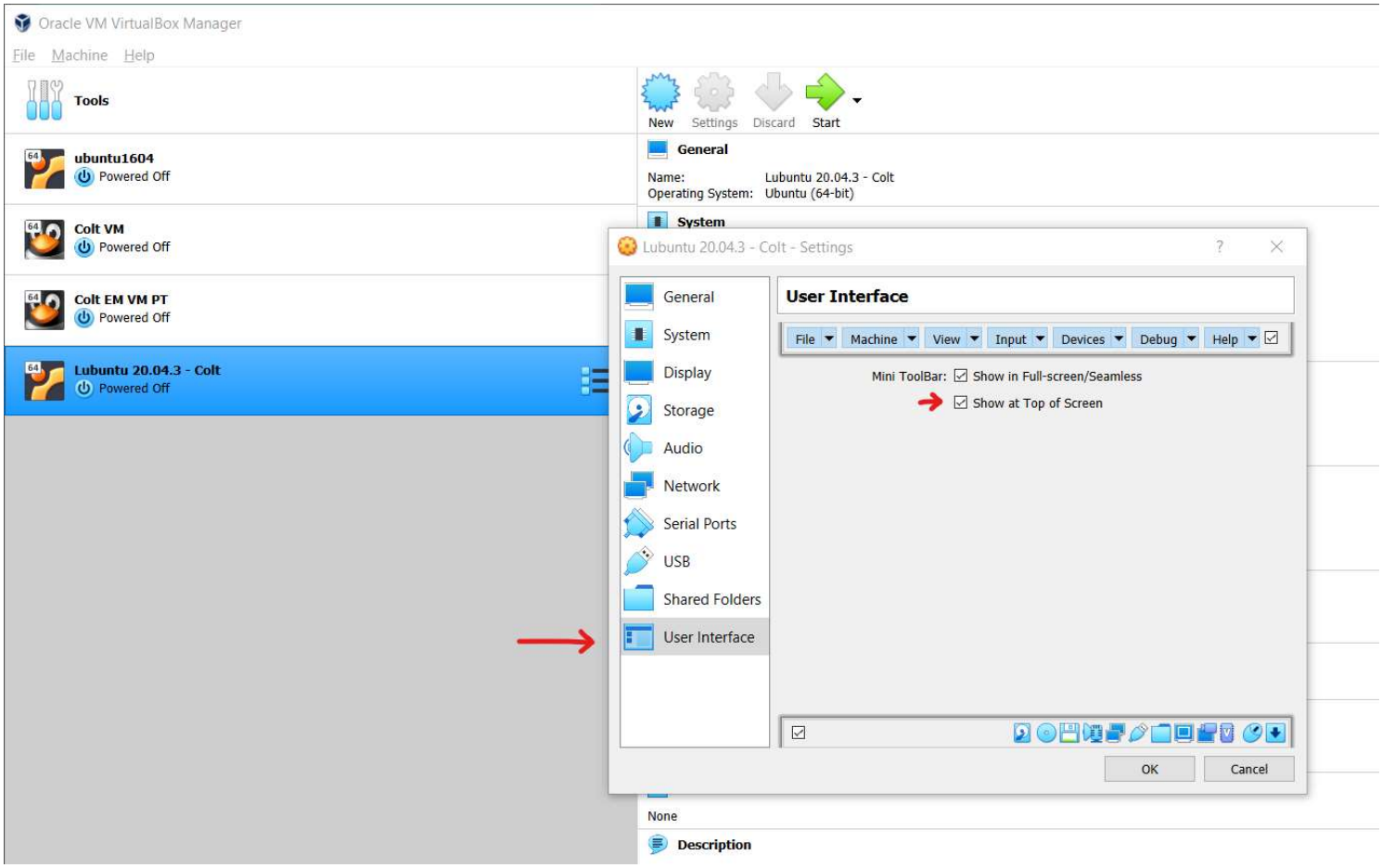
Step 7:

Set the Display count based on your case and increase Video Memory to Max. We need to install Virtual box VM guest additions inorder to use multiple monitors (will be covered in later steps).



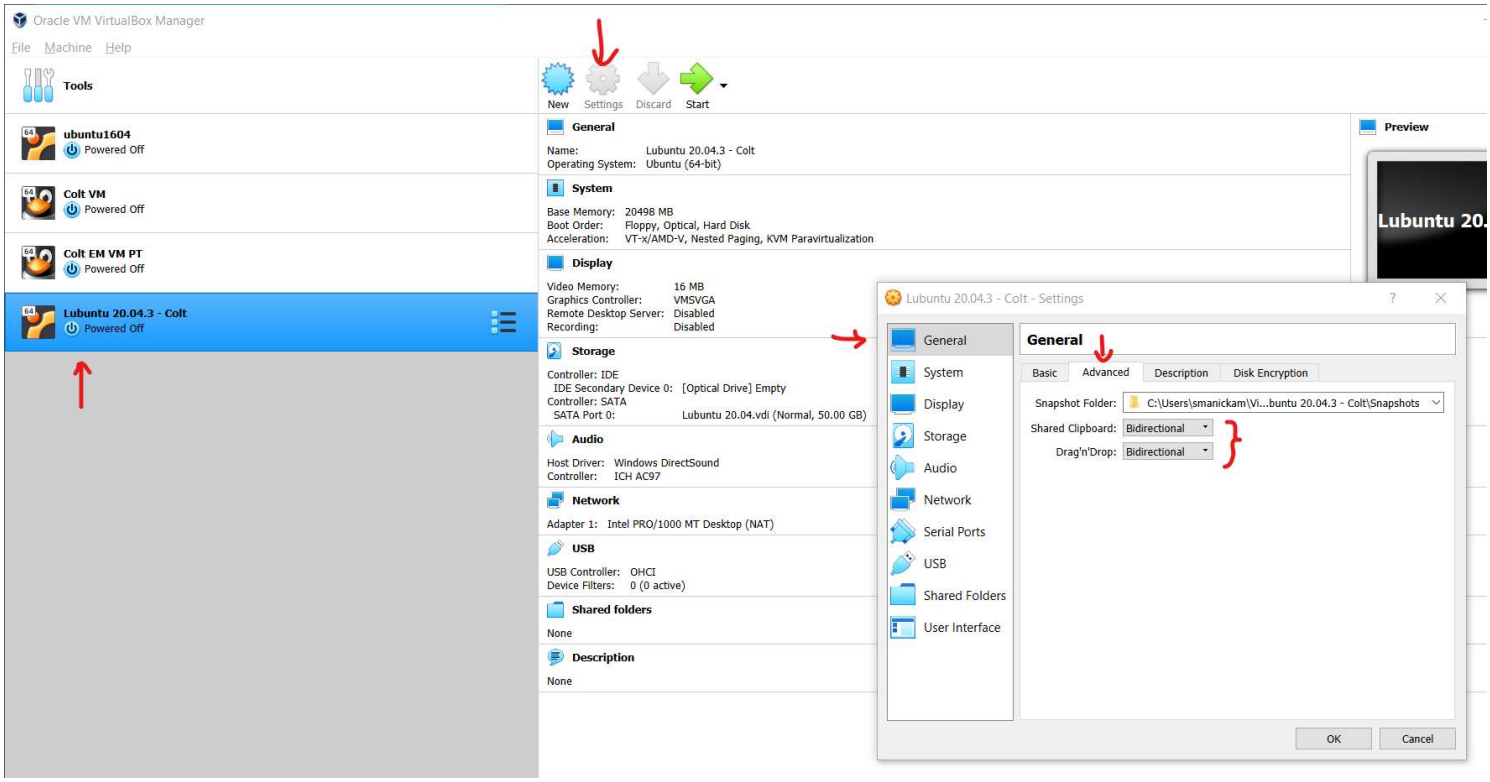
Step 8:

Enable the toolbar to be visible all the time for better control of VM.



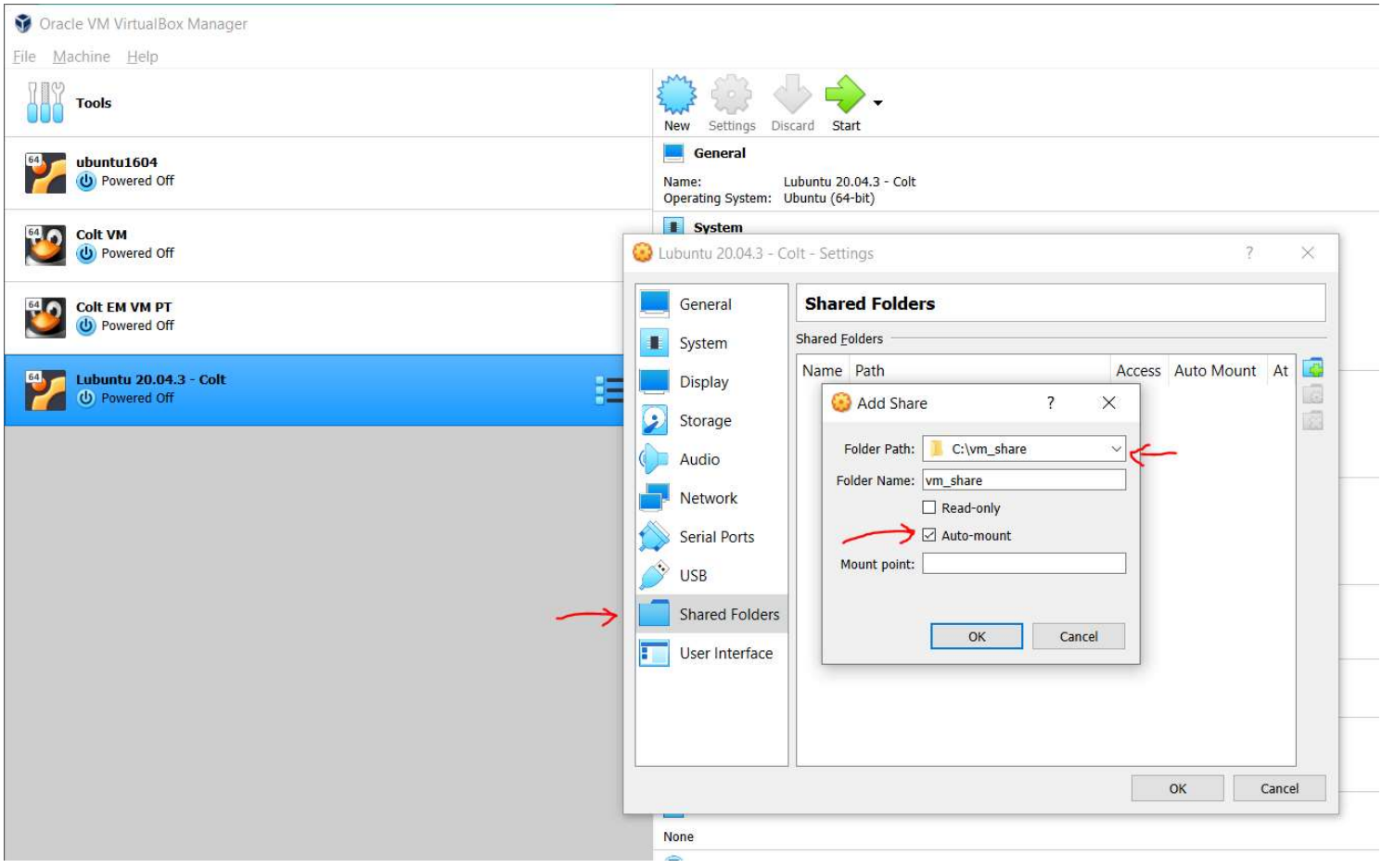
Step 9 (Enable shared clipboard) - Optional:

Let's tweak the VM setting to match our needs. First we need to enable bi-direction copy of clipboard contents if you like to seamlessly copy content between your host machine and the VM. Note that we need to configure shared folder in later steps for this to work after installing VM guest additions (Step 13 - Mounting shared folder).

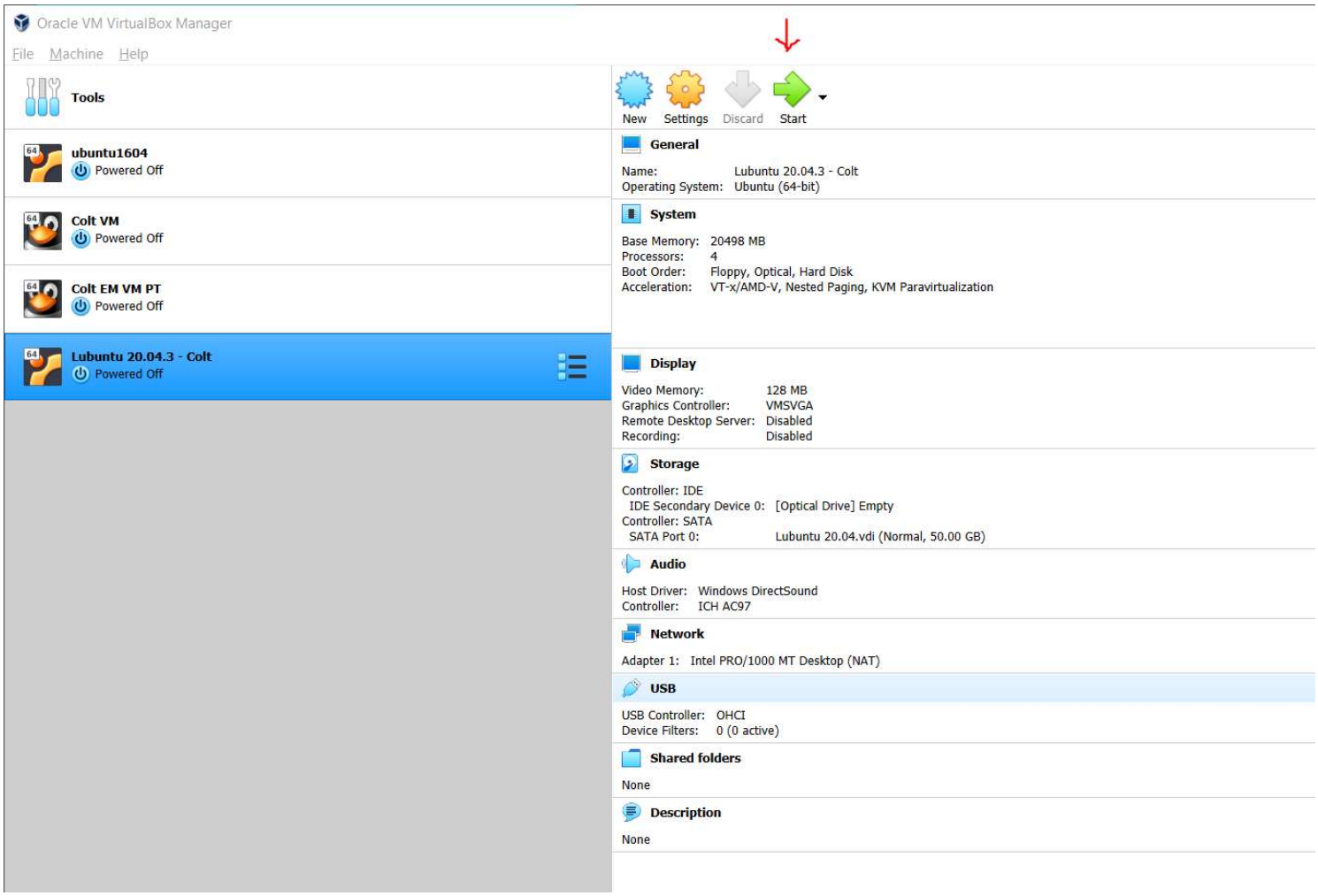


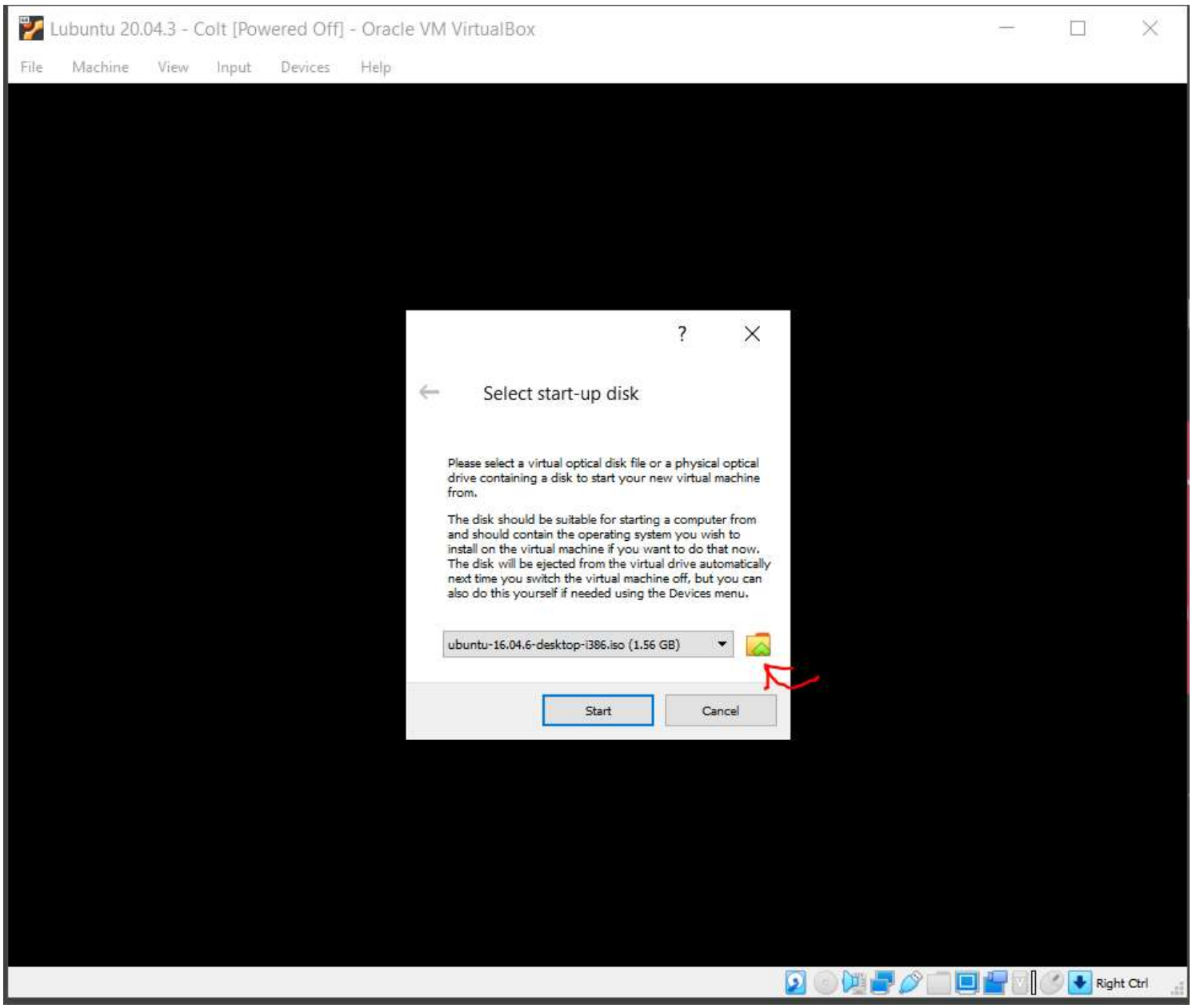
Step 10 (Enable shared folder) - Optional:

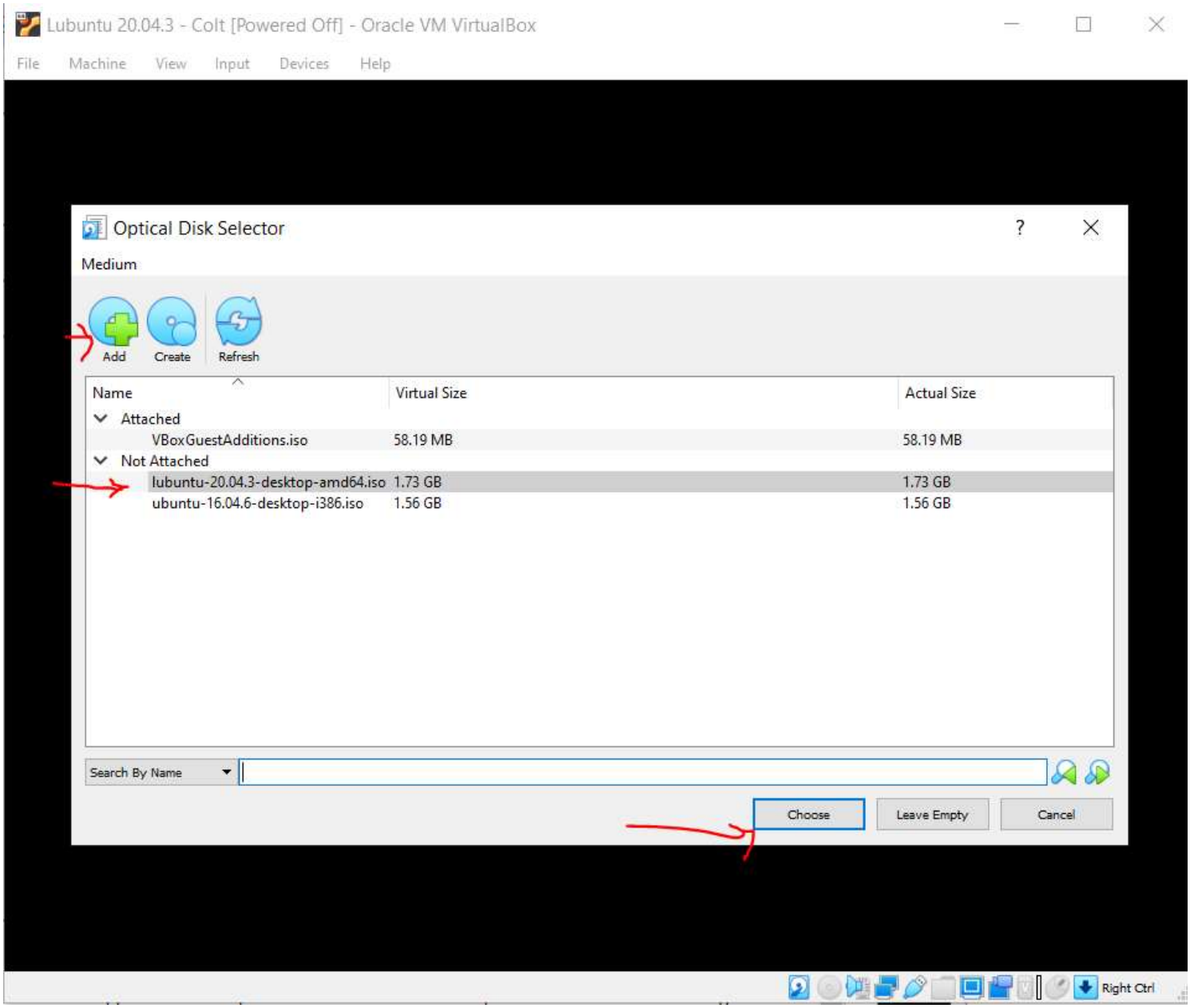
Create a shared folder of your choice and configure it as below. please select auto mount option. This will allow us to share files between host machine and the VM. Note that we need to configure shared folder in later steps for this to work after installing VM guest additions (Step 13 - Mounting shared folder).

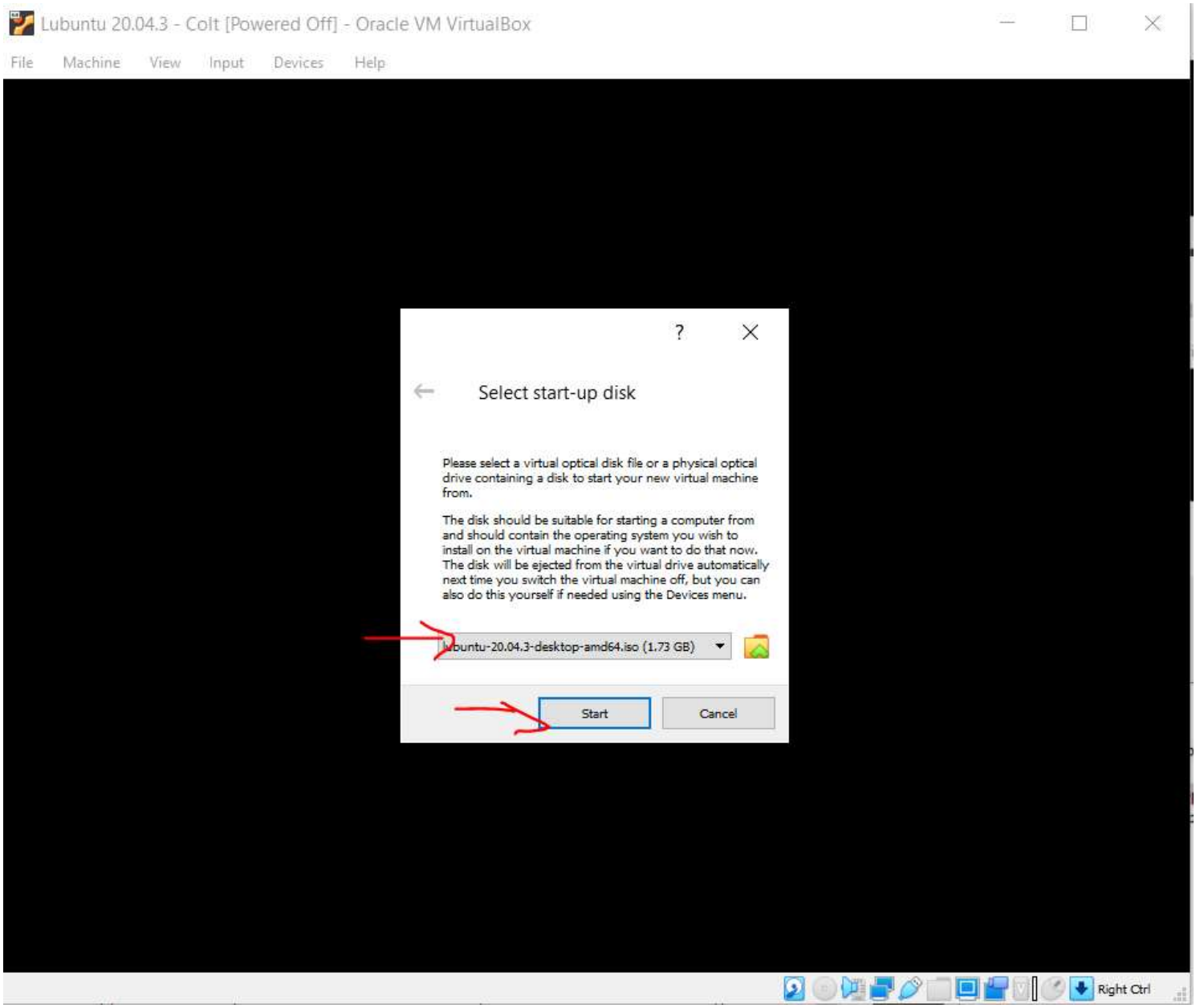


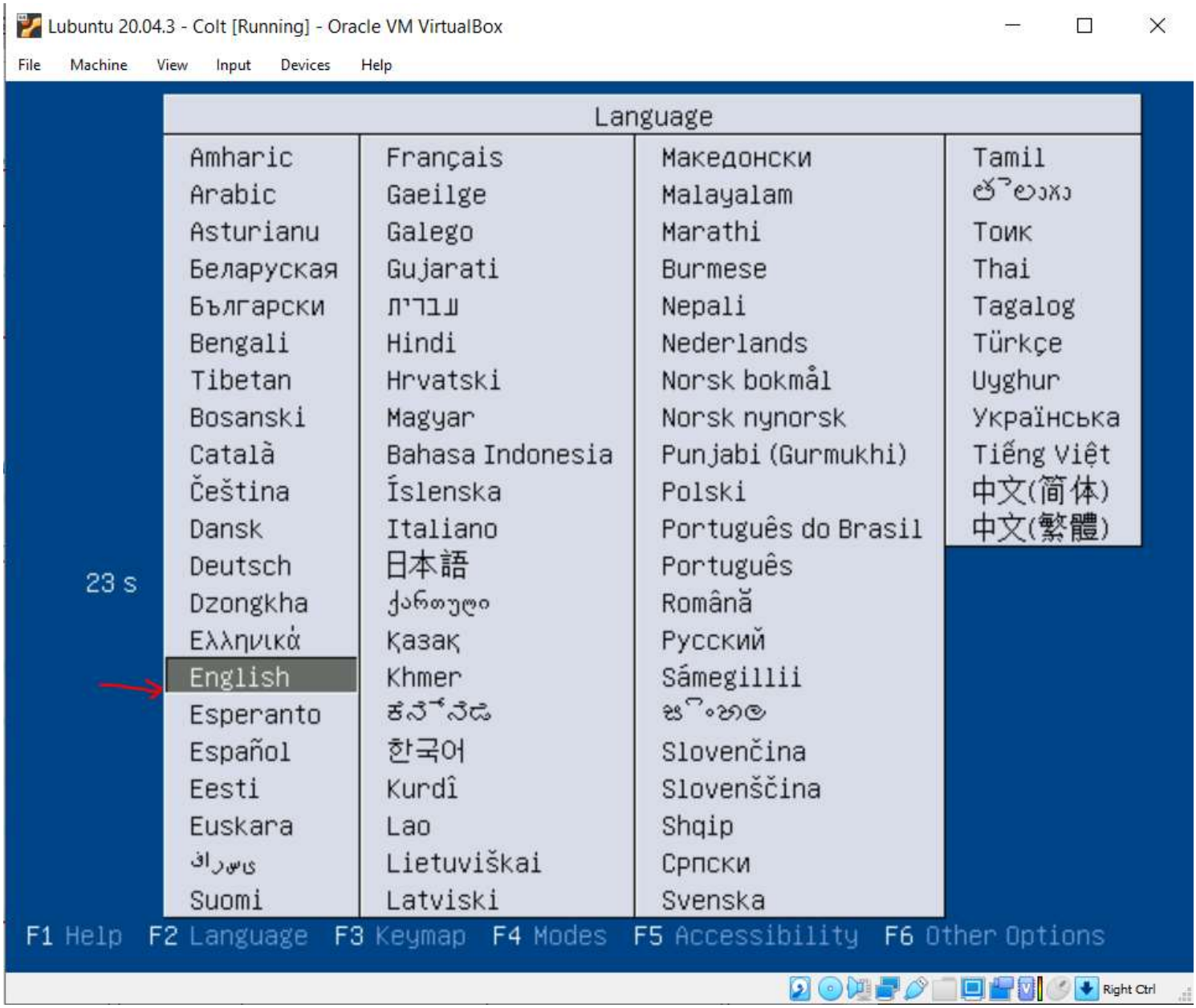
Step 11 (Start the VM and install Lubuntu 20.04.03 on to VDI):

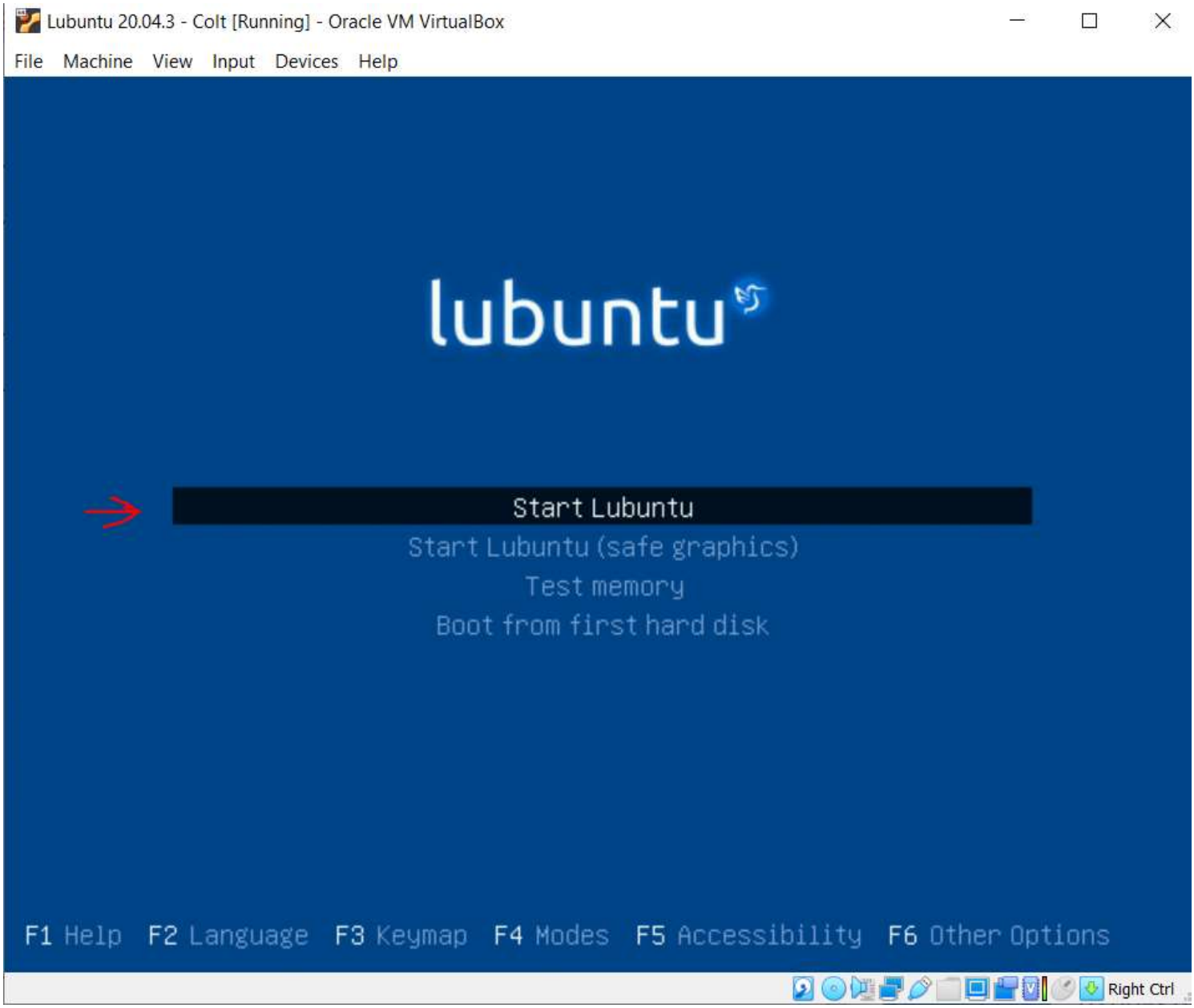


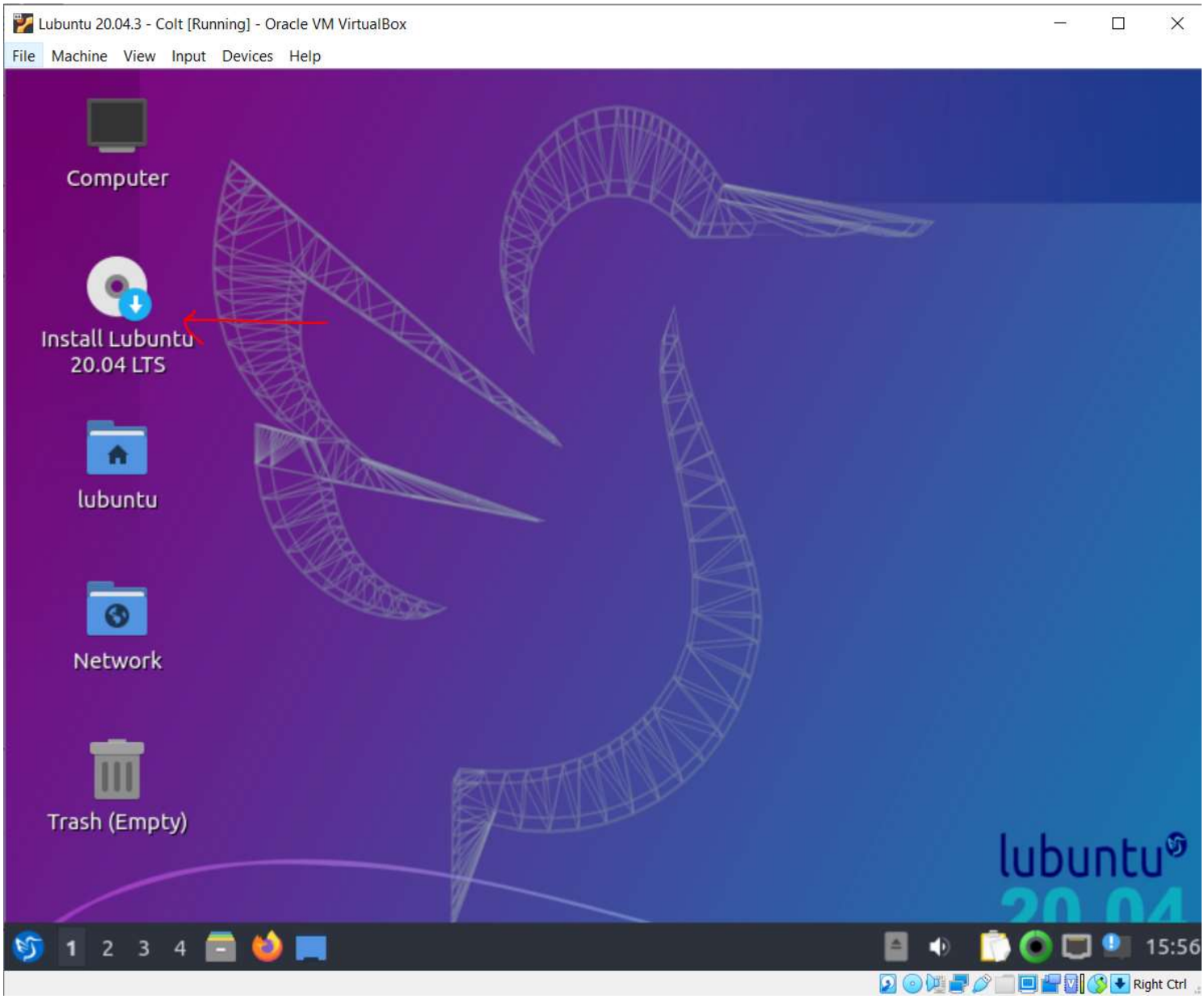

Lubuntu 20.04.3 - Colt [Powered Off] - Oracle VM VirtualBox
File
Machine
View
Input
Devices
Help
Select start-up disk
Please select a virtual optical disk file or a physical optical drive containing a disk to start your new virtual machine from.
The disk should be suitable for starting a computer from and should contain the operating system you wish to install on the virtual machine if you want to do that now. The disk will be ejected from the virtual drive automatically next time you switch the virtual machine off, but you can also do this yourself if needed using the Devices menu.
ubuntu-16.04.6-desktop-i386.iso (1.56 GB)
Start
Cancel
Right Ctrl


Lubuntu 20.04.3 - Colt [Powered Off] - Oracle VM VirtualBox
File
Machine
View
Input
Devices
Help
Optical Disk Selector
Medium
Add
Create
Refresh
Name
Virtual Size
Actual Size
Attached
VBoxGuestAdditions.iso
58.19 MB
58.19 MB
Not Attached
lubuntu-20.04.3-desktop-amd64.iso
1.73 GB
1.73 GB
ubuntu-16.04.6-desktop-i386.iso
1.56 GB
1.56 GB
Search By Name
Choose
Leave Empty
Cancel
Right Ctrl

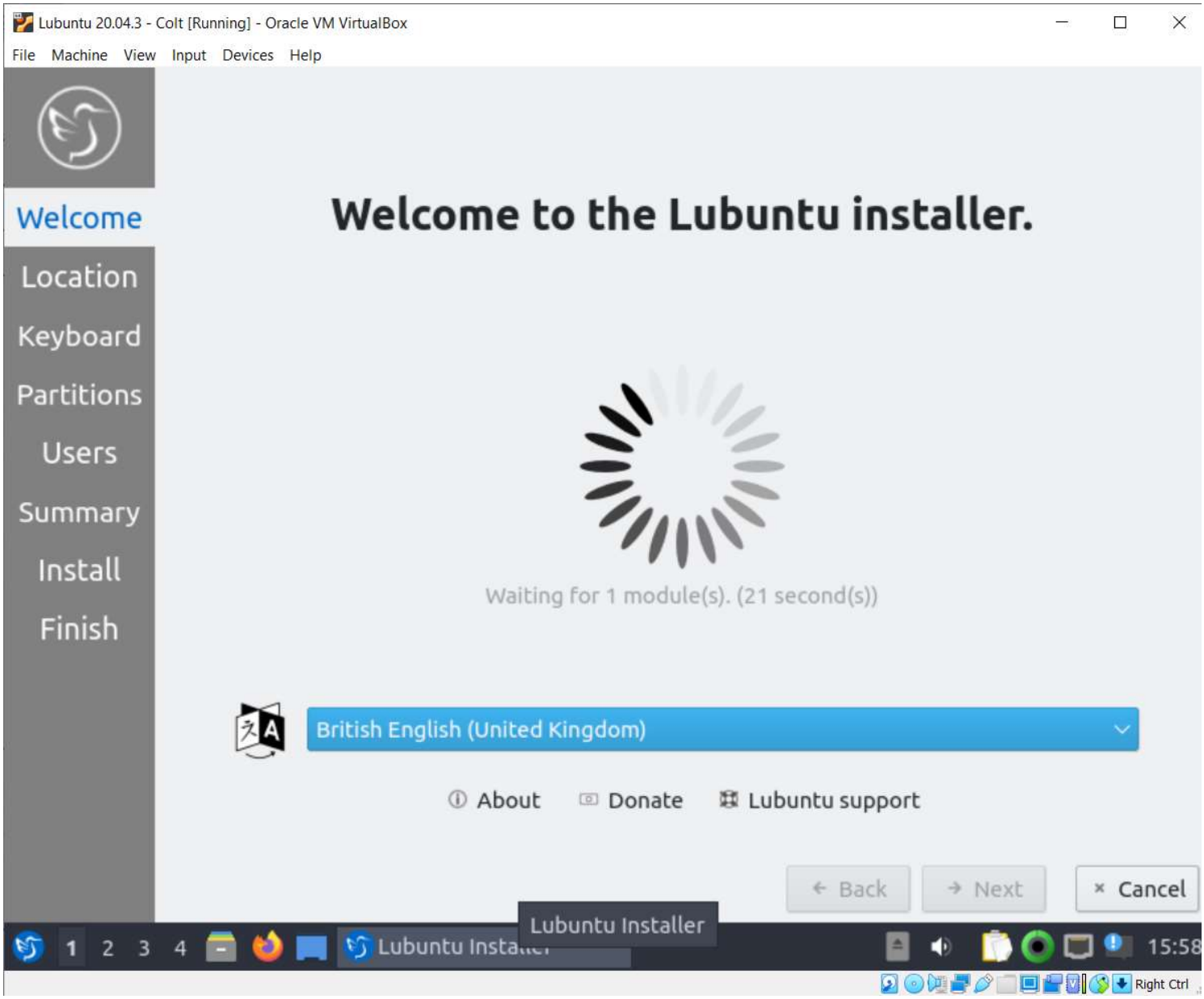

Lubuntu 20.04.3 - Colt [Powered Off] - Oracle VM VirtualBox
File
Machine
View
Input
Devices
Help
Select start-up disk
Please select a virtual optical disk file or a physical optical drive containing a disk to start your new virtual machine from.
The disk should be suitable for starting a computer from and should contain the operating system you wish to install on the virtual machine if you want to do that now. The disk will be ejected from the virtual drive automatically next time you switch the virtual machine off, but you can also do this yourself if needed using the Devices menu.
ubuntu-20.04.3-desktop-amd64.iso (1.73 GB)
Start
Cancel
Right Ctrl

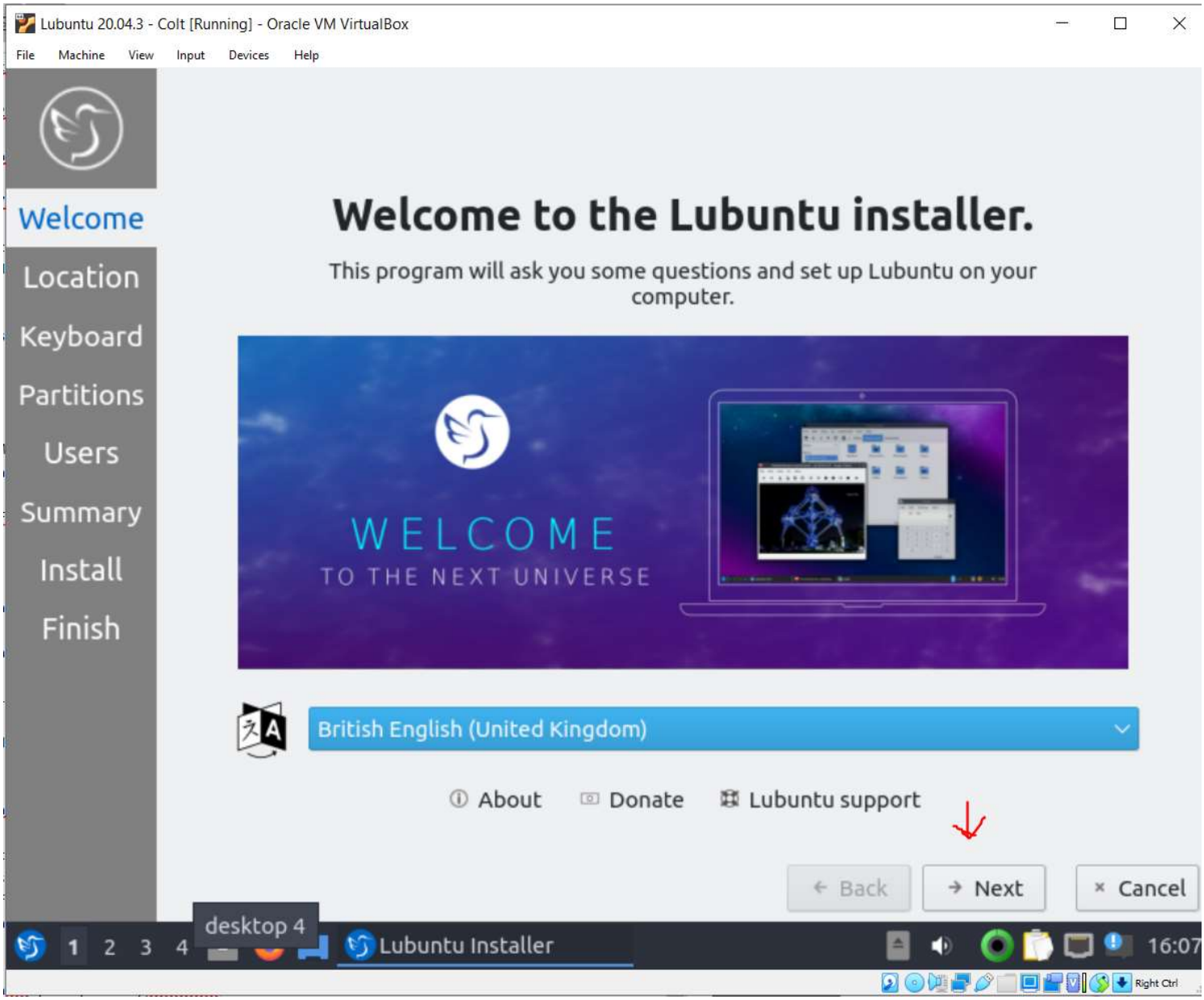

Lubuntu 20.04.3 - Colt [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Language
Amharic
Arabic
Asturianu
Беларуская
Български
Bengali
Tibetan
Bosanski
Català
Čeština
Dansk
Deutsch
Dzongkha
Ελληνικά
English
Esperanto
Español
Eesti
Euskara
فارسی
Suomi
Français
Gaeilge
Galego
Gujarati
עברית
Hindi
Hrvatski
Magyar
Bahasa Indonesia
Íslenska
Italiano
日本語
ქართული
Қазақ
Khmer
ಕನ್ನಡ
한국어
Kurdî
Lao
Lietuviškai
Latviski
Македонски
Malayalam
Marathi
Burmese
Nepali
Nederlands
Norsk bokmål
Norsk nynorsk
Punjabi (Gurmukhi)
Polski
Português do Brasil
Português
Română
Русский
Sámegillii
සිංහල
Slovenčina
Slovenščina
Shqip
Српски
Svenska
Tamil
తెలుగు
Тоик
Thai
Tagalog
Türkçe
Uyghur
Українська
Tiếng Việt
中文(简体)
中文(繁體)
23 s
F1 Help F2 Language F3 Keymap F4 Modes F5 Accessibility F6 Other Options
Right Ctrl


Lubuntu 20.04.3 - Colt [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
lubuntu
Start Lubuntu
Start Lubuntu (safe graphics)
Test memory
Boot from first hard disk
F1 Help F2 Language F3 Keymap F4 Modes F5 Accessibility F6 Other Options
Right Ctrl

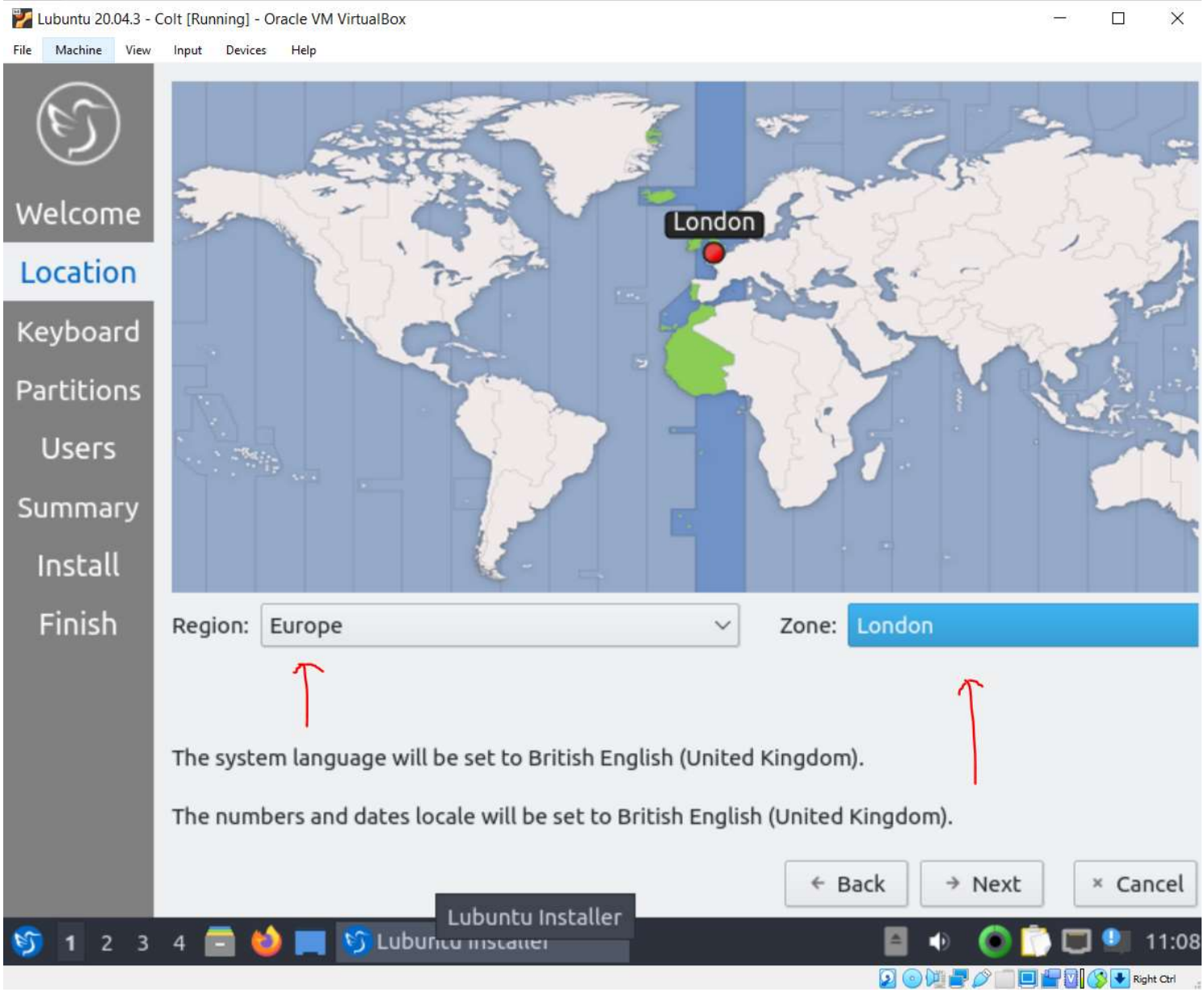


- **Installer is started and it will prompt to select the preferred language. Choose the language of your choice and click continue. If you happen to see "waiting for 1 module(s)", then please wait for a brief period of time. Then the "Next" button will be enabled.**

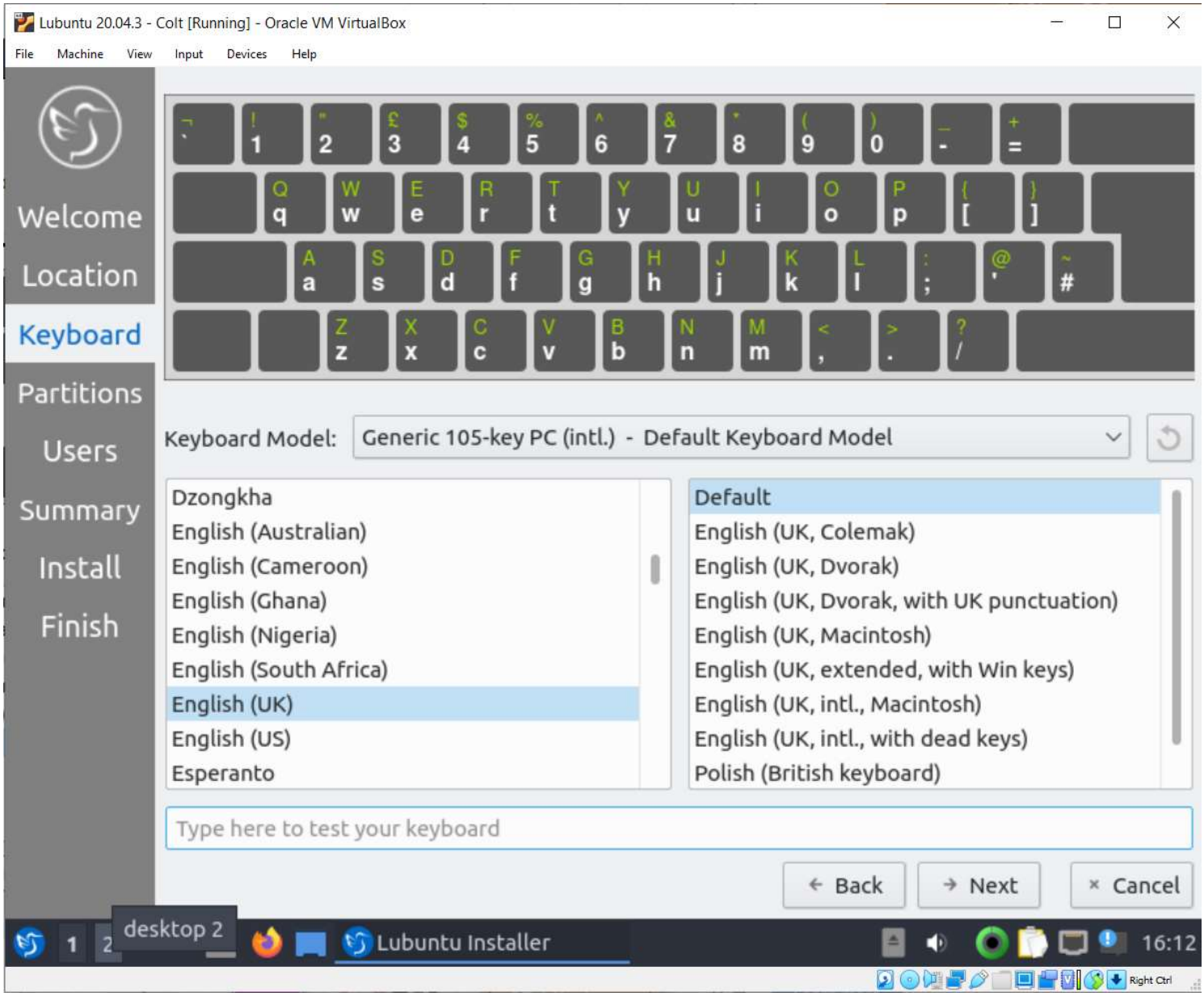

Lubuntu 20.04.3 - Colt [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Welcome
Location
Keyboard
Partitions
Users
Summary
Install
Finish
Welcome to the Lubuntu installer.
Waiting for 1 module(s). (21 second(s))
British English (United Kingdom)
About
Donate
Lubuntu support
Back
Next
Cancel
Lubuntu Installer
1 2 3 4
15:58
Right Ctrl



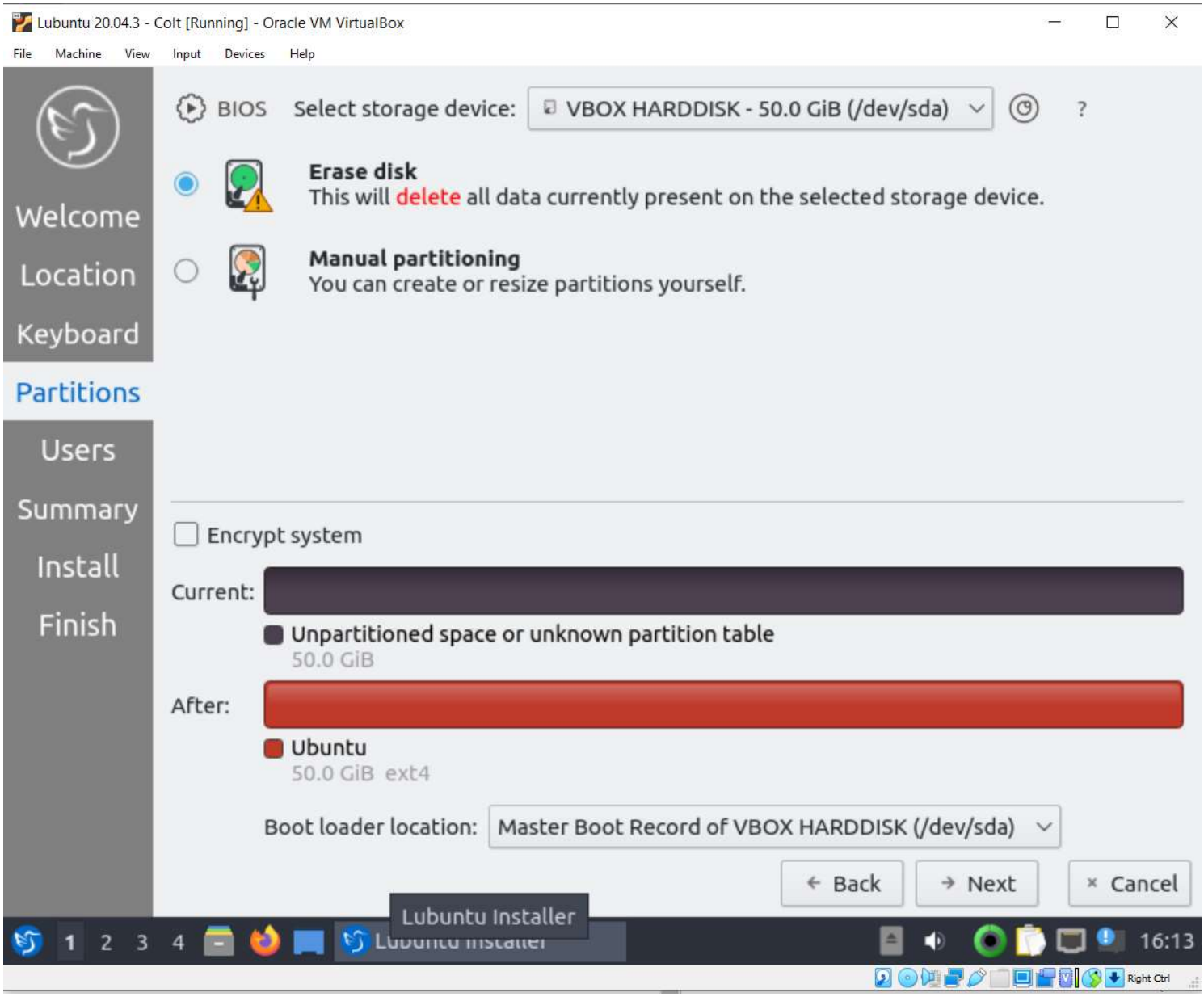
- **Select the location (Region and zone) and click continue.**



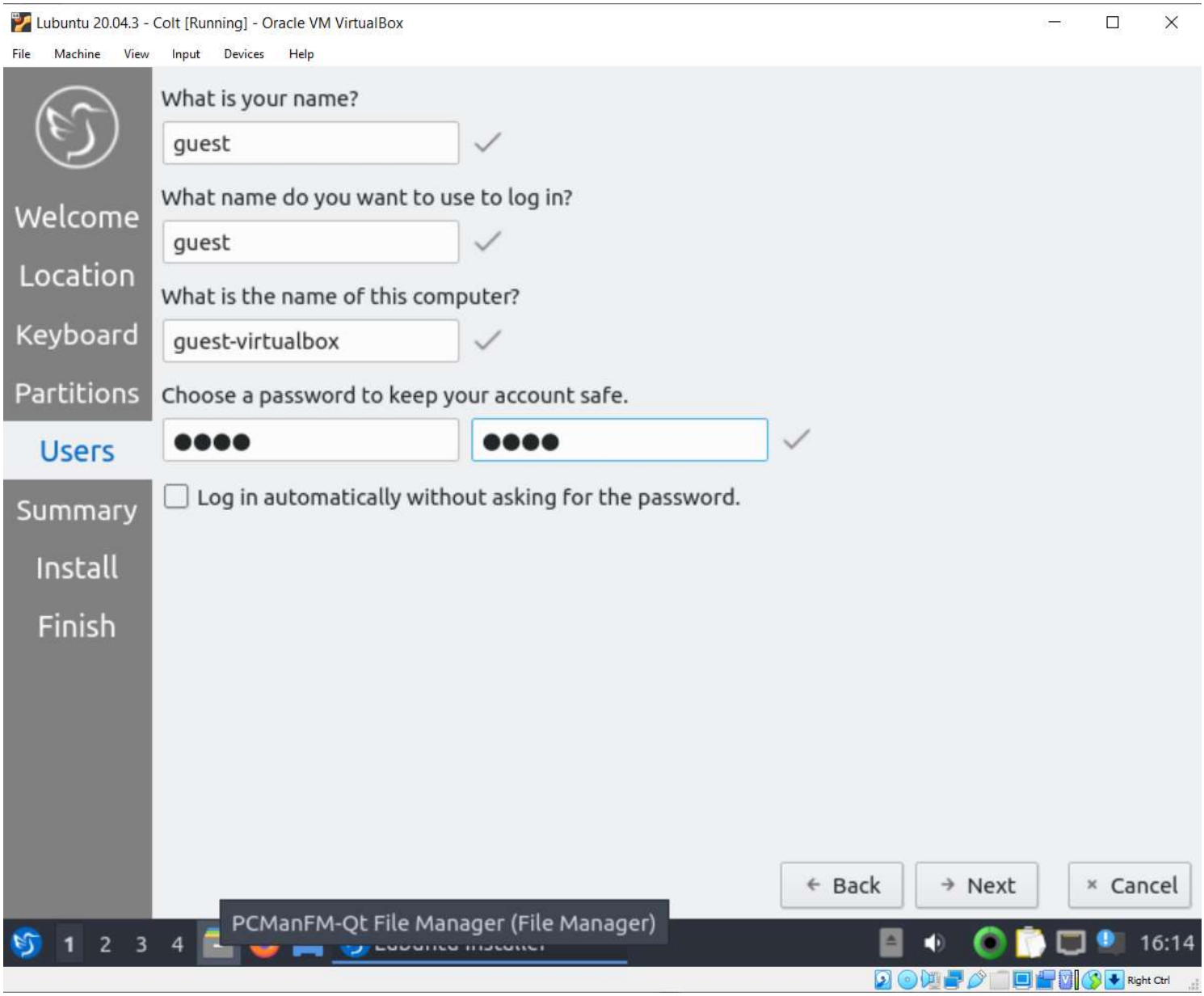
- **Select a keyboard layout and click continue.**



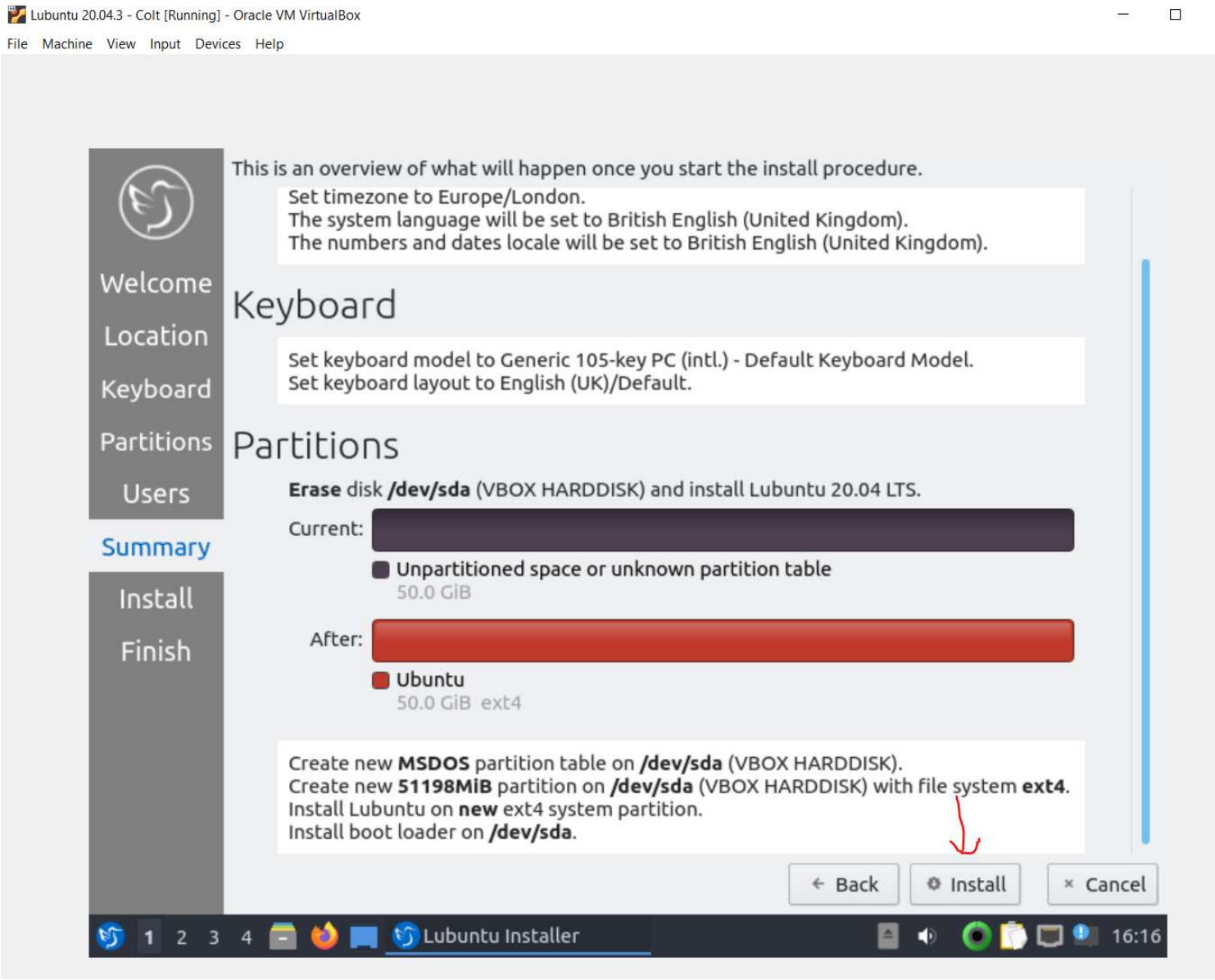
- **You can erase the disk completely or do manual partitioning. I am proceeding with the erase the disk.**



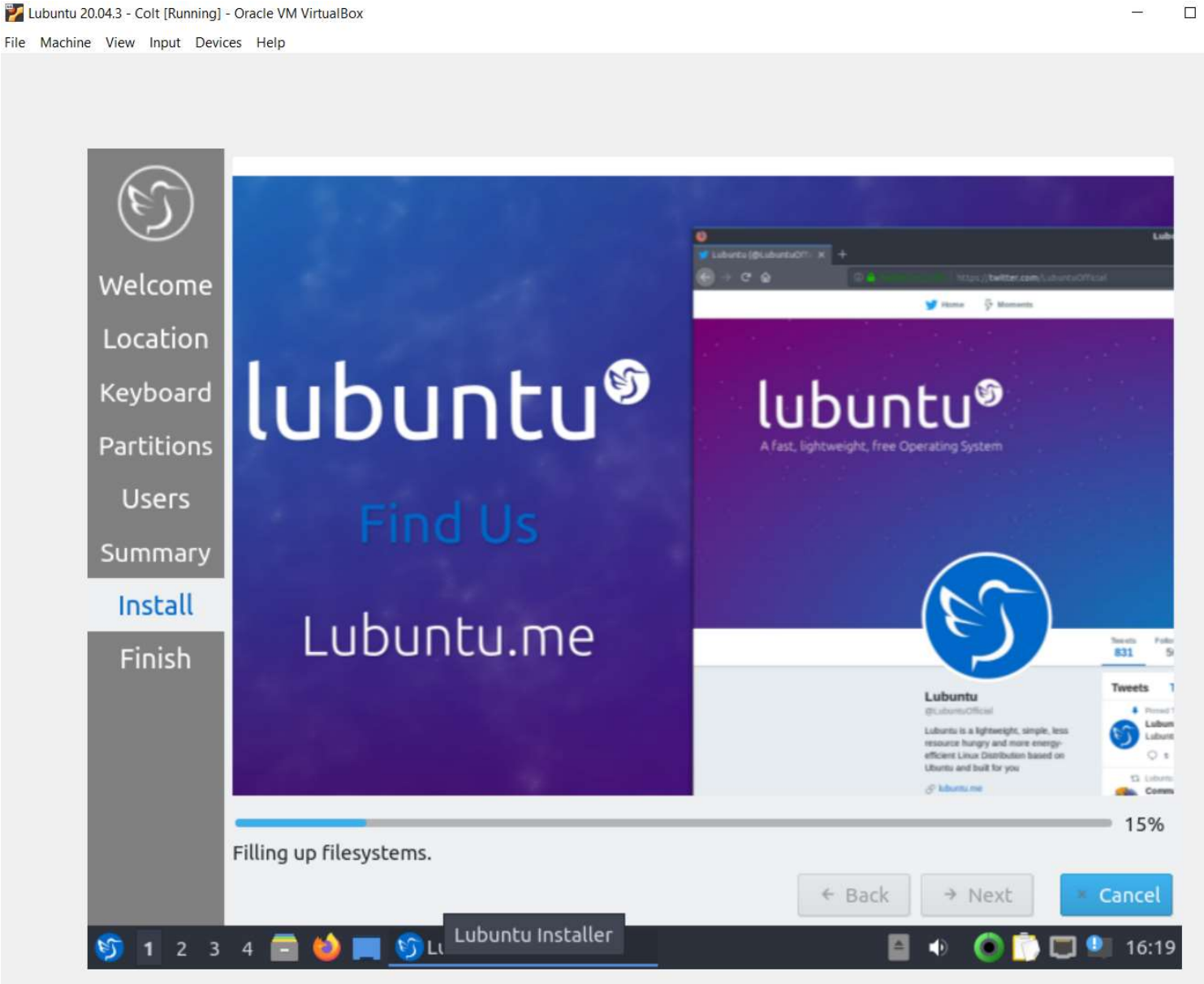
- **Setup a system account – system name, user, password and click continue.**



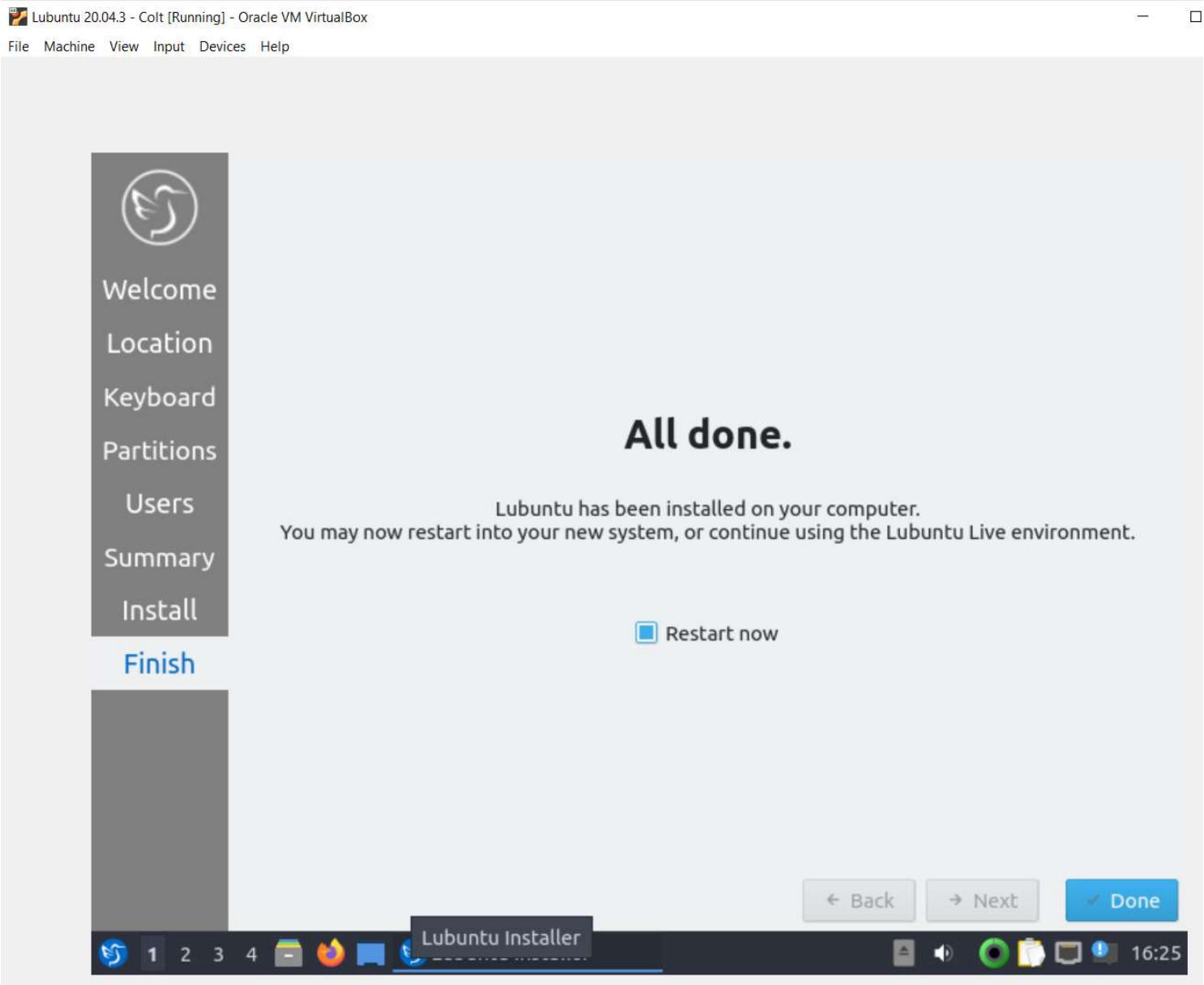
- **Review the previous steps in the summary section and click “Install”.**



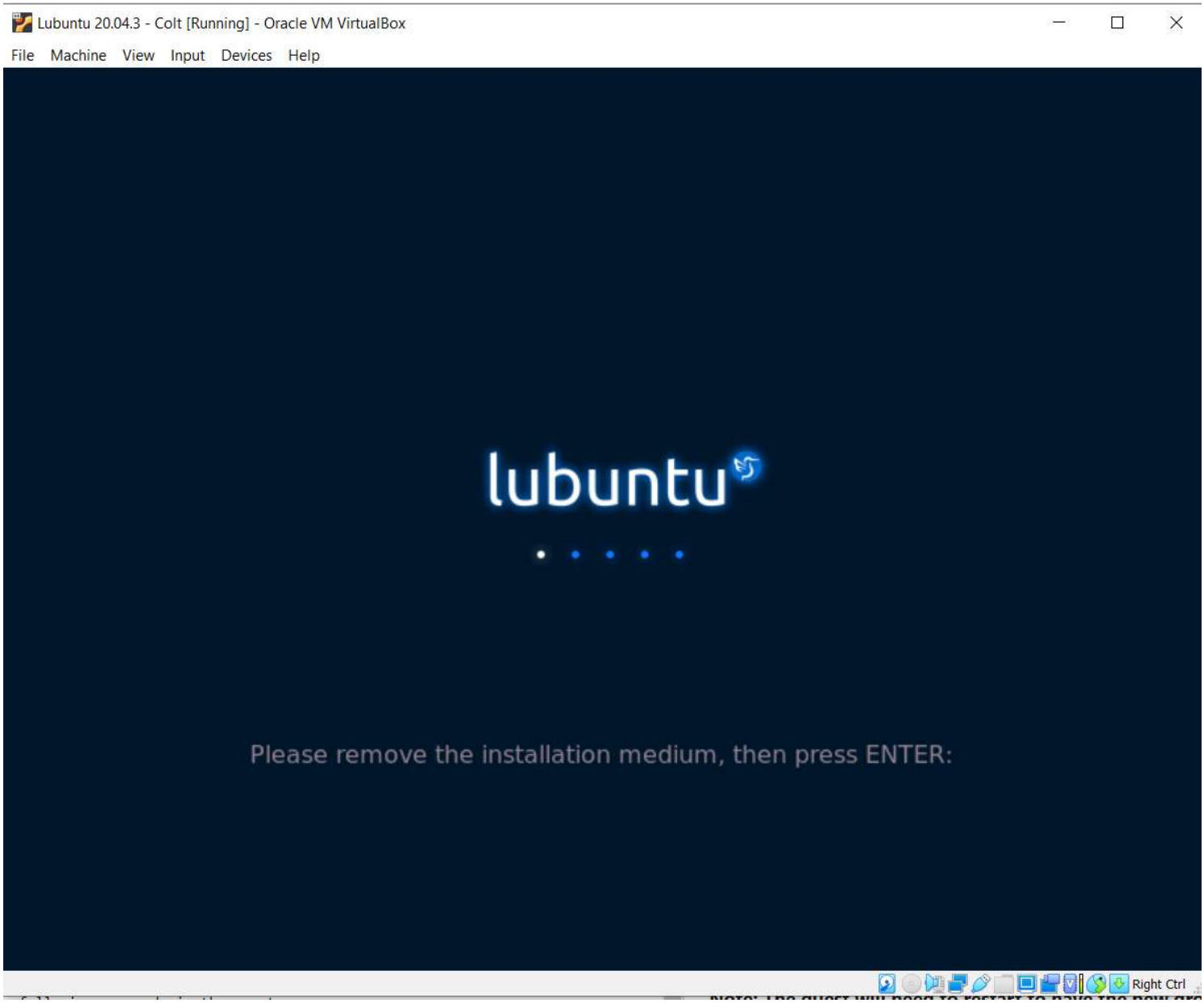
- **Now the installation has begun and in comparison with other Ubuntu-based distributions, the Lubuntu installation will be much quicker.**



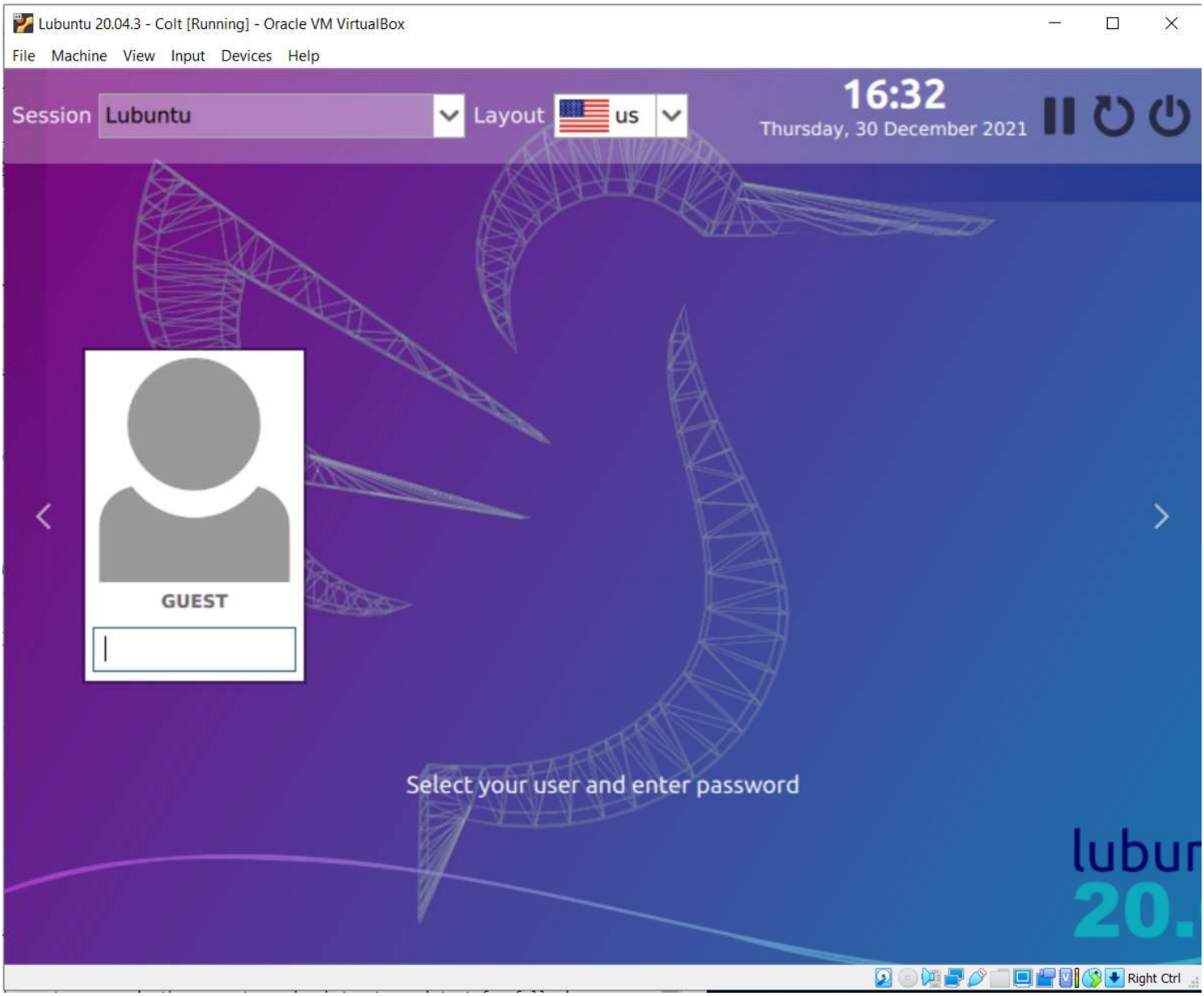
- **Installation is completed. Go ahead and restart the machine.**



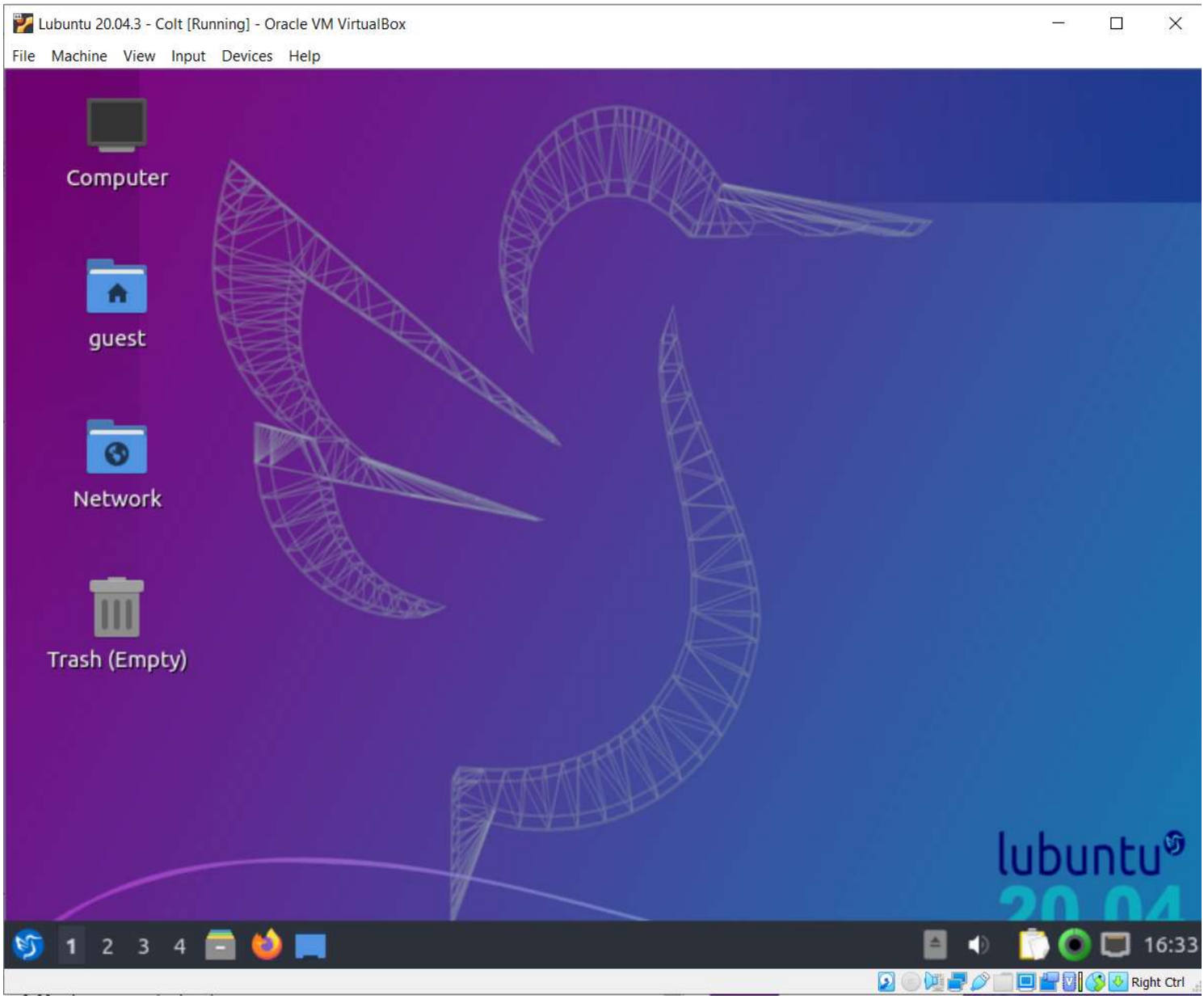
- **If you happen to see this screen, please wait for few minutes or try to restart the VM.**



- **After reboot it will prompt with a login screen. Enter the username and password we created during the installation process.**



- **Now, a freshly installed copy of Lubuntu 20.04 is ready for use. We need to customise it for networking and other features.**



Step 13 - Configure System wide Colt proxy (for internet access)

Warning: This step assumes you are connected to Colt VPN.

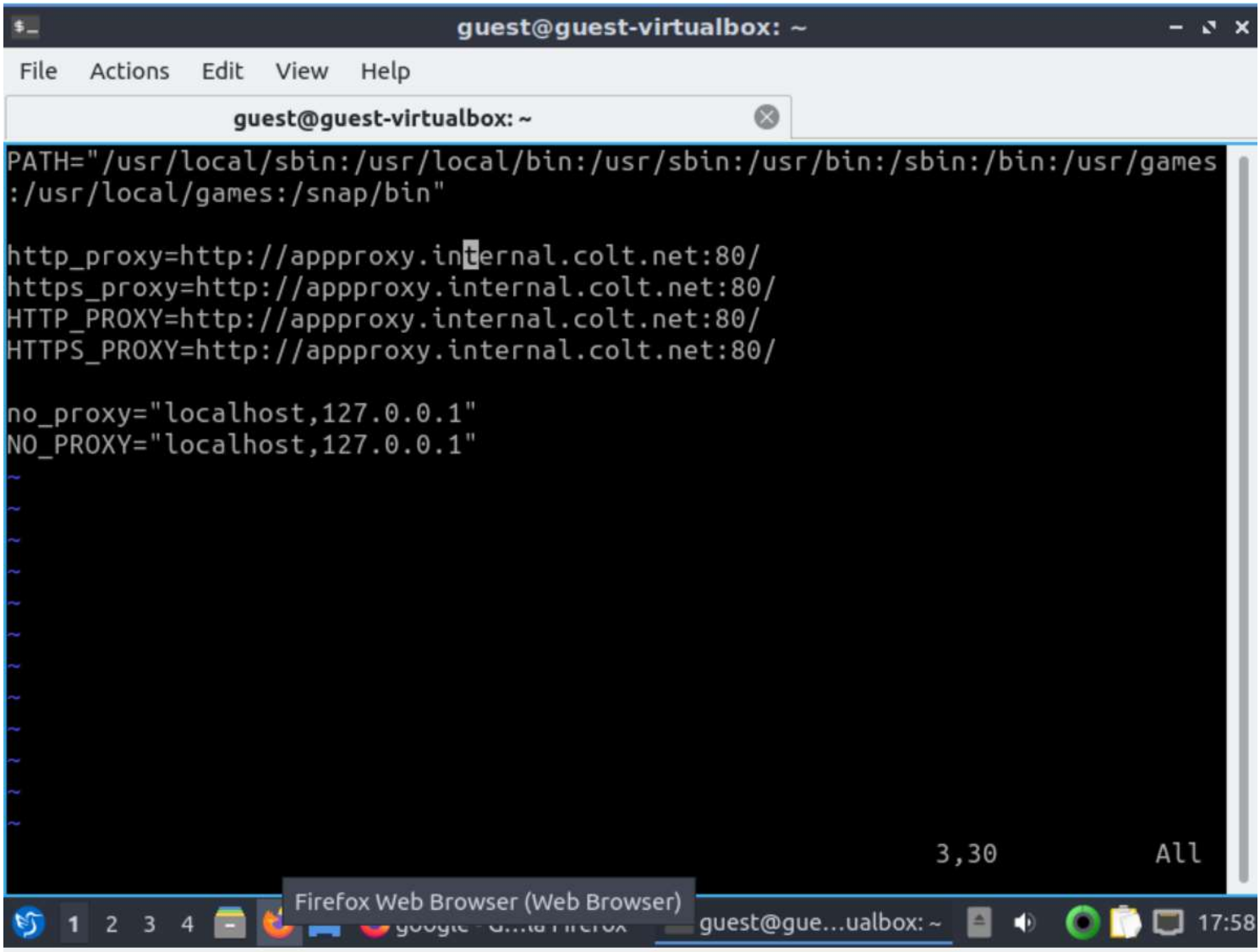
Reference: https://itectec.com/ubuntu/ubuntu-how-to-set-system-wide-proxy-servers-in-xubuntu-lubuntu-or-ubuntu-studio/

1. Set up the proxy/proxies for most programs

Open the `/etc/environment` file with sudo access. This file stores the system-wide variables initialised upon boot. Add the following lines, modifying appropriately. You must duplicate in both upper-case and lower-case because (unfortunately) some programs only look for one or the other:

```
sudo vi /etc/environment
```

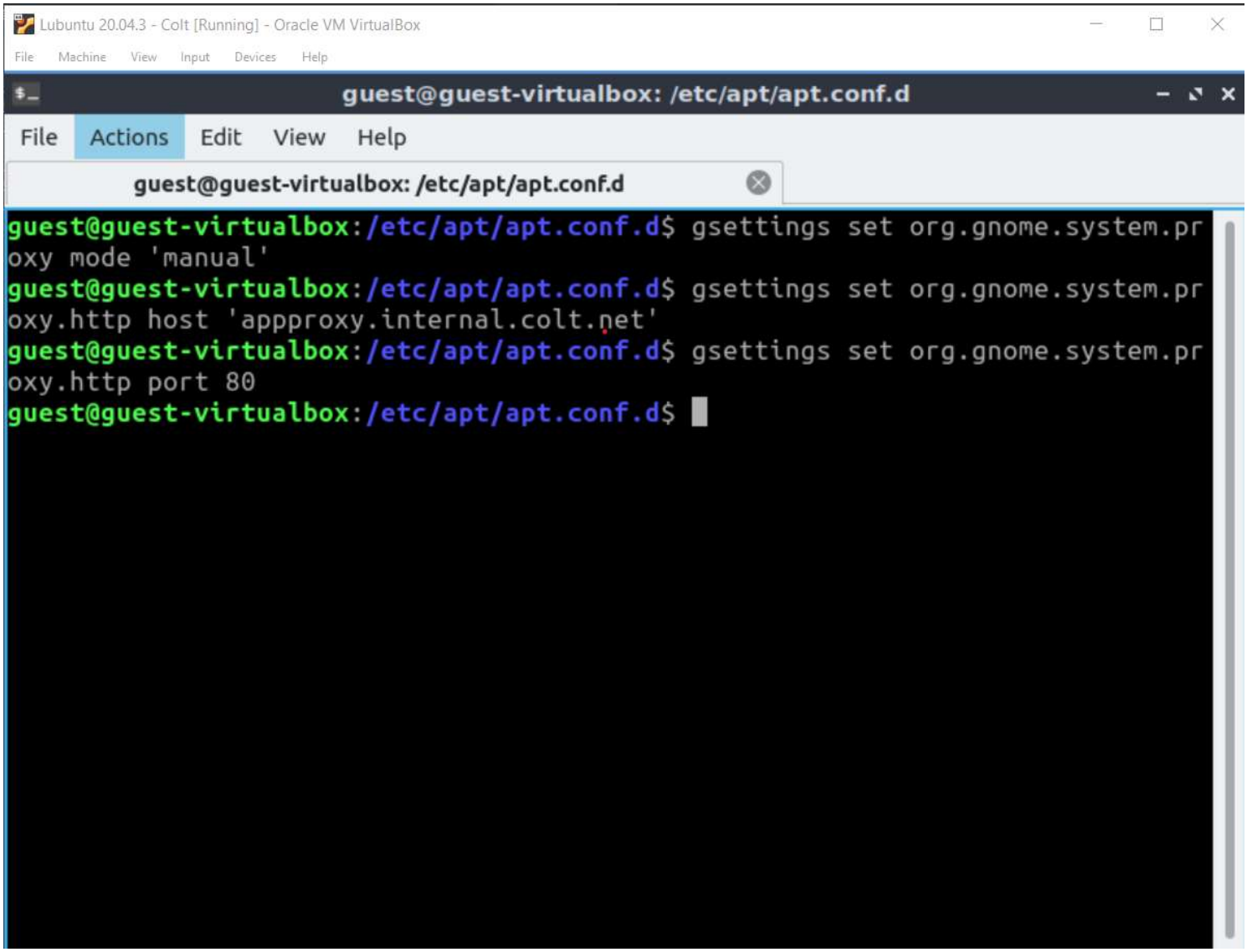
```
http_proxy=http://appproxy.internal.colt.net:80/
https_proxy=http://appproxy.internal.colt.net:80/
ftp_proxy=http://appproxy.internal.colt.net:80/
no_proxy="localhost,127.0.0.1,localaddress,.localdomain.com"
HTTP_PROXY=http://appproxy.internal.colt.net:80/
HTTPS_PROXY=http://appproxy.internal.colt.net:80/
FTP_PROXY=http://appproxy.internal.colt.net:80/
NO_PROXY="localhost,127.0.0.1,localaddress,.localdomain.com"
```



2. Then set up proxies for GTK3 programs such as Rhythmbox:

Some newer GTK3 programs such as Rhythmbox ignore the environment variables set above, and rely on Gnome settings instead. To make sure they are covered, open a terminal and paste the below line-by-line, modifying as appropriate:

```
gsettings set org.gnome.system.proxy mode 'manual'
gsettings set org.gnome.system.proxy.http host 'appproxy.internal.colt.net'
gsettings set org.gnome.system.proxy.http port 80
```

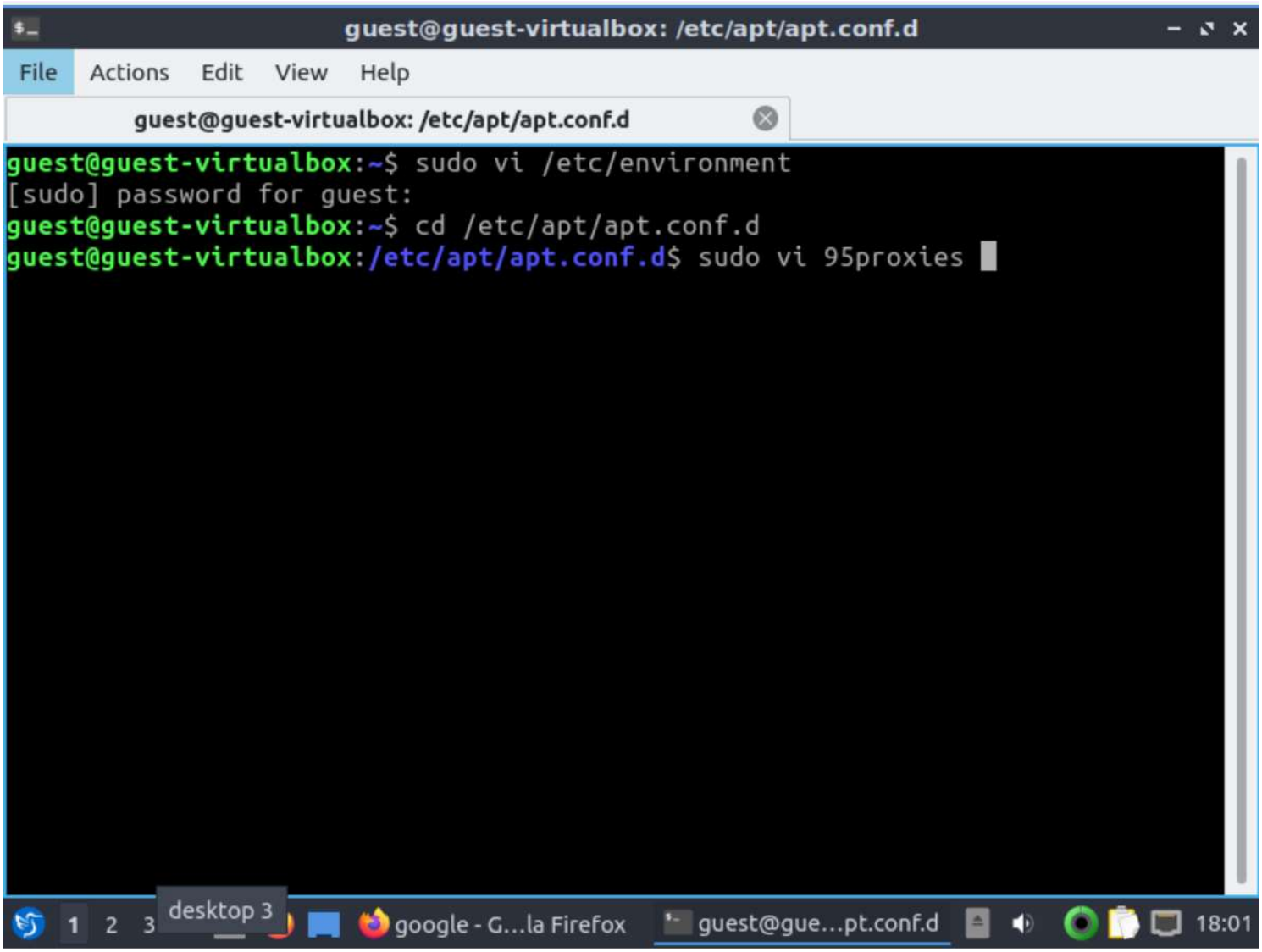


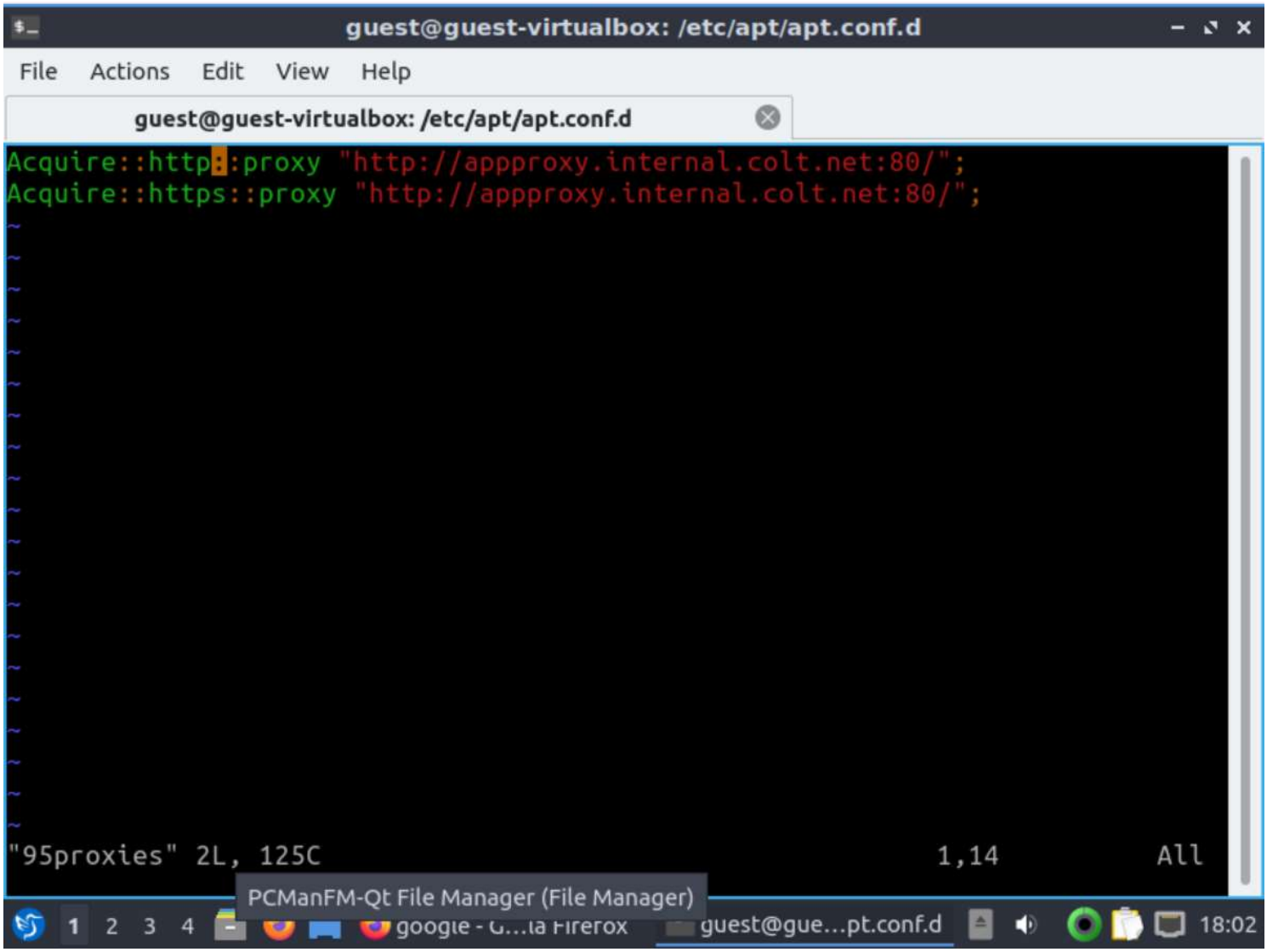
3. Finally, set up the proxies for apt-get and Update Manager

These programs will not obey the environment variables either. Create a file called 95proxies in /etc/apt/apt.conf.d/, and include the following:

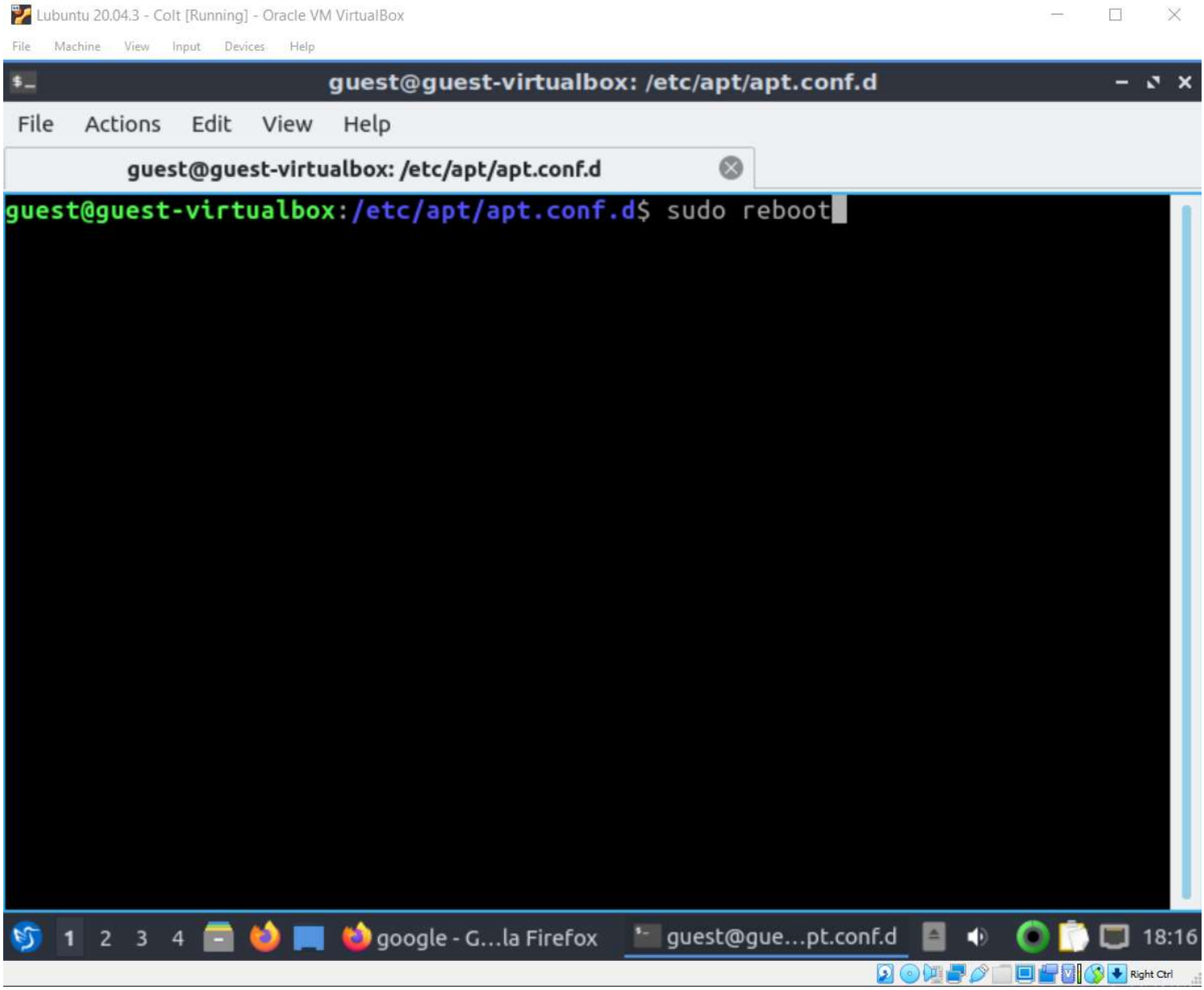
```
cd /etc/apt/apt.conf.d/
sudo vi 95proxies
```

```
Acquire::http::proxy "http://appproxy.internal.colt.net:80/";
Acquire::ftp::proxy "ftp://appproxy.internal.colt.net:80/";
Acquire::https::proxy "https://appproxy.internal.colt.net:80/";
```


guest@guest-virtualbox: /etc/apt/apt.conf.d
File
Actions
Edit
View
Help
guest@guest-virtualbox: /etc/apt/apt.conf.d
guest@guest-virtualbox:~$ sudo vi /etc/environment
[sudo] password for guest:
guest@guest-virtualbox:~$ cd /etc/apt/apt.conf.d
guest@guest-virtualbox:/etc/apt/apt.conf.d$ sudo vi 95proxies
1
2
3
desktop 3
google - G...la Firefox
guest@gue...pt.conf.d
18:01

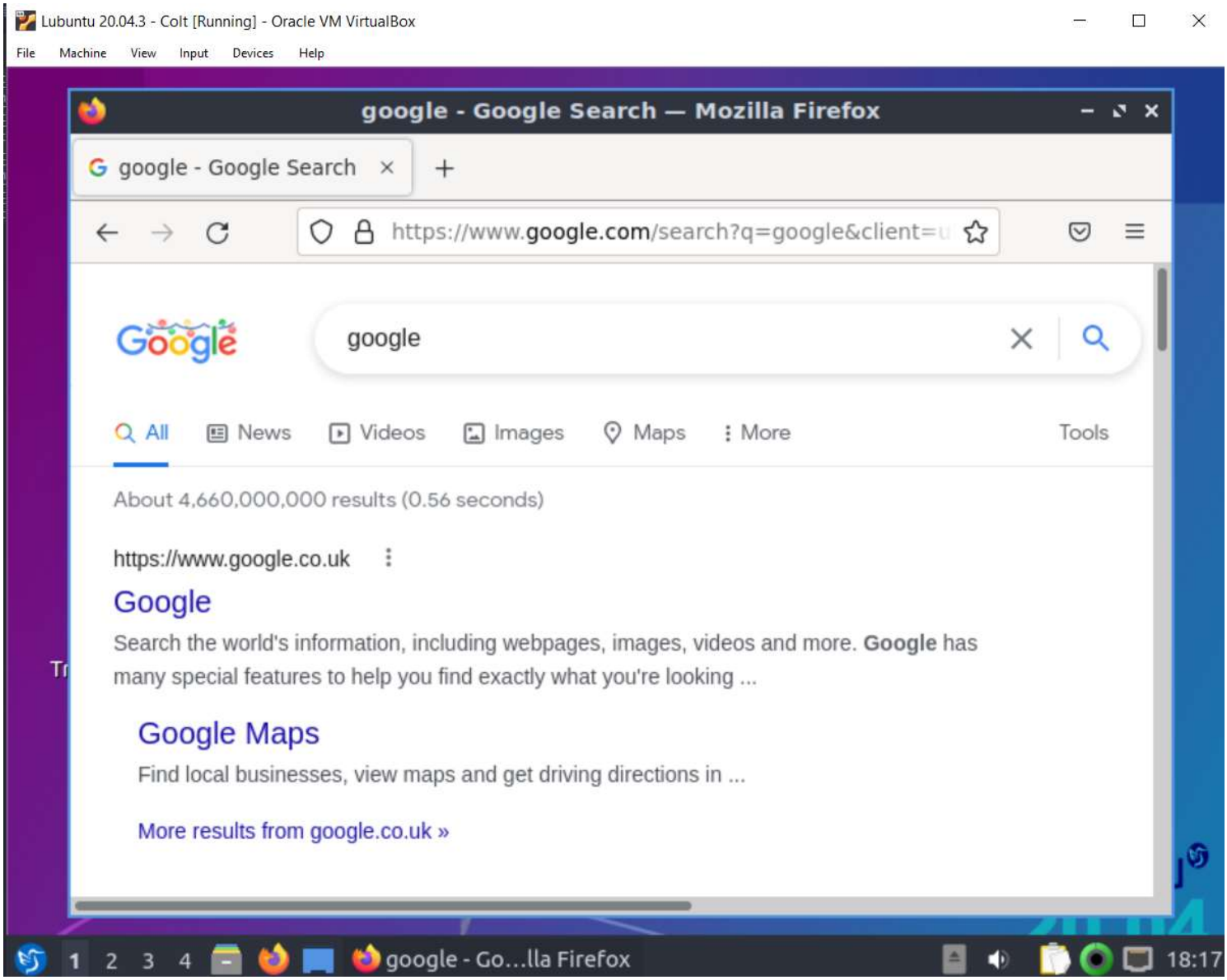


4. Finally, logout and reboot to make sure the changes take effect.



root

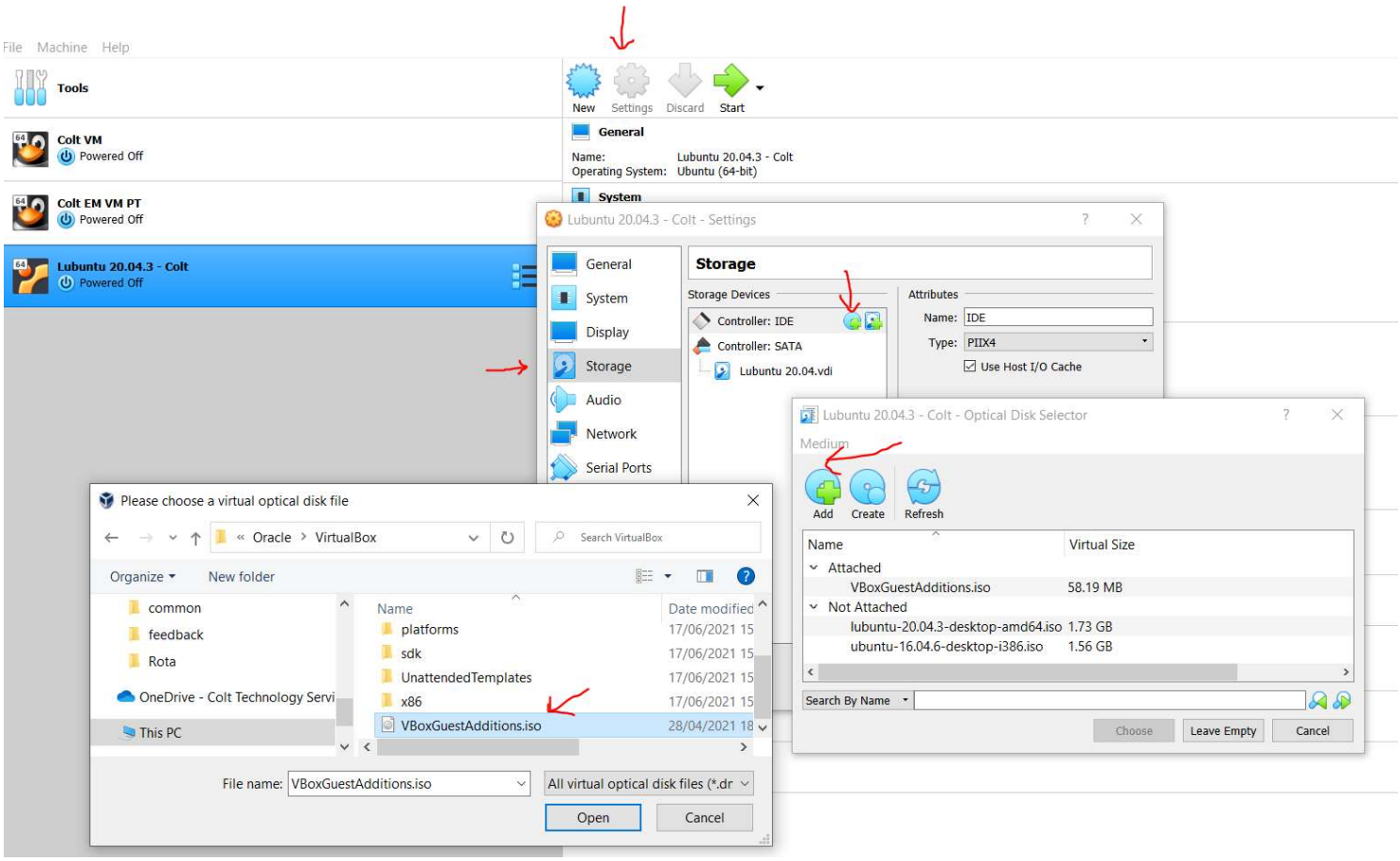
After successful reboot, we should be able to access the internet using colt proxy (with VPN connected)



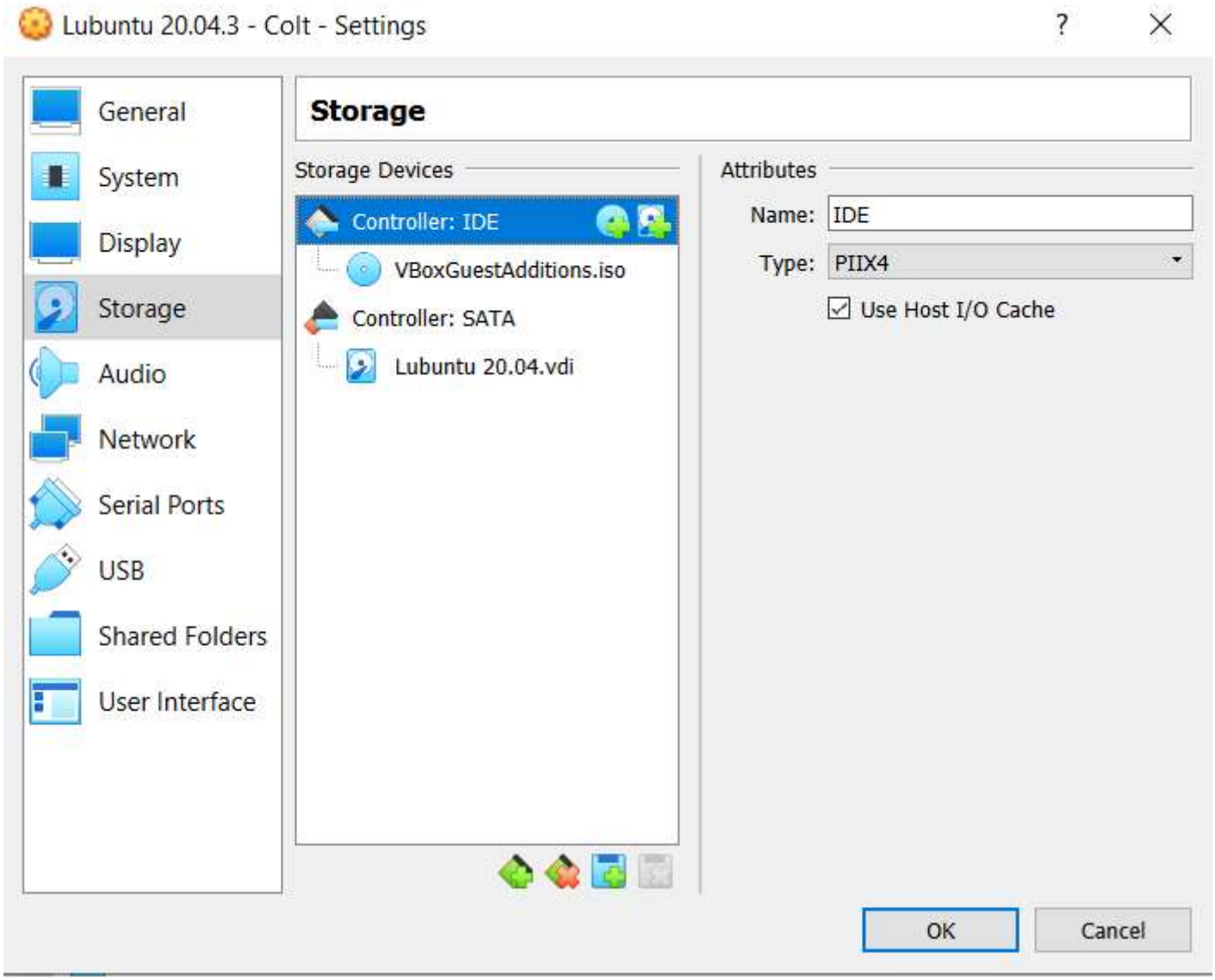
Step 12 - Install VM guest additions:

Ensure to logoff and power off the VM before proceeding further (`sudo reboot`).

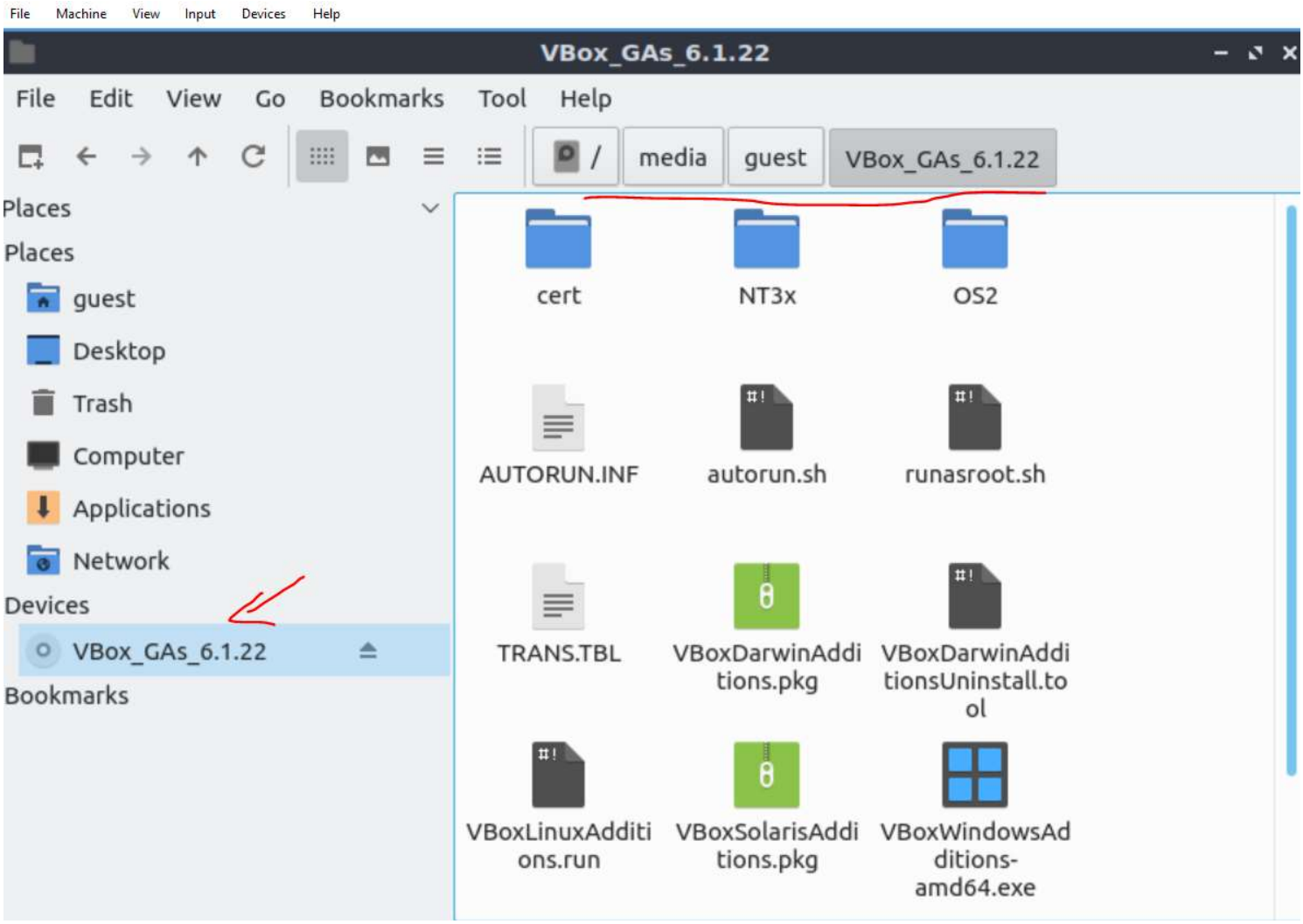
Mount the VBoxGuestAdditions.iso to VM available in `C:/Program Files/Oracle/VirtualBox` and start the VM.



The storage setting should look like this now.

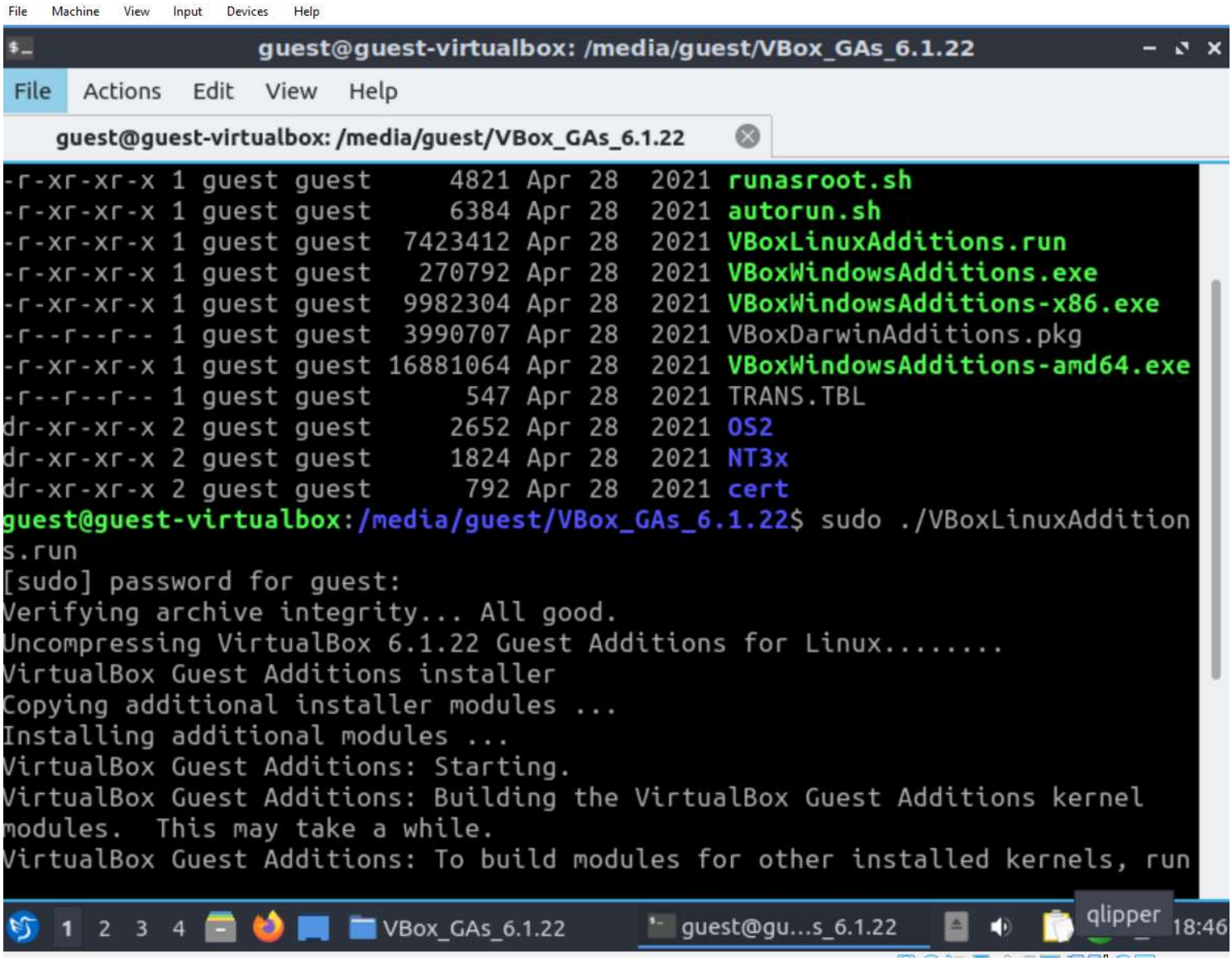


- Now start your VM and open file explorer. You should be able to see the VBox guest iso mounted in `/media/guest/VBox_GA_6.1.22`



- Open a terminal window and change dir to `/media/guest/VBox_GA_6.1.22` and run

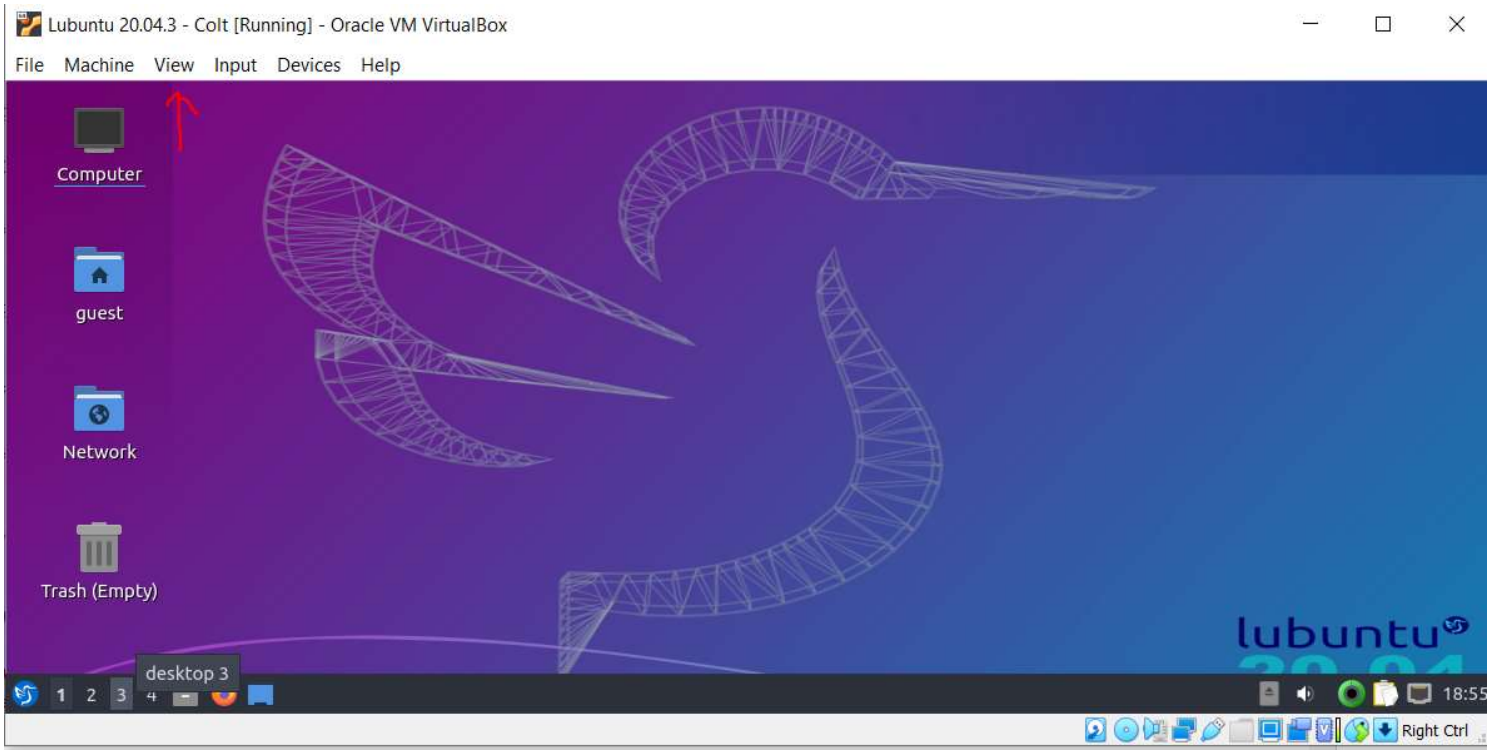
```
sudo sh ./VBoxLinuxAdditions.run
```



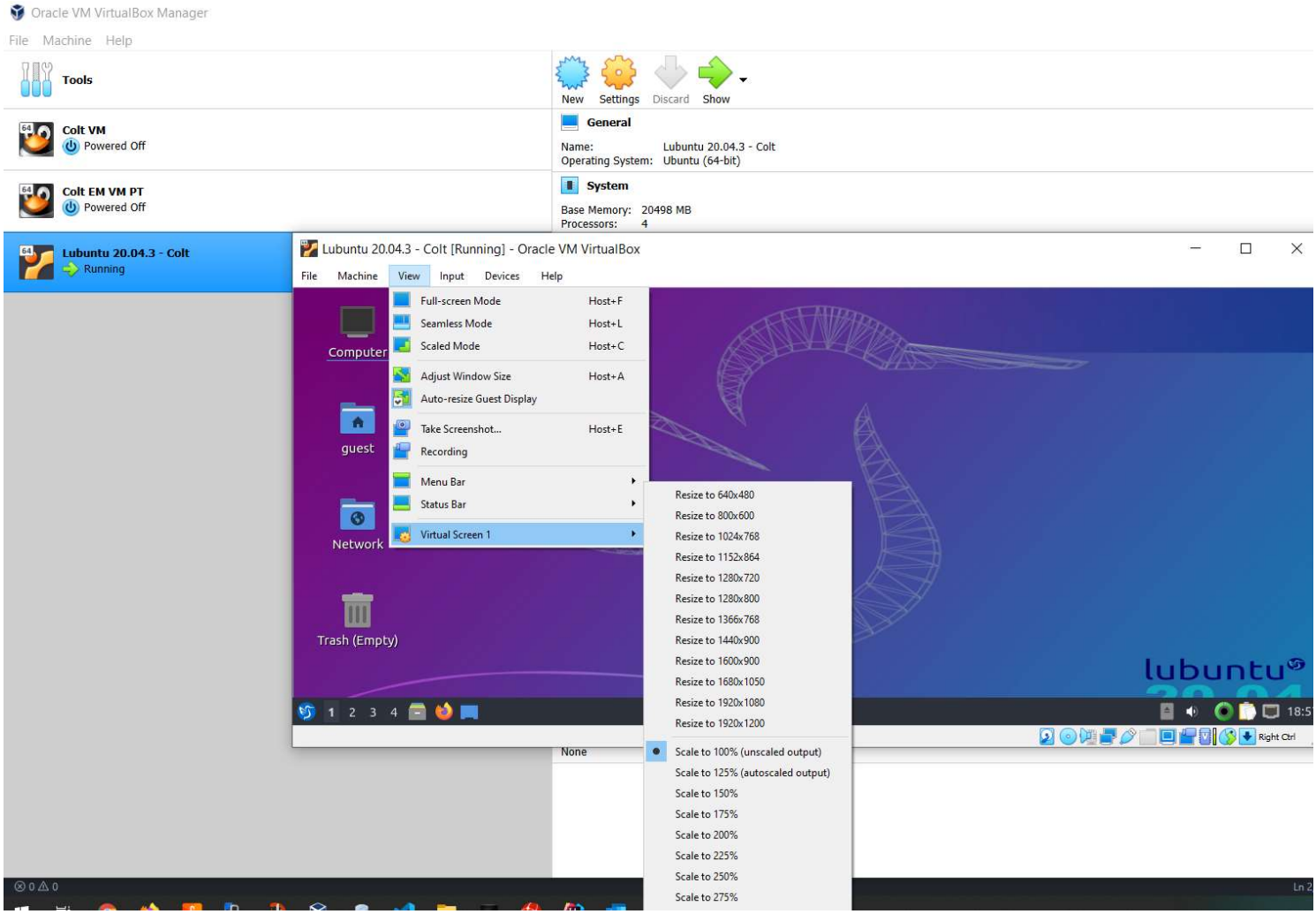
- Reboot the guest VM using

```
sudo rebootroot
```

Now you should be able to Auto size and extend your screens. Click on "View" and then "Adjust window size"



You can change the display resolution to 100% (that's how I like) as below.



Step 13 - Mount shared folder (Continue from Step 9 && 10 for sharing clipboard and files):

Step 1 - Auto-Mount through Virtual Box Manager:

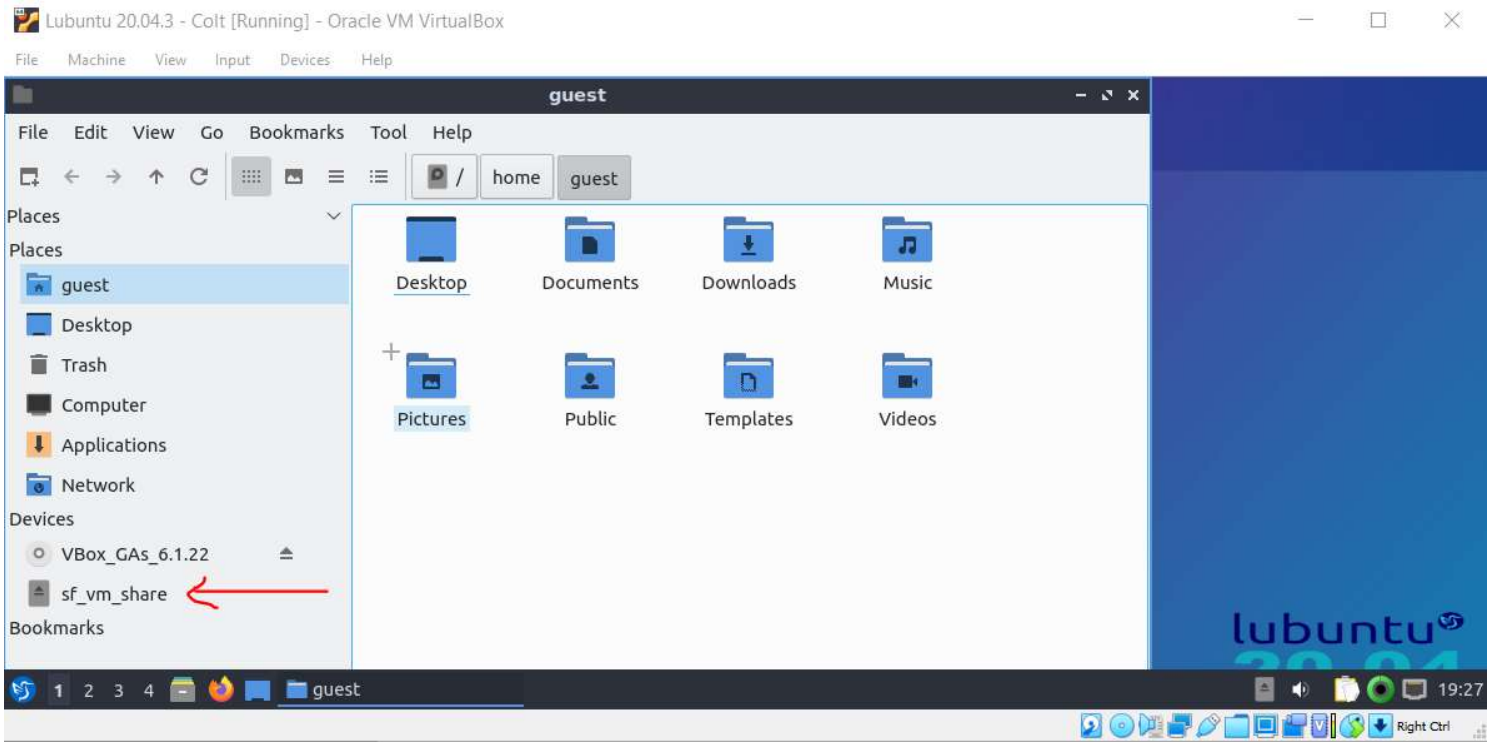
In case we enabled auto-mounting on creating a shared folder from the Virtual Box Manager those shared folders will automatically be mounted in the guest with mount point `/media/sf_<name_of_folder>`. To have access to these folders users in the guest need to be a member of the group vboxsf.

`sudo usermod -aG vboxsf userName --> sudo usermod -aG vboxsf guest`

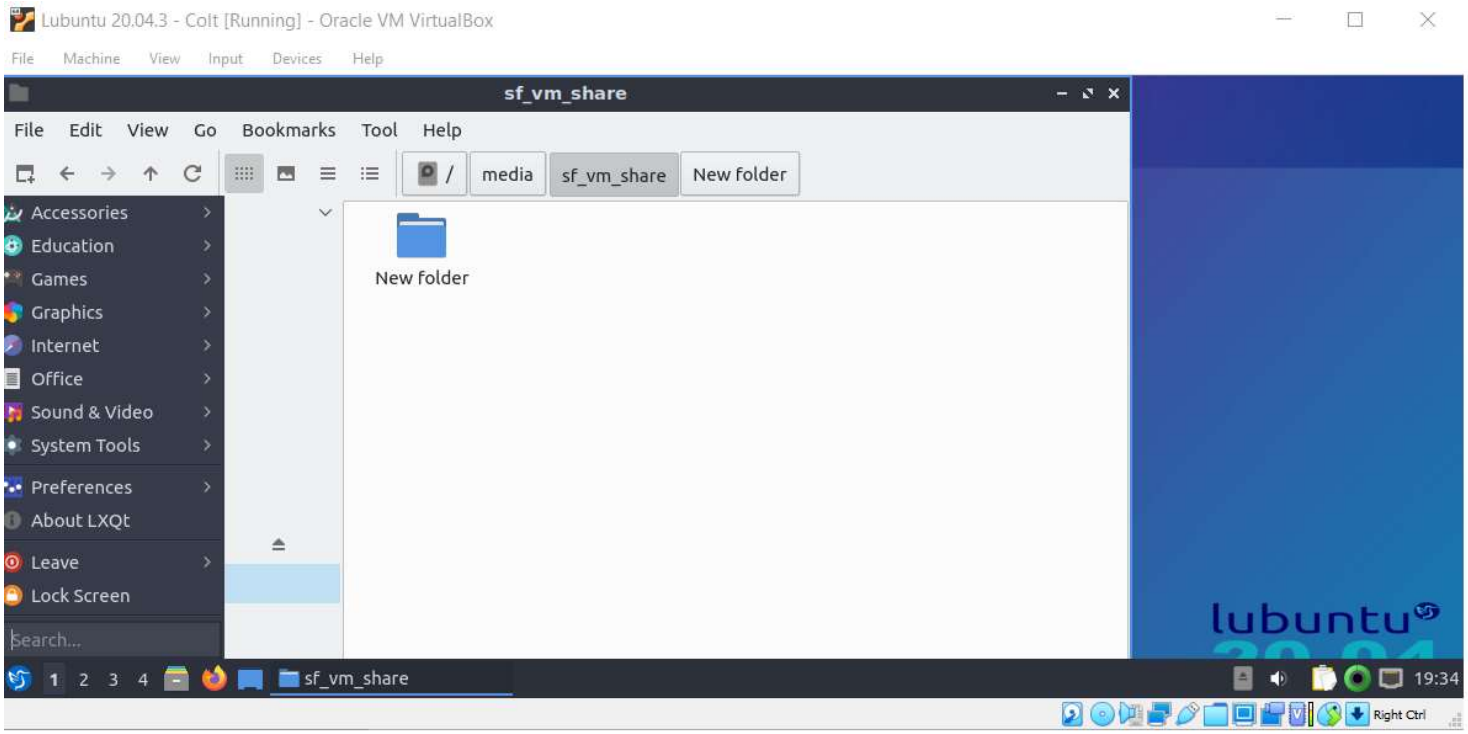
Note: The guest will need to restart to have the new group added.

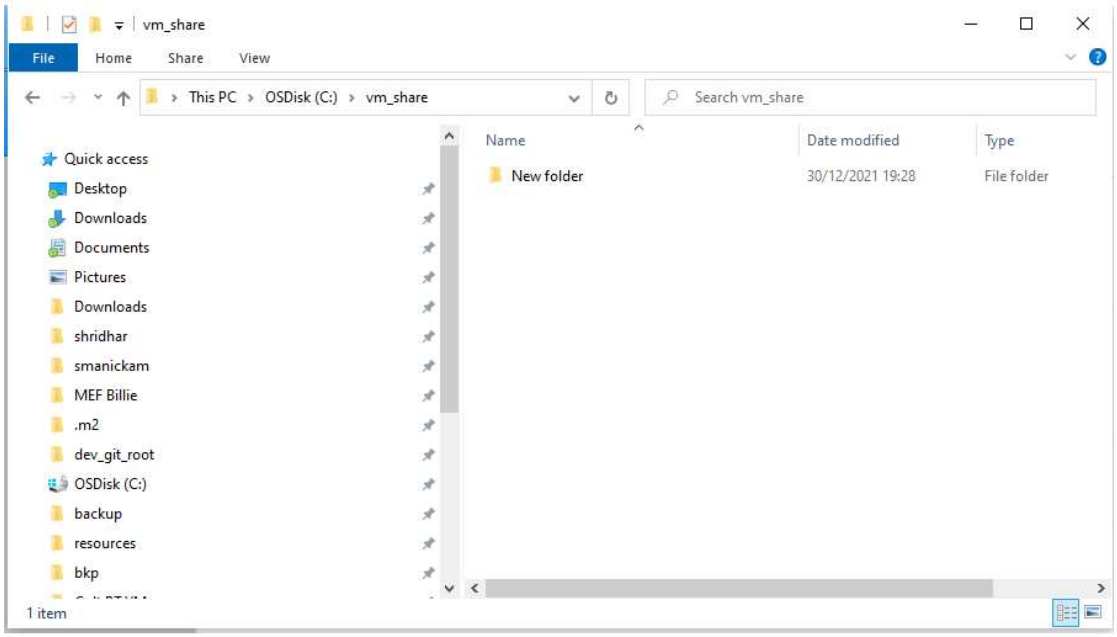
- **Repeat Step 10 (Enable shared folder) - Optional, if you are unable to see the /media/sf_vm_share folder**

https://dev.azure.com/NetworkOnDemand/On Demand/_wiki/wikis/On-Demand.wiki?wikiVersion=GBwikiMaster&pagePath=/On Demand Team Wiki/Onboarding/VM setup&pageId=14&_a=edit&anchor=step-10-(enable-shared-folder)---optional%3A



You should be able to share files between guest and host, if not see next step.





Step 2 (Optional) - do this only if you do not have write access on the shared folder - Access to shared folders in Virtual Box:

By default, VirtualBox shared folders are created with read/write permission for the guest. This can be done from the command line on the host with:

```
VBoxManage sharedfolder add "VM name" --name sharename --hostpath "C:\test"
```

By adding the option --readonly we can restrict these for read-only access.
Use the --transient option if you only want the shares to appear in the present session but not persistent for following sessions. There are some limitations for shared folders (see this question for details). If prerequisites are met we may mount these shared folders manually by running the following commands in the guest:

```
mkdir /home/<user>/vboxshare
sudo mount -t vboxsf -o uid=1000,gid=1000 sharename /home/<user>/vboxshare
```

Of course, we can also use different mount options to mount as read/only or mount with read access only to root.

Source and further reading: Virtual Box User Manual