0 – Install Linux within VirtualBox

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Course: Scientific Programming / Wissenchaftliches Programmieren (Python)

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Install Linux (Lubuntu) within VirtualBox

- Install Virtual Box on your machine

- Download the ISO image of Lubuntu 22.04 (lubuntu-22.04.2-desktop-amd64.iso)

Notes

- Virtual Box won't work on Mac with M1 (arm) processors.

Create virtual machine
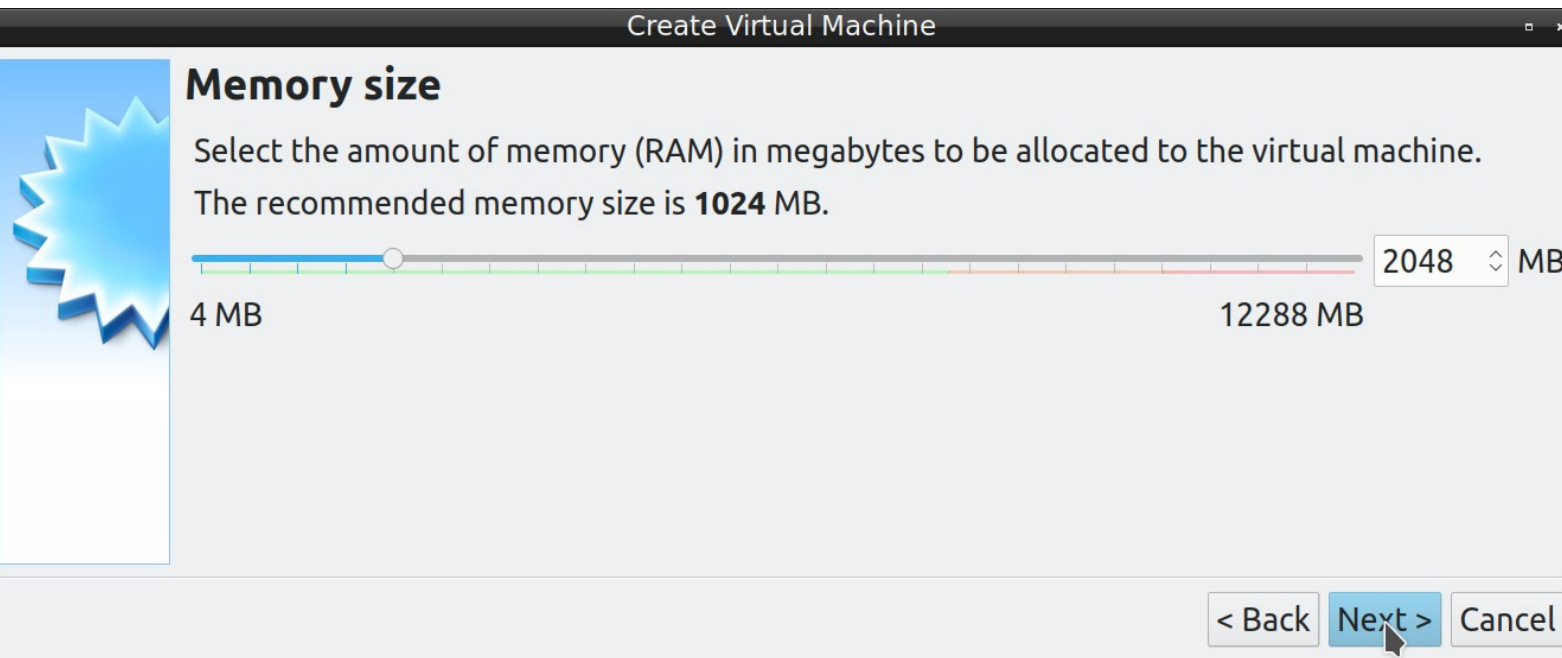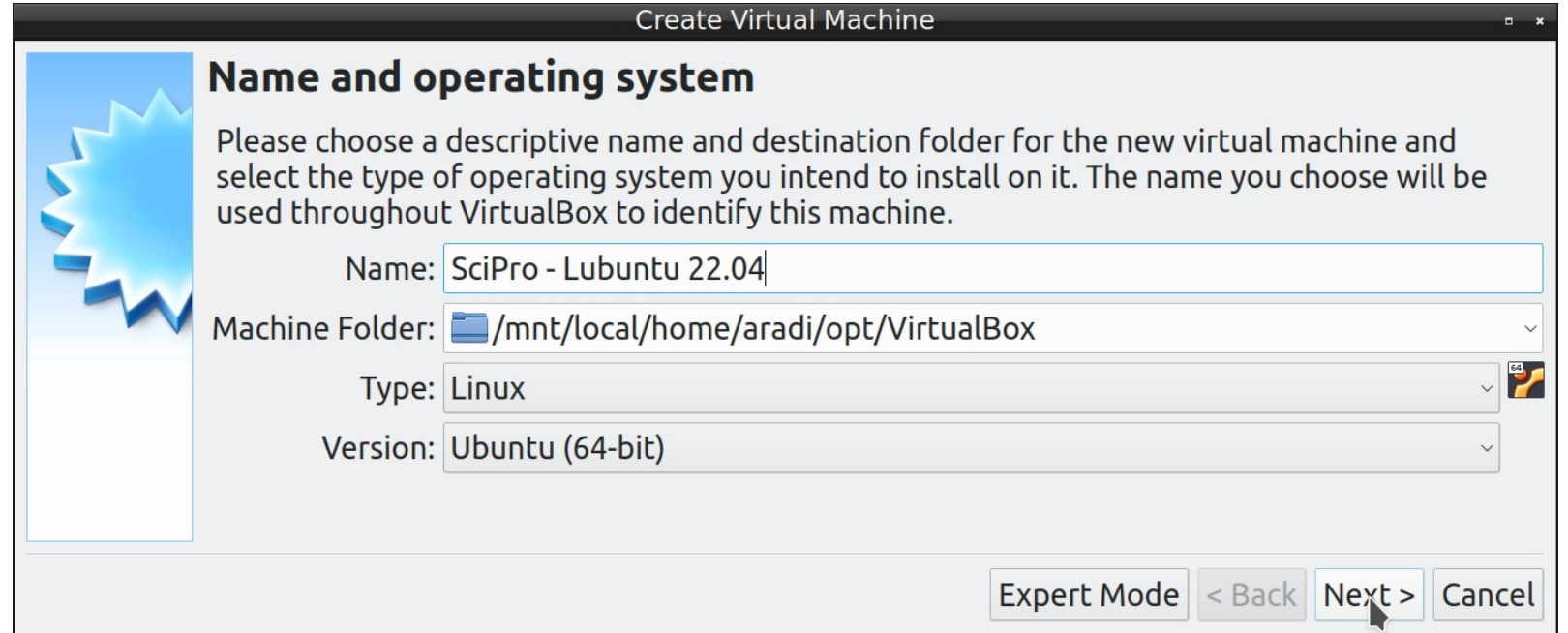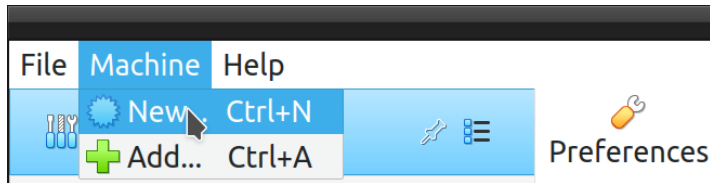
Select **2048** MB memory if your laptop has at least 8 GB of RAM, or **1024** MB otherwise

Create virtual hard disk

Create Virtual Machine

Hard disk

If you wish you can add a virtual hard disk file or select one from

If you need a more complex stor machine settings once the machi

The recommended size of the ha

○ Do not add a virtual hard disk

◉ Create a virtual hard disk now

○ Use an existing virtual hard disk

windisk2.vdi (Normal, 70,00 GB

Create Virtual Hard Disk

Hard disk file type

Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.

◉ VDI (VirtualBox Disk Image)

○ VHD (Virtual Hard Disk)

○ VMDK (Virtual Machine Disk)

Create Virtual Hard Disk

Storage on physical hard disk

Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).

A **dynamically allocated** hard disk file will only use space on your physical hard disk as it fills up (up to a maximum **fixed size**), although it will not shrink again automatically when space on it is freed.

A **fixed size** hard disk file may take longer to create on some systems but is often faster to use.

◉ Dynamically allocated

○ Fixed size

< Back   Next >   Cancel

Create virtual hard disk
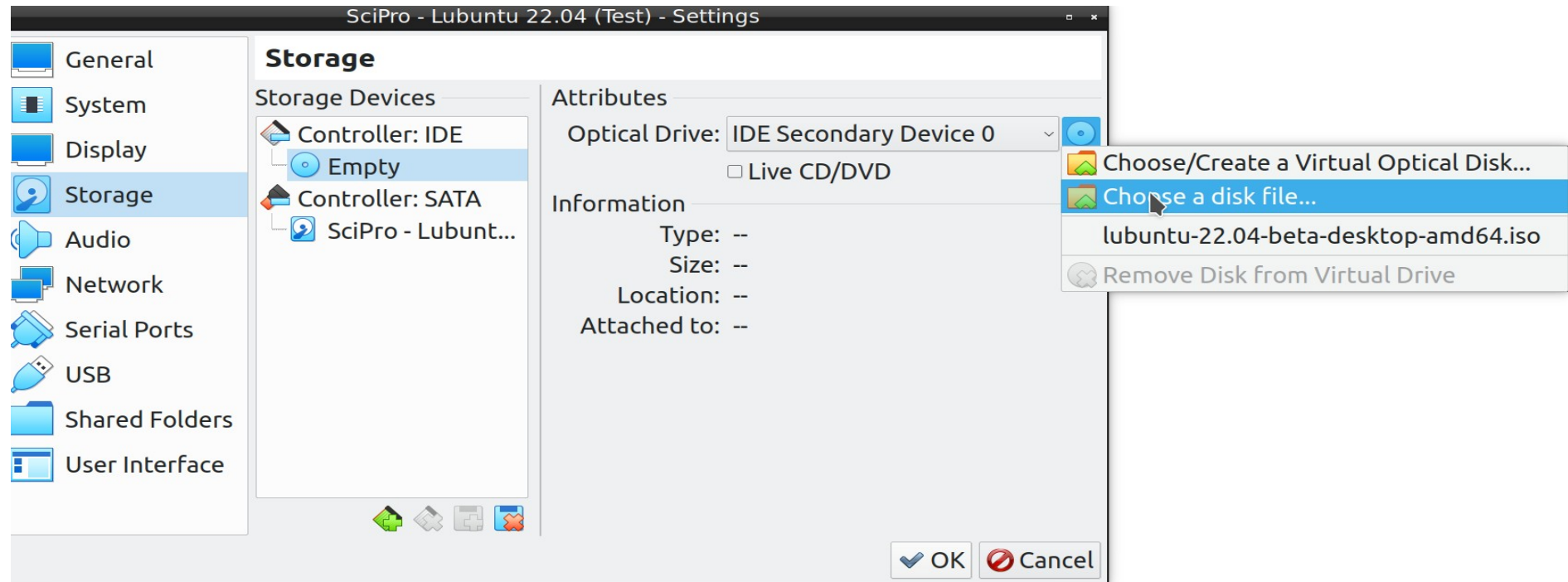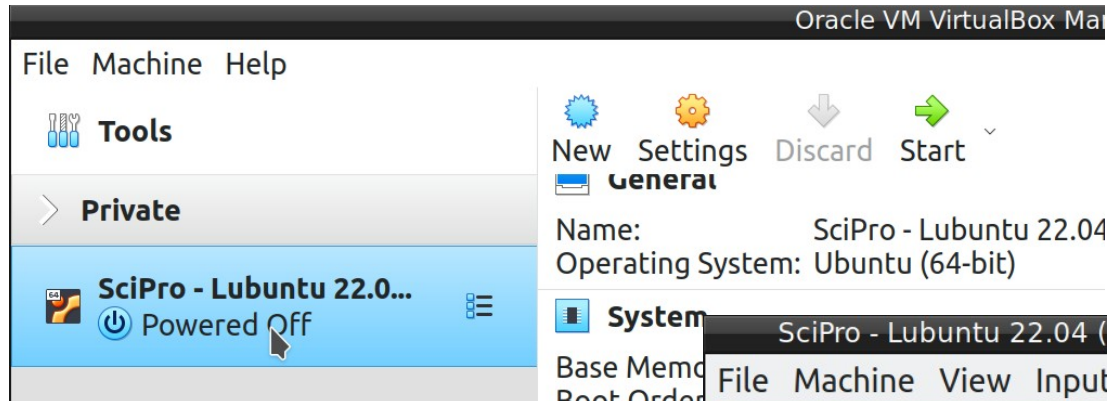

Set hard disk size to 20 GB
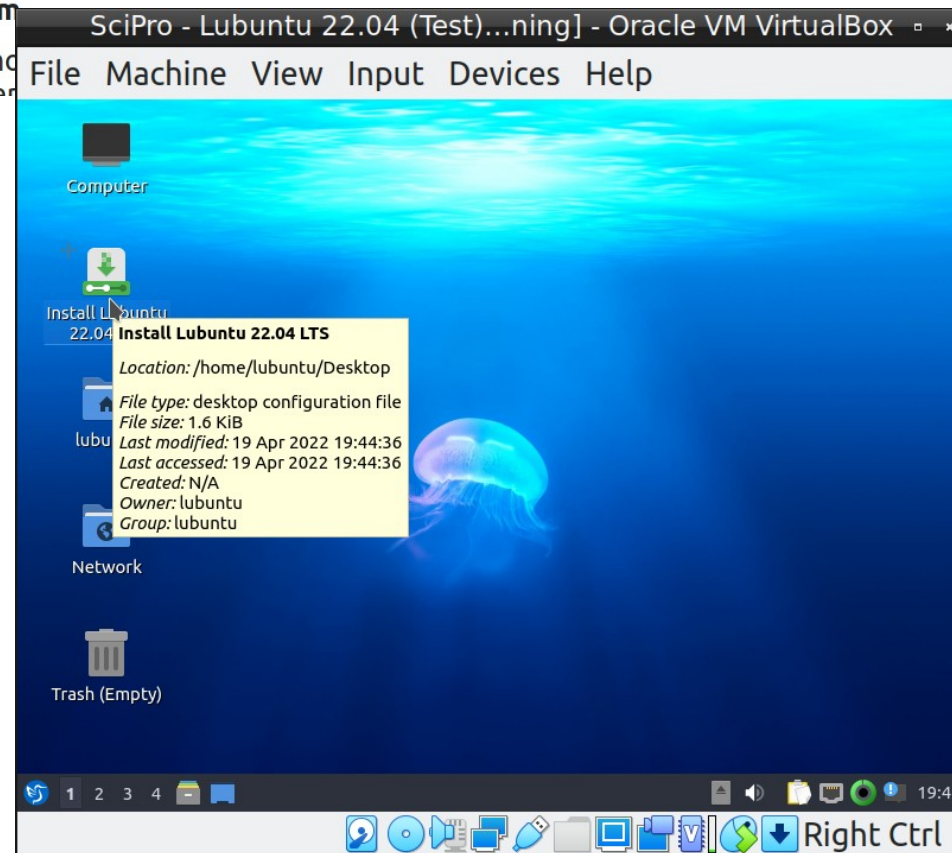
Add ISO-image as optical drive
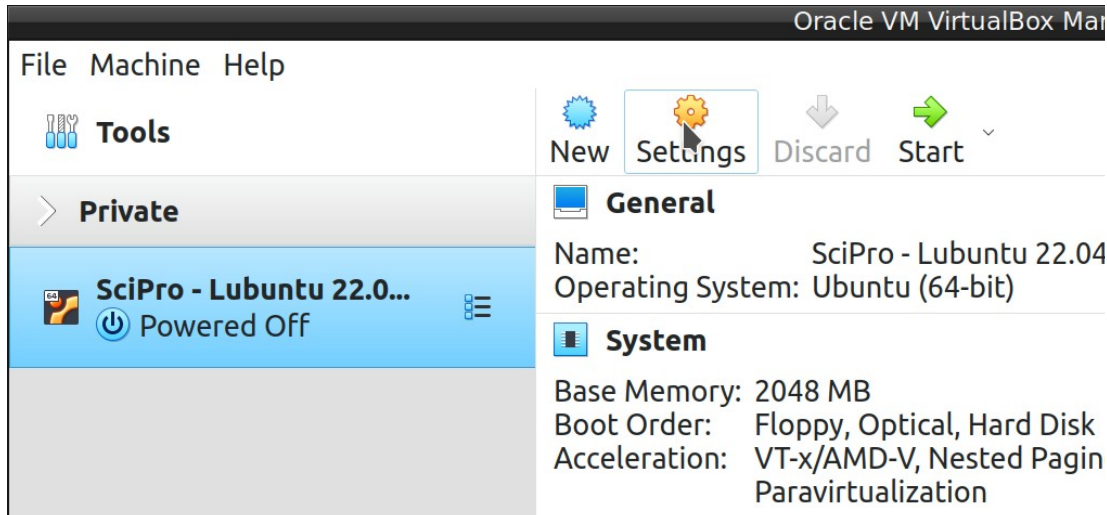
Select the downloaded
Lubuntu 22.04 ISO-file
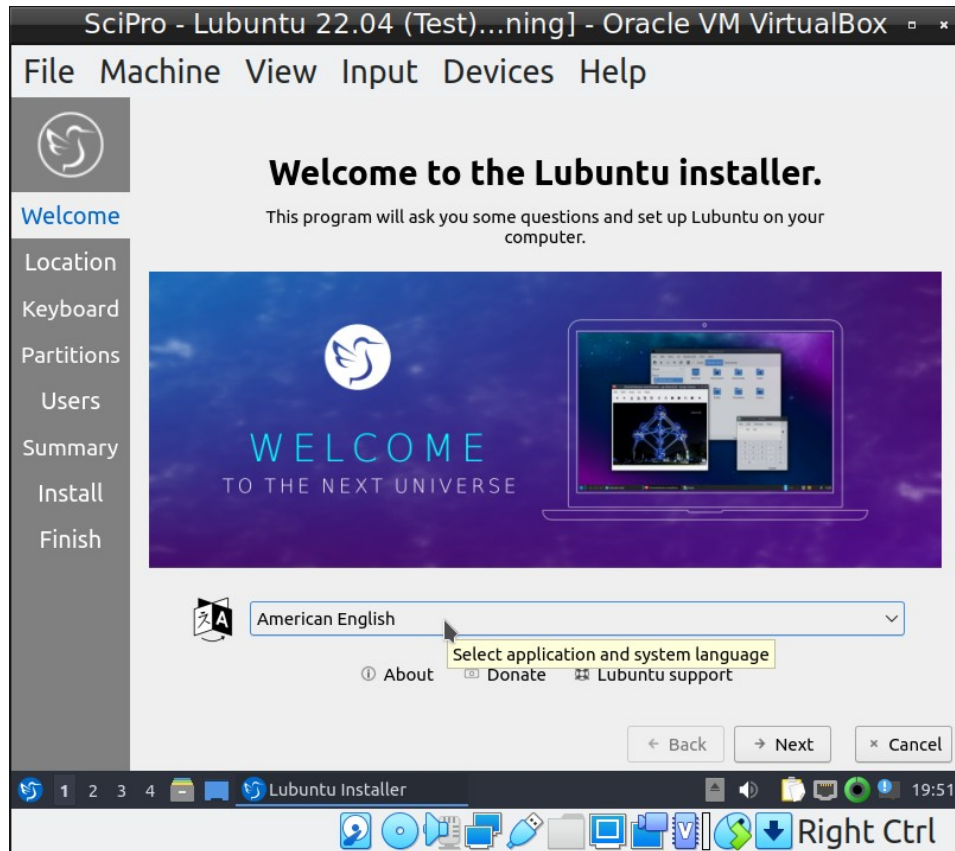
Start Lubuntu installation
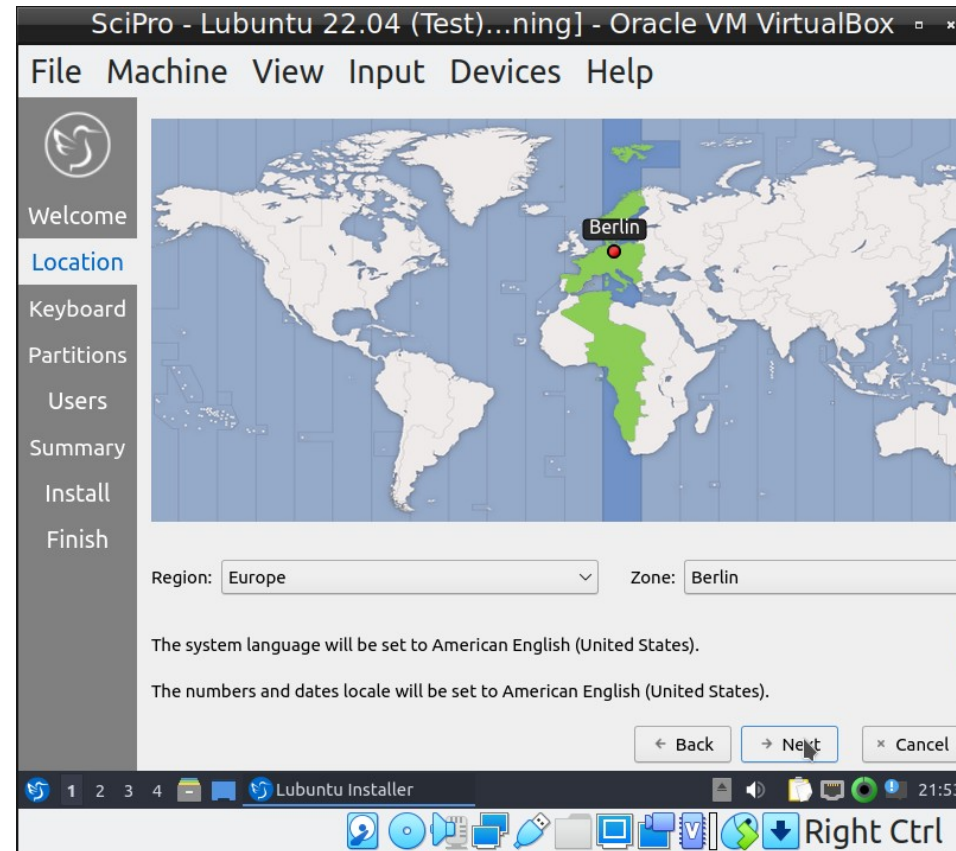

Start Lubuntu by a double click on the virtual machine

Start the installation program

Configure installation
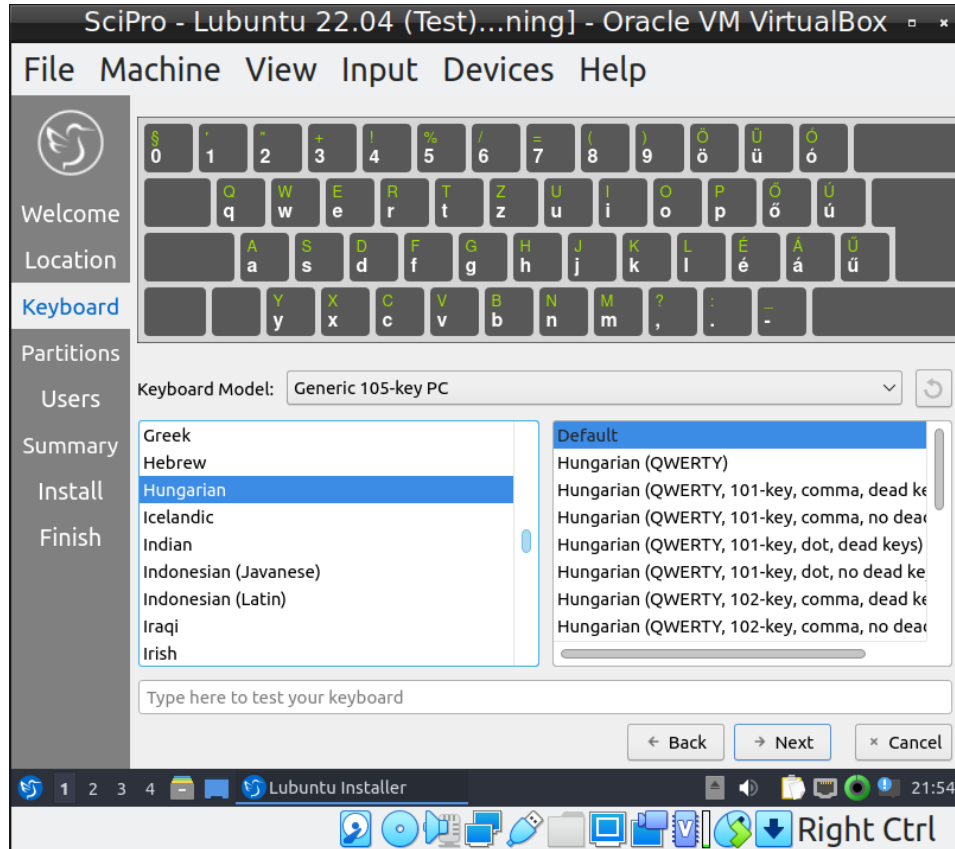
Select the language (preferably American English)
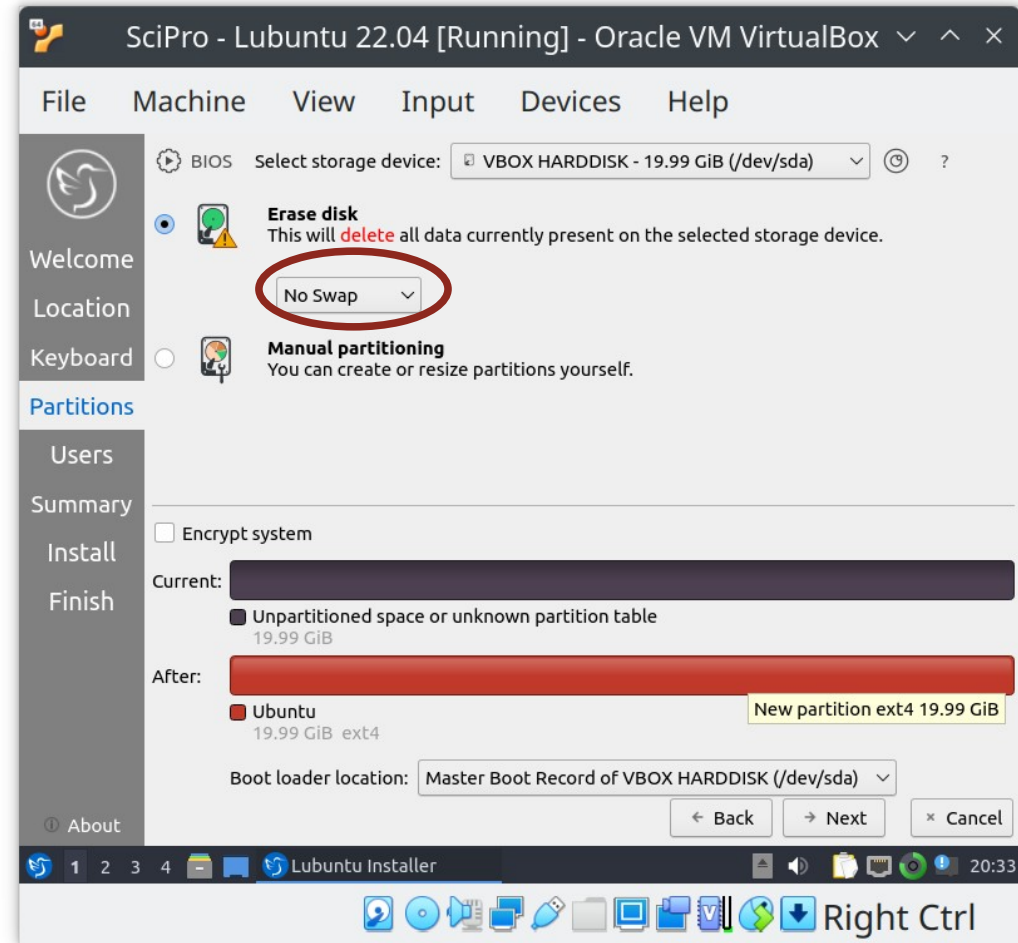
Select time zone

Configure installation (#2)
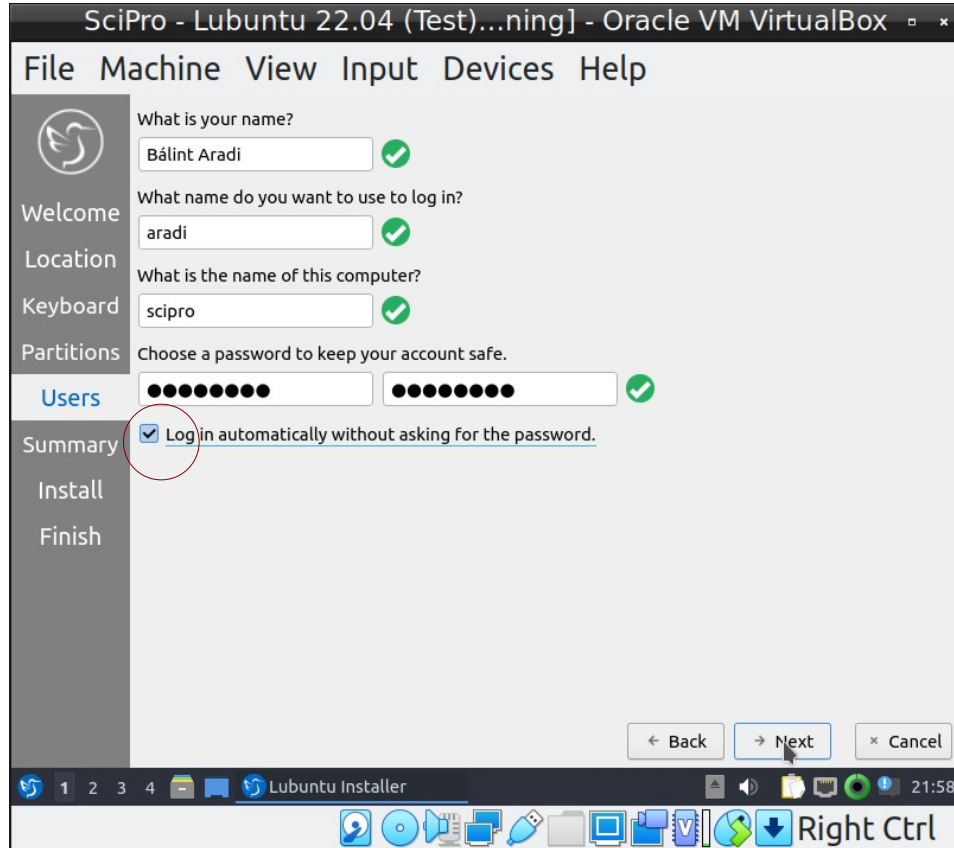
Select the keyboard layout you use

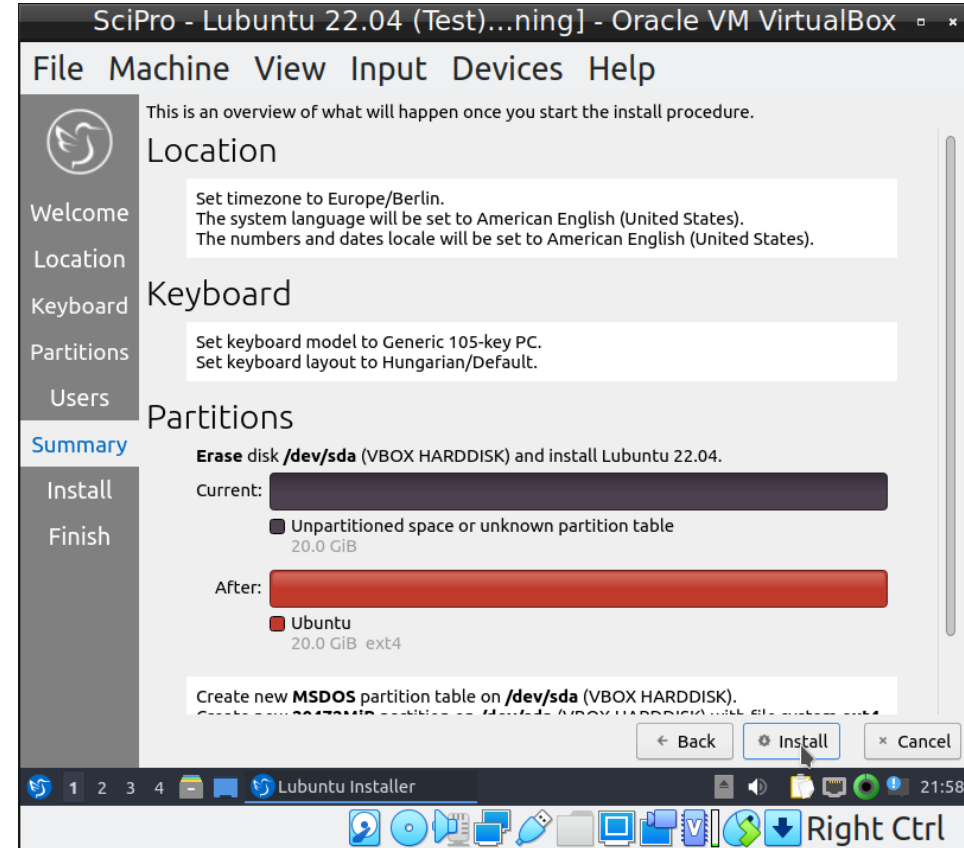Choose single partition installation **Erase disk** and **No Swap**
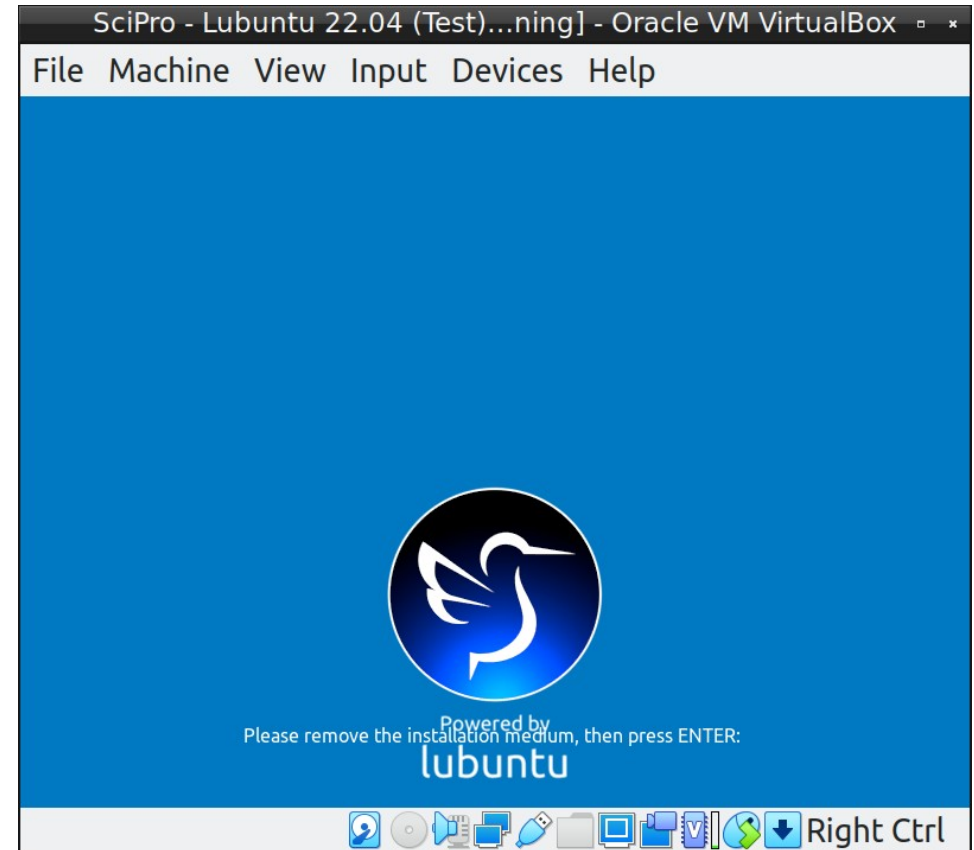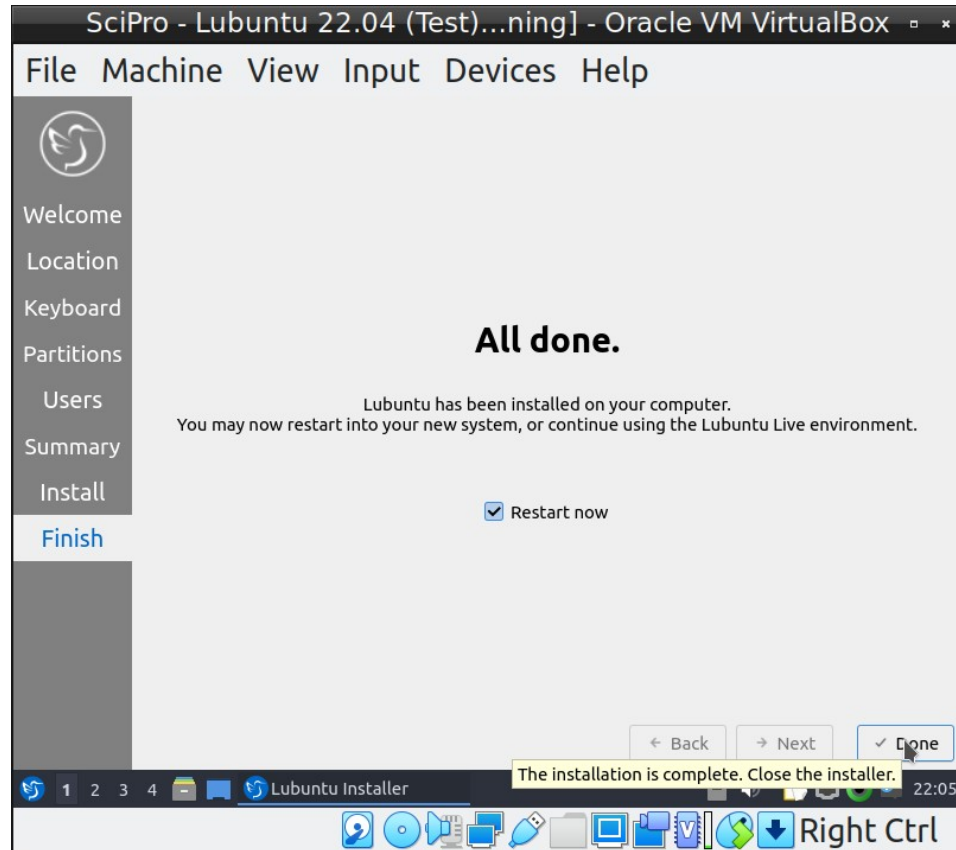
Create a user

- Select the option for automatic login

Start installation
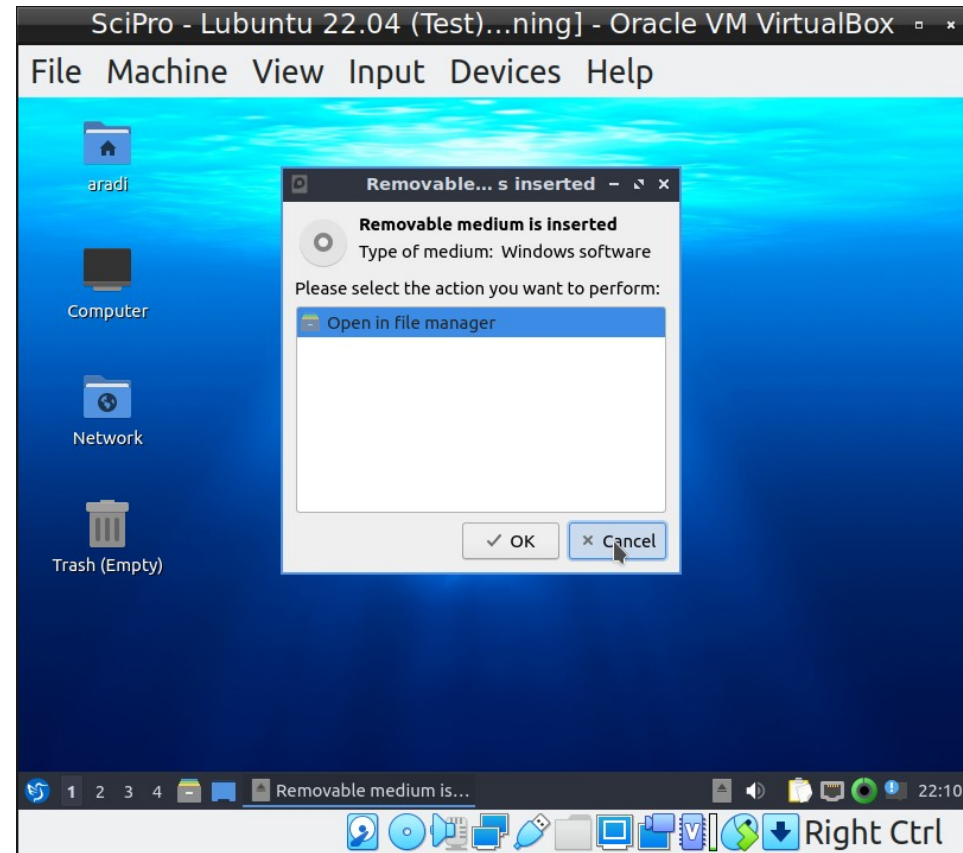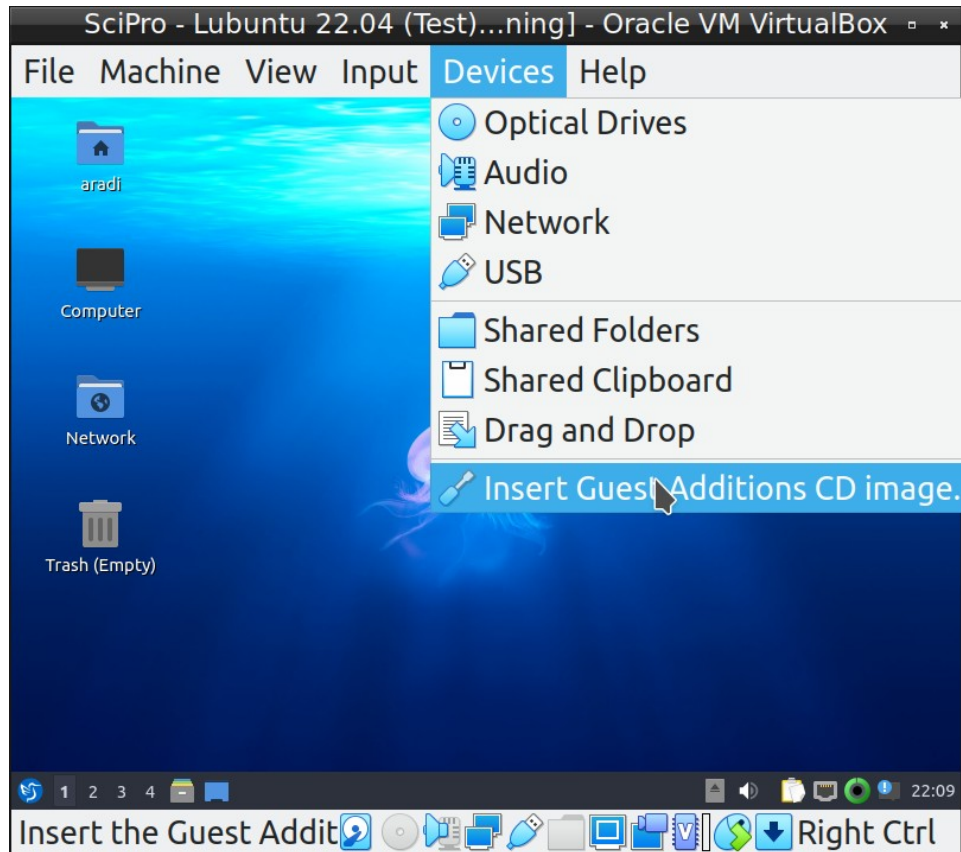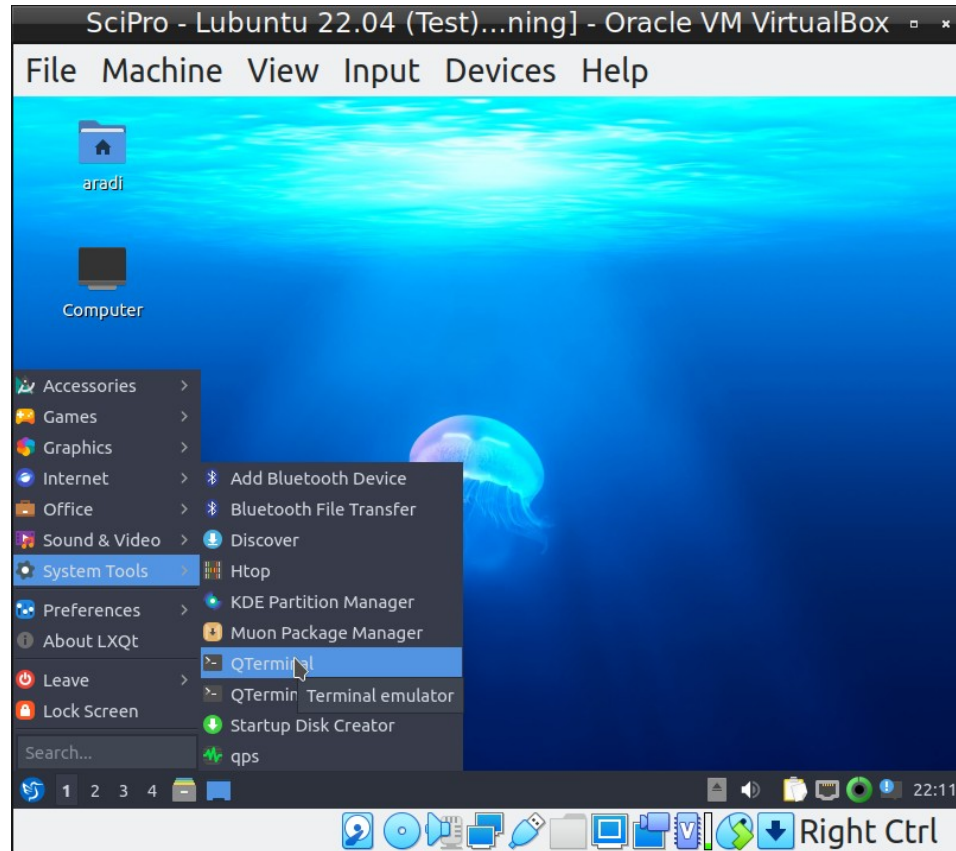
Finishing installation

Finish installation

Hit Enter, the ISO image will automaticall deattached from the virtual machine

Install guest additions

Start installation
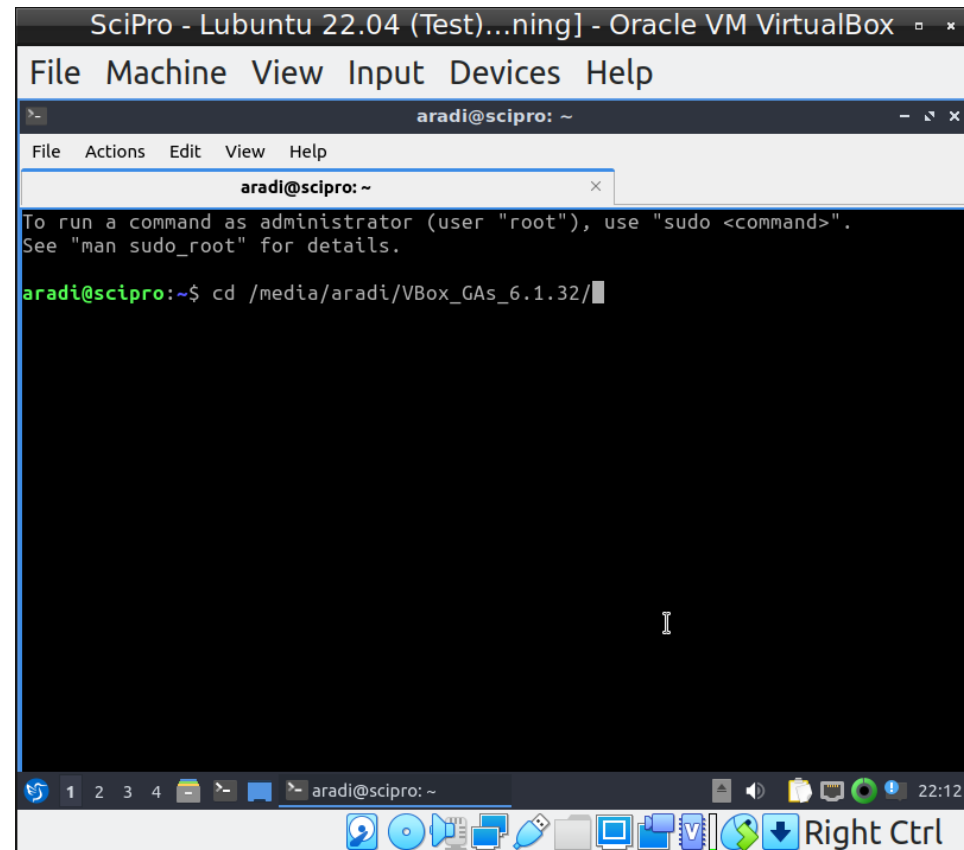
Start command terminal (QTerminal)

Install guest additions (#3)

```
cd /media
```
Change to the folder /media

```
ls
```
List the content of the folder (you should see a folder named as your user name)

```
cd aradi
```
Use the folder with your user name

```
cd VBox*
```
Change to the folder which starts with the prefix VBox

```
sudo apt update
```
Update the list of packages (as admin)

```
sudo apt install gcc make perl
```
Install necessary packages (as admin)

```
sudo ./VBoxLinuxAdditions.run
```
Execute the program which generates the guest additions

```
reboot
```

After the reboot, the screen should resize itself when you change the size of the window.

Configure a shared folder

- Configure shared folder when machine is switched off

Shared folder on host system

Shared folder enables seamless data/file exchange between host and guest systems

Configure shared folder (#2)

- Start machine, open terminal

- Find out your user and group id using the "id" command

- Edit the file /etc/fstab as admin

```
aradi@scipro: $ id
uid=1000(aradi) gid=1000(aradi) groups=1000(aradi),4(adm),24(cdrom),27(sudo),
30(dip),46(plugdev),120(lpadmin),999(sambashare)
```

```
sudo featherpad /etc/fstab
```

Make sure to adapt user name, uid and gid!

```
# /etc/fstab: static file system information.
# ...
# <file system>              <mount point>  <type>  <options>  <dump>  <pass>
UUID=3699f1ad-d7ff-4349-a7df-291fcca6ace4 /          ext4   defaults   0 1
vboxshare      /media/aradi/vboxshare  vboxsf  uid=1000,gid=1000      0   2
```

- Create mount point directory

```
sudo mkdir /media/aradi/vboxshare
```

- Mount the shared directory

```
sudo mount -a
```

The folder */media/aradi/vboxshare* will access the associated host directory

Have fun!