0 – Install Linux within VirtualBox

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Course: Scientific Programming / Wissenchaftliches Programmieren (Python)





https://www.bccms.uni-bremen.de/cms/people/b-aradi/wissen-progr/python/2022

Install Linux (Lubuntu) within VirtualBox

- Install Virtual Box on your machine
- Download the ISO image of Lubuntu 22.04

Notes

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

Create virtual machine

			Create	Virtual Machine *
File Ma	Achine Help		Name and operating system	n
	Add Ctrl+A		Please choose a descriptive name and select the type of operating system y used throughout VirtualBox to identi Name: SciPro - Lubuntu 22. Machine Folder: //mnt/local/home Type: Linux Version: Ubuntu (64-bit)	d destination folder for the new virtual machine and ou intend to install on it. The name you choose will be fy this machine. 04 /aradi/opt/VirtualBox
Create Virtual Machine Image: Memory size Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine. The recommended memory size is 1024 MB. 4 MB 12288 MB				Expert Mode Back Next > Cancel B Select 2048 MB memory if your laptop has at least 8 GB of PAM or 1024 MB
			< Back Next > Cance	

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 stora machine settings once the machi The recommended size of the ha O not add a virtual hard disk Create a virtual hard disk now Use an existing virtual hard disk windisk2.vdi (Normal, 70,00 GF

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.

Oynamically allocated

○ Fixed size

< Back Next > Cancel

Create virtual hard disk



Set hard disk size to 20 GB

Add ISO-image as optical drive

	Oracle VM VirtualBox Mar			
File Machine Help				
Tools	New Settings Discard Start			
> Private	General			
SciPro - Lubuntu 22.0 ⓐ Powered Off В≡	C 33 MB VMSVGA VMSVGA Disabled Disabled			
	B B ^{0:} [Optical Drive] Empty A sciPro - Lubuntu 22.04 (Test).vdi (Normal, 20,00 GB)			
	000 MT Desktop (NAT) tive)	SciPro - Lubuntu SciPro - Lubuntu General Storage Storage Devices	22.04 (Test) - Settings	
		Display Storage Audio Audio Network Serial Ports USB Shared Folders User Interface	Live CD/DVD	Choose/Create a Virtual Optical Disk Choose a disk file Iubuntu-22.04-beta-desktop-amd64.iso Reflect the downloaded ubuntu 22.04 ISO-file
			V OK OCano	el

Start Lubuntu installation

	Oracle VM VirtualBox Ma	
File Machine Help	Start Luk	buntu by a double click on the virtual machine
Tools		
> Private	SciPro - Lubuntu 22.04 (Test)ning] - Oracle VM VirtualE	Box □ ×
SciPro - Lubuntu 22.0 ﷺ	File Machine View Input Devices Help	Start the installation program
	<pre></pre>	 19:49 ht Ctrl

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)



Configure installation (#3)

Create a user

Sci	Pro - Lubuntu 22.04 (Test)ning] - Oracle VM VirtualBox 🕛 🔹
File M	achine View Input Devices Help
(c)	What is your name? Bálint Aradi
Welcome Location	What name do you want to use to log in? aradi
Keyboard	scipro 📀
Partitions	Choose a password to keep your account safe.
Users Summary (Login automatically without asking for the password.
Install	
Finish	
	← Back → Next × Cancel
🌀 1 2 3	4 🚍 📕 😏 Lubuntu Installer 🔤 🐠 Ď 💭 💮 🎱 21:58
	🕗 💿 🖓 🚍 🖉 🔲 🖳 🏹 🚫 🛨 Right Ctrl

• Select the option for automatic login

Start installation

Sci	Pro - Lubuntu 22.04 (Test)ning] - Oracle VM VirtualBox 🌼 \star
File M	achine View Input Devices Help
	This is an overview of what will happen once you start the install procedure.
(e)	Location
Welcome	Set timezone to Europe/Berlin. The system language will be set to American English (United States). The numbers and dates locale will be set to American English (United States).
Location	
Keyboard	Keyboard
Partitions	Set keyboard model to Generic 105-key PC. Set keyboard layout to Hungarian/Default.
Users	Partitions
Summary	Erase disk /dev/sda (VBOX HARDDISK) and install Lubuntu 22.04.
Install	Current:
Finish	Unpartitioned space or unknown partition table 20.0 GiB
	After:
	Obuntu 20.0 GiB ext4
	Create new MSDOS partition table on /dev/sda (VBOX HARDDISK).
	← Back ♥ Install × Cancel
🌍 1 2 3	4 🚍 🥅 😏 Lubuntu Installer 🛛 📓 🐠 👘 🖤 🔮 21:58
	📀 💿 💯 🗬 🖉 🔲 🖳 🚰 💟 🔇 💽 Right Ctrl

Finishing installation

Finish installation

SciPro - Lubuntu 22.04 (Test)ning] - Oracle VM VirtualBox 🎍 \star	SciPro - Lubuntu 22.04 (Test)ning] - Oracle VM VirtualBox 🎍 🔹
File Machine View Input Devices Help	File Machine View Input Devices Help
S	
Welcome	
Location	
Keyboard	
Partitions All done.	
Users Lubuntu has been installed on your computer. You may now restart into your new system, or continue using the Lubuntu Live environment	
Summary	
Install Restart now	
Finish	
← Back → Next ✓ Cone ⑦ 1 2 3 4 - ● 0 22:05	Please remove the installation medium, then press ENTER:

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

Install guest additions





Install guest additions (#2)

SciPro - Lubuntu 22.04 (1	est)ning] - Oracle VM VirtualBox 🎍 \star
- ile Machine View Input	Devices Help
A	
aradi	
-	
Computer	
Accessories >	SciPro - Lubuntu 22.04 (Test)ning] - Oracle VM VirtualBox 🎍
Games >	File Machine View Input Devices Help
Internet > 🕴 Add Bluetooth Device	aradi@scipro: ~ - v
Office > Bluetooth File Transfer Sound & Video Discover	File Actions Edit View Help
System Tools 💦 🔢 Htop	aradi@scipro:~ ×
Preferences > KDE Partition Manager	To run a command as administrator (user "root"), use "sudo <command/> ". See "man sudo_root" for details.
About LXQt OTerminal	aradi@scipro:~\$ cd /media/aradi/VBox_GAs_6.1.32/
Leave > > QTermin Terminal emul	
earch	
) 1 2 3 4 🖻 📕	
20	
	I
	🕅 1 2 3 4 🚍 🎦 🔲 🏷 aradi@scipro:~

cd /media/aradi/VBox_GAs_6.1.32
sudo apt update
sudo apt install gcc make perl
sudo ./VBoxLinuxAdditions.run
reboot

Configure a shared folder

File Machine View Jacut Devices Uni-	SciPro - Lubuntu	SciPro - Lubuntu 22.04 (Te	st) - Settings	- ×
File Machine View Input Devices Help G Optical Drives G Audio Network View VISB Shared Folders Network Drag and Drop Insert Guest Addition	 General System Display Storage Audio Network Serial Ports USB Shared Folders User Interface 	Shared Folders Shared Folders Name Path Machine Folders Transient Folders Transient Folders Folder Path: <not <not="" auto-moun="" cother,="" folder="" make="" mount="" name:="" perm<="" point:="" selecte="" th=""><th>Access Auto Mount</th><th>At Share /aradi/vboxsha boxshare Read-only Auto-mount</th></not>	Access Auto Mount	At Share /aradi/vboxsha boxshare Read-only Auto-mount
Shared folder enables se				

exchange between host and guest systems

Configure shared folder (#2)

- Start terminal (on Lubuntu)
- Find out your user and group id using the "id" command
- Edit the file /etc/fstab as admin



```
sudo featherpad /etc/fstab
                                                  Make sure to adapt path, uid and gid!
# /etc/fstab: static file system information.
#
  . . .
# <file system>
                                <mount point>
                                                          <options>
                                                 <type>
                                                                       <dump>
                                                                                <pass>
UUID=3699f1ad-d7ff-4349-a7df-291fcca6ace4 /
                                                               ext4
                                                                        defaults
                                                                                     0 1
/swapfile
                                                                        <u>de</u>faults
                                                                                     \Theta \Theta
                                                               swan
                                              JWUP
                /media/aradi/vboxshare vboxsf
                                                     uid=1000, gid=1000
vboxshare
                                                                                0
```

- Save the changes, reboot your system
- Files copied into the shared folder should be visible in both, host and guest system

Have fun!