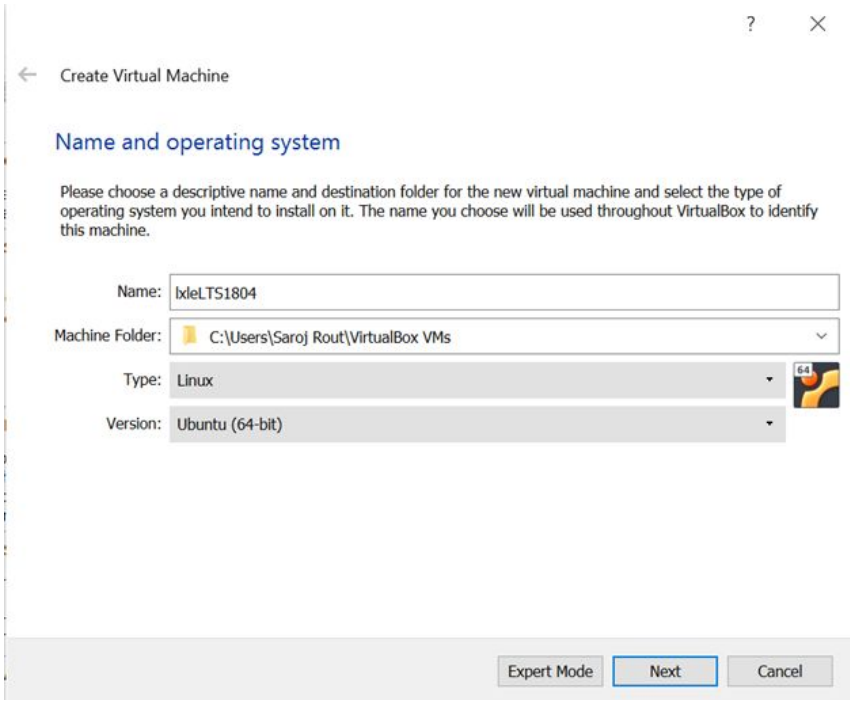
# Open Source EDA Setup

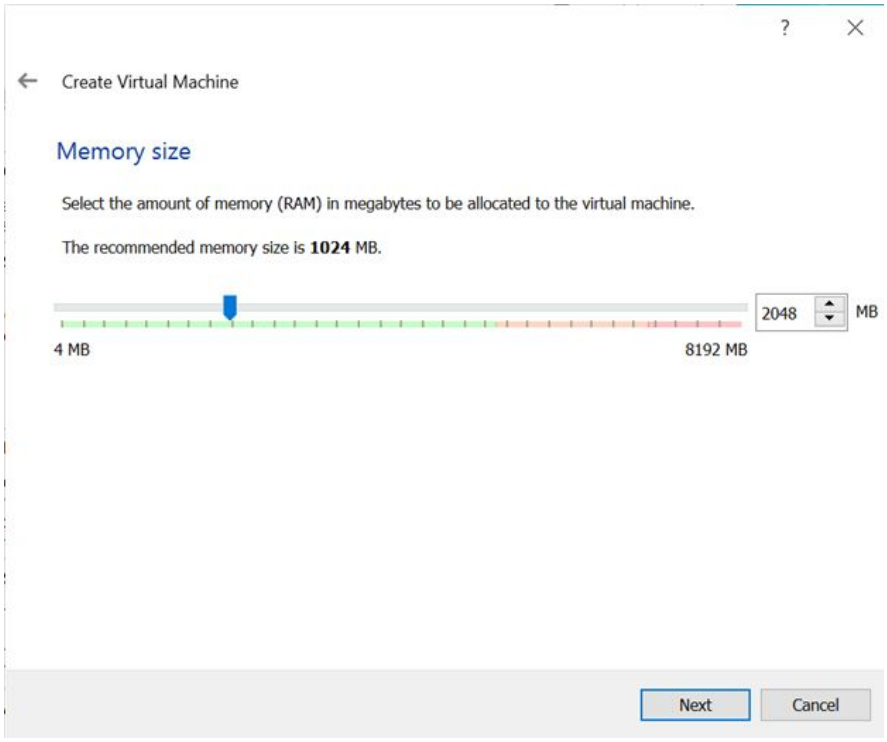
This document describes how to setup open source EDA tools (Sue2, ngspice, Magic) on a Virtual Box VM running a light-weight Ubuntu-based Linux distribution LXLE (http://www.lxle.net)

## Installing Virtual Box and Installing LXLE on it

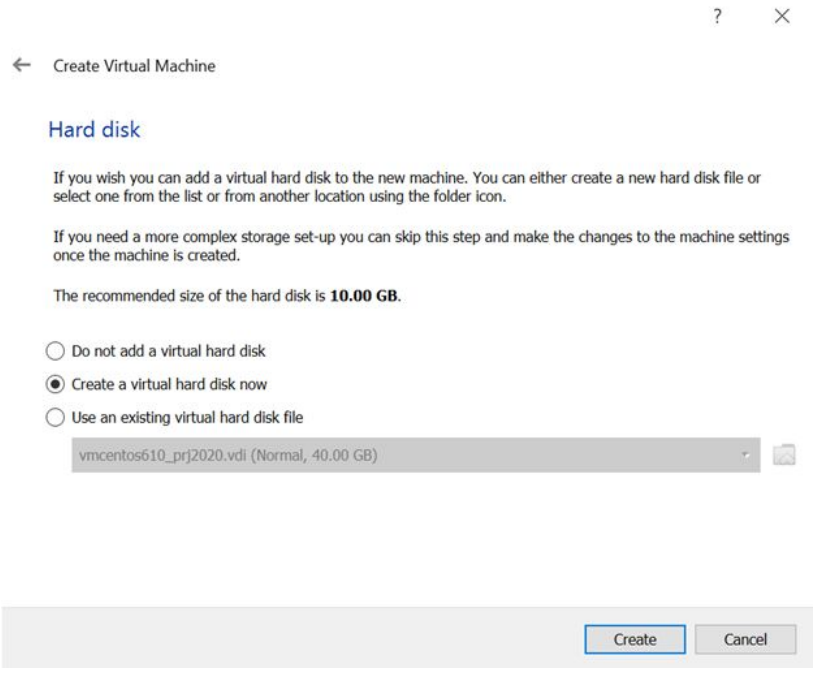
- Download Virtual Box from http://www.virtualbox.org for your particular desktop (Windows/Mac/etc)
- Install it using the default settings.
- Download the linux distribution LXLE from http://www.lxle.net/download appropriate for your system (32-bit/64-bit).
- The download will be a CD/DVD image called an ISO image (eg. lxle-18043-64.iso) that you save it on your computer (eg. C:\Users\<username>\Downloads)
- Start Virtual Box and click “New” and fill the required information (example below)

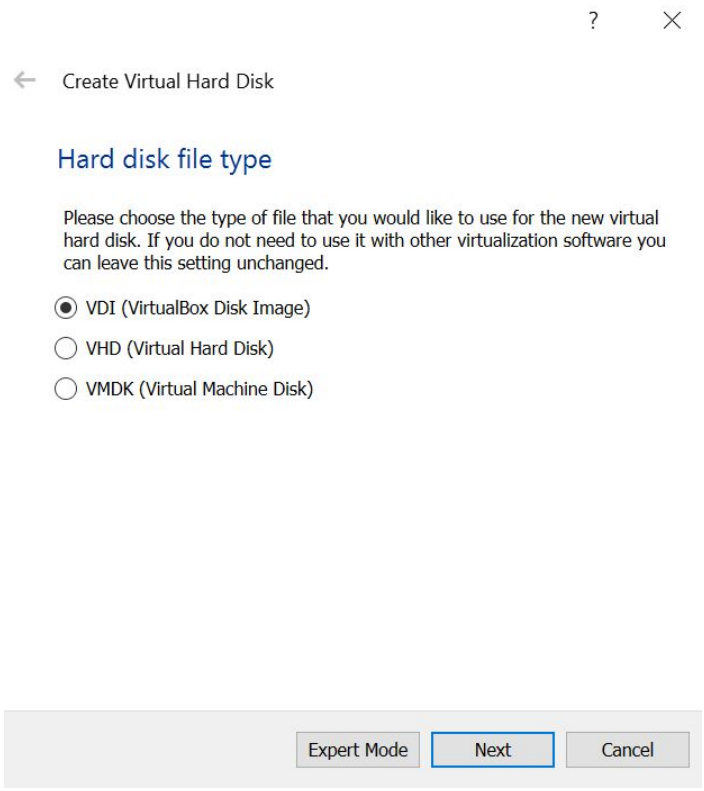


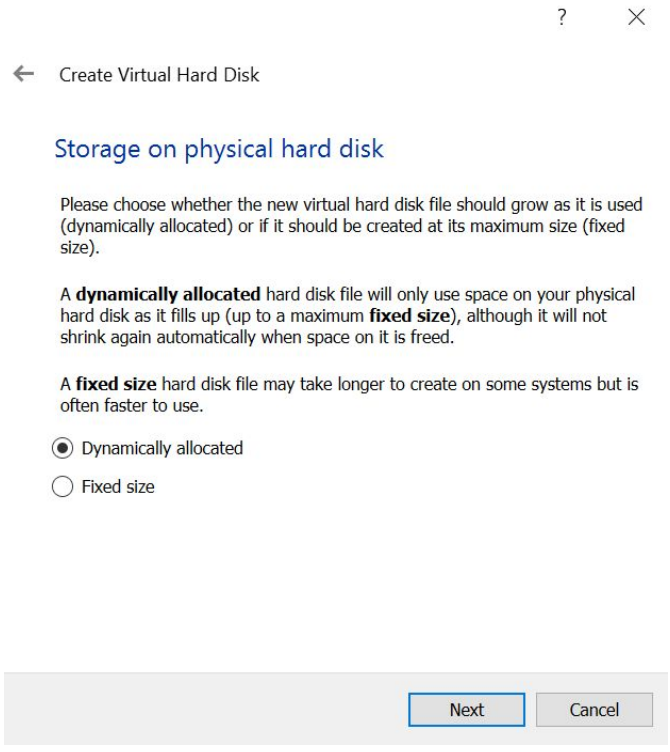

Select the size of the RAM (> 1GB recommended)

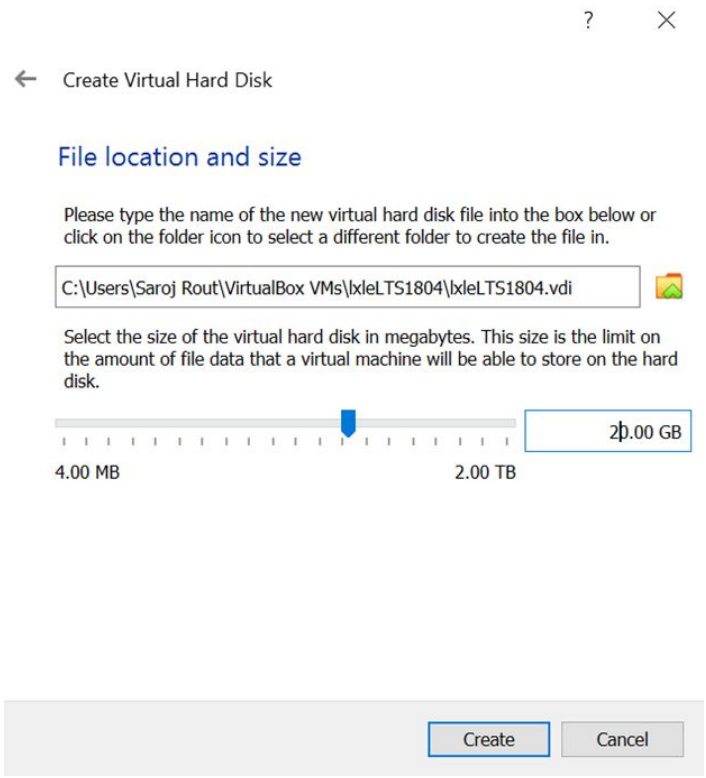



Create a virtual Harddisk (recommended 20 GB Dynamically allocated )

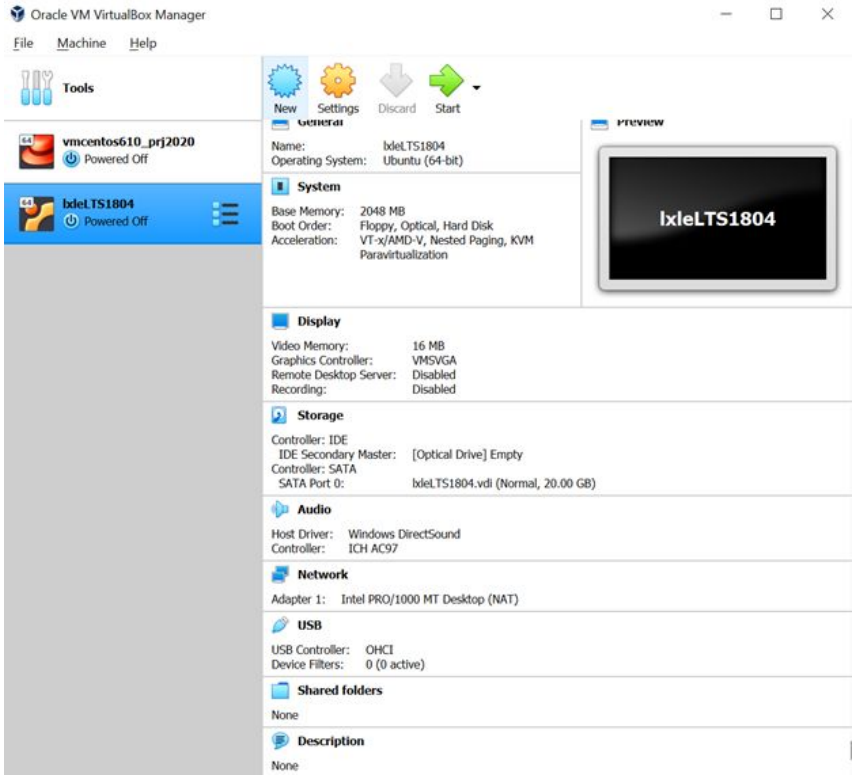



Create Virtual Hard Disk
Hard disk file type
Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.
VDI (VirtualBox Disk Image)
VHD (Virtual Hard Disk)
VMDK (Virtual Machine Disk)
Expert Mode
Next
Cancel

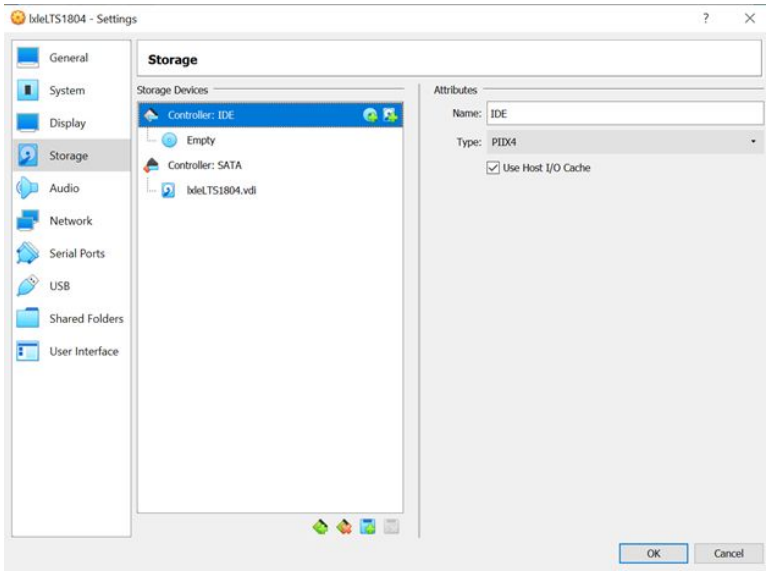

Create Virtual Hard Disk
Storage on physical hard disk
Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).
A dynamically allocated hard disk file will only use space on your physical hard disk 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
Next
Cancel

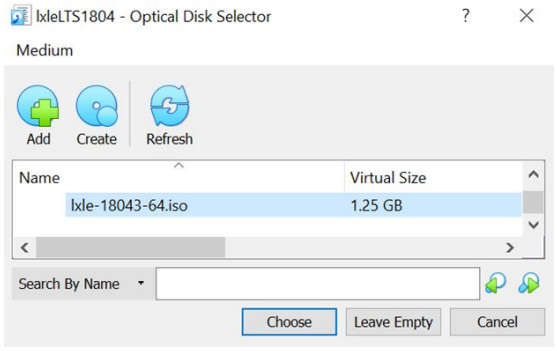


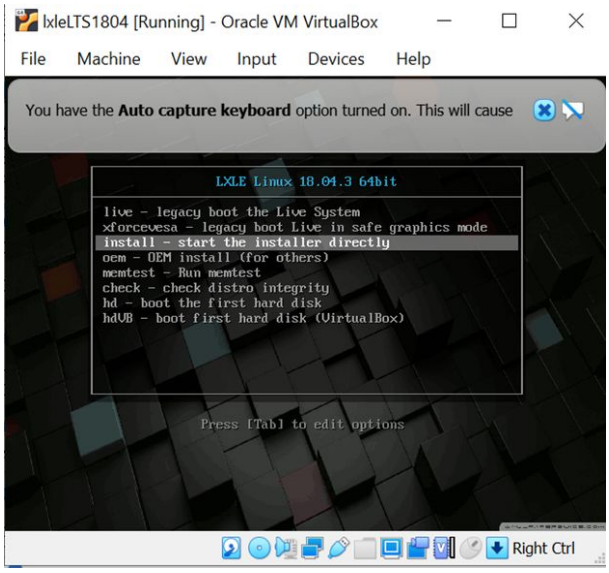

Now your Virtual Machine is configured and ready to be host an operating system.



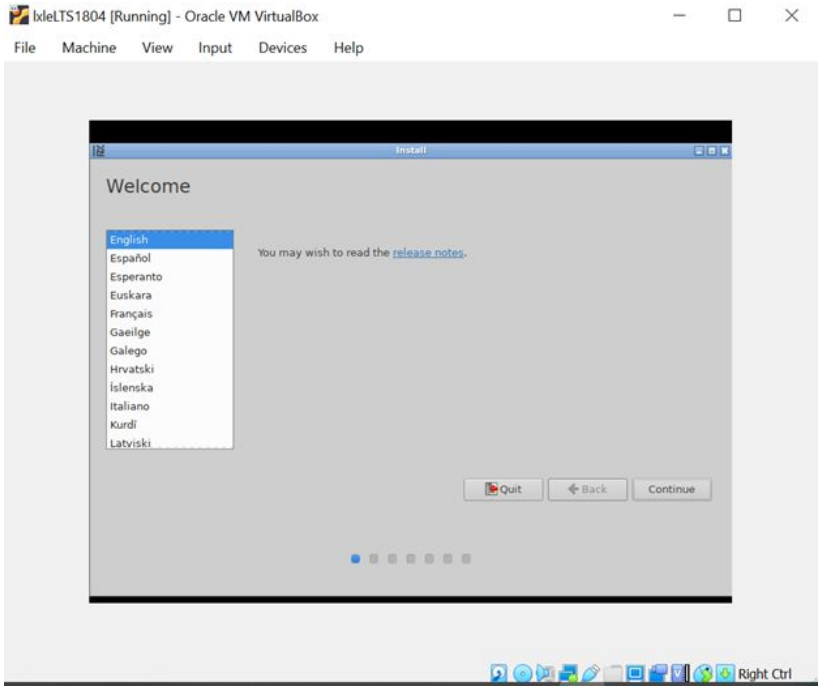
In order to install Linux, load the ISO image (eg. lxle-18043-64.iso) in the optical drive and start the virtual machine.

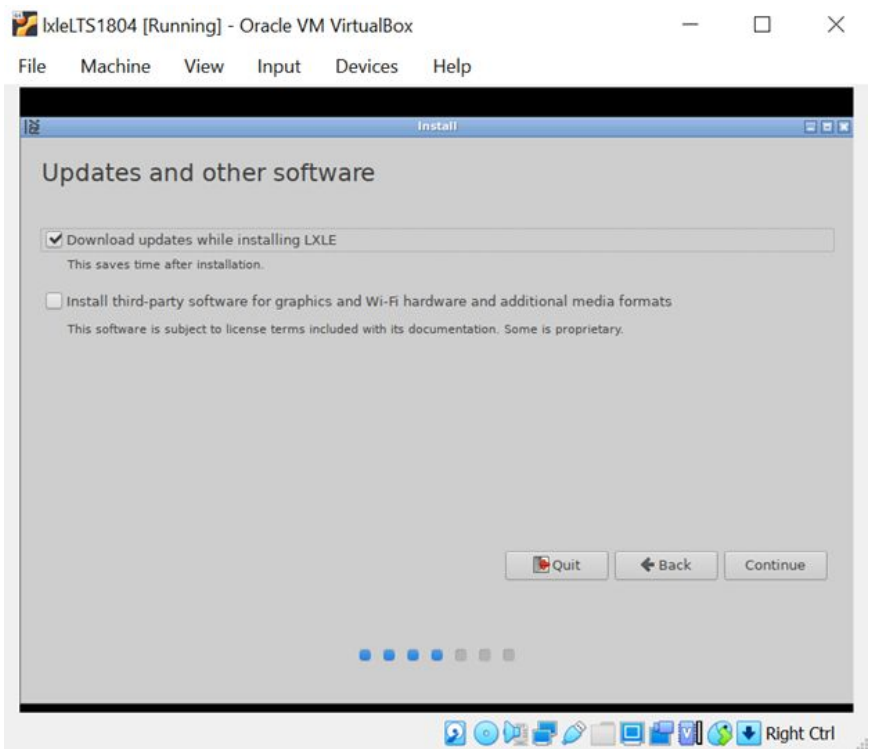


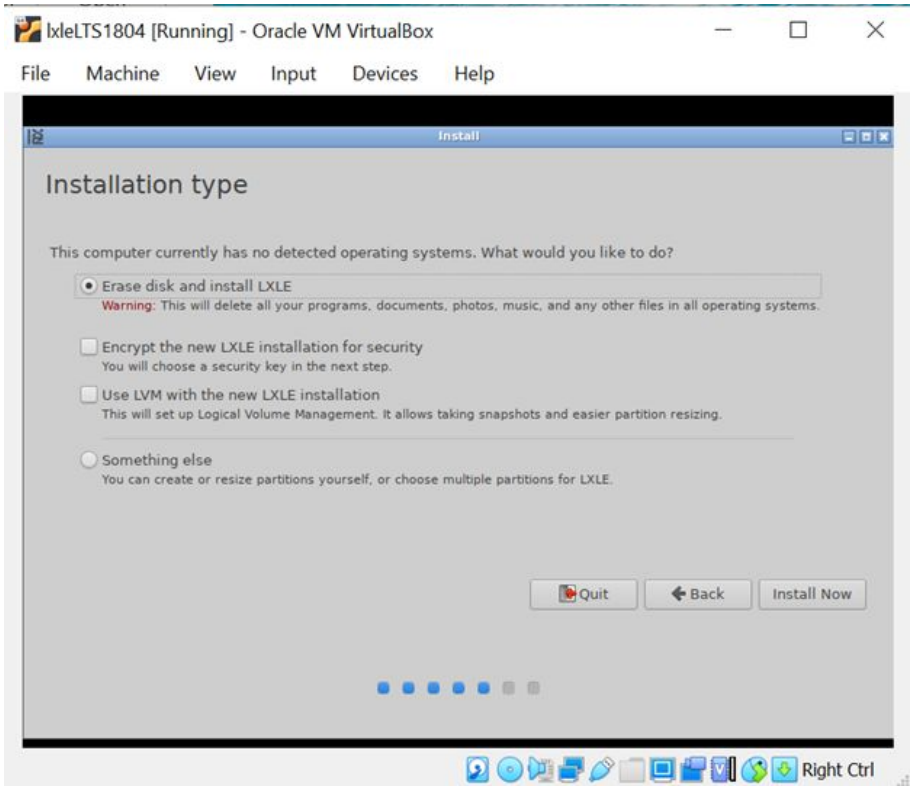



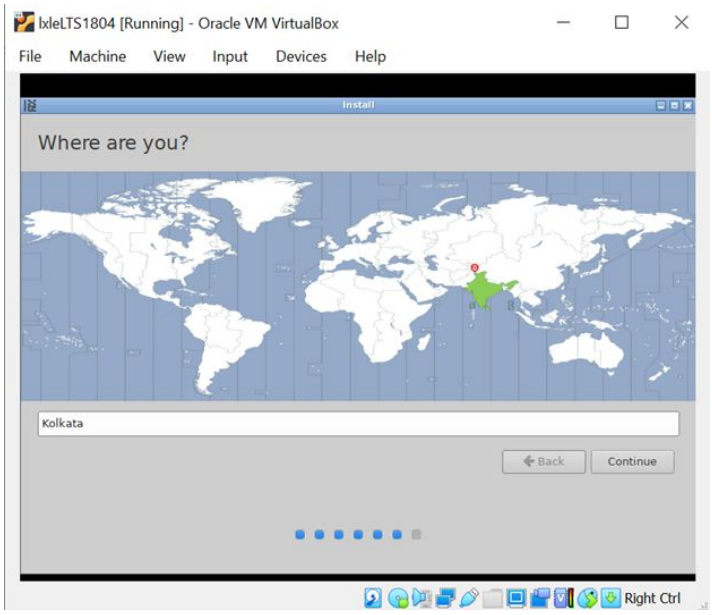
Select the required options:



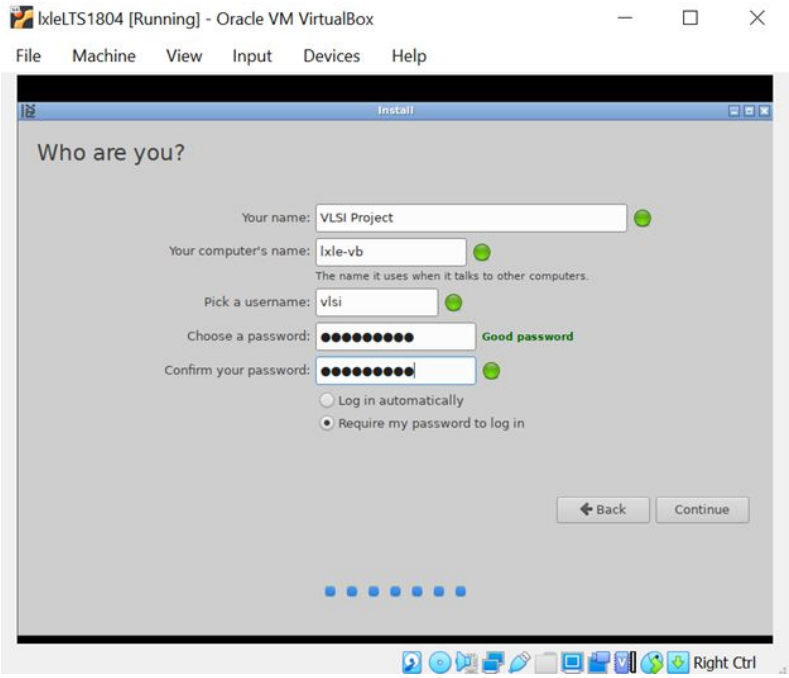




lxleLTS1804 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Erase disk and install LXLE
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.
Encrypt the new LXLE installation for security
You will choose a security key in the next step.
Use LVM with the new LXLE installation
This will set up Logical Volume Management. It allows taking snapshots and easier partition resizing.
Something else
You can create or resize partitions yourself, or choose multiple partitions for LXLE.
Quit
Back
Install Now
Right Ctrl

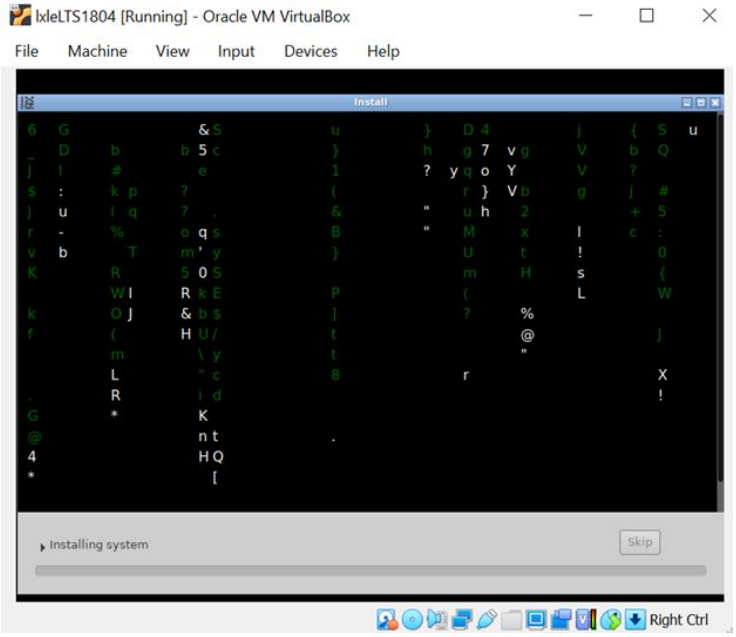

Write the changes to disks?
If you continue, the changes listed below will be written to the disks. Otherwise, you will be able to make further changes manually.
The partition tables of the following devices are changed:
SCSI3 (0,0,0) (sda)
The following partitions are going to be formatted:
partition #1 of SCSI3 (0,0,0) (sda) as ext4
Go Back
Continue


lxleLTS1804 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Install
Where are you?
Kolkata
Back
Continue
Right Ctrl

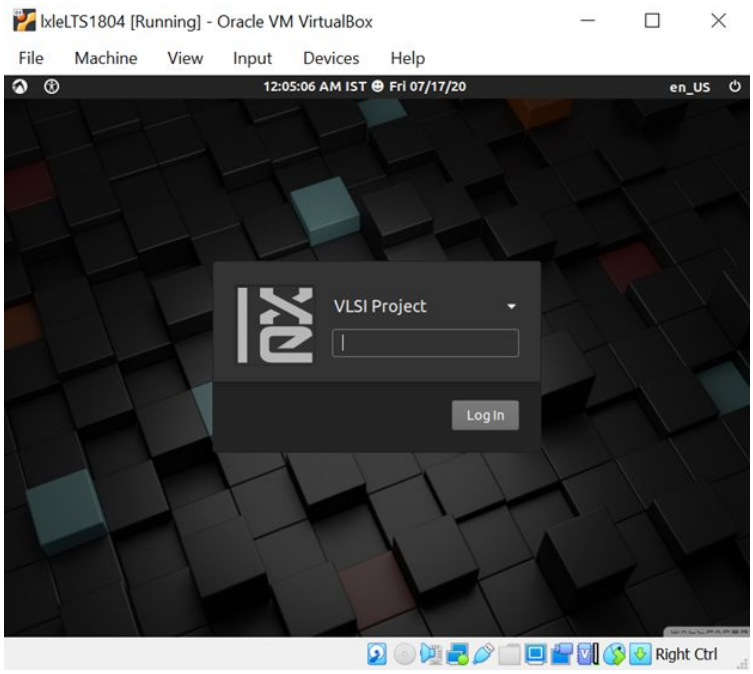
Choose the username as **vlsi** to be consistent across all users. **IMPORTANT**: **Write down the password and keep it safe. If you loose it, cannot be reset**.




Will take a while to install the entire OS.



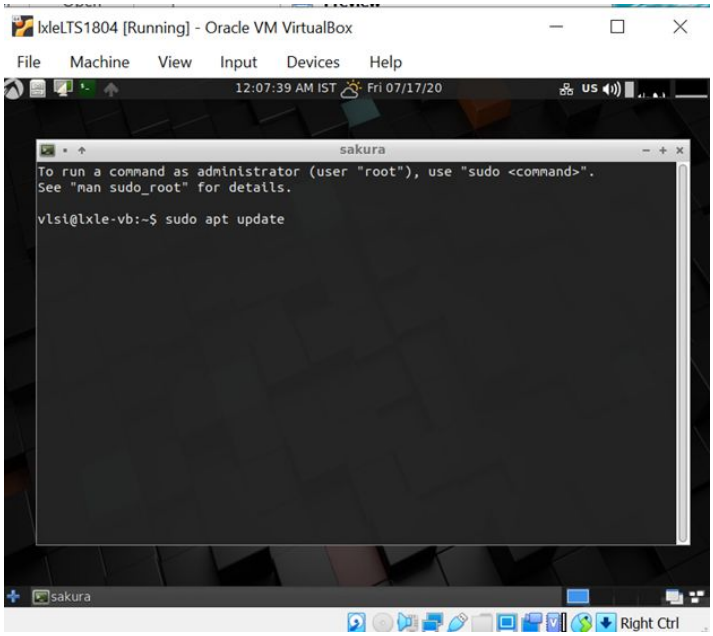

After the installation is complete you will be asked to reboot and after the VM comes up, you will see the login window. Enter the set password to login.

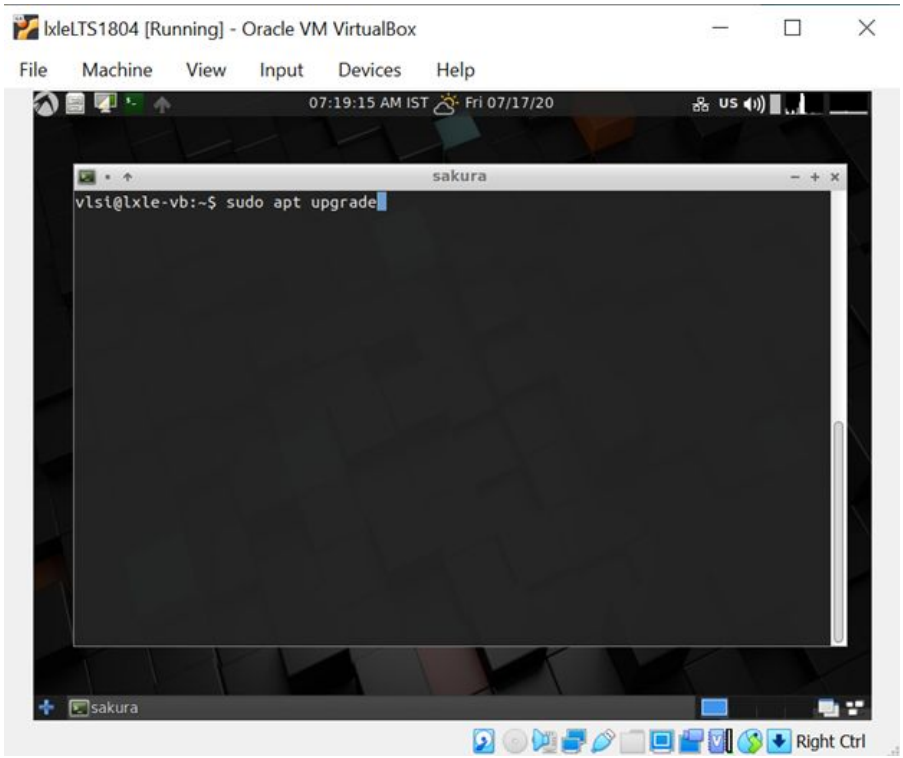


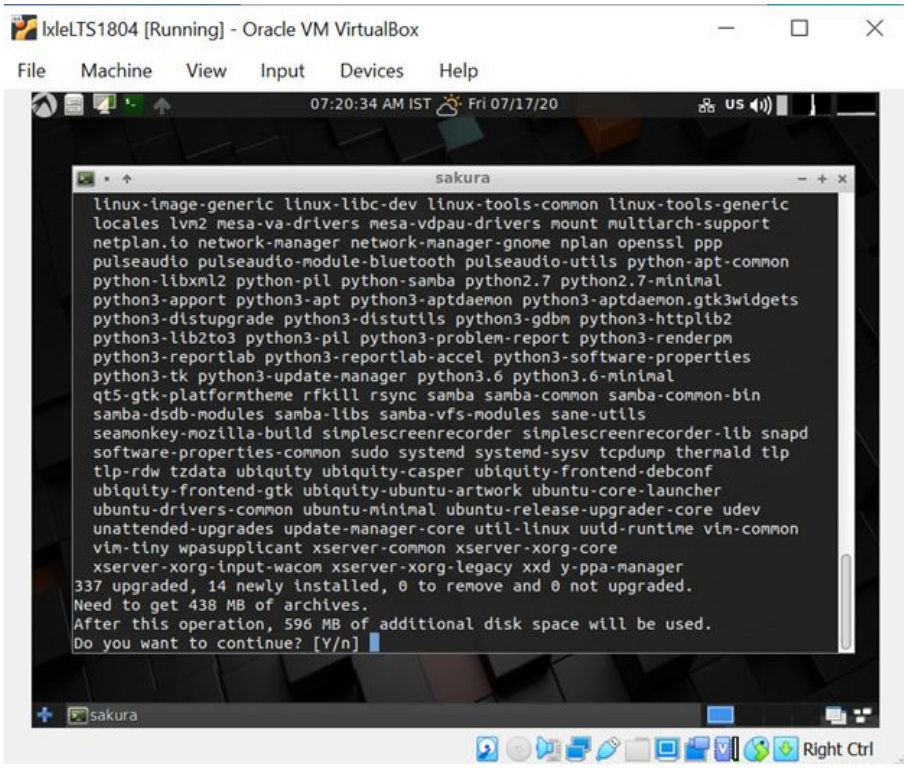

After loging in, start terminal window by clicking the application “sakura” from the top-left menu.

Since the OS image does not have all the updates, you need to update the OS in two steps by typing the following two commands in the terminal window:

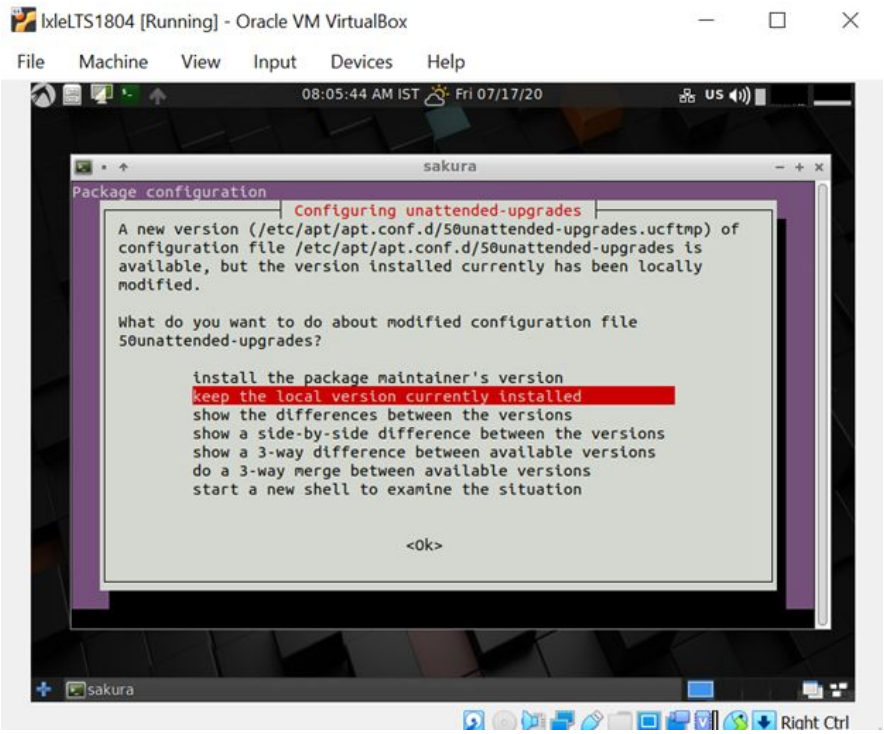
1. `sudo apt update`
2. `sudo apt upgrade`






During the upgrade process, whenever you get the message to keep or overwrite a configuration file, choose to keep it. Eg




- After successfully updating the OS, install some of the essential software packages.
- Type the following in the terminal window:
    - **`sudo apt install build-essential vim git`**