CS3281 – Hardware and Software installation

VM environment for the Mac with M1 (credit Nisala Kalupaha)

Oracle Virtual Box does not run on Mac Air. See below:

https://apple.stackexchange.com/questions/422565/can-i-run-virtualbox-on-new-m1-macbook-air

### CS 3281: VM Setup on M1 Macs

Step 1: Download

Install UTM (download it directly from the website, it's free): https://mac.getutm.app/ - Open the DMG and drag the application into your ~/Applications folder.

Download Lubuntu (not tested with Ubuntu 20.04 but should work) (64-bit, Desktop, 20.04 LTS): https://lubuntu.me/downloads/
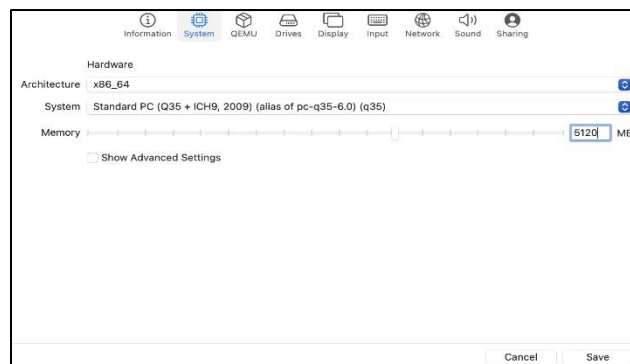
Step 2: Configure UTM

Open UTM, and click File > New Virtual Machine.

Info:
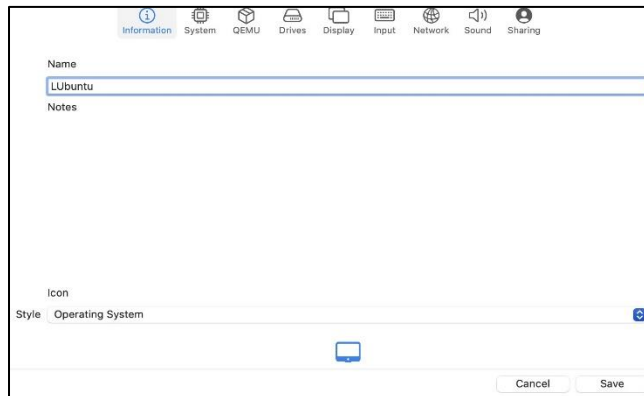
System:

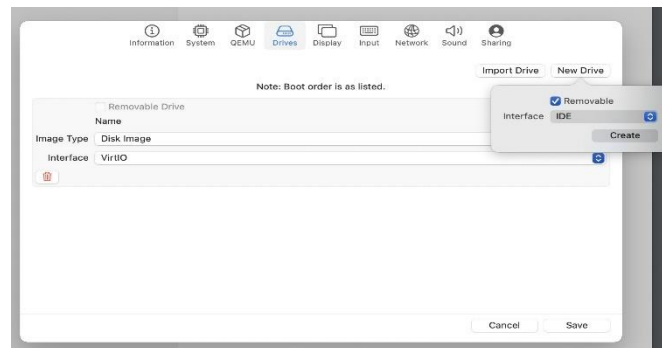Click on "Drives" in the top bar, click "New Drive", and create:

- A VirtIO drive that's 100 GB (don't worry, it expands as needed, so it will only take up as much space as you use — this is just an upper bound). This is where the actual OS will be installed.
- A **removable** IDE drive. This is what you'll use to mount the Lubuntu installation disk that you downloaded earlier.
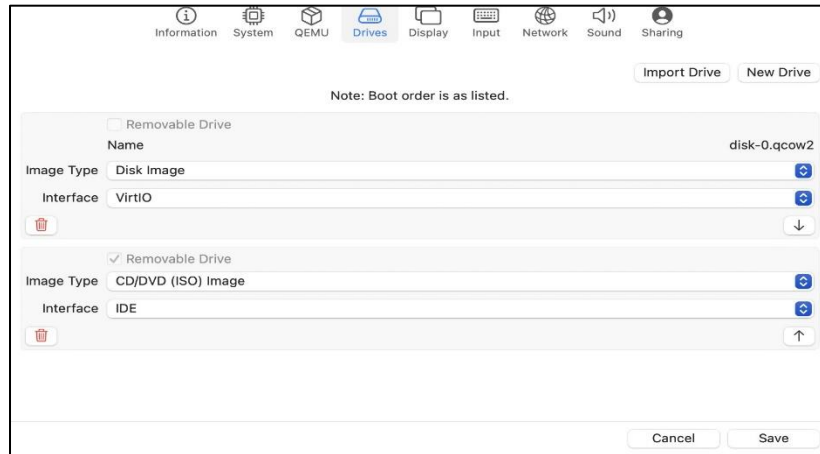
VirtIO:
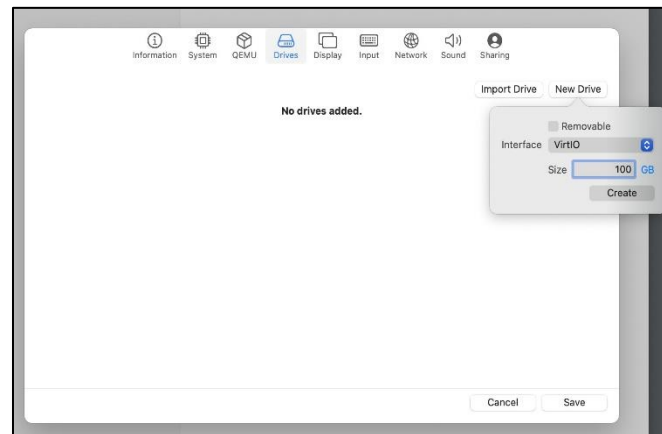
IDE:

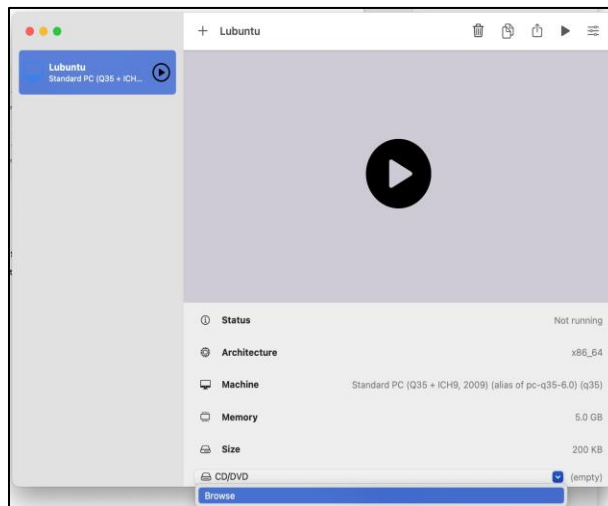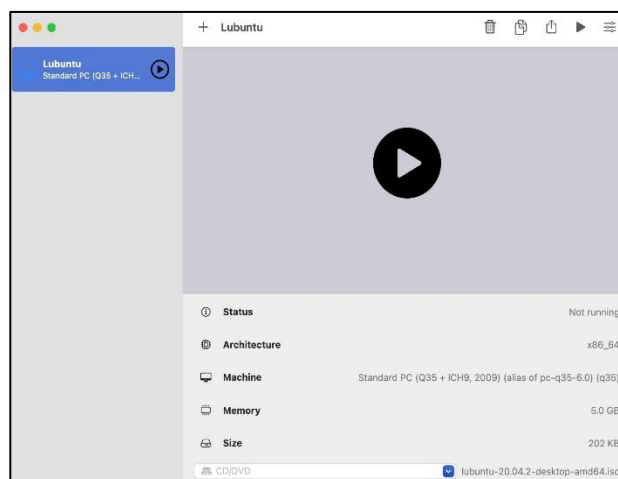Here's what it should look like with both drives created:

Click "Save".

Select Lubuntu in the left bar, click on the CD/DVD dropdown, select "browse", and select the Lubuntu ISO that you downloaded earlier.

Here's what it should look like when you're done:

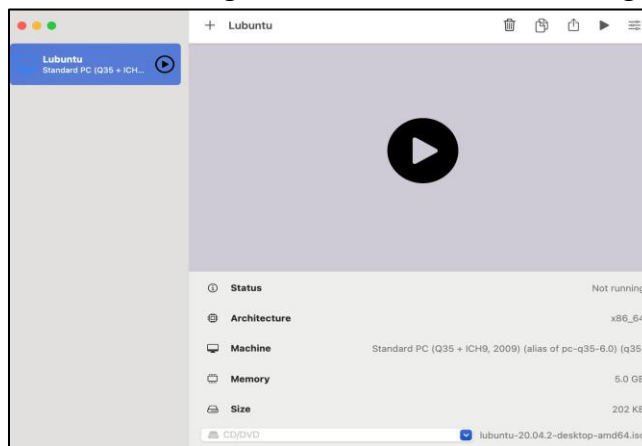# CS3281 – Hardware and Software installation

Step 3: OS Installation

Click the Play button!

- Make sure you're focused on the Lubuntu window, and then press the return key to select "English". Then, press return again to "Install Lubuntu".
- Booting will take a few minutes. This is completely normal, just be patient.
- Once the desktop is open, double-click "Install Lubuntu 20.04 LTS" on the desktop.
- Once it's done waiting for modules (this may take a few minutes), click the "Next" button in the bottom right corner.
- Select "Chicago" as your zone, and click "Next".
- Click "Next" to skip the keyboard layout screen.
- Select "Erase disk", and click "Next".
- Enter the account details you'd like to use on the VM, and then click "Next". - Click "Install", then "Install Now" to begin the installation.

And now, we wait. This will take a while — it took me around a half-hour.

- Uncheck "Restart Now", and click "Done".
- Open the Start menu (bottom left), click Leave > Shutdown, and then click "Yes".
- Once prompted to do so, hit "Enter". The screen will change to a big Play button.
- Close the Lubuntu window, and go back to the main UTM config window.

Select Lubuntu on the left menu, and click on the options sliders in the top right corner.

Select "Drives", and delete the removable IDE drive. Here's what it should look like afterwards:
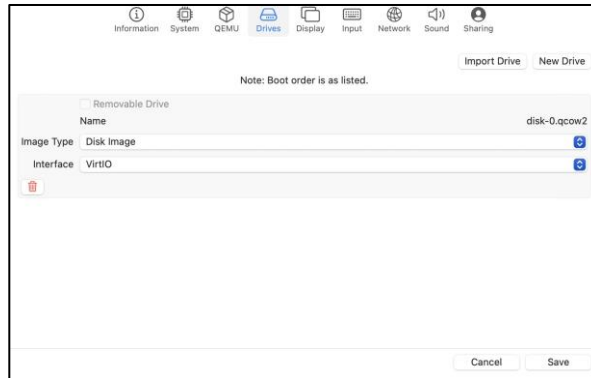
Click "Save", and then click the Play button to boot into Lubuntu.

The boot sequence will take a few minutes, and will show a black screen nearly the entire time.

This is normal.

One you're at the login screen, sign in with the password you set during installation.

Step 5: Install Software Packages
Go to Start > System Tools > QTerminal to open a terminal window (or type Ctrl + Opt + T).

Then, run the commands given: here.

Step 6: Shared Clipboard
No additional steps — shared clipboard is enabled by default. If it doesn't work for you, try running `sudo apt install spice-vdagent spice-webdavd`, then restart.

USB Device Setup
USB support is built into UTM. When you plug in a USB device, UTM will ask you if you want to pass it through to the VM. macOS will then ask you for permission to complete the passthrough. If you click "Allow" on both (pressing Enter works better, typically), the USB device will show up on your VM. Go ahead and test this with a USB drive to make sure it works.

Shutdown
To shutdown the VM, go to the Start Menu > Leave > Shutdown, and then click "Yes". After a minute or two, the VM screen will turn into a play button. At that point, it's safe to quit out of

UTM.
To start up the VM again, just open UTM and click on the Play button.

-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o