

UTM download: <https://mac.getutm.app/>

How to install Kali Linux 2025 on UTM:

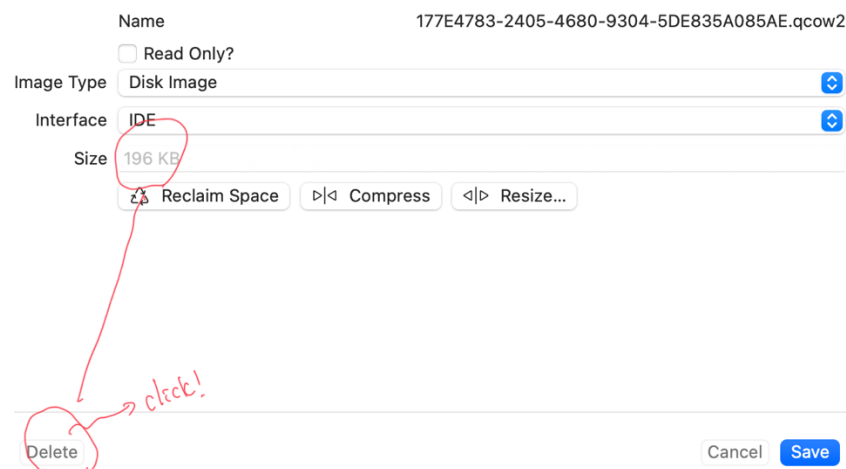
- You need a Kali Linux 2024 installer image file (iso): Please select "**Apple Silicon (ARM64)**" <https://www.kali.org/get-kali/#kali-installer-images>
- Watch this video and follow the instruction in it: <https://www.youtube.com/watch?v=U09soewiu18>
(The method presented in the video worked very well on M2 Macbook. Please follow the steps very carefully and do not miss any steps.)
- Any version will be okay for our subject as long as it's Kali Linux 2025.

How to install Metasploitable2 on UTM:

- First, install homebrew on your Mac: Follow <https://mac.install.guide/homebrew/3>
- Install qemu using brew: brew install qemu
- Download metasploitable vmdk file from: <https://sourceforge.net/projects/metasploitable/>
- Navigate to the directory that contains the image file, convert the image file using the following command:

```
qemu-img convert -p -O qcow2 Metasploitable.vmdk Metasploitable.qcow2
```

- Follow steps <https://www.youtube.com/watch?v=xoYaY0AR7eo>
 - o At the end of the installation, don't forget to delete the IDE drive that has a small disk size (approx.. 196 KB) See the figure below:



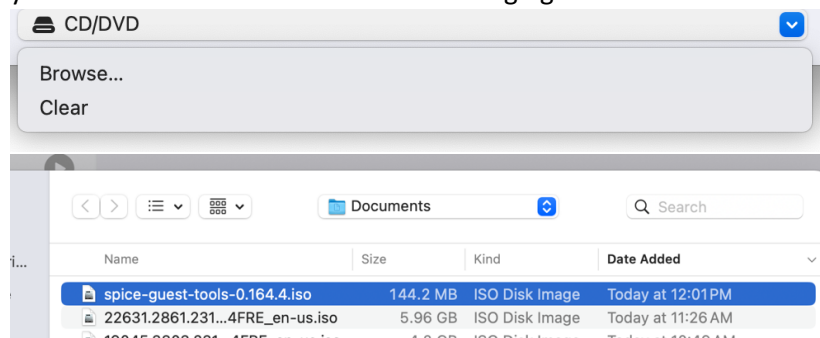
How to install Ubuntu 22.04 LTS on UTM: (It is possible for you to use 24.04 LTS, but I found its installation keeps failing in many machines.)

- **Download 64-bit ARM (ARMv8/AArch64) desktop image from <https://ftpmirror.your.org/pub/ubuntu/cdimage/jammy/daily-live/current/HEADER.html>**
- On UTM, click + → Virtualize → Linux → Browse, select the path for the iso file (jammy-desktop-arm64.iso) → Continue → Memory: Give at least 4 GB memory (you can increase it, depending on your Mac's memory capacity) → Storage: Give at least 30GB → Continue → Shared Directory: If you'd like, you can specify a shared directory → Summary: You can change name to Ubuntu 22.04 LTS → Save → Start the Ubuntu VM → Select Try or Install

Ubuntu → (It will take a while to installation screen starts.) → When you see the LTS desktop, click “Install Ubuntu 22.04.4 LTS” icon on the right corner → Follow instruction to install the whole desktop Ubuntu → Once the installation is complete, clear the Diskima

How to install Windows 11 on UTM (At least the following method has worked. However, it is highly non-trivial to install Windows VMs on Mac machines with Apple Silicon. For an experiment with Windows VM, I recommend using host machines with Intel CPU. Note that no assignment question will be using Windows VM.):

- Download CrystalFetch from <https://apps.apple.com/us/app/crystalfetch-iso-downloader/id6454431289?mt=12>
- Run CrystalFetch and select Version Windows 11; Architecture Apple Silicon; Language English; Edition Windows 11 and download iso image and save it to any folder you'd like (Usually in “Documents”).)
- [Important]Look for “You can manually download the guest tools ISO [here](https://docs.getutm.app/guest-support/windows/#download)” from <https://docs.getutm.app/guest-support/windows/#download> and download the SPICE guest tools iso file and save it to a folder you specify.
- On UTM, click + → Virtualize → Windows → Browse, select the path for the iso file for Windows 11 (in my case, it was 19045.3803.231204-0204.22h2_release_svc_refresh_CLIENTCONSUMER_RET_A64FRE_en-us.iso); Check “Install drivers and SPICE tools” → Continue → Memory: Give at least 4 GB memory (you can increase it, depending on your Mac’s memory capacity; Storage: Give at least 65GB → Continue → Shared Directory: If you’d like, you can specify a shared directory → Summary: You can change name to Windows 11 → Save → On the UTM toolbar, select CD/DVD icon; click Browse from the dropdown menu to provide the path for the spice-guest-tools iso file you downloaded as shown in the following figure:



- → Start the Windows VM → Select Try or Install Ubuntu → (It will take a while to installation screen starts.) → Follow instruction to install the Windows home or Professional edition (Depending on the hardware capacity of your Mac, you can choose light (Home) or heavy (Professional) version.