

SEED Labs VM setup for Apple M1/M2 Machines

The virtualization software that we use for CSCI 476, *VirtualBox*, does not support M1/M2 architecture (yet), so the steps for setting a SEED Labs VM on M1/M2 machines will be different. This document will describe the steps of how to install and set up a SEED Labs VM on M1/M2 Machines.

Option 1: Work with a partner

If you have an M1/M2 chip, you can work with a partner that has a working VM for all the labs. Just let Reese know that you are selecting this option, and who you will be working with.

Option 2: Setting the VM up on the Cloud

An option that should work for everyone is to set up the VM on a cloud server (hosted by Amazon, for example). I've recorded instructions for this, which can be found here:

<https://montana.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=b87d45cc-43bb-46c9-9a40-b0740013fdbd>

This recording goes over four important steps:

1. How to set up an Ubuntu VM with AWS
2. How to run the SEED Labs script to configure the machine properly
3. How to SSH into the VM
4. How to remotely access the desktop of the VM with VNC Software

The set up takes some time but should take less than 30 minutes of your time.

Option 3: Setting up via UTM

UTM is a virtualization software for MAC, which *should* work for setting up the VM on M1/M2 chips. This method has allegedly worked for students in the past, but I have not had any luck getting it working myself. Here are the steps provided by a past CSCI 476 student:

Set up the VM

1. Download and install UTM

2. Download ubuntu desktop 20.04 ARM64 ISO image

(Note from Reese: I've not been able to track down an Ubuntu 20.04 iso file, but an Ubuntu 22 ISO image might also work (not confirmed))

3. In UTM, create a new VM

- a. Select virtualize (not emulate)
- b. Select Linux as the OS
- c. Select the focal-desktop-arm64.iso file as the "Boot ISO Image"
- d. Select 4096 MB of memory & default CPU config
- e. I chose 64 GB of storage, but the SEED-labs instructions say 80 GB

4. Press the play button in UTM next to your new VM

5. In boot options, select Install Ubuntu

6. Under Installation Type, choose "Erase disk and install Ubuntu"

7. Restart Ubuntu as prompted

Setup SEED-labs

1. Log into your Ubuntu user

2. Install git

```
sudo apt install git
```

3. Clone the seed-labs repo

```
git clone https://github.com/seed-labs/seed-labs.git
```

4. Run the setup script

```
./seed-labs/lab-setup/ubuntu20.04-vm/src-vm/main.sh
```

5. Follow the manual instructions to configure the vm