

Installing VirtualBox and Ubuntu

August 24, 2013

Here's a short guide to how I installed VirtualBox on an old 2009 Macbook Pro.

1 Necessary files

First, we need to get a few files together - the VirtualBox program, as well as the Ubuntu ISO file (which essentially contains the data found on an Ubuntu load disk).

1.1 Installing VirtualBox

First, download the VirtualBox installer; this comes as a `.dmg` file for OS X or a `.exe` executable for Windows. These can be found at Virtual Box's download site. Run this and install VirtualBox.

1.2 Getting Ubuntu

Ubuntu is a fairly user-friendly distribution of Linux; you can download it at the Ubuntu site. You'll want to get the version that corresponds to your machine, which (unless you have a computer older than 2008) is probably 64-bit.

It should give you an option to donate or go straight to the download; feel free to donate if you'd like. Once you get past that page, it should start downloading a 700MB file. This will probably take a long time on the Rice wireless, so if possible, **do this at home or on a wired connection**. Remember where you download this file, as we'll use it to load the operating system onto Virtual Box later.

2 Setting up and installing Ubuntu Linux on VirtualBox

Once you've downloaded the Ubuntu Linux file, open up VirtualBox, and it will guide you through the steps needed to create a virtual hard drive. Usually to install a second OS on a machine, you create a hard drive partition and install the new OS there. While it runs fast, this a little more work to remove and a bit more invasive into your system. What we'll do instead is run the Ubuntu Linux OS through VirtualBox from your

For extended support, choose Ubuntu 12.04 LTS

Ubuntu 12.04.3 LTS is a long-term support release. It has continuous hardware support improvements as well as guaranteed security and support updates until April 2017.

[Read the full installation instructions >](#)

If you have a PC with the Windows 8 logo or UEFI firmware, choose the 64-bit download.
[Read more >](#)

Choose your flavour

64-bit (for newer machines)

Ubuntu 12.04 LTS



Figure 1: Setting up a new virtual machine.

original operating system, and just create a **disk image** of specified size to serve as a virtual hard drive for our virtual Ubuntu.

2.1 Setting up a new virtual machine

Click on “New”, and name your machine whatever you’d like - I’ll make a new “CAAM 420” machine for this guide. Unless you have an computer older than 2009, you should choose Linux and Ubuntu 64 bit.

VirtualBox will ask you to allocate memory for the virtual machine; this is RAM that’ll be dedicated towards our virtual Ubuntu. They default to 512 MB, which should be enough for this class. If this is more than half of your computer’s available RAM, consider allocating a little less.

2.2 Create a virtual hard drive

Next, you should create a new virtual hard drive. It will query you for a virtual hard drive image format - I just chose the first format, Virtual Disk Image. This will create a file of a certain size (8GB is recommended) to store the “hard drive” of your virtual Ubuntu. Choose “dynamically allocated” when prompted for the type of storage on your HD; this means it’ll only take up as much memory as you need in your virtual hard drive.

Do make sure that the memory allocated for the virtual machine is less than half of the actual memory available – for example, if your remaining hard drive memory is 10GB do not allocate more than 5 GB for the virtual hard drive. Keep in mind that the Ubuntu install itself will take around 4.4 GB itself; let us know if you don’t have enough space to partition a large enough virtual hard drive on your computer.

3 Running Ubuntu through Virtual Box

To run Ubuntu through Virtual Box efficiently, we should install load Ubuntu from the disk image we downloaded, and install it onto the virtual hard drive we just created.

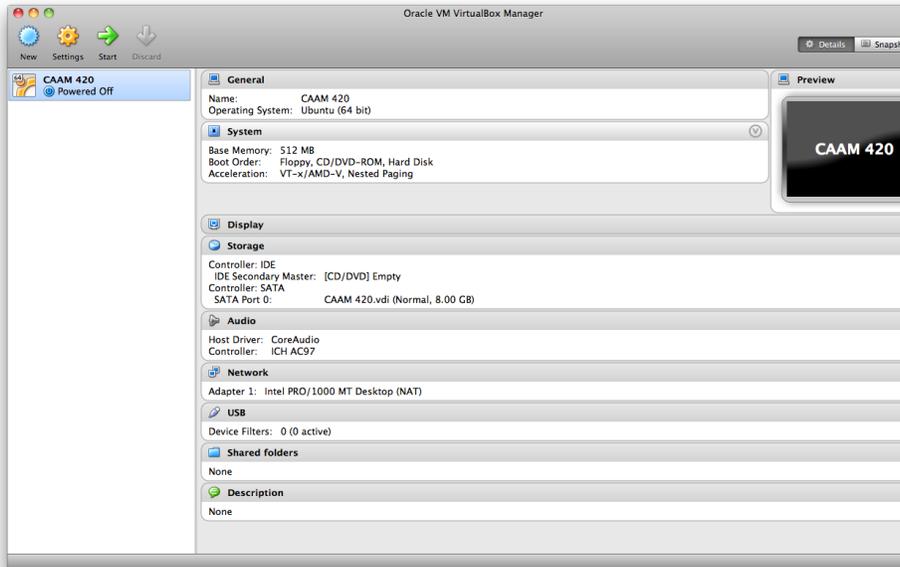


Figure 2: Your created Virtual Box account.

3.1 Loading Ubuntu from the disk image

Press start in VirtualBox to launch your newly created virtual machine; it should prompt you for a file/disk location from which to load from (see Figure 3). VirtualBox doesn't contain the actual operating systems - it's an OS emulator, it can launch all sorts of operating systems, provided you give it the operating system file.

3.2 Installing Ubuntu onto your virtual HD

Once you've selected to load from your ISO image (I made a folder in `/[username]/VirtualBox VMs` called `DiskImages`), you can boot up Ubuntu Linux on Virtual Box. You should receive a prompt asking if you'd like to either

- “Try Ubuntu” (which means running Ubuntu directly from the disk image)
- or “Install Ubuntu” (which would install it to your virtual hard drive file we created before).

Choose “Install Ubuntu”; this will install Ubuntu and run it from your disk image, which is faster. VirtualBox will run a few checks before installing, and will also ask during the “Installation Type” step whether or not you want to “Erase disk and install Ubuntu”. Mark this option, since it's just a virtual hard drive we're installing on.

It will also ask if you want to download updates while installing; this shouldn't be necessary for this course. As you're installing, you'll also be asked to specify your geographical location, keyboard layout (QWERTY, DVORAK, foreign language, etc), and user profile/password. Once you've filled these out, Ubuntu will install on your virtual hard drive. This takes a good while (usually 30-45 minutes).

3.3 Running Ubuntu

That should be it - once installed, you'll want to open up the Terminal, which you can get to by clicking the Dash Home button at the top left hand corner of the screen. This will be our way of navigating around Unix/Linux environments. Ubuntu Linux may run slower than you're used to since it's a virtual machine on top of your original OS.



Figure 3: Prompt to run virtual Ubuntu from a disk image. Press the small Folder icon with the green carat to select your Ubuntu disk image.

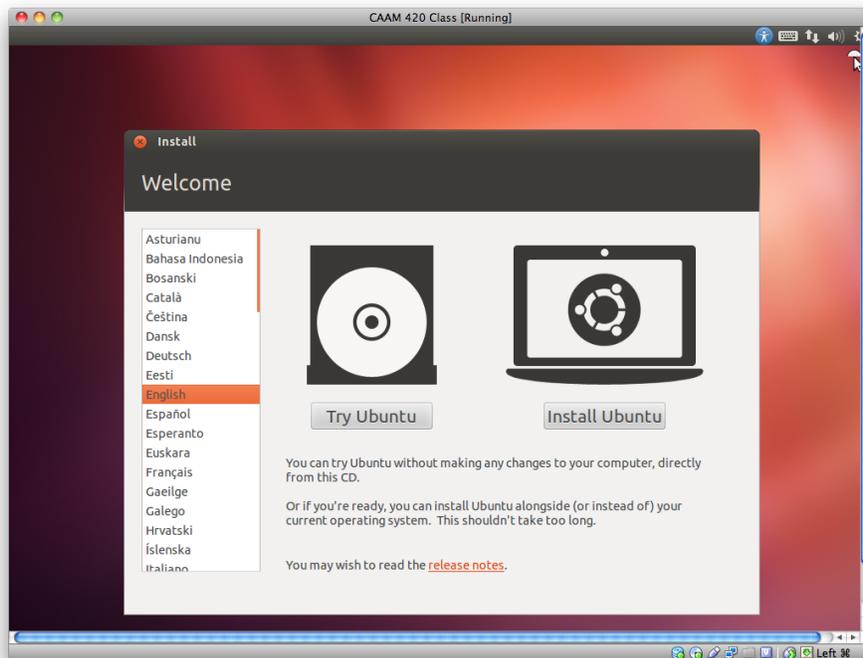


Figure 4: Option to install/run from ISO image file.

4 Installing emacs and L^AT_EX

Our final step will be to install a text editor and a typesetting language. Installation is fairly easy; open a terminal, and type the commands

- `sudo apt-get install emacs23` (to install the emacs text editor)
- `sudo apt-get install texlive` (to install the typesetting language L^AT_EX).

You'll be queried for your password that you gave when installing Ubuntu; type it in to allow `sudo` to install these packages. These may take a while to install. To use emacs, type `emacs -nw` to open emacs in a terminal. We'll go over the use of both emacs and L^AT_EX in subsequent lectures.