## Standardizing our OS for this class

for this class, we will work within an ubuntu os, a linux operating system that we will install within VirtualBox.

https://www.virtualbox.org/

there are other ways to run ubuntu, like dual booting or doing a fresh install on your computer. VirtualBox is the easiest right now...

it will run an ubuntu operating system like an application within your native operating system.

go to https://www.virtualbox.org/wiki/Downloads and select the proper host, i.e. if you are running a Windows OS, you need a Windows host, etc.

also, go to https://ubuntu.com/download/desktop to download the iso file for ubuntu 20.04. we will use this file to install the linux os on our VirtualBox.

we can follow roughly these instructions for the install: https://brb.nci.nih.gov/seqtools/installUbuntu.html

## Step 0: set up a virtual machine

click "NEW" in the menu...



## Step 1: name your machine

give your machine a name.

the type should be "linux," and version will be 64-bit ubuntu.

	Creat	e Virtual Machine	8		
Name and operating system					
2~~	Please choose a descriptive name and destination folder for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.				
	Name: CAAM 519 machine				
	Machine Folder:	/home/cpuelz/VirtualBox VMs			
	Type:	Linux 👻	<b>9</b> /		
	Version:	Ubuntu (64-bit) 👻			
		Expert Mode < Back Next > Can	cel		

## Step 2: pick amount of RAM

ubuntu recommends 4Gb for the os version we will be installing

see: https://ubuntu.com/download/desktop



# Step 3: setup hard disk

	Create Virtual Machine	8
	Hard disk	
	If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.	
2	If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.	
	The recommended size of the hard disk is 10.00 GB.	
	O Do not add a virtual hard disk	
	<u>Create a virtual hard disk now</u>	
	○ Use an existing virtual hard disk file	
		2
	< <u>B</u> ack Create Cancel	l

## Step 4: virtual disk image



## Step 5: let the hard disk be a fixed size

#### this will be faster.



## Step 6: pick size of hard drive

ubuntu recommends 25Gb for the os version we will be installing

i am picking a bit more, for a "buffer"

see: https://ubuntu.com/download/desktop

	Create Virtual Hard Disk 🛛 😵	
	File location and size	
	Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.	
	/home/cpuelz/VirtualBox VMs/test/test.vdi	
	Select the size of the virtual hard disk in megabytes. This size is the lin on the amount of file data that a virtual machine will be able to store the hard disk	
	< Back Create Cancel	

# Step 7: done!

	Oracle VM VirtualBox Manager	8
<u>File Machine Help</u>		
Tools	New Settings Discard Start	
CAAM 519 machine	📃 General	Preview
Powered Off 8=	Name: CAAM 519 machine Operating System: Ubuntu (64-bit)	
	🔳 System 🗸 🗸	
	Base Memory: 8192 MB Boot Order: Floppy, Optical, Hard Disk Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization	CAAM 519 machine
	📃 Display	
	Video Memory: 16 MB Graphics Controller: VMSVGA Remote Desktop Server: Disabled Recording: Disabled	
	Storage	
	Controller: IDE IDE Secondary Master: [Optical Drive] Empty Controller: SATA SATA Port 0: CAAM 519 machine.vdi (	Normal, 50.00 GB)
	🕪 Audio	
	Host Driver: PulseAudio Controller: ICH AC97	

## Step 8: pick number of processors



# Step 9: point machine to image of ubuntu os for install

	CAAM 519 machine - Settings 😵				
E General	Storage				
<ul> <li>System</li> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> </ul>	Storage Devices Storage Devices Controller: IDE Columniu-20.04-desktop-amd64.iso Controller: SATA Controller: SATA CoAAM 519 machine.vdi	Attributes Optical Drive: DE Secondary Master			
Shared Folders	۵ ال ال				
		©⊆ancel ©⊆	<u>p</u> ĸ		

Step 10: reboot the machine and being using it!

**note:** when you reboot, you should "remove the installation medium, and then press ENTER."

this requires you to go to **Settings** > **Storage**, and "eject" the iso file.

Step 11: (optional) install guest additions

this step seems to be helpful for graphics within the virtual machine. by the way, this change might not be possible on certain operating systems.

go to  $\ensuremath{\text{Devices}}\xspace > \ensuremath{\text{Insert}}$  Guest Additions CD Image, and following prompts.

## Other options

I'm not going to require that you use Linux through a virtual machine if you prefer not to. Some other options at your disposal:

- Use your existing OS, if you have a machine running Linux or MacOS
- Install a partition on your machine running Linux.
- $\rightarrow$  l'll do best effort to help troubleshoot computing problems on other platforms, but l cannot guarantee success. The answer will very likely be "use the virtual machine."