

HW 1 Grading Criteria	Earned	Max
Did everything get installed?	6	6
Could someone else easily follow along and achieve the same result?	2	2
Is the write-up polished and well organized?	2	2
Total	10	10

Notes from Homework 1 (Fall 2018)

Overview

Make a copy of this document, rename it to “hw1-notes” and move it to your CSE 523 Google Docs collection. Maintain your notes in this document. You may find it helpful to include screenshots, like the one below. You can do so in two easy steps.

<https://powcoder.com>

Adding screenshots to your Google Document:

1. **Capture the window/screen you want.** On Windows, select your window, press Alt-PrtSc. On Mac, press shift-control-command-4 and then draw a rectangle around the area you want to copy. Once you have the image in your clipboard, you can copy-paste into this document; once the image is in the document, you can crop or resize as needed.
2. **Create a table to hold the image and caption.** Use Table->Insert table to add a 1-column, 2-row table. Copy-paste your image into the top row; resize the image so that it fits on your page. Add your caption to the second row in the table. Use Table->Table properties to set the table border to 0 pt, unless you like seeing the grid lines.

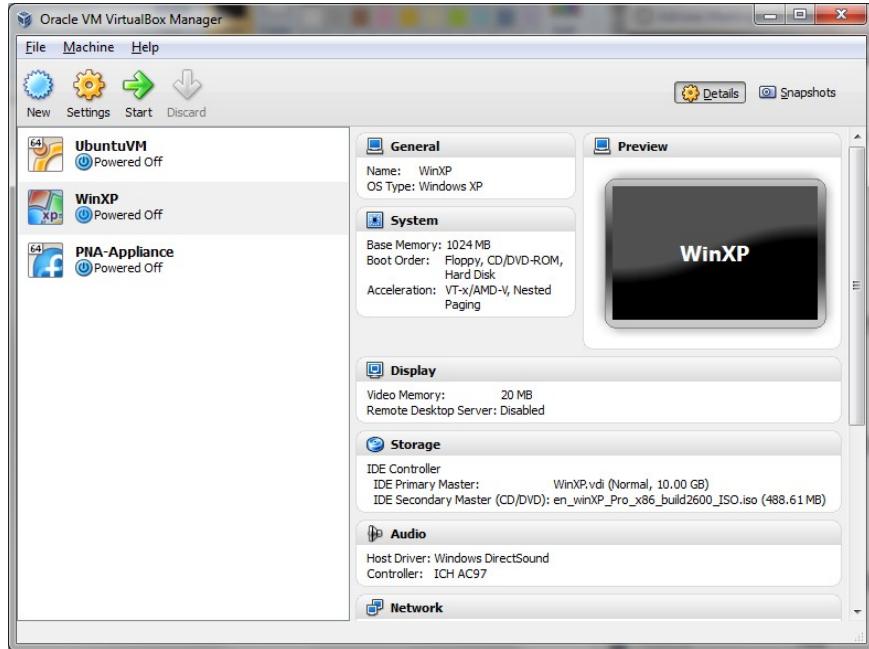


Figure 1. Screenshot.

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Details & Logistics <https://powcoder.com>

Your Name	Chuan Tang
Your email address	chuantang@wustl.edu Add WeChat powcoder
Machine, CPU & OS <i>Eg, Lenovo x200, Win7 64bit</i>	MacBook Pro 15-inch, macOS High Sierra
Amount of main memory	16 GB 2133 MHz LPDDR3
Amount of free disk drive space <i>Should be at least 20GB to be safe</i>	400GB
Homework start date & time	09.05.2018 1:00AM
Homework end date & time	09.05.2018 11:30AM

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Install VirtualBox

Step 1: go to [this page](#) and install the latest version(VirtualBox 5.2.18 platform packages).

<https://powcoder.com>

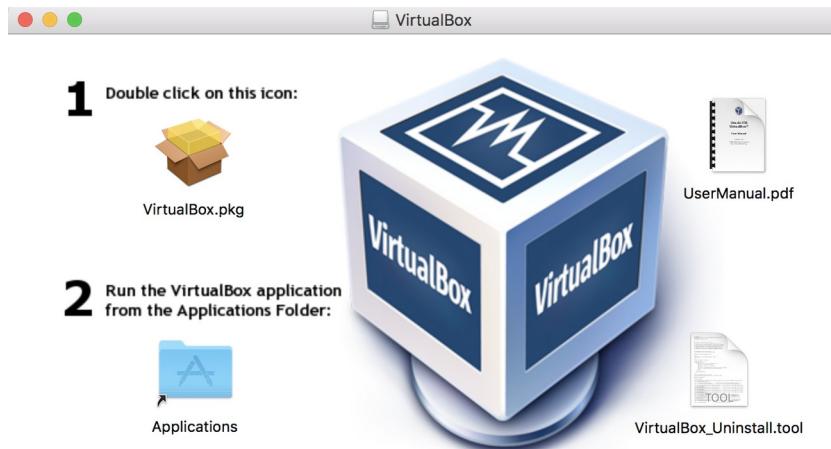
VirtualBox 5.2.18 platform packages

Add WeChat powcoder

- ➔ Windows hosts
- ➔ OS X hosts
- Linux distributions
- ➔ Solaris hosts

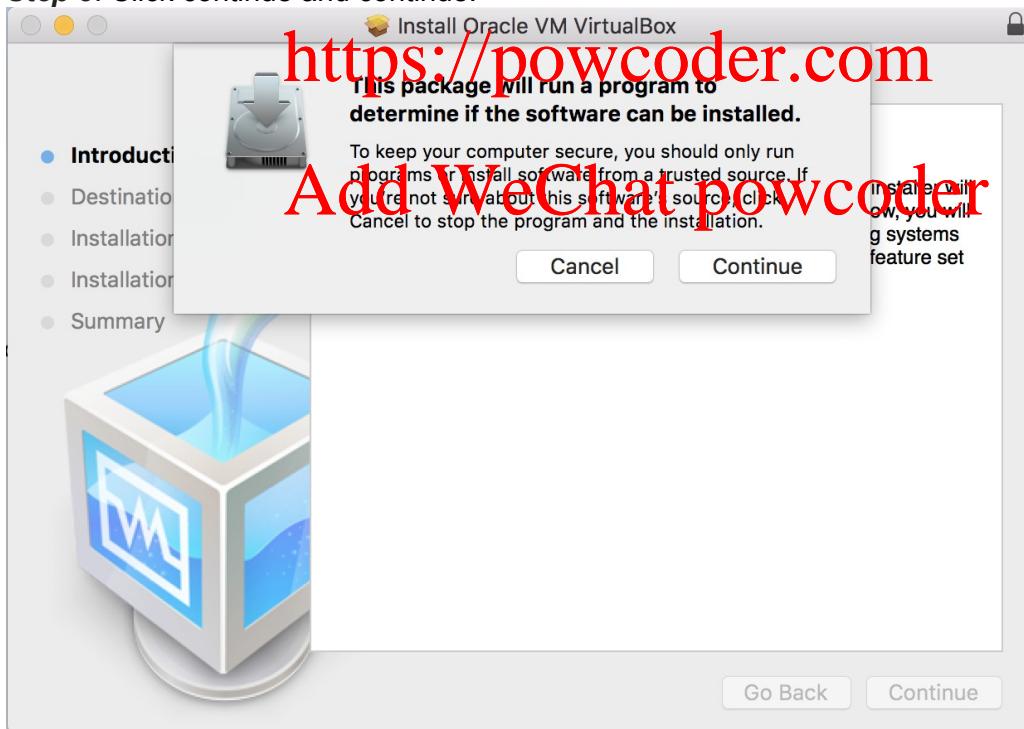
Click OS X hosts if you run this on mac OS.

Step 2: Open the installation package
Double click “VirtualBox.pkg”

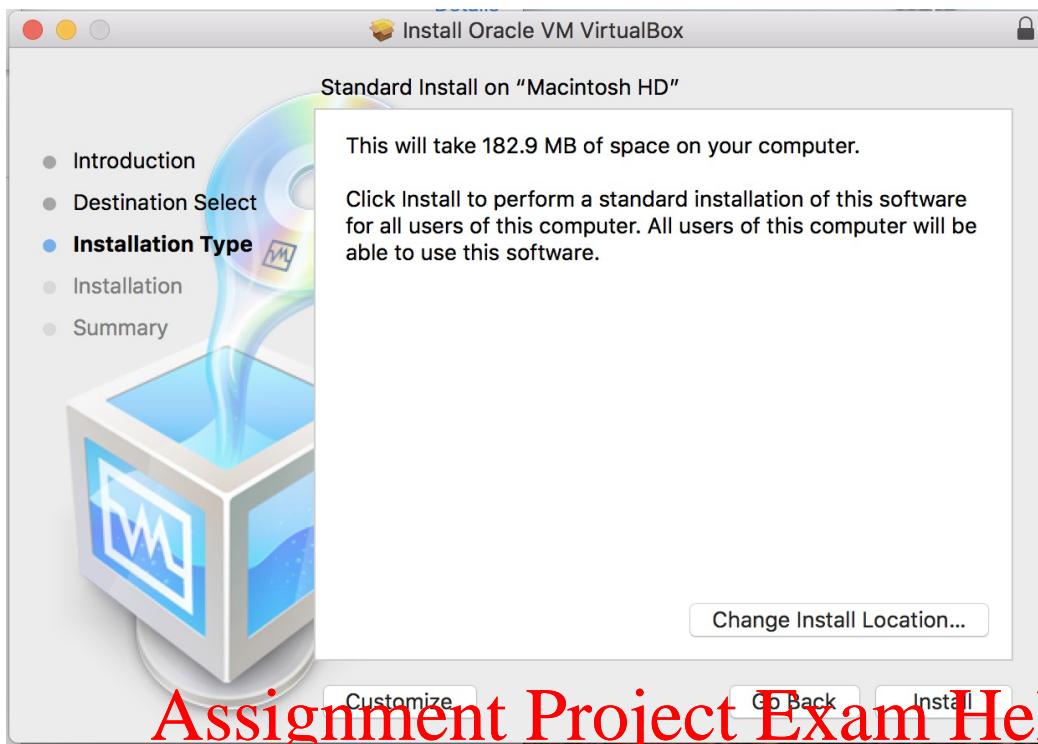


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Step 3: Click continue and continue.

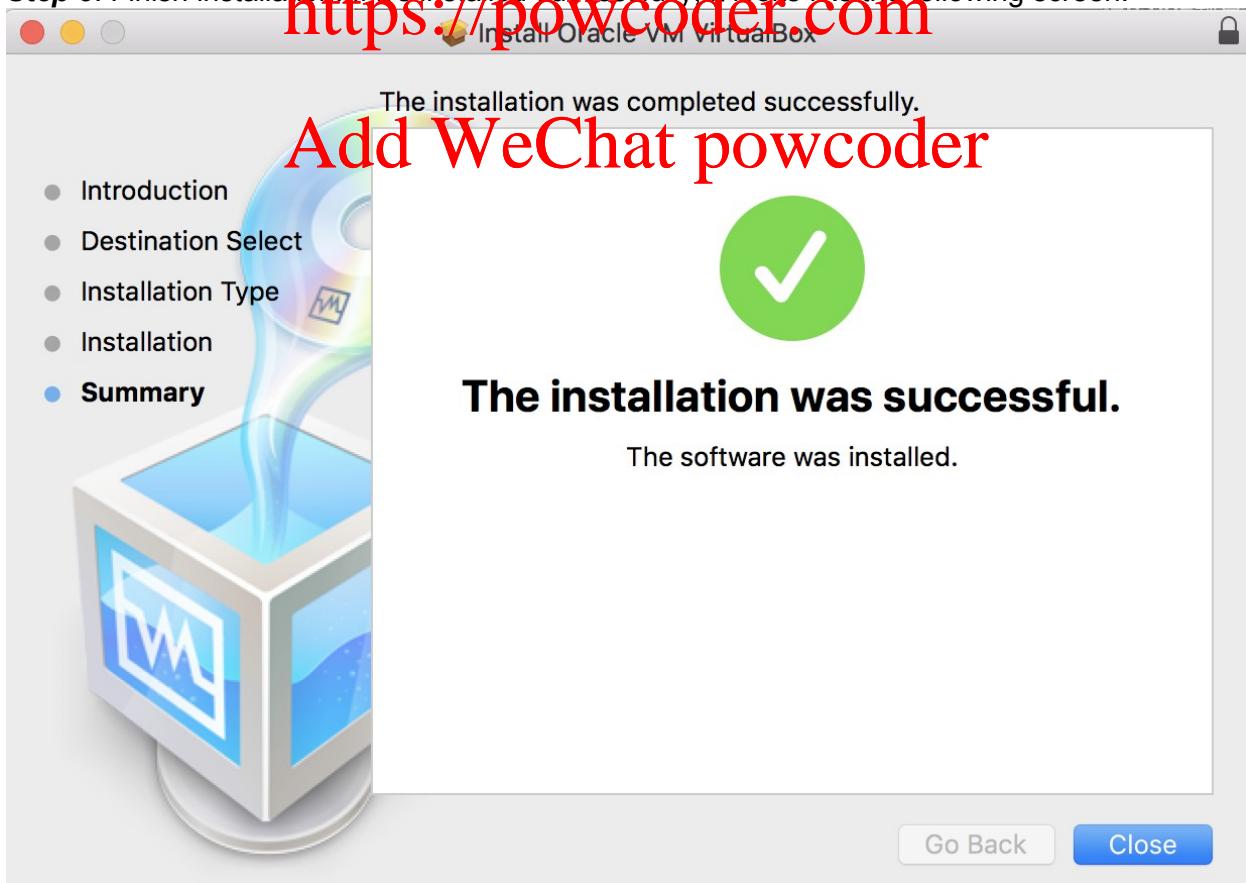


Step 4: You could change install Location by click “Change Install Location”.



After that click "Install".

Step 5: Finish installation. If it's installed successfully, it looks like the following screen.



Create a new Ubuntu Virtual Machine

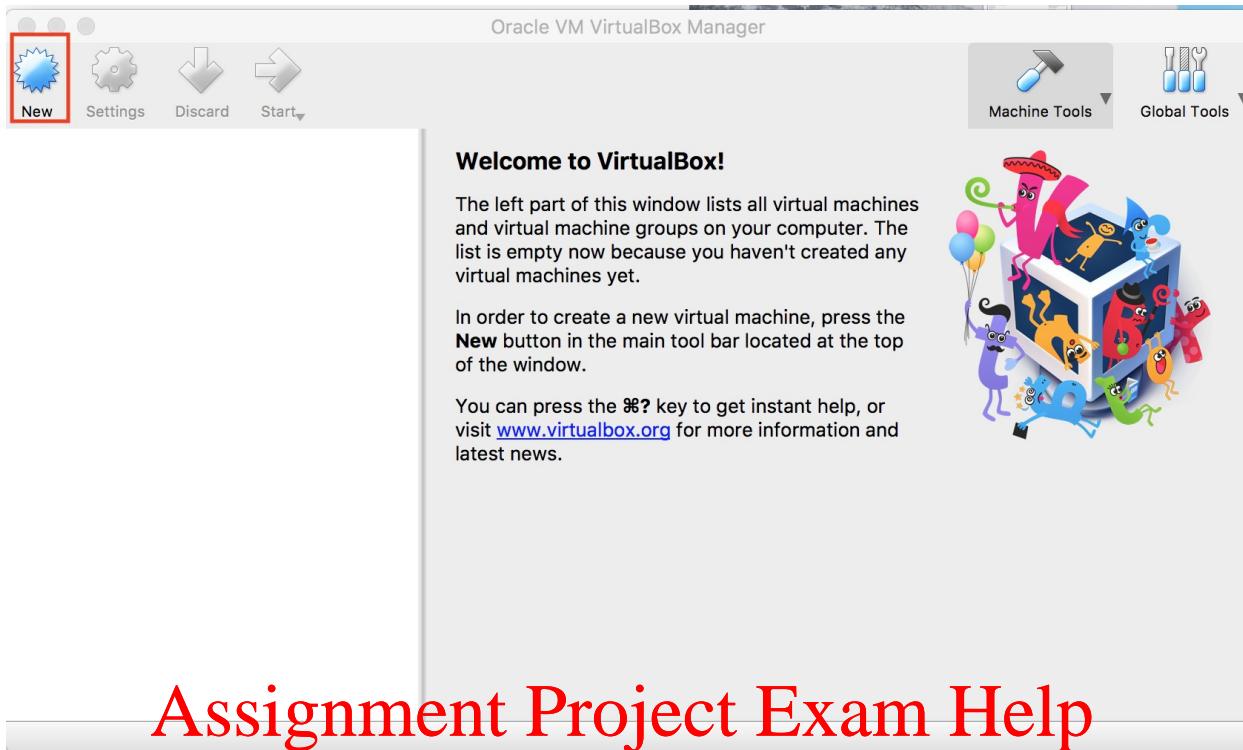
Step 1: Go to [this page](#) and install Ubuntu 14.04.5 LTS Desktop .iso (14.04 64 bit desktop version)

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If you need help burning these images to disk, see the Image Burning Guide.

Name	Last modified	Size	Description
Parent Directory			
MD5SUMS	2017-02-16 22:30	30	
MD5SUMS-metalink	2016-08-04 20:46	568	
MD5SUMS-metalink.gpg	2016-08-04 20:46	933	
MD5SUMS.gpg	2017-02-16 22:30	933	
SHA1SUMS	2017-02-16 22:30	347	
SHA1SUMS.gpg	2017-02-16 22:30	333	
SHA256SUMS	2017-02-16 22:30	467	
SHA256SUMS.gpg	2017-02-16 22:30	933	
ubuntu-14.04.5-desktop-amd64.iso	2016-08-03 17:49	1.0G	Desktop image for 64-bit PC (AMD64) computers (standard download)
ubuntu-14.04.5-desktop-amd64.iso.torrent	2016-08-04 20:43	41K	Desktop image for 64-bit PC (AMD64) computers (BitTorrent download)
ubuntu-14.04.5-desktop-amd64.iso.zsync	2016-08-04 20:43	2.1M	Desktop image for 64-bit PC (AMD64) computers (zsync metafile)
ubuntu-14.04.5-desktop-amd64.list	2016-08-03 17:49	4.5K	Desktop image for 64-bit PC (AMD64) computers (file listing)
ubuntu-14.04.5-desktop-amd64.manifest	2016-08-03 17:41	60K	Desktop image for 64-bit PC (AMD64) computers (contents of live filesystem)
ubuntu-14.04.5-desktop-amd64.metalink	2016-08-04 20:46	44K	Ubuntu 14.04.5 LTS (Trusty Tahr)
ubuntu-14.04.5-desktop-i386.iso	2016-08-03 17:52	1.0G	Desktop image for 32-bit PC (i386) computers (standard download)
ubuntu-14.04.5-desktop-i386.iso.torrent	2016-08-04 20:43	42K	Desktop image for 32-bit PC (i386) computers (BitTorrent download)
ubuntu-14.04.5-desktop-i386.iso.zsync	2016-08-04 20:43	2.1M	Desktop image for 32-bit PC (i386) computers (zsync metafile)
ubuntu-14.04.5-desktop-i386.list	2016-08-03 17:52	3.8K	Desktop image for 32-bit PC (i386) computers (file listing)
ubuntu-14.04.5-desktop-i386.manifest	2016-08-03 15:57	59K	Desktop image for 32-bit PC (i386) computers (contents of live filesystem)

Step 2: Open VirtualBox and click “New”

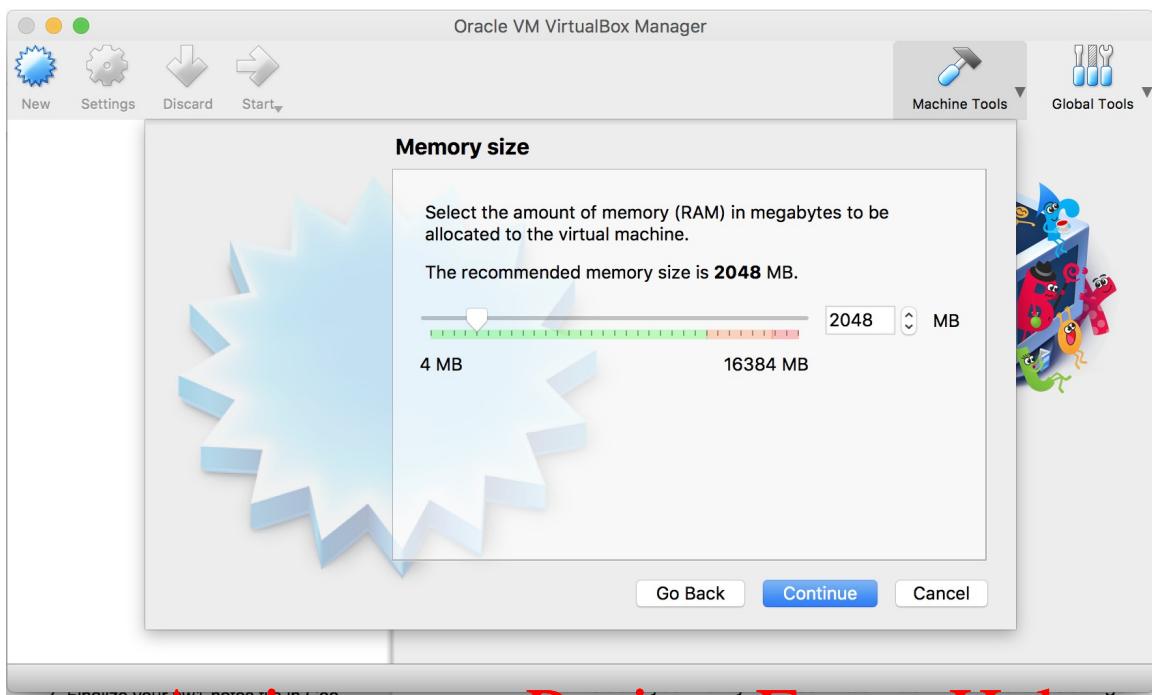


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Step 3: Text in the name (if name with “Ubuntu” the type and the version will be automatically gathered).
<https://powcoder.com>
Choose the Type and Version of your computer.



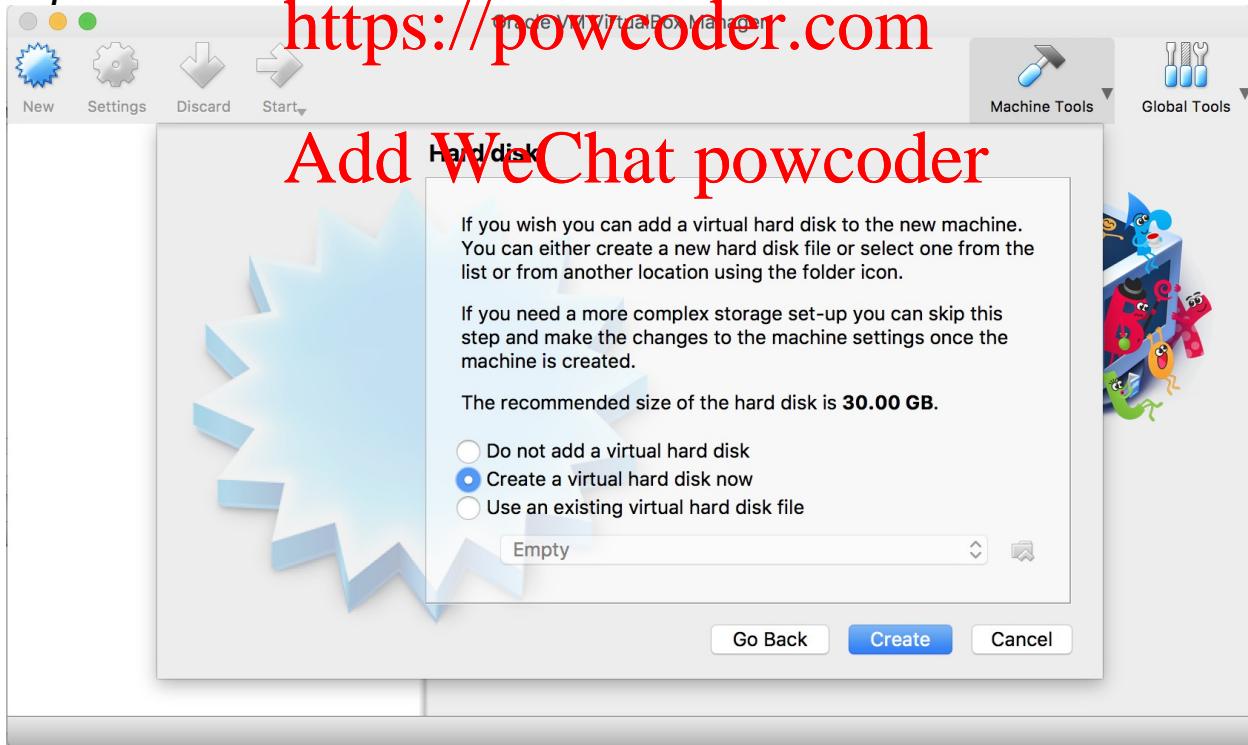
Step 4: Choose memory size



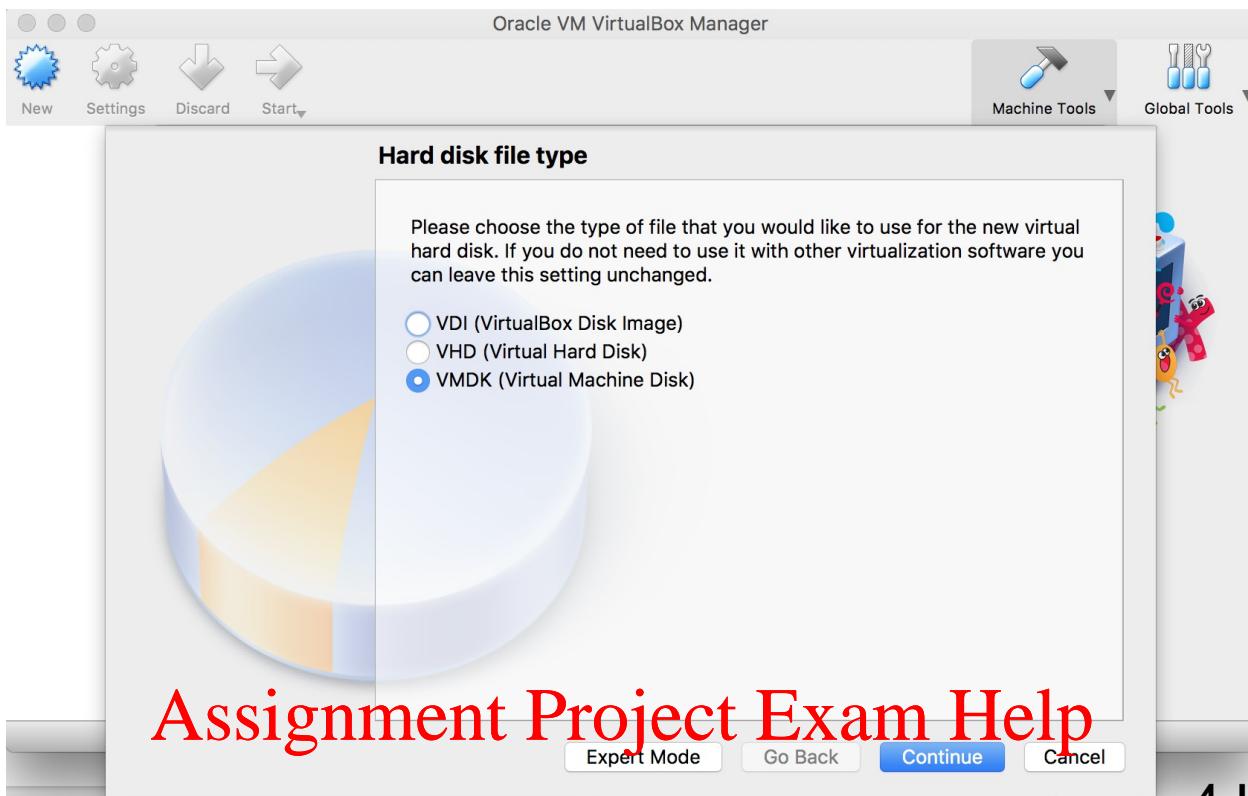
I do the recommended memory size. You could do yours, but at least 1024 MB

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Step 5: Click "Create"

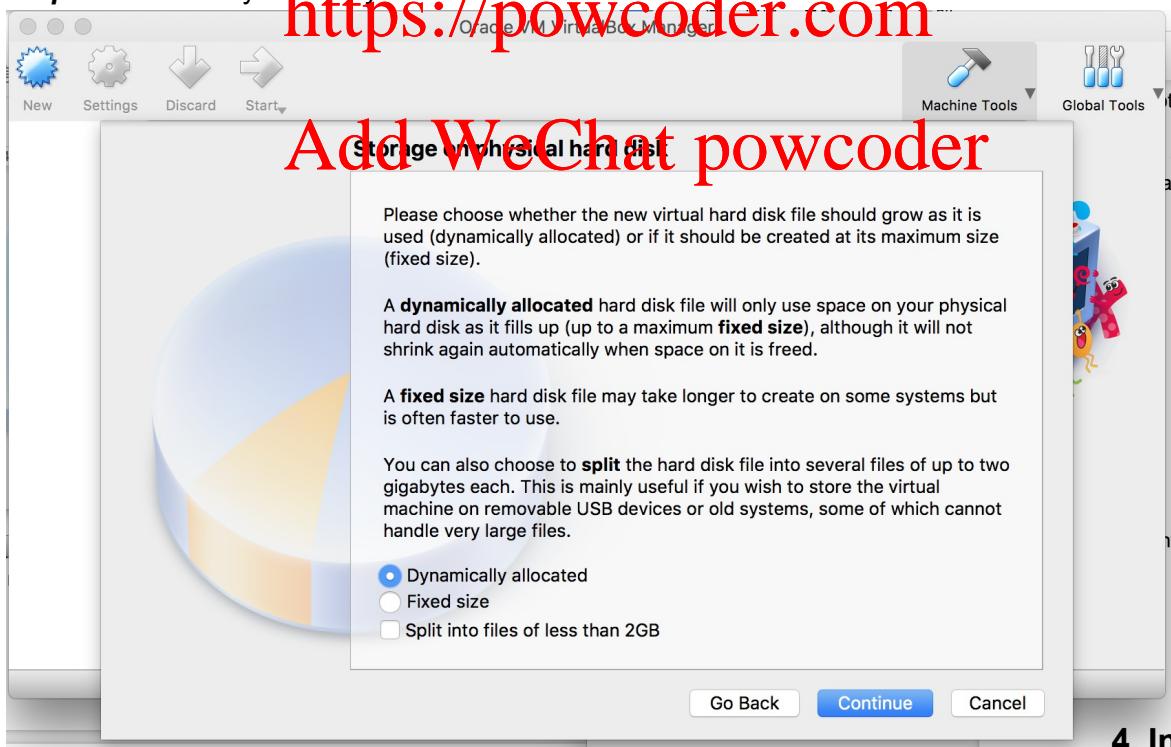


Step 6: Choose "VMDK(Virtual Machine Disk) and click "Continue".



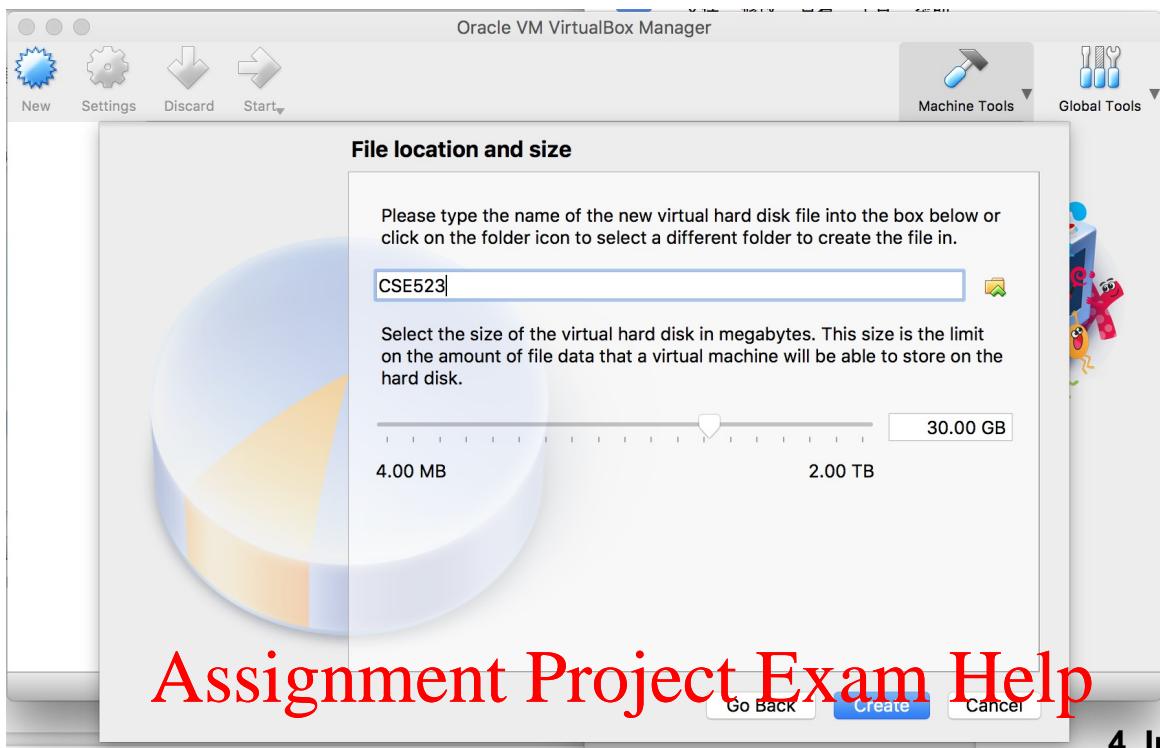
Step 7: Choose "Dynamically allocated" and click "Continue".

<https://powcoder.com>



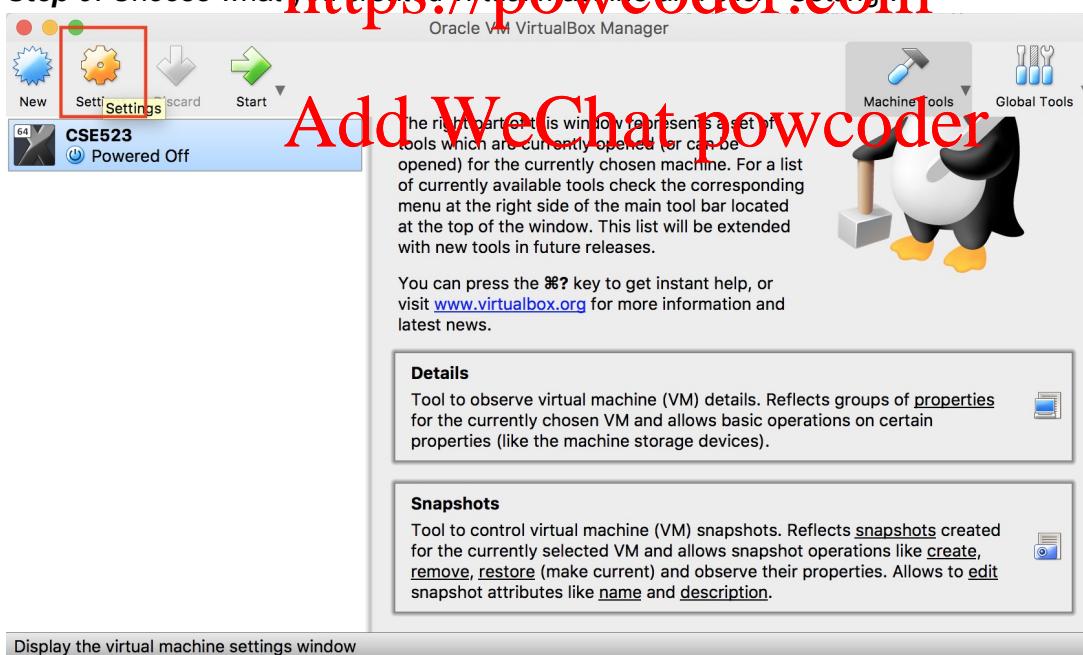
Step 8: Choose File location and size. I do the recommended size. You could do yours, but do

at least 15GB.

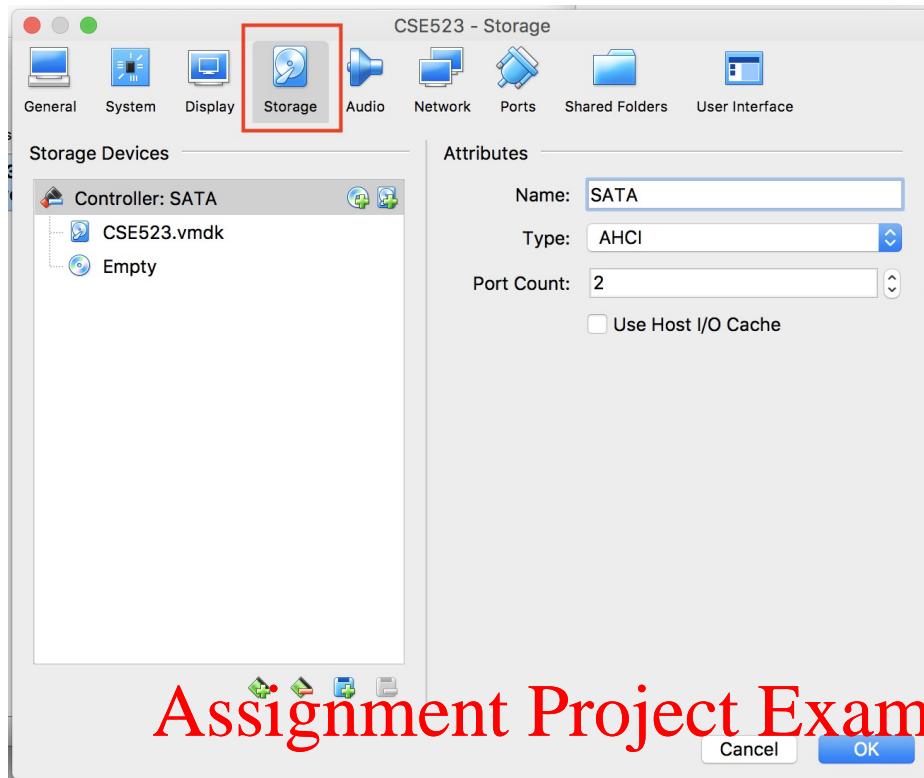


4. Ir

Step 9: Choose what you created virtual machine and click "Setting".

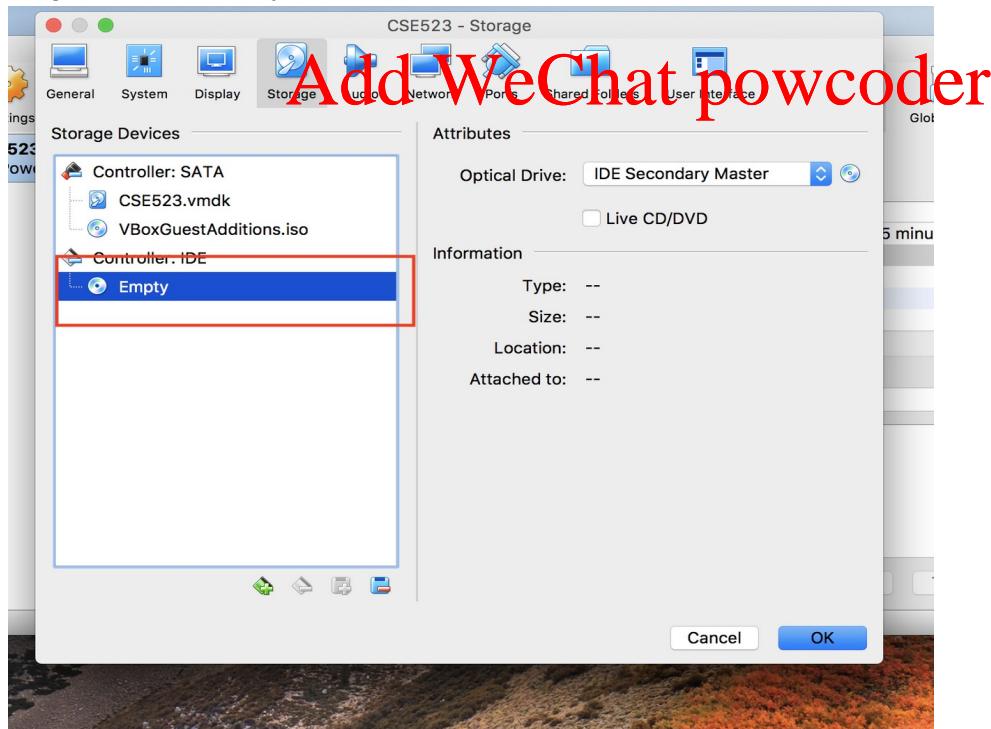


Step 10: Go to "Storage"



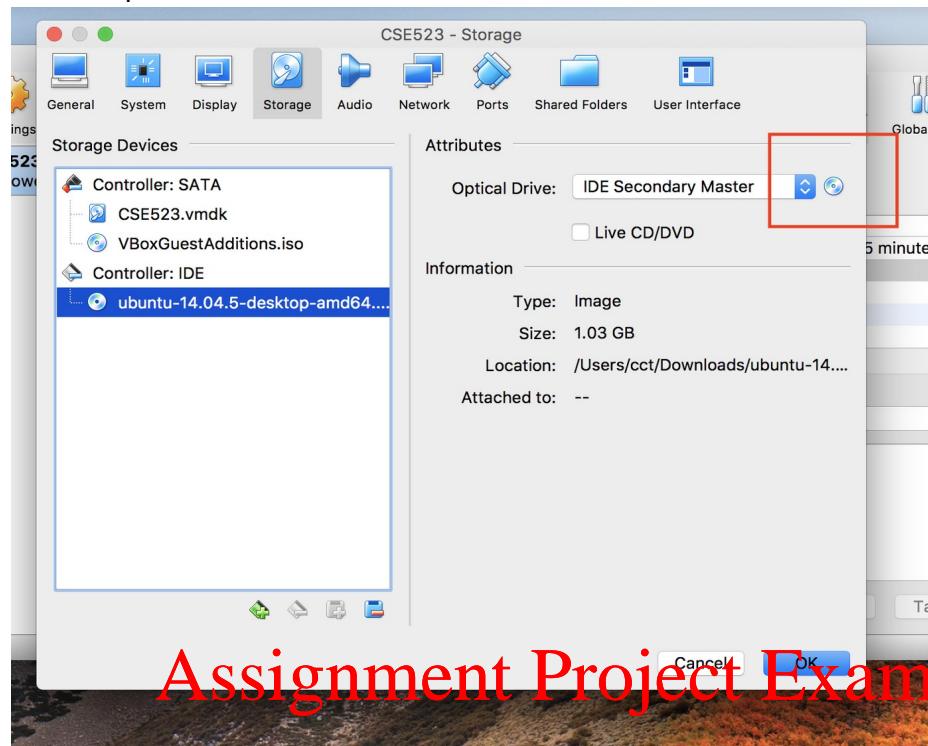
<https://powcoder.com>

Step 11: Click "Empty" under "Controller:IDE".



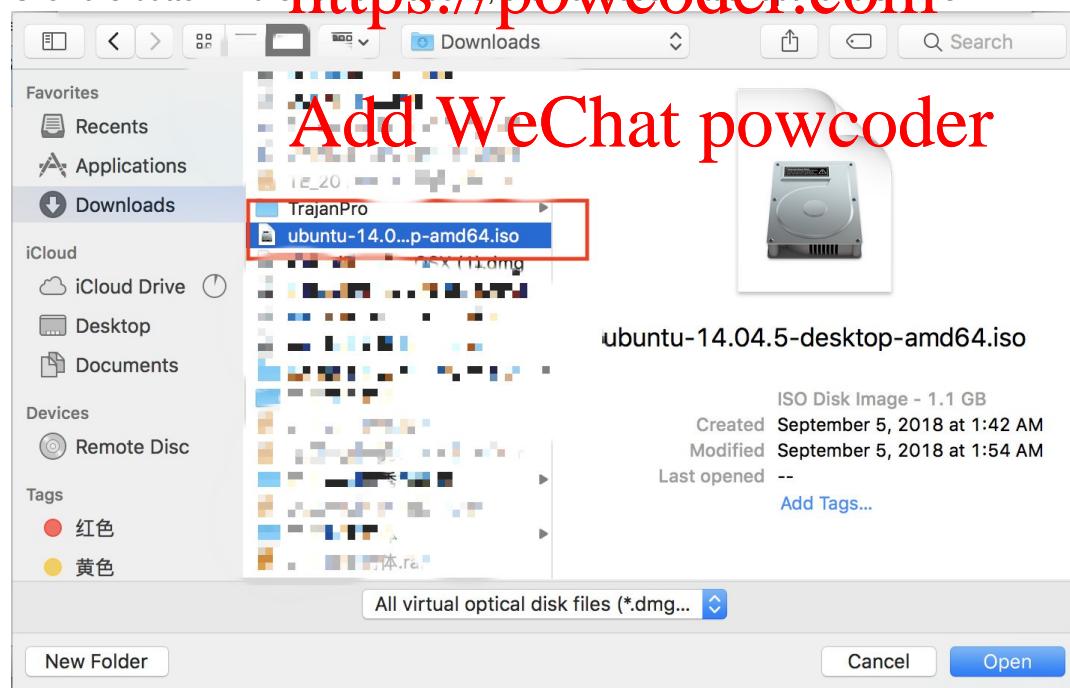
Step 12: Click the CD image next to "Optical Drive: IDE Secondary Master" and select "Choose".

Virtual Optical Disk File

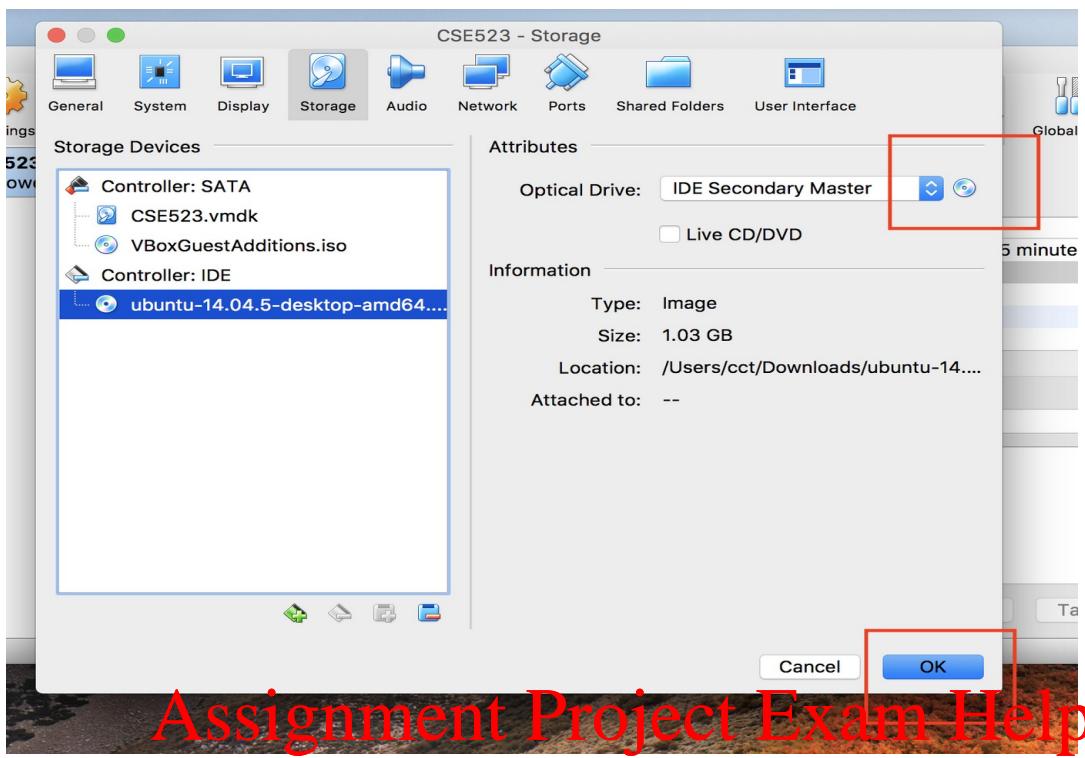


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Click the button in the red box above, then choose virtual optical disk file.



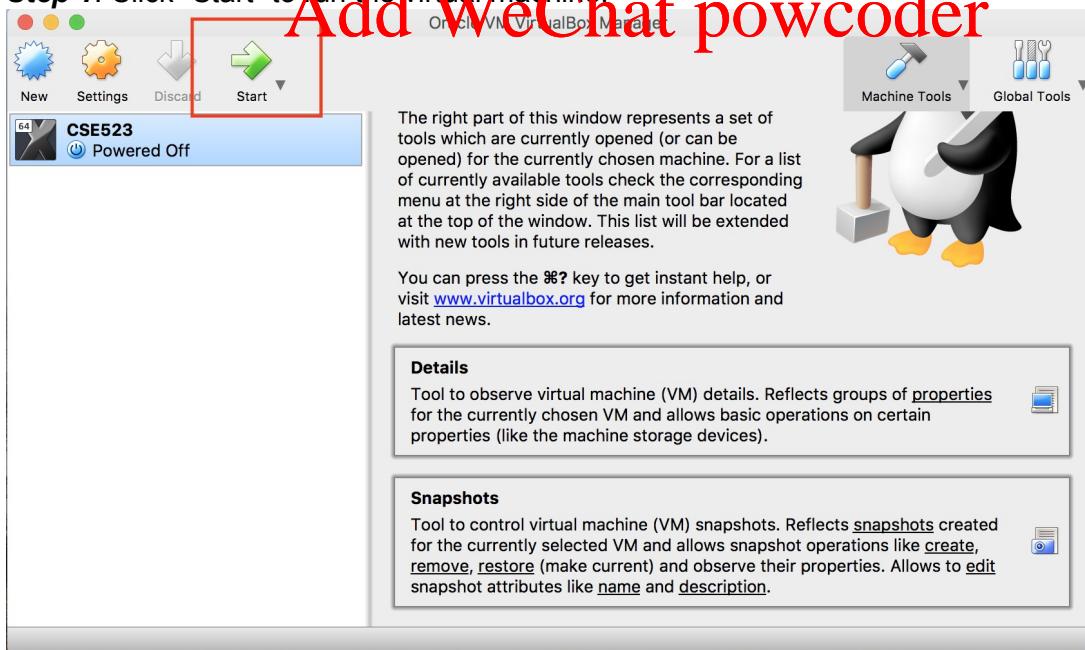
Find the "ubuntu-14.04.4-desktop-amd64.iso" you downloaded and then click "Open". After the disk is changed to the iso file you downloaded, click "OK".



Now we are ready to install Ubuntu.

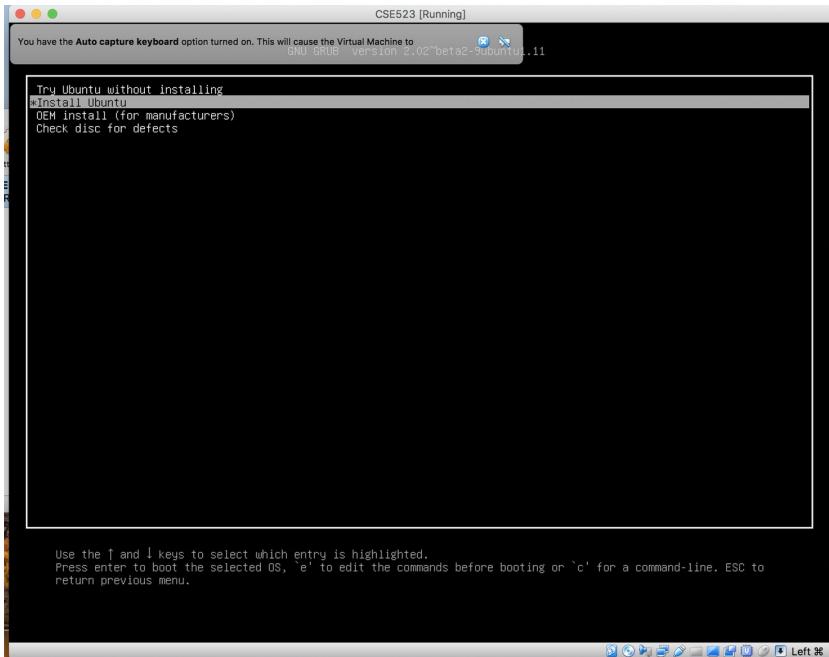
Install Ubuntu on your Virtual Machine hard disk

Step 1: Click "Start" to run the virtual machine.

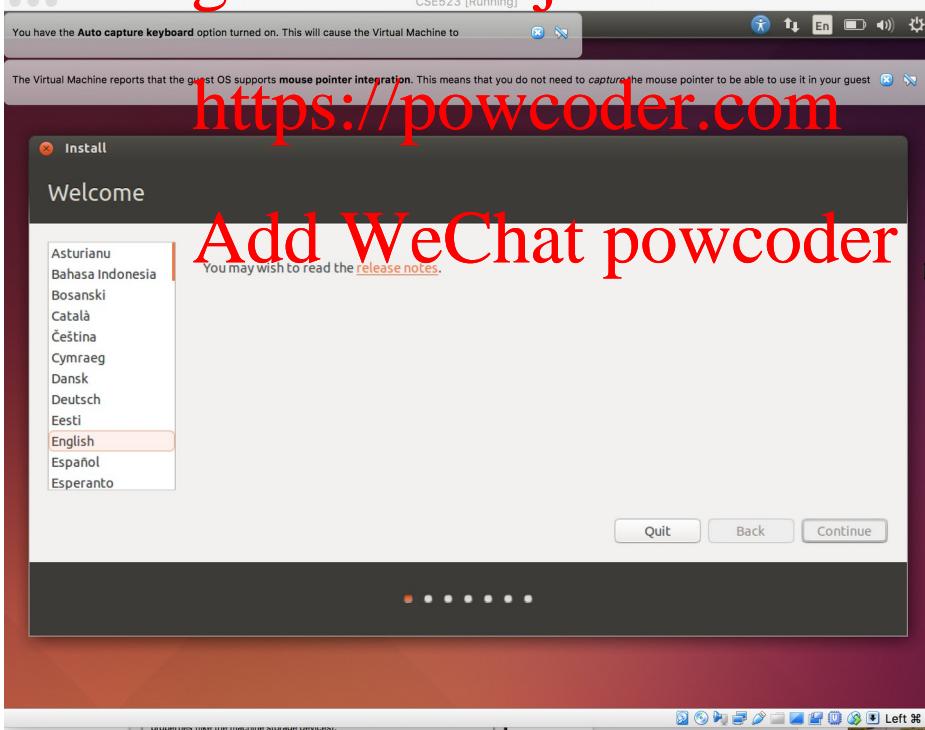


Step 2: We need to install Ubuntu in this step, following the instructions.

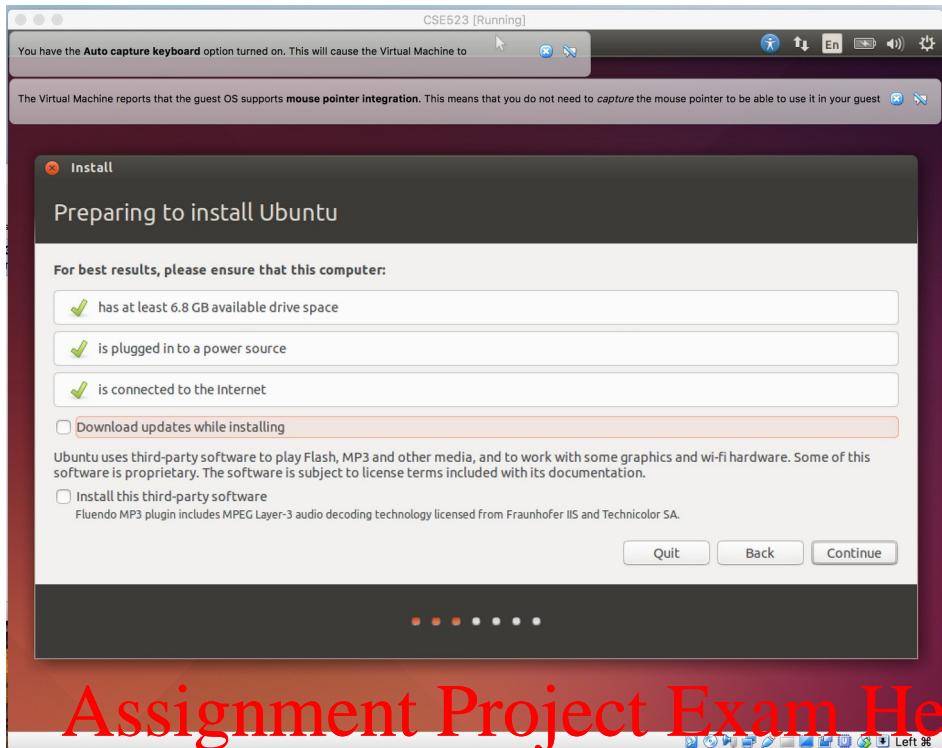
- Use keyboard "up" and "down" to choose "Install Ubuntu".



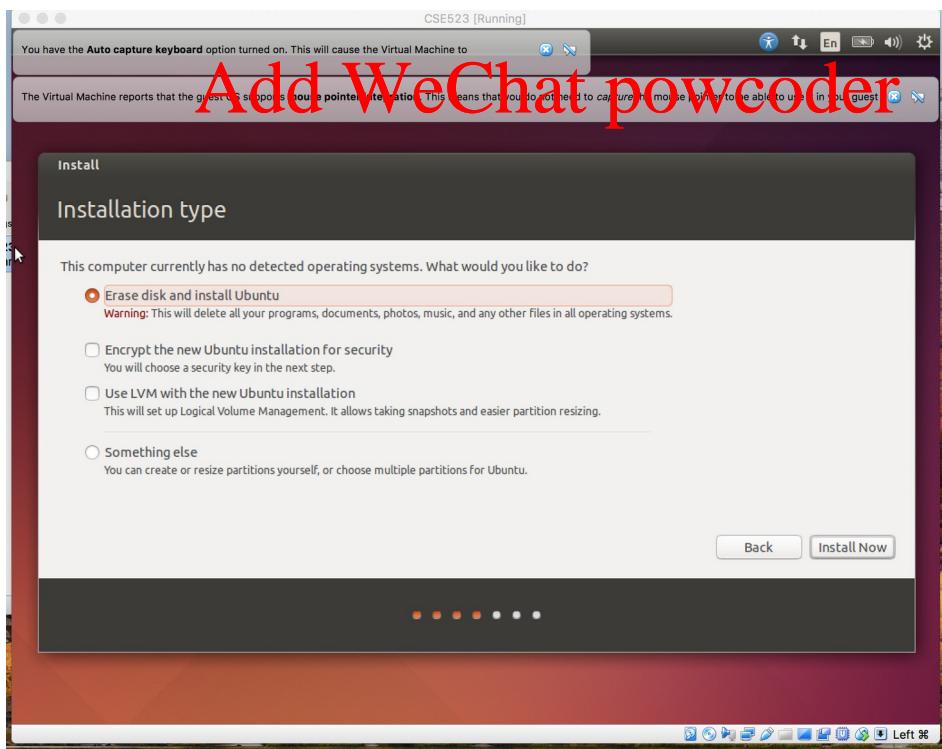
- b. Select “English” and then you could click “Continue”.



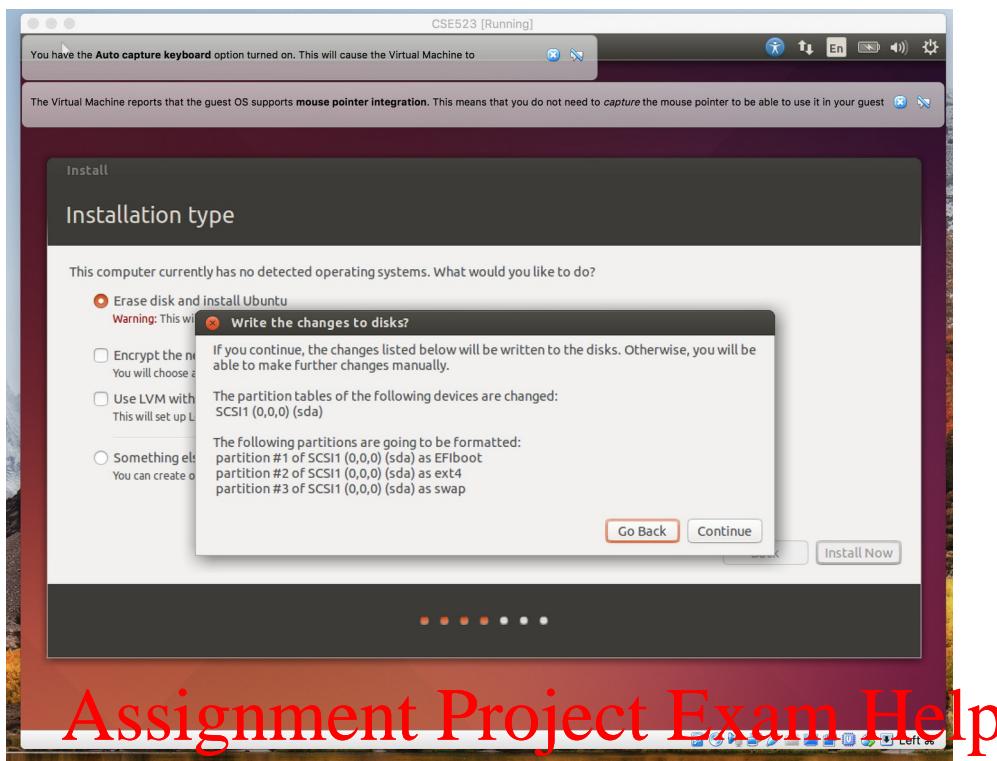
- c. Remember to plug in to a power source, then click “Continue”.



- d. Choose “Erase disk and install Ubuntu.” Click “Install Now”. Do not worry, it is installing it on the virtual hard drive we have created.



- e. Click “Continue”.

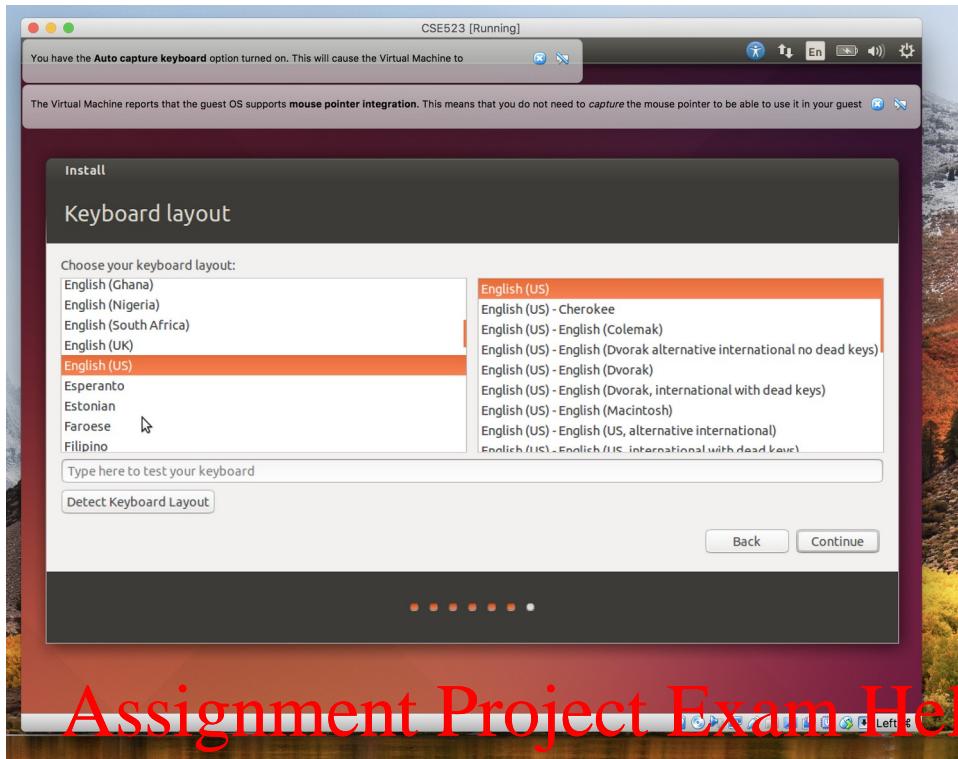


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- f. Choose your city and click “Continue”.



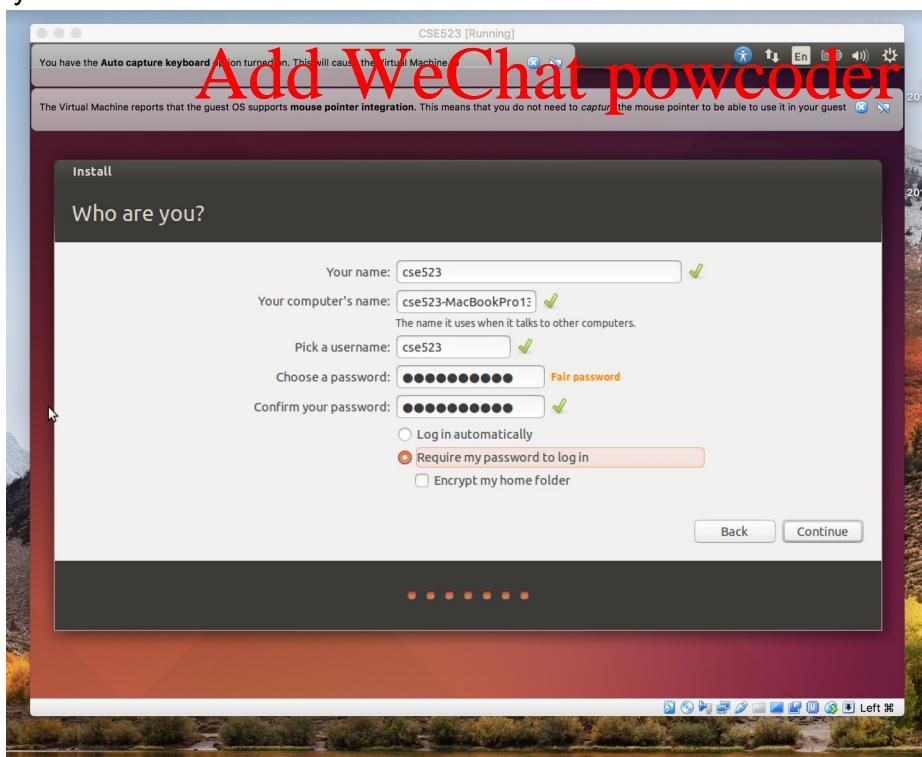
- g. Choose your keyboard and click “Continue”.



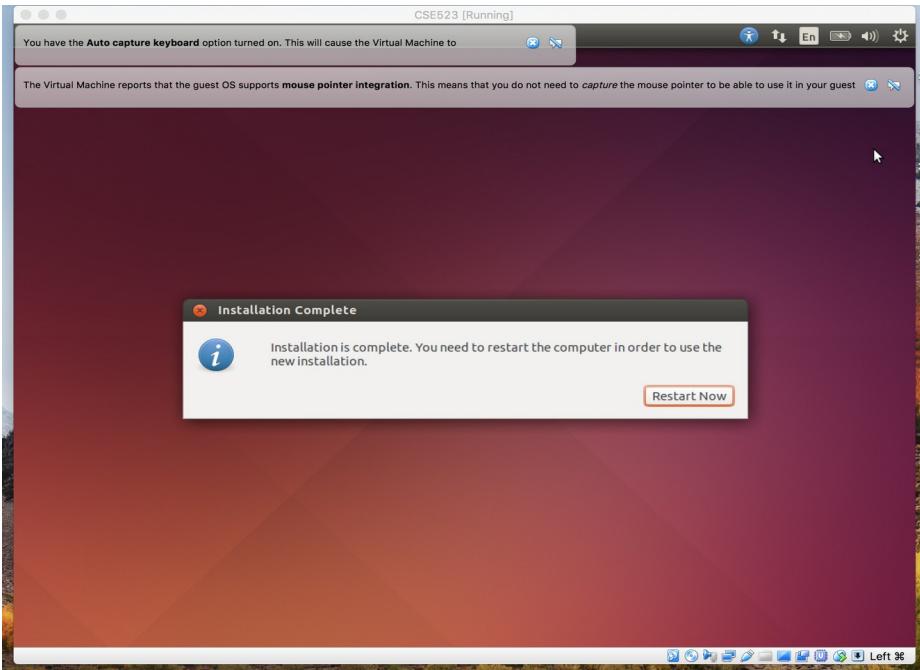
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- h. Put in “your name” and the “password” then click “Continue”.

Tips: If you want the instructions later in the class to match up precisely, make “cse523” your account username.



- i. Click “Restart Now”. After your virtual machine is rebooted, the installation is completed.



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Tip: If your virtual machine hangs when it is shutting down please follow this guidelines:
"If your virtual machine hangs when it is shutting down hit the window's red x and select "Power off the machine". It will force the VM to shut down.

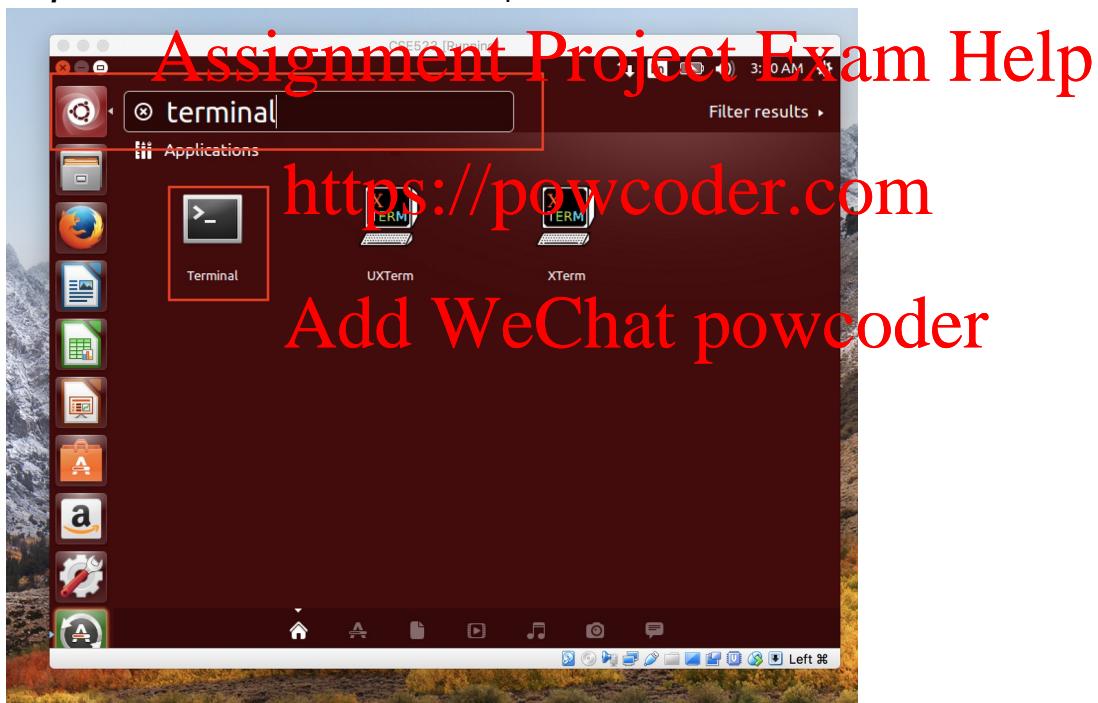
- a. While the VM is off, make sure that the live cd has been ejected from the drive. Go back to that VM's Settings --> Storage, and look at the contents under the "Controller: IDE". If it is empty, you are good to go. If it is not empty, click on the .iso file, and then click the CD Image next to "Optical Drive: IDE Secondary Master" and select "Remove Disk From Virtual Drive." Hit OK.
- b. Manually start the VM." (copy from [hw1](#))

Step 3: Make a note of what your host key is.

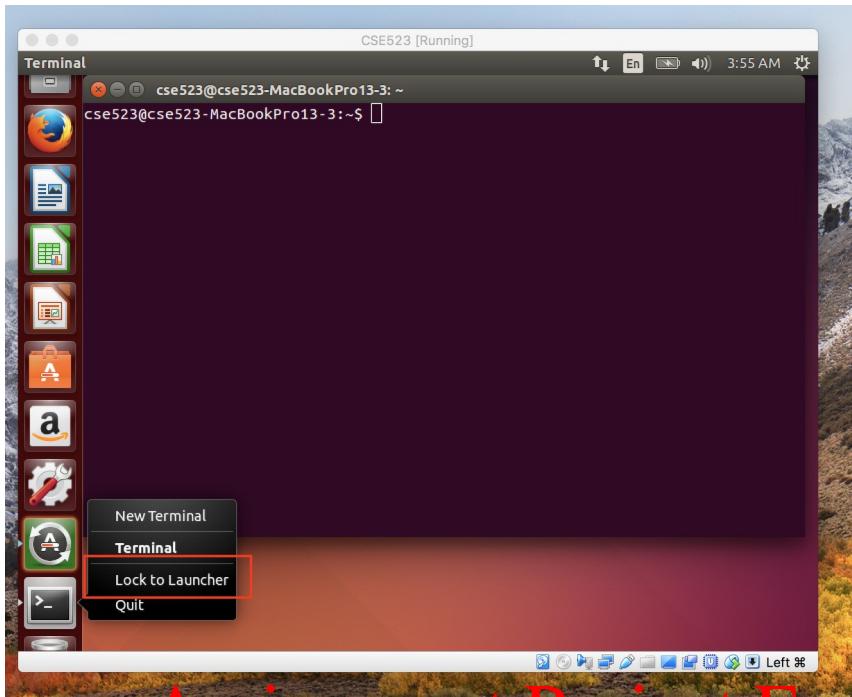
The VirtualBox host key is important because it allows you to manipulate your whole VM instance in certain ways, even when you are "inside" of the VM. On many machines this is right control. Also, you can bind the host key to a different key if you prefer.(copy from [hw1](#)).

Install Guest Additions on your Virtual Machine

Step 1: Click the Ubuntu swirl in the top left corner, text in “terminal”.

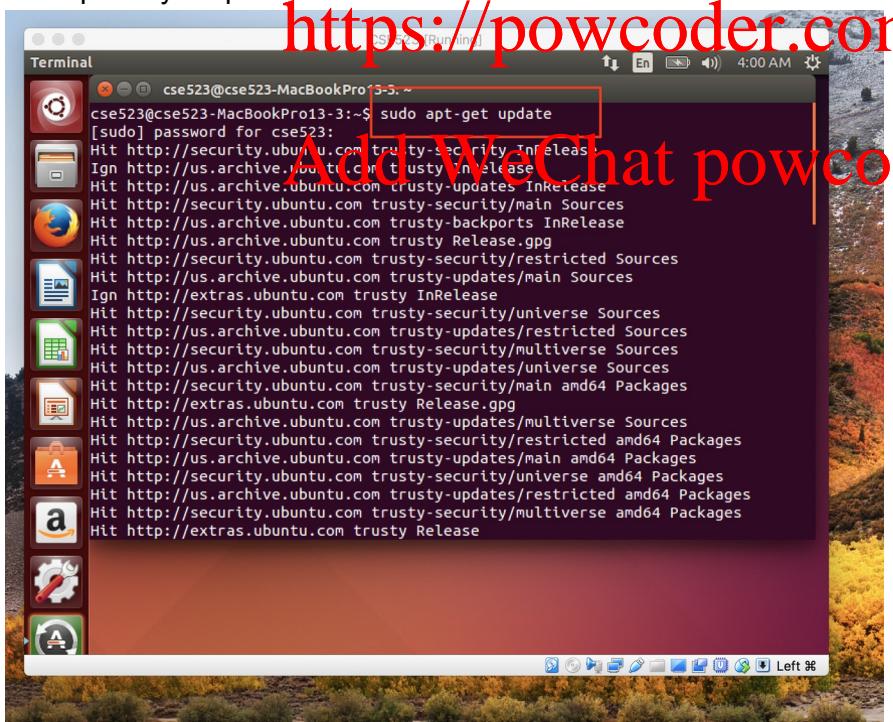


Step 2: Right click the terminal icon that shows up in the side menu and select “Lock to Launcher”.

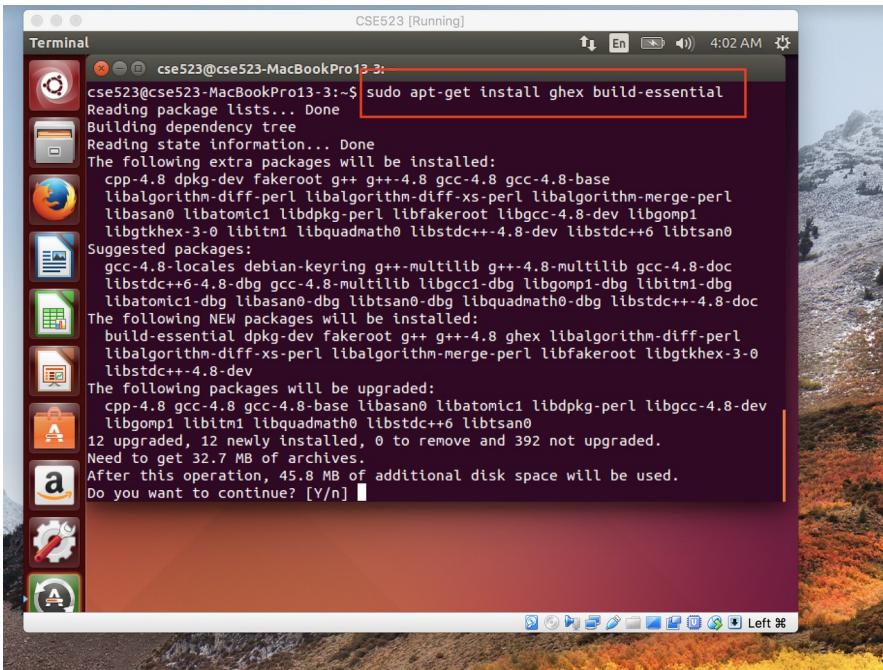


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Then put in your password.



Step 4: Run `sudo apt-get install ghex build-essential` to install packages and type "Y".



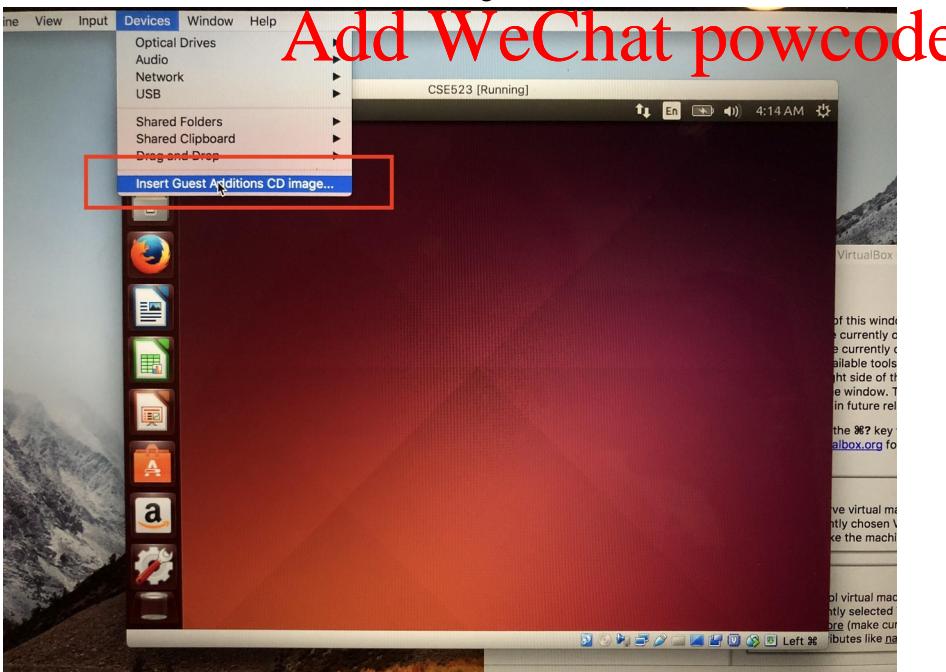
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Step 5: Install guest additions:

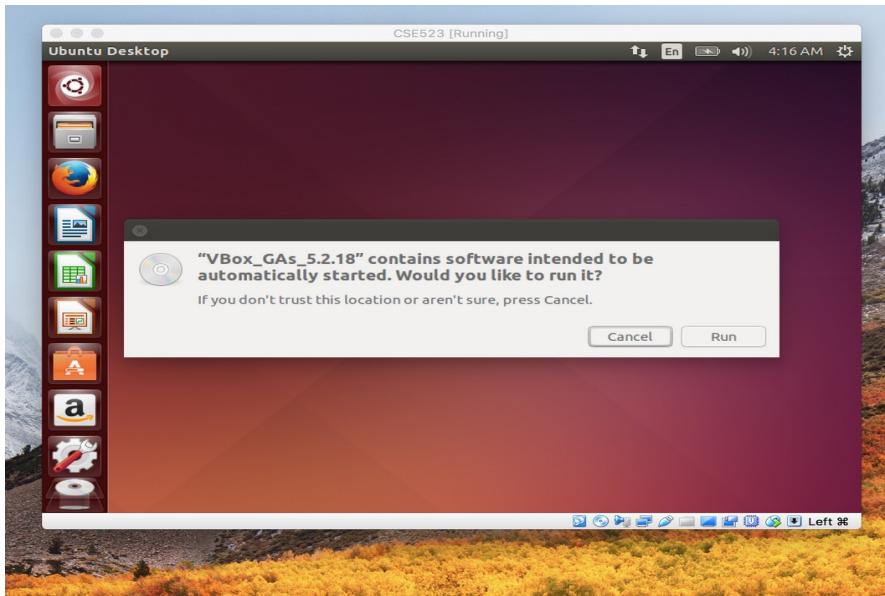
“Guest additions” provides added functionality like making the virtual machine fullscreen and sharing a common clipboard for copying/pasting between your vm and host machine.”

Click “Devices” in the VirtualBox menu on your specific virtual machine, not the menu for the overall VirtualBox program.

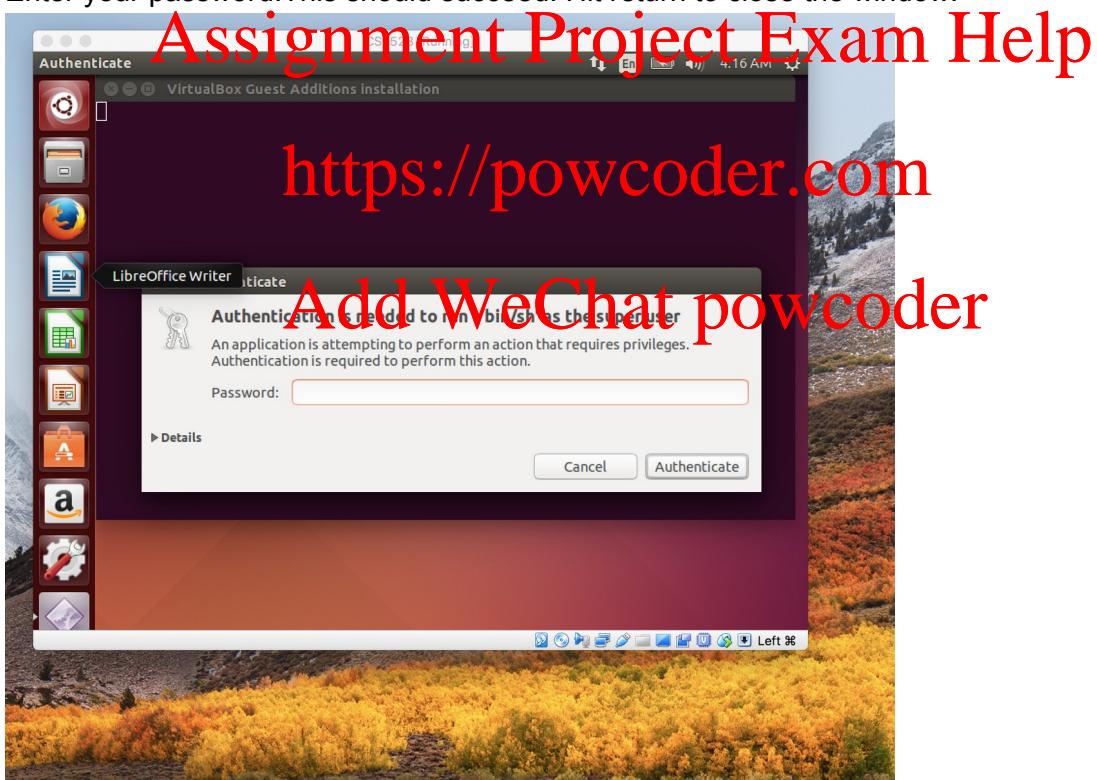
Click “Insert Guest Additions CD image”.



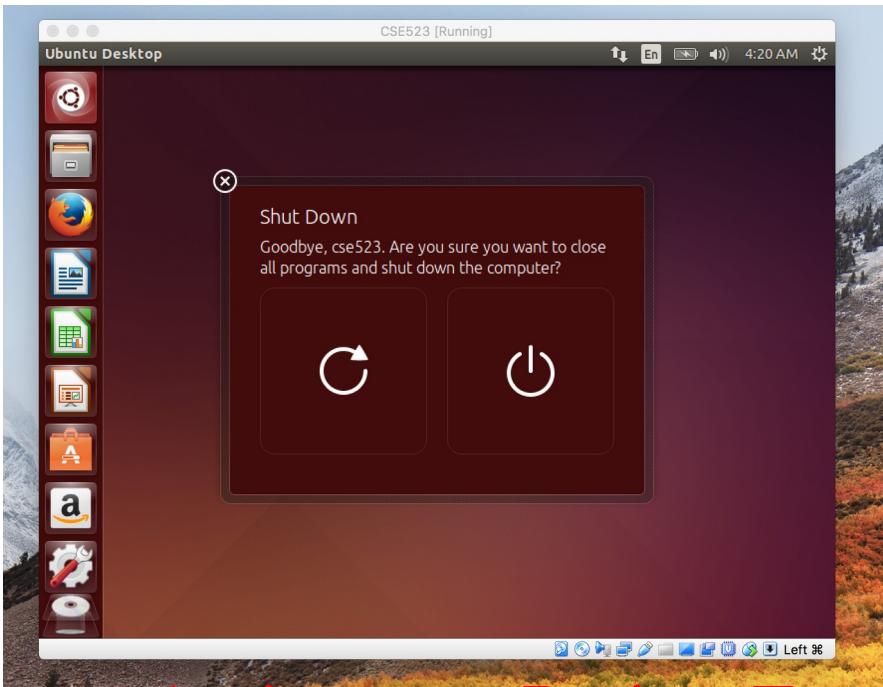
Click “Run”.



Enter your password. This should succeed. Hit return to close the window.

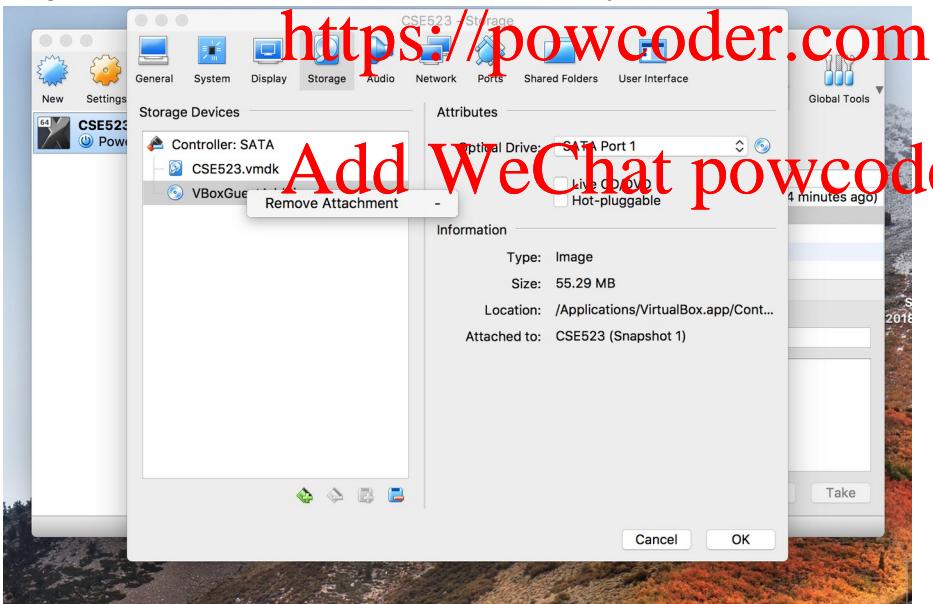


Step 6: Shutdown your virtual machine.



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Step 7: Remove the Guest Additions CD from your drive.



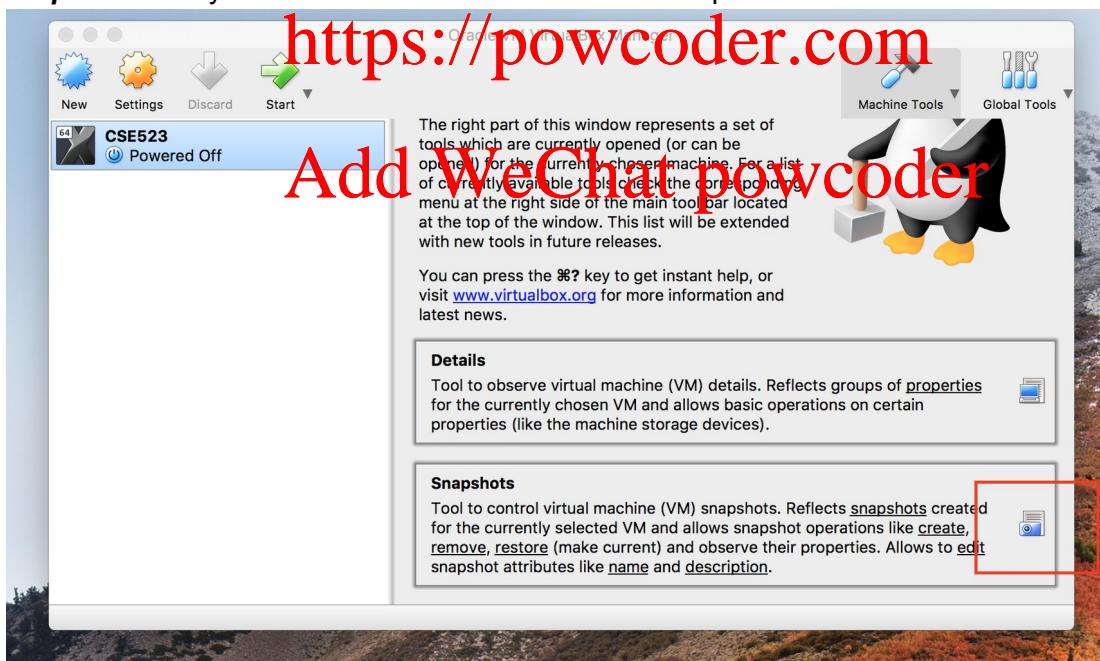
Step 8: Start the virtual machine again, as we did in *Step 1*. Hopefully now you should be able to resize the virtual machine window to a size convenient to you, or go fullscreen(ctrl + f) if you prefer. On my computer I can go full screen and back by using command+f.

Step 9: If the guest additions works well, shut down the virtual machine and go to next section.

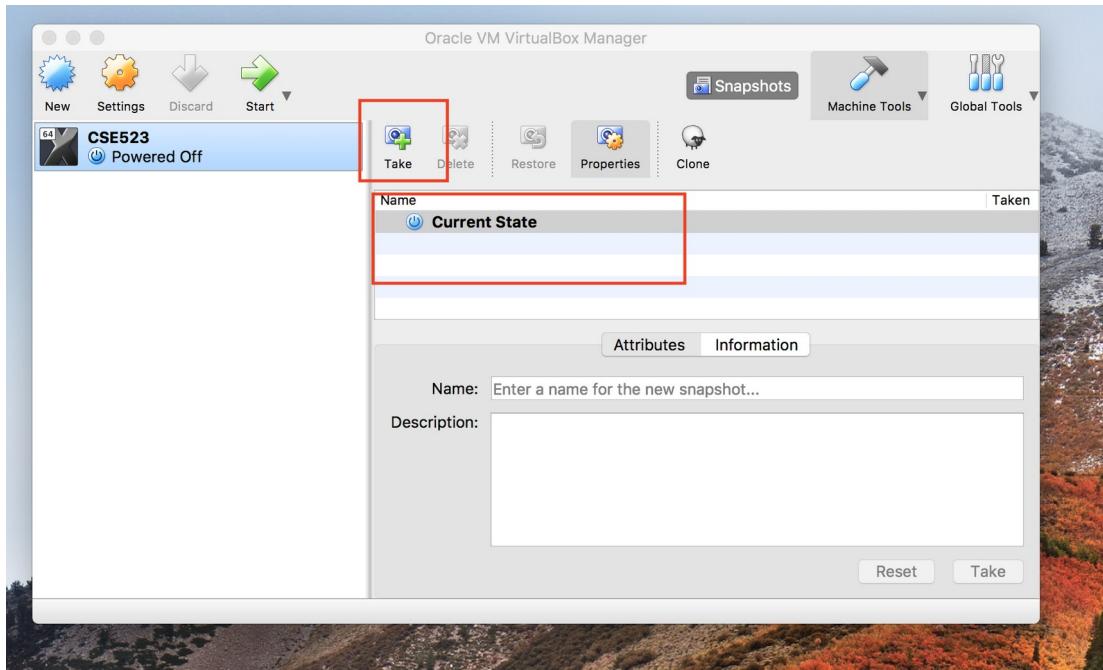
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Snapshot your base Virtual Machine

Step 1 : Select your virtual machine and click the “Snapshots” icon.

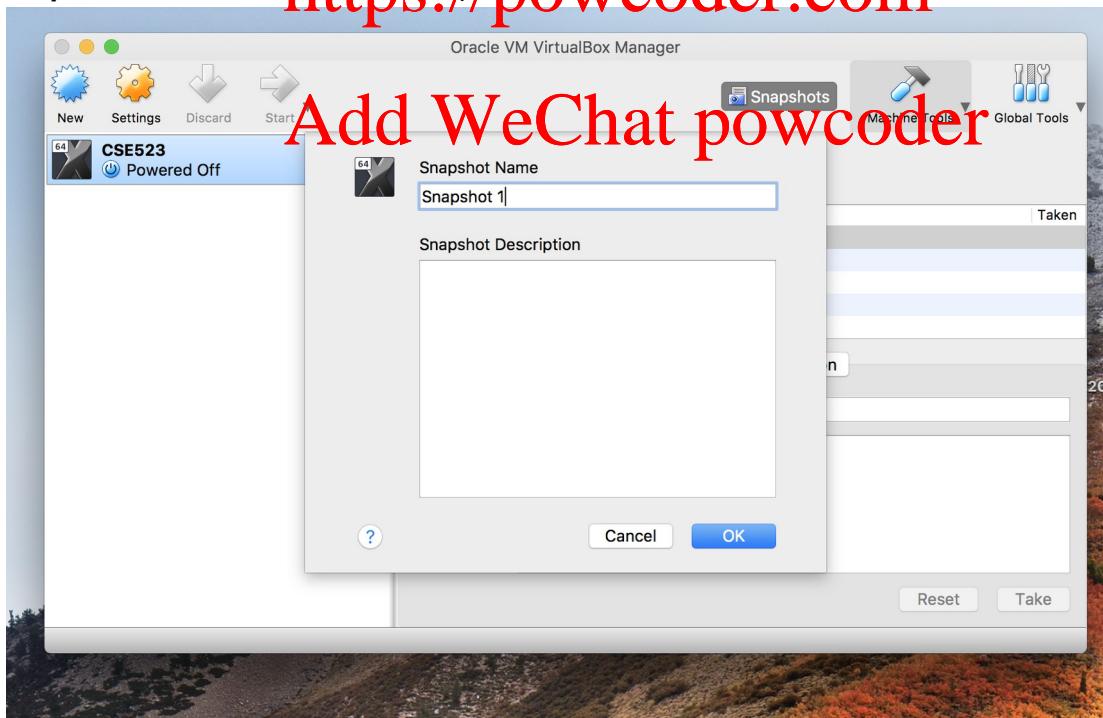


Step 2: Click the camera icon to take a snapshot of current state.

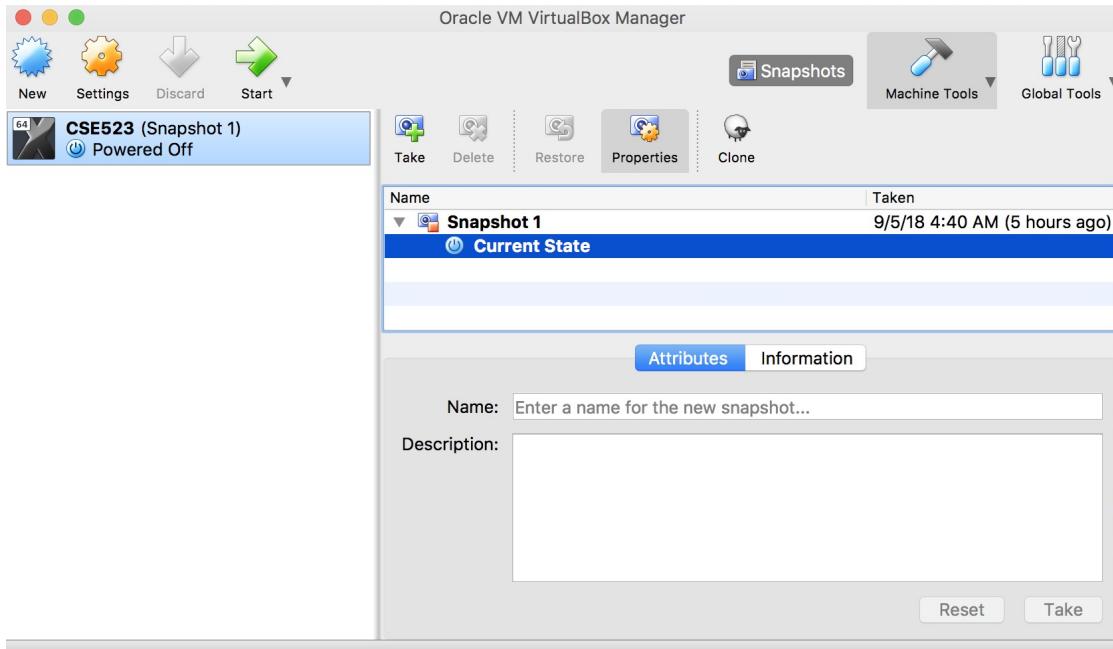


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Step 3: Put in the name and description and click "OK"
<https://powcoder.com>



Step 4: Your snapshot is completed. It should looks like the following screenshot.



Now if anything ever goes wrong, we can always start our virtual machine based off of the good state we just saved.

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<https://powcoder.com>
Finalize this file in Google Docs.

Make all of your final edits; make sure your work is neat and easy to follow. Remove the "Overview" section at the top of this document. Remove the "cross-out" from the following drawing.

Finished!