

Install VirtualBox and Centos on Local PC/Workstation

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1. **Note:**

These instructions are to illustrate the low-cost barrier to entry of Linux. We will be installing Virtualbox hypervisor and a Centos VM. **This will enable you to do most of your exercises. You will not be able to mount directories from a Windows Share or Linux Server. You would need two extra VMs for this. However, these are available in the sandbox on mylearningtree.com**

2. **Materials required**

- 2.1. PC or workstation running Windows, Linux, Mac etc. Virtualbox will run a variety of platforms.
Note: This procedure was developed on a PC running Windows 10.
- 2.2. Enough Hard disk space to Run a VM. We are putting aside 60GB for Centos. SSDs are recommended over rotating hard drive.

3. **Procedure**

3.1. Download Virtualbox executable and extension pack.

- 3.1.1. Go to <https://www.virtualbox.org/wiki/Downloads> . Download the appropriate executable for your host. Also Download the Oracle VM Virtualbox Extension Pack.

3.2. Download Centos

- 3.2.1. Google Centos Mirrors Click on "Mirror List" which should be the first hit on Google. Scroll down to the bottom and select the server appropriate to your area.

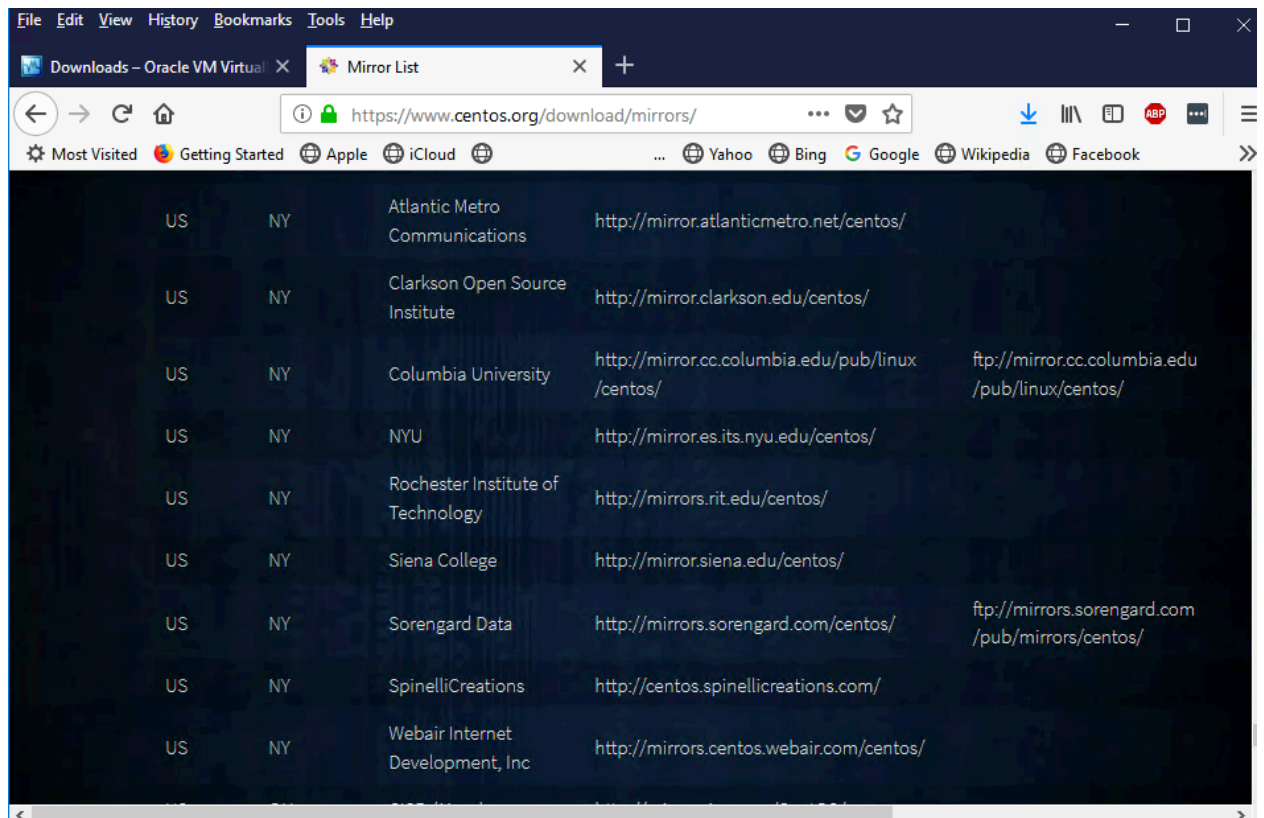
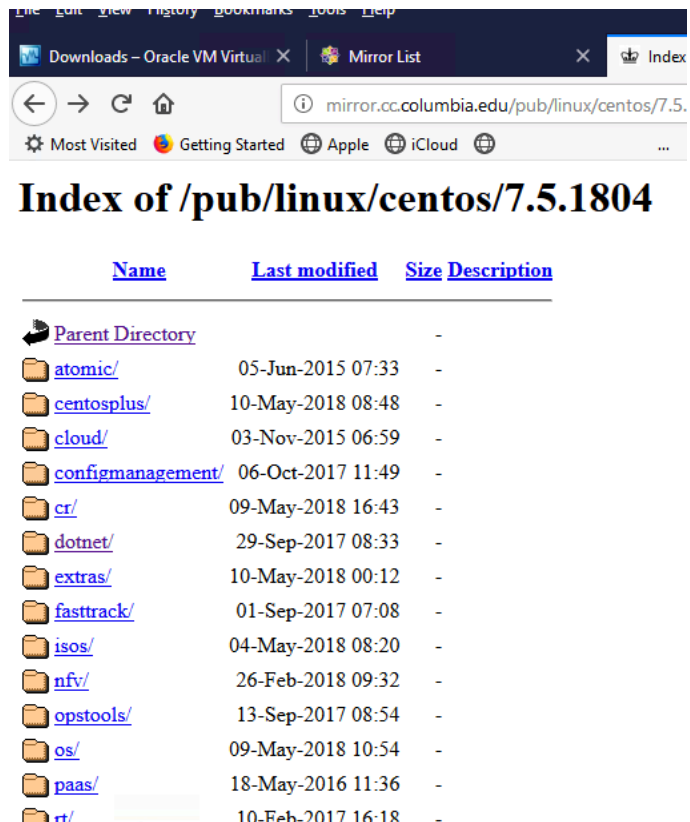


Figure 1

3.2.2.I chose Columbia University since I am currently in the NYC area. Click on the [http:](http://mirror.cc.columbia.edu/pub/linux/centos/) link. Next to the Columbia Name. Again Scroll down to the latest, which is 7.5.1084 as of this writing. Click on the link and save it to your hard disk.



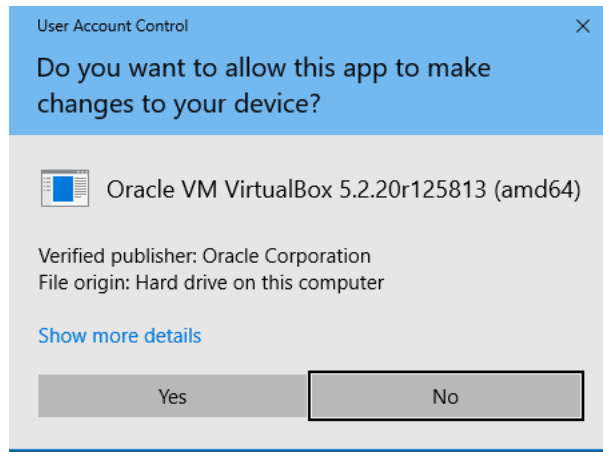
Click on iso then X86_64 . Click on the first link which is CentOS-7-x86_64-DVD-1804.iso. Save that file

3.3. Install Virtualbox.

3.3.1.Install Virtualbox using the defaults.



3.3.2.You may get a UAC popup from Windows

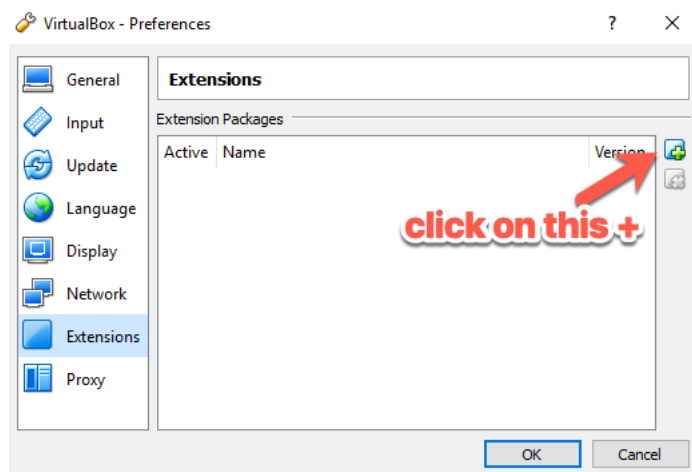


Click Yes

3.3.3.Virtualbox should now be installed.

3.4. Install Extension Pack

3.4.1.File -> Preferences->Extensions.



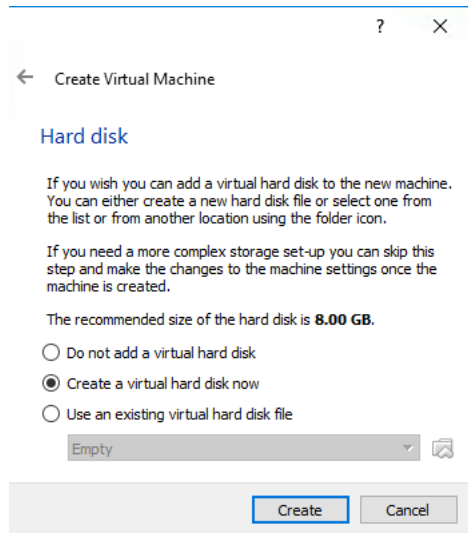
3.4.2.Go to where you downloaded extension pack and click on "Install" Scroll down to the bottom and click "I Agree". Hit yes if you see a UAC pop-up.

3.5. Prepare to Install Centos.

3.5.1.Select New on the Oracle Virtualbox Manager.

3.5.2.Enter a name. I entered **Centos 7.5**. --> Next.

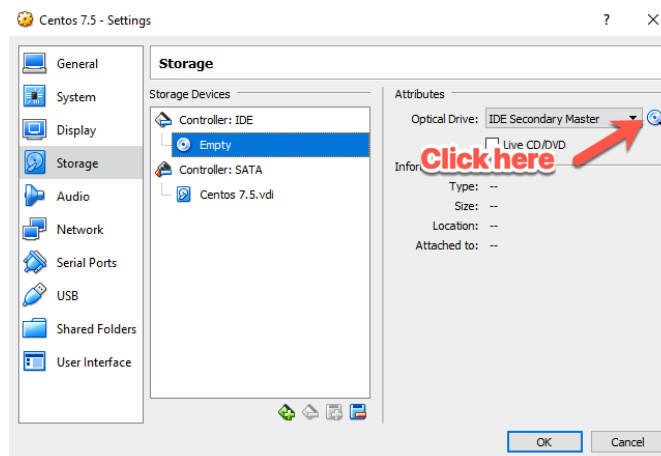
3.5.3.Enter 4096 MB of memory (or more).



3.5.4. Create a 60GB hard disk using defaults. This will be Dynamically Allocated.

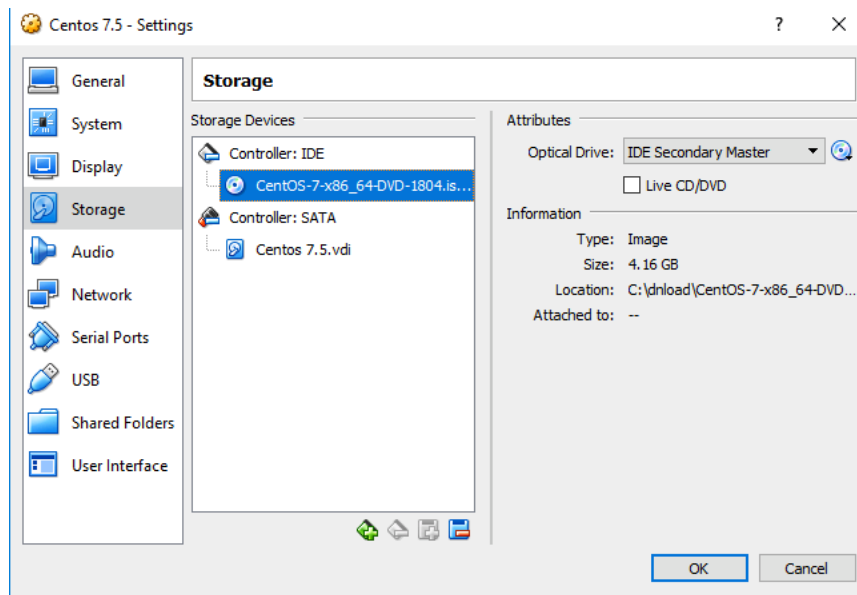
3.6. Add DVD ISO image.

3.6.1. Click on Settings-> Storage. Click on the Empty CD Rom Image.

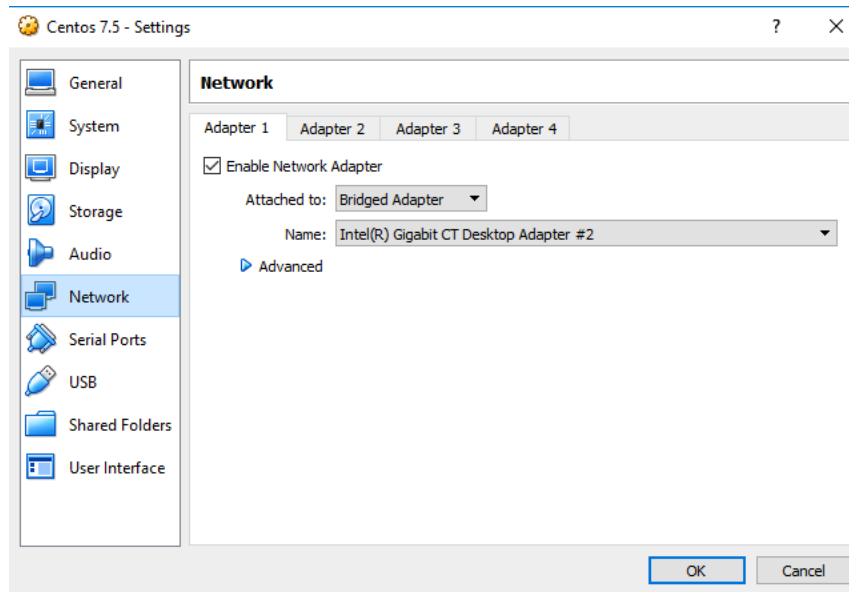


Click on the CD in the upper right hand corner and select Choose Virtual Optical Drive. Go to where you downloaded the Centos Image and select it.

CD should now look like this:



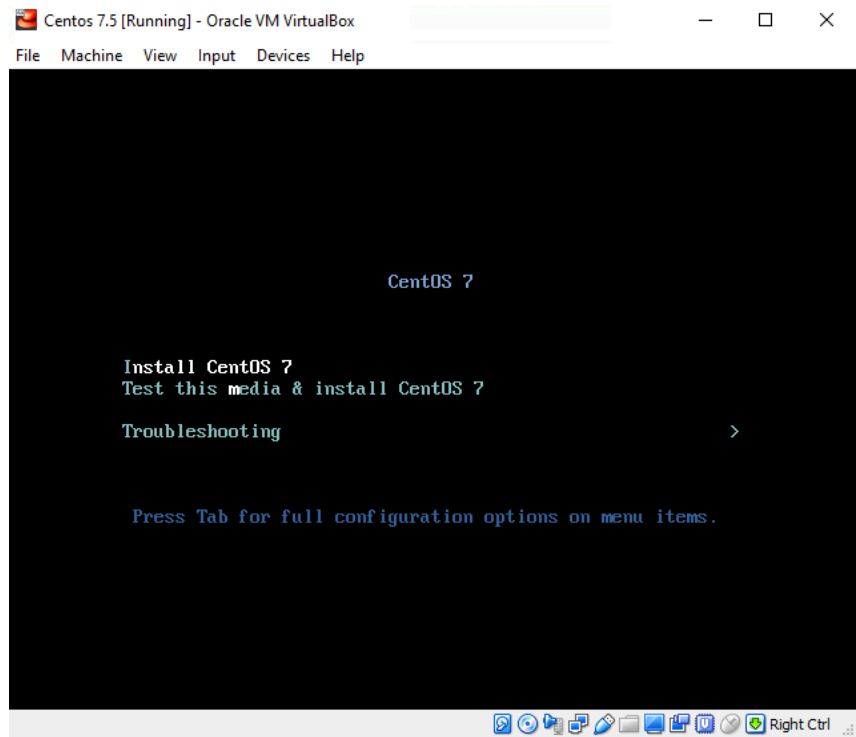
3.6.2. Setup Network-- Select Network. In the Network adapter select "Bridged". This means that your physical NIC card is just a "pass through" and both your host PC and the Centos VM will be able to get addresses on the same subnet.



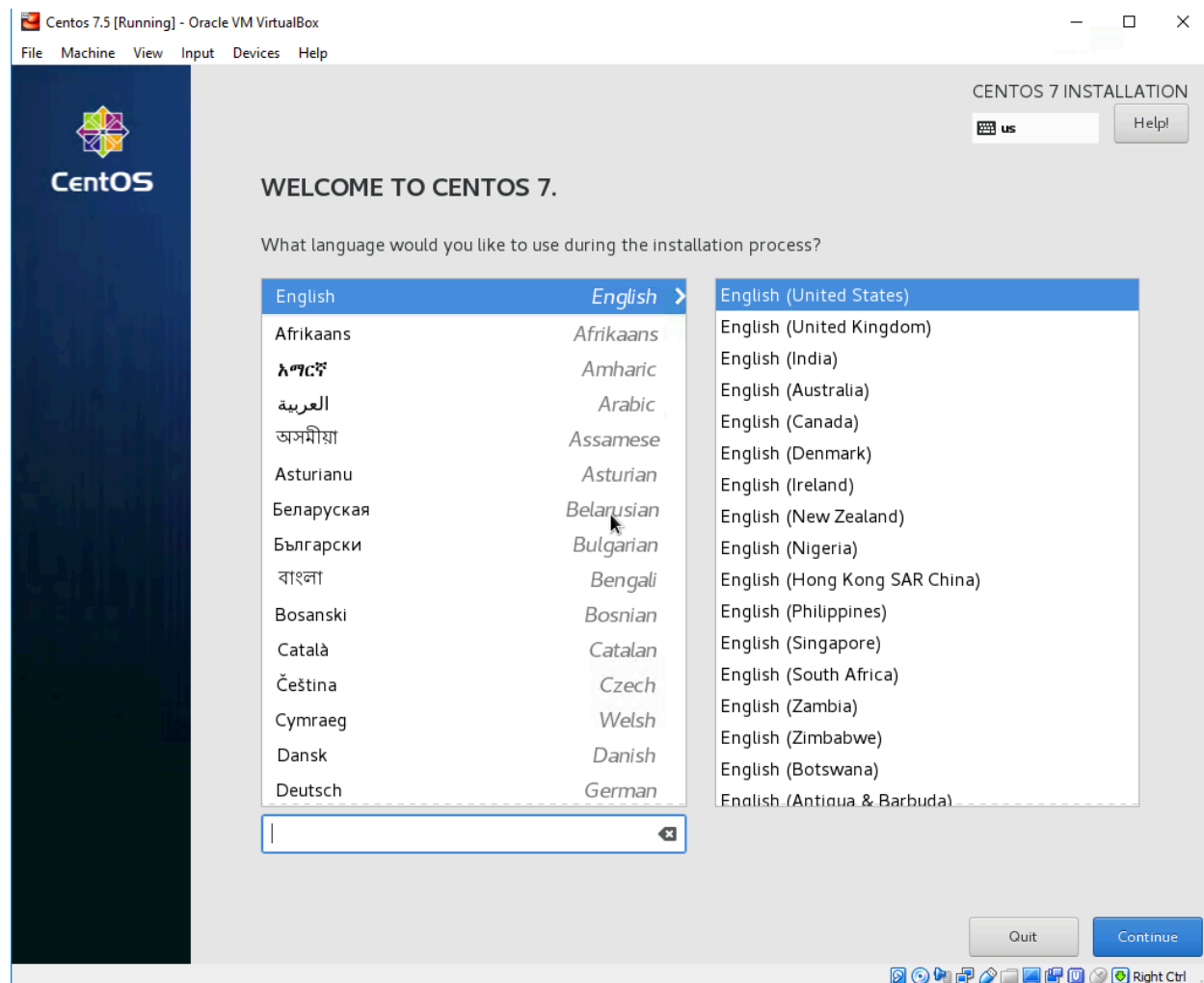
3.7. Install Centos-

3.7.1. Start the VM. The console will pop-up. Click in the console. You will see a popup , press continue. Note: the cursor may be captured by VirtualBox. Press Right Control to exit.

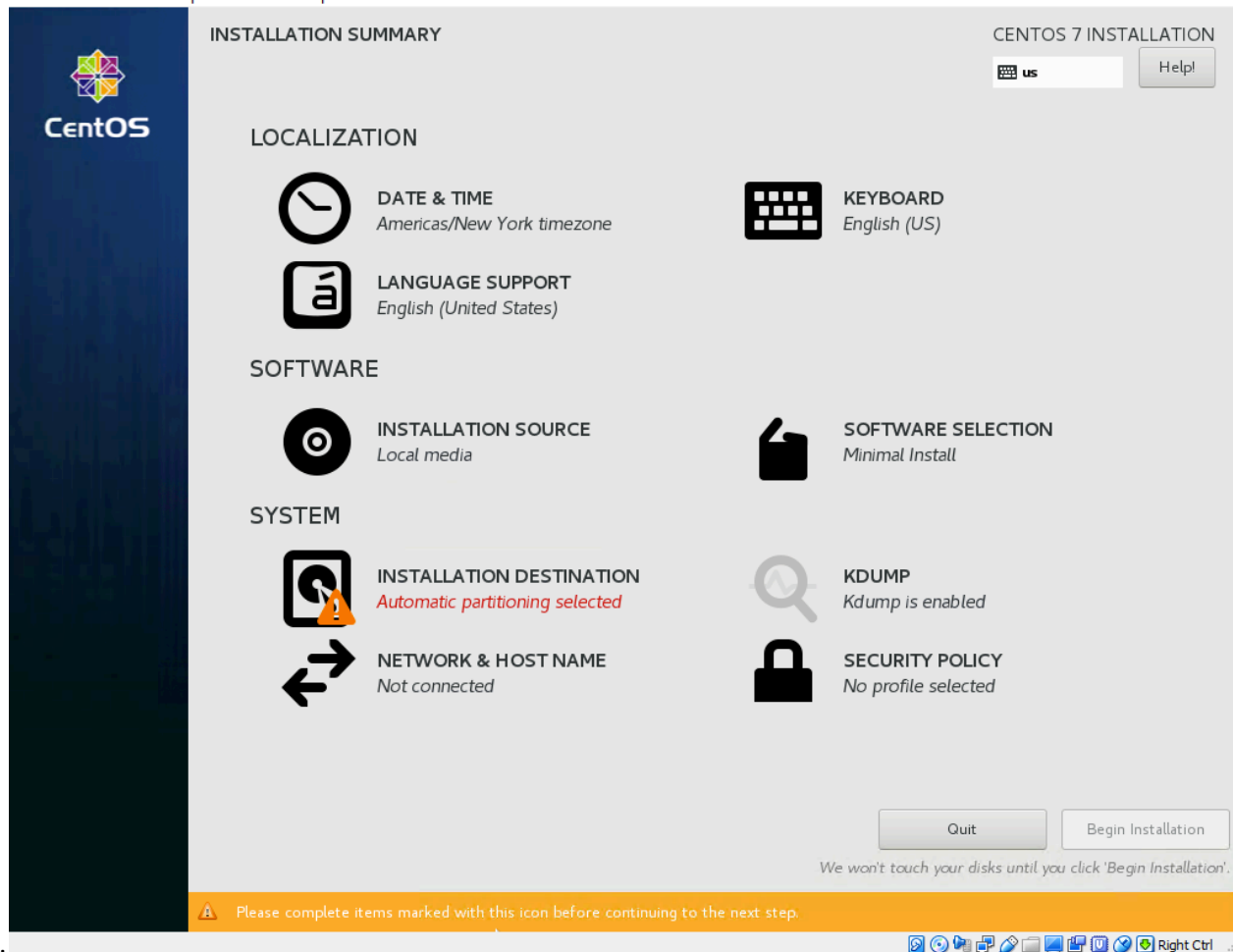
Move the cursor to **Install Centos 7**.



3.7.2. Press return to start. You may get popups saying that the VM doesn't support mouse pointer integration. Just X out of them and continue.



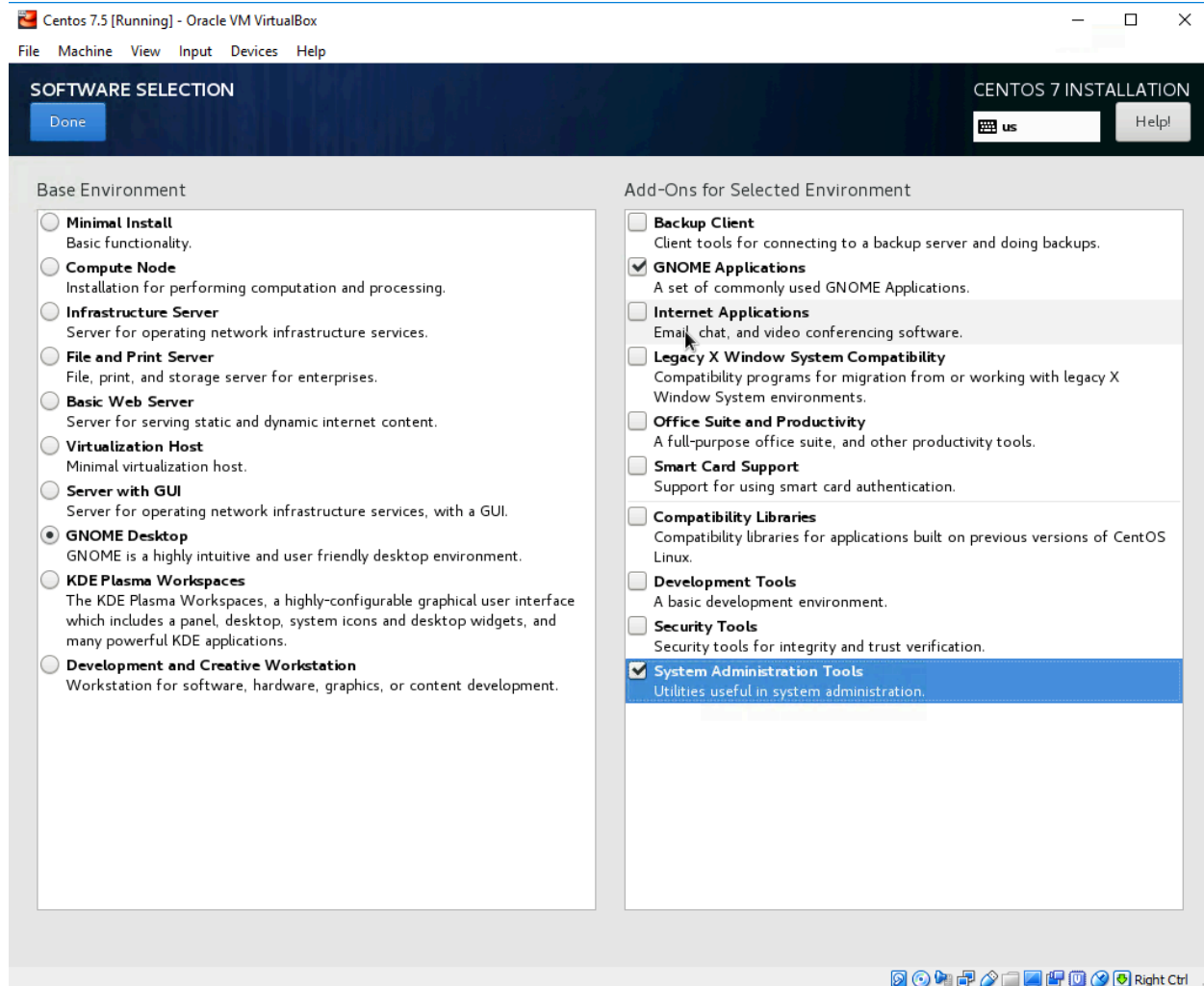
3.7.3. Press Continue



3.7.4.

Press Installation Destination. Then Done. This will select automatic partitioning.

3.7.5. Select Software Installation.



3.7.6. Select Gnome Desktop, Gnome Applications and System Administration tools. Press Done. Wait until Dependencies are resolved and Begin Installation.

3.7.7. See the Root Password and set a User. This can be anything you want. I set it to 'ltree' which means you have to hit done twice to accept.

3.7.8. Create a User-- I used 'user1' and ltree. Again, you have to press done twice to accept.

3.7.9. Wait until Centos is Installed. Approximately 30 minutes.

3.7.10. System will reboot into a setup screen. Accept the license and press Done. We will configure the Network on the next step.

3.7.11. Login for the first time as user 1. The system will step you through introduction screen Just hit Next, Next, Next Skip.

3.8. As user1 `sudo su -` (enter ltree as your password).

`cd /etc/sysconfig/network-scripts.`

Edit `ifcfg-enp0s3` (Note: `enp0s3` is my virtual NIC. Your NIC might not be `enp0s3` but will definitely start with an 'e'. So you can edit `ifcfg-e<TAB>`).

Change `ONBOOT=no` to `ONBOOT=yes`. Save the file.

As root type `systemctl disable NetworkManager`
`systemctl restart network`. You should now have a network address on the same network as your host.

`ip a | less` , You should see your ip address for this system.

4 . Download Putty

4.1. If your PC does not have putty installed download it. Google "Putty Download" .
Download the installer. Install to C:\Windows

5 . Upload your CD. This will enable you to do **most of your exercises**. **You will not be able to mount directories from a Windows Share or Linux Server**. **You would need two extra VMs for this**.
However, these are available in the sandbox.

5.1. Log into learning tree. Select Course 143.

5.2. Download "Course 143 Attendee Takehome Software".

5.3. Copy the take home software, **143_files.tar.bz2.zip** , to the remote system
`pscp 143_files.tar.bz2.zip user1@<centos_ip_address>`.

5.4. As user1 in your Centos VM unzip the file into your home directory. Sudo to root and `tar xvPf 143_file_tar`. This will populate the /143 directory.

5.5. You should now be able to do the 143 exercises.