

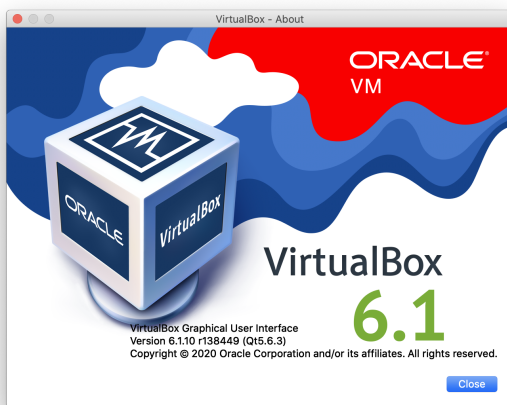
# Getting started with the CLO Ubuntu VM

There is a VM that we will use for the whole course. It was created for VirtualBox and VirtualBox is a free Open Source download.

You can download VBox 6.1 from here:

<https://www.virtualbox.org/wiki/Downloads>

I recommend using VirtualBox 6.1 or higher. Here is the VBox version I am using:



*If you have VBox already installed, please upgrade.*

## Resources:

To run this VM, you need 8Gb **minimum** memory, but 16Gb is recommended.

You must have **more than 30Gb disk space free**: 8.5Gb for the download and another 20Gb minimum for the expanded VM. Once you have got it working you can delete the download. You will need to keep the extra 10Gb free because the virtual machine disk will expand as you use it.

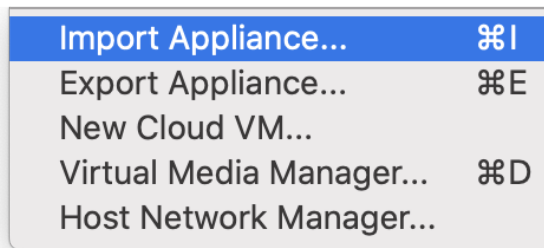
## Steps

1. Download the following file.

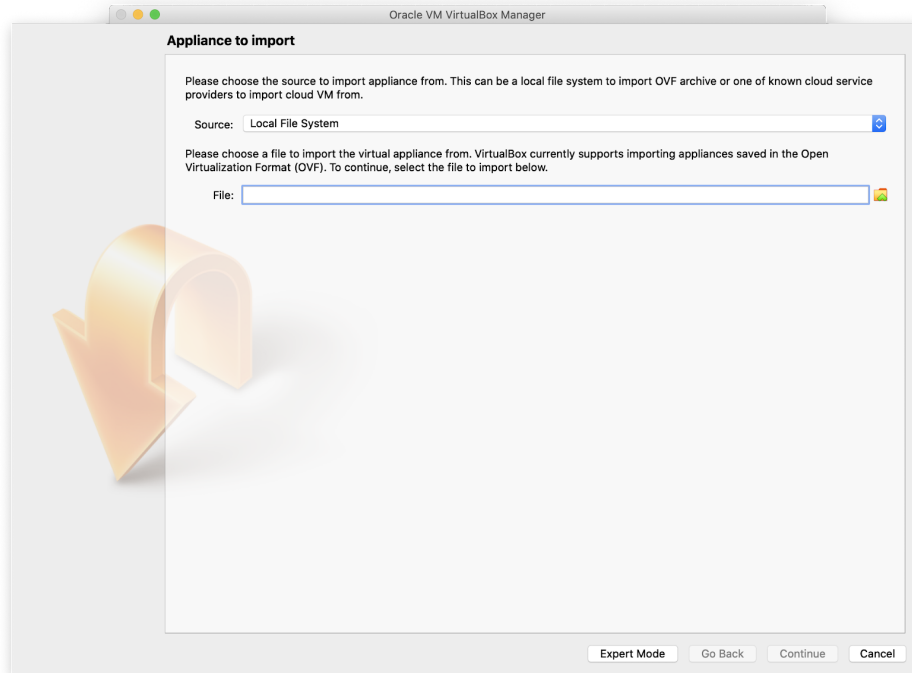
<https://oxclo.s3-eu-west-1.amazonaws.com/oxclo2020.ova>

Once you have downloaded it, you can import it into VirtualBox:

1. From VBox menu:  
(my host OS is Mac, so if you are running Windows it will look different)



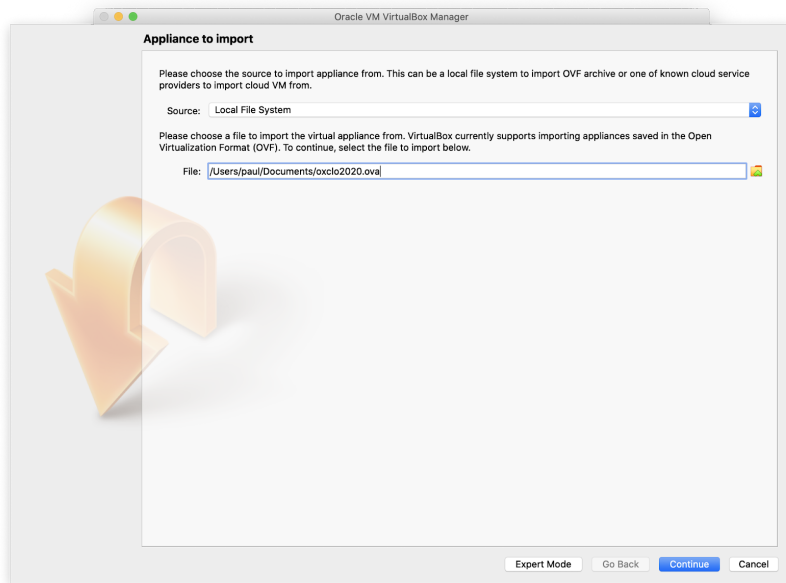
2. You should see a screen like:



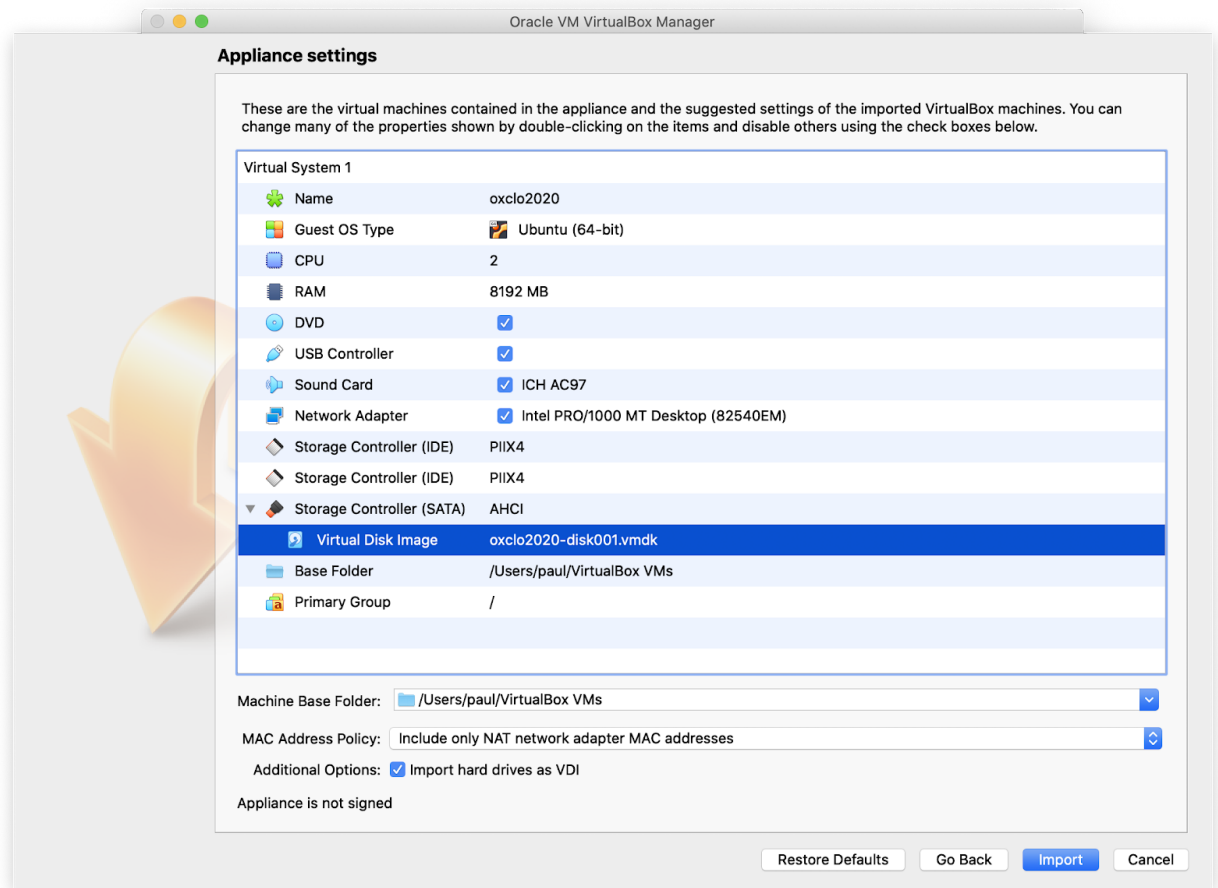
3. Click on the icon:



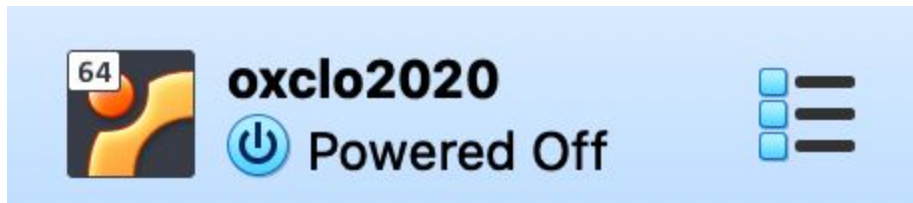
5. Select the OVA file you downloaded and you should see this:



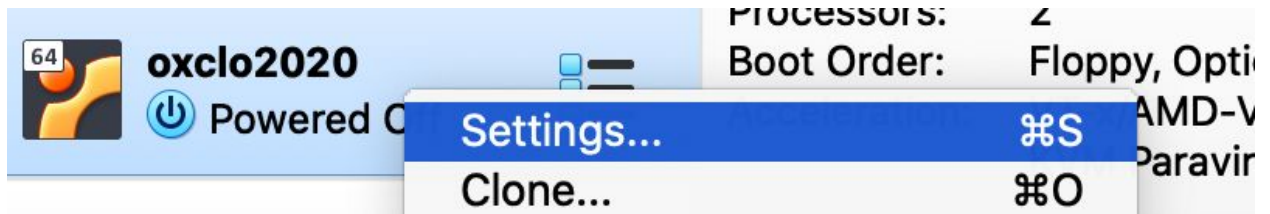
6. It should look like this:



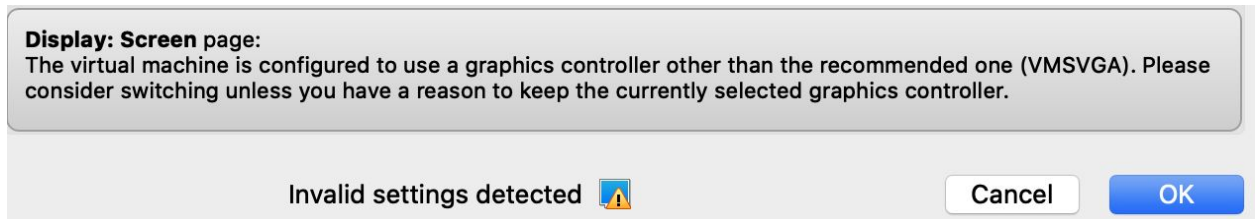
7. Once we have imported the VM we will improve some of those settings.  
Click **Import**
8. Wait a bit!
9. You should see a new VM in your VM list on VBox:



10. Right-click on it and choose Settings:

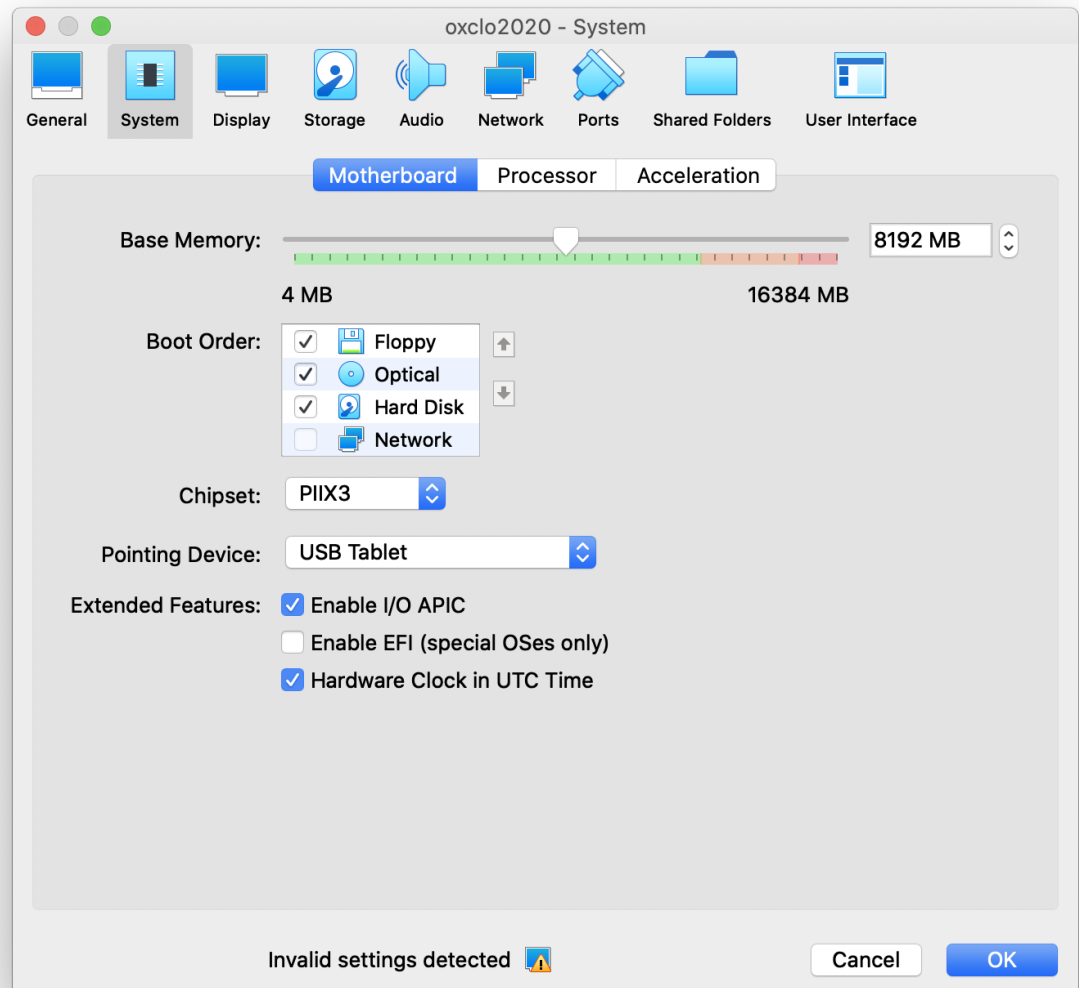


11. Firstly, please ignore the message about invalid settings:



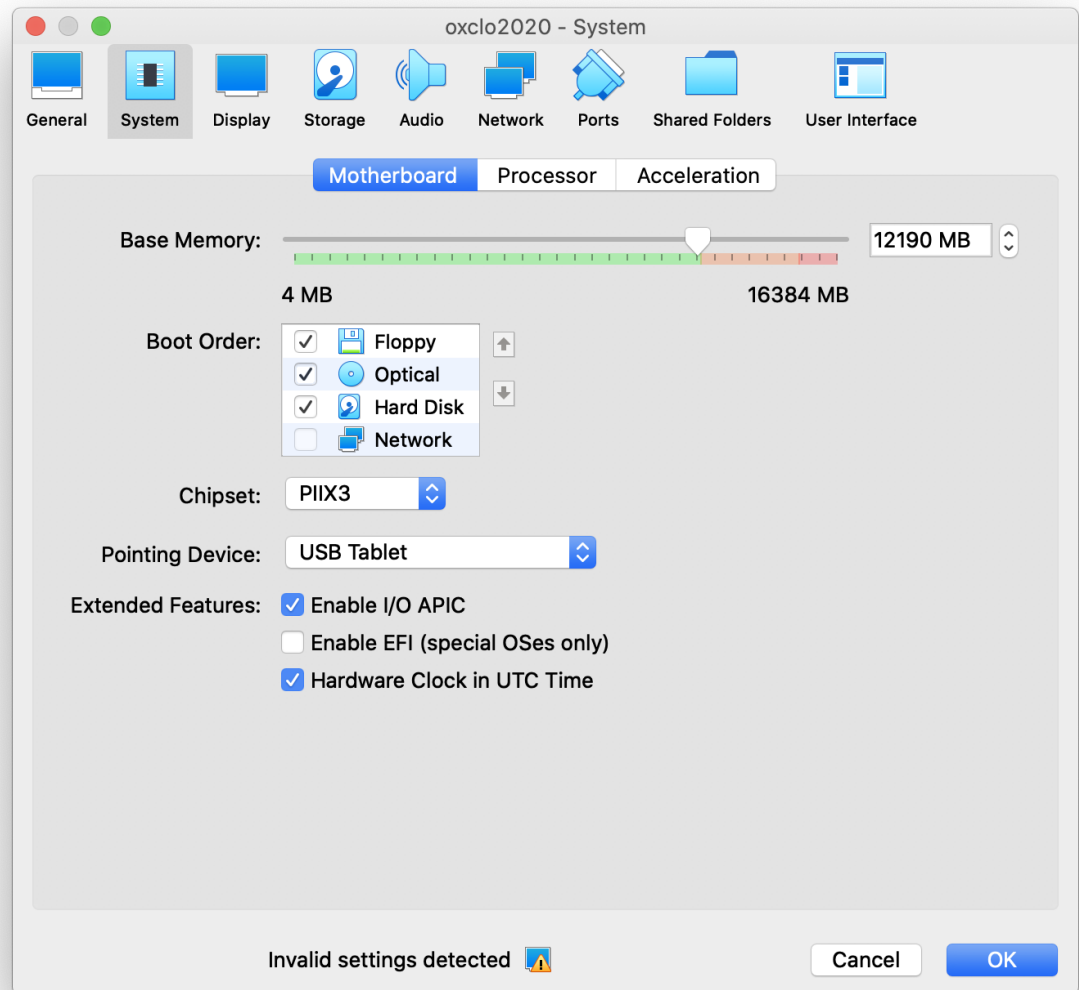
This is because I have upgraded this VM from earlier versions of Ubuntu and as a result it isn't happy with the latest VirtualBox graphic driver, so we are using a more basic one that works

12. Click on the System Icon. You should see:

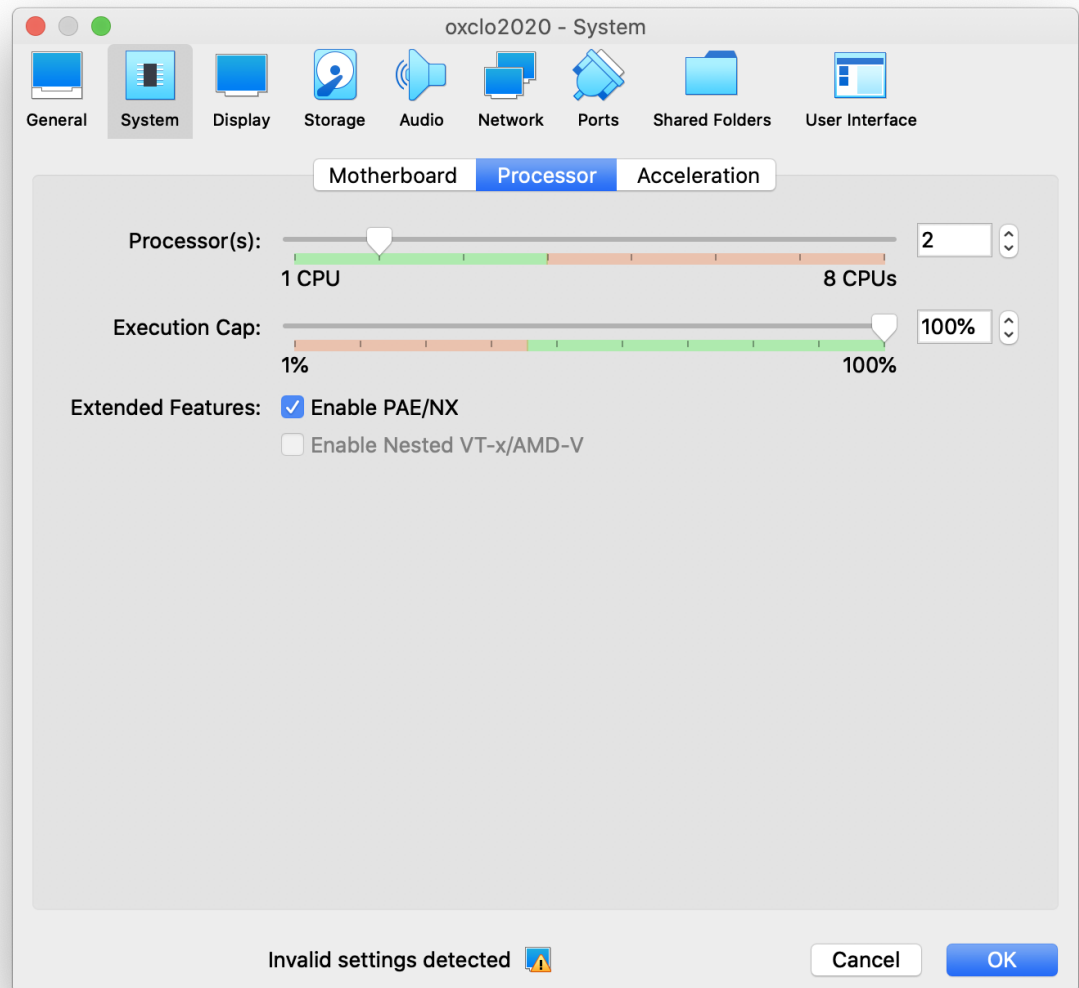


If you have more than 8Gb memory, you should see some room to improve the amount of memory that is allocated to the VM. I have 16Gb and so I can move the memory allocation

up to 12Gb and still remain in the Green Zone. Do NOT move it to less than 7Gb!

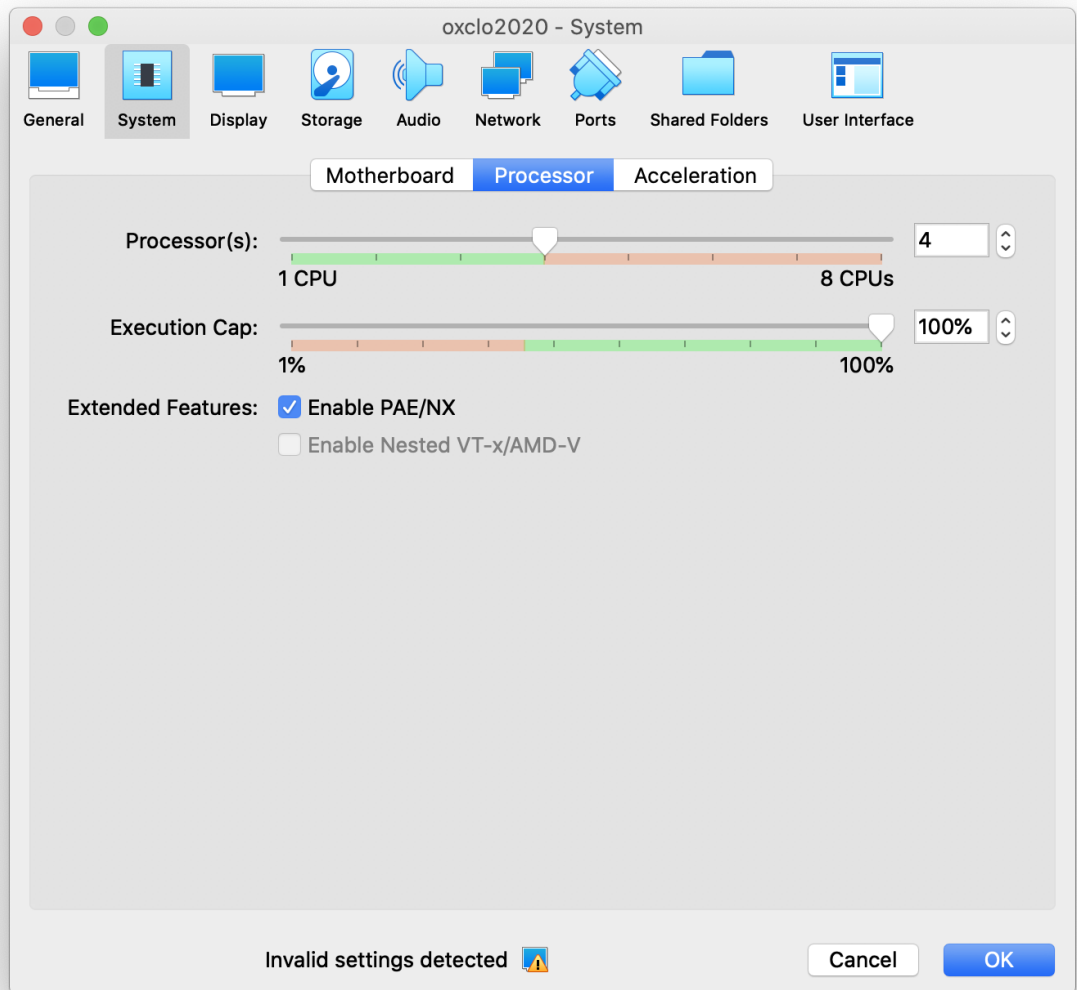


13. Now click on the **Processor** tab. You should see:



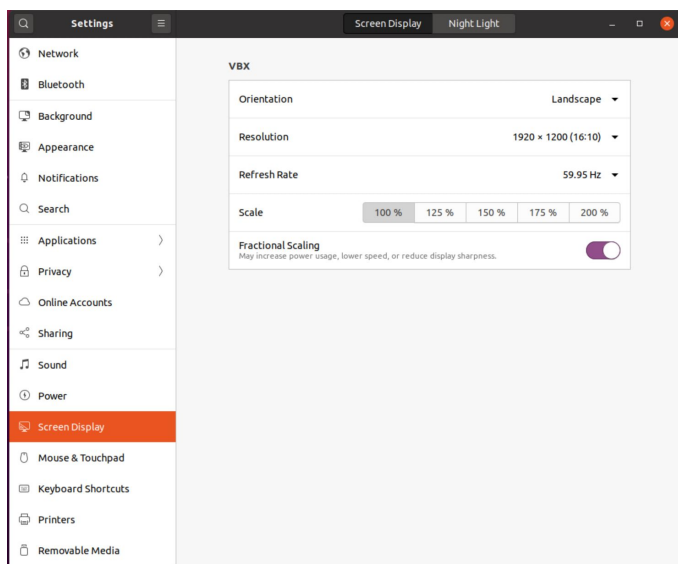
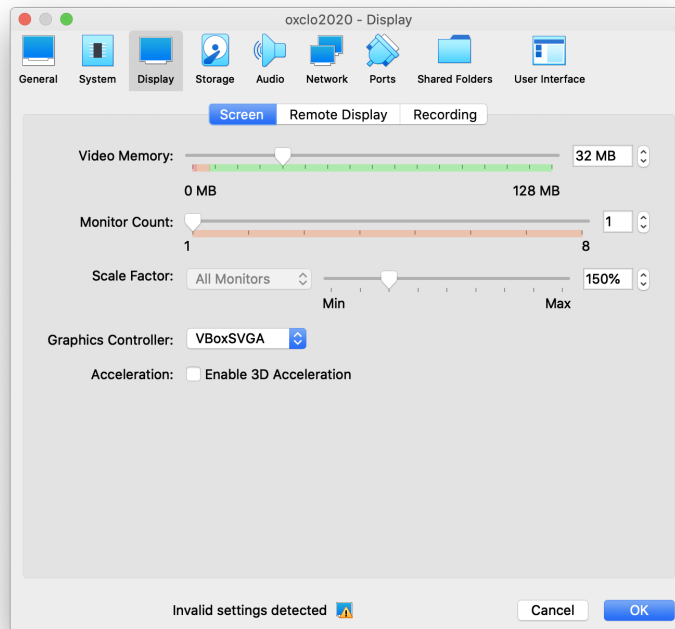
14. , and if you have more cores, you can increase the number of processors allocated up from the default. As you can see, it recommends that on my machine it is increased to 4:





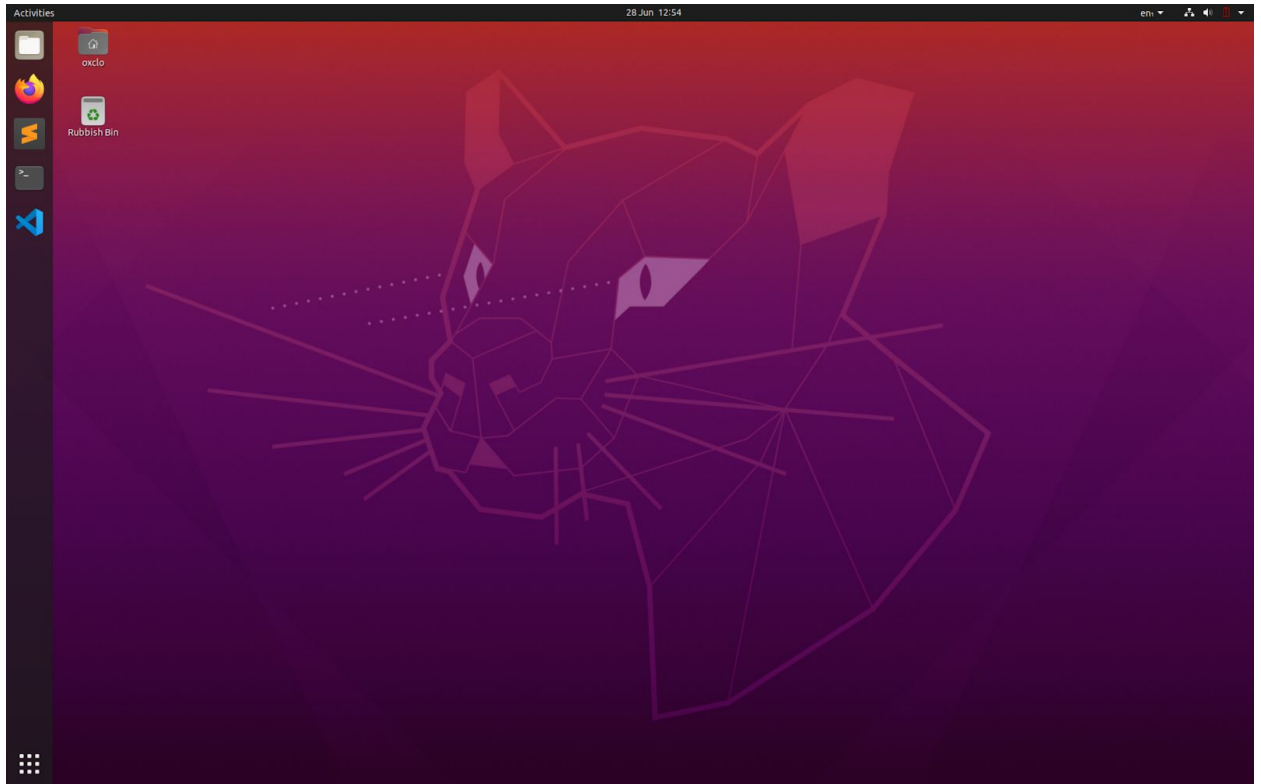
15. Look at the **Display** settings.

My native display is 2560x1600 and this results in a very very unreadably small Ubuntu screen size, so I have turned on native scaling (**at 150%**) on this VM, combined with a more reasonable display resolution inside the VM (1920x1200). You may need to remove the Scale Factor and then adjust your display settings inside the VM once you boot it up.



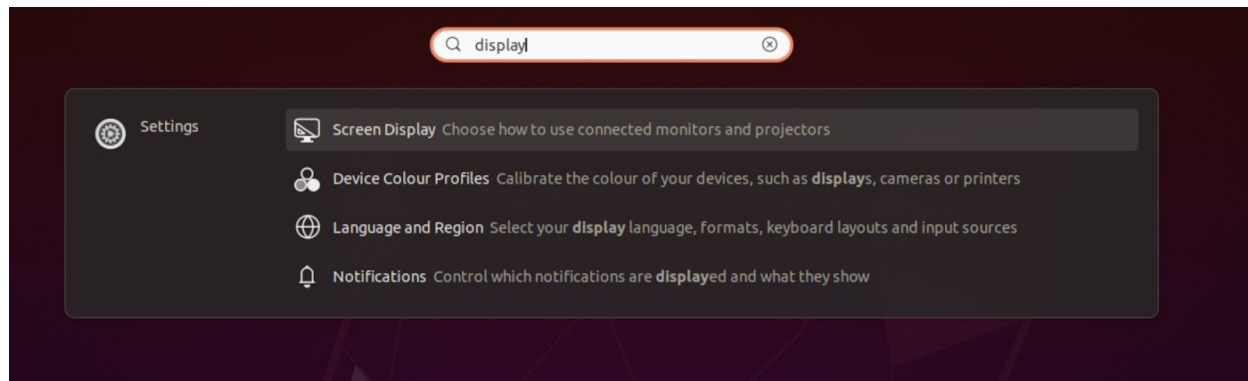
16. Click **OK** to save the settings.

17. You can now start up the VM. Double click on the VM icon.  
You should see the Ubuntu desktop like this:

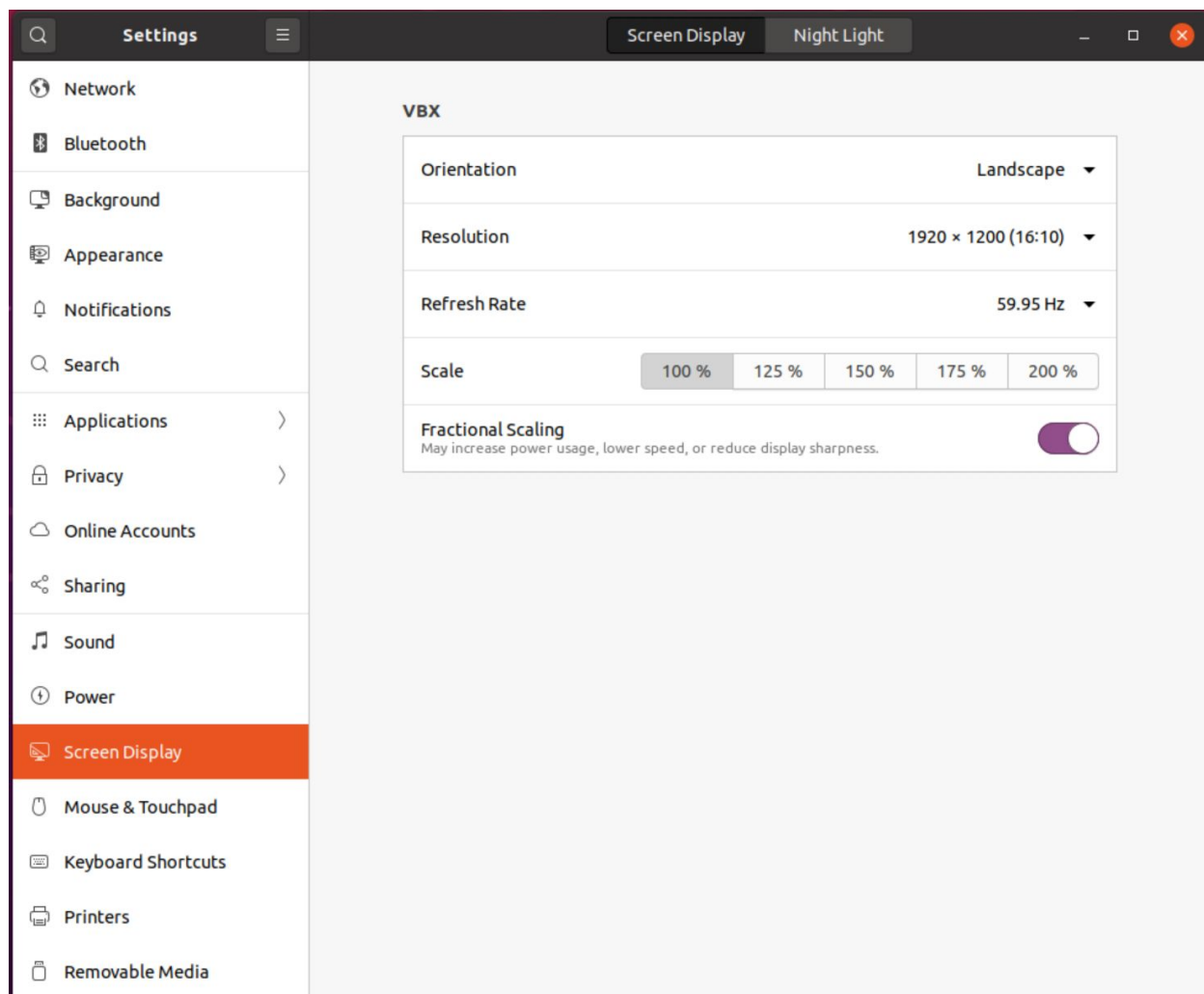


18. The VM is set up to login automatically. However, you may need to know the userid / password which is:  
oxclo / oxclo
19. As described above you may need to change the display settings:
- Click on the 9 dots in the bottom left corner

- b. In the search box type “display”

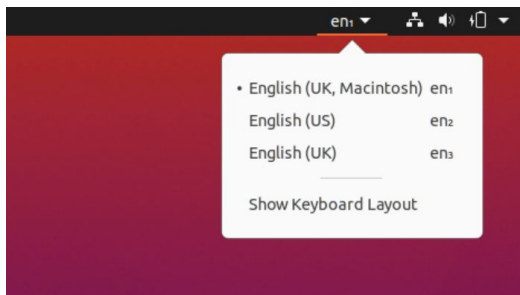


- c. Click on Screen Display:

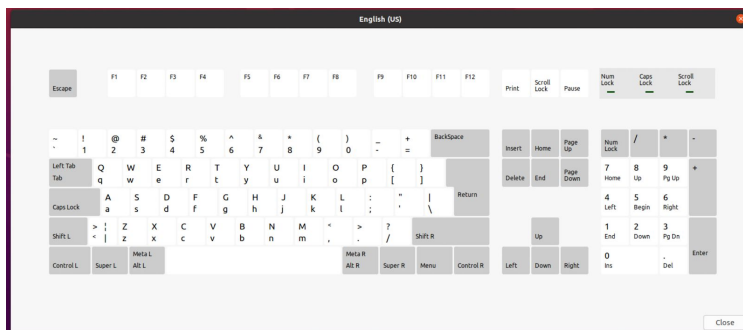


Adjust as necessary!

20. Finally you may need to choose the right keyboard layout for your computer. In the top corner you can choose from previously installed keyboard layouts.

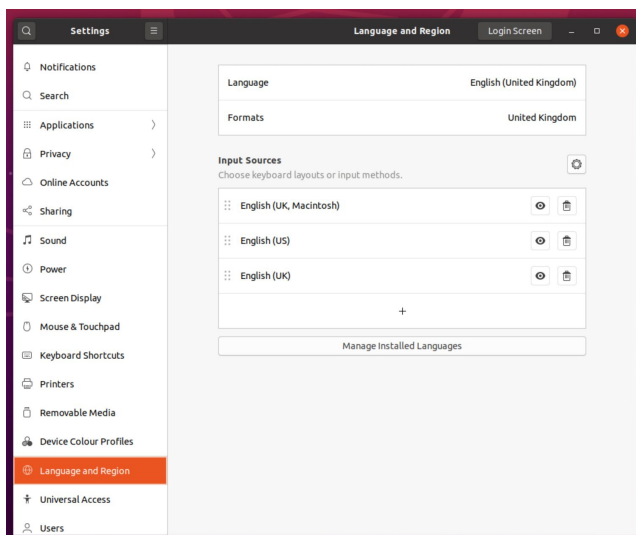


21. Click on **Show Keyboard Layout:**



*Hint: Later you might need this to find some characters like # and ~ on your keyboard mapping.*

22. Test out your keyboard. You can try the other installed keyboards. If none of them are right, you can install more by going to **Settings**, then **Language and Region**



23. You should now be ready to get on with the first lab!