COE768 Environment Setup Manual

Requirements

- ➔ **Operating System:** Windows 10 Home/Pro
- ➔ **Memory:** 12-16GB (recommended)
- ➔ **Free Space:** 60GB (at least)

Enable Virtualization and Install VirtualBox

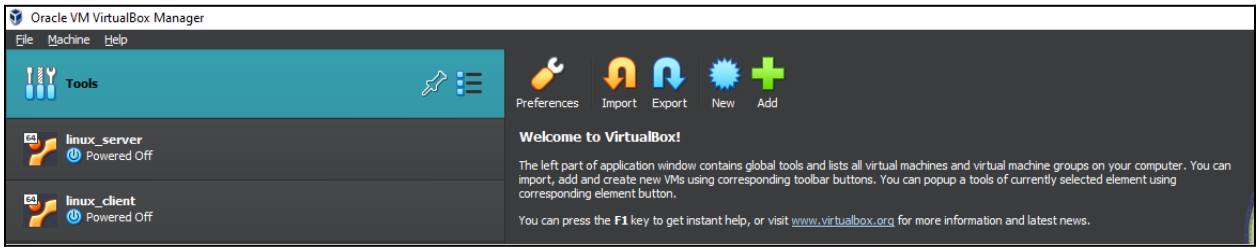
Follow the steps in the video to do the following:
How to use VirtualBox - Tutorial for Beginners

- ☐ Enable virtualization in motherboard BIOS. (needed to install virtualbox)
- ☐ Install the VirtualBox software. Oracle VirtualBox is the software that lets us replicate the lab environment.
- ☐ Download the Ubuntu ISO

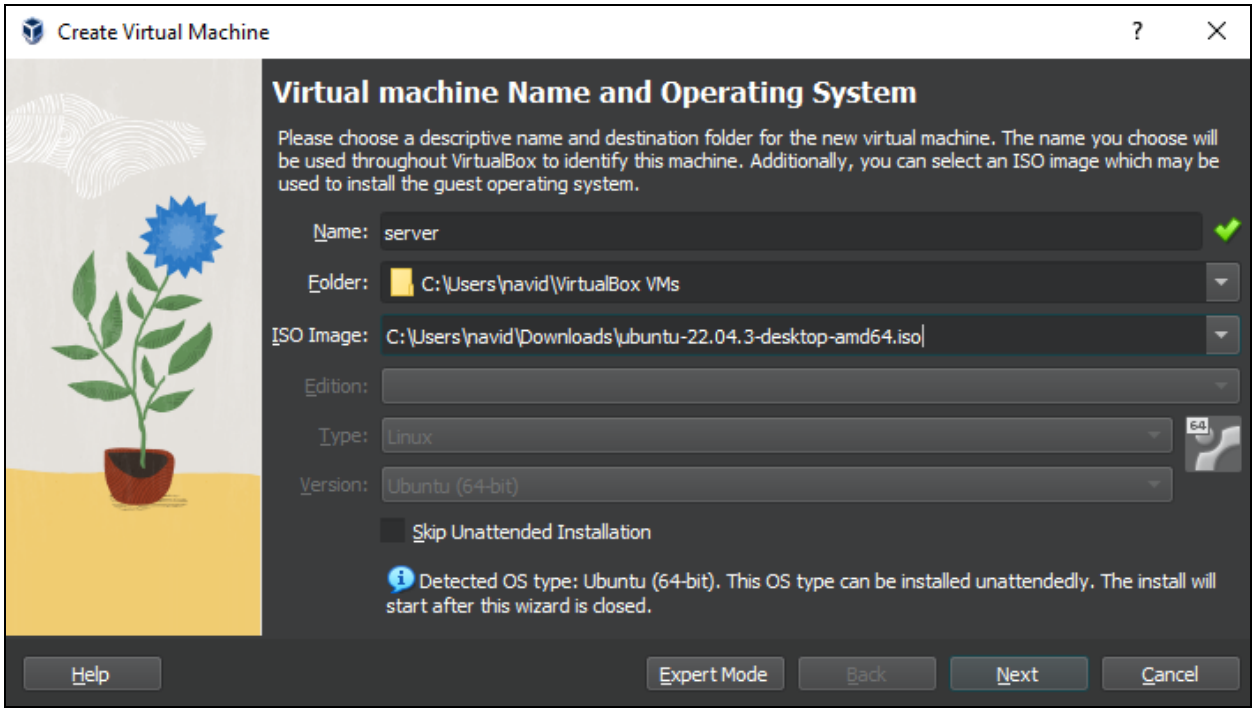
IMPORTANT: Do not create any virtual machines as was done in the video. We don't need them for our project. Although it is good to watch the steps in the video become familiar with the process of creating a virtual machine.

Create a Client and Server VM

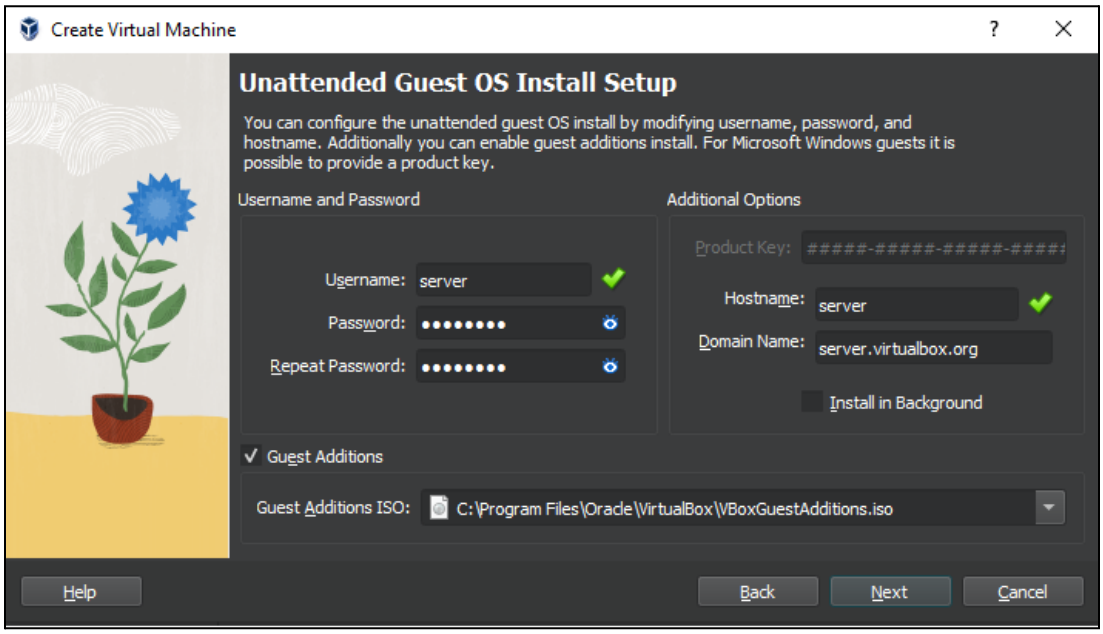
- ☐ Launch the Oracle **VirtualBox** application
- ☐ In the welcome screen. Select **New** in the right panel.



- ☐ Name the virtual machine **server**.
- ☐ Allocate a folder in your storage (choose a storage location that has at least 60 GB). Select a clean directory under that storage location for the **Folder** field.
- ☐ Then select the path to the Ubuntu ISO you downloaded previously for the **ISO Image** field.
- ☐ Click **Next**

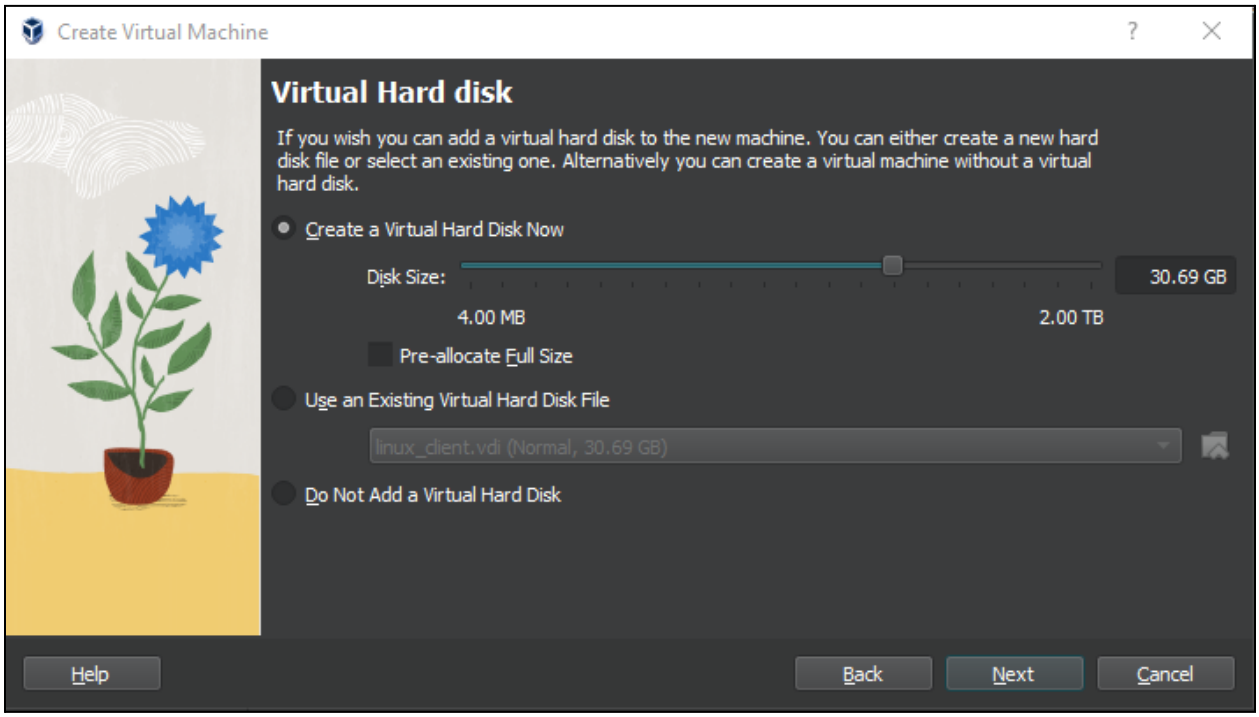


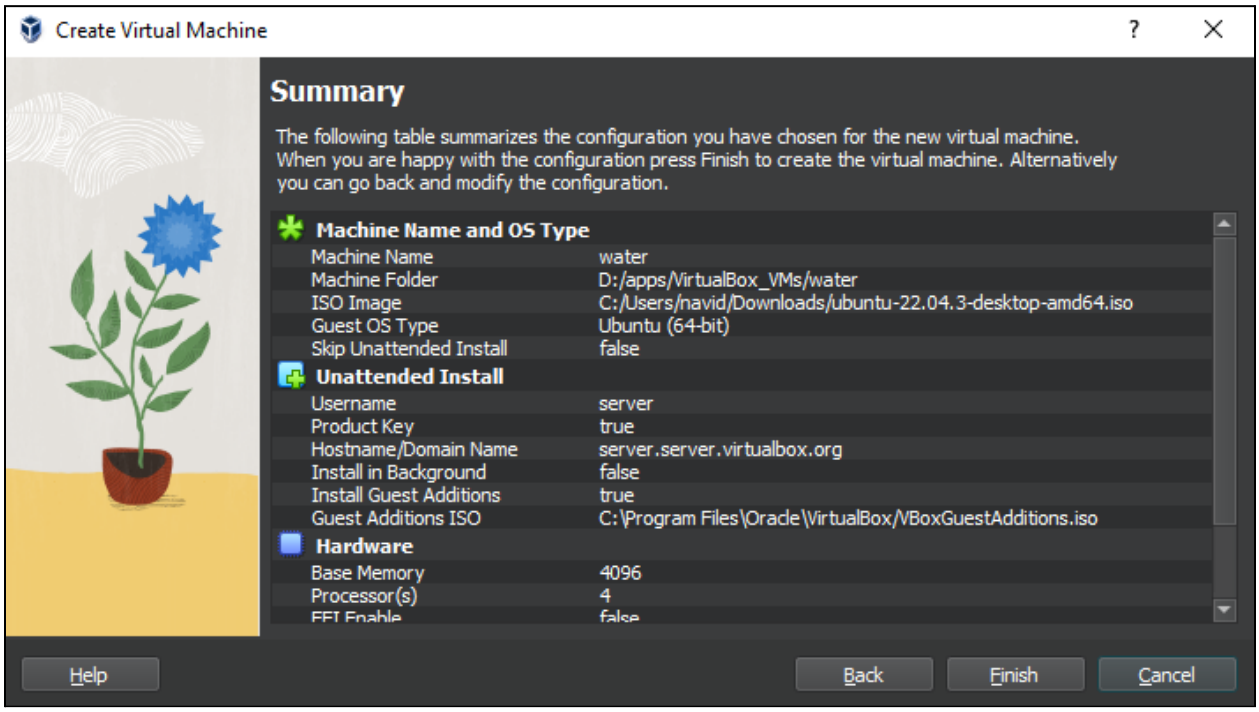
- [ ] **username** = *server*
- [ ] **hostname** = *server*
- [ ] **domain name** = *server.virtualbox.org*
- [ ] Set the password to something simple
- [ ] Check the **Guest Additions** checkbox
- [ ] Click **Next**



- [ ] **Base memory** = 4096MB
- [ ] **Processors** = 4
- [ ] Click **Next**

- [ ] Select 30GB for **Virtual Hard Disk**
- [ ] Click **Next**, then **Finish**.

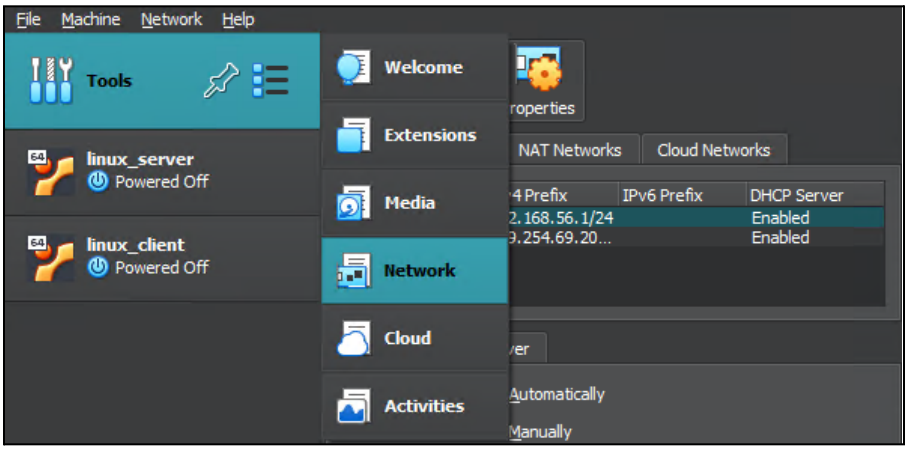




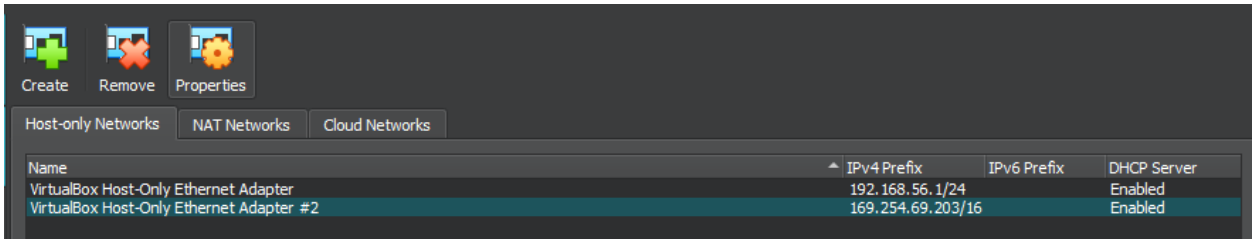
- [ ] Repeat all of the above steps except use **client** as the **name** of the VM and use the following in the **Unattended Guest OS Install Setup** page:
    - [ ] **username** = *client*
    - [ ] **hostname** = *client*
    - [ ] **domain name** = client.*virtualbox.org*

Creating a Network Adapter

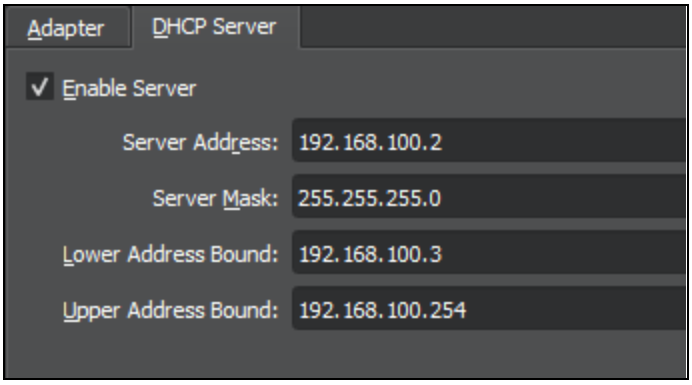
- [ ] In the Oracle VirtualBox application. Click on the checklist icon in the **Tools** section. Then select **Network** from the dropdown list.



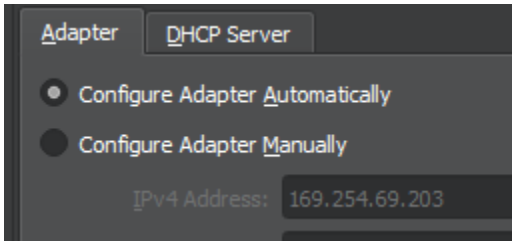
- [ ] Then click **create** in the network tools menu on the right panel. It should be called **VirtualBox Host-Only Ethernet Adapter #2**.



- [ ] To edit the configuration of this new adapter. Navigate to the **DHCP Server** tab, Check the **Enable Server** checkbox then set the parameters in the image below:

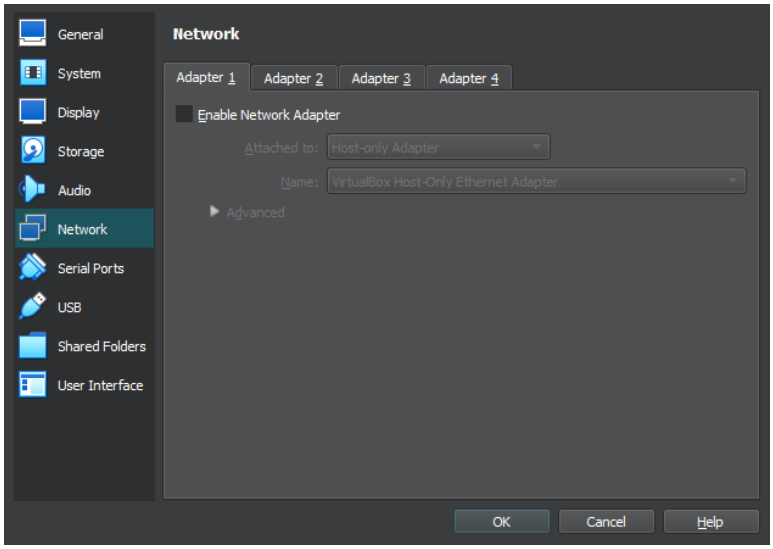


- [ ] Navigate back to the **Adapter** tab and select **Configure Adapter Automatically**.



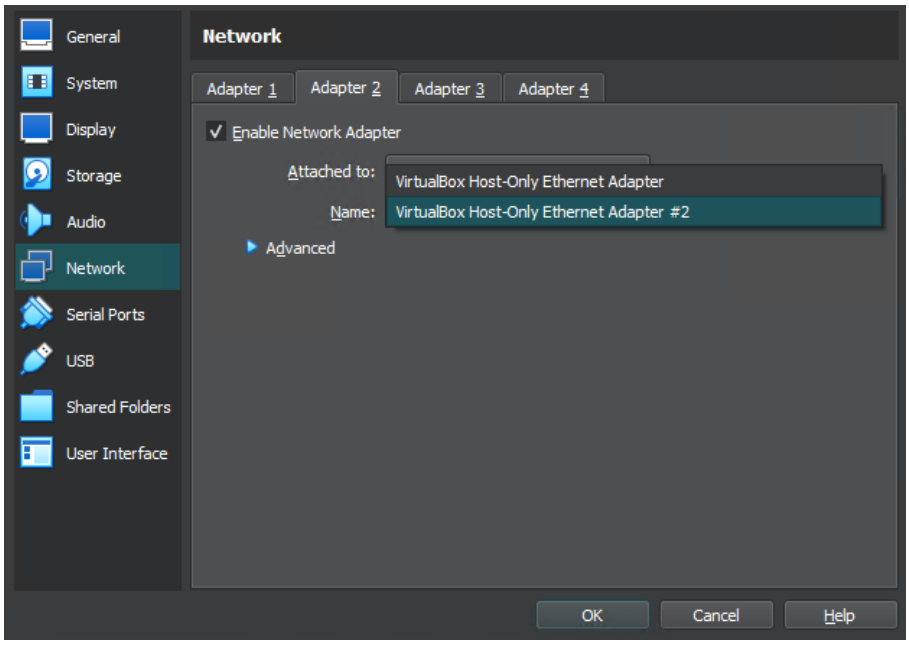
Assign the Network Adapter to both VMs

- [ ] In the Oracle VirtualBox application menu, navigate to the **server VM** and open the settings by right-clicking and finding **settings** from the dropdown menu.
- [ ] Next, click on the **Network** section. Uncheck the **Enable Network Adapter** for the **Adapter 1** tab.



- [ ] Then navigate to the **Adapter 2** tab and check the **Enable Network Adapter** checkbox.

- [ ] For the **Name** field in the adapter settings. Select the newly created **VirtualBox Host-Only Ethernet Adapter #2** from the dropdown options.

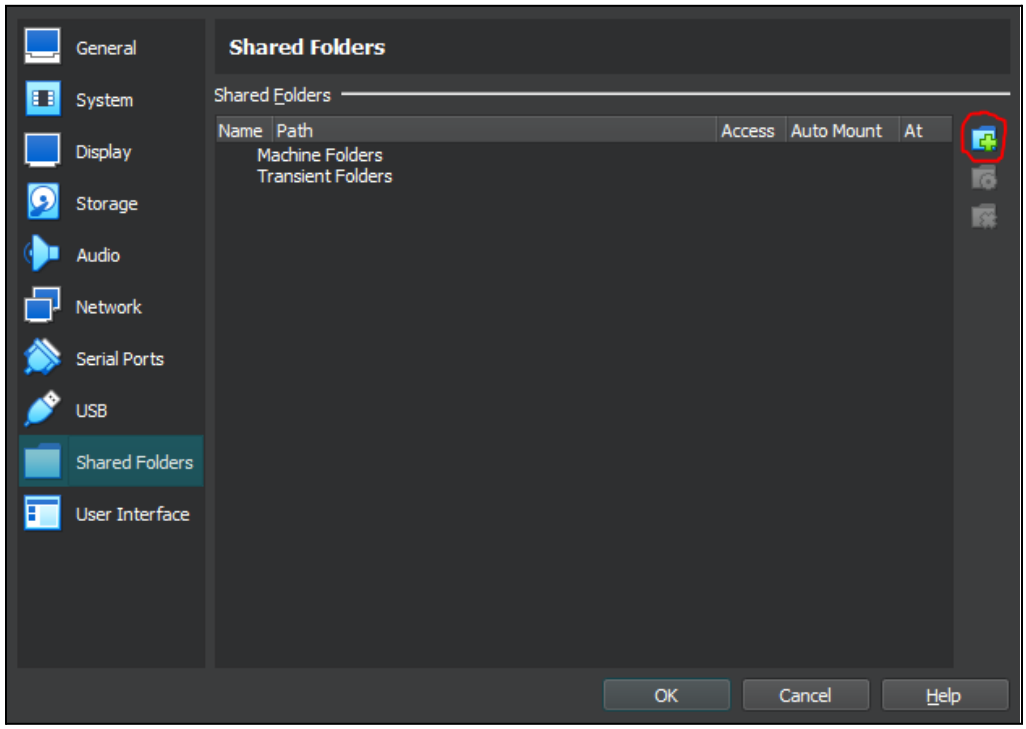


- [ ] Finally, click **OK**.
- [ ] Repeat the same steps for the **client VM**.

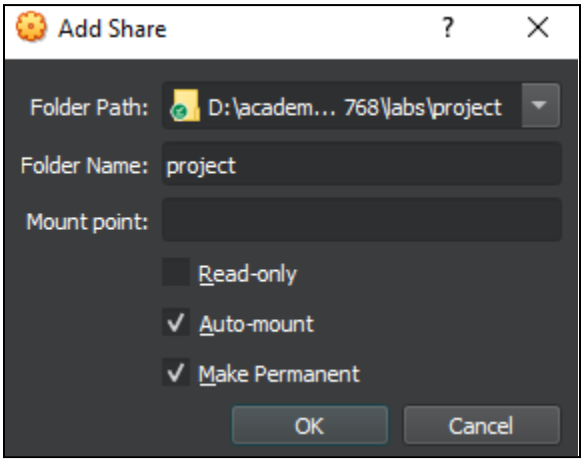
Launch and Setup the VMs

- [ ] From the Oracle VirtualBox home page **start the server virtual machine**.
- [ ] Wait for the initialization and boot up process to complete.
- [ ] For the Ubuntu installation process, skips the following steps:
    - [ ] Connect Your Online Accounts
    - [ ] Enable Ubuntu Pro
    - [ ] Help improve Ubuntu
        - [ ] Select - No, don't send system info
    - [ ] Privacy
- [ ] Open a new **terminal** window and run the following commands
    - [ ] su -
    - [ ] *Enter the admin password*
    - [ ] sudo apt update
    - [ ] sudo apt upgrade
    - [ ] sudo apt install wireshark
    - [ ] sudo apt install net-tools
- [ ] Repeat the above steps with the client VM
- [ ] There may be problems with copying files from your computer into the VM.

- [ ] Enable **Shared Clipboard** from the top toolbar of the VirtualBox window by going to **Devices>Shared Clipboard>Bidirectional**.
- [ ] Enable **Drag and Drop** from the top toolbar of the VirtualBox window by going to **Devices>Drag and Drop>Bidirectional**.
- [ ] Start your virtual machine select **Shared Folders** from the top toolbar of the VirtualBox window.
- [ ] Add a new shared folder by clicking the plus icon as indicated below.



- [ ] Select the **path** to the folder you would like to access from your host PC.
- [ ] Give your shared folder a **name**.
- [ ] Check the boxes Auto-mount and Make Permanent.



- [ ] Click **OK**.

- [ ] You should now be able to access the folder in the folder application.
- [ ] Finally, run a test program from the working and finished code of one of the coe768 labs.