Virtual Environment Setup

1. Install VirtualBox

Step 1. Download the latest VirtualBox. (https://www.virtualbox.org/wiki/Downloads)

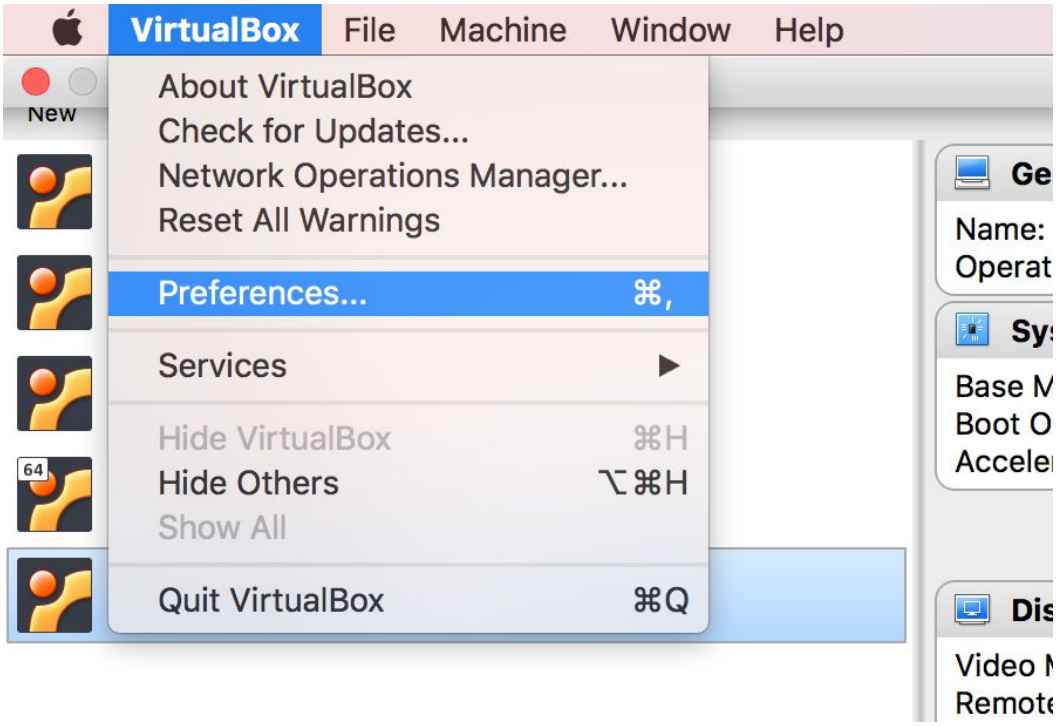
Step 2. Install VirtualBox.

Step 3. Install the latest extension pack. (CTRL + F on download page -> “extension”)

(https://download.virtualbox.org/virtualbox/5.2.6/Oracle_VM_VirtualBox_Extension_Pack-5.2.6-120293.vbox-extpack)

2. Modify Network Configuration

Step 1. Ensure your VM is turned off. Click the “File” or “VirtualBox” on the top left of the VirtualBox main UI. Then choose “Preferences…” option



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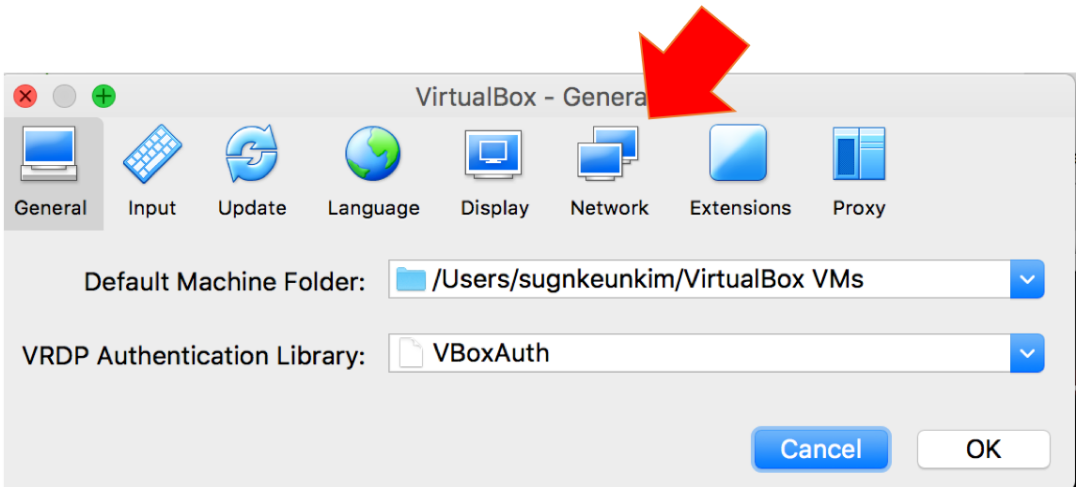
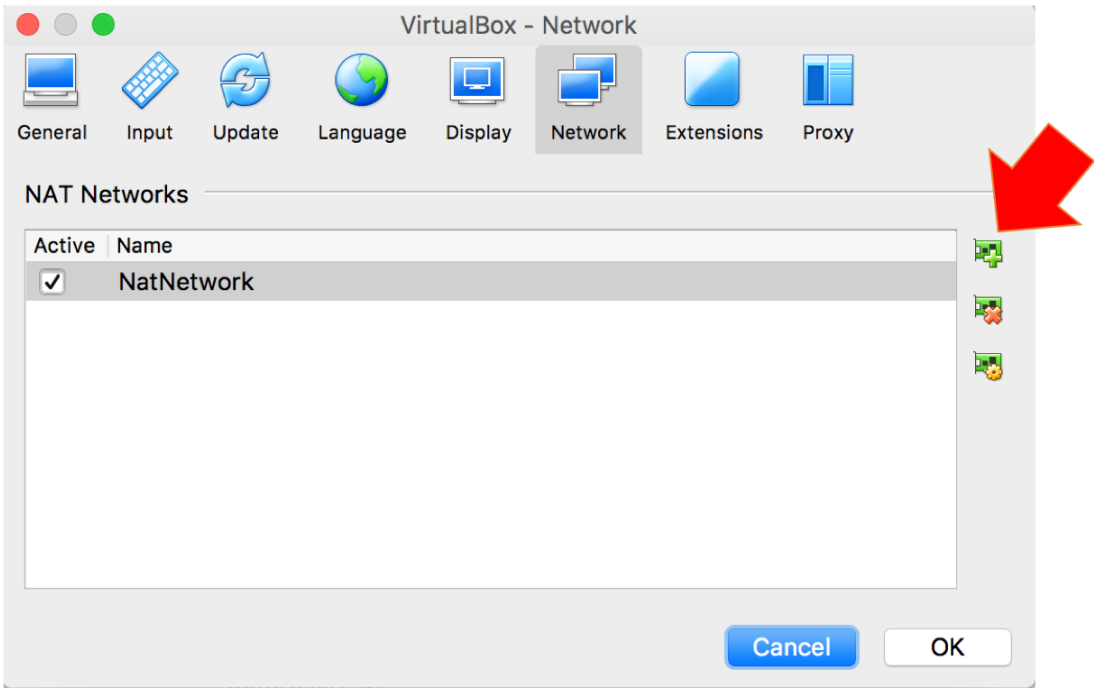
Step 2. Select “Network”



Step 3. Select the **“+”** on the top of the right hand panel in the NAT Networks tab.

You can double click on the “NatNetwork” to see its properties and click “OK.”



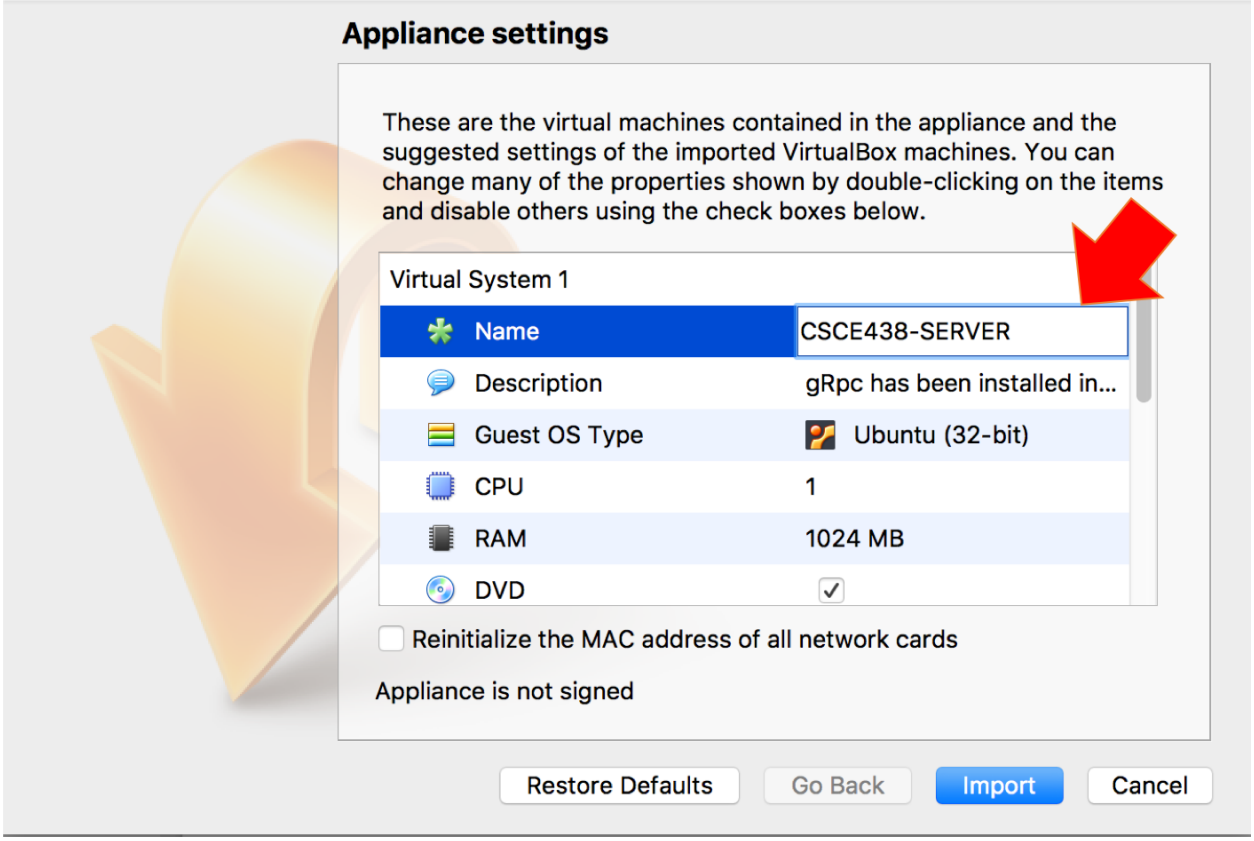
3. Create VM for server and clients

Step 1. Download CSCE438-VM.ova using the following link

(https://drive.google.com/open?id=128W1eBdIf5yXJRZmxnVu-fk_8LMKjj4B)

Step 2. Right-Click -> Open the **CSCE438-VM.ova** file

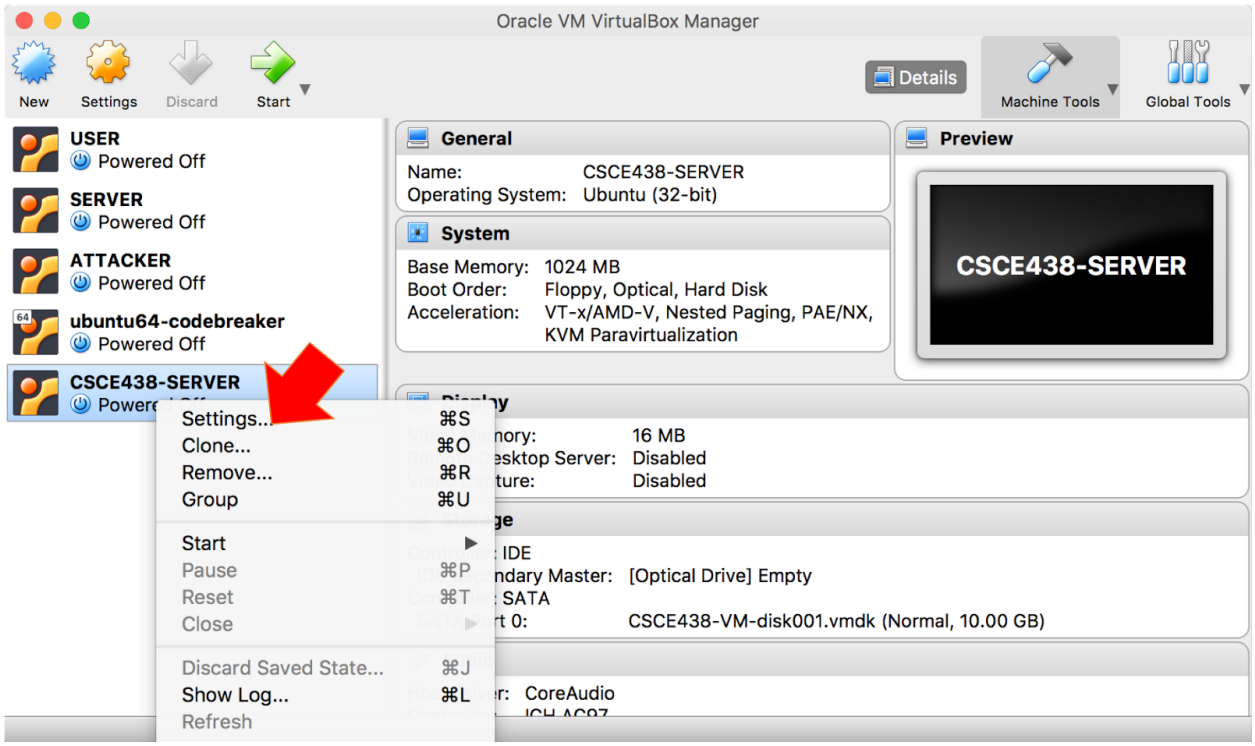
Step 3. Double-Click “Name” and change the name of the field to either “SERVER”, “USER1”, “USER2”, … and click “Import”. (Make sure each name is used once)



4. Ensure each VM has an unique Mac address.

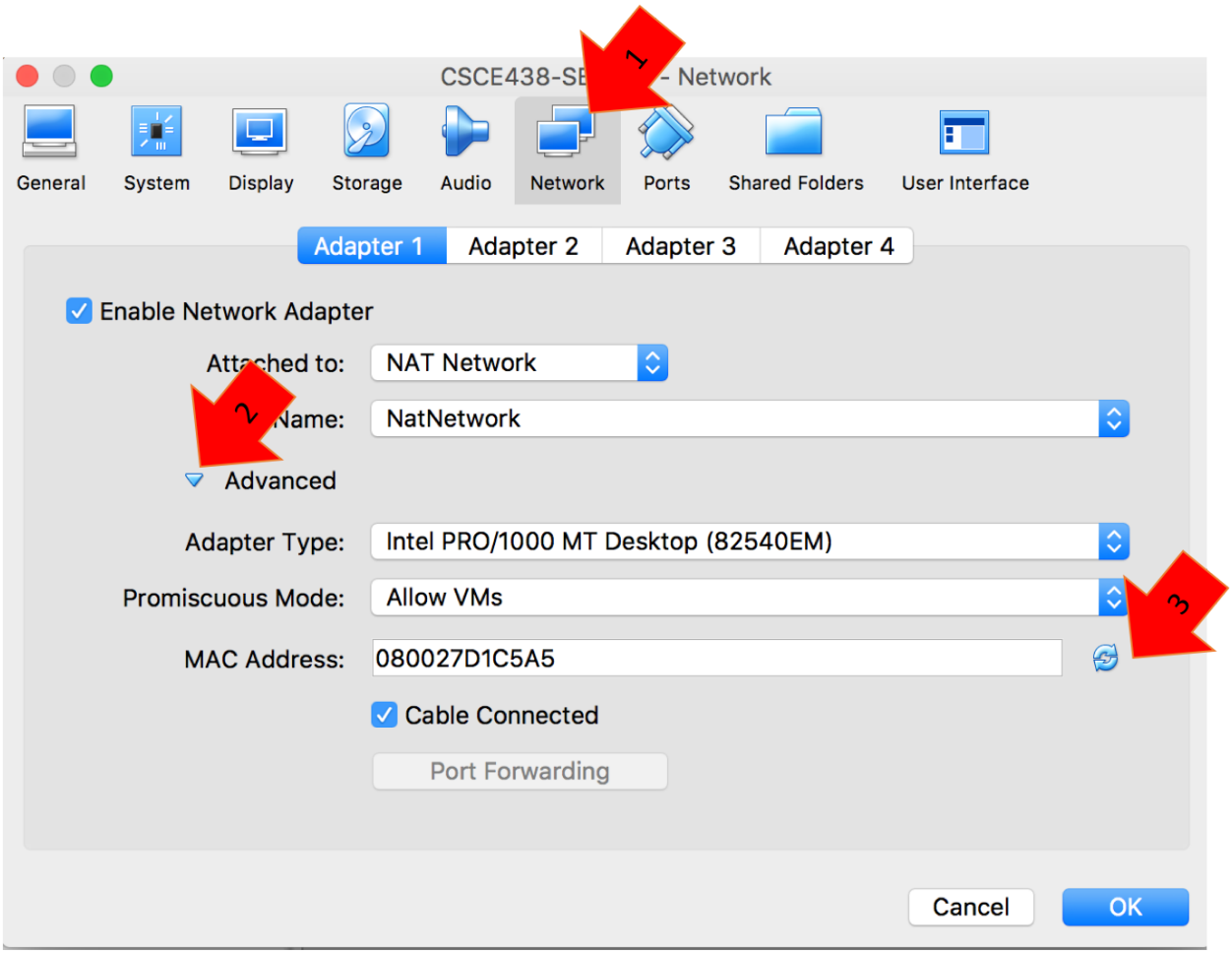
In order to communicate with each other VMs, your VM should have an unique Mac address.

Step 1. Click **"Settings"** menu of VM you created.



Step 2. Click the "**Network**" Tab and expand "**advanced**".

Then you can see the Mac address of your VMs. If the Mac address conflicts with other VMs that you are going to use together, change the Mac address by clicking "**generating mac address**" button.



5. Verify your all VMs work together.

You can verify your VMs by running your HW1. For example, suppose you have three VMs and one is running server program(crsd) and the others are running client program(crc). If you client/server program can communicate each other, your VMs is ready to do your HW2.