**Title: How to SSH without a password**

**Author: Aaron Valoroso**

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**OS: Ubuntu 16.10**

**Setup:**

To get started on being able to ping two different virtual machines with VirtualBox then go ahead and download the latest version from this url: <https://www.virtualbox.org/wiki/Downloads> . Make sure that everything has been downloaded correctly. For this tutorial, I will be using a Windows host machine with enough resources for two virtual machines. The first machine will be named master1 and the second will be master2. Each will have 10 GB in storage and 2 GB in RAM. Do the following:

* Go to settings->General->Advanced
  + And change the Shared Clipboard to: Bidirectional
  + And change Drag’n’Drop to: Bidirectional
* Go to settings->System
  + Uncheck the floppy and move it down below hard disk.
* Go to settings->System->Processor
  + Make sure that the Enable PAE/NX is unchecked.
* Go to settings->Storage
  + Click the cd under Controller: IDE, and on the far right click the other cd and pick your virtual optical disk drive. This is where you can add your OS image.
* Go to settings->Network
  + Go to Adapter 2, click the checkbox next “Enable Network Adapter”.
  + Next switch the Attached to from Not Attached to Host-Only Adapter.
  + Next, change the Promiscuous Mode under the Advanced settings to Allow VMs.
  + Then click the “ok” button at the bottom.

**Part 1:**

* Click on the start button for each of the virtual machines and proceed with the installation. Once the installation has finished, power down the machines and go back into the settings to change the boot order in the “System” option. Un-check the optical option and move it below the hard disk. We’re going to do this part on both virtual machines.
* You will not have to be root for any of the following instructions.
* Type: apt-get install openssh-server
* Type: service ssh restart
* Type: mkdir ~/.ssh
* Type: cd ~/.ssh
* Type: ssh-keygen -t rsa
  + Now there should be an id\_rsa and a id\_rsa.pub in this directory. The id\_rsa is your private key and the other one is the public key. The known\_host file is what keeps track of all the ssh connections that you made before.
* For the following step do on both machines, the file that we are about to transfer between each virtual machine is going to be stored in the ( ~ or user home ) directory. So each machine do the following:
  + scp -p id\_rsa.pub username@(enp0s8 ip address):
    - Don’t forget the colon at the end.
  + Move each id\_rsa.pub key from each machine to the other machine.
  + Type: rm id\_rsa.pub
  + Type: cd ~
  + Type: cat id\_rsa.pub >> ~/.ssh/authorized\_keys

**Other:**

Now when you log out and ssh back into the machine again it should not prompt a password for the connection. This can also be done for the opposite way as well. There are plenty of different options for the type of keys that you can use, rsa is just one of them. If you are getting stuck, then google is your friend and the -vvv option for ssh is going to help in some aspects. Another thing to keep an eye out for is the permissions on the files and directories.