Windows 10 Networking and Sharing

Date:

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CSCI3157-31 – Spring 2022

Summary: This Lab was to show how to setup a small network and to be able to share data between two windows machines.

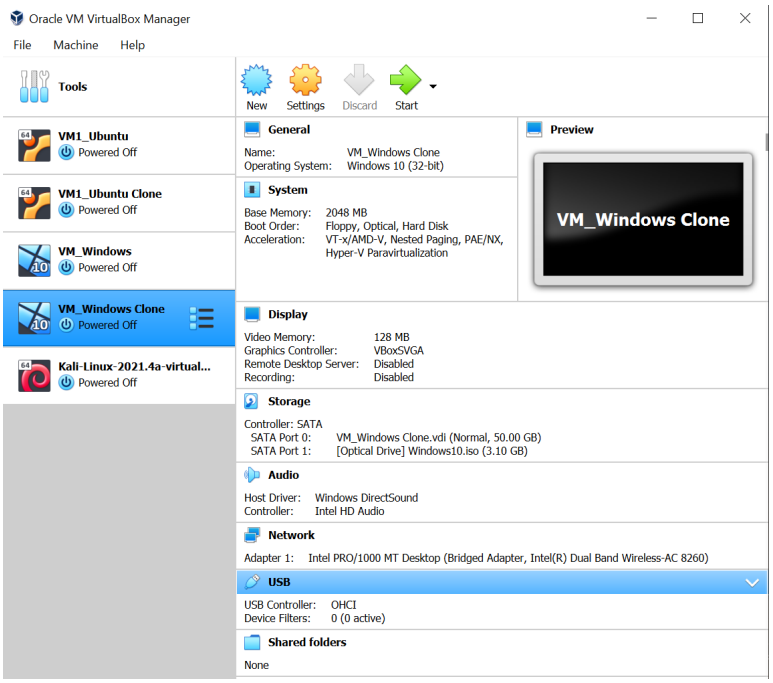
1) **Background:** We have been exposed to the concept of virtualization and the usage of Oracle VirtualBox to setup multiple virtual machines. In our past lab we have set up windows machines and a clone of a few of them. This lab will be making two virtual machines (running the windows operating system) run on a Bridged adapter to create a network that they will be able to share data between using the data sharing feature of windows.

2) **Tools and System Specifications:** In this lab we have utilized the following tools:

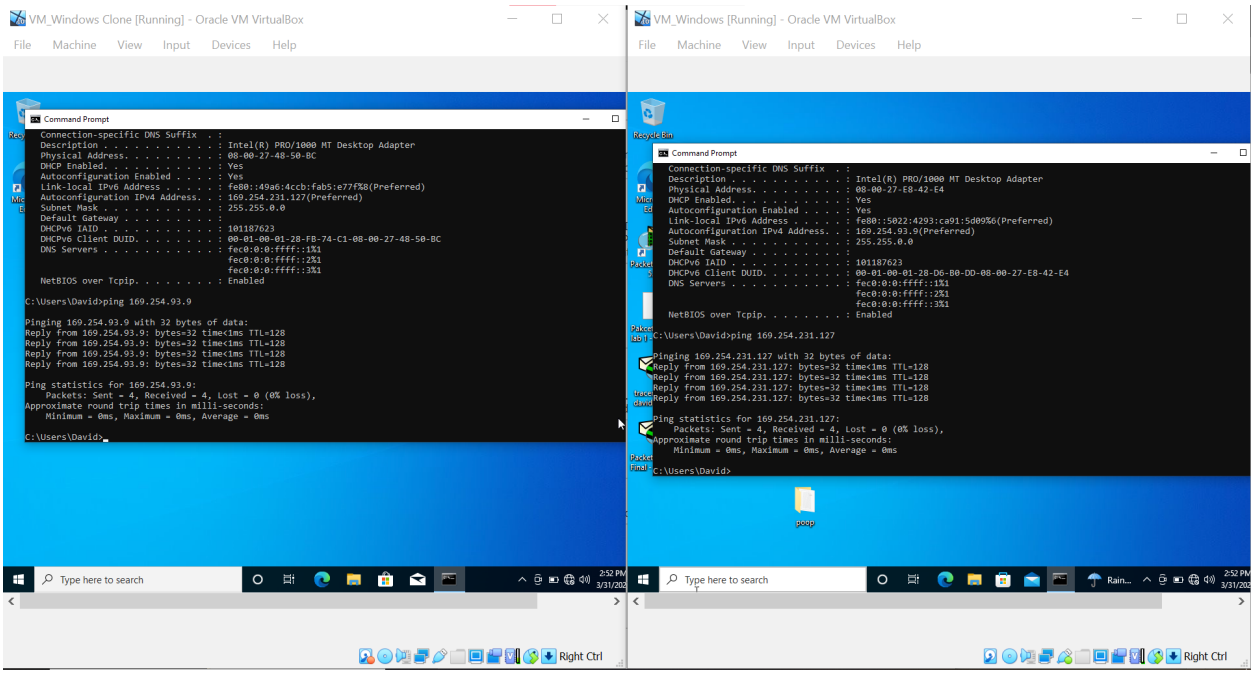
    a. Oracle Virtual Box
    b. Windows ISO/operating systems.
    c. Command line

3) **Experimentations:**

    The first step is to make sure that the windows machines will be running on their bridged adapters so that they can communicate with each other.



Then after we open up the windows machines and wait for them to boot. Once they are we open the command lines in each to run the command “ipconfig /all” so that we can see all the network configurations including mac addresses to make sure that even though one is a clone it is its own machine.

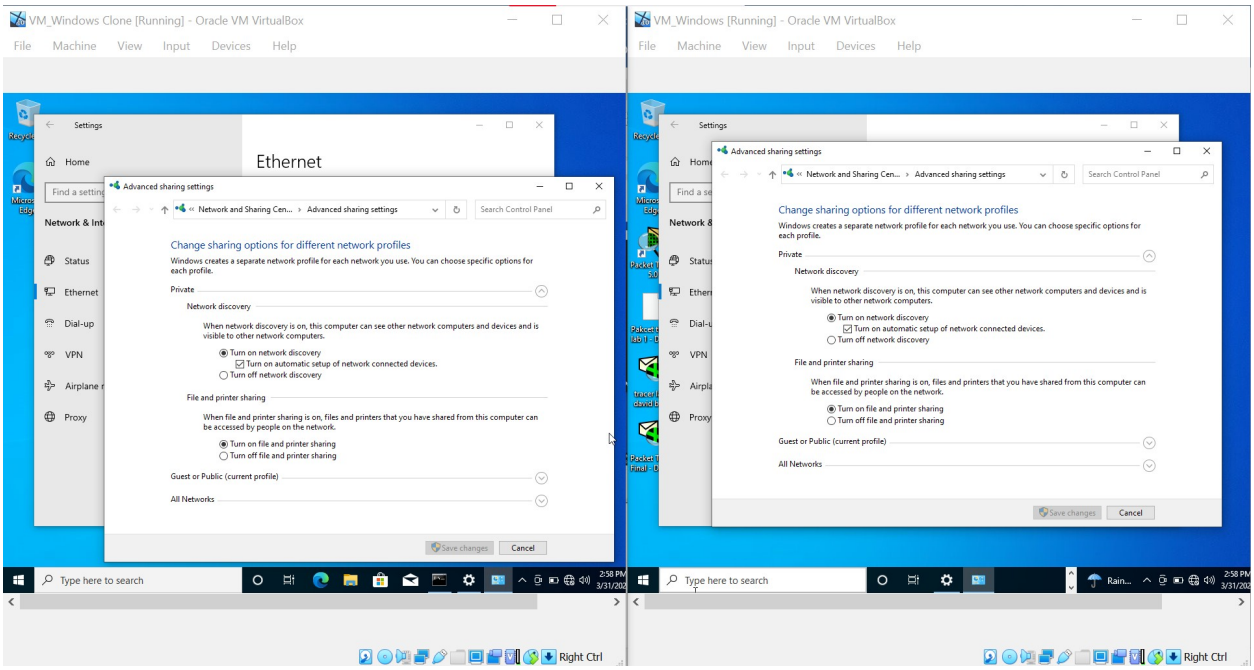


VM_Windows Clone ipv4 address is 169.254.231.127 and MAC 08-00-27-48-50-BC

VM_Windows ipv4 address is 169.254.93.9 and the MAC 08-00-27-E8-42-E4

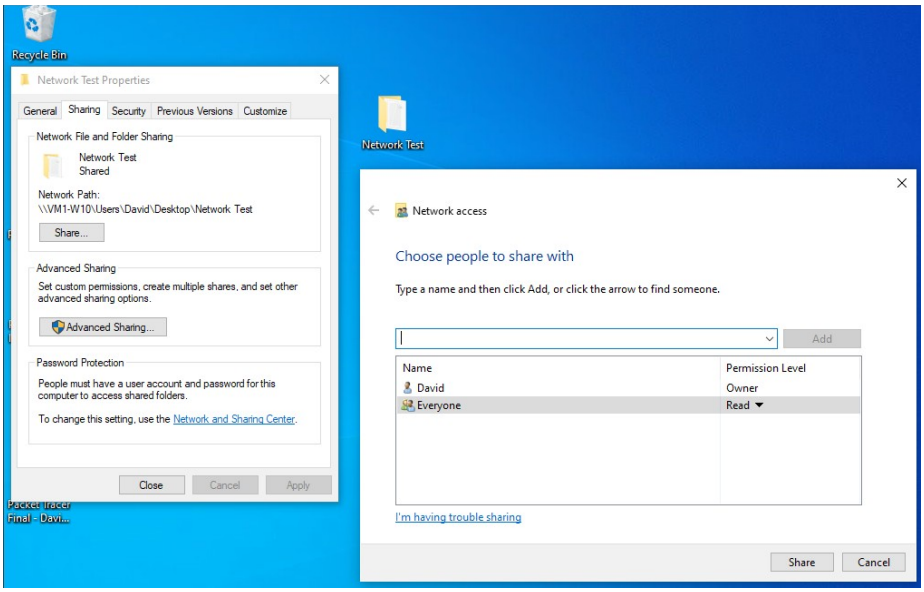
This shows me that these are two different machines. In that blurb we ran the ping command and pinged each machine from one another and they were able to find each other therefore they have been properly networked and can find each other.

The next step for file sharing is to allow these machines to be discoverable to each other. Which we did by going to network settings -> advanced sharing settings



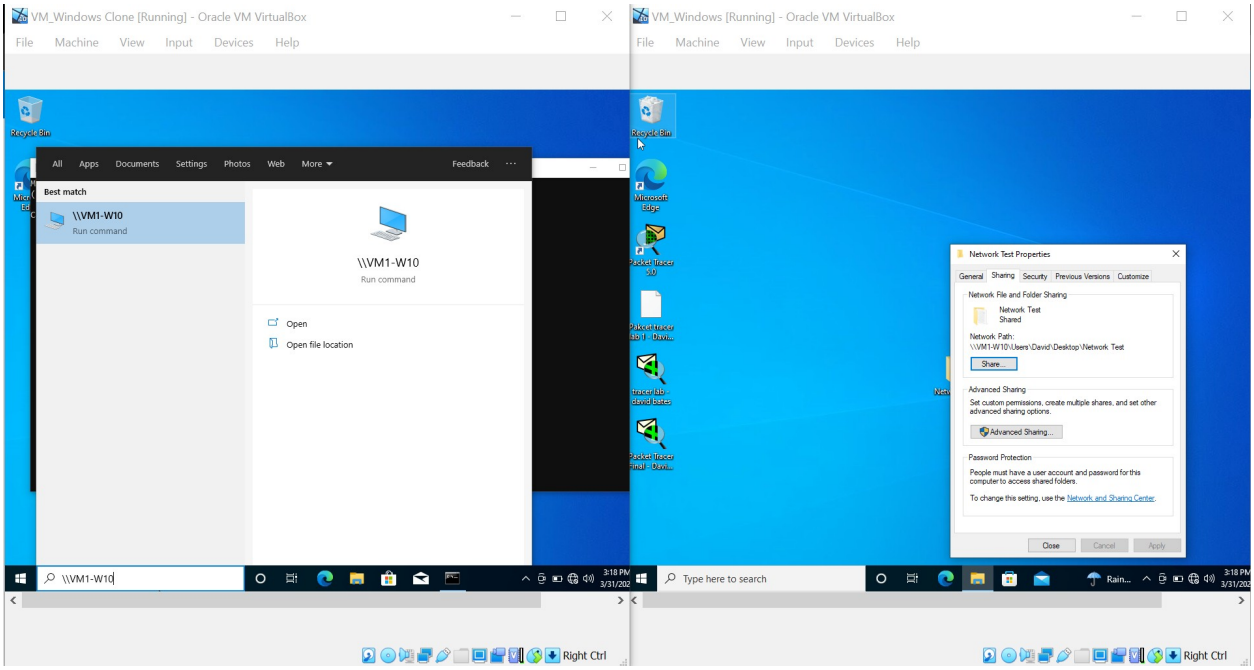
In this settings dialogue box we have allowed, on both machines, network discovery and allowed printer sharing(which is key to allowing file sharing).

We then create a file on VM_Windows called test inside I have also saved a text file also named test.txt. We then go into properties for this file and select the sharing tab.

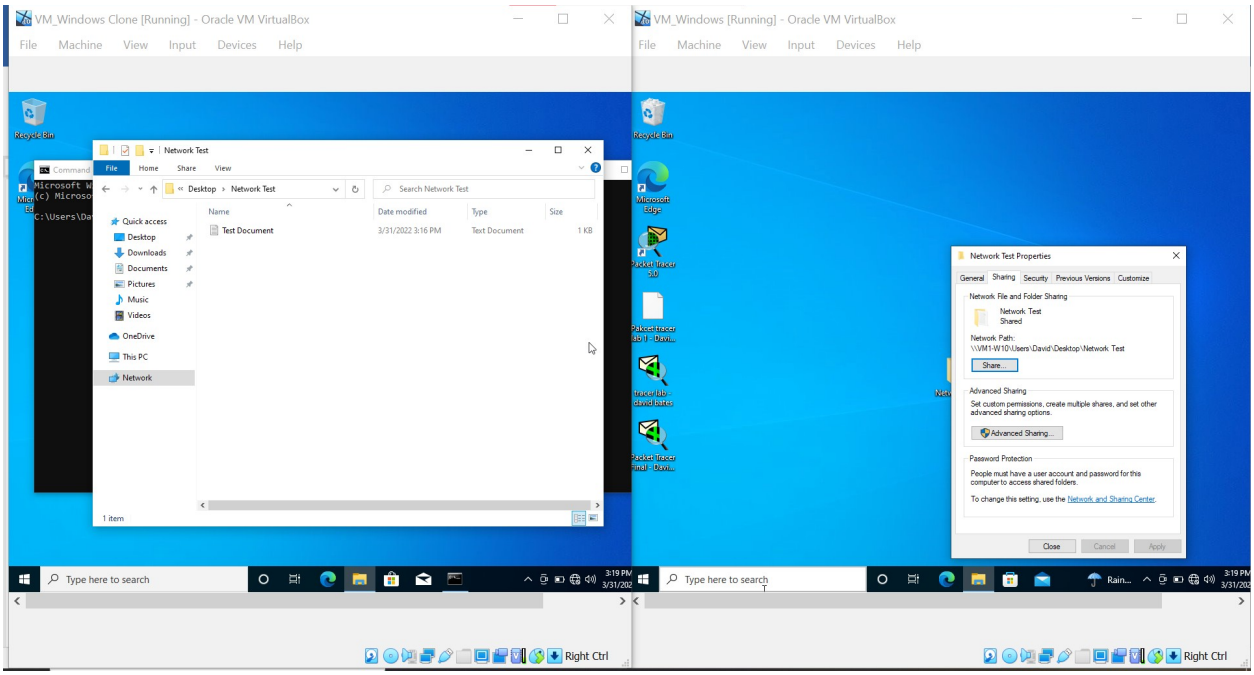


When we go into the sharing access select everyone this allows everyone on the network to access this folder.

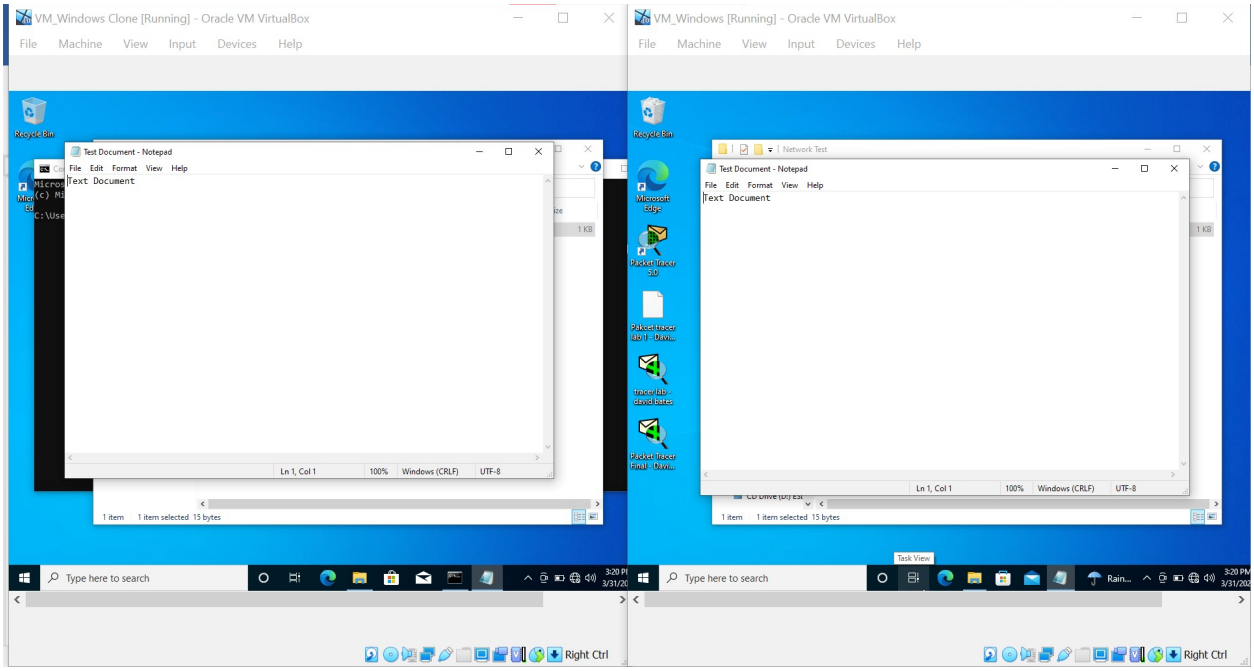
You can then access the file from the other desktop by typing in the directory in the windows search bar. In this case we use \\VM1-W10



This then opens the file explorer in this machine and shows the file that is shared along with the text file that is in the folder.



We can even open the file to read the contents in the other machine.



Here we see that the contents on each machine are the same, as well as in the same directory. Therefore this is the SAME file not a copy.

4) Conclusions

This Experiment has taught me how to make a basic offline two machine local network that can share files and resources to each other as well as ping to make sure they are active. This will help me in the future of this class so that I know how file sharing works so that later we can learn to exploit this/intercept/or encrypt with/without users knowledge or approval.

5) References:

Dr. Darwish's Cyber Security Class Mon-Thurs 2:30-3:45 Spring 2022

WebCampus Cybersecurity class lab template.