

Lab 01 – Virtualizing Your Machine

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Course Section: IS-1003-002

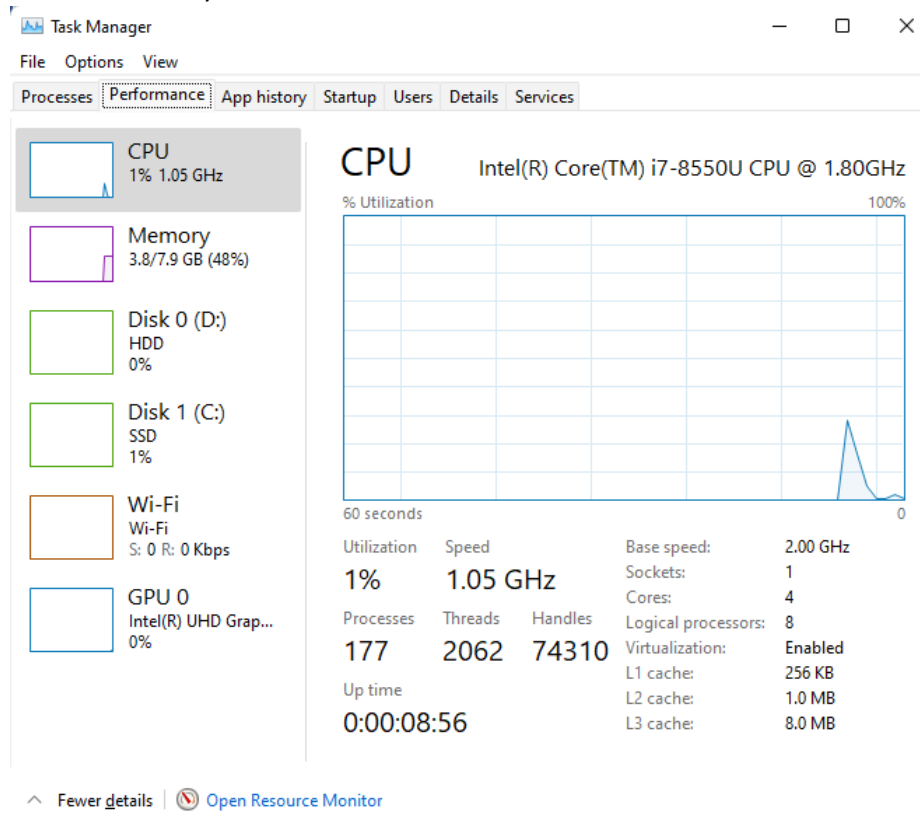
Date: 02/18/2022

INTRODUCTION





In this lab I will enable virtualization on my host computer, download and install VirtualBox, download and install Ubuntu on VirtualBox, and perform basic commands in my Ubuntu terminal. These are basic tasks any individual in cybersecurity/information systems should know. I will get familiar with these applications as I go through the lab.

PROCESS






1. I verified my BIOS settings by going through the website provided to me on the lab instructions. *How to Enable Virtualization in BIOS when VT-x is Disabled in Windows 10* (SysProbs, Dinesh, 2020). My computer has a newer OS system (Windows 11) and so I had a little trouble enabling the virtualization because it looked different but I figured it out by myself and was able to enable it. It didn't look nothing like the website. I accessed the BIOS settings, then went to "System configuration" and the "virtualization" option was on sight for me so I just switched from "Disabled" to "Enabled". After that I saved my new configurations and exited the BIOS settings. Finally, I checked on the "Task Manager" if virtualization was enabled and it was. I was not able to take screenshots of the process on the BIOS settings, however, I was able to take a screenshot of my virtualization enabled.




2. No issues were encountered when downloading VirtualBox.

Today (4)				
	VirtualBox-6.1.32-149290-Win	2/18/2022 5:44 PM	Application	105,756 KB
	1003-Lab-Template (5)	2/18/2022 5:24 PM	Microsoft Word D...	21 KB
	Intel Processor Identification Utility	2/18/2022 5:10 PM	Application	18,133 KB
	1003-Lab-Template (4)	2/18/2022 3:37 PM	Microsoft Word D...	21 KB


3. No issues were encountered when downloading the Linux Iso image file.

Today (5)				
	ubuntu-20.04.3-desktop-amd64	2/18/2022 6:14 PM	Disc Image File	2,999,936 KB
	VirtualBox-6.1.32-149290-Win	2/18/2022 5:44 PM	Application	105,756 KB
	1003-Lab-Template (5)	2/18/2022 5:24 PM	Microsoft Word D...	21 KB
	Intel Processor Identification Utility	2/18/2022 5:10 PM	Application	18,133 KB
	1003-Lab-Template (4)	2/18/2022 3:37 PM	Microsoft Word D...	21 KB


4. One comment I would like to make is that I found interesting that I was able to choose between any type of operating system, from windows to Linux or mac. Here is a screenshot of my VirtualBox interface and its settings.

 **General**


Name: cesarmung
Operating System: Windows 7 (64-bit)

 **System**


Base Memory: 2048 MB
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, Hyper-V Paravirtualization

 **Display**


Video Memory: 18 MB
Graphics Controller: VBoxSVGA
Remote Desktop Server: Disabled
Recording: Disabled

 **Storage**


Controller: SATA
SATA Port 0: cesarmung.vdi (Normal, 15.00 GB)
SATA Port 1: [Optical Drive] Empty

 **Audio**


Host Driver: Windows DirectSound
Controller: Intel HD Audio

 **Network**


Adapter 1: Intel PRO/1000 MT Desktop (NAT)

 **USB**

USB Controller: OHCI
Device Filters: 0 (0 active)

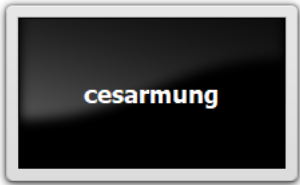
 **Shared folders**

None

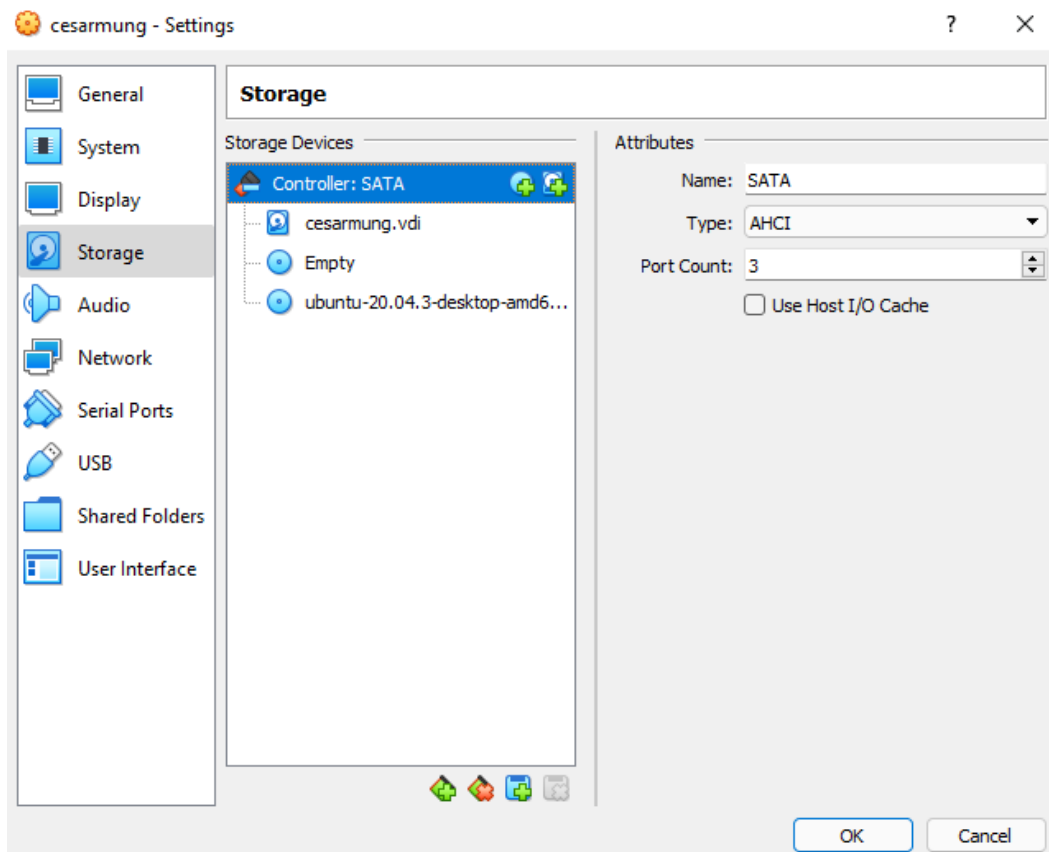
 **Description**

None

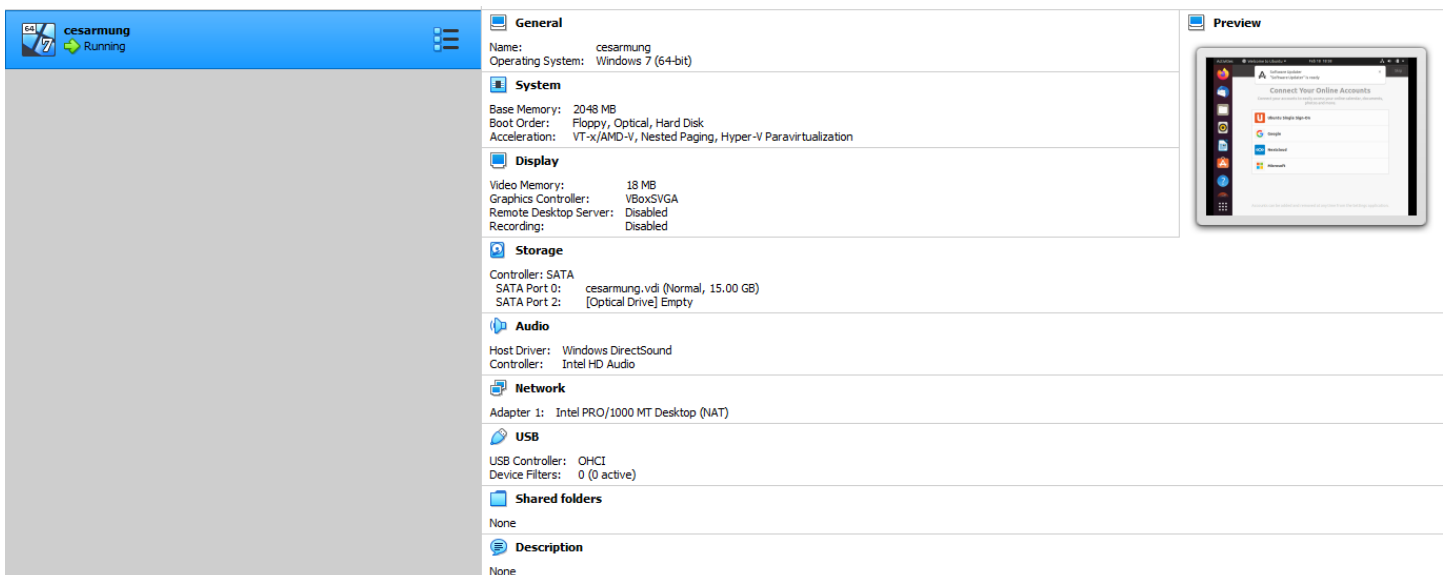
Preview

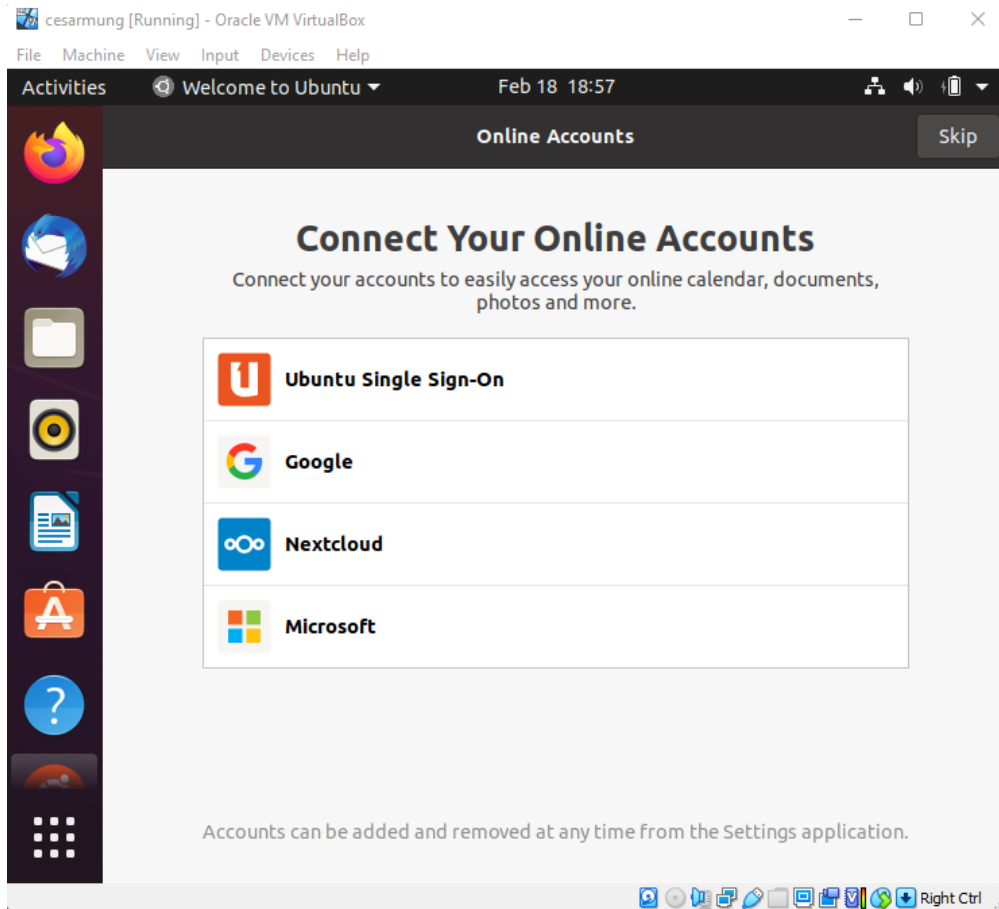


5. Here, I successfully imported the file I downloaded earlier which was “ubuntu-20.04.3-desktop-amd64”.

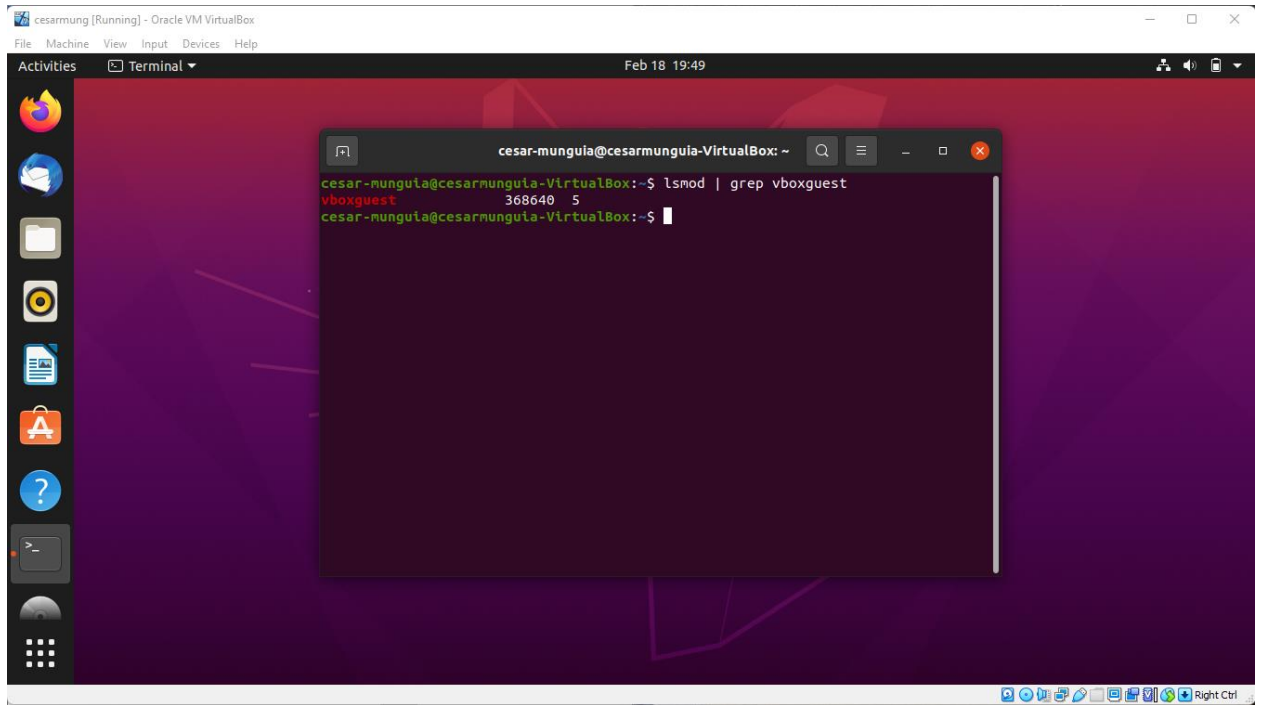


6. Everything worked smoothly for me. At first, I had encountered some problems because on my storage there was an “empty” disk so whenever I tried to boot up my operating system for some reason was not working. What I did was I went back to settings and erased that empty disk so that the downloaded ubuntu file was the only one there. I followed the process from the lab instructions and everything worked fine.

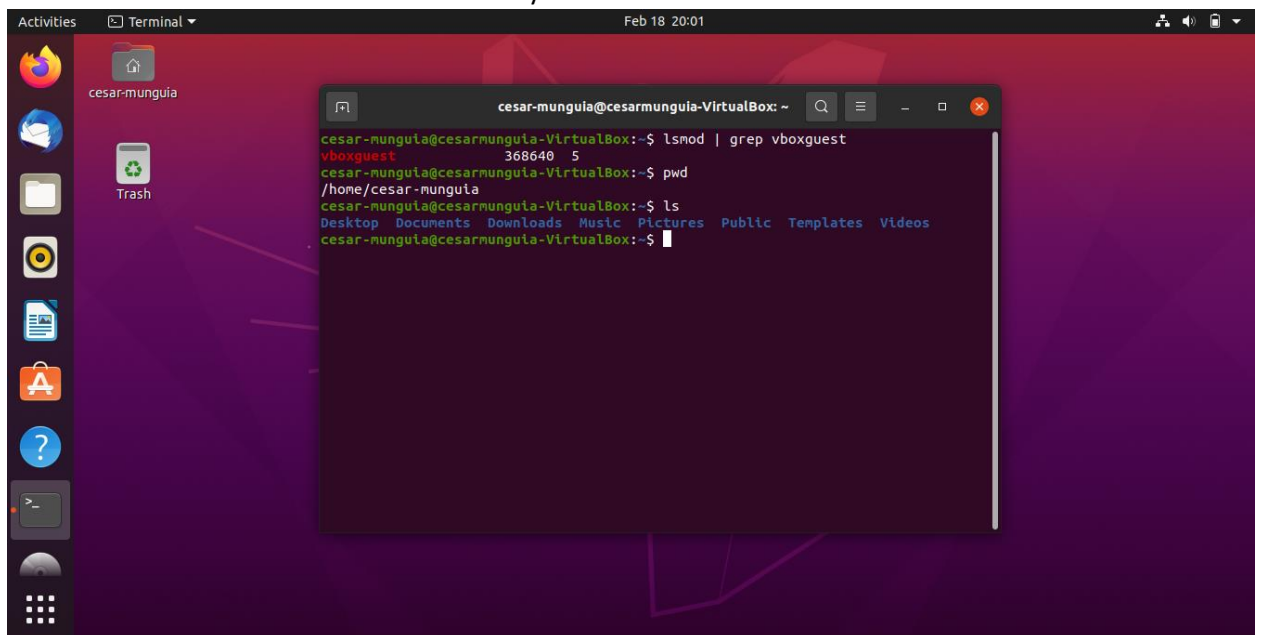




7. I installed the GuestAdditions using the command line and the other method just to double checked and the installation was a success. The kernel modules did load properly and no issues or challenges were encountered.



8. In this section I used the command lines “pwd” and “ls”. The pwd command line shows you the full pathname of the current working directory to the standard output, in other words, it finds the location of your home directory as it states on the lab instructions. The ls command line shows the list of files in the current directory. Here is a screenshot that shows that.



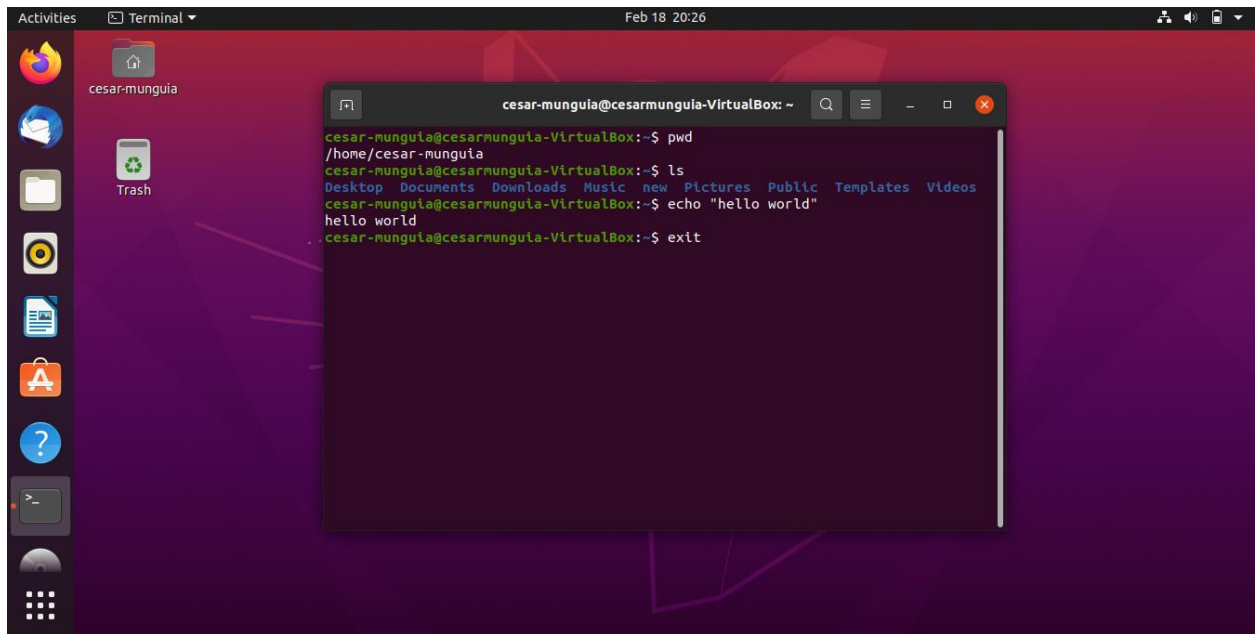
9. In this section I used the command line “ls -a”. This command line lists the attributes of one or more object of a specified class. Here is a screenshot that shows that.

```
cesar-munguia@cesarmunguia-VirtualBox: ~  
cesar-munguia@cesarmunguia-VirtualBox:~$ ll  
total 96  
drwxr-xr-x 16 cesar-munguia cesar-munguia 4096 Feb 18 20:05 ./  
drwxr-xr-x  3 root          root          4096 Feb 18 18:48 ../  
-rw-r----- 1 cesar-munguia cesar-munguia 170 Feb 18 19:33 .bash_history  
-rw-r--r--  1 cesar-munguia cesar-munguia 220 Feb 18 18:48 .bash_logout  
-rw-r--r--  1 cesar-munguia cesar-munguia 3771 Feb 18 18:48 .bashrc  
drwxr-xr-x 13 cesar-munguia cesar-munguia 4096 Feb 18 19:09 .cache/  
drwx----- 12 cesar-munguia cesar-munguia 4096 Feb 18 19:16 .config/  
drwxr-xr-x  2 cesar-munguia cesar-munguia 4096 Feb 18 18:56 Desktop/  
drwxr-xr-x  2 cesar-munguia cesar-munguia 4096 Feb 18 18:56 Documents/  
drwx----- 3 cesar-munguia cesar-munguia 4096 Feb 18 19:41 .gnupg/  
drwxr-xr-x  3 cesar-munguia cesar-munguia 4096 Feb 18 18:56 .local/  
drwxr-xr-x  2 cesar-munguia cesar-munguia 4096 Feb 18 18:56 Music/  
drwxrwxr-x  2 cesar-munguia cesar-munguia 4096 Feb 18 20:05 new/  
drwxr-xr-x  2 cesar-munguia cesar-munguia 4096 Feb 18 18:56 Pictures/  
-rw-r--r--  1 cesar-munguia cesar-munguia 807 Feb 18 18:48 .profile  
drwxr-xr-x  2 cesar-munguia cesar-munguia 4096 Feb 18 18:56 Public/  
drwx----- 2 cesar-munguia cesar-munguia 4096 Feb 18 19:04 .ssh/  
drwx----- 1 cesar-munguia cesar-munguia  0 Feb 18 19:18 .sudo_as_admin_succe
```

10. In this section I used the command line “echo”. This command line is used to output some written scripts. May seem meaningless, but it comes in handy.

```
cesar-munguia@cesarmunguia-VirtualBox: ~  
cesar-munguia@cesarmunguia-VirtualBox:~$ echo "hello world"  
hello world  
cesar-munguia@cesarmunguia-VirtualBox:~$
```

11. In this section I used the “exit” command line. This command line is used to literally exit the command prompt, you can either type it or just click on the red button on the top right corner.



LIMITATIONS/CONCLUSION

One thing I did want to mention about this lab is that at first when I started working on the virtual machine everything was working fine. However, after 30 minutes or so my virtual operating system started working slowly for some reason. I am guessing this is because my computer has a RAM of 8gb and the minimum requirement for a computer for the information systems/cybersecurity major a 16gb is required. One solution for this could be to install a RAM with a bigger storage capacity so that I will not have this type of problem in the future. Some goals of the techniques used in this lab is that now I am familiar with the virtual machine application that enables people that are in the same field that I am studying to test and use new software. I think these are effective techniques and tools because they will allow me to have a broader knowledge about the new software's that are being made and how companies test their equipment so that when it comes to implementing it there are fewer errors and bugs. I would like to explore anything else related to these types of things because I know for sure that the more I know the better prepared and the better future I will have.

REFERENCES

Dinesh, Dinesh, SiMo, & Steven. (2020, May 20). How to enable virtualization in BIOS when VT-X is disabled in Windows 10. Sysprobs. Retrieved February 19, 2022, from <https://www.sysprobs.com/disable-enable-virtualization-technology-bios>

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COLLABORATION

No collaboration.