Wgel CTF Writeup

NMAP Scan

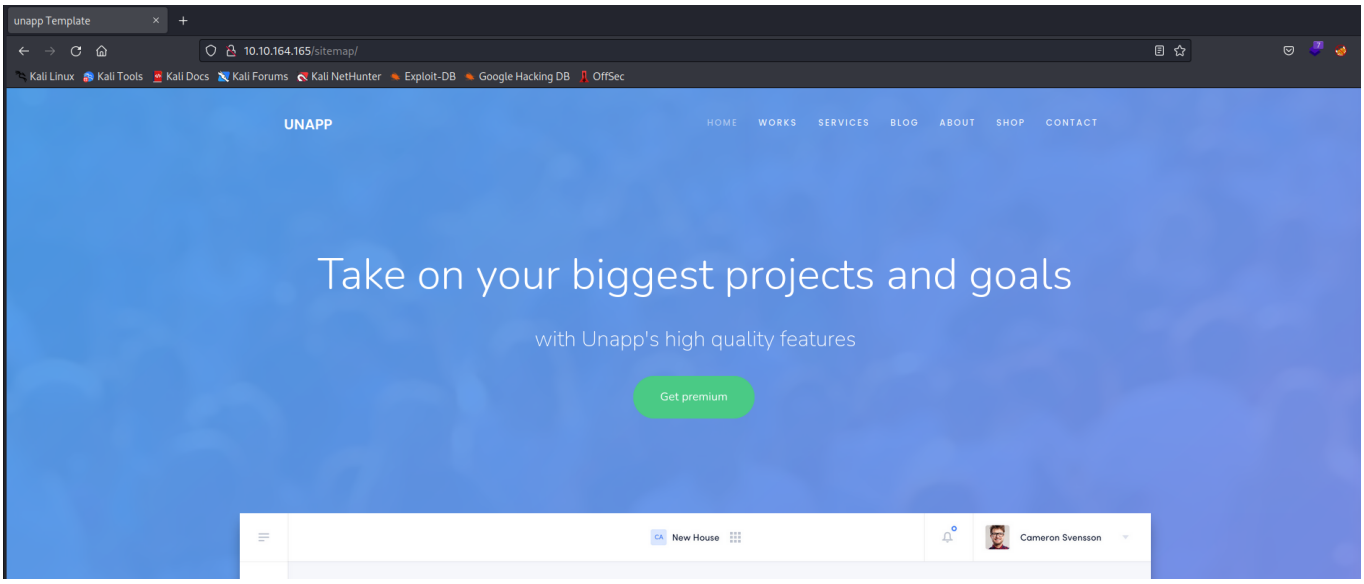
```
Starting Nmap 7.92 ( https://nmap.org ) at 2023-04-03 20:19 EDT
Nmap scan report for 10.10.164.165
Host is up (0.12s latency).
Not shown: 998 closed tcp ports (conn-refused)
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 7.2p2 Ubuntu 4ubuntu2.8 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 94:96:1b:66:80:1b:76:48:68:2d:14:b5:9a:01:aa:aa (RSA)
|   256 18:f7:10:cc:5f:40:f6:cf:92:f8:69:16:e2:48:f4:38 (ECDSA)
|_  256 b9:0b:97:2e:45:9b:f3:2a:4b:11:c7:83:10:33:e0:ce (ED25519)
80/tcp open  http    Apache httpd 2.4.18 ((Ubuntu))
|_http-title: Apache2 Ubuntu Default Page: It works
|_http-server-header: Apache/2.4.18 (Ubuntu)
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 30.63 seconds
zsh: segmentation fault  nmap -T4 -A 10.10.164.165
```

After first scanning the box with nmap, the only 2 ports that appeared open were port 80 (http) and port 22 (ssh). Most likely point of attack would be through the web server so I will check that out first.

Upon first opening the web page, it is the default page for an apache web server.

```
—— Scanning URL: http://10.10.164.165/ ——
+ http://10.10.164.165/index.html (CODE:200|SIZE:11374)
+ http://10.10.164.165/server-status (CODE:403|SIZE:278)
==> DIRECTORY: http://10.10.164.165/sitemap/
```

Using DirBuster, I found some new directories to look into. After going to the sitemap directory, I located this webpage.



After searching around this page, I was not able to find anything promising to use, I started another directory search of the sitemap directory and was able to find a .ssh directory.

```
⟹ DIRECTORY: http://10.10.164.165/sitemap/.ssh/
⟹ DIRECTORY: http://10.10.164.165/sitemap/css/
⟹ DIRECTORY: http://10.10.164.165/sitemap/fonts/
⟹ DIRECTORY: http://10.10.164.165/sitemap/images/
+ http://10.10.164.165/sitemap/index.html (CODE:200|SIZE:21080)
⟹ DIRECTORY: http://10.10.164.165/sitemap/js/
→ Testing: http://10.10.164.165/sitemap/zorum
```

After opening the .ssh directory, I found a private rsa key. All I needed now was a username to use.

```
-----BEGIN RSA PRIVATE KEY-----
MIIEowIBAAKCAQEA2mujeBv3MEQFCel8yvjgDz066+8Gz0W72HJ5tvG8bj7Lz380
m+JYAquy30lSp5jH/bhcvYLsK+T9zEdzHmjKDtZN2cYgwHw0dDadSXWFf9W2gc3x
W69vjkHLJs+lQi0bEJvqpCZ1rFFSpV0OjVYRxQ4KfAawBsCG6lA7GO7vLZPRiKsP
y4lg2StXQYuZ0cUvx8UkhpgxWy/OO9ceMNondU61kyHafKobJP7Py5QnH7cP/psr
+J5M/fVBoKPcPXa71mA/ZUioimChBPV/i/0za0FzVuJZdnSPtS7LzPjYFqxnm/BH
Wo/Lmln4FLzLb1T31pOoTtTKuUQWxHf7cN8v6QIDAQABAoIBAFZDKpV2HgL+6iqG
/1U+Q2dhXFLv3PWhadXLKEzbXfsAbAfwCjwCgZXUb9mFoNI2Ic4PsPjbqyCO2LmE
AnAhHKQNeUOn3ymGJEU9iJMJigb5xZGwX0FBoUJCs9QJMBBZthWyLlJUKic7GvPa
M7QYKP51VCi1j3GrOd1ygFSRkP6jZpOpM33dG1/ubom7OWDZPDS9AjAOkYuJBobG
SUM+uxh7JJn8uM9J4NvQPkC10RIXFYECwNW+iHsB0CWlcF7CAZAbWLsJgd6TcGTv
2KBA6YcfGXN0b49CFOBMLBY/dcWpHu+d0KcruHTeTnM7aLdrexpiMJ3XHVQ4QRP2
p3xz9QECgYEA+VXndZU98FT+armRv8iwuCOAmN8p7tD1W9S2evJEA5uTCsDzmsDj
7pUO8zziTXgeDENrcz1uo0e3bL13MiZeFe9HQNMpVOX+vEaCZd6ZNFbJ4R889D7I
dcXDvkNRbw42ZWx8TawzwXFVhn8Rs9fMwPlbdVh9f9h7papfGN2FoeECgYEA4EIy
GW9eJnl0tzL31TpW2lnJ+KYCRIlucQUnBtQLWdTncUkm+LBS5Z6dGxEcwCrYY1fh
shl66KulTmE3G9nFPKezCwd7jFWmUUK0hX6Sog7VRQZw72cmp7lYb1KRQ9A0Nb97
uhgbVrK/Rm+uACIJ+YD57/ZuwuhnJPirXwdaXwkCgYBMkrxN2TK3f3LPFgST8K+N
LaIN0OOQ622e8TnFkmee8AV9lPp7eWfG2tJHk1gw0IXx4Da8oo466QiFBb74kN3u
QJkSaIdWAnh0G/dqD63fbBP95lkS7cEkokLWSNhWkffUuDeIpy0R6JuKfbXTFKBW
V35mEHIidDqtCyC/gzDKIQKBgDE+d+/b46nBK976oy9AY0gJRW+DTKYuI4FP51T5
hRCRzsyyios7dMiVPtxtsomEHwYZiybnr3SeFGuUr1w/Qq9iB8/ZMckMGbxoUGmr
9Jj/dtd0ZaI8XWGhMokncVyZwI044ftoRcCQ+a2G4oeG8ffG2ZtW2tWT4OpebIsu
eyq5AoGBANCkOaWnitoMTdWZ5d+WNNCqcztoNppuoMaG7L3smUSBz6k8J4p4yDPb
QNF1fedEOvsguMlpNgvcWVXGINgoOOUSJTxCRQFy/onH6X1T5OAAW6/UXc4S7Vsg
jL8g9yBg4vPB8dHC6JeJpFFE06vxQMFzn6vjEab9GhnpMihrSCod
-----END RSA PRIVATE KEY-----
```

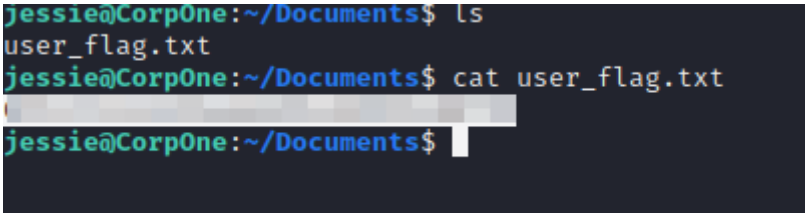
After searching, I was able to find what might be a username in the comments of the default apache page.

```
<!-- Jessie don't forget to udate the webiste -->
        </pre>
        <ul>
```

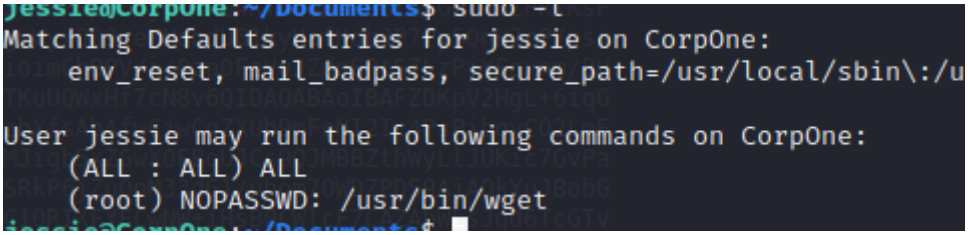
Using that username and the rsa key, I attempted to log in via ssh, which worked successfully.

```
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.15.0-45-generic i686)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

8 packages can be updated.
8 updates are security updates.

jessie@CorpOne:~$
```

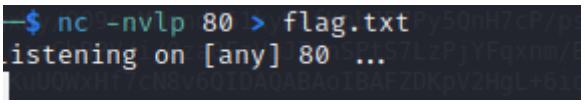
After looking around a little bit, I was able to find the user flag in Jessie's documents folder.



After running sudo -l, I see that I am able to run wget as sudo. Assuming that the root flag file is named in the same way that the user flag was and is stored in the root directory, I can use wget to send the the root flag to myself.



First I set up a Netcat listener on my host using port 80.



Then, using wget, I send the root flag to my host, revealing the root flag.