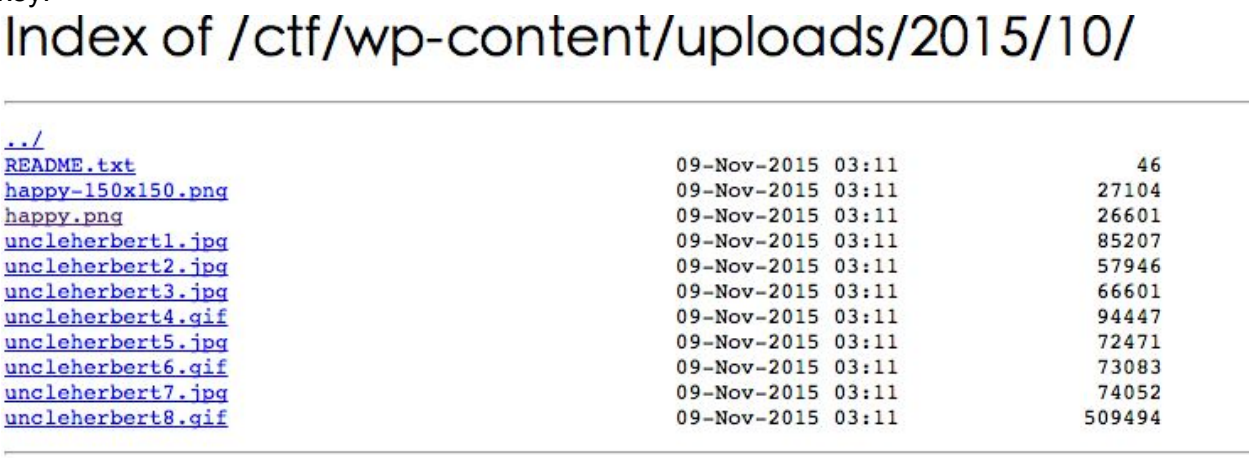
COMP 116 - Capture the Flag Write-Up

Team 12: Reema Al-Marzoog, Bradley Frizzell, Astro Li, Fangyuan Xu
Due: November 10, 2015

Challenge 1: You are staring right at it

According to the hint, we clicked on the crying picture and noticed the url is a path to a directory.

Then look into the uploads/2015/10/ directory and noticed a README.txt which contains the key.



Challenge 2: Unnecessary service

According to hint, we use umap to scan the ip address and noticed FTP port is open. Then we ftp the ip address and find the key.

```
wr-130-64-179-95:crack-lab mengtianli$ ftp 67.23.79.113
Connected to 67.23.79.113.
220 key{3ade9451b891078b05616e2a3a9754ce33ff3a6e}
```

Challenge 3: Analyze the binary

After download the binary file from the website, we opened it with TextEdit, and searched for ‘key’, finding the following:

```
Watch the video. The key is the SHA1 sum of the number, as a word in
all caps, in the video.
```

We then realized by going through the file and taking the line above as a hint, that the .exe was in fact a pcap file, and so we opened it with WireShark. We then used WireShark to export the objects from the file, from which we got the sesame street video. We then took a trip back to Pre-School, and watched through the video until we found the following:

From there, it was obvious that the key was “SEVEN” (ah ah ah!).

Challenge 4: Do not give Ming a hug but…

This one was a social engineering task. For this, we found the page at flag.txt, which said to go ask Ming to show us his Blue card. On this card was another key.

Challenge 5: All your base64 are belong to us.

We notice that the chat board is vulnerable to sql injection. So we use the common injection script “1 or 1=1” and manage to pull some hidden information.

67.23.79.113/ctf/board.php?id=1%20or%201=1

The Happening

Reply

Comments:

提交

Welcome to the 2015 CTF

Thrash away!

Redacted

U29tZWJvZHkgb25jZSB0b2xkIG1lIHRoZSB3b3JsZCBpcyBnb25uYSByb2xsIG1l

Redacted

SSBhaW4ndCB0aGUgc2hhcnBlc3QgdG9vbCBpbiB0aGUgc2hlZA==

Redacted

U2hlIHdhcyBsb29raW5nIGtpbmQgb2YgZHVtYiB3aXRoIGhlciBmaW5nZXIgYW5kIGhlciB0aHVtYg==

Redacted

a2V5e2ZhMTRhNTE4ZjZiNjM0MzNhODhjYjU5NjgzM2JmNjhiZDY2Nzl3NjJ9

Redacted

SW4gdGhlIHNoYXBlIG9mIGFuICJMIiBvbiBoZXIgZm9yZWhlYWQ=

Redacted

V2VsbCwgdGhlIHllYXJzIHN0YXJ0IGNvbWluZyBhbmQgdGhleSBkb24ndCBzdG9wIGNvbWluZw==

Redacted

RmVkIHRvIHRoZSBydWxlcyBhbmQgSSBoaXQgdGhlIGdyb3VuZCBydW5uaW5n

Redacted

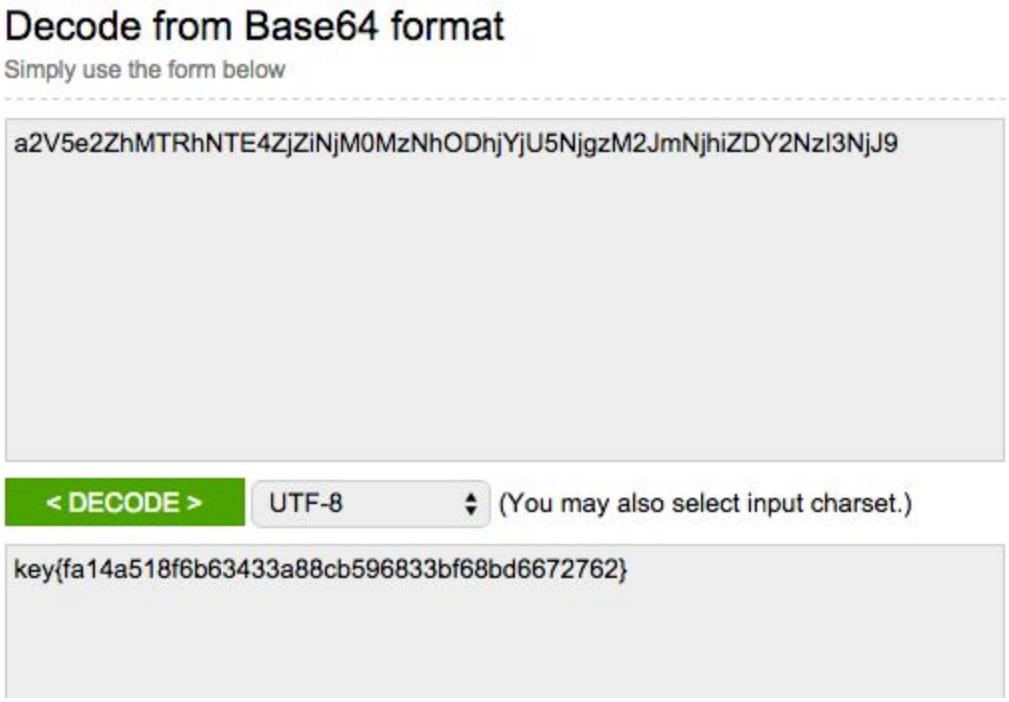
RGlkbid0IG1ha2Ugc2Vuc2Ugbm90IHRvIGxpdmUgZm9yIGZ1bg==

Redacted

WW91ciBicmFpbiBnZXRzIHNtYXJ0IGJ1dCB5b3VyIGhlYWQgZ2V0cyBkdW1i

Cybersecurity as Realpolitik

According to the hint, we guess that these string patterns matches base64 encoding. After using an online base64 decoder, one of the strings is the key.

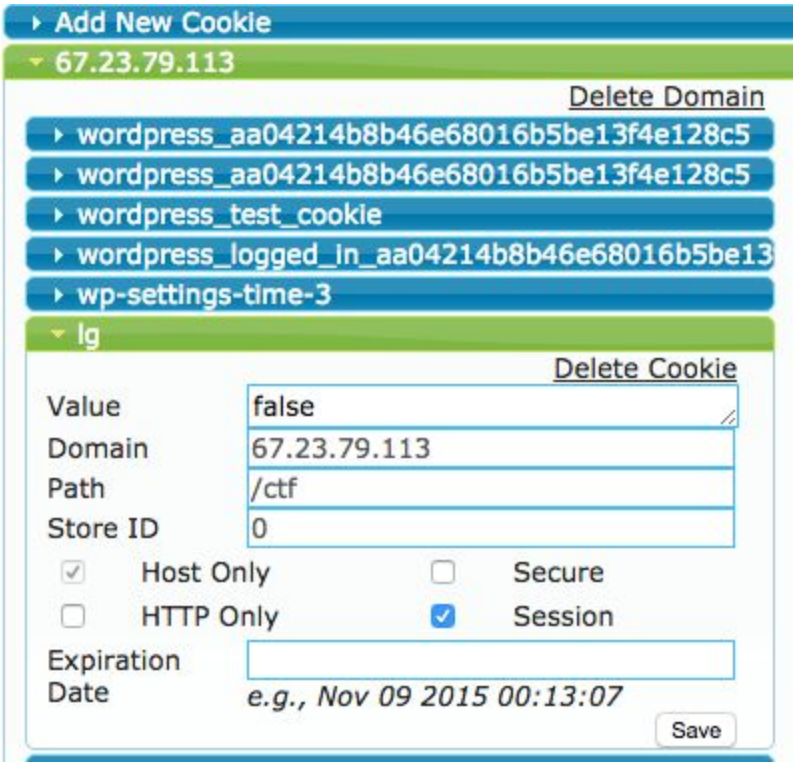


Challenge 6: Don't ask me if something looks wrong. Look again, pay careful attention

We notice that the website has an admin page that we can try to break into. We use the common sql injection script again.(' or '1'='1) Then we get a page with error code 404. According to the hint, we look into the source code of the page and find the key in the HTML comment.

Challenge 7: Don't ask me if something looks wrong. Look again, pay really careful attention.

Since there is a hint about logout, we relate that hint with cookie. Then we download a cookie manager for Chrome and notice there is a suspicious cookie named “lg”.



After setting this cookie to true, we get a key at main.php.

Challenge 8: Did you forget to logout?

According to the hint, we find the logout.php page. Then we look at the bottom of the page, there is a key. (Very tricky…)

Challenge 9: Buried in the dump, part 1: wide open

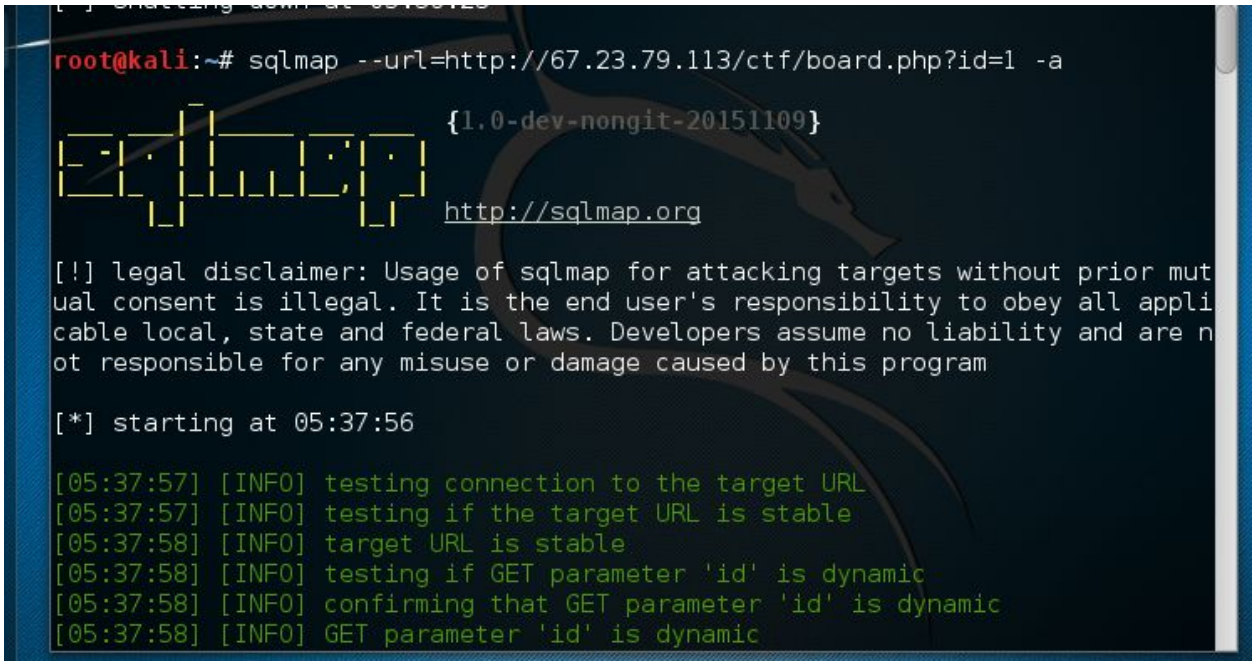
Upon navigating to the board.php page, it was very clear that an image was disappearing a split second after landing on the page. Thus, we used a No-Script plugin in our browser to stop any scripts from running. With this plugin turned on, we were able to discover the original image, which was the following:

We then proceeded to download this image, and open it up as a text file. We then searched through the text for ‘key’ and found the key.

Challenge 10: Buried in the dump, part 1A: metadata p0rn

Challenge 11: Buried in the dump, part 2: needle in the haystack

We notice that the board is sql injectable. So we try the “sqlmap” on Kali with the url as the board.php?id=1.



Then we manage to dump the mysql database all at once, including the access to all keys.

```
 16 | key{2091a21db0bc41e5cbfe5dfecffd3e12198b05ef}   | 0      |
 17 | key{e66e28552e7e71c3ca5fa04540213bb7c0744f03}   | 0      |
 18 | key{0a10e415da14795965b23364b6f9013dd5c9e80e}   | 0      |
 19 | key{5ced54168466390013355d08b2942170d0b3a0f9}   | 100    |
 20 | key{3ade9451b891078b05616e2a3a9754ce33ff3a6e}   | 100    |
 21 | key{cabd534c35ee6a39365f4ed3bce4eafdcc3d4b8d}   | 200    |
 22 | key{03140721060102070219071801051803181407 1817} | 100    |
 23 | key{fa14a518f6b63433a88cb596833bf68bd6672762}   | 200    |
 24 | key{83da018c3a5af6d0f2806049c4082387f1de3955}   | 200    |
 25 | key{2797449c56a55474cf682003e60cde0cbb05335a}   | 300    |
 26 | key{1299dc608a808e8c4d0c3394e39b0d93ff5d6acb}   | 100    |
 27 | key{550d052dc9b07189f83c354c7bfd8d86f5fbdae5}   | 100    |
 28 | key{d1e2abc18a8b508f620471e42c72adf3818c6480}   | 100    |
 29 | key{57d5fd2743a01ff55092d08f79355b186a46d62a}   | 400    |
 30 | key{bc358d87493ed2272574a4dedc5295d386dcf451}   | 200    |
-----+-------------------------------------------------+--------+
```

Challenge 12: About my friend bobo...

In the mysql database, we searched for “bobo” and manage to get its password hash.

Then we use the Hashcat on windows to dictionary attack the hash. Turns out the password is “supermodel”. Since the website is powered by Wordpress, we find the wp-admin.php and login with the username and password above. After wandering for a while, we find the key in the account.

Edit Post Add New

Congratulations!

```
<p>Ming in the houze</p>
<p><!--more-->key{bc358d87493ed2272574a4dedc5295d386dcf451}</p>
```

Word count: 0 Last edited by Bo bobobo Bo on November 6, 2015 at 7:06 am