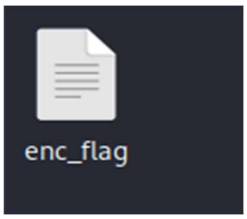
Cybersecurity Pico CTF challenges

1. Interencdec

first we download this file



Then open this file using cat command in linux

```
┌──(kalione㉿kali)-[~/Desktop/Pico_ctf]
└─$ cat enc_flag
YidkM0JxZGtwQlRYdHFhR3g2YUhsZmF6TnFlVGwzWVROclgyeG9OakJzTURCcGZRPT0nCg==
```

then as we can see the output we get is in base64 so fro decoding it we can use hashcat,john the ripper or web based secrypters but I'll use my own custom script .

```python
import base64

encoding_type = input("Enter the encoding type (base64/hex): ").strip().lower()
encoded_string = input("Enter the encoded string: ").strip()

if encoding_type == "base64":
    decoded_string = base64.b64decode(encoded_string.encode("ascii")).decode("ascii")
    print(decoded_string)
elif encoding_type == "hex":
    decoded_string = bytes.fromhex(encoded_string).decode("ascii")
    print(decoded_string)
else:
    print("Invalid encoding type")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS FORTIDEVSEC RESULTS

```
Microsoft Windows [Version 10.0.26100.4061]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LENOVO>python -u "c:\Users\LENOVO\OneDrive\Desktop\Club reports\Cryptography_assignment_1\base64&hex_decrypter.py"
Enter the encoding type (base64/hex): base64
Enter the encoded string: YidkM0JxZGtwQlRYdHFhR3g2YUhsZmF6TnFlVGwzWVROclgyeG9OakJzTURCcGZRPT0nCg==
b'd3BqdkpBTXtqaGx6aHlfazNqeTl3YTNrX2xoNjBsMDBpfQ==='


C:\Users\LENOVO>
```

as you can see we get another base64 string
'd3BqdkpBTXtqaGx6aHlfazNqeTl3YTNrX2xoNjBsMDBpfQ=='

now we'll again use the same script and decrypt it again
the new output: wpjvJAM{jhlzhy_k3jy9wa3k_lh60l00i}

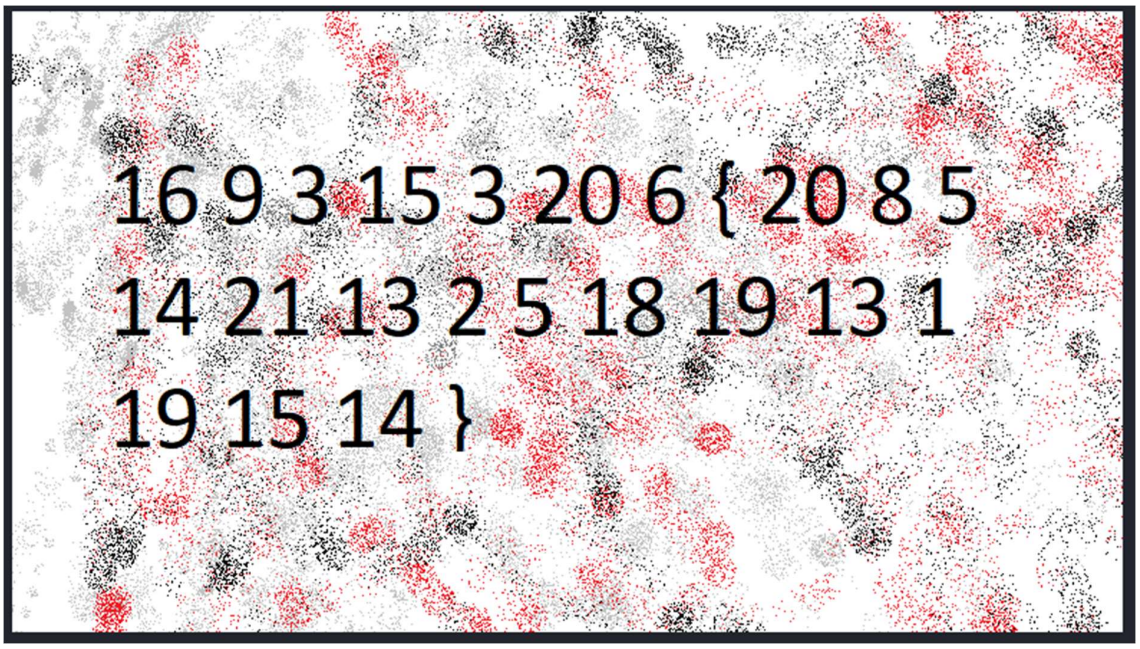
The new output looks like in the same format as a flag but it's still is encrypt now we'll use ceaser cipher web tool to decrypt it again

Our final answer is :

picoCTF{caesar_d3cr9pt3d_ea60e00b}

2. The Numbers

We get this image at first:



it contains a series of numbers :
16 9 3 15 3 20 6 { 20 8 5 14 21 13 2 5 18 19 13 1 19 15 14 }

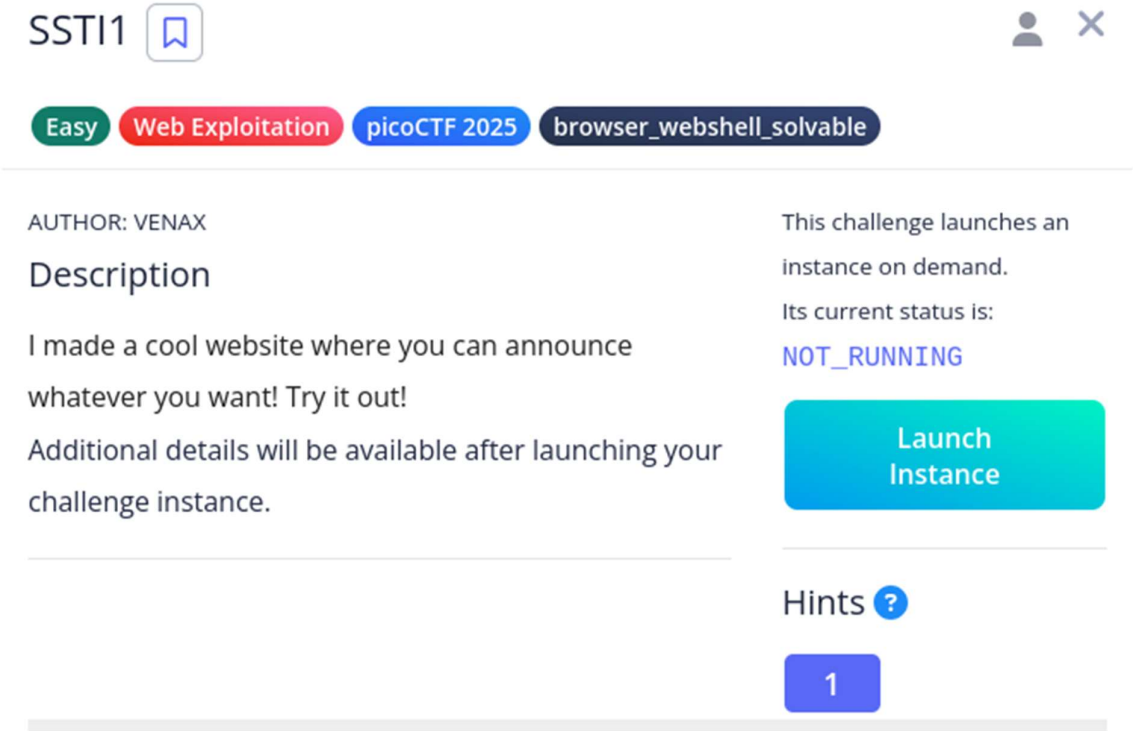
this looks like a simple numbers to letters decryption so we are gonna calculate it's value but first we need to give numbers to each English alphabet like
A = 1
B = 2
C = 3
.....upto Z = 26

then after converting the given series of number in the calculated series are :

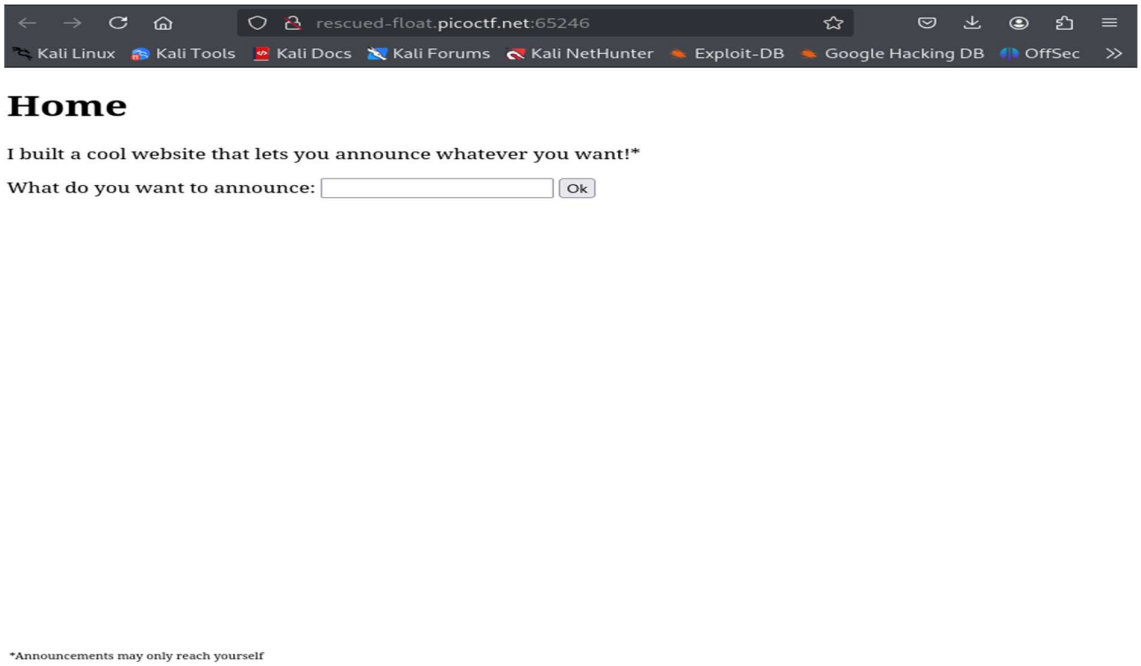
picoCTF{THENUMBERSMASON}

3. SSTI 1

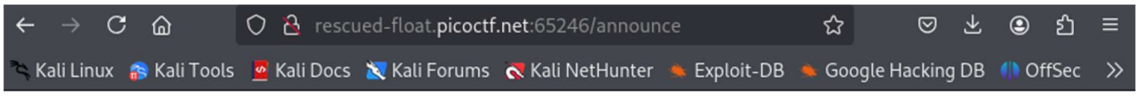
for this CTF we are gonna have to launch an instance



So after launching the instance , we can see a website to announce what you type in it so now we can try putting in different things

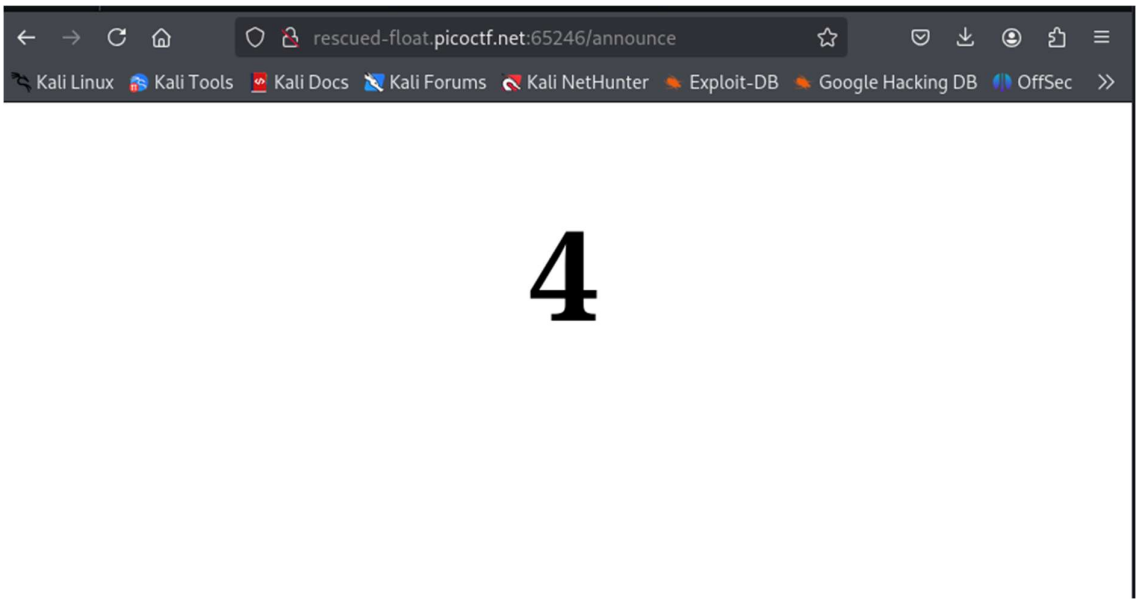


when we put ‘Hey’ , it replies Hey



Hey

So now we can try putting in different values
such a : {{2*2}}
the output we get is

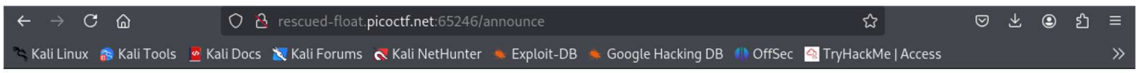


So now we know it does the mathematical or logical part too , the server seems to be working on jinja2

we will try putting in some scripts

{{request.application.__globals__.__builtins__.__import__('os').popen('ls -R').read()}}

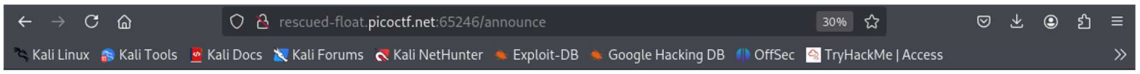
Output is



.: __pycache__ app.py flag requirements.txt ./ __pycache__: app.cpython-38.pyc

Now we will try to read the only file available in it called requirements.txt

The command for that will be :
{{request.application.__globals__.__builtins__.__import__('os').popen('cat flag').read()}}

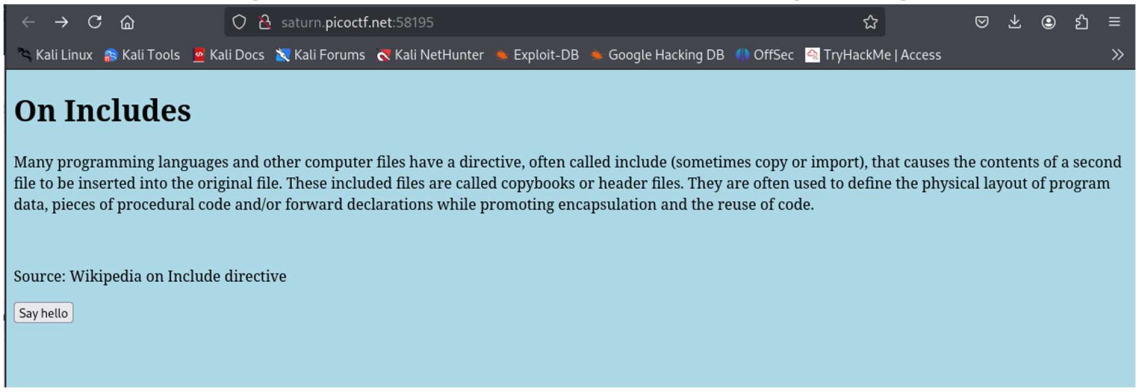


picoCTF{s4rv3r_s1d3_t3mp14t3_1nj3ct10n5_4r3_c001_424a1494}

Here's the output and the flag is in it.

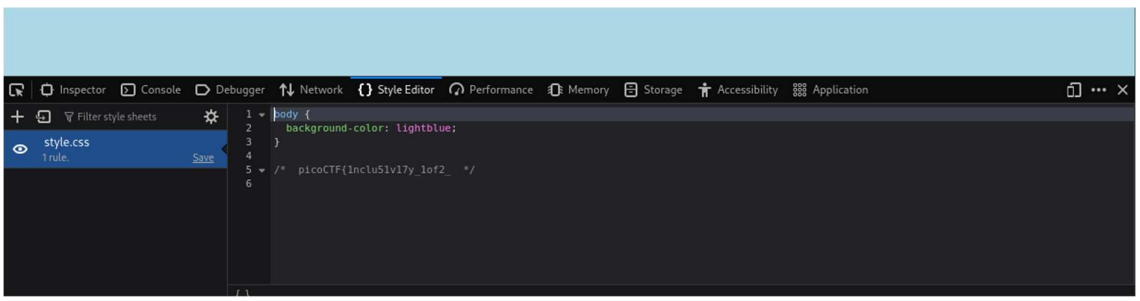
4. Includes

After launching the instance this is the first page we get



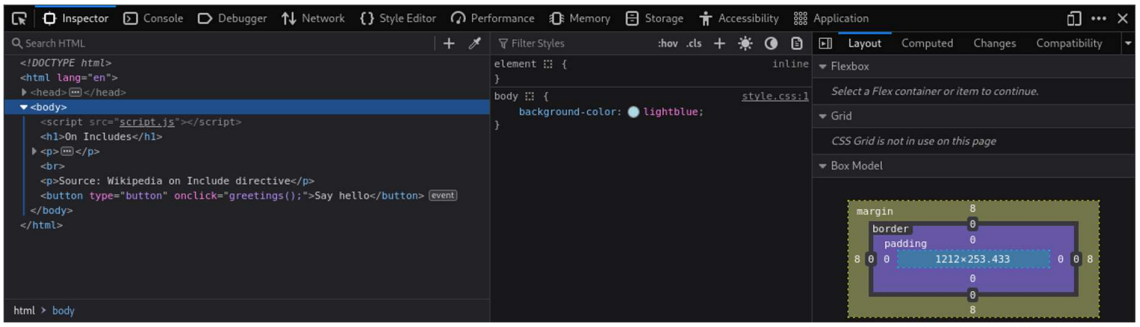
but even after clicking the hello button it doesn't do anything so now we have to inspect the page and search for the files

first in the Style editor section we can see a part of the flag

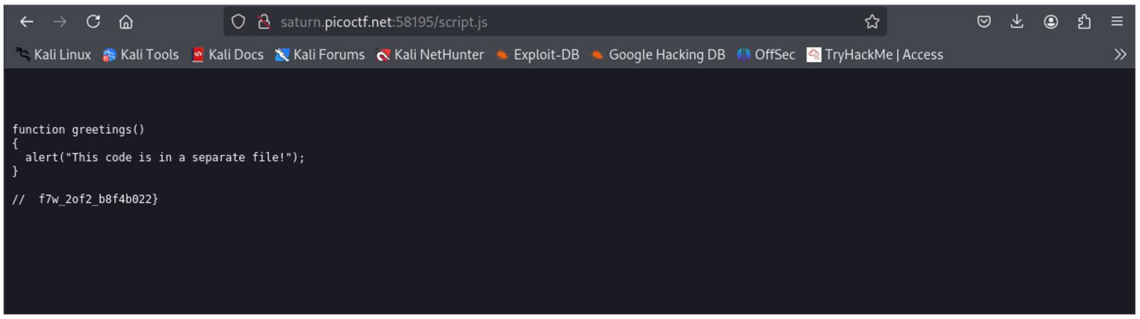


we should note it down for now because it's still half of the flag: picoCTF{1nclu51v17y_1of2_

Now for the second part we should check the html code too



As we can see there's a script.js file there might be something so we'll now search for it in the binge bar like :
http://saturn.picoctf.net:58195/script.js



As we can see the second half of the flag is here
so the full flag is :

picoCTF{1nclu51v17y_1of2_ f7w_2of2_b8f4b022}