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file-run2

Medium

Reverse Engineering

picoCTF 2022

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Description

Another program, but this time, it seems to want some input. What happens if you try to run it on the command line with input "Hello!"?

Download the program [here](#).

Hints ?

1

Try running it and add the phrase "Hello!" with a space in front (i.e. `./run Hello!`)

## Solution

I downloaded the program using **wget** a *command-line tool* that allows me to download files from the internet directly to my active directory.

```
(kali@kali)-[~/Desktop]
└─$ wget https://artifacts.picoctf.net/c/155/run
--2025-02-15 14:40:43-- https://artifacts.picoctf.net/c/155/run
Resolving artifacts.picoctf.net (artifacts.picoctf.net)... 52.84.102.85, 2600:9000:2054:cc00:16:5ec5:2840:93a1
Connecting to artifacts.picoctf.net (artifacts.picoctf.net)|52.84.102.85|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 16816 (16K) [application/octet-stream]
Saving to: 'run'

run
100%[=====] 16.42K --.-KB/s in 0.001s

2025-02-15 14:40:44 (23.2 MB/s) - 'run' saved [16816/16816]

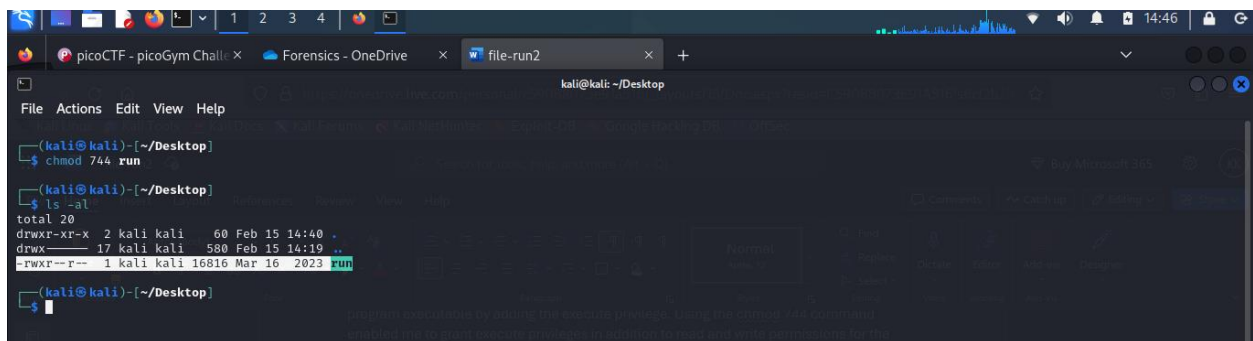
(kali@kali)-[~/Desktop]
└─$ ls
run

(kali@kali)-[~/Desktop]
└─$ file run
run: ELF 64-bit LSB pie executable, x86-64, version 1 (SYSV), dynamically linked, interpreter /lib64/ld-linux-x86-64.so.2, BuildID[sha1]=81c058f985672af182bed8c02aeb32221256d8bb, for GNU/Linux 3.2.0, not stripped

(kali@kali)-[~/Desktop]
└─$
```

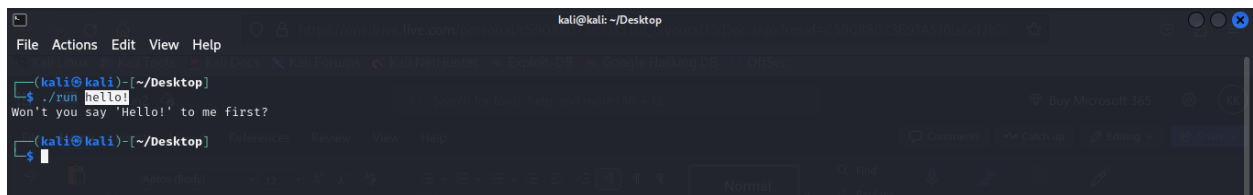
The hint required me to run the program with the parameter 'Hello!'. I had to make the program executable by adding the execute privilege. Using the **chmod 744** command enabled me to grant execute privileges in addition to read and write permissions for the owner, and read-only

permissions for the group and others. This allowed me to execute the program since I was the owner.



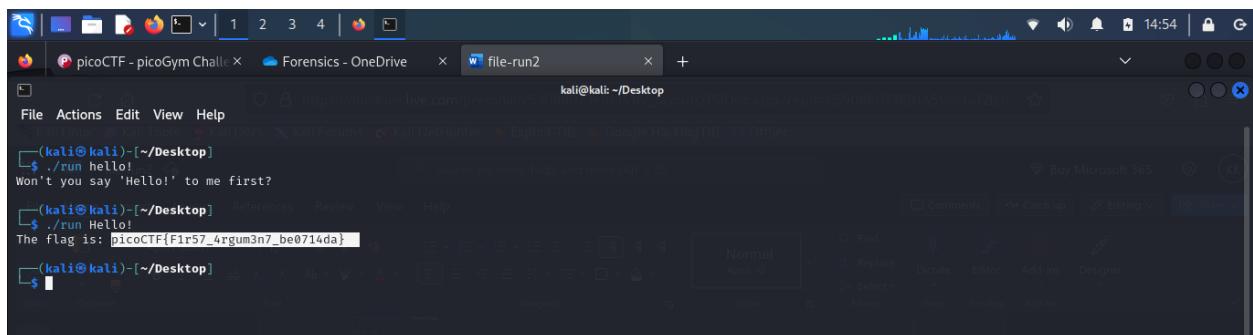
```
kali@kali: ~/Desktop
File Actions Edit View Help
(kali@kali)-[~/Desktop]
$ chmod 744 run
(kali@kali)-[~/Desktop]
$ ls -al
total 20
drwxr-xr-x  2 kali kali   60 Feb 15 14:40 .
drwx----- 17 kali kali  580 Feb 15 14:19 ..
-rwxr--r--  1 kali kali 16816 Mar 16 2023 run
(kali@kali)-[~/Desktop]
$
```

Now the program was executable and I ran it passing 'hello!' as a parameter/input.



```
kali@kali: ~/Desktop
File Actions Edit View Help
(kali@kali)-[~/Desktop]
$ ./run hello!
Won't you say 'Hello!' to me first?
(kali@kali)-[~/Desktop]
$
```

I received a message "won't you say Hello! To me first?". After observing keenly, The Input required was Hello! Not hello! . The first letter had to be a capital letter. I run the program again and that's how I captured the flag.



```
kali@kali: ~/Desktop
File Actions Edit View Help
(kali@kali)-[~/Desktop]
$ ./run hello!
Won't you say 'Hello!' to me first?
(kali@kali)-[~/Desktop]
$ ./run Hello!
The flag is: picoCTF{F1r57_4rgum3n7_be0714da}
(kali@kali)-[~/Desktop]
$
```