hashcat详细使用教程

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hashcat简介

hashcat是一款自称为世界上最快的密码破解工具。

hashcat常用命令

-m	指定哈希类型
-a	指定破解模式
-V	查看版本信息
-o	将输出结果储存到指定文件
--force	忽略警告
--show	仅显示破解的hash密码和对应的明文
--remove	从源文件中删除破解成功的hash
--username	忽略hash表中的用户名
-b	测试计算机破解速度和相关硬件信息
-O	限制密码长度
-T	设置线程数
-r	使用规则文件
-1	自定义字符集 -1 0123asd ?1={0123asd}
-2	自定义字符集 -2 0123asd ?2={0123asd}
-3	自定义字符集 -3 0123asd ?3={0123asd}
-i	启用增量破解模式
--increment-min	设置密码最小长度
--increment-max	设置密码最大长度

hashcat破解模式介绍

0	straight	字典破解
1	combination	将字典中密码进行组合（1 2>11 22 12 21）
3	brute-force	使用指定掩码破解
6	Hybrid Wordlist + Mask	字典+掩码破解
7	Hybrid Mask + Wordlist	掩码+字典破解

hashcat集成的字符集

?l	代表小写字母
?u	代表大写字母
?d	代表数字
?s	代表特殊字符

?a 代表大小写字母、数字以及特殊字符

?b 0x00-0xff

hash id 对照表

900	MD4	Raw Hash
0	MD5	Raw Hash
5100	Half MD5	Raw Hash
100	SHA1	Raw Hash
1300	SHA2-224	Raw Hash
1400	SHA2-256	Raw Hash
10800	SHA2-384	Raw Hash
1700	SHA2-512	Raw Hash
17300	SHA3-224	Raw Hash
17400	SHA3-256	Raw Hash
17500	SHA3-384	Raw Hash
17600	SHA3-512	Raw Hash
17700	Keccak-224	Raw Hash
17800	Keccak-256	Raw Hash
17900	Keccak-384	Raw Hash
18000	Keccak-512	Raw Hash
600	BLAKE2b-512	Raw Hash
10100	SipHash	Raw Hash
6000	RIPEMD-160	Raw Hash
6100	Whirlpool	Raw Hash
6900	GOST R 34.11-94	Raw Hash
11700	GOST R 34.11-2012 (Streebog) 256-bit, big-endian	Raw Hash
11800	GOST R 34.11-2012 (Streebog) 512-bit, big-endian	Raw Hash
10	md5($pass.$salt)	Raw Hash, Salted and/or Iterated
20	md5($salt.$pass)	Raw Hash, Salted and/or Iterated
30	md5(utf16le($pass).$salt)	Raw Hash, Salted and/or Iterated
40	md5($salt.utf16le($pass))	Raw Hash, Salted and/or Iterated
3800	md5($salt.$pass.$salt)	Raw Hash, Salted and/or Iterated
3710	md5($salt.md5($pass))	Raw Hash, Salted and/or Iterated
4010	md5($salt.md5($salt.$pass))	Raw Hash, Salted and/or Iterated
4110	md5($salt.md5($pass.$salt))	Raw Hash, Salted and/or Iterated
2600	md5(md5($pass))	Raw Hash, Salted and/or Iterated
3910	md5(md5($pass).md5($salt))	Raw Hash, Salted and/or Iterated
4300	md5(strtoupper(md5($pass)))	Raw Hash, Salted and/or Iterated
4400	md5(sha1($pass))	Raw Hash, Salted and/or Iterated
110	sha1($pass.$salt)	Raw Hash, Salted and/or Iterated

实例演示-暴力破解MD5值

1.使用字典进行破解

hashcat -a 0 0192023a7bbd73250516f069df18b500 password.txt --force

```
root@kali:~# hashcat  0192023a7bbd73250516f069df18b500  -a 0  password.txt --force
hashcat (v5.1.0) starting...

OpenCL Platform #1: The pocl project
====================================
* Device #1: pthread-Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz, 1024/2954 MB allocatable, 6MCU

Hashes: 1 digests; 1 unique digests, 1 unique salts
Bitmaps: 16 bits, 65536 entries, 0x0000ffff mask, 262144 bytes, 5/13 rotates
Rules: 1

Applicable optimizers:
* Zero-Byte
* Early-Skip
* Not-Salted
* Not-Iterated
* Single-Hash
* Single-Salt
* Raw-Hash

Minimum password length supported by kernel: 0
Maximum password length supported by kernel: 256

ATTENTION! Pure (unoptimized) OpenCL kernels selected.
This enables cracking passwords and salts > length 32 but for the price of drastically reduced performance.
If you want to switch to optimized OpenCL kernels, append -O to your commandline.

Watchdog: Hardware monitoring interface not found on your system.
Watchdog: Temperature abort trigger disabled.

* Device #1: build_opts '-cl-std=CL1.2 -I OpenCL -I /usr/share/hashcat/OpenCL -D LOCAL_MEM_TYPE=2 -D VENDOR_ID=64 -D CUDA_ARCH=0 -D AMD_ROCM=0 -D VECT_SIZE=8 -D DEVICE_TYPE=2 -D DGST_R0=0 -D DGST_R1=3 -D DGST_R2=2 -D DGST_R3=1 -D DGST_ELEM=4 -D KERN_TYPE=0 -D _unroll'
Dictionary cache hit:
* Filename..: password.txt
* Passwords.: 32
* Bytes.....: 137
* Keyspace..: 32

The wordlist or mask that you are using is too small.
This means that hashcat cannot use the full parallel power of your device(s).
Unless you supply more work, your cracking speed will drop.
For tips on supplying more work, see: https://hashcat.net/faq/morework

Approaching final keyspace - workload adjusted.

0192023a7bbd73250516f069df18b500:admin123

Session..........: hashcat
Status...........: Cracked
Hash.Type........: MD5
Hash.Target......: 0192023a7bbd73250516f069df18b500
Time.Started.....: Wed May 13 22:15:53 2020 (1 sec)
Time.Estimated...: Wed May 13 22:15:54 2020 (0 secs)
Guess.Base.......: File (password.txt)
Guess.Queue......: 1/1 (100.00%)
Speed.#1.........:      259 H/s (0.01ms) @ Accel:1024 Loops:1 Thr:1 Vec:8
Recovered........: 1/1 (100.00%) Digests, 1/1 (100.00%) Salts
Progress.........: 32/32 (100.00%)
Rejected.........: 0/32 (0.00%)
Restore.Point....: 0/32 (0.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-1 Iteration:0-1
Candidates.#1....: → 123
```

2.使用指定字符集进行破解

hashcat -a 3 63a9f0ea7bb98050796b649e85481845 ?l?l?l?l --force

```
root@kali:~# hashcat  63a9f0ea7bb98050796b649e85481845  -a 3 ?l?l?l?l --force
hashcat (v5.1.0) starting...

OpenCL Platform #1: The pocl project
====================================
* Device #1: pthread-Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz, 1024/2954 MB allocatable, 6MCU

Hashes: 1 digests; 1 unique digests, 1 unique salts
Bitmaps: 16 bits, 65536 entries, 0x0000ffff mask, 262144 bytes, 5/13 rotates

Applicable optimizers:
* Zero-Byte
* Early-Skip
* Not-Salted
* Not-Iterated
* Single-Hash
* Single-Salt
* Brute-Force
* Raw-Hash

Minimum password length supported by kernel: 0
Maximum password length supported by kernel: 256

ATTENTION! Pure (unoptimized) OpenCL kernels selected.
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If you want to switch to optimized OpenCL kernels, append -O to your commandline.

Watchdog: Hardware monitoring interface not found on your system.
Watchdog: Temperature abort trigger disabled.

* Device #1: build_opts '-cl-std=CL1.2 -I OpenCL -I /usr/share/hashcat/OpenCL -D LOCAL_MEM_TYPE=2 -D VENDOR_ID=64 -D CUDA_ARCH=0 -D AMD_ROCM=0 -D VECT_SIZ
E=8 -D DEVICE_TYPE=2 -D DGST_R0=0 -D DGST_R1=3 -D DGST_R2=2 -D DGST_R3=1 -D DGST_ELEM=4 -D KERN_TYPE=0 -D _unroll'
* Device #1: Kernel m00000_a3-pure.34167de1.kernel not found in cache! Building may take a while...
* Device #1: Kernel markov_le.f6324eeb.kernel not found in cache! Building may take a while...
63a9f0ea7bb98050796b649e85481845:root

Session..........: hashcat
Status...........: Cracked
Hash.Type........: MD5
Hash.Target......: 63a9f0ea7bb98050796b649e85481845
Time.Started.....: Wed May 13 22:33:12 2020 (0 secs)
Time.Estimated...: Wed May 13 22:33:12 2020 (0 secs)
Guess.Mask.......: ?l?l?l?l [4]
Guess.Queue......: 1/1 (100.00%)
Speed.#1.........:   428.8 kH/s (2.02ms) @ Accel:1024 Loops:26 Thr:1 Vec:8
Recovered........: 1/1 (100.00%) Digests, 1/1 (100.00%) Salts
Progress.........: 159744/456976 (34.96%)
Rejected.........: 0/159744 (0.00%)
Restore.Point....: 0/17576 (0.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-26 Iteration:0-26
Candidates.#1....: sari -> xhir

Started: Wed May 13 22:32:33 2020
Stopped: Wed May 13 22:33:13 2020
root@kali:~#
```

你的浏览器目前处于缩放状态，页面可能会出现错位现象，建议100%大小显示。

3.使用字典+掩码进行破解

hashcat -a 6 1844156d4166d94387f1a4ad031ca5fa password.txt ?d?d?d --force

```
root@kali:~# hashcat  1844156d4166d94387f1a4ad031ca5fa  -a 6  password.txt ?d?d --force
hashcat (v5.1.0) starting...

OpenCL Platform #1: The pocl project
====================================
* Device #1: pthread-Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz, 1024/2954 MB allocatable, 6MCU

Hashes: 1 digests; 1 unique digests, 1 unique salts
Bitmaps: 16 bits, 65536 entries, 0x0000ffff mask, 262144 bytes, 5/13 rotates

Applicable optimizers:
* Zero-Byte
* Early-Skip
* Not-Salted
* Not-Iterated
* Single-Hash
* Single-Salt
* Raw-Hash

Minimum password length supported by kernel: 0
Maximum password length supported by kernel: 256

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Watchdog: Hardware monitoring interface not found on your system.
Watchdog: Temperature abort trigger disabled.

* Device #1: build_opts '-cl-std=CL1.2 -I OpenCL -I /usr/share/hashcat/OpenCL -D LOCAL_MEM_TYPE=2 -D VENDOR_ID=64 -D CUDA_ARCH=0 -D AMD_ROCM=0 -D VECT_SIZ
E=8 -D DEVICE_TYPE=2 -D DGST_R0=0 -D DGST_R1=3 -D DGST_R2=2 -D DGST_R3=1 -D DGST_ELEM=4 -D KERN_TYPE=0 -D _unroll'
Dictionary cache built:
* Filename..: password.txt
* Passwords.: 32
* Bytes.....: 137
* Keyspace..: 3200
* Runtime...: 0 secs

The wordlist or mask that you are using is too small.
This means that hashcat cannot use the full parallel power of your device(s).
Unless you supply more work, your cracking speed will drop.
For tips on supplying more work, see: https://hashcat.net/faq/morework

Approaching final keyspace - workload adjusted.

1844156d4166d94387f1a4ad031ca5fa:admin12

Session..........: hashcat
Status...........: Cracked
Hash.Type........: MD5
Hash.Target......: 1844156d4166d94387f1a4ad031ca5fa
Time.Started.....: Wed May 13 22:44:39 2020 (0 secs)
Time.Estimated...: Wed May 13 22:44:39 2020 (0 secs)
Guess.Base.......: File (password.txt), Left Side
Guess.Mod........: Mask (?d?d) [2], Right Side
Guess.Queue.Base.: 1/1 (100.00%)
Guess.Queue.Mod..: 1/1 (100.00%)
Speed.#1.........:     9565 H/s (0.18ms) @ Accel:256 Loops:100 Thr:1 Vec:8
Recovered........: 1/1 (100.00%) Digests, 1/1 (100.00%) Salts
Progress.........: 3200/3200 (100.00%)
Rejected.........: 0/3200 (0.00%)
Restore.Point....: 0/32 (0.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-100 Iteration:0-100
```
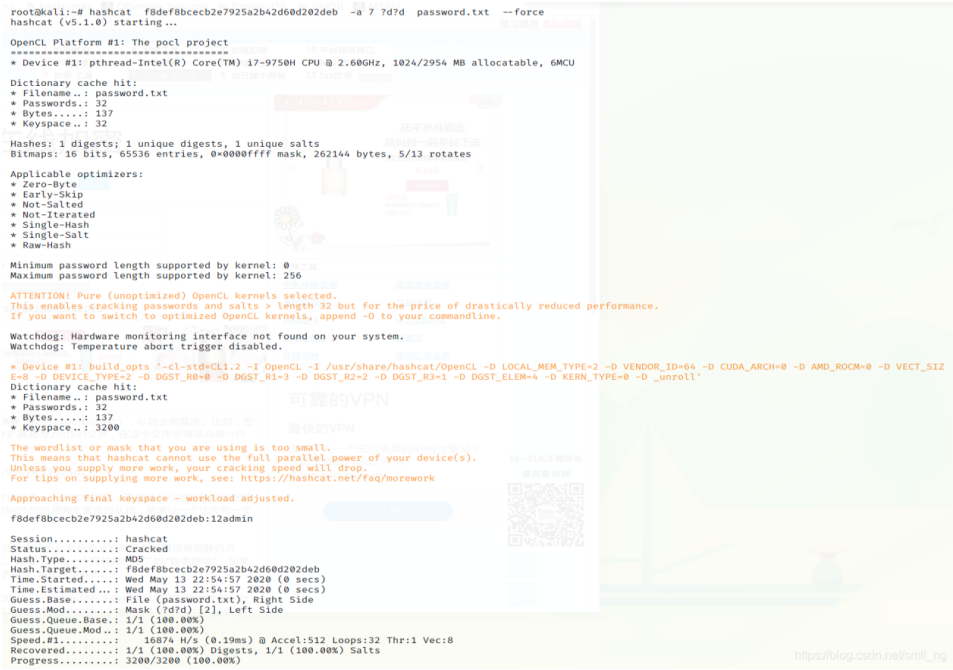

4.使用掩码+字典进行破解

hashcat -a 7 f8def8bcecb2e7925a2b42d60d202deb ?d?d password.txt --force



如果破解时间太长，我们可以按s键查看破解进度，p键暂停，r键继续破解，q键退出破解。

到此就完成了hashcat的介绍，如果想了解更多的Kali工具，请关注我！

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