

OFFENSIVE SECURITY

Penetration Test Report for 10.0.0.82

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1.0 Comprehensive Network Discovery and Vulnerability Assessment Report for IP Address 10.0.0.82

1.1 Team Members

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1.1.1 Introduction

This Red Team Penetration Test Report outlines the comprehensive assessment undertaken as part of the project assigned by Simcorp to our team, "Binary Bandits 01." The assessment evaluates the security posture of Simcorp's network and systems through a series of controlled offensive security exercises on the specific IP address 10.0.0.82. The report emphasizes the accuracy, thoroughness, and technical proficiency required for successful penetration testing in alignment with Simcorp's security objectives. The primary goal is to demonstrate a deep understanding of penetration testing methodologies and technical expertise, supporting Simcorp's commitment to robust cybersecurity practices.

1.1.2 Objective

The primary objective of this assessment is to execute a rigorous internal penetration test on the specified target, IP address 10.0.0.82, as directed by our Red Team, Binary Bandits 01. Our team is responsible for adhering to a systematic methodology to gain access to this specific target, mirroring the processes involved in a real-world penetration test. This simulation aims to replicate the complexities of an actual penetration test on the target IP address, encompassing every stage from initiation to the comprehensive reporting phase. An example report template is available further in this document, serving as a valuable reference to assist our team in fulfilling the assessment requirements and achieving the desired outcomes for Simcorp's security evaluation.

1.1.3 Recommendations

Our assessment on IP address 10.0.0.82 highlights the critical importance of promptly addressing the identified vulnerabilities specific to this target. We strongly advise Simcorp to initiate a comprehensive patching process for this IP address to mitigate these vulnerabilities effectively. It is essential to recognize that this system necessitates regular and consistent patching. Ensuring that it remains on a recurring patch schedule is vital to safeguard against potential future vulnerabilities that may arise on IP address

10.0.0.82. By adhering to a proactive patch management approach for this specific target, Simcorp can significantly enhance its overall security posture.

1.1.4 Methodologies

Our approach to this assessment follows established and widely accepted penetration testing methodologies, which are proven to effectively evaluate the security posture of Simcorp's environment. The following section provides a comprehensive breakdown of the methodologies employed to assess the specific target, IP address 10.0.0.82, outlining the steps taken to identify and exploit various systems and documenting the specific vulnerabilities discovered during our assessment of this target.

2.0 Target Network

Binary Bandits 01 has conducted a comprehensive network scan of the target network, which encompasses the IP range 10.0.0.0/24. While our primary focus is on IP address 10.0.0.82, we have also included an overview of key findings and vulnerabilities within this broader network for context. The following table presents the results of our scan, highlighting notable findings and vulnerabilities across the network.

2.1 Scanned IP Address

| IP Addresses Discovered | Protocols Discovered | | |
|-------------------------|----------------------|----------|--------------------|
| 10.0.0.82 | 21/tcp | open | ftp |
| | 80/tcp | open | http |
| | 135/tcp | filtered | msrpc |
| | 139/tcp | filtered | netbios-ssn |
| | 445/tcp | filtered | microsoft-ds |
| | 3389/tcp | open | ssl/ms-wbt-server? |
| | 49152/tcp | open | msrpc |
| | 49153/tcp | open | msrpc |
| | 49154/tcp | open | msrpc |
| | 49155/tcp | open | msrpc |
| | 49165/tcp | open | msrpc |

3.0 Penetration

The penetration testing phase of our assessment is centered on gaining unauthorized access to the system at IP address 10.0.0.82. Throughout this penetration test, we successfully obtained access to this specific system within the IP range 10.0.0.0/24.

3.1 Service Enumeration

As part of our comprehensive penetration testing, we conducted service enumeration on the specified IP address 10.0.0.82. This critical phase involves collecting crucial information regarding the active services running on the target system. Such insights are invaluable to potential attackers, offering detailed knowledge about possible avenues for exploiting the system's vulnerabilities. Understanding the applications in operation is essential groundwork before proceeding with the actual penetration testing. It's worth noting that in certain cases, certain ports may not be listed as part of this enumeration process.

3.1 Vulnerability Assessment Report for IP Address 10.0.0.82

Vulnerability Scan

```
(kali㉿kali)-[~]
└─$ sudo nmap -sV --script vuln 10.0.0.82
Starting Nmap 7.93 ( https://nmap.org ) at 2023-09-12 19:58 EDT
Nmap scan report for 10.0.0.82
Host is up (0.094s latency).
Not shown: 989 closed tcp ports (reset)
PORT      STATE SERVICE      VERSION
21/tcp    open  ftp          Microsoft ftpd
80/tcp    open  http         Microsoft IIS httpd 7.5
|_http-server-header: Microsoft-IIS/7.5
|_http-csrf: Couldn't find any CSRF vulnerabilities.
|_http-stored-xss: Couldn't find any stored XSS vulnerabilities.
|_http-dombased-xss: Couldn't find any DOM based XSS.
135/tcp   filtered msrpc
139/tcp   filtered netbios-ssn
445/tcp   filtered microsoft-ds
3389/tcp  open  ms-wbt-server?
49152/tcp open  msrpc        Microsoft Windows RPC
49153/tcp open  msrpc        Microsoft Windows RPC
49154/tcp open  msrpc        Microsoft Windows RPC
49155/tcp open  msrpc        Microsoft Windows RPC
49165/tcp open  msrpc        Microsoft Windows RPC
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 364.48 seconds
```

Enumeration Command:

`nmap --script "rdp-enum-encryption or rdp-vuln-ms12-020 or rdp-ntlm-info" -p 3389 10.0.0.82`

```
(kali@kali)-[~]
$ nmap --script "rdp-enum-encryption or rdp-vuln-ms12-020 or rdp-ntlm-info" -p 3389 10.0.0.82
Starting Nmap 7.94 ( https://nmap.org ) at 2023-09-12 13:09 EDT
Nmap scan report for 10.0.0.82
Host is up (0.054s latency).

PORT      STATE SERVICE
3389/tcp  open  ms-wbt-server
| rdp-ntlm-info:
|   Target_Name: VAGRANT-2008R2
|   NetBIOS_Domain_Name: VAGRANT-2008R2
|   NetBIOS_Computer_Name: VAGRANT-2008R2
|   DNS_Domain_Name: vagrant-2008R2
|   DNS_Computer_Name: vagrant-2008R2
|   Product_Version: 6.1.7601
|_  System_Time: 2023-09-12T17:08:57+00:00
| rdp-enum-encryption:
|   Security layer
|   | CredSSP (NLA): SUCCESS
|   | CredSSP with Early User Auth: SUCCESS
|   | Native RDP: SUCCESS
|   | RDSTLS: SUCCESS
|   | SSL: SUCCESS
|   RDP Encryption level: Client Compatible
|   | 40-bit RC4: SUCCESS
|   | 56-bit RC4: SUCCESS
|   | 128-bit RC4: SUCCESS
|   | FIPS 140-1: SUCCESS
|_  RDP Protocol Version: RDP 5.x, 6.x, 7.x, or 8.x server

Nmap done: 1 IP address (1 host up) scanned in 60.66 seconds
```

- Username: Has Been Identified
- Password: Has Been Identified

Remote Desktop

```
(kali@kali)-[~]
$ rdesktop 10.0.0.82
Autoselecting keyboard map 'en-us' from locale

ATTENTION! The server uses and invalid security certificate which can not be trusted for
the following identified reasons(s);

1. Certificate issuer is not trusted by this system.

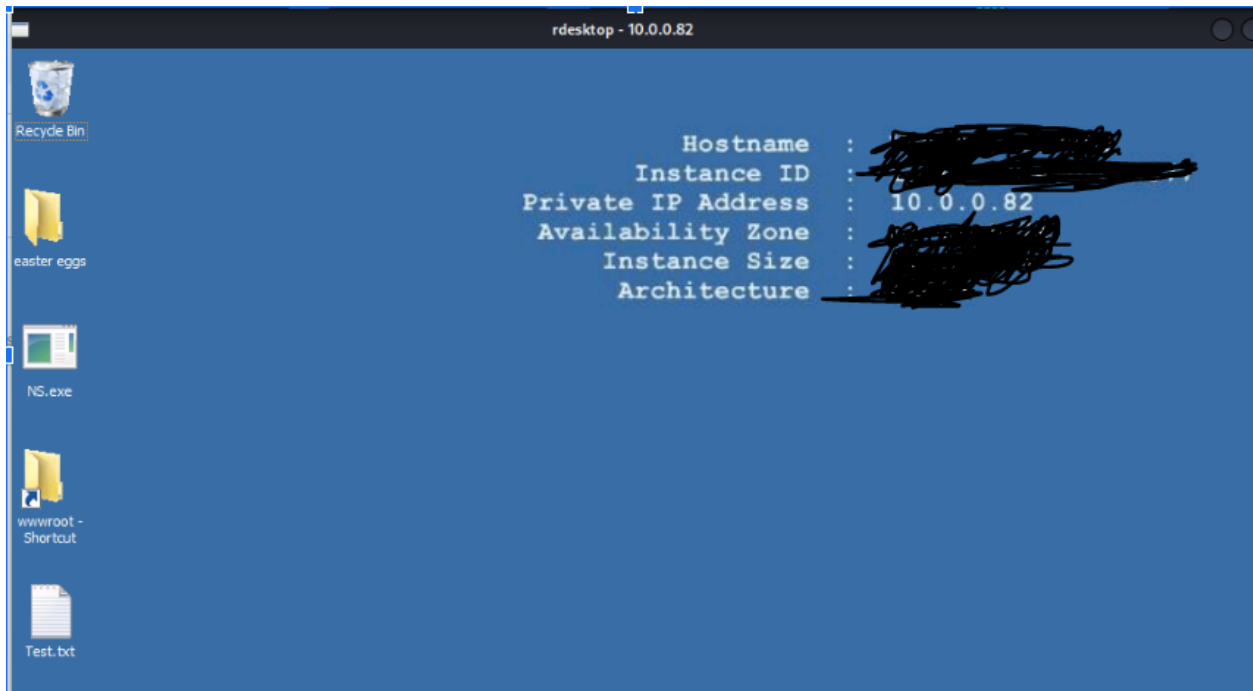
Issuer: CN=vagrant-2008R2

Review the following certificate info before you trust it to be added as an exception.
If you do not trust the certificate the connection attempt will be aborted:

Subject: [REDACTED]
Issuer: [REDACTED]
Valid From: Wed Sep 6 16:13:11 2023
To: Thu Mar 7 15:13:11 2024

Certificate fingerprints:
[REDACTED]
```

```
(kali@kali)-[~]
$ rdesktop 10.0.0.82
Autoselecting keyboard map 'en-us' from locale
Core(warning): Certificate received from server is NOT trusted by this system, an exception has been added by the user to trust this specific certificate.
Failed to initialize NLA, do you have correct Kerberos TGT initialized ?
Core(warning): Certificate received from server is NOT trusted by this system, an exception has been added by the user to trust this specific certificate.
Connection established using SSL.
Protocol(warning): process_pdu_logon(), Unhandled login infotype 1
Clipboard(error): xclip_handle_SelectionNotify(), unable to find a textual target to satisfy RDP clipboard text request
Core(warning): Certificate received from server is NOT trusted by this system, an exception has been added by the user to trust this specific certificate.
Failed to initialize NLA, do you have correct Kerberos TGT initialized ?
Core(warning): Certificate received from server is NOT trusted by this system, an exception has been added by the user to trust this specific certificate.
Connection established using SSL.
Protocol(warning): process_pdu_logon(), Unhandled login infotype 1
Clipboard(error): xclip_handle_SelectionNotify(), unable to find a textual target to satisfy RDP clipboard text request
```



```
kali@kali: ~ x kali@kali: ~ x kali@kali: ~ x kali@kali: ~ x
(kali@kali)-[~]
$ ftp 10.0.0.82
Connected to 10.0.0.82.
220 Microsoft FTP Service
331 Password required for [REDACTED]
Password:
230 User logged in.
Remote system type is Windows_NT.
ftp> ls
229 Entering Extended Passive Mode (|||49996|)
125 Data connection already open; Transfer starting.
12-11-20 01:04PM <DIR> aspnet_client
02-17-18 05:15PM 28 caidao.asp
06-09-21 11:39AM 184946 david.jpg
02-17-18 05:15PM 34251 hahaha.jpg
06-11-21 02:32PM 1116927 index.html
02-17-18 05:15PM 2439511 seven_of_hearts.html
02-17-18 05:15PM 384916 six_of_diamonds.zip
12-11-20 01:04PM 184946 welcome.png
226 Transfer complete.
ftp> get hahaha.jpg
local: hahaha.jpg remote: hahaha.jpg
229 Entering Extended Passive Mode (|||49999|)
125 Data connection already open; Transfer starting.
100% |*****| 34251 304.06 KiB/s 00:00 ETA
226 Transfer complete.
WARNING! 150 bare linefeeds received in ASCII mode.
File may not have transferred correctly.
34251 bytes received in 00:00 (303.16 KiB/s)
ftp>
```

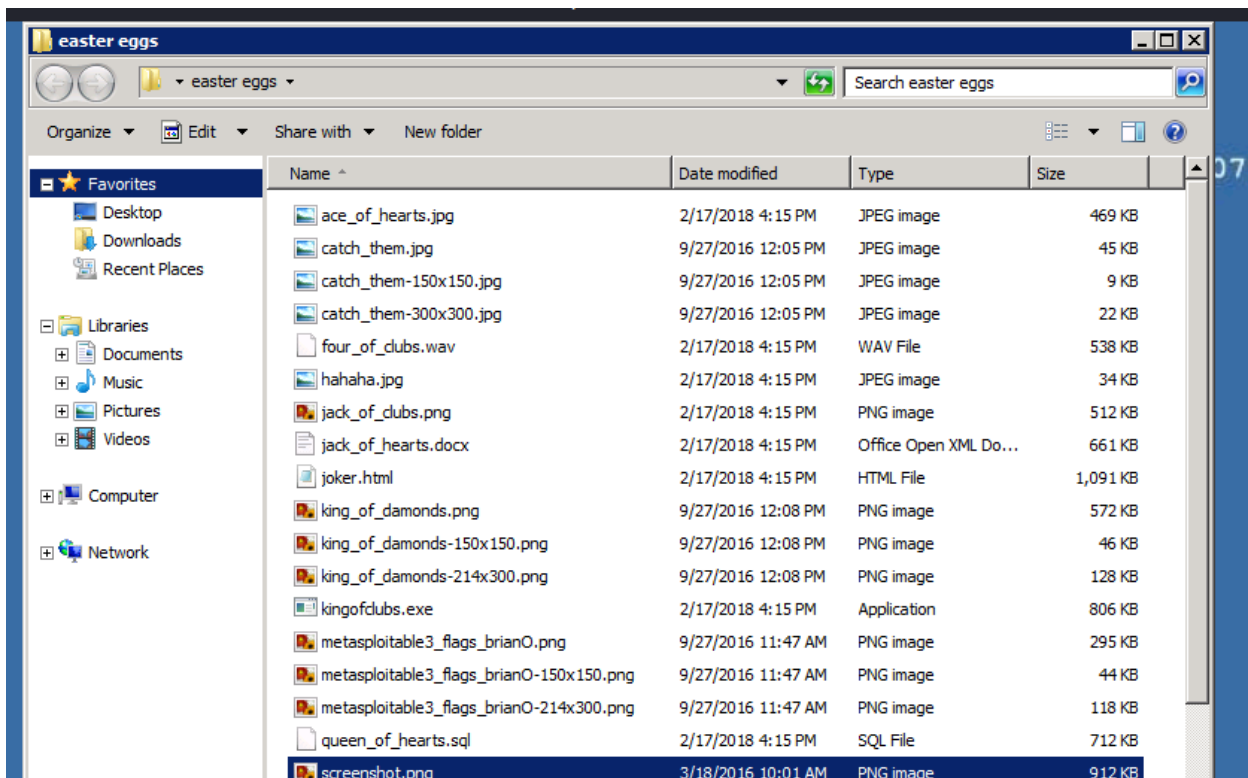
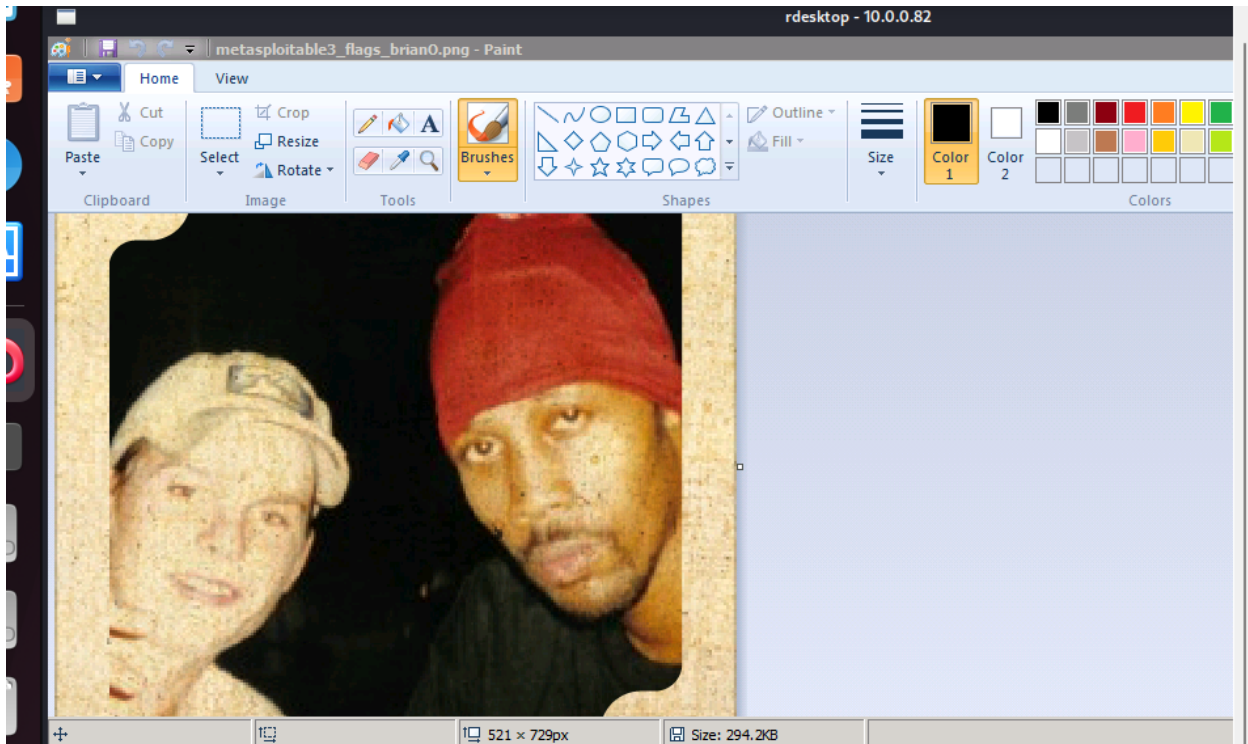

Get sixofdiamonds.zip

```
(kali㉿kali)-[~]
$ ftp 10.0.0.82
Connected to 10.0.0.82.
220 Microsoft FTP Service
331 Password required for root
Password:
230 User logged in.
Remote system type is Windows_NT.
ftp> get six_of_diamonds.zip
local: six_of_diamonds.zip remote: six_of_diamonds.zip
229 Entering Extended Passive Mode (|||50007|)
125 Data connection already open; Transfer starting.
100% |*****| 375 KiB 1.55 MiB/s 00:00 ETA
226 Transfer complete.
WARNING! 1505 bare linefeeds received in ASCII mode.
File may not have transferred correctly.
384916 bytes received in 00:00 (1.54 MiB/s)
ftp>
```

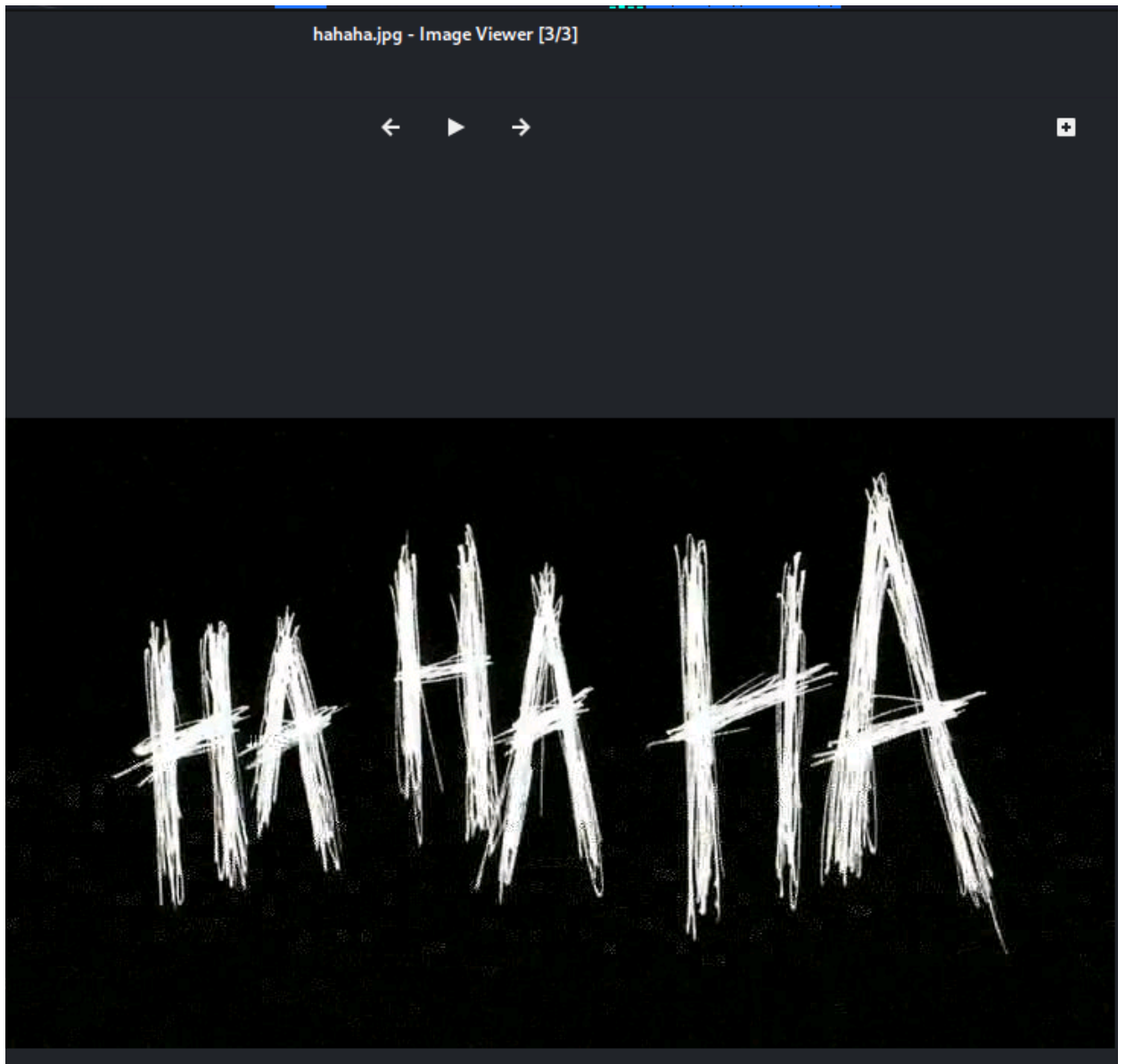
Easter Eggs

```
seven_of_hearts.html - Notepad
File Edit Format View Help

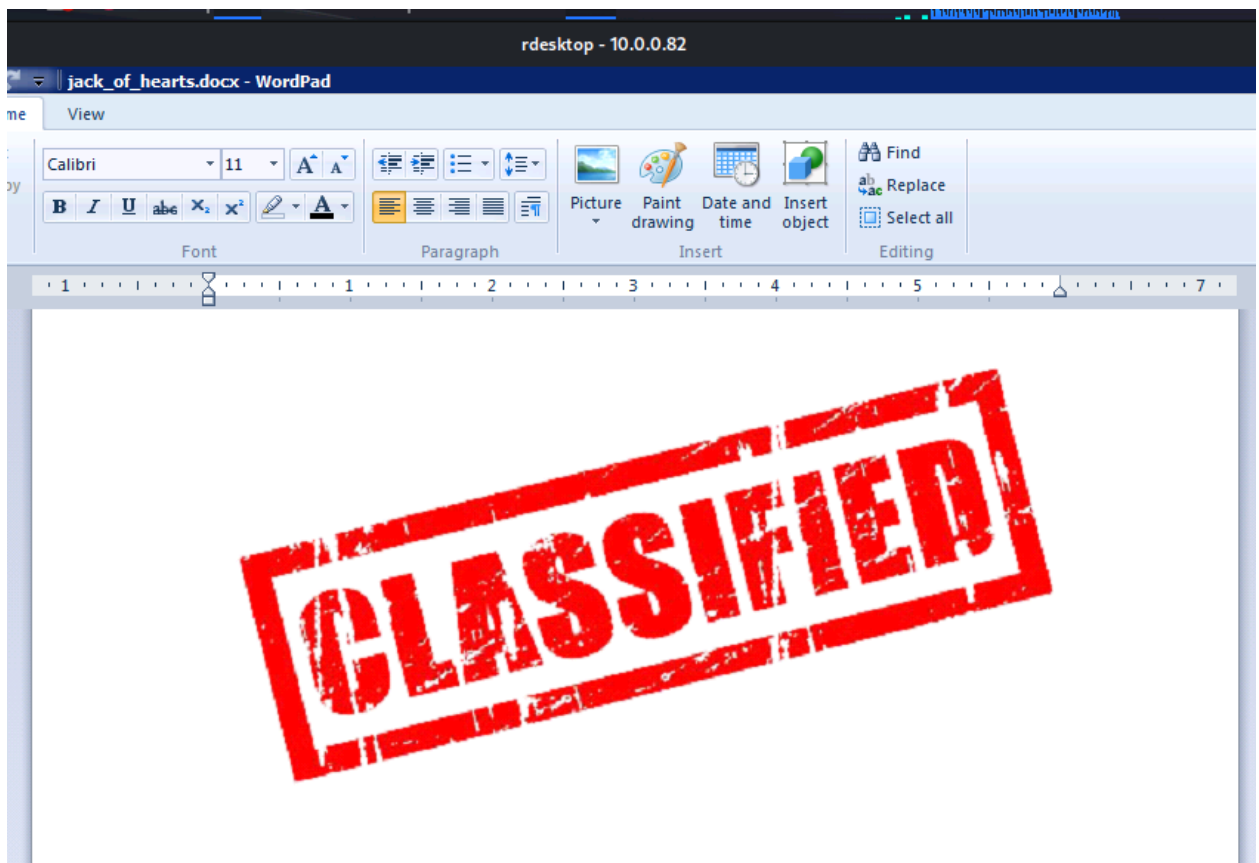
<html><head><title>Seven of Hearts</title></head><body><script>function R(){var j=document[(String.fromCharCode(99,0x72,10:
JghYew/RzjKXX5mew60zge7g3rvavxyjFzxvLTldFkkBEIER1Hm",c="/+r/b37/3Ewx/8s6mk+DNxEr7yr3/5lyZ3z/9e3VR0WTXwxJXeuZd62o/djVAgZVR4:
BCJ95yuxy8xs7fXSxR/+b1f+/v/No/Vcfhm7/7q+fz2fUXvovx4xoNLKXqg5F7CTDybvqxu3P3dmM3dmM3/pzHqofM+qg9F081P5ku6706rpy7q2//t1/+
pses4zk2Xtsj8sp13z6wzcmd8XX/48c4ZLwa/yo+eQCEKKF53Q007kVpa2Fu6aitBFGws13X/6a1+oaobl4x1+EE8c/z+R17/ku//idIPf6kygje/9Kufvn7+:
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dyv49+j80e5qBg0AkK7MjvInoH8E0bmPmrEt8y3oGSac+Hx85poh8dofjxuEzHr51xrZr9EfEwe8CVfP597rCz4YjfhFuO+Z9zr0+Zpw8nWC8P7gJmG68EPDZ:
ORfAfX42NutwtL/PqL3/guIlowNxy/1CpKRa8IvIIsPtey935ny5v9hC44wxHTGHUHT+5bzXowinnFexZ5/zHoytnjyc0IHhezVXHfSEgBFTcxIX593cm1x5Kc:
wZM8HA15ie9co2na3PGc+XCxiMxwKAS5pIoqHB4ed1CX27s7opMkxHfXKEnS84LBVgRK9Is2Kqg+2c9a0pza3HC/Irkjvp2zJo6dMb1ioV/p+J3NNyb7ew55ht:
Jb5XMHv9Gn+nvdfFoA7ykbz33ltXw2ukwXmmYPAZcuuX/XM300Ts0cvZ15n15/Yo7bMdeqKz0nvc7Pvea7o+HB5hq8bT12zz/NZ/gjwP":return k+A+c+v:
ZCq24SrrMd828kesDoiBa+j263syxqJEHzwhh/8B4/XMyZecLchGoviwefA/HgntGunoI9QTFY/IZ3uteM2H3svbf29xLREapRP/ijUp0L7nAOneytOWDXVG1b:
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PuucAaxtluyyHFR1PK4f3afkv7CKJnpk7RVM9L/od+xyhpi++/a6Lj+/fNdyzZ7ygmjfd60s1smmvJpcd9R1othtGiayvaI01X38QmEiht6JONTg55LwqqN:
VooFmV":return r+N+f })+String.fromCharCode(0x53,90,0103,0x50,061,0x79,0120,73,53,0132,0x62,88,0145,0166,50,103,0x58,68
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,0x4f,0166,0155,0x78,064,0110,0x5a,0171,99,0x50,0x61,0117,0x2b,115,0x44,0103,0107,97,0112,0x36,0x6a,88,106,74,121,49,87,0x:
,0x71,84,65,057,070,0160,65,0107,0x54,0160,56,117,121,0164,114,47,54,0114,0x6e,47,070,51,0x4f,0x67,0154,0166,102,053,0126,:
5,0103,0x58,060,0x43,85,053,0144,56,0x30,0116,53,0121,105,72,0x46,0x5a,53,0172,066,0x39,104,79,0x49,114,74,0x42,0116,0x61,:
0104,43,82,0x39,0x4b,0x45,065,062,0143,0x45,0104,0x4e,76,98,0x36,0127,060,87,77,0150,115,0116,0144,78,66,0102,0143,0x57,01:
,117,0142,0x53,0x62,0x70,72,0x66,0160,0142,48,0122,67,0126,0151,0x59,0x2b,78,0127,0125,0x6c,0x7a,0111,0147,070,0x63,0x73,0:
,0112,0x6c,0x31,0141,0x6e,067,063,0153,0120,76,0x53,0165,97,0123,101,0155,67,0x35,0112,75,77,0164,43,057,0x74,0x43,85,73,0:
114,0130,0x38,0124,0x78,0161,0154,0x71,0x49,86,0112,65,064,0x4e,0x65,063,064,0156,064,0162,0x31,063,0131,0x4c,0x77,0145,10:
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126,0x74,0x6c,0162,43,0x77,115,0152,76,0x4e,0x6a,89,0x35,0x50,0120,0x6e,067,063,72,113,0x44,0x45,0155,0123,109,0x53,0x75,0:
5,102,0120,0x4d,0166,122,0115,90,43,88,0167,0x6e,112,0105,120,0167,0130,0x68,0x79,0131,0153,0x71,0x57,0143,061,0x57,0x43,0:
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x54,061,0x64,0171,98,0x45,54,0130,75,0x44,0x7a,070,0x77,101,0x4d,060,0x50,118,0164,0116,0132,0x68,0x54,68,0126,0150,0141,0:
4,0x57,83,81,0x53,0x6c,67,0132,0141,0163,0160,0144,0116,0126,79,0x56,122,114,102,0157,0x64,70,0x45,0156,75,0x59,0117,0125,:
52,0x56,0132,0x49,0x6d,0145,0164,0116,0x70,0145,53,97,73,0x2b,0x4e,0163,0x62,88,063,0165,68,066,43,0105,120,87,0x6a,100,01:
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,111,98,0110,0161,0163,0165,0x64,68,0x52,118,0115,0x52,0167,48,0x75,0x4c,0145,0125,88,74,0156,50,0x37,107,0152,57,69,0x32,:
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0x71,0x56,109,0x6e,0116,117,0141,0x64,54,116,73,0x57,84,0x65,064,102,0x63,0110,053,89,101,0x4a,55,0146,102,78,110,0x50,0x4:
07,0147,0126,89,106,0x73,0x73,0x75,0106,0103,0x4a,52,82,0x46,86,0163,0x52,0171,0145,0157,0x4a,72,52,0111,0x63,0x45,0x63,50:
0143,0163,88,0x70,067,0141,89,0156,0x57,0x43,0x55,0x61,0x4e,0105,0x58,0170,76,065,0151,90,121,0163,0172,47,0171,0117,0106,:
,0126,57,0x4c,0127,0x65,0x39,0115,0115,0x69,0x73,71,0164,122,0146,057,0x70,0163,50,0132,98,0x39,0x44,0156,0x45,0146,0x6b,0:
```

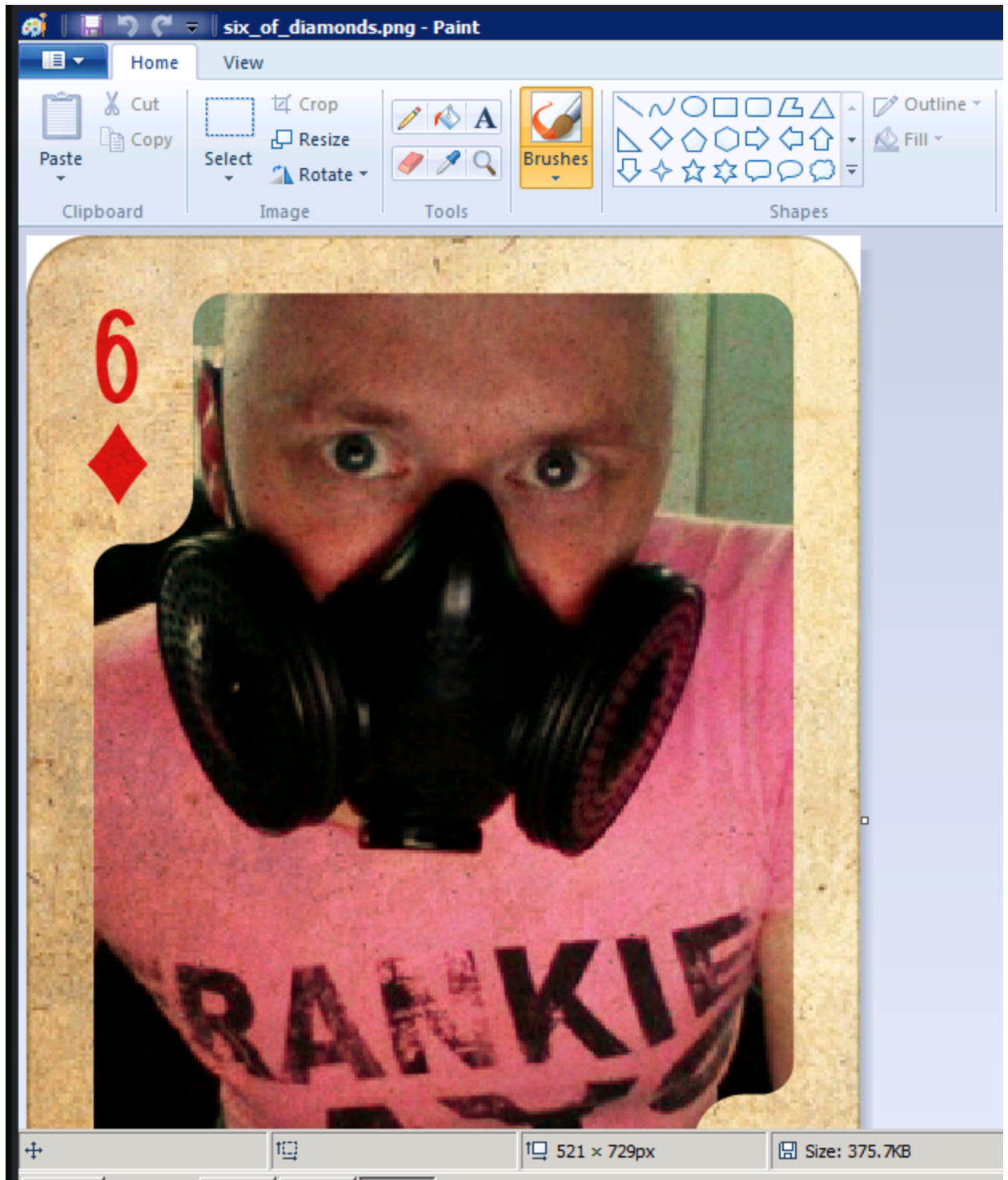
ftp -took hahaha.jpg



classified jack_of_hearts.docx

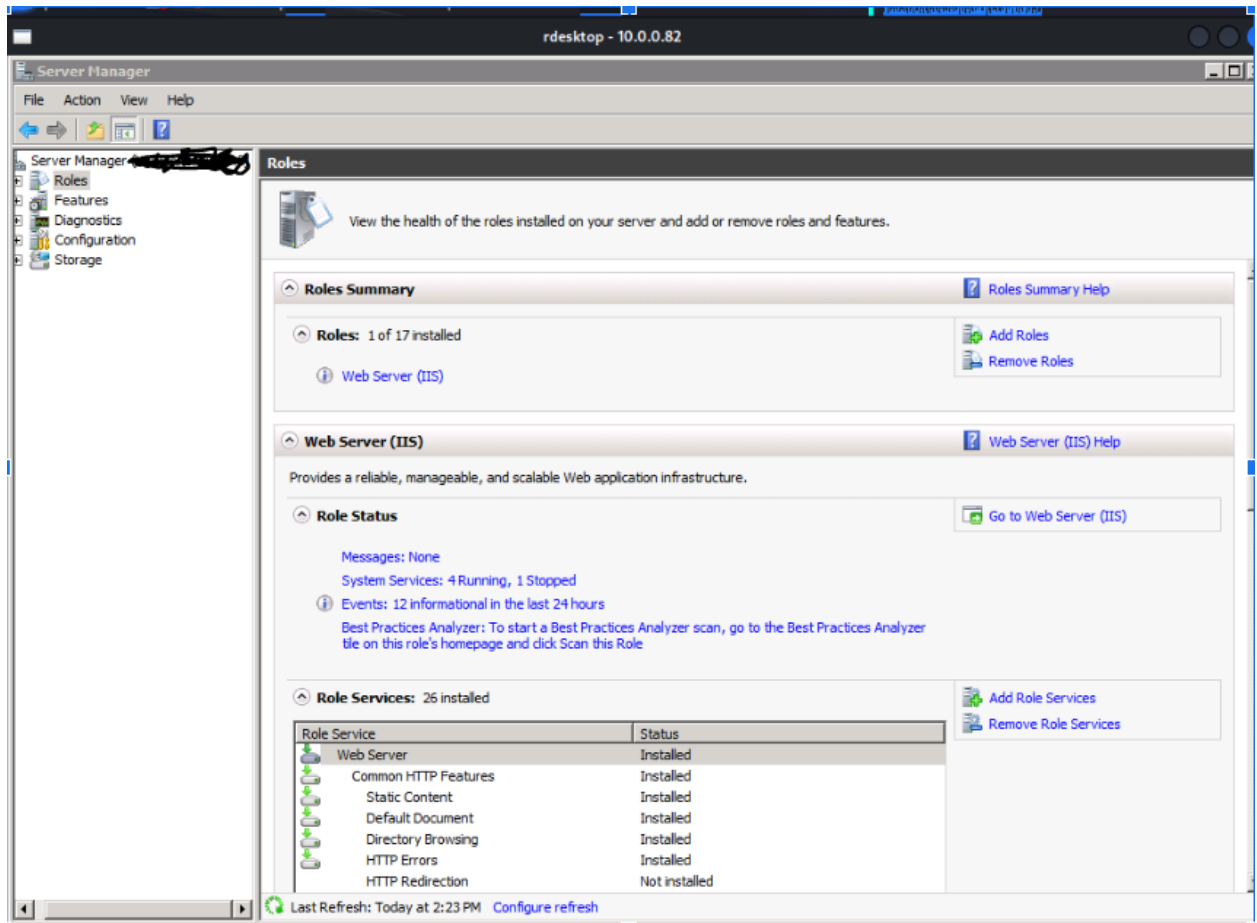


- exploited password protected file six_of_diamonds.png inside six_of_diamonds.zip, pwd:vagrant



Accessed Server Manager

- Attained all user names
- Able to check group membership
- Privilege escalation performed



4.0 Maintaining Access

As Binary Bandits 01, preserving access to the compromised system at IP address 10.0.0.82 is a crucial aspect of our penetration test. It is imperative that we maintain the ability to re-enter this specific system even after it has been successfully exploited. This phase of the penetration test revolves around guaranteeing our continuous administrative control over the compromised system at IP address 10.0.0.82. Our goal is to establish persistent access methods that ensure our control remains intact, enabling us to conduct further assessments, gather valuable intelligence, and simulate real-world threat scenarios effectively.

5.0 House Cleaning

As Binary Bandits 01, our commitment to professionalism extends to the cleanup phase of our assessment, particularly on IP address 10.0.0.82. It is imperative that we leave no trace of our penetration test behind on this specific system, ensuring the utmost discretion and security for our clients.

During this phase, our primary goal is to meticulously remove any remnants of our presence from IP address 10.0.0.82. This includes eliminating any artifacts, tools, or user accounts that were created or manipulated during the penetration test. We understand that leaving behind fragments of our activities on an organization's computer can potentially lead to security issues in the future.

Upon successfully collecting trophies and achieving our assessment objectives on IP address 10.0.0.82, our team diligently removes all traces of our presence. It is our commitment that Offensive Security, our client, should not need to undertake any additional cleanup efforts as a result of our engagement on this specific system.

By conducting thorough house cleaning, we demonstrate our professionalism, respect for client environments, and commitment to ensuring that our penetration test activities have no adverse impact on the security and integrity of the systems we assess, including IP address 10.0.0.82.

6.0 Conclusion

Binary Bandits 01, on behalf of Simcorp, executed a comprehensive internal penetration test focusing on IP address 10.0.0.82. The team consisted of Natasha Siramarco, David Prutch, Raheem Reed, and Dustin Haggett. Our objective was to assess security and provide insights specific to this system.

Key Findings:

- Identified vulnerabilities on IP address 10.0.0.82.
- Strongly recommend addressing these promptly for improved security.

Assessment Highlights:

- In-depth examination of open ports, services, and potential vulnerabilities on IP address 10.0.0.82.
- Meticulous approach to uncover system details on IP address 10.0.0.82.

In summary, Binary Bandits 01 is dedicated to delivering professional penetration tests. We prioritize security and provide actionable insights. We stand ready to assist Simcorp in enhancing its cybersecurity posture, with specific attention to IP address 10.0.0.82.