SECURE CODING LAB

LAB-13
SLOT-L39+L40
18BCN7128
SEGU NAIMISHA

Lab experiment: Automated vulnerability analysis and patch analysis

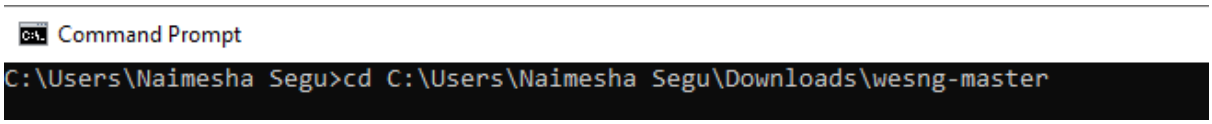
Experiment and Analysis

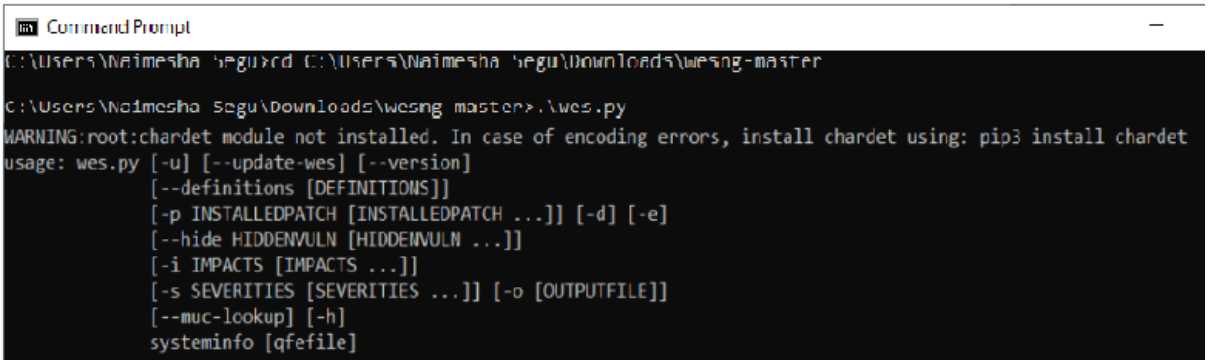
- **Deploy Windows Exploit Suggester - Next Generation (WES-NG)**
- **Obtain the system information and check for any reported vulnerabilities.**
- **If any vulnerabilities reported, apply patch and make your system safe.**
- **Submit the auto-generated report using pwndoc.**

Windows exploiter:

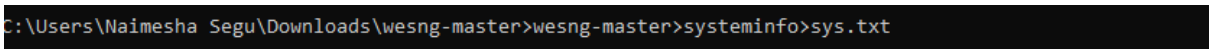
This is a tool that helps you to identify the vulnerability in your windows system.

Cloning the windows exploit suggester(wes-ng)





Send the systeminfo as a text file to wes.py to list all the vulnerabilities.



Systeminfo - Notepad

File Edit Format View Help

```
OS Name Microsoft Windows 10 Home
Version 10.0.19042 Build 19042
Other OS Description    Not Available
OS Manufacturer Microsoft Corporation
System Name     DESKTOP-5VG4MVL
System Manufacturer     HP
System Model    HP ENVY x360 Convertible 15-bp1xx
System Type     x64-based PC
System SKU      1KS77UA#ABA
Processor       Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz, 1992 Mhz, 4 Core(s), 8 Logical Processor(s)
BIOS Version/Date       Insyde F.22, 24-07-2017
SMBIOS Version  3.0
Embedded Controller Version     32.60
BIOS Mode       UEFI
BaseBoard Manufacturer  HP
BaseBoard Product       83C8
BaseBoard Version       32.60
Platform Role   Mobile
Secure Boot State       On
PCR7 Configuration      Elevation Required to View
Windows Directory       C:\WINDOWS
System Directory        C:\WINDOWS\system32
Boot Device     \Device\HarddiskVolume1
```

Looking for vulnerabilities:

```
Date: 20210216
CVE: CVE-2021-24111
KB: KB4601050
Title: .NET Framework Denial of Service Vulnerability
Affected product: Microsoft .NET Framework 4.8 on Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Denial of Service
Exploit: n/a

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Date: 20210511
CVE: CVE-2020-24588
KB: KB5003173
Title: Windows Wireless Networking Spoofing Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Spoofing
Exploit: n/a

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Affected product: Windows 10 Version 20H2 for x64-based Systems
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Date: 20210511
CVE: CVE-2020-24587
KB: KB5003173
```
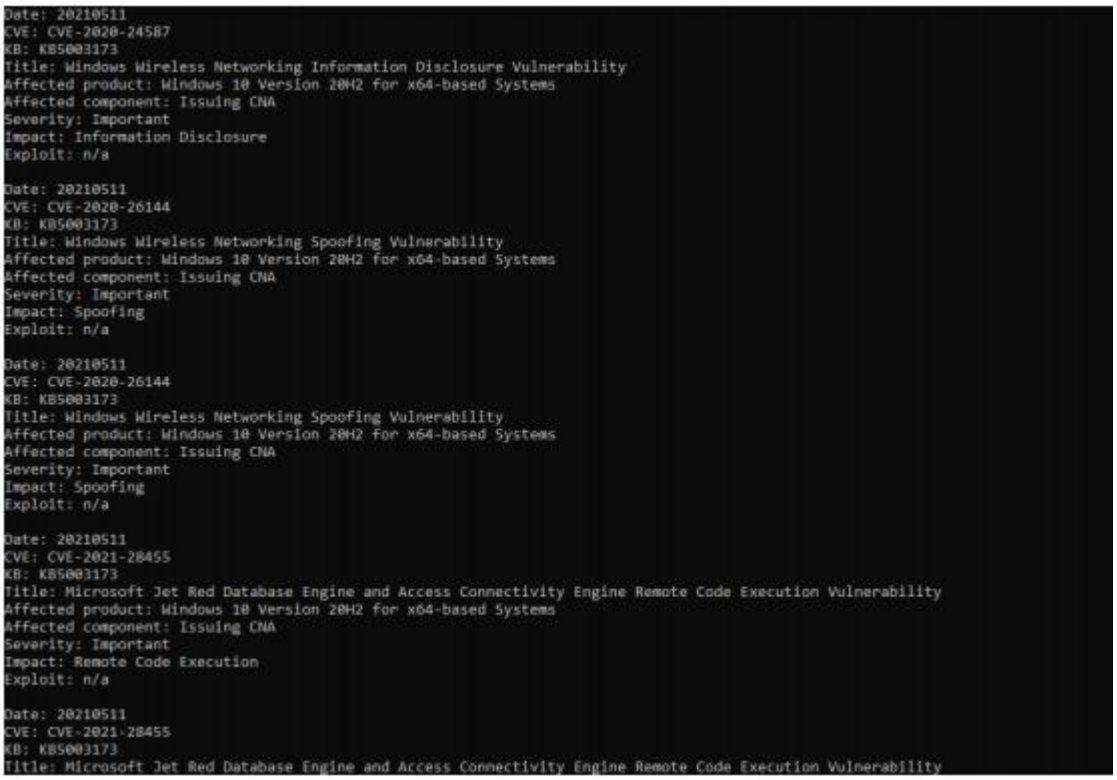
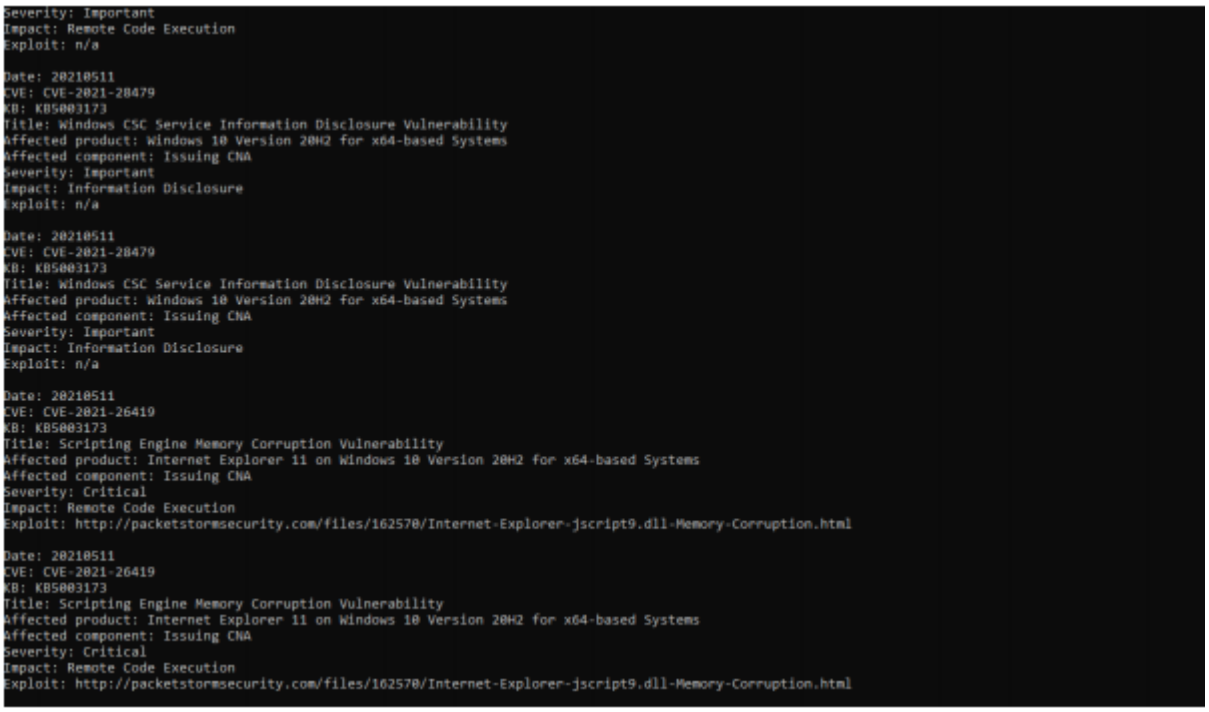



```
Date: 20210511
CVE: CVE-2020-24587
KB: KB5003173
Title: Windows Wireless Networking Information Disclosure Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Information Disclosure
Exploit: n/a

Date: 20210511
CVE: CVE-2020-26144
KB: KB5003173
Title: Windows Wireless Networking Spoofing Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Spoofing
Exploit: n/a

Date: 20210511
CVE: CVE-2020-26144
KB: KB5003173
Title: Windows Wireless Networking Spoofing Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Spoofing
Exploit: n/a

Date: 20210511
CVE: CVE-2021-28455
KB: KB5003173
Title: Microsoft Jet Red Database Engine and Access Connectivity Engine Remote Code Execution Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Remote Code Execution
Exploit: n/a

Date: 20210511
CVE: CVE-2021-28455
KB: KB5003173
Title: Microsoft Jet Red Database Engine and Access Connectivity Engine Remote Code Execution Vulnerability
```



```
Severity: Important
Impact: Remote Code Execution
Exploit: n/a

Date: 20210511
CVE: CVE-2021-28479
KB: KB5003173
Title: Windows CSC Service Information Disclosure Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Information Disclosure
Exploit: n/a

Date: 20210511
CVE: CVE-2021-28479
KB: KB5003173
Title: Windows CSC Service Information Disclosure Vulnerability
Affected product: Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Important
Impact: Information Disclosure
Exploit: n/a

Date: 20210511
CVE: CVE-2021-26419
KB: KB5003173
Title: Scripting Engine Memory Corruption Vulnerability
Affected product: Internet Explorer 11 on Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Critical
Impact: Remote Code Execution
Exploit: http://packetstormsecurity.com/files/162570/Internet-Explorer-jscript9.dll-Memory-Corruption.html

Date: 20210511
CVE: CVE-2021-26419
KB: KB5003173
Title: Scripting Engine Memory Corruption Vulnerability
Affected product: Internet Explorer 11 on Windows 10 Version 20H2 for x64-based Systems
Affected component: Issuing CNA
Severity: Critical
Impact: Remote Code Execution
Exploit: http://packetstormsecurity.com/files/162570/Internet-Explorer-jscript9.dll-Memory-Corruption.html
```

Some vulnerabilities are there;

```
[+] Missing patches: 2
    - KB5003173: patches 50 vulnerabilities
    - KB4601050: patches 2 vulnerabilities
[+] KB with the most recent release date
    - ID: KB5003173
    - Release date: 20210511

[+] Done. Displaying 52 of the 52 vulnerabilities found.
```

Fixing the vulnerability

```
C:\wesng-master>python wes.py systeminfo.txt -p KB4601050 KB5003173
WARNING:root:chardet module not installed. In case of encoding errors, install chardet using: pip3 install chardet
Windows Exploit Suggester 0.98 ( https://github.com/bitsadmin/wesng/ )
[+] Parsing systeminfo output
[+] Operating System
    - Name: Windows 10 Version 20H2 for x64-based Systems
    - Generation: 10
    - Build: 19042
    - Version: 20H2
    - Architecture: x64-based
    - Installed hotfixes: None
    - Manually specified hotfixes (2): KB4601050, KB5003173
[+] Loading definitions
    - Creation date of definitions: 20210607
[+] Determining missing patches
[-] No vulnerabilities found
```

Fixed

```
C:\wesng-master>python wes.py -e Systeminfo.txt --hide "Internet Explorer" Ed
WARNING:root:chardet module not installed. In case of encoding errors, install chardet using: pip3 install chardet
Windows Exploit Suggester 0.98 ( https://github.com/bitsadmin/wesng/ )
[+] Parsing systeminfo output
[+] Operating System
    - Name: Windows 10 Version 20H2 for x64-based Systems
    - Generation: 10
    - Build: 19042
    - Version: 20H2
    - Architecture: x64-based
    - Installed hotfixes: None
[+] Loading definitions
    - Creation date of definitions: 20210607
[+] Determining missing patches
[+] Applying display filters
[-] No vulnerabilities found
```