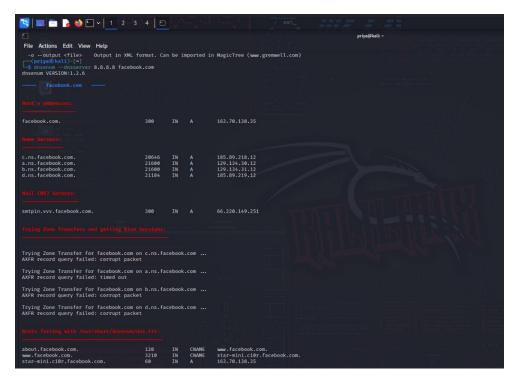
ASSIGNMENT - 2

1. Exploring tools in Kali Linux.

01 - Information Gathering.

Dnsenum: DNSenum is a command-line network reconnaissance tool designed for domain analysis and reconnaissance. It assists in gathering critical information about a target domain's DNS infrastructure. It helps in subdomain enumeration, brute-force subdomain discovery, and DNS zone transfer attempts. It's valuable for identifying hidden entry points and potential vulnerabilities within a domain. By systematically probing a domain's DNS records, it aids in assessing the overall security posture.



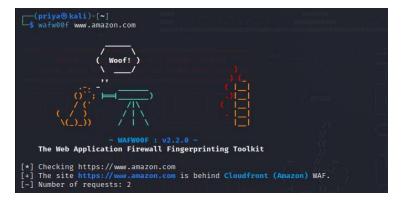
```
www.facebook.com.
www.facebook.com.
star-mini.c10r.facebook.com.
                                                                                               star-mini.c10r.facebook.com.
163.70.138.35
                                                            3210
                                                                                  CNAME
                                                            60
3600
                                                                                  A
CNAME
ads.facebook.com.
                                                                                               www.facebook.com.
                                                                                                star-mini.c10r.facebook.com.
                                                                                  A
CNAME
CNAME
star-mini.c10r.facebook.com.
                                                                                                163.70.138.35
afa.facebook.com.
star.facebook.com.
                                                                                               star.facebook.com.
star.c10r.facebook.com.
star.c10r.facebook.com.
apps.facebook.com.
                                                            60
3091
                                                                                               star.facebook.com.
star.facebook.com.
star.c10r.facebook.com.
                                                            2947
60
                                                                                  CNAME
                                                                                               star.c10r.facebook.com.
163.70.138.9
                                                                                  A
CNAME
asia.facebook.com.
star.facebook.com.
                                                            3600
3571
                                                                                               star.facebook.com.
                                                                                                star.c10r.facebook.com.
                                                                                  A
CNAME
CNAME
                                                                                               163.70.138.9
star.facebook.com.
star.c10r.facebook.com.
star.c10r.facebook.com.
                                                            60
                                                            3600
3415
```

```
66.220.149.0/24
129.134.30.0/24
129.134.31.0/24
157.240.16.0/24
158.89.218.0/24
185.89.219.0/24

Porforming reverse lookup om 1792 ip addresses:

251.149.220.66.in-addr.arpa. 3600 IN PTR headers-shv-00-rprn0.facebook.com.
11.30.134.129.in-addr.arpa. 3600 IN PTR a.ns.facebook.com.
11.30.134.129.in-addr.arpa. 3600 IN PTR a.ns.facebook.com.
11.31.134.129.in-addr.arpa. 3600 IN PTR a.ns.facebook.com.
11.31.134.129.in-addr.arpa. 3600 IN PTR b.ns.cl0r.facebook.com.
12.31.134.129.in-addr.arpa. 3600 IN PTR b.ns.facebook.com.
12.31.134.129.in-addr.arpa. 3600 IN PTR b.ns.facebook.com.
12.31.134.129.in-addr.arpa. 3600 IN PTR b.ns.facebook.com.
```

Wafw00f: Wafw00f is a security tool used to identify and profile web application firewalls (WAFs). By sending HTTP requests to a target website and analyzing the responses, it can detect if a WAF is actively protecting the web application. This information is invaluable as it helps in understanding the defensive measures in place and assess the security of web applications. Wafw00f aids in penetration testing by revealing the presence of WAFs and can assist in bypassing them for legitimate security assessments and testing purposes.



Masscan: Masscan is a high-speed network port scanner designed for large-scale scans of IP addresses and ports. It's optimized for quick and efficient scanning, making it useful for discovering open ports and services across vast IP ranges. Masscan's speed and flexibility makes it valuable.

```
(priya@kali)-[~]
$ sudo masscan 192.168.1.0/24 -p80,443
[sudo] password for priya:
Starting masscan 1.3.2 (http://bit.ly/14GZzcT) at 2023-09-03 14:00:26 GMT
Initiating SYN Stealth Scan
Scanning 256 hosts [2 ports/host]
Discovered open port 443/tcp on 192.168.1.1
Discovered open port 80/tcp on 192.168.1.1
```

Nmap: Nmap (Network Mapper) is a versatile open-source network scanning tool. It's used for discovering devices, services, and vulnerabilities on a network. Nmap can perform tasks like port scanning, host discovery, version detection, and OS fingerprinting. It is used for network reconnaissance and security auditing.

```
(priya® kali)-[~]

nmap -p80 192.168.1.1/24
Starting Nmap 7.94 ( https://nmap.org ) at 2023-09-03 19:34 IST
Stats: 0:00:06 elapsed; 0 hosts completed (0 up), 256 undergoing Ping Scan Ping Scan Timing: About 41.70% done; ETC: 19:34 (0:00:08 remaining)
Nmap scan report for local.airtelfiber.com (192.168.1.1)
Host is up (0.0047s latency).
PORT STATE SERVICE
80/tcp open http
Nmap scan report for 192.168.1.2
Host is up (0.12s latency).
PORT STATE SERVICE
80/tcp closed http
Nmap scan report for 192.168.1.4
Host is up (0.00017s latency).
PORT STATE SERVICE
80/tcp closed http
Nmap done: 256 IP addresses (3 hosts up) scanned in 30.26 seconds
```

SpiderFoot: SpiderFoot is an open-source intelligence gathering tool for reconnaissance. It automates the process of collecting information from various sources, including search engines, social media, DNS, and more. SpiderFoot helps in gathering data about domains, IP addresses, email addresses, and entities to assess potential threats and vulnerabilities.

```
[sudo] password for priya:

2023-09-03 20:53:15,725 [INFO] sf: Starting web server at 127.0.0.1:5000 ...

2023-09-03 20:53:15,727 [MANNING] sf:

Warning: passwd file contains no passwords. Authentication disabled.
Please consider adding authentication to protect this instance!
Refer to https://www.spiderfoot.net/documentation/fsecurity.

Use Spiderfoot by starting your web browser of choice and browse to http://127.0.0.1:5000/

Use Spiderfoot by starting your web browser of choice and browse to http://127.0.0.1:5000/

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Williamses. Spiderfoot hy starting your web browser of choice and browse
```

02 Vulnerability Analysis:

Nikto: Nikto is a web server vulnerability scanner used to identify security issues on web servers and applications. It checks for known vulnerabilities, outdated software, and common misconfigurations. Security professionals use Nikto to assess the security of web servers and prioritize remediation efforts, making it a valuable tool for web security assessments.

03 Web Application Analysis:

Commix: Commix is an open-source tool designed for automated web application security testing. It specializes in finding and exploiting vulnerabilities in web applications that involve command injection attacks. Commix helps in discovering and assess security flaws in web applications, aiding in their protection and improvement.

```
(priya@kali)-[~]

$ commix -url "http://192.168.1.5/mutillidae/index.php?page=usage-instructions.php"

Automated All-in-One OS Command Injection Exploitation Tool
Copyright © 2014-2023 Anastasios Stasinopoulos (members)

() Legal disclaimer: Usage of commix for attacking targets without prior mutual consent is illegal. It is the end u
ser's responsibility to obey all applicable local, state and federal laws. Developers assume no liability and are no
t responsible for any misuse or damage caused by this program.

[1849:21] [info] Testing connection to the target URL.
You have not declared cookie(s), while server wants to set its own ('PHPSESSID=88be9d709d1...e2b2053dc7'). Do you wa
nt to use those [Y/n] > y
[1849:22] [info] Performing identification checks to the target URL.
[1849:27] [info] Setting GET parameter 'page' for tests.
[1849:43] [info] Testing the (results-based) classic command injection technique.
[1849:43] [info] Testing the (results-based) dynamic code evaluation technique.
[1849:45] [info] Testing the (results-based) dynamic code evaluation technique.
[1849:50] [warning] It is very important to not stress the network connection during usage of time-based payloads to
prevent potential disruptions.
[1859:08] [info] Testing the (plind) time-based command injection technique.
[1859:08] [info] Trying to create a file in 'var/www/mutillidae/' for command execution output.

It seems that you don't have permissions to read and/or write files in '/var/ww/mu/mutillidae/'. Do you want to use the
etemporary directory (/tmp/)? [Y/n] > y
[1859:08:] [info] Trying to create a file in temporary directory (/tmp/) for command execution output.

It seems that you don't have permissions to read and/or write files in '/var/ww/mu/mutillidae/'. Do you want to use the
etemporary directory (/tmp/)? [Y/n] > y
[1859:08:] [info] Trying to create a file in temporary directory (/tmp/) for command execution output.

[1859:08:] [info] Trying to create a file in temporary directory (/tmp/) for command execution output.
[1859:08:
```

04 Database Assessment:

SQLmap: SQLmap is a popular open-source penetration testing tool for automating the detection and exploitation of SQL injection vulnerabilities in web applications. It helps security professionals identify and assess database-related security weaknesses, enabling them to better secure web applications against SQL injection attacks and other database-related threats.

05 password attacks:

Hydra: Hydra is a powerful and versatile password-cracking tool used to perform brute-force and dictionary attacks on various network protocols, such as SSH, FTP, HTTP, and more. Security professionals use Hydra to test the strength of passwords and identify weak authentication mechanisms, aiding in system and network security assessments.

```
-[/home/priya/Desktop
         cat passwords.txt
123456789
 qwerty
password
awerty123
 12345678
 1234567890
                                [/home/priya/Desktop]
        cat users.txt
admin2
root
kali
linux
rootadmin
(root@kml3)-[/home/priya/Desktop]
# hydra -L users.txt -P passwords.txt 192.168.1.5 ftp

Hydra v9.5 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organization
Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-09-06 19:33:33
Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-09-06 19:333:49

[DATA] max 16 tasks per 1 server, overall 16 tasks, 77 login tries (l:7/p:11), ~5 tries per task

[DATA] attacking ftp://192.168.1.5:21/

[21][ftp] host: 192.168.1.5 login: msfadmin password: msfadmin

1 of 1 target successfully completed, 1 valid password found

Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2023-09-06 19:33:49
```

06 Wireless Attacks:

Pixiewps: Pixiewps is a tool used for auditing and retrieving WPS (Wi-Fi Protected Setup) PINs. It identifies vulnerable WPS-enabled Wi-Fi networks, attempts to crack their PINs, and recover the WPA/WPA2 PSK (Pre-Shared Key). Security experts and pentesters use Pixiewps to assess the security of Wi-Fi networks and strengthen their configurations against attacks.

07 Reverse Engineering:

Radare2: Radare2 is a powerful open-source framework for reverse engineering and binary analysis. It provides a wide range of tools and utilities for disassembling, debugging, analyzing, and patching binary code across various platforms and architectures. Security researchers, hackers, and developers use Radare2 for tasks like malware analysis and vulnerability research.

08 Exploitation Tools:

Searchsploit: Searchsploit is a command-line tool that searches the Exploit Database (Exploit-DB) for known vulnerabilities and exploits. It

simplifies the process of finding and accessing relevant exploit code, making it a valuable resource for security professionals and penetration testers looking to assess and secure systems by identifying and mitigating known vulnerabilities.

09 Sniffing and Spoofing:

Tcpdump: Tcpdump is a command-line network packet analyzer for Unix-like systems. It captures and displays network traffic in real-time, allowing users to monitor and analyze data on a network interface. Tcpdump is valuable for diagnosing network issues, troubleshooting, and security analysis, helping professionals inspect and understand network communications.

```
tcpdump: i eth0 -v

rcpdump: listening on eth0, link-type EN10MB (Ethernet), snapshot length 262144 bytes

20:43:50.742124 IP (tos 0×0, ttl 64, id 14513, offset 0, flags [DF], proto UDP (17), length 349)

local.airtelfiber.com.38319 > 192.168.1.255.9995: UDP, length 321

20:43:50.882143 IP (tos 0v0, ttl 64, id 42549, offset 0, flags [DF], proto UDP (17), length 72)

192.168.1.6.56916 > local.airtelfiber.com.domain: 26488+ PTR? 255.1.168.192.in-addr.arpa. (44)

20:43:50.946281 ARP, Ethernet (len 6), IPv4 (len 4), Request who-has 192.168.1.6 tell local.airtelfiber.com, length
46

20:43:50.946300 ARP, Ethernet (len 6), IPv4 (len 4), Reply 192.168.1.6 is-at 08:00:27:41:07:33 (oui Unknown), length
28

20:43:50.947983 IP (tos 0v0, ttl 64, id 5402, offset 0, flags [DF], proto UDP (17), length 149)

local.airtelfiber.com.domain > 192.168.1.6.56916: 26488 NXDomain 0/1/0 (121)

20:43:50.948243 IP (tos 0v0, ttl 64, id 17938, offset 0, flags [DF], proto UDP (17), length 70)

192.168.1.6.51086 > local.airtelfiber.com.domain: 52375+ PTR? 1.1.168.192.in-addr.arpa. (42)

20:43:50.951946 IP (tos 0v0, ttl 64, id 5406, offset 0, flags [DF], proto UDP (17), length 105)

local.airtelfiber.com.domain > 192.168.1.6.51086: 52375* 1/0/0 1.1.168.192.in-addr.arpa. PTR local.airtelfiber.

com. (77)

20:43:50.952542 IP (tos 0v0, ttl 64, id 4004, offset 0, flags [DF], proto UDP (17), length 70)

192.168.1.6.37682 > local.airtelfiber.com.domain: 60404+ PTR? 6.1.168.192.in-addr.arpa. (42)

20:43:50.0977680 IP (tos 0v0, ttl 64, id 5408, offset 0, flags [DF], proto UDP (17), length 147)

local.airtelfiber.com.domain > 192.168.1.6.37682: 60404 NXDomain 0/1/0 (119)

20:43:50.037325 ARP, Ethernet (len 6), IPv4 (len 4), Reply local.airtelfiber.com is-at b4:a7:c6:35:ff:30 (oui Unkno wn), length 46

20:43:55.813542 IP (tos 0v0, ttl 64, id 14895, offset 0, flags [DF], proto UDP (17), length 349)

local.airtelfiber.com.38319 > 192.168.1.255.9995: UDP, length 321

20:44:05.818591 ARP, Ethernet (len 6), IPv4 (len 4), Reply local.airtelfiber.com is-at b4:
```

10 Post Exploration:

Weevely: Weevely is a web shell tool designed for penetration testing and ethical hacking. It provides a stealthy way to maintain remote access to web servers, execute commands, and upload/download files through a PHP backdoor. Security professionals use Weevely to assess web application security and test server defenses against unauthorized access and control.