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Task Report: 2

1. Perform IP address spoofing:

IP address spoofing is a technique used to change the source IP address in an IP packet. IP spoofing can be used for malicious purpose, such as DDoS attacks or simply to make it more difficult to track down the source of problem.

Command: ifconfig eth0 <ip address>

2.Perform MAC address spoofing:

MAC address spoofing is a technique for changing a factory assigned media Access Control address of a network interface on a networked device. MAC addresses are unique identifiers on networks, they only need to be, unique they can be changed on most network hardware.

Command: execute macchanger with an options -s and an argument eth0.

- # macchanger -s eth0
- Use ifconfig command to turn off your network interface
 # ifconfig eth0 down.
- Change network cards hardware MAC address to some random hexadecimal numbers:
 - # macchanger -r eth0
- Network interface up and display your new MAC address:
 - # ifconfig eth0 up
 - # macchanger -s eth0

```
(root@ kali)-[/home/kali]
# macchanger -s eth0
Current MAC: e2:35:89:82:36:f3 (unknown)
Permanent MAC: 00:0c:29:d8:1c:23 (VMware, Inc.)
     oot@kali)-[/home/kali]
    ifconfig eth0 down
      oot@kali)-[/home/kali]
    macchanger -r eth0
Current MAC: e2:35:89:82:36:f3 (unknown)
Permanent MAC: 00:0c:29:d8:1c:23 (VMware, Inc.)
               42:5e:f9:3e:07:2f (unknown)
     root@kali)-[/home/kali]
 -# ifconfig eth0 up
     mot@kali)-[/home/kali]
macchanger -s eth0
Current MAC: 42:5e:f9:3e:07:2f (unknown)
Permanent MAC: 00:0c:29:d8:1c:23 (VMware, Inc.)
     root@kali)-[/home/kali]
   echo "rekha'
rekha
```

3. Whatweb:

The Whatweb is used to identify different web technologies used by the website. It is in cluded in Kali linux, and it can be accessed by going to applications, Web application analysis, Web vulnerability scanner. Whatweb also identifies version numbers, email address, account Id.

Command: whatweb <url>

- # whatweb mitkundapura.com
- # whatweb -v mitkundapura.com
- # whatweb -a 3 mitkundapura.com
- # whatweb -max-redirect 2 mitkundapura.com
- # whatweb -v -a 3 mitkundapura.com

```
root© kali)-[/home/kali]
whatweb mitkundapura.com
://mitkundapu
whatweb mitkundapura.com [301 Moved Permanently] Country[UNITED KINGDOM][db], HTML5, HTTPServer[LiteSpeed], IP[217.21.87.244], LiteSpeed, RedirectLocation[https://mitkundapura.com/], Title[301 Moved Permanently][iitle algebrase contains mediane(s)], UncommonHeaders[platform,content-security-policy] https://mitkundapura.com/ [200 OK] Bootstrap, Country[UNITED KINGOOM][db], Email[office@mitkundapura.com], HTML5, HTTPServer[LiteSpeed], IP[217.21.87.244], JQuery, LiteSpeed, PHP[7.4.33] Poweredby[Kedige], Script, Title[MITK- Moodlakatte Institute of Technology & Management, Kundapura Home], UncommonHeaders[platform,content-security-policy,alt-svc], X-Powered-By[PHP/7.4.33]
 atform,content-sec-

[root@ kali] - [/home/kali]

whatweb -v mitkundapura.com

whatweb report for http://mitkundap

Status : 301 Moved Permanently

-281 Moved Permanently
Summary : HTML5, HTTPServer[LiteSpeed], LiteSpeed, RedirectLocation[https://mitkundapura.com/], UncommonHeaders[platform,content-security-policy]
                 HTML version 5, detected by the doctype declaration
[ HTTPServer ]
HTTP server header string. This plugin also attempts to
identify the operating system from the server header.
                                           : LiteSpeed (from server string)
[ LiteSpeed ]
LiteSpeed web server, which is able to read Apache
configuration directly and used together with web hosting
control panels by replacing Apache
[ront@keli]-[/home/kali]
| whatweb --max-redirect 2 mitkundapura.com
| http://mitkundapura.com [301 Moved Permanently] Country[UNITED KINGDOM][68], HTML5, HTTPServer[LiteSpeed], IP[217.21.87.244], LiteSpeed, RedirectLocation[https://mitkundapura.com/], Title[301 Moved Permanently][fille element contains negline(s)]; UncommonHeaders[platform,content-security-policy]
| https://mitkundapura.com/ [200 OK] Bootstrap, Country[UNITED KINGDOM][68], Email[office@mitkundapura.com], HTML5, HTTPServer[LiteSpeed], IP[217.21.87.244],
| Juery, LiteSpeed, PHP[7.4.33], PoweredBy[Kedige], Script, Title[MITK- Moodlakatte Institute of Technology & Management, Kundapura Home], UncommonHeaders[platform,content-security-policy,alt-svc], X-Powered-By[PHP/7.4.33]
                     <mark>:kali)-[/home/kali</mark>]
eb -v -a 3 mitkundapura.com
 whatweb -v -a 3 mitkundapure-
whatweb report for http://mitkundapure-
whatweb report for http://mitkundapure-
whatwad remanently
status : 301 Moved Permanently
                     : 217.21.87.244
Country
Summary : HTML5, HTTPServer[LiteSpeed], LiteSpeed, RedirectLocation[https://mitkundapura.com/], UncommonHeaders[platform,content-security-policy]
 Detected Plugins:
  HTML5 |
HTML version 5, detected by the doctype declaration
  HTTPServer ]
HTTP server header string. This plugin also attempts to identify the operating system from the server header.
```

```
[ X-Powered-By | X-Powered-By HTTP header

String : PHP/7.4.33 (from x-powered-by string)

HTTP Headers:
    HTTP/1.1 200 OK
    Connection: close
    x-powered-by: PHP/7.4.33
    content-top: text/html; charset=UTF-8
    content-tength: 10470
    content-tength: 10470
    content-ength: 10470
    content-securing: 3 mar 2023 09:42:59 GMT
    server: LiteSpeed
    platform: hostinger
    content-security-policy: upgrade-insecure-requests
    alt-svc: h3=":443"; ma=2592000, h3-29=":443"; ma=2592000, h3-Q050=":443"; ma=2592000, h3-Q046=":443"; ma=2592000, h3-Q043=":443"; ma=2592000, h3-Q046=":443"; ma=2592000, h3-Q043=":443"; ma=2592000, h3-Q046=":443"; ma=2592
```

4. nslookup:

Nslookup (Name Server Lookup) is a useful command for getting information from the DNS server. The nslookup command is a tool used to query Domain Name System (DNS) server and retrieve information about specific domain or IP address.

Command: nslookup followed by the domain name will display the IP Address of the domain.

nslookup google.com

• MX (Mail Exchange) record maps a domain name to a list of mail exchange servers for that domain.

nslookup -type=mx google.com

• NS (Name Server) record maps a domain name to a list of DNS servers authoritative for that domain.

nslookup -type=ns google.com

• SOA (Start of Authority) record provides the authoritative information about the domain, e-mail address of the domain admin, the domain serial number, etc...

nslookup -type=soa google.com

To view information useful for debugging, use the debug option

nslookup -debug google.com

```
)-[/home/kali]
     nslookup google.com
Server: 192.168.19.2
                      192.168.19.2#53
Address:
Non-authoritative answer:
Name: google.com
Address: 142.250.183.238
Name: google.com
Address: 2404:6800:4007:81e::200e
       root@kali)-[/home/kali]
 _____nslookup -type=mx google.com
Server: 192.168.19.2
                      192.168.19.2#53
Address:
Non-authoritative answer:
                   mail exchanger = 10 smtp.google.com.
google.com
Authoritative answers can be found from:
smtp.google.com internet address = 74.125.24.27
smtp.google.com internet address = 74.125.24.26
smtp.google.com internet address = 142.250.4.27
smtp.google.com internet address = 142.250.4.26
smtp.google.com internet address = 142.251.10.27
smtp.google.com has AAAA address 2404:6800:4003:c03::1a
smtp.google.com has AAAA address 2404:6800:4003:c03::1b
smtp.google.com has AAAA address 2404:6800:4003:c06::1b
smtp.google.com has AAAA address 2404:6800:4003:c06::1a
               kali)-[/home/kali]
 nslookup -type=ns google.com
Server: 192.168.19.2
                      192.168.19.2#53
Non-authoritative answer:
google.com nameserver = ns1.google.com.
google.com nameserver = ns4.google.com.
                      nameserver = ns4.google.com.
google.com nameserver = ns2.google.com.
google.com nameserver = ns3.google.com.
Authoritative answers can be found from:
Authoritative answers can be found from:
ns1.google.com internet address = 216.239.32.10
ns1.google.com has AAAA address 2001:4860:4802:32::a
ns4.google.com internet address = 216.239.38.10
ns4.google.com has AAAA address 2001:4860:4802:38::a
ns2.google.com internet address = 216.239.34.10
ns2.google.com has AAAA address 2001:4860:4802:34::a
internet address = 216.239.36.10
ns3.google.com has AAAA address 2001:4860:4802:36::a
          ot@kali)-[/home/kali]
     nslookup -type=soa google.com
Server: 192.168.19.2
Address: 192.168.19.2
                     192.168.19.2#53
Address:
Non-authoritative answer:
google.com
           origin = ns1.google.com
           mail addr = dns-admin.google.com
           serial = 513489231
           refresh = 900
```

```
retry = 900
         expire = 1800
         minimum = 60
Authoritative answers can be found from:
google.com nameserver = ns1.google.com.
google.com nameserver = ns4.google.com.
google.com nameserver = ns2.google.com.
google.com nameserver = ns3.google.com.
ns4.google.com internet address = 216.239.38.10
ns4.google.com has AAAA address 2001:4860:4802:38::a
ns3.google.com internet address = 216.239.36.10
ns3.google.com has AAAA address 2001:4860:4802:36::a
ns1.google.com internet address = 216.239.32.10
ns1.google.com has AAAA address 2001:4860:4802:32::a
ns2.google.com internet address = 216.239.34.10
ns2.google.com has AAAA address 2001:4860:4802:34::a
   (root@kali)-[/home/kali]
   nslookup -debug google.com
          192.168.19.2
Server:
Address:
                 192.168.19.2#53
    QUESTIONS:
         google.com, type = A, class = IN
    ANSWERS:
     → google.com
         internet address = 142.250.183.238
         ttl = 5
    AUTHORITY RECORDS:
    ADDITIONAL RECORDS:
Non-authoritative answer:
Name: google.com
Address: 142.250.183.238
    QUESTIONS:
         google.com, type = AAAA, class = IN
    ANSWERS:
    → google.com
         has AAAA address 2404:6800:4007:81e::200e
         ttl = 5
    AUTHORITY RECORDS:
    ADDITIONAL RECORDS:
Name: google.com
Address: 2404:6800:4007:81e::200e
(root@kali)-[/home/kali]
# echo "rekha"
rekha
```

5. Whois:

Whois command searches a username directory and displays information about the user ID or nickname specified in the name parameter.

Syntax: whois <website name>

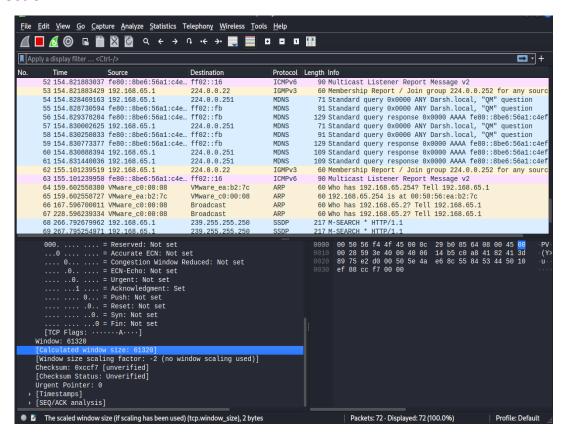
Command: # whois mitkundapura.com

```
-[/home/kali]
    whois mitkundapura.com
   Domain Name: MITKUNDAPURA.COM
   Registry Domain ID: 1656001143_DOMAIN_COM-VRSN
   Registrar WHOIS Server: whois.registrar.eu
   Registrar URL: http://www.openprovider.com
   Updated Date: 2022-02-22T08:46:34Z
   Creation Date: 2011-05-13T20:28:43Z
   Registry Expiry Date: 2023-05-13T20:28:43Z
Registrar: Hosting Concepts B.V. d/b/a Registrar.eu
   Registrar IANA ID: 1647
   Registrar Abuse Contact Email: abuse@registrar.eu
   Registrar Abuse Contact Phone: +31.104482297
   Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited
   Name Server: NS1.DNS-PARKING.COM
   Name Server: NS2.DNS-PARKING.COM
   DNSSEC: unsigned
   URL of the ICANN Whois Inaccuracy Complaint Form: https://www.icann.org/wicf/
>>> Last update of whois database: 2023-03-03T09:47:14Z <<<
For more information on Whois status codes, please visit https://icann.org/epp
NOTICE: The expiration date displayed in this record is the date the
registrar's sponsorship of the domain name registration in the registry is
currently set to expire. This date does not necessarily reflect the expiration
date of the domain name registrant's agreement with the sponsoring
registrar. Users may consult the sponsoring registrar's Whois database to
view the registrar's reported date of expiration for this registration.
TERMS OF USE: You are not authorized to access or query our Whois
database through the use of electronic processes that are high-volume and
automated except as reasonably necessary to register domain names or
modify existing registrations; the Data in VeriSign Global Registry
Services' ("VeriSign") Whois database is provided by VeriSign for
information purposes only, and to assist persons in obtaining information
```

```
; The data in this registrar whois database is provided to you for
; information purposes only, and may be used to assist you in obtaining
; information about or related to domain name registration records.
; We do not guarantee its accuracy.
; By submitting a WHOIS query, you agree that you will use this data
; only for lawful purposes and that, under no circumstances, you will
; use this data to
; a) allow, enable, or otherwise support the transmission by e-mail, telephone, or facsimile of mass, unsolicited, commercial advertising
     or solicitations to entities other than the data recipient's own
     existing customers; or
; b) enable high volume, automated, electronic processes that send queries
     or data to the systems of any Registry Operator or ICANN-Accredited
     registrar, except as reasonably necessary to register domain names
     or modify existing registrations.
 The compilation, repackaging, dissemination or other use of this data
; is expressly prohibited without prior written consent.
; These terms may be changed without prior notice. By submitting this
; query, you agree to abide by this policy.
      <mark>ot⊗kali</mark>)-[/home/kali]
```

6.Data packet using wireshark:

Wireshark is an open source packet analyser, which is used for education, analysis, software development, communication protocol development and network troubleshooting. Wireshark is a network protocol analyzer, or an application that captures packets from a network connection.



7. Netdiscover commands:

Netdiscover is a simple ARP scanner that can be used to scan for live hosts in a network. It can scan for multiple subnet also. It simply produces the output in a live display. This can be used in the first phases of a pentest where you have access to a network.

Command:

netdiscover -h

Use the following command to check the IP address:

ifconfig

We can scan a specific range with -r option:

netdiscover -r 192.168.19.0/24

```
lo: flags-73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet 6::1 prefixlen 128 scopeid 0×10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 4 bytes 240 (240.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4 bytes 240 (240.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(reorG kali)-[/home/kali]
    netdiscover 192.168.19.132

Invalid extra argument: 192.168.19.132

Netdiscover 0.9 [Active/passive ARP reconnaissance tool]
Written by: Jaime Penalba <jpenalbae@gmail.com>

Usage: netdiscover [-i device] [-r range | -l file | -p] [-m file] [-F filter] [-s time] [-c count] [-n node] [-dfPLNS]
    -i device: your network device
    -r range: scan a given range instead of auto scan. 192.168.6.0/24,/16,/8
    -l file: scan the list of ranges contained into the given file
    -p passive mode: do not send anything, only sniff
    -m file: scan a list of known MACs and host names
    -f filter: custonize pcap filter expression (default: "arp")
    -s time: time to sleep between each ARP request (milliseconds)
    -c count: number of times to send each ARP request (for nets with packet loss)
    -n node: last source IP octet used for scanning (from 2 to 253)
    -d ignore home config files for autoscan and fast mode
    -f enable fastmode scan, saves a lot of time, recommended for auto
    -P print results in a format suitable for parsing by another program and stop after active scan
    -L similar to -P but continue listening after the active scan is completed
    -N Do not print header. Only valid when -P or -L is enabled.
    -S enable sleep time suppression between each request (hardcore mode)
```

File Actions Edit View Help

Currently scanning: (passive) | Screen View: Unique Hosts

3 Captured ARP Reg/Rep packets, from 1 hosts. Total size: 180

IP	At MAC Address	Count	Len	MAC Vendor / Hostname
192.168.65.2	00:50:56:f4:4f:45	3	180	VMware, Inc.
7	1			

zsh: suspended sudo netdiscover -p

```
Currently scanning: 172.19.249.0/16 | Screen View: Unique Hosts

10 Captured ARP Req/Rep packets, from 3 hosts. Total size: 600

IP At MAC Address Count Len MAC Vendor / Hostname

192.168.65.1 00:50:56:c0:00:08 2 120 VMware, Inc.
192.168.65.2 00:50:56:f4:4f:45 6 360 VMware, Inc.
192.168.65.254 00:50:56:ea:b2:7c 2 120 VMware, Inc.
2sh: suspended sudo netdiscover -d -i eth0
```

8. Crypto Configuration flaw:

A Cryptographic failure is a critical web application security vulnerability that exposes sensitive application data on a weak or non-existence cryptographic algorithm.



9. Nikto:

Nikto is an open sources web server scanner which performs comprehensive tests against web servers for multiple items. Nikto can check for server configuration items such as the presence of multiple index files, HTTP server option, and will attempt to identify installed web server and software.

Syntax: nikto -h <website name>

Command: # nikto -h mitkundapura.com

```
**Raikto -h mitkundapura.com**
- Nikto v2.1.6
- Nikto v2.1.6
- Target IP: 217.21.87.244
- Target Hostname: mitkundapura.com  
- Target Hostname: mitkundapura.com  
- Target Port: 80
- Start Time: 2023-03-03 00:09:45 (GMT-5)

- Server: LiteSpeed
- The anti-clickjacking X-Frame-Options header is not present.
- The X-CSS-Protection header is not defined. This header can hint to the user agent to protect against some forms of XSS
- Uncommon header 'platform' found, with contents: hostinger
- The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type
- Root page / redirects to: https://mitkundapura.com/
- NO CGT Directories found (use 'c-all' to force check all possible dirs)
- Server may leak inodes via ETags, header found with file /images, inode: 999 size: 61cb51cf, mtime: 7630b837fa8dd3cc;;;
- ERROR: Error limit (20) reached for host, giving up. Last error: error reading HTTP response
- Scan terminated: 20 error(s) and 5 item(s) reported on remote host
- End Time: 2023-03-03 00:10:30 (GMT-5) (45 seconds)

- I host(s) tested
- (kali@kali)-[-]
- secho "rekha"

rekha
```

10.Find Xml pages in website using dirbuster:

DirBuster is a multi threaded java application designed to brute force directories and files names on web/application servers.

DirBuster is a tool created to discover, by brute force, the existing files and directories in a web server. We will use it in this recipe to search for a specific list of files and directories.

