Government Polytechnic Udupi

Name: Rekha K

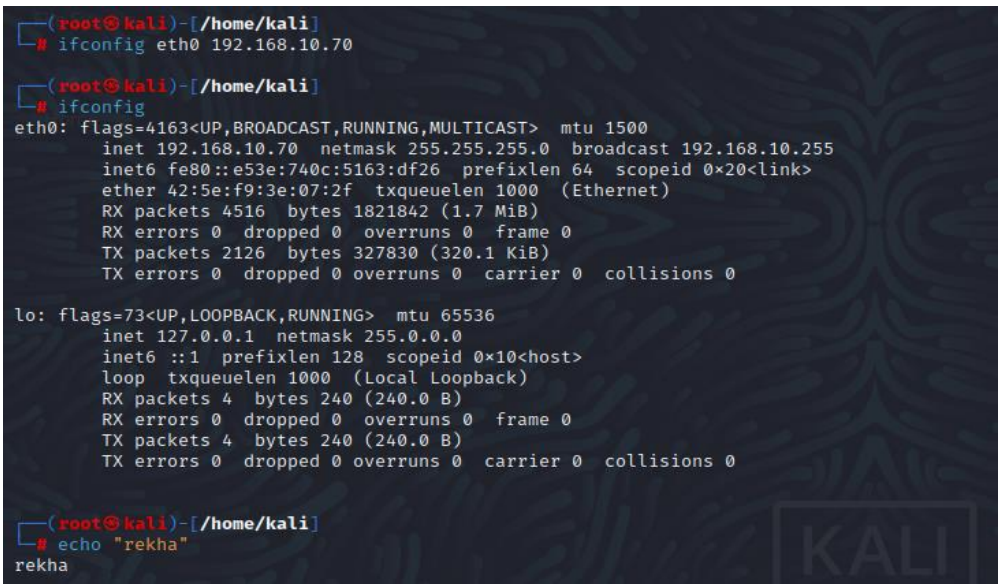
Register No.:145CS20014

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**

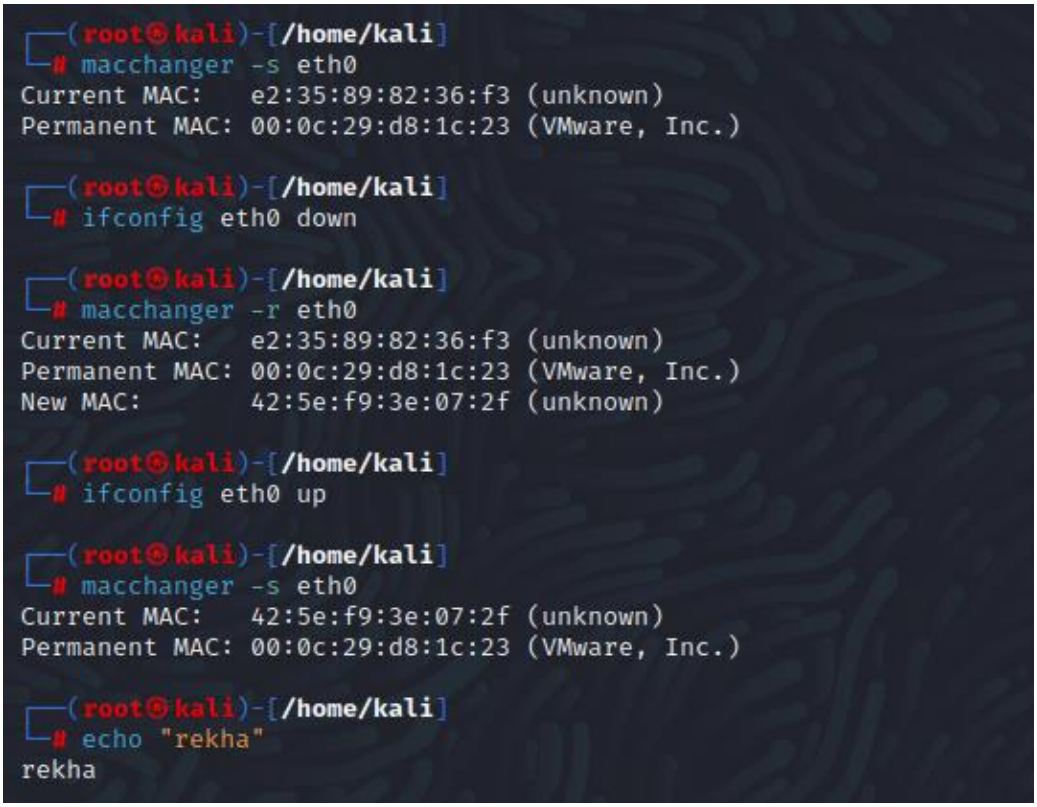
  ```
  # ifconfig eth0 down.
  ```

- **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
  ```



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>

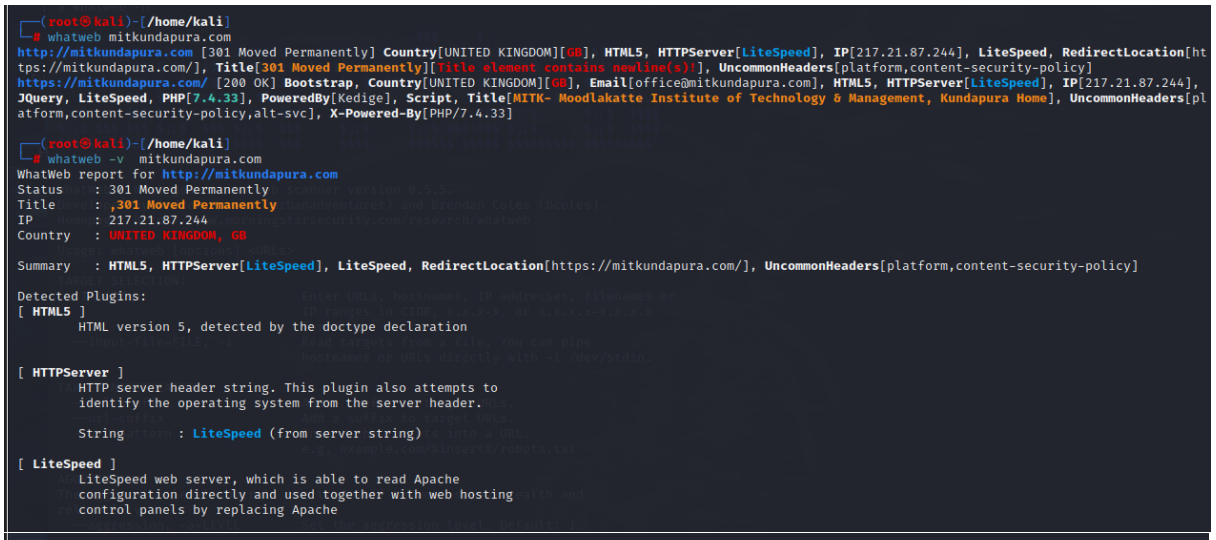
whatweb mitkundapura.com

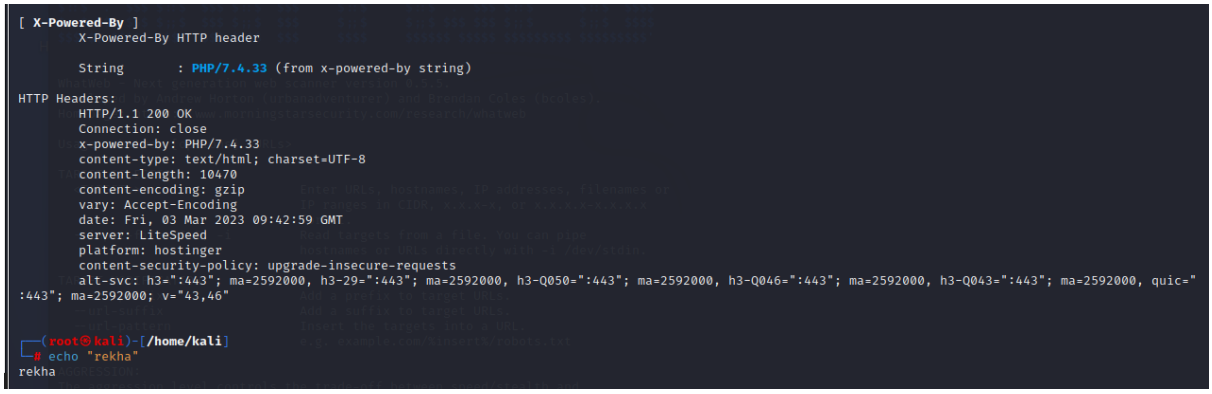
whatweb -v mitkundapura.com

whatweb -a 3 mitkundapura.com

whatweb –max-redirect 2 mitkundapura.com

whatweb -v -a 3 mitkundapura.com





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

```
┌──(root㉿kali)-[/home/kali]
└─# nslookup google.com
Server:         192.168.19.2
Address:        192.168.19.2#53

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
Address:        192.168.19.2#53

Non-authoritative answer:
google.com      mail exchanger = 10 smtp.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

┌──(root㉿kali)-[/home/kali]
└─# nslookup -type=ns google.com
Server:         192.168.19.2
Address:        192.168.19.2#53

Non-authoritative answer:
google.com      nameserver = ns1.google.com.
google.com      nameserver = ns4.google.com.
google.com      nameserver = ns2.google.com.
google.com      nameserver = ns3.google.com.

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
ns3.google.com  internet address = 216.239.36.10
ns3.google.com  has AAAA address 2001:4860:4802:36::a

┌──(root㉿kali)-[/home/kali]
└─# nslookup -type=soa google.com
Server:         192.168.19.2
Address:        192.168.19.2#53

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
Server:         192.168.19.2
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>

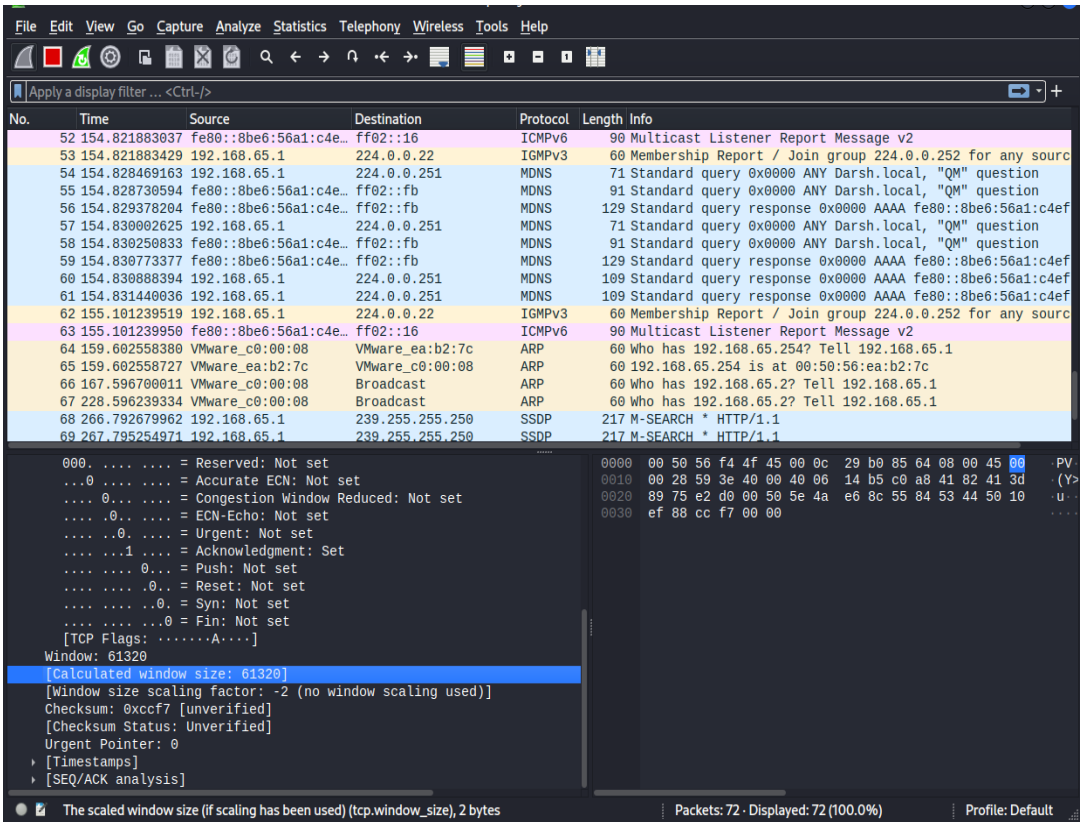
Command: # whois mitkundapura.com

```
┌──(root㉿kali)-[/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.


┌──(root㉿kali)-[/home/kali]
└─# echo "rekha"
rekha
```

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

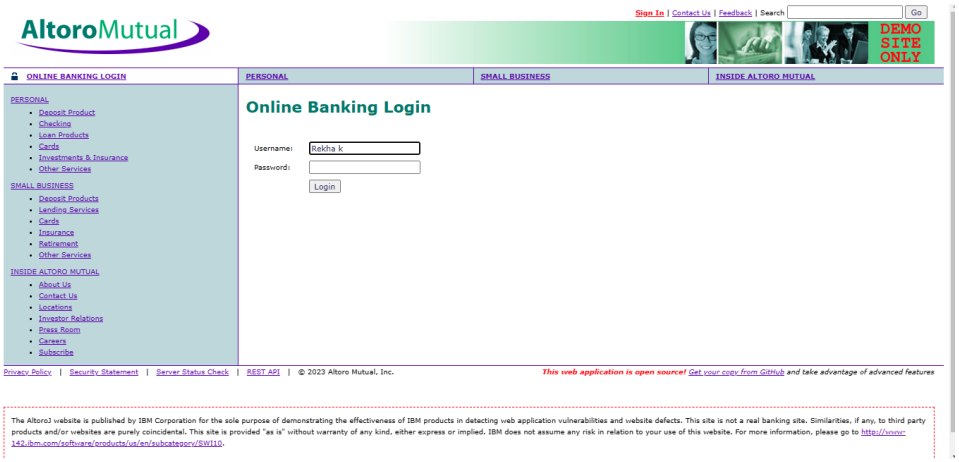
- **We can scan a specific range with -r option:**

  # netdiscover -r 192.168.19.0/24

```
┌──(root㉿kali)-[/home/kali]
└─# netdiscover -h
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: customize 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)

If -r, -l or -p are not enabled, netdiscover will scan for common LAN addresses.

┌──(root㉿kali)-[/home/kali]
└─# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.19.132  netmask 255.255.255.0  broadcast 192.168.19.255
        inet6 fe80::e53e:740c:5163:df26  prefixlen 64  scopeid 0×20<link>
        ether 42:5e:f9:3e:07:2f  txqueuelen 1000  (Ethernet)
        RX packets 8493  bytes 3321127 (3.1 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 4342  bytes 571067 (557.6 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::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


┌──(root㉿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: customize 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)
 Currently scanning: Finished!   |   Screen View: Unique Hosts

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

   IP            At MAC Address     Count     Len  MAC Vendor / Hostname

 192.168.19.1    00:50:56:c0:00:08      1      60  VMware, Inc.
 192.168.19.2    00:50:56:e7:d9:92      1      60  VMware, Inc.
 192.168.19.254  00:50:56:ec:93:e4      1      60  VMware, Inc.

zsh: suspended  netdiscover -r 192.168.19.0/24

┌──(root㉿kali)-[/home/kali]
└─# echo "rekha"
rekha
```

8.CryptoConfiguration flaw:

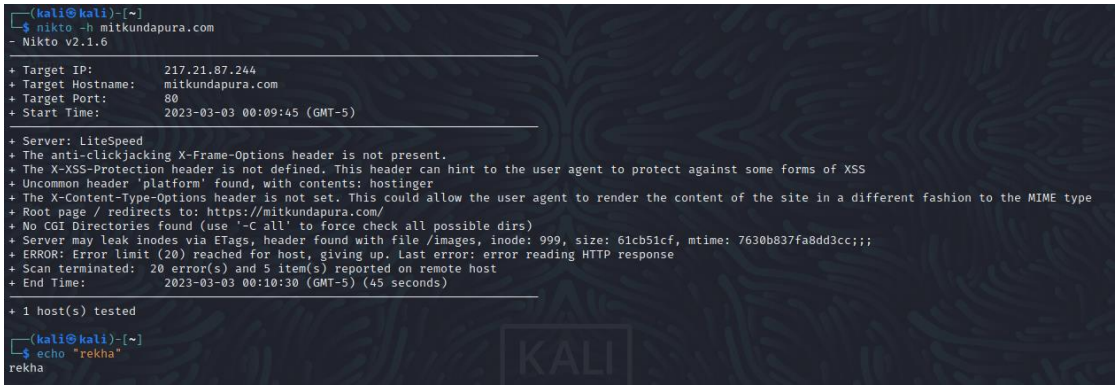
A Cryptographic failure is a critical web application security vulnerability that exposes sensitive application data on a weak or non-existence cryptographic algorithm.



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



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.