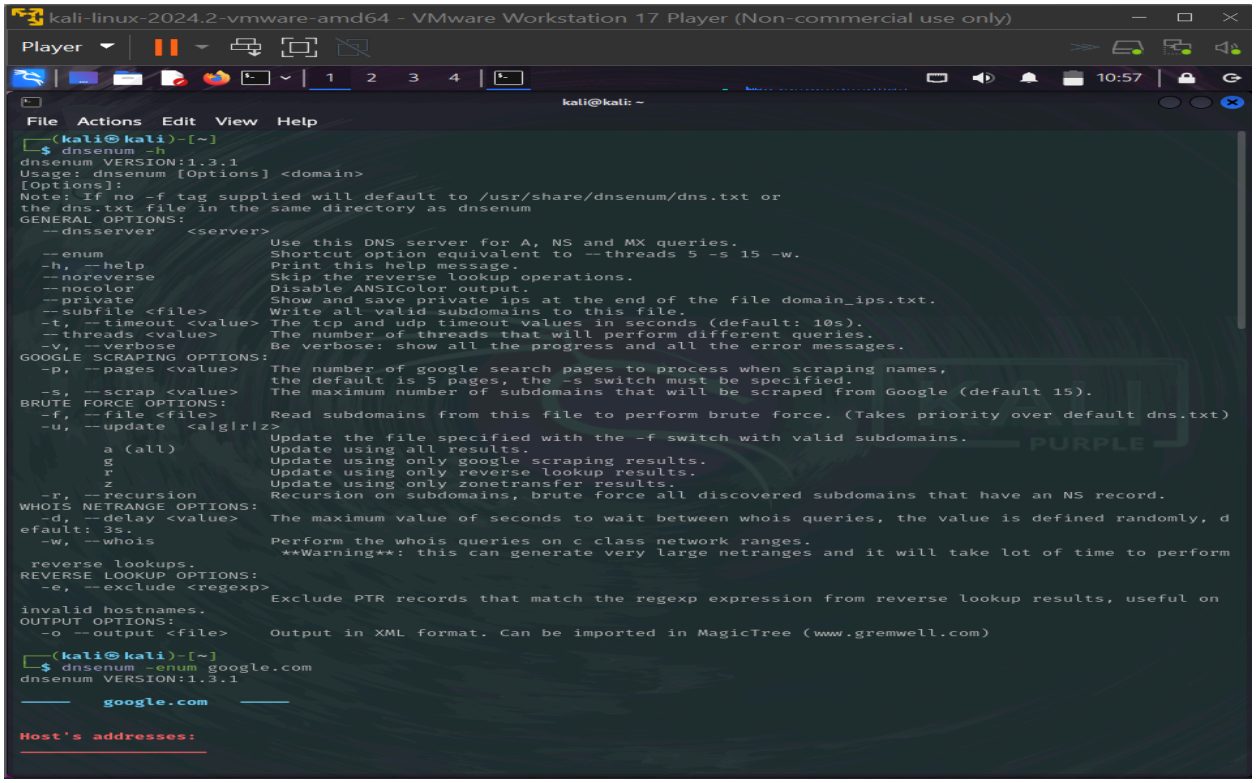
GATHERING DNS INFO WITH DNSENUM

Tools: KALI LINUX
Site: GOOGLE.COM

`dnsenum` is a DNS enumeration tool widely used for information gathering and penetration testing. It is written in Perl and is commonly included in security distributions like Kali Linux. Its primary purpose is to extract valuable information about a domain, such as subdomains, host records, and more.

Input from kali:



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Player | 1 2 3 4 | 10:58

kali@kali: ~

File Actions Edit View Help

```
google.com.                     250     IN      A       142.250.200.206

Name Servers:

ns2.google.com.                 345431  IN      A       216.239.34.10
ns4.google.com.                 297926  IN      A       216.239.38.10
ns1.google.com.                 345431  IN      A       216.239.32.10
ns3.google.com.                 325269  IN      A       216.239.36.10

Mail (MX) Servers:

smtp.google.com.                215     IN      A       173.194.69.27
smtp.google.com.                215     IN      A       173.194.69.26
smtp.google.com.                215     IN      A       173.194.79.26
smtp.google.com.                215     IN      A       173.194.79.27
smtp.google.com.                215     IN      A       108.177.96.27

Trying Zone Transfers and getting Bind Versions:

Trying Zone Transfer for google.com on ns3.google.com ...
AXFR record query failed: corrupt packet

Trying Zone Transfer for google.com on ns4.google.com ...
AXFR record query failed: corrupt packet

Trying Zone Transfer for google.com on ns1.google.com ...
AXFR record query failed: corrupt packet

Trying Zone Transfer for google.com on ns2.google.com ...
AXFR record query failed: corrupt packet

Scraping google.com subdomains from Google:

 ____    Google search page: 1    ____
  support
 ____    Google search page: 2    ____
  support
 ____    Google search page: 3    ____
```

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Player | 1 2 3 4 | 10:58

kali@kali: ~

File Actions Edit View Help

```
 ____    Google search page: 3    ____
  support
 ____    Google search page: 4    ____
  support
 ____    Google search page: 5    ____
  support

Google Results:

support.google.com.             66      IN      A       216.58.223.238

Brute forcing with /usr/share/dnsenum/dns.txt:

about.google.com.               300     IN      CNAME   www3.l.google.com.
www3.l.google.com.              216     IN      A       142.251.37.206
accounts.google.com.            222     IN      A       74.125.128.84
admin.google.com.               273     IN      A       172.217.19.142
ads.google.com.                 208     IN      A       142.251.37.238
ap.google.com.                  300     IN      CNAME   www2.l.google.com.
www2.l.google.com.              274     IN      A       142.251.37.36
apps.google.com.                300     IN      CNAME   www3.l.google.com.
www3.l.google.com.              208     IN      A       142.251.37.206
archive.google.com.             300     IN      A       172.217.171.238
asia.google.com.                300     IN      A       216.58.223.228
america.google.com.             295     IN      CNAME   www3.l.google.com.
www3.l.google.com.              205     IN      A       142.251.37.206
blog.google.com.                300     IN      CNAME   www.blogger.com.
www.blogger.com.                224     IN      CNAME   blogger.l.google.com.
blogger.l.google.com.           33      IN      A       172.217.171.233
channel.google.com.             300     IN      A       142.250.203.238
d.google.com.                   300     IN      CNAME   www3.l.google.com.
www3.l.google.com.              184     IN      A       142.251.37.206
directory.google.com.           300     IN      CNAME   www3.l.google.com.
www3.l.google.com.              182     IN      A       142.251.37.206
dns.google.com.                 756     IN      A           8.8.8.8
dns.google.com.                 756     IN      A           8.8.4.4
elections.google.com.           300     IN      A       172.217.21.14
environment.google.com.         300     IN      A       142.250.200.238
europe.google.com.              295     IN      A       216.58.223.196
finance.google.com.             300     IN      CNAME   www3.l.google.com.
www3.l.google.com.              166     IN      A       142.251.37.206
health.google.com.              300     IN      A       142.250.201.14
issuetracker.google.com.        300     IN      A       142.250.200.238
jobs.google.com.                300     IN      CNAME   www3.l.google.com.
www3.l.google.com.              135     IN      A       142.251.37.206
```

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Player

1 2 3 4 11:01

kali@kali: ~

File Actions Edit View Help

```
└─$ dnsenum -f list.txt -r google.com
dnsenum VERSION:1.3.1

------    google.com    ------


Host's addresses:
__________________

google.com.                              201      IN    A        142.250.200.206


Name Servers:
_____________

ns2.google.com.                          345570   IN    A        216.239.34.10
ns4.google.com.                          297574   IN    A        216.239.38.10
ns1.google.com.                          345569   IN    A        216.239.32.10
ns3.google.com.                          324917   IN    A        216.239.36.10


Mail (MX) Servers:
__________________

smtp.google.com.                         231      IN    A        142.251.18.27
smtp.google.com.                         231      IN    A        142.251.18.26
smtp.google.com.                         231      IN    A        142.250.153.26
smtp.google.com.                         231      IN    A        142.250.153.27
smtp.google.com.                         231      IN    A        142.250.145.27


Trying Zone Transfers and getting Bind Versions:
________________________________________________


Trying Zone Transfer for google.com on ns3.google.com ...
AXFR record query failed: corrupt packet

Trying Zone Transfer for google.com on ns1.google.com ...
AXFR record query failed: corrupt packet

Trying Zone Transfer for google.com on ns4.google.com ...
AXFR record query failed: corrupt packet

Trying Zone Transfer for google.com on ns2.google.com ...
AXFR record query failed: corrupt packet


Brute forcing with list.txt:
____________________________

Error: make sure that the file list.txt exists and has a size greater than zero.

┌──(kali㉿kali)-[~]
└─$
```

Here we would be using DNSENUM to gather information and test some of its uses. It comes pre installed in kali so we go on and check the help option with this command : dnsenum -h

Comprehensive DNS Enumeration Using `dnsenum`

Step 1: Performing a Comprehensive DNS Enumeration

To perform a comprehensive information-gathering scan on the domain `google.com`, use the following command:

```
dnsenum --enum google.com
```

This command will:

1. Gather information such as:
    - Host IP addresses
    - Name servers (NS)
    - Mail servers (MX)
    - Subdomains
2. Attempt **domain takeovers**, which could reveal misconfigurations or unclaimed DNS records.
3. Perform **automatic brute-forcing** of common subdomains, such as:
    - `admin.google.com`
    - `mail.google.com`
    - `webmail.google.com`

This provides insights into the target's DNS infrastructure and expands the attack surface.

Step 2: Brute Force Search for Subdomains Using a Custom File

To perform a brute force search for subdomains with a custom list of keywords, follow these steps:

Create a Wordlist File
Create a file named `list.txt` and include subdomain keywords that you want to target. Example:

Copy code

```
mail
email
imap
pop3
smtp
webmail
admin
support
clients
secure
www
ftp
ldap
```

1.

Run the Command

Use the following `dnsenum` command to perform the brute force search:

```
dnsenum -f list.txt -r google.com
```

2.
    - `-f list.txt`: Specifies the custom wordlist file.
    - `-r`: Enables reverse lookups on IP ranges discovered during the scan.

Benefits of These Commands

- Reveals detailed DNS information, such as:
    - Subdomains
    - MX and NS records
- Identifies potential misconfigurations or vulnerabilities.

- Expands the attack surface by finding less obvious subdomains.
- Custom brute force allows you to focus on subdomains relevant to your objectives.

Additional Tips

- Use a comprehensive wordlist for brute-forcing to improve results. You can find or generate large wordlists with DNS-focused keywords.
- Combine this scan with other DNS tools for cross-validation of results.
- Only use these techniques on targets you have permission to assess to avoid legal or ethical issues.