DOMAIN NAME SYSTEM

MENCARI INFORMASI MENGENAI ALAMAT IP DARI 5 SITUS WEB MENGGUNAKAN COMMAND DIG, NMAP, DAN NSLOOKUP

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FAKULTAS ILMU KOMPUTER

PROGRAM STUDI SISTEM KOMPUTER

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PALEMBANG

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1. **Situs www.wikipedia.org**

   ➤ **nslookup**

```
master@master:~$ nslookup www.wikipedia.org
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
www.wikipedia.org       canonical name = dyna.wikimedia.org.
Name:   dyna.wikimedia.org
Address: 103.102.166.224
Name:   dyna.wikimedia.org
Address: 2001:df2:e500:ed1a::1
```

- www.wikipedia.org adalah alias dari dyna.wikimedia.org.
- dyna.wikimedia.org memiliki alamat IP 103.102.166.224 dan alamat IPv6 2001:df2:e500:edla::1.

   ➤ **nmap**

```
master@master:~$ nmap www.wikipedia.org
Starting Nmap 7.80 ( https://nmap.org ) at 2024-03-28 08:46 WIB
Nmap scan report for www.wikipedia.org (103.102.166.224)
Host is up (0.029s latency).
Other addresses for www.wikipedia.org (not scanned): 2001:df2:e500:ed1a::1
rDNS record for 103.102.166.224: text-lb.eqsin.wikimedia.org
Not shown: 990 closed ports
PORT     STATE    SERVICE
22/tcp   filtered ssh
25/tcp   filtered smtp
80/tcp   open     http
139/tcp  filtered netbios-ssn
179/tcp  filtered bgp
443/tcp  open     https
445/tcp  filtered microsoft-ds
5666/tcp filtered nrpe
9090/tcp filtered zeus-admin
9100/tcp filtered jetdirect
```

- Host www.wikipedia.org aktif.
- Port 80 (HTTP) dan 443 (HTTPS) terbuka.
- Port lain terfilter.

   ➤ **dig**

```
master@master:~$ dig www.wikipedia.org

; <<>> DiG 9.18.12-0ubuntu0.22.04.2-Ubuntu <<>> www.wikipedia.org
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 62917
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.wikipedia.org.             IN      A

;; ANSWER SECTION:
www.wikipedia.org.      116     IN      CNAME   dyna.wikimedia.org.
dyna.wikimedia.org.     116     IN      A       103.102.166.224

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Mar 28 08:49:04 WIB 2024
;; MSG SIZE  rcvd: 91
```

2. Situs www.google.com

> **nslookup**

```
master@master:~$ nslookup www.google.com
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
www.google.com  canonical name = forcesafesearch.google.com.
Name:   forcesafesearch.google.com
Address: 216.239.38.120
Name:   forcesafesearch.google.com
Address: 2001:4860:4802:32::78
```

www.google.com adalah forcesafesearch.google.com dan alamat IPnya adalah 216.239.38.120 dan 2001:4860:4802:32::78.'

> **nmap**

```
master@master:~$ nmap www.google.com
Starting Nmap 7.80 ( https://nmap.org ) at 2024-03-28 08:45 WIB
Nmap scan report for www.google.com (172.253.118.105)
Host is up (0.026s latency).
Other addresses for www.google.com (not scanned): 2001:4860:4802:32::78 172.253.118.106
8.103 172.253.118.147 172.253.118.99 172.253.118.104
rDNS record for 172.253.118.105: sl-in-f105.1e100.net
Not shown: 998 filtered ports
PORT    STATE SERVICE
80/tcp  open  http
443/tcp open  https
```

- **Port 80:** Port ini digunakan untuk layanan HTTP, yang merupakan protokol yang digunakan untuk mentransfer data web.
- **Port 443:** Port ini digunakan untuk layanan HTTPS, yang merupakan versi aman dari HTTP.

> **dig**

```
master@master:~$ dig www.google.com

; <<>> DiG 9.18.12-0ubuntu0.22.04.2-Ubuntu <<>> www.google.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 49021
;; flags: qr rd ra; QUERY: 1, ANSWER: 6, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.google.com.                        IN      A

;; ANSWER SECTION:
www.google.com.         126     IN      A       172.253.118.99
www.google.com.         126     IN      A       172.253.118.103
www.google.com.         126     IN      A       172.253.118.104
www.google.com.         126     IN      A       172.253.118.105
www.google.com.         126     IN      A       172.253.118.106
www.google.com.         126     IN      A       172.253.118.147

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Mar 28 08:48:36 WIB 2024
;; MSG SIZE  rcvd: 139
```

3. Situs www.cloudflare.com

➢ **nslookup**

```
master@master:~$ nslookup www.cloudflare.com
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:   www.cloudflare.com
Address: 104.16.123.96
Name:   www.cloudflare.com
Address: 104.16.124.96
Name:   www.cloudflare.com
Address: 2606:4700::6810:7b60
Name:   www.cloudflare.com
Address: 2606:4700::6810:7c60
```

alamat IP dari cloudflare.com adalah 104.16.123.96, 104.16.124.96, 2606:4700::6810:7b60, dan 2606:4700::6810:7c60.

➢ **nmap**

```
master@master:~$ nmap www.cloudflare.com
Starting Nmap 7.80 ( https://nmap.org ) at 2024-03-28 08:44 WIB
Nmap scan report for www.cloudflare.com (104.16.124.96)
Host is up (0.023s latency).
Other addresses for www.cloudflare.com (not scanned): 2606:4700::6810:7b60 2606:4700::6810:7c60 10
4.16.123.96
Not shown: 996 filtered ports
PORT     STATE SERVICE
80/tcp   open  http
443/tcp  open  https
8080/tcp open  http-proxy
8443/tcp open  https-alt

Nmap done: 1 IP address (1 host up) scanned in 5.35 seconds
```

- **Port 80:** Port ini digunakan untuk layanan HTTP, yang merupakan protokol yang digunakan untuk mentransfer data web.
- **Port 443:** Port ini digunakan untuk layanan HTTPS, yang merupakan versi aman dari HTTP. HTTPS menggunakan enkripsi untuk melindungi data yang ditransfer antara browser dan server web.
- **Port 8080:** Port ini digunakan untuk layanan HTTP alternatif.
- **Port 8443:** Port ini digunakan untuk layanan HTTPS alternatif.

➢ **Dig**

```
master@master:~$ dig www.cloudflare.com

; <<>> DiG 9.18.12-0ubuntu0.22.04.2-Ubuntu <<>> www.cloudflare.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 14629
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.cloudflare.com.            IN      A

;; ANSWER SECTION:
www.cloudflare.com.     119     IN      A       104.16.123.96
www.cloudflare.com.     119     IN      A       104.16.124.96

;; Query time: 7 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Mar 28 08:47:50 WIB 2024
;; MSG SIZE  rcvd: 79
```

4. Situs www.quad9.net

> **nslookup**

```
master@master:~$ nslookup www.quad9.net
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:    www.quad9.net
Address: 216.21.3.77
Name:    www.quad9.net
Address: 2620:0:871:9000::77
```

alamat IP dari www.quad9.net adalah 216.21.3.77 dan 2620:0:871:9000::77.

> **nmap**

```
master@master:~$ nmap www.quad9.net
Starting Nmap 7.80 ( https://nmap.org ) at 2024-03-28 08:45 WIB
Nmap scan report for www.quad9.net (216.21.3.77)
Host is up (0.21s latency).
Other addresses for www.quad9.net (not scanned): 2620:0:871:9000::77
rDNS record for 216.21.3.77: web1.sjc.rrdns.pch.net
Not shown: 999 filtered ports
PORT    STATE SERVICE
443/tcp open  https

Nmap done: 1 IP address (1 host up) scanned in 19.02 seconds
```

Port 443 : Port ini digunakan untuk layanan HTTPS, yang merupakan versi aman dari HTTP

> **dig**

```
master@master:~$ dig www.quad9.net

; <<>> DiG 9.18.12-0ubuntu0.22.04.2-Ubuntu <<>> www.quad9.net
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 32123
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 3, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.quad9.net.                 IN      A

;; ANSWER SECTION:
www.quad9.net.          1020    IN      A       216.21.3.77

;; AUTHORITY SECTION:
quad9.net.              1020    IN      NS      ns2.pch.net.
quad9.net.              1020    IN      NS      anyns.pch.net.
quad9.net.              1020    IN      NS      ns3.pch.net.

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Mar 28 08:48:12 WIB 2024
;; MSG SIZE  rcvd: 118
```

5. **Situs www.gmail.com**
   ➢ **nslookup**

```
master@master:~$ nslookup www.gmail.com
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:   www.gmail.com
Address: 142.251.10.83
Name:   www.gmail.com
Address: 142.251.10.18
Name:   www.gmail.com
Address: 142.251.10.19
Name:   www.gmail.com
Address: 142.251.10.17
Name:   www.gmail.com
Address: 2404:6800:4003:c11::12
Name:   www.gmail.com
Address: 2404:6800:4003:c11::13
Name:   www.gmail.com
Address: 2404:6800:4003:c11::11
Name:   www.gmail.com
Address: 2404:6800:4003:c11::53
```

www.gmail.com memiliki beberapa alamat IP, yaitu:

- 142.251.10.83
- 142.251.10.18
- 142.251.10.19
- 142.251.10.17
- 2404:6800:4003:c11::12
- 2404:6800:4003:c11::13
- 2404:6800:4003:c11::11
- 2404:6800:4003:c11::53

Alamat IP ini digunakan untuk mengarahkan pengguna ke server Gmail yang sesuai.

   ➢ **nmap**

```
master@master:~$ nmap www.gmail.com
Starting Nmap 7.80 ( https://nmap.org ) at 2024-03-28 09:06 WIB
Nmap scan report for www.gmail.com (142.251.10.19)
Host is up (0.050s latency).
Other addresses for www.gmail.com (not scanned): 2404:6800:4003:c11::13 2404:6800:4003:c11::53
4:6800:4003:c11::11 2404:6800:4003:c11::12 142.251.10.83 142.251.10.17 142.251.10.18
rDNS record for 142.251.10.19: sd-in-f19.1e100.net
Not shown: 997 filtered ports
PORT     STATE SERVICE
80/tcp   open  http
443/tcp  open  https
843/tcp  open  unknown
```

- Host www.gmail.com aktif dan dapat diakses.
- Host memiliki alamat IP 142.251.10.19.
- Host memiliki beberapa alamat IP lain yang tidak dipindai.
- Host memiliki nama domain sd-in-f19.1e100.net.
- Host memiliki port TCP 80 (HTTP) dan 443 (HTTPS) yang terbuka.
- Host memiliki port TCP 843 yang terbuka dengan layanan yang tidak diketahui.

➢ **dig**

```
master@master:~$ dig www.gmail.com

; <<>> DiG 9.18.12-0ubuntu0.22.04.2-Ubuntu <<>> www.gmail.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 26947
;; flags: qr rd ra; QUERY: 1, ANSWER: 4, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.gmail.com.                  IN      A

;; ANSWER SECTION:
www.gmail.com.          255     IN      A       142.251.10.17
www.gmail.com.          255     IN      A       142.251.10.18
www.gmail.com.          255     IN      A       142.251.10.83
www.gmail.com.          255     IN      A       142.251.10.19

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Mar 28 09:06:28 WIB 2024
;; MSG SIZE  rcvd: 106
```