


Implementation:

1. WHOIS (Domain & IP Lookup)

Whois
Identity for everyone

Domains Hosting Servers Email Security Whois Deals

Enter Domain

gmail.com

Updated 5 hours ago

Domain Information

Domain:	gmail.com
Registered On:	1995-08-13
Expires On:	2025-08-12
Updated On:	2024-07-11
Status:	client delete prohibited client transfer prohibited client update prohibited server delete prohibited server transfer prohibited server update prohibited
Name Servers:	ns1.google.com ns2.google.com ns3.google.com ns4.google.com

2. DIG (DNS Lookup & Query)

Google Admin Toolbox Dig

Name
gmail.com

A AAAA ANY CAA CNAME DNSKEY DS MX NS PTR SOA SRV TLSA TSIG TXT

TTL:
5 minutes
DATA:
74.125.136.17

TTL:
5 minutes
DATA:
74.125.136.18

A

TTL:

3. TRACEROUTE (Network Path Tracking)

```
C:\Windows\System32>tracert gmail.com

Tracing route to gmail.com [142.251.42.37]
over a maximum of 30 hops:

  0  <1 ms    <1 ms    <1 ms    172.16.2.32
  1   1 ms     1 ms     1 ms     183.87.205.161.broad-band.jp[183.87.205.161]
  2  10 ms     23 ms    36 ms    183.87.210.25.broad-band.jp[183.87.210.25]
  3   8 ms     14 ms    13 ms    10.20.20.17
  4   5 ms     6 ms     7 ms     10.20.20.5
  5   7 ms     7 ms     6 ms     103.7.148.19.broad-band.jp[103.7.148.19]
  6   7 ms     7 ms     7 ms     72.14.238.215
  7   6 ms     6 ms     6 ms     142.251.69.45
  8   6 ms     6 ms     5 ms     bom12s20-in-f5.1e100.net [142.251.42.37]

Trace complete.
```

4. NSLOOKUP (DNS Resolution Troubleshooting)

```
C:\Windows\System32>nslookup gmail.com
Server:  dns.sse.cisco.com
Address:  208.67.222.222

Non-authoritative answer:
Name:     gmail.com
Addresses: 2404:6800:4009:830::2005
          142.251.42.37

C:\Windows\System32>
```

Conclusion:

These tools help in troubleshooting DNS issues, tracking network paths, and retrieving domain ownership details. Installing the required packages (whois, dnsutils, traceroute) ensures seamless functionality. With these commands, you can enhance your understanding of network behavior and security analysis.