

Nslookup up

The nslookup command is a tool used to query Domain Name System (DNS) servers and retrieve information about a specific domain or IP address. This command is an essential tool for network administrators and system engineers as it can be used to troubleshoot DNS issues and gather information about DNS configurations. In this article, we'll explore the nslookup command on Linux in depth, including its syntax, options, and examples of how it can be used to troubleshoot DNS issues. We will also discuss the prerequisites for using the nslookup command and how to install it on various Linux distributions.

1. Nslookup: The **nslookup** command is a network administration tool used for querying the Domain Name System (DNS) to obtain domain name or IP address information, including interactive mode and various query types and options.

```
devendra@devendra-HP-Laptop-15s-du3xxx:~$ nslookup google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.77.142
Name:   google.com
Address: 2404:6800:4002:82e::200e

devendra@devendra-HP-Laptop-15s-du3xxx:~$ nslookup -type=any google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.207.206
Name:   google.com
Address: 2404:6800:4002:82e::200e
google.com
origin = ns1.google.com
mail addr = dns-admin.google.com
serial = 630335088
refresh = 900
retry = 900
expire = 1800
minimum = 60
google.com      nameserver = ns4.google.com.
google.com      nameserver = ns2.google.com.
google.com      nameserver = ns3.google.com.
google.com      nameserver = ns1.google.com.

Authoritative answers can be found from:
devendra@devendra-HP-Laptop-15s-du3xxx:~$
```

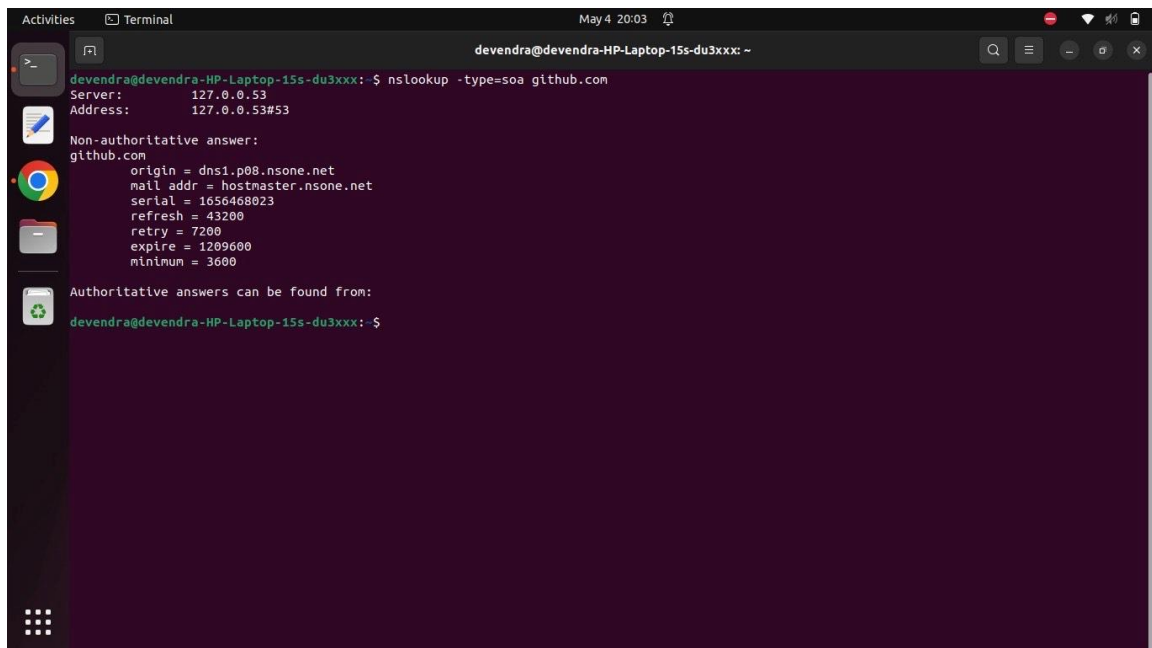
2. The **-type=any** command in nslookup is used to query all available information for a given domain name, including all types of DNS records (A, AAAA, MX, NS, etc.), providing comprehensive information about the domain's DNS configuration.

```
devendra@devendra-HP-Laptop-15s-du3xxx:~$ nslookup -type=any google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.194.174
Name:   google.com
Address: 2404:6800:4002:823::200e
google.com
origin = ns1.google.com
mail addr = dns-admin.google.com
serial = 630335088
refresh = 900
retry = 900
expire = 1800
minimum = 60
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:
devendra@devendra-HP-Laptop-15s-du3xxx:~$
```

3. The `-type=soa` command in `nslookup` is used to specifically query the Start of Authority (SOA) record for a given domain name. This record contains administrative information about the zone, such as the primary name server, responsible person's email address, and various timing parameters for zone refresh and expiration.

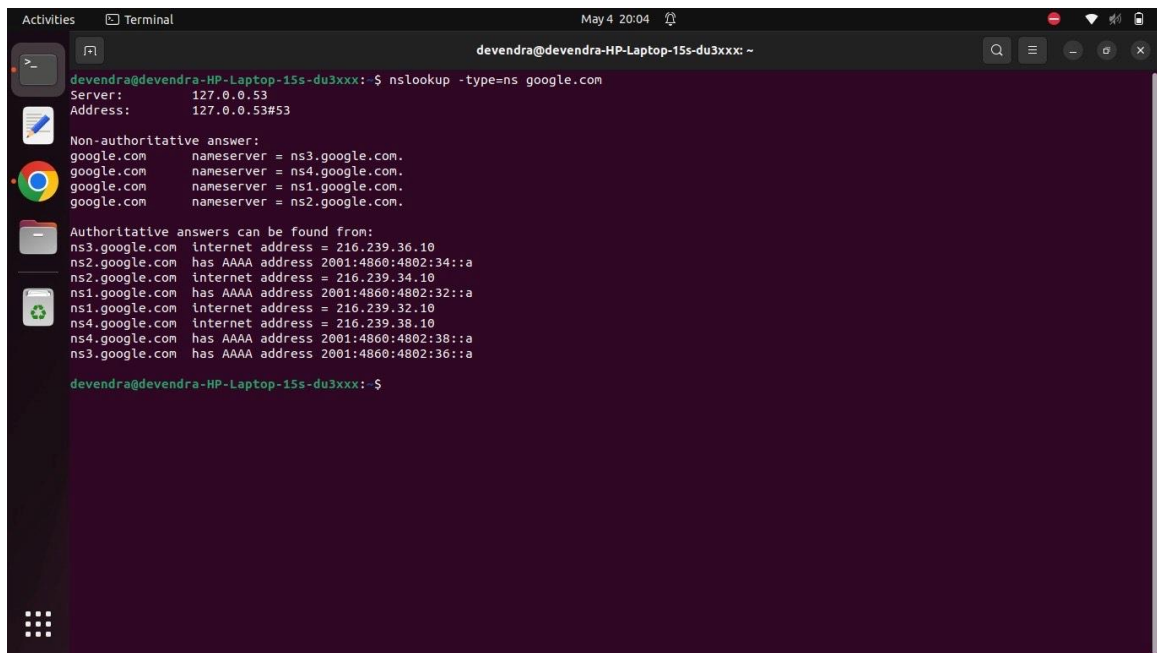
A terminal window titled 'devendra@devendra-HP-Laptop-15s-du3xxx: ~' showing the command 'nslookup -type=soa github.com' and its output. The output displays the SOA record for github.com, including the origin, mail address, serial, refresh, retry, expire, and minimum values. The terminal also shows the prompt 'devendra@devendra-HP-Laptop-15s-du3xxx: \$' at the bottom.

```
devendra@devendra-HP-Laptop-15s-du3xxx: $ nslookup -type=soa github.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
github.com
  origin = dns1.p08.nsone.net
  mail addr = hostmaster.nsone.net
  serial = 1656468023
  refresh = 43200
  retry = 7200
  expire = 1209600
  minimum = 3600

Authoritative answers can be found from:
devendra@devendra-HP-Laptop-15s-du3xxx: $
```

4. The `-type=ns` command in `nslookup` is used to specifically query the Name Server (NS) records for a given domain name. These records list the authoritative name servers for the domain, providing information about the servers responsible for hosting DNS information for that domain.

A terminal window titled 'devendra@devendra-HP-Laptop-15s-du3xxx: ~' showing the output of the command 'nslookup -type=ns google.com'. The output displays the server address (127.0.0.53) and a list of non-authoritative answers for the nameservers of google.com. It also lists authoritative answers from ns1.google.com to ns4.google.com, including their IPv4 and IPv6 addresses.

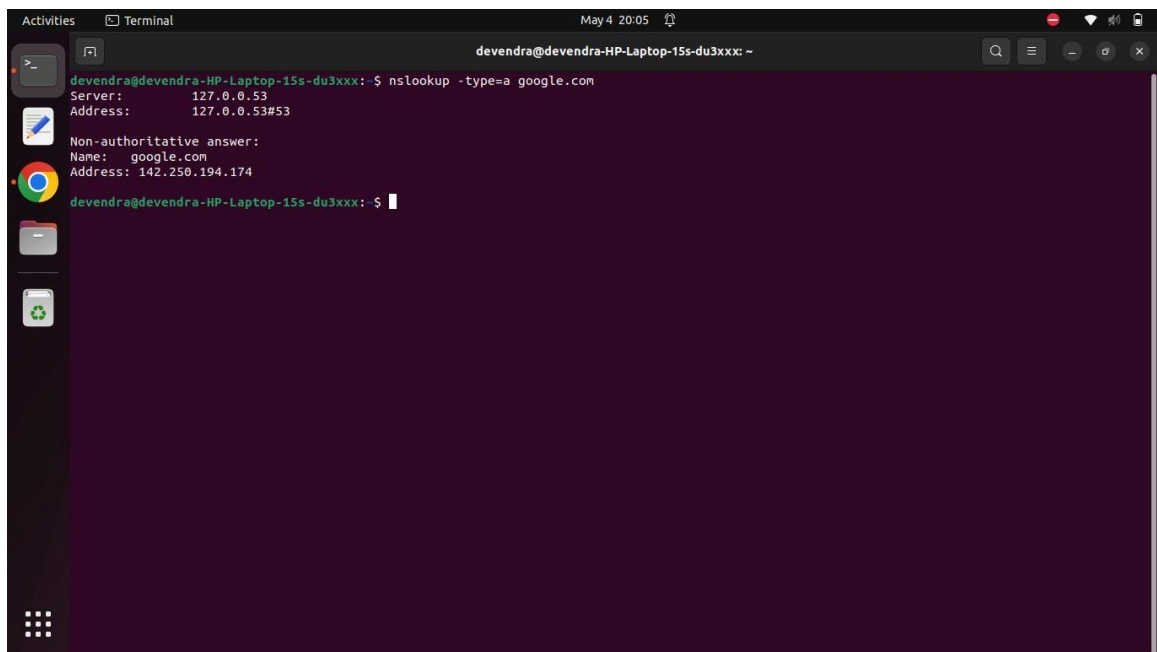
```
devendra@devendra-HP-Laptop-15s-du3xxx:~$ nslookup -type=ns google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

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

Authoritative answers can be found from:
ns3.google.com internet address = 216.239.36.10
ns2.google.com has AAAA address 2001:4860:4802:34::a
ns2.google.com internet address = 216.239.34.10
ns1.google.com has AAAA address 2001:4860:4802:32::a
ns1.google.com internet address = 216.239.32.10
ns4.google.com internet address = 216.239.38.10
ns4.google.com has AAAA address 2001:4860:4802:38::a
ns3.google.com has AAAA address 2001:4860:4802:36::a

devendra@devendra-HP-Laptop-15s-du3xxx:~$
```

5. The `-type=a` command in `nslookup` is used to specifically query Address (A) records for a given domain name. These records map domain names to their corresponding IPv4 addresses, allowing you to retrieve the IP address associated with a specific domain.

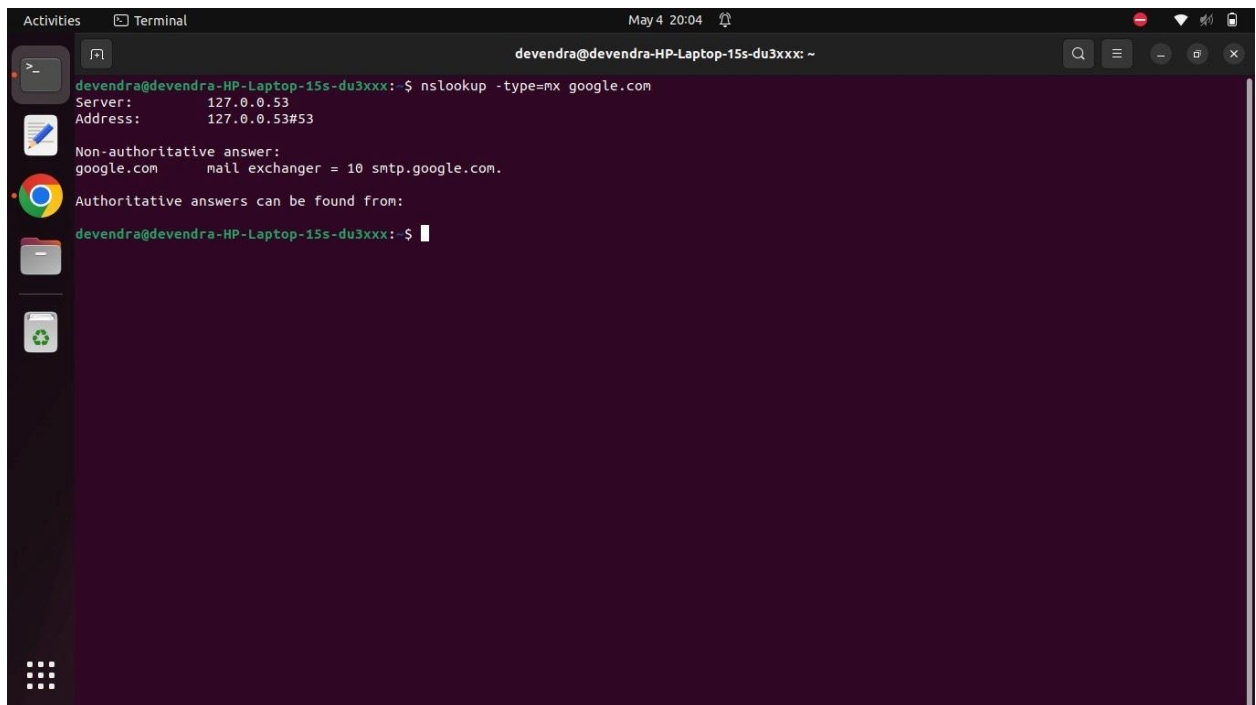
A terminal window titled 'devendra@devendra-HP-Laptop-15s-du3xxx: ~' showing the output of the command 'nslookup -type=a google.com'. The output displays the server address (127.0.0.53) and a single non-authoritative answer for the A record of google.com, showing its IPv4 address (142.250.194.174).

```
devendra@devendra-HP-Laptop-15s-du3xxx:~$ nslookup -type=a google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.194.174

devendra@devendra-HP-Laptop-15s-du3xxx:~$
```

6. The `-type=mx` command in `nslookup` is used to specifically query Mail Exchange (MX) records for a given domain name. These records identify the mail servers responsible for receiving email messages for the domain, allowing you to retrieve information about the mail servers configured for email delivery.

A screenshot of a Linux terminal window. The window title is "devendra@devendra-HP-Laptop-15s-du3xxx: ~". The terminal shows the command `nslookup -type=mx google.com` being executed. The output is as follows:

```
devendra@devendra-HP-Laptop-15s-du3xxx:~$ nslookup -type=mx google.com
Server:      127.0.0.53
Address:     127.0.0.53#53
Non-authoritative answer:
google.com   mail exchanger = 10 smtp.google.com.
Authoritative answers can be found from:
devendra@devendra-HP-Laptop-15s-du3xxx:~$
```

The terminal window has a dark purple background. On the left side, there is a vertical dock with icons for the Activities overview, Terminal, Files, and a web browser. The top of the window shows the system status bar with the date "May 4 20:04" and various system icons.