

DNS

⇒ Preliminaries

Documentation links

- [What Is DNS? | How DNS Works](#)
- [An Introduction to DNS](#)
- [DNS for Rocket Scientists](#)
- [How To Configure BIND as a Private Network DNS Server on Ubuntu](#)
- [BIND 9 Administrator Reference Manual](#)

DNS query commands

- **dig** (**d**omain **i**nformation **g**roper)
- **nslookup**

DNS forward lookup

```
> dig learn.mi.hdm-stuttgart.de
; <<>> DiG 9.16.1-Ubuntu <<>> learn.mi.hdm-stuttgart.de
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 63891
...
;; ANSWER SECTION:
learn.mi.hdm-stuttgart.de. 6593 IN      A      141.62.64.28

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) ...
```

Display A-record result only

```
> dig +noall +answer www.hdm-stuttgart.de  
www.hdm-stuttgart.de. 3600 IN A 141.62.1.53  
www.hdm-stuttgart.de. 3600 IN A 141.62.1.59
```

Important record types

Record	Explanation
A	IPV4 Host address
AAAA	IPv6 host address
ALIAS	Auto resolved alias
CNAME	Canonical name for an alias
MX	Mail eXchange
NS	Name Server
PTR	Pointer
SOA	Start Of Authority
SRV	location of service
TXT	Descriptive text

Name Servers: Query type NS

```
dig +noall +answer -t NS hdm-stuttgart.de
hdm-stuttgart.de.      3600    IN      NS      iz-net-4.hdm-stuttgart.de.
hdm-stuttgart.de.      3600    IN      NS      dns3.belwue.de.
hdm-stuttgart.de.      3600    IN      NS      iz-net-3.hdm-stuttgart.de.
hdm-stuttgart.de.      3600    IN      NS      dns1.belwue.de.
hdm-stuttgart.de.      3600    IN      NS      iz-net-2.hdm-stuttgart.de.
```