

# DNS in detail

Learn how DNS works and how it helps you access internet services.

## Task 1 What is DNS?

Question	Answer
What does DNS stand for?	Domain Name System

## Task 2 Domain Hierarchy

Question	Answer
What is the maximum length of a subdomain?	63
Which of the following characters cannot be used in a subdomain ( 3 b _ - )?	-
What is the maximum length of a domain name?	253
What type of TLD is .co.uk?	ccTLD

## Task 3 Record Types

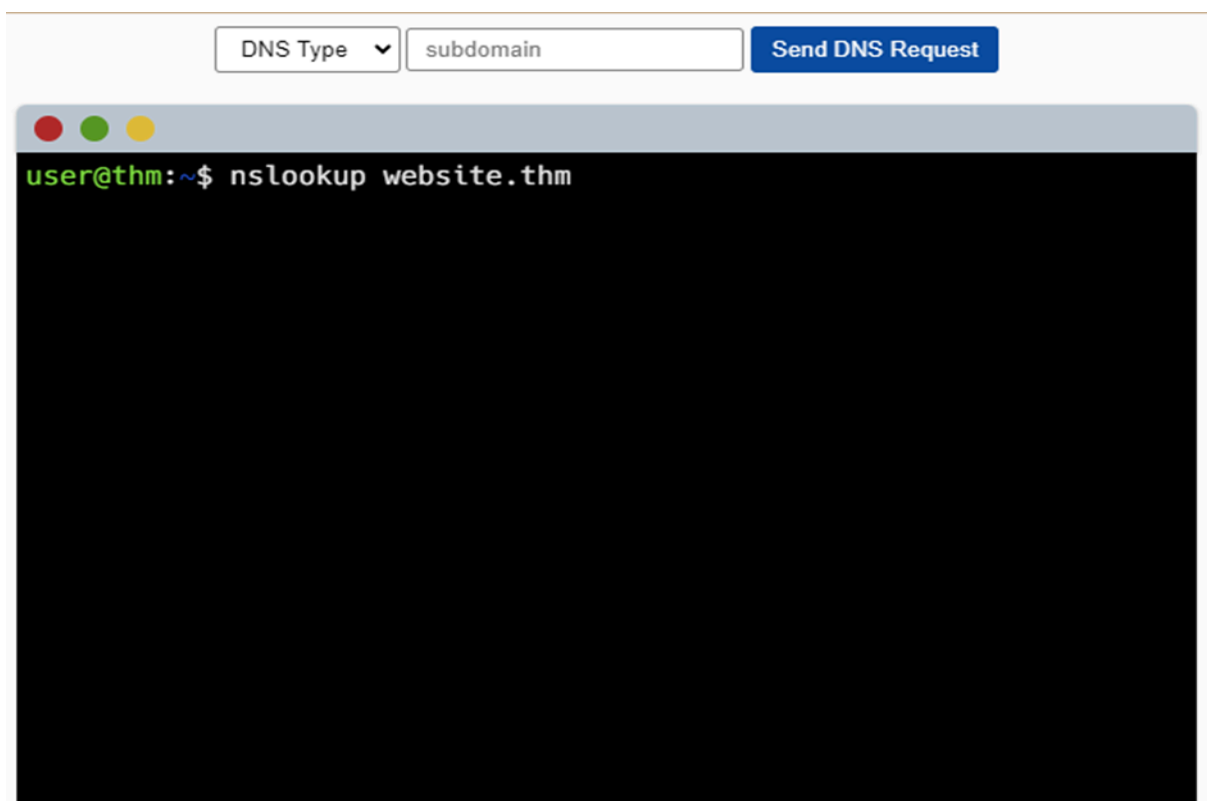
Question	Answer
What type of record would be used to advise where to send email?	MX
What type of record handles IPv6 addresses?	AAAA

## Task 4 Making A Request

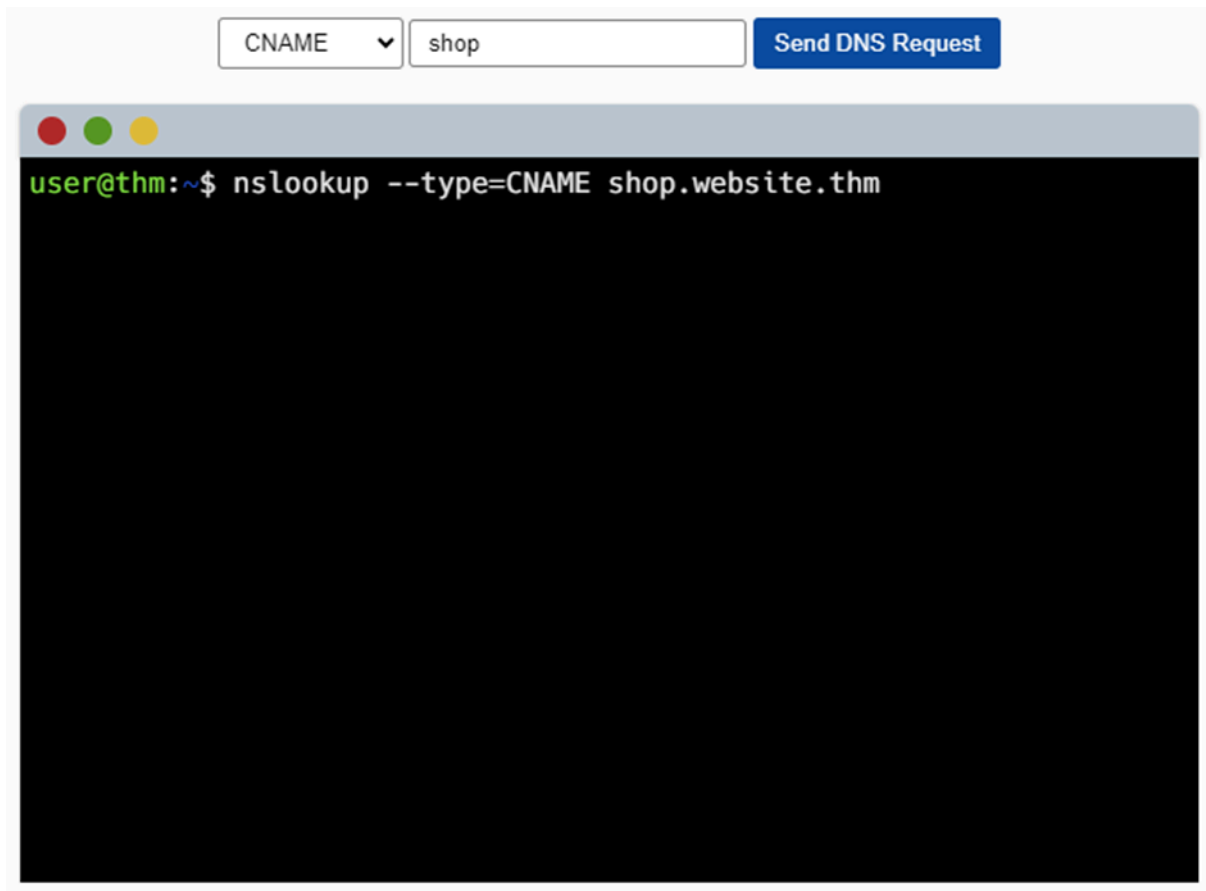
Question	Answer
What field specifies how long a DNS record should be cached for?	TTL
What type of DNS Server is usually provided by your ISP?	recursive
What type of server holds all the records for a domain?	authoritative

## Task 5 Practical

I clicked on the View Site button

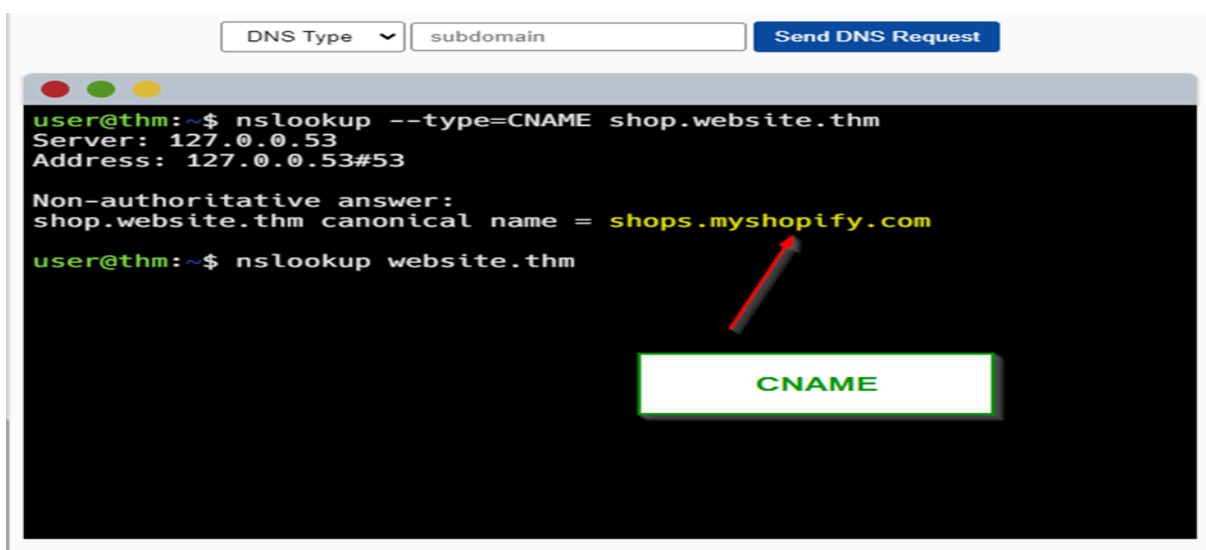


To get the CNAME record of shop.website.thm, I modified the DNS Type to CNAME and entered "shop" in the subdomain field.



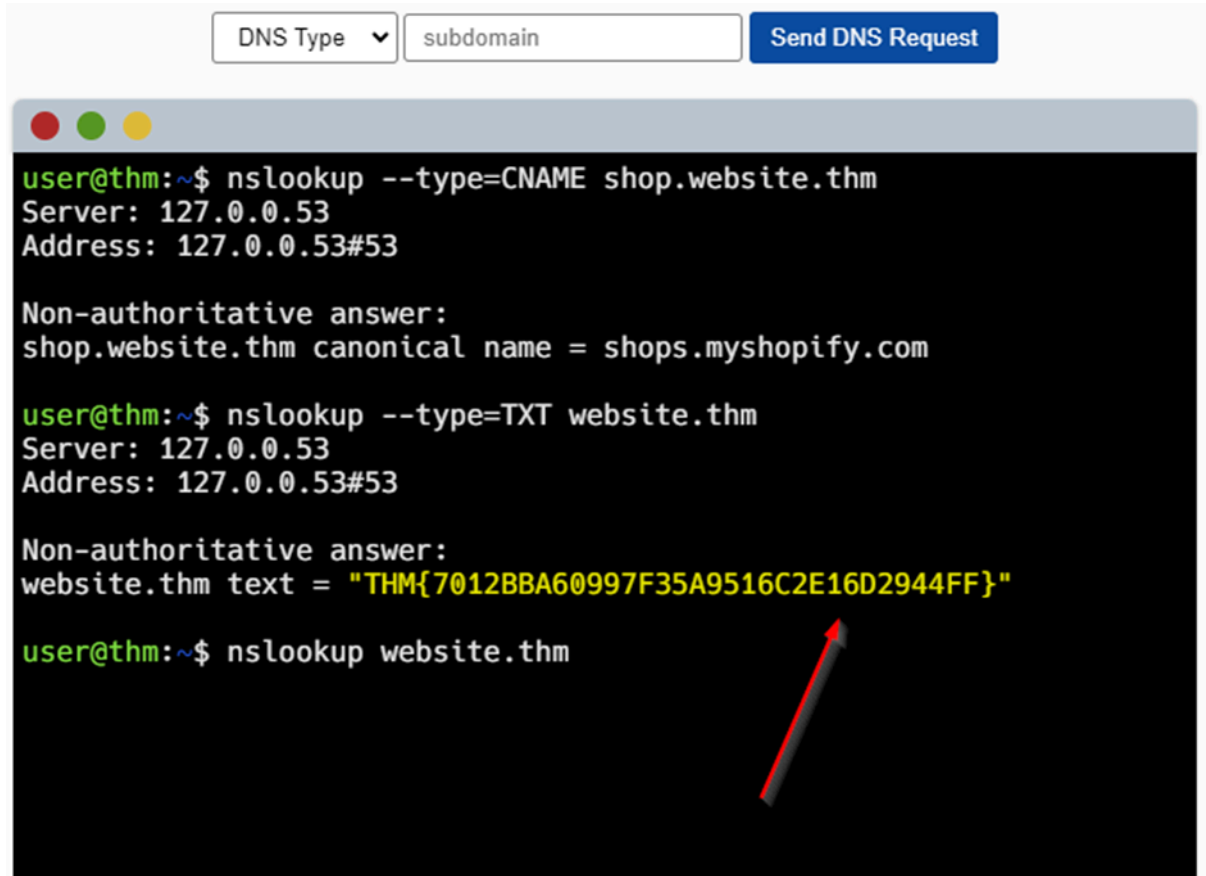
Clicking on "send DNS Request"

Answer: **shops.myshopify.com**



To get the the value of the TXT record of website.thm, i changed the DNS type to TXT and sent the request

**Answer:** THM{7012BBA60997F35A9516C2E16D2944FF}



The image shows a web application interface at the top with a 'DNS Type' dropdown menu set to 'subdomain' and a 'Send DNS Request' button. Below this is a terminal window with a black background and green text. The terminal shows three commands and their outputs:

```
user@thm:~$ nslookup --type=CNAME shop.website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
shop.website.thm canonical name = shops.myshopify.com

user@thm:~$ nslookup --type=TXT website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
website.thm text = "THM{7012BBA60997F35A9516C2E16D2944FF}"

user@thm:~$ nslookup website.thm
```

A red arrow points from the text "THM{7012BBA60997F35A9516C2E16D2944FF}" in the terminal output to the 'Answer:' line in the text block above.

To get the numerical priority value for the MX record, i change the DNS type to MX and sent the request

**Answer:** 30

DNS Type ▾ subdomain Send DNS Request

```
user@thm:~$ nslookup --type=SHIM shop.website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
shop.website.thm canonical name = shops.myshopify.com

user@thm:~$ nslookup --type=TXT website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
website.thm text = "THM{7012BBA60997F35A9516C2E16D2944FF}"

user@thm:~$ nslookup --type=MX website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
website.thm mail exchanger = 30 alt4.aspmx.l.google.com

user@thm:~$ nslookup website.thm
```

To get the IP address for the A record of [www.website.thm](http://www.website.thm), i changed the DNS type to A

Answer: **10.10.10.10**

DNS Type ▾ subdomain Send DNS Request

```
user@thm:~$ nslookup --type=MX website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
website.thm mail exchanger = 30 alt4.aspmx.l.google.com

user@thm:~$ nslookup --type=A website.thm
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
Name: website.thm
Address: 10.10.10.10

user@thm:~$ nslookup website.thm
```

END!!!