Exercise: Looking At DNS Response Messages and Resource Records

In this lesson, we'll use command-line tools to look at DNS response messages and resource records!

WE'LL COVER THE FOLLOWING

Revisiting `Nslookup`

```
nslookup -type=A educative.io
```

`nslookup` is a versatile tool for DNS lookups. The `type` flag determines the type of RR that you want to look into!

Output

`nslookup` can be used to look at DNS records. In this example, we looked up `educative.io`.

Here's what the output may look like:

```
Server:     169.254.169.254
Address:    169.254.169.254#53

Non-authoritative answer:
Name:   educative.io
Address: 104.20.7.183
Name:   educative.io
```

```
Address: 104.20.6.183
```

- The first two lines are the IP address of the local DNS server which is `169.254.169.254` in our case.
- The last few lines return the type A RR that maps `educative.io` to the IP address `104.20.6.183`. It says 'non-authoritative' because the answer is coming from a local DNS server's cache, and not from Educative's authoritative DNS server.

If you're wondering what `TTL` values look like, run the following command. The value in the `TTL` field is in seconds, so a value of **279** is **4** minutes and **39** seconds.

```
nslookup -debug educative.io
```

Looking At Real DNS Response Messages With `dig`

```
dig educative.io
```

`dig` is a command-line tool used to query DNS servers. `dig` stands for **d**omain **i**nformation **g**roper, and it displays the actual messages that were received from DNS servers. You can decipher the output for yourself now that you know what a DNS message looks like.

As always, we encourage you to read the dig manpage and explore the command for yourself!

We have now studied the Internet's directory in detail. Let's move on to another protocol. See you in the next lesson!