



In this stage, you will implement a forwarding DNS server.

A forwarding DNS server, also known as a DNS forwarder, is a DNS server that is configured to pass DNS queries it receives from clients to another DNS server for resolution. Instead of directly resolving DNS queries by looking up the information in its own local cache or authoritative records.

In this stage the tester will execute your program like this:

```
./your_server --resolver <address>
```

where <address> will be of the form <ip>:<port>

It'll then send a UDP packet (containing a DNS query) to port 2053. Your program will be responsible for forwarding DNS queries to a specified DNS server, and then returning the response to the original requester (i.e. the tester).

Your program will need to respond with a DNS reply packet that contains:

- a header section (same as in stage #5)
- a question section (same as in stage #6)

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