

# Nameservers?

Where we're going, we don't need nameservers...



# A refresher on how resolution works...

A refresher on how resolution works...

In the beginning, the earth  
was without form, and  
void; and darkness was  
upon the face of the deep.

# A refresher on how resolution works...



# A refresher on how resolution works...



Webserver

[www.a-random-domain.net](http://www.a-random-domain.net)

# A refresher on how resolution works...



I want [www.a-random-domain.net](http://www.a-random-domain.net)

Webserver

[www.a-random-domain.net](http://www.a-random-domain.net)

# A refresher on how resolution works...

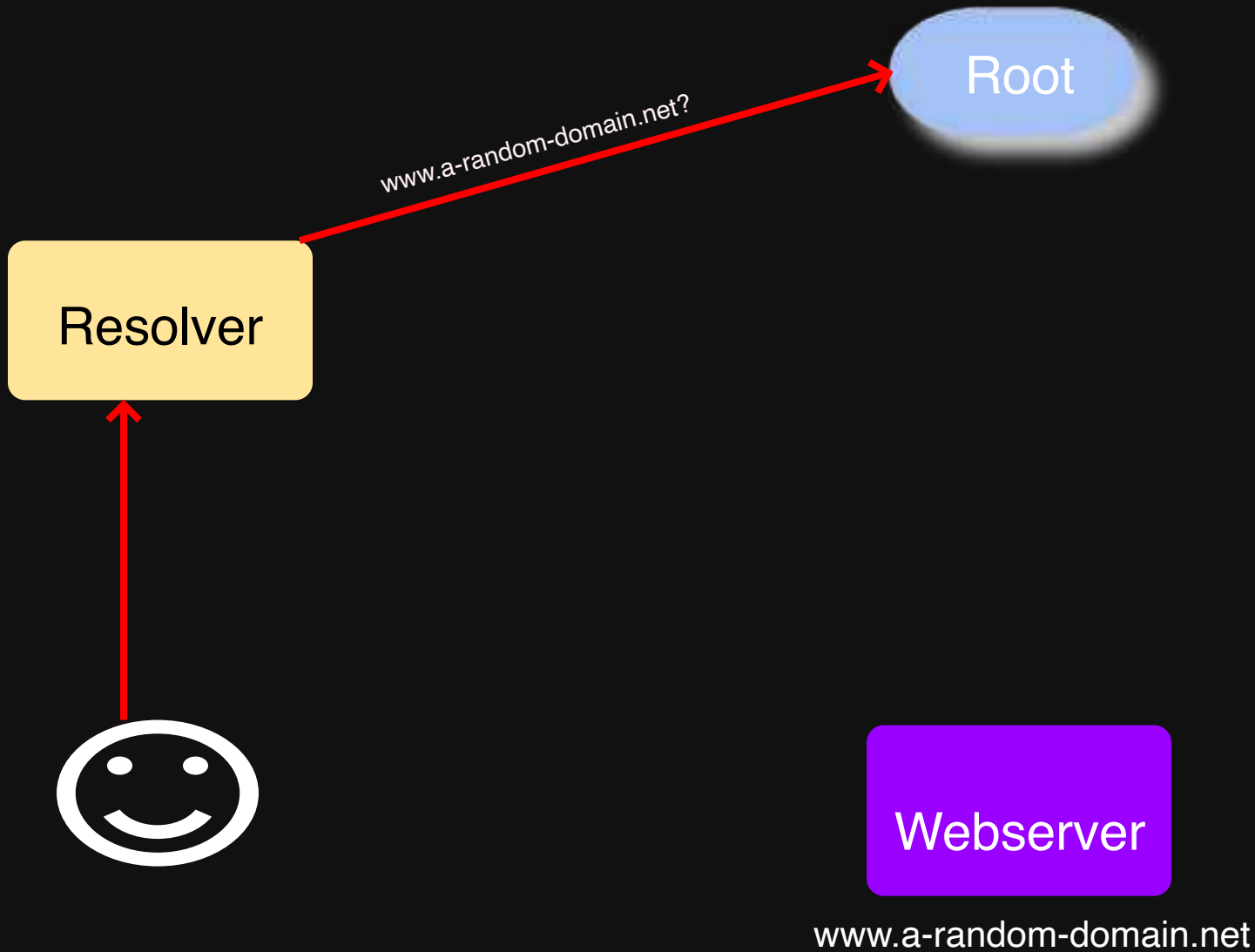
Resolver



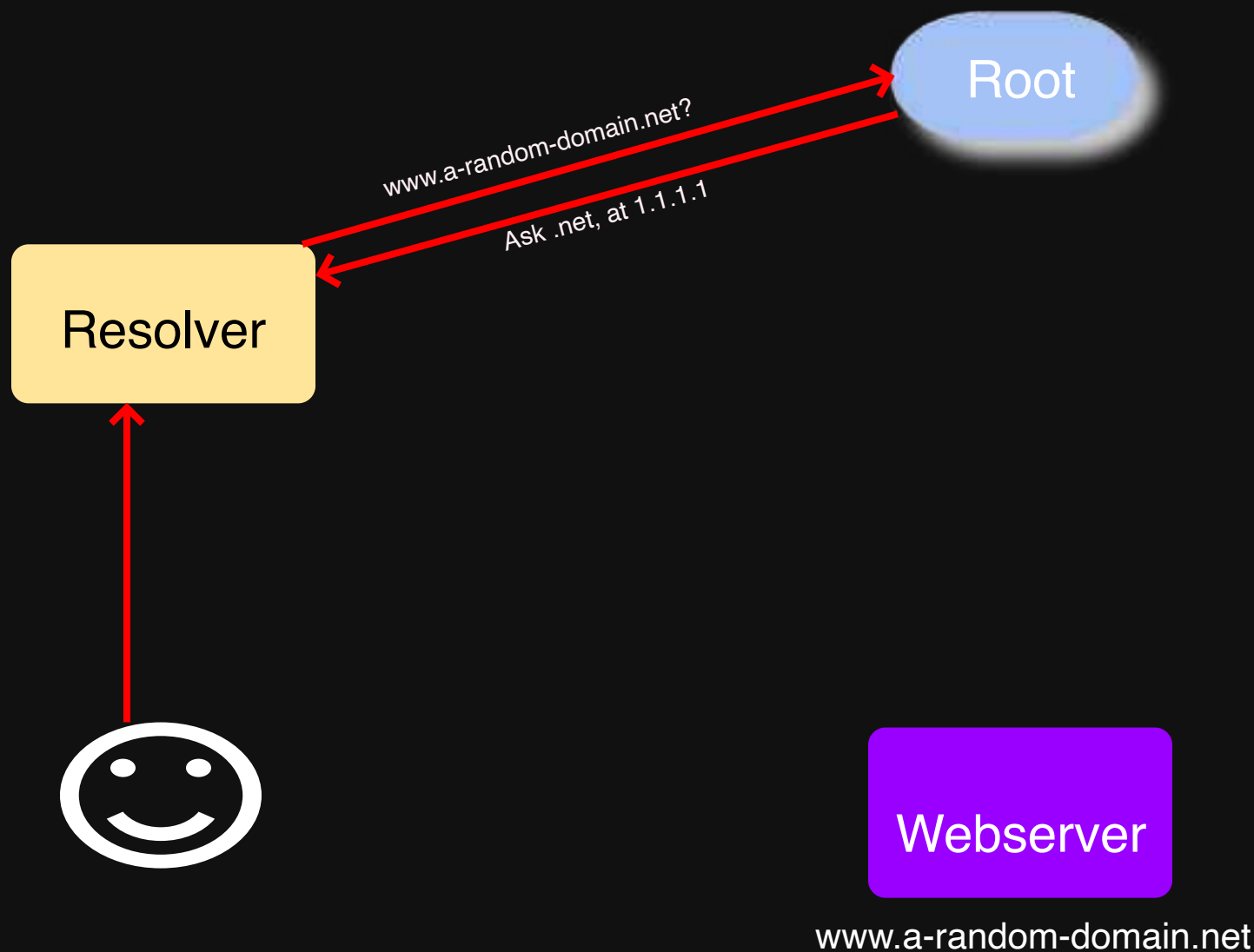
Webserver

[www.a-random-domain.net](http://www.a-random-domain.net)

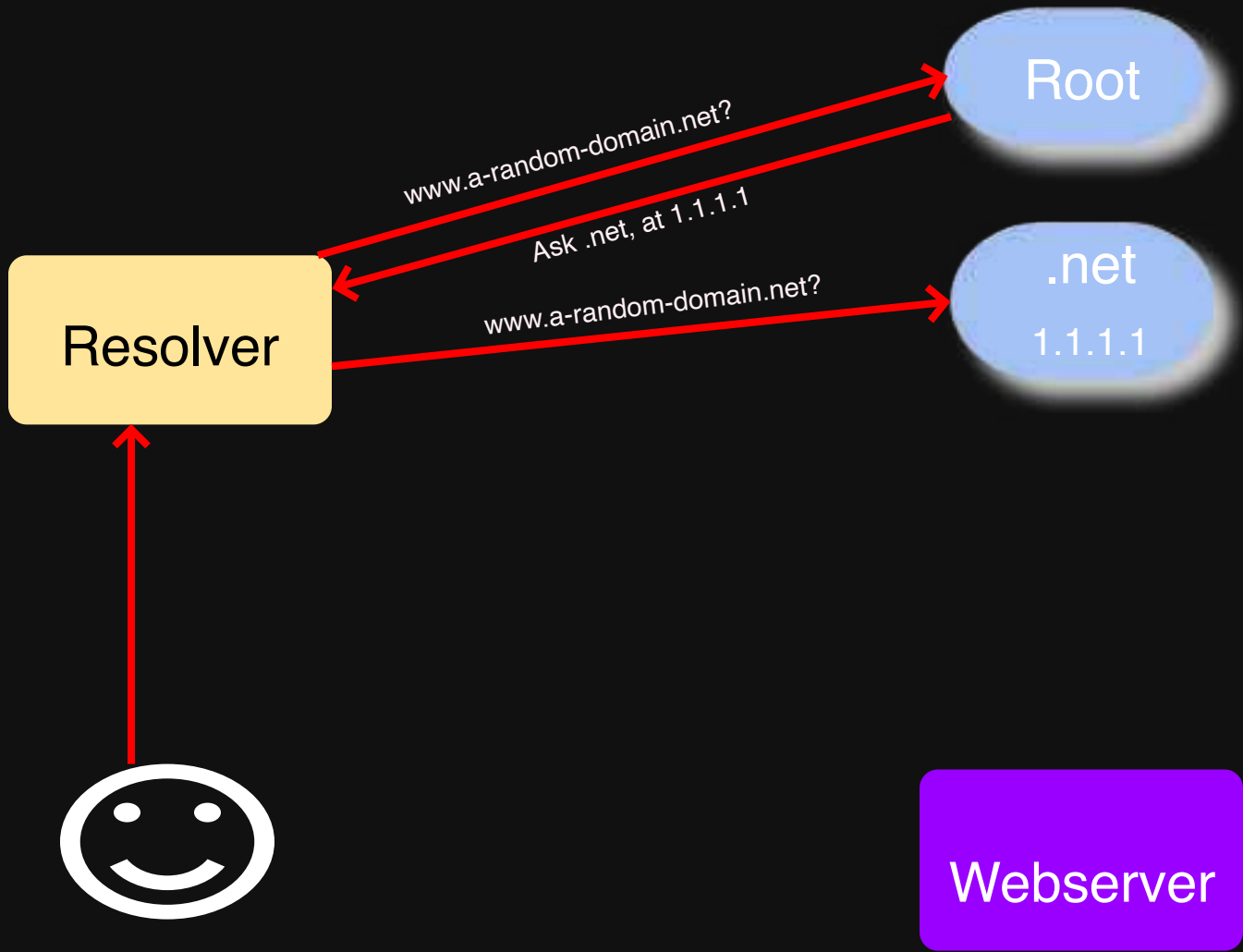
# A refresher on how resolution works...



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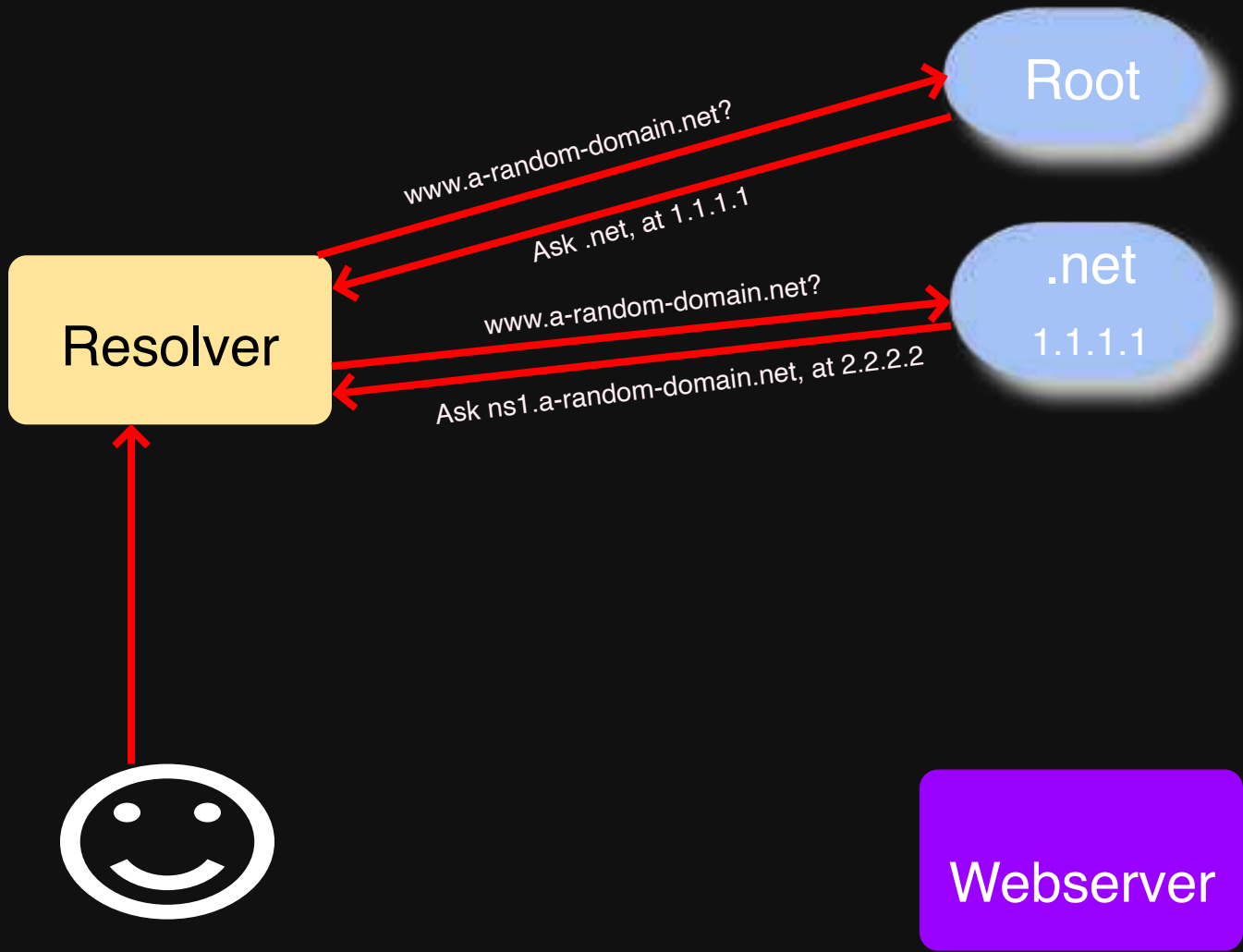
# A refresher on how resolution works...



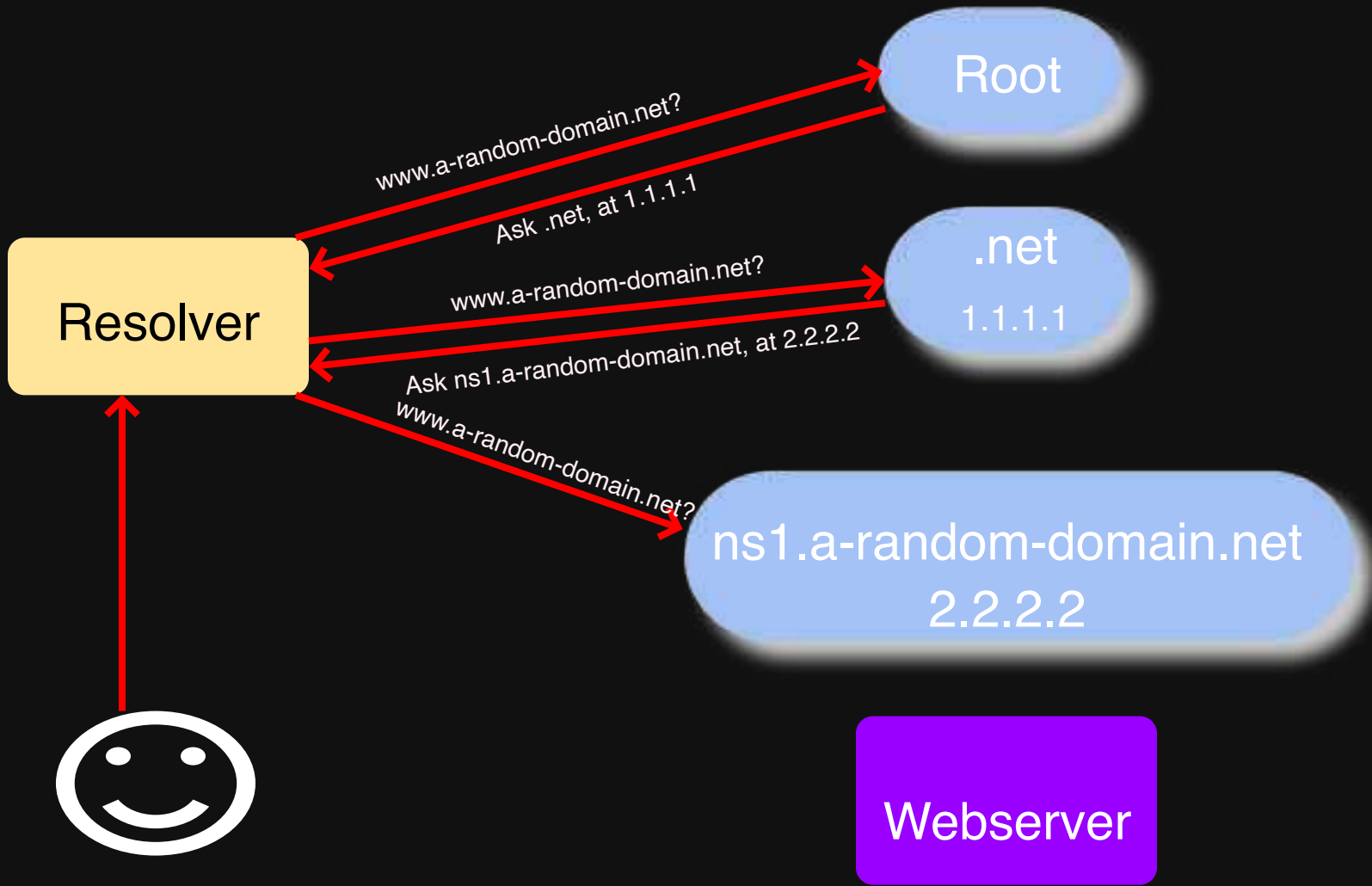
Webserver

www.a-random-domain.net

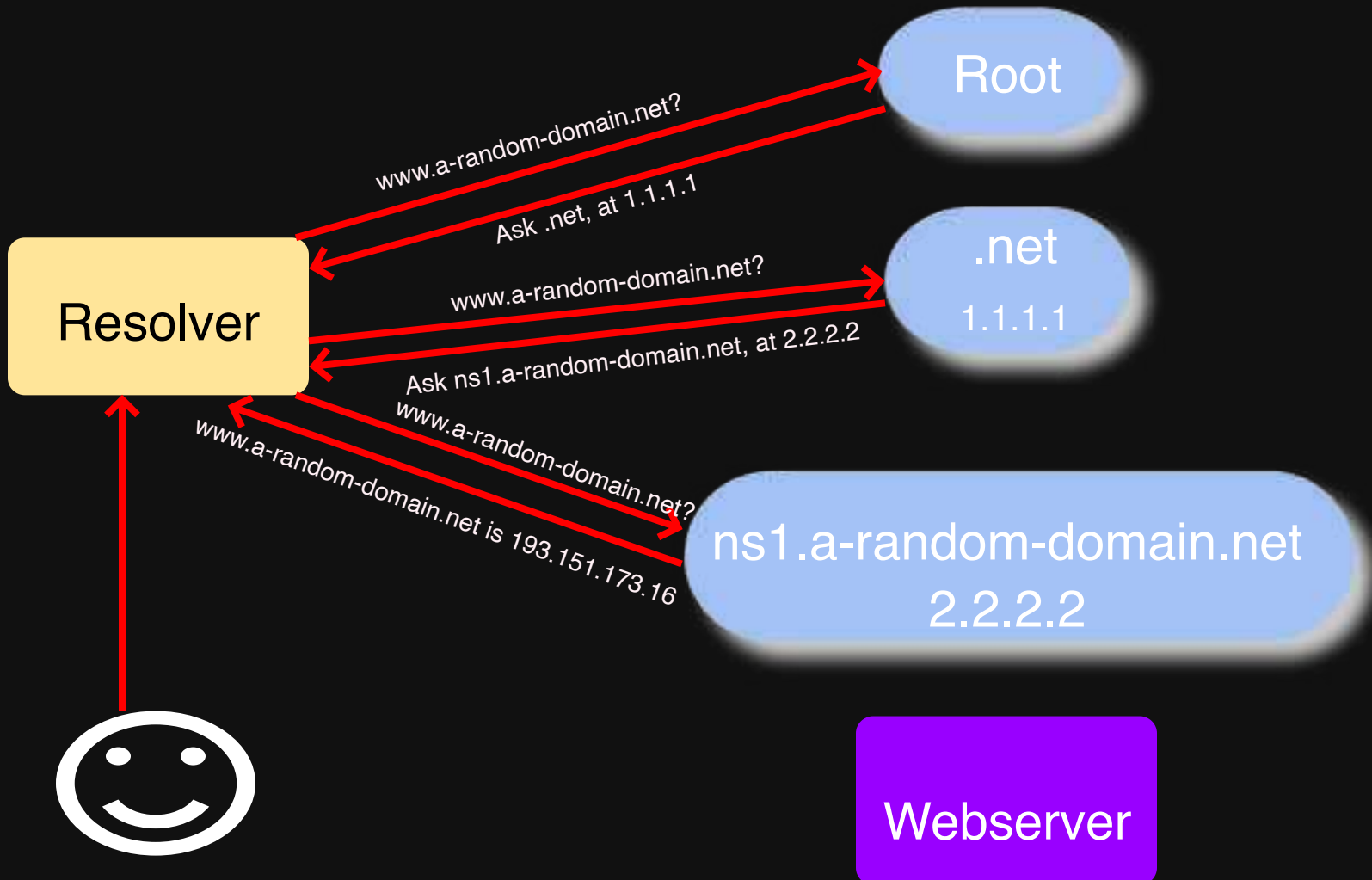
# A refresher on how resolution works...



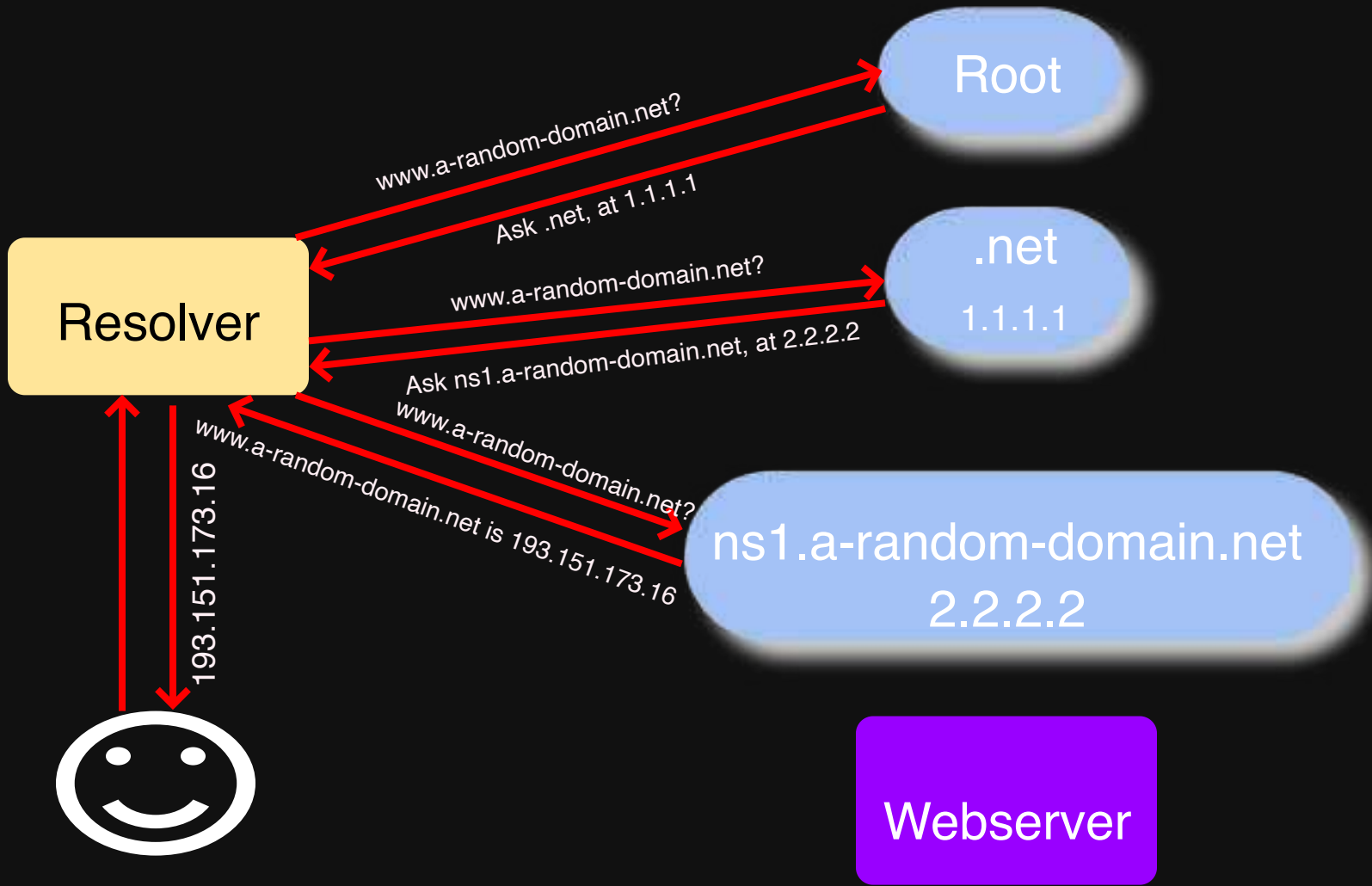
# A refresher on how resolution works...



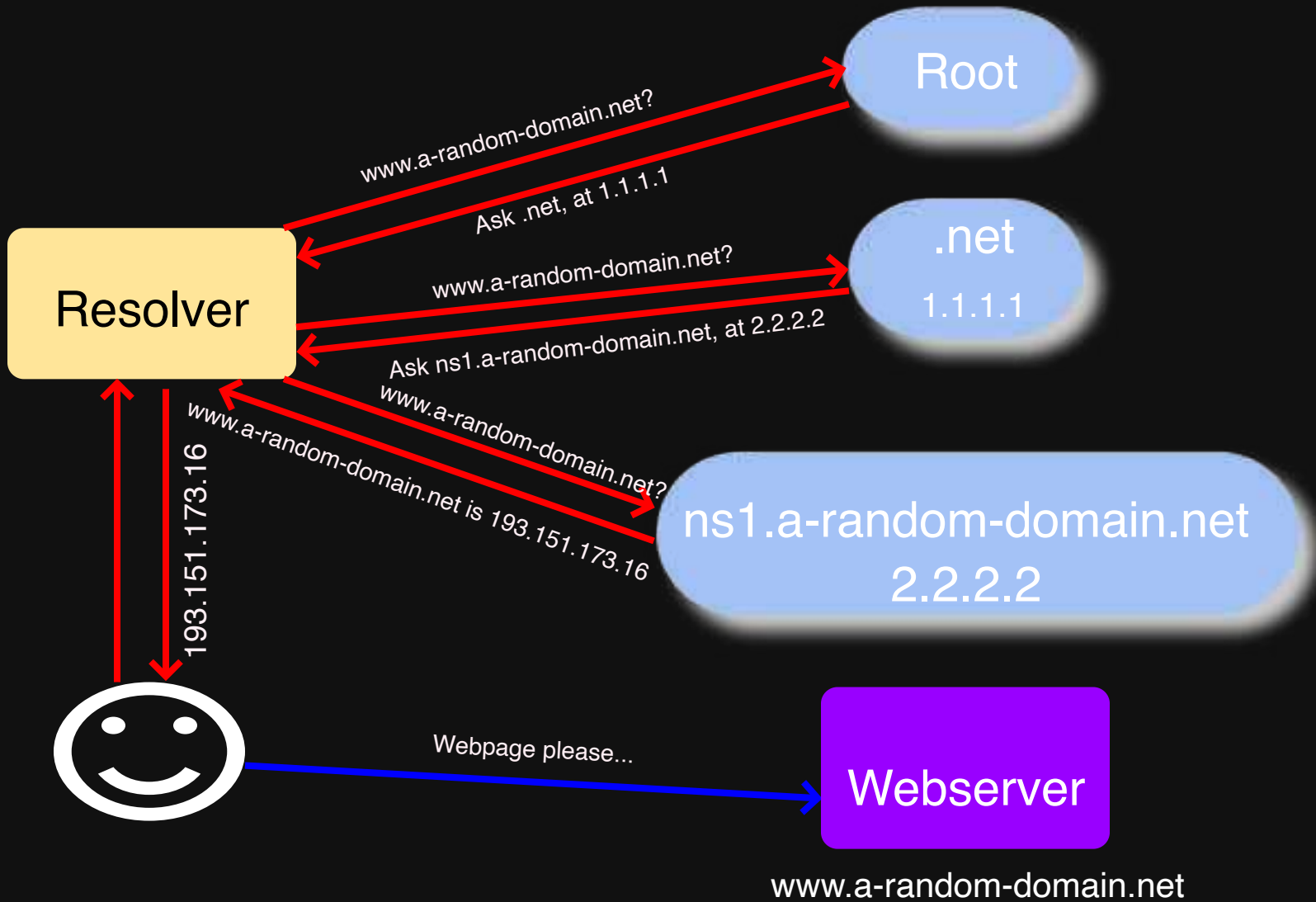
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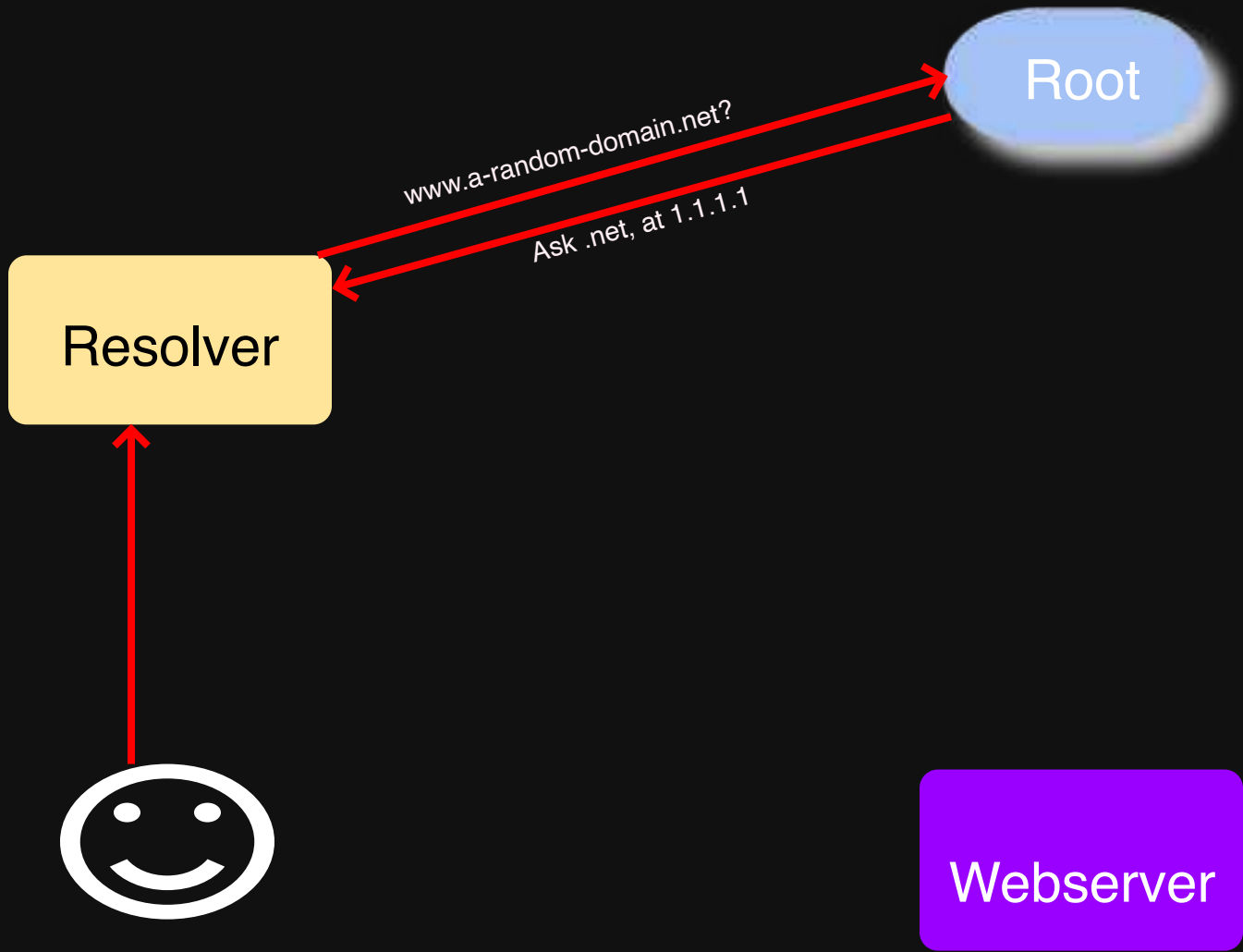




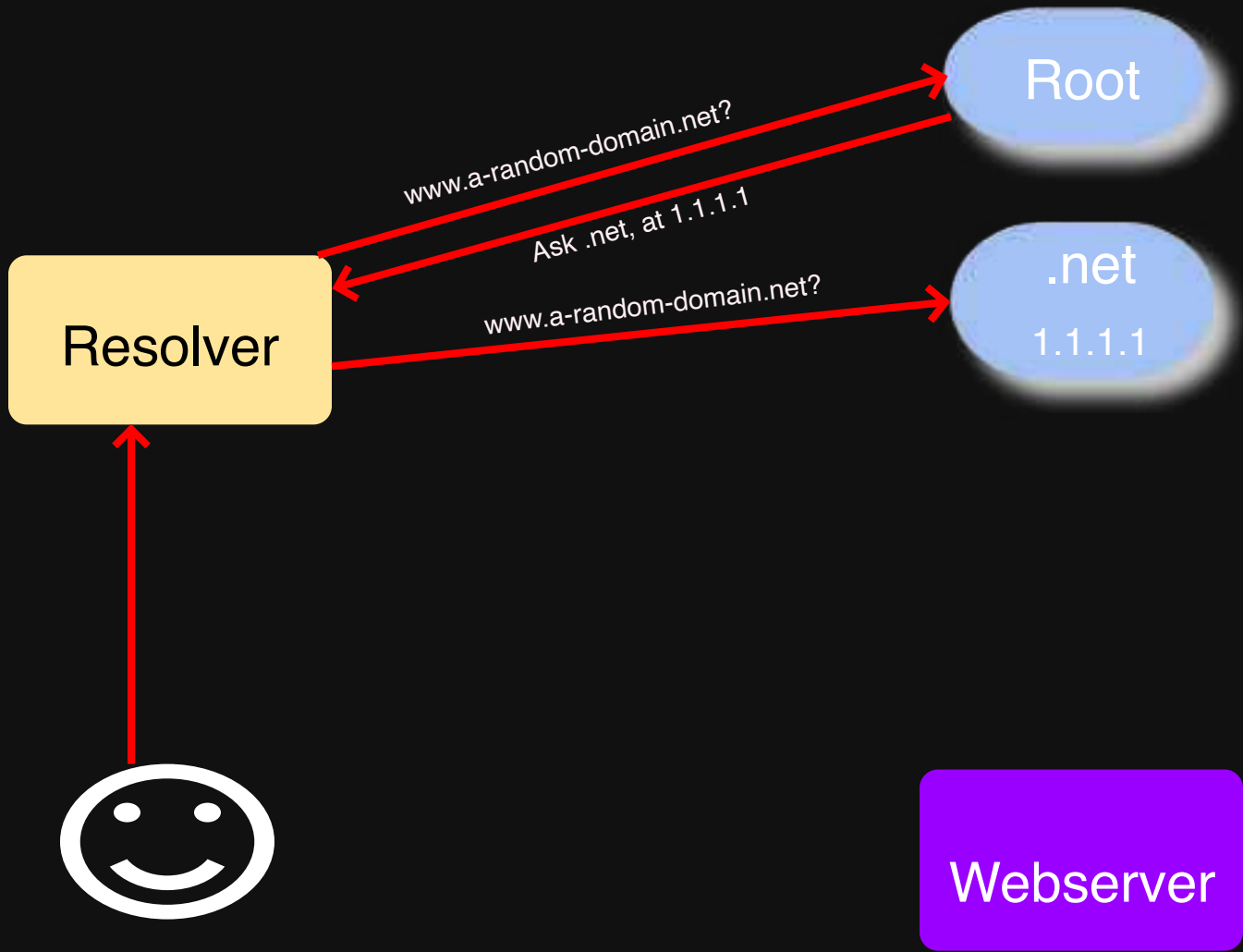
# 9 Steps...



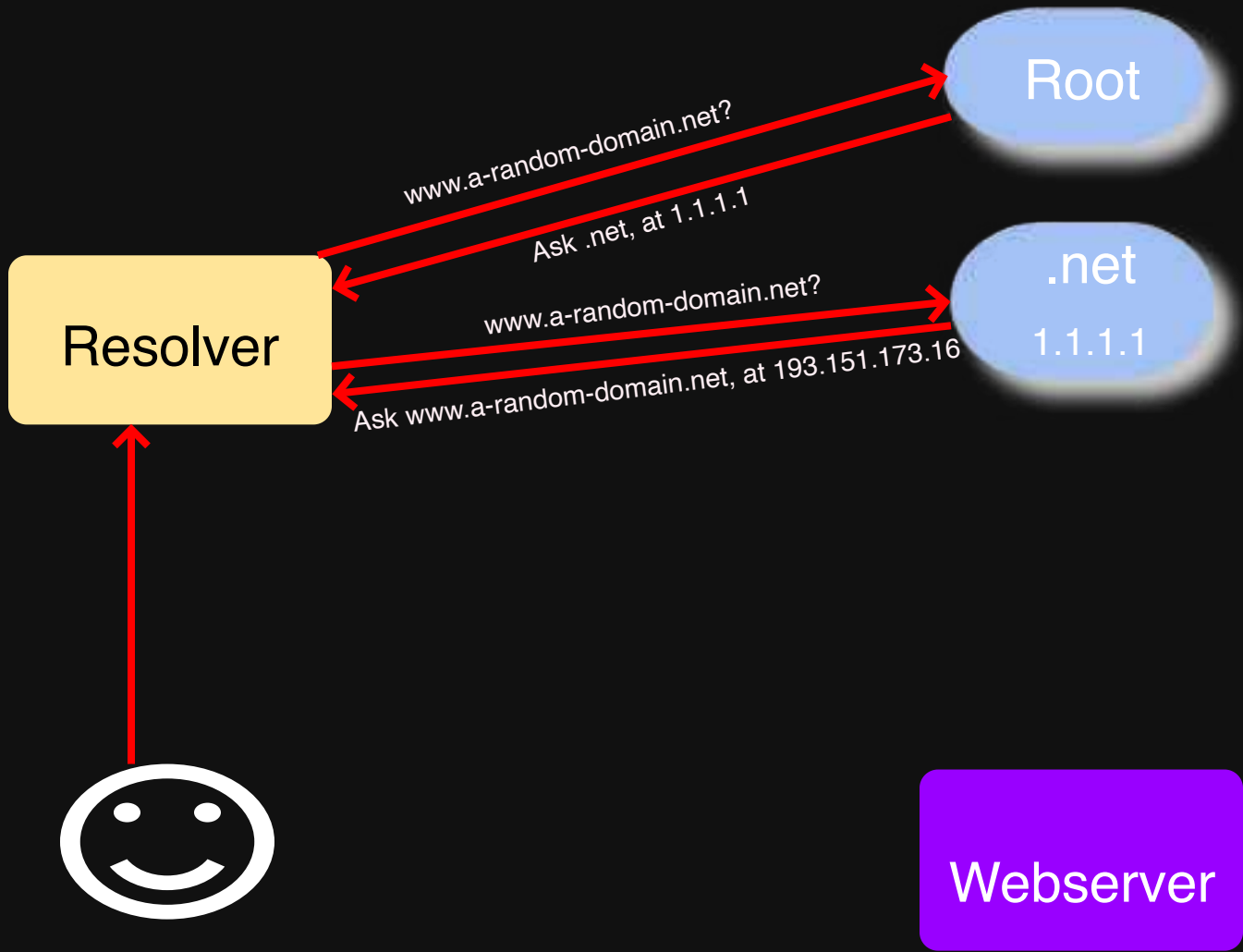
# A refresher on how resolution works...



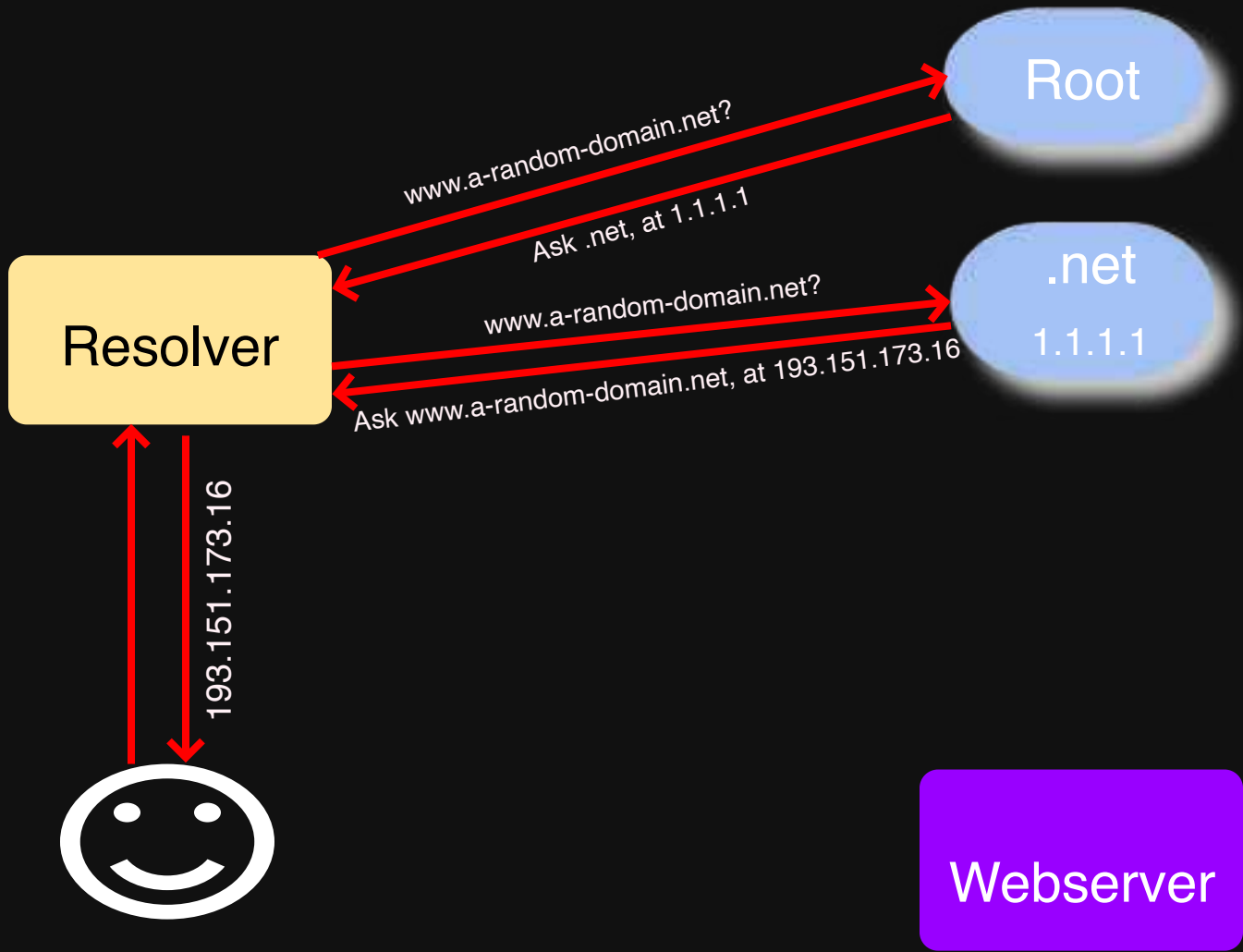
# A refresher on how resolution works...



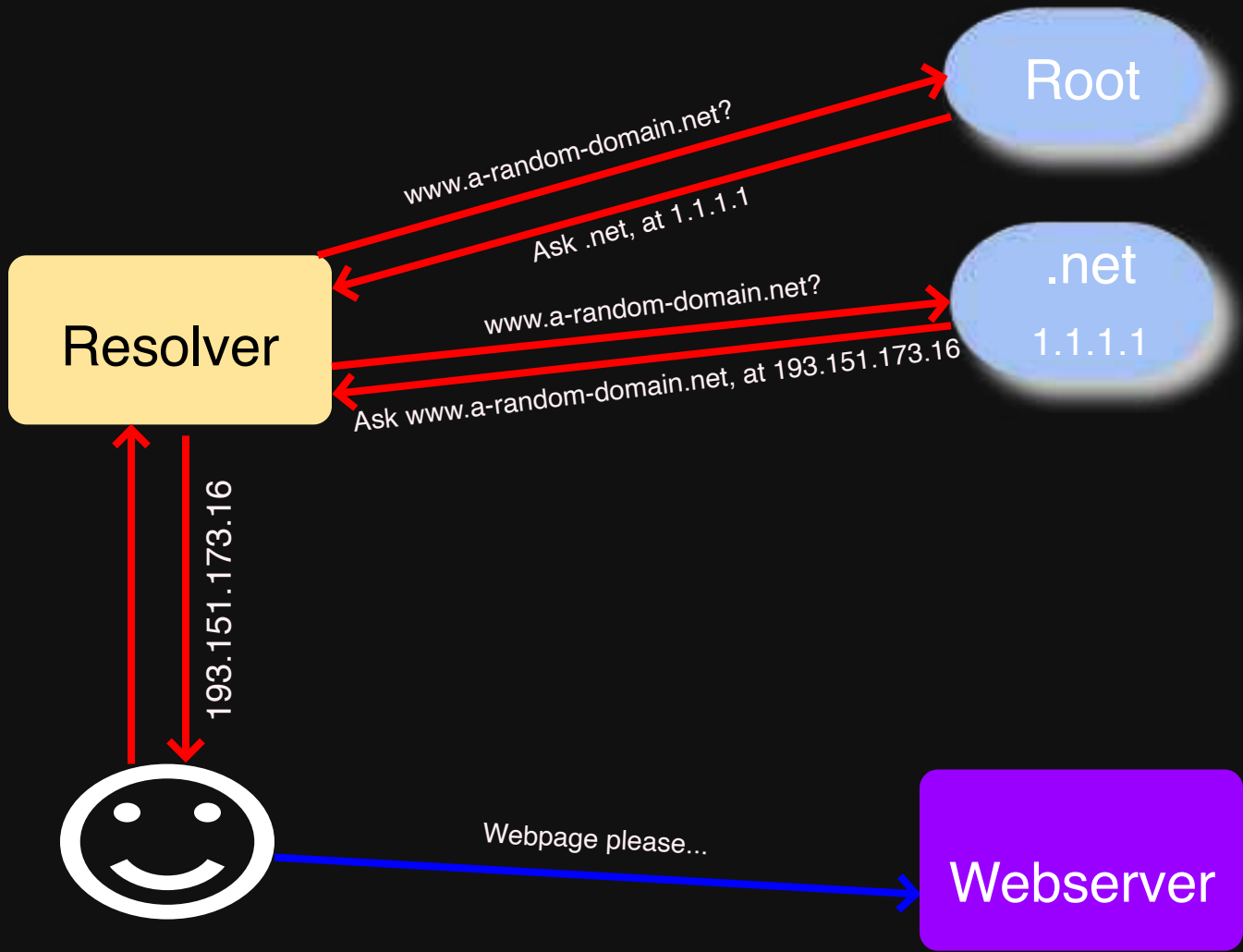
# A refresher on how resolution works...



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# A refresher on how resolution works...





# 7 Steps...



# A traditional domain resolution....

```
1 $ dig ns www.example.net @b.gtld-servers.net
2 ;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 59730
3 ;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 2, ADDITIONAL: 5
4 ;; WARNING: recursion requested but not available
5
6 ;; QUESTION SECTION:
7 ;www.example.net.          IN  NS
8
9 ;; AUTHORITY SECTION:
10 example.net.              172800 IN  NS  a.iana-servers.net.
11 example.net.              172800 IN  NS  b.iana-servers.net.
12
13 ;; ADDITIONAL SECTION:
14 a.iana-servers.net. 172800 IN  A    199.43.135.53
15 a.iana-servers.net. 172800 IN  AAAA 2001:500:8f::53
16 b.iana-servers.net. 172800 IN  A    199.43.133.53
17 b.iana-servers.net. 172800 IN  AAAA 2001:500:8d::53
```

# New and improved! Now with less NS!

```
1 $ dig www.a-random-test-domain.net @b.gtld-servers.net
2 ;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 8833
3 ;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 2
4 ;; WARNING: recursion requested but not available
5
6 ;; QUESTION SECTION:
7 ;www.a-random-test-domain.net.  IN  A
8
9 ;; AUTHORITY SECTION:
10 a-random-test-domain.net. 172800 IN NS  www.a-random-test-domain.net.
11
12 ;; ADDITIONAL SECTION:
13 www.a-random-test-domain.net. 172800 IN A  193.151.173.16
```

# Does this actually work?!

# What sayeth the RFCs?

Unauthenticated RRs received and cached from the least trustworthy of those groupings, that is **data from the additional data section [...] should not be cached in such a way that they would ever be returned as answers to a received query.** They may be returned as additional information where appropriate. Ignoring this would allow the trustworthiness of relatively untrustworthy data to be increased without cause or excuse.

# Does this actually work?!

No...

# Does this actually work?!

But,  
maybe...

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I'm feeling less lucky...

|         |        |       |                                                                                     |                                                                                     |                  |                              |       |
|---------|--------|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------|------------------------------|-------|
| 25432   | 43320  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 34062   | 7922   |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 35708   | 52080  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 50580   | 12322  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 51350   | 22773  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 51493   | 44002  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 51785   | 13046  |       |    |    | 2024-02-23 19:50 | <div><div></div></div> 100 % | 0.0 % |
| 53232   | 8031   | 8031  |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 54085   | 558    | 558   |    |    | 2024-02-23 19:50 | <div><div></div></div> 100 % | 0.0 % |
| 54329   | 7018   | 7018  |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 54724   | 22815  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 54816   | 12390  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 55050   | 20001  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 60220   | 5591   |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 60821   | 12569  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 60950   | 3200   |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 61080   | 134090 |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 61121   | 14754  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 61190   | 37282  |       |    |    | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 61404   | 35132  | 35132 |   |   | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 62311   | 8767   | 8767  |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 62760   | 199490 |       |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 1000004 | 3130   | 3130  |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 1000093 | 15019  |       |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 1000338 | 8580   |       |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 1000414 | 8492   |       |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |
| 1000788 | 8472   |       |  |  | 2024-02-23 19:50 | ✖ Unreachable                | 100 % |

# Results

Requested Probes: 800

# Results

Requested Probes: 800

Responded: 787

# Results

Requested Probes: 800

Responded: 787

Errors: 762

# Results

Requested Probes: 800

Responded: 787

Errors: 762

Worked: 25

# Results

Requested Probes: 800

Responded: 787

Errors: 762

Worked: 25

Success (?): 3.1766%

# Results



# Results



# Results

