For following domain names, recursive queries will be done:

- google.maps.com

- group.mercedes-benz.de

1 Domain name 1: google.maps.com

1.1 Steps

1.1.1 Search in root server

Search in root server for TLD .com.

Figure 1: Searching in root server for TLD .com

1.1.2 Search for google.com

Figure 2: Searching for google.com

Query google.com has been found on ns2.google.com. Next step would be search in ns2.google.com for maps.google.com.

1.1.3 Search for maps.google.com

Figure 3: Searching for maps.google.com

On name server ns2.google.com a maps.google.com has been found. It's IP address (IPv4) is 142.250.186.206.

2 Domain name 2: group.mercedes-benz.de

2.1 Steps

2.1.1 Search in root server

Figure 4: Searching in root server for TLD .de

2.1.2 Search mercedes-benz.de

Figure 5: Searching for mercedes-benz.de

2.1.3 Search for group.mercedes-benz.de

Figure 6: Searching for group.mercedes-benz.de

Domain name group.mercedes-benz.de is an alias for group-redir.mercedes-benz.com. On the next line there is an information that group-redir.mercedes-benz.com is also an alias. Altough, a step-by-step query has been done.

2.1.4 Search for group-redir.mercedes-benz.com


```
tomasz@tomasz-Aspire-A515-54G:~$ dig group-redir.mercedes-benz.com A

; <<>> DiG 9.18.18-0ubuntu0.22.04.1-Ubuntu <<>> group-redir.mercedes-benz.com A
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 6654
;; flags: qr rd ra; QUERY: 1, ANSWER: 4, AUTHORITY: 0, ADDITIONAL: 3

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;group-redir.mercedes-benz.com. IN       A

;; ANSWER SECTION:
group-redir.mercedes-benz.com. 10 IN     CNAME   group-redir.mercedes-benz.com.edgekey.net.
group-redir.mercedes-benz.com.edgekey.net. 10 IN CNAME e40844.dsca.akamaiedge.net.
e40844.dsca.akamaiedge.net. 10  IN       A       2.16.16.165
e40844.dsca.akamaiedge.net. 10  IN       A       2.16.16.169

;; ADDITIONAL SECTION:
e40844.dsca.akamaiedge.net. 10  IN       AAAA    2a02:26f0:f700:12::210:10a9
e40844.dsca.akamaiedge.net. 10  IN       AAAA    2a02:26f0:f700:12::210:10a5

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Wed Jan 24 17:22:23 CET 2024
;; MSG SIZE  rcvd: 238
```

Figure 7: Searching for group-redir.mercedes-benz.com

2.1.5 Search for group-redir.mercedes-benz.com.edgekey.net


```
tomasz@tomasz-Aspire-A515-54G:~$ dig group-redir.mercedes-benz.com.edgekey.net A

; <<>> DiG 9.18.18-0ubuntu0.22.04.1-Ubuntu <<>> group-redir.mercedes-benz.com.edgekey.net A
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 44176
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;group-redir.mercedes-benz.com.edgekey.net. IN A

;; ANSWER SECTION:
group-redir.mercedes-benz.com.edgekey.net. 7128 IN CNAME e40844.dsca.akamaiedge.net.
e40844.dsca.akamaiedge.net. 20  IN       A       2.16.16.165
e40844.dsca.akamaiedge.net. 20  IN       A       2.16.16.169

;; Query time: 23 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Wed Jan 24 17:23:25 CET 2024
;; MSG SIZE  rcvd: 139
```

Figure 8: Searching for group-redir.mercedes-benz.com

2.1.6 Search for e40844.dsca.akamaiedge.net

Figure 9: Searching for group e40844.dsca.akamaiedge.net

Domain e40844.dsca.akamaiedge.net has address 2.16.16.165. Domain name group.mercedes-benz.com is an alias. Final address found in a query is 2.16.16.165.