

# Preguntas al DNS a través de DIG

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## 1. Los roots

1. Primero preguntamos a los DNS root los puedes encontrar en el siguiente link <https://www.iana.org/domains/root/servers>.

```
luis@luis-VirtualBox: ~  
luis@luis-VirtualBox:~$ dig www.facebook.com -tracer  
;; Warning, ignoring invalid type racer  
  
; <<>> DiG 9.16.1-Ubuntu <<>> www.facebook.com -tracer  
;; global options: +cmd  
;; Got answer:  
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 37515  
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1  
  
;; OPT PSEUDOSECTION:  
; EDNS: version: 0, flags:; udp: 65494  
;; QUESTION SECTION:  
;www.facebook.com.                IN      A  
  
;; ANSWER SECTION:  
www.facebook.com.                1932    IN      CNAME   star-mini.c10r.facebook.com.  
star-mini.c10r.facebook.com.    49      IN      A       31.13.83.36  
  
;; Query time: 12 msec  
;; SERVER: 127.0.0.53#53(127.0.0.53)  
;; WHEN: mié nov 16 09:25:10 CET 2022  
;; MSG SIZE rcvd: 90  
  
luis@luis-VirtualBox:~$  
  
; (1 server found)  
;; global options: +cmd  
;; Got answer:  
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 60660  
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 13, ADDITIONAL: 27  
;; WARNING: recursion requested but not available  
  
;; OPT PSEUDOSECTION:  
; EDNS: version: 0, flags:; udp: 1232  
; COOKIE: 8f4f74286e73f5c2010000006374a4681adf2a669189d06b (good)  
;; QUESTION SECTION:  
;www.facebook.com.                IN      A  
  
;; AUTHORITY SECTION:  
com.                172800  IN      NS      a.gtld-servers.net.  
com.                172800  IN      NS      b.gtld-servers.net.  
com.                172800  IN      NS      c.gtld-servers.net.  
com.                172800  IN      NS      d.gtld-servers.net.  
com.                172800  IN      NS      e.gtld-servers.net.  
com.                172800  IN      NS      f.gtld-servers.net.  
com.                172800  IN      NS      g.gtld-servers.net.  
com.                172800  IN      NS      h.gtld-servers.net.  
com.                172800  IN      NS      i.gtld-servers.net.  
com.                172800  IN      NS      j.gtld-servers.net.  
com.                172800  IN      NS      k.gtld-servers.net.  
com.                172800  IN      NS      l.gtld-servers.net.  
com.                172800  IN      NS      m.gtld-servers.net.
```

## 2. Preguntas DNS y Respuestas

- Una vez tenemos los nombre y IPS de los servers .com preguntamos al .com sobre Facebook.com

```
luis@luis-VirtualBox:~$ dig @194.69.254.1 www.elmundo.es

; <<>> DiG 9.16.1-Ubuntu <<>> @194.69.254.1 www.elmundo.es
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 9628
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 4, ADDITIONAL: 1
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:: udp: 1232
; COOKIE: 9ba336d0a6d7e95e010000006374a798968f81d5b91626f1 (good)
;; QUESTION SECTION:
;www.elmundo.es.                IN      A

;; AUTHORITY SECTION:
elmundo.es.      86400    IN      NS      ns2-02.azure-dns.net.
elmundo.es.      86400    IN      NS      ns3-02.azure-dns.org.
elmundo.es.      86400    IN      NS      ns4-02.azure-dns.info.
elmundo.es.      86400    IN      NS      ns1-02.azure-dns.com.

;; Query time: 12 msec
;; SERVER: 194.69.254.1#53(194.69.254.1)
;; WHEN: mié nov 16 10:04:24 CET 2022
;; MSG SIZE rcvd: 208
```

- Aquí vemos las preguntas a Facebook.es que ni obtenemos respuesta ya que .com nuestra zona DNS no lo encuentra.

```
luis@luis-VirtualBox:~$ dig @194.69.254.1 www.facebook.es

; <<>> DiG 9.16.1-Ubuntu <<>> @194.69.254.1 www.facebook.es
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 55651
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 4, ADDITIONAL: 1
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:: udp: 1232
; COOKIE: 872dcc3e5a1cbff8010000006374a7d38289be78d20155e7 (good)
;; QUESTION SECTION:
;www.facebook.es.                IN      A

;; AUTHORITY SECTION:
facebook.es.      86400    IN      NS      d.ns.facebook.com.
facebook.es.      86400    IN      NS      c.ns.facebook.com.
facebook.es.      86400    IN      NS      a.ns.facebook.com.
facebook.es.      86400    IN      NS      b.ns.facebook.com.

;; Query time: 16 msec
;; SERVER: 194.69.254.1#53(194.69.254.1)
;; WHEN: mié nov 16 10:05:23 CET 2022
;; MSG SIZE rcvd: 151
```

3.

```
andres@andres:~$ dig a.ns.facebook.com www.facebook.es

; <<> DiG 9.16.1-Ubuntu <<> a.ns.facebook.com www.facebook.es
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 57466
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;a.ns.facebook.com.                IN      A

;; ANSWER SECTION:
a.ns.facebook.com.                3260    IN      A      129.134.30.12

;; Query time: 47 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: mié nov 16 10:07:08 CET 2022
;; MSG SIZE rcvd: 62

;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 27138
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.facebook.es.                IN      A

;; ANSWER SECTION:
www.facebook.es.                7200    IN      CNAME   www.facebook.com.
www.facebook.com.              3016    IN      CNAME   star-mini.c10r.facebook.com.
star-mini.c10r.facebook.com.    32 IN      A      31.13.83.36

;; Query time: 15 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: mié nov 16 10:07:08 CET 2022
;; MSG SIZE rcvd: 119

andres@andres:~$
```