**Alunos:** Guilherme M. Utiama e Gustavo Daniel

**0)**

**udesc.br**

dig -t any udesc.br

; <<>> DiG 9.11.3-1ubuntu1.5-Ubuntu <<>> -t any udesc.br

;; global options: +cmd

;; Got answer:

;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 47783

;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:

; EDNS: version: 0, flags:; udp: 65494

;; QUESTION SECTION:

;udesc.br. IN ANY

;; ANSWER SECTION:

udesc.br. 3203 IN MX 0 udesc-br.mail.protection.outlook.com.

udesc.br. 16249 IN AAAA 2801:bc:0:105::151

udesc.br. 13410 IN A 200.19.105.151

;; Query time: 2 msec

;; SERVER: 127.0.0.53#53(127.0.0.53)

;; WHEN: Tue Mar 19 14:42:53 -03 2019

;; MSG SIZE rcvd: 133

////MESMO MAS FEITO A PARTIR DE CASA////

; <<>> DiG 9.13.7 <<>> -t any udesc.br

;; global options: +cmd

;; Got answer:

;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 63836

;; flags: qr rd ra; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:

; EDNS: version: 0, flags:; udp: 4096

; COOKIE: a5d836cae51ac91730c823e45c918f438374f2c0e87ef3f9 (good)

;; QUESTION SECTION:

;udesc.br. IN ANY

;; ANSWER SECTION:

udesc.br. 2047 IN RRSIG NS 5 2 43200 20190502162947 20190318152947 49306 udesc.br. uCcYB8QGYCLSJc22wF+WdkV+WnsD+OrJ6K3CKKFyqxupw9q1ew1JmJff FOpIi7Xsc9Bwg22Zt3eisq35wcbatQK+09HBc1Kdqlv0+usBhbAiNIhO oPbMHCnCtfkRDPWwXgwhT3p1/39p9rMhXmcaZDh6U04/GU9EmjytC8JB 4hM=

udesc.br. 2047 IN NS adns2.pop-sc.rnp.br.

udesc.br. 2047 IN NS dns.udesc.br.

udesc.br. 2047 IN NS adns1.pop-sc.rnp.br.

udesc.br. 2047 IN NS dns2.udesc.br.

udesc.br. 3141 IN RRSIG DS 13 2 3600 20190326120047 20190312110047 36119 br. 0ObMqTXV2njWkvAzSBm6jExmHk1MzWNSabHt18caRNHWzjd8vUL5zBIR kiGRLGnXkY95ct0CBNXXDrayh7iqTw==

udesc.br. 3141 IN DS 49306 5 1 36F3285595C410CF01CA0C0577C8CCAF11AEBE6D

udesc.br. 17926 IN RRSIG AAAA 5 2 43200 20190502162947 20190318152947 49306 udesc.br. XsAOggPmnxaR+Z6Pp26OcfKNJ0Id1pYHikC86QqAVxAiNpQUY3D+Fsp7 Lc0TcNr1neCwZtUTqZTh9OM7l+0dK7ty6pJ62+t1WnkQHOgO+iVsKvrg Esf60GfggCRmoD7LPi+oHHiB3r1ifuJEDLXhZJOh4TI61YbUIVkKg9+1 CxA=

udesc.br. 17926 IN AAAA 2801:bc:0:105::151

udesc.br. 13476 IN RRSIG A 5 2 43200 20190502162947 20190318152947 49306 udesc.br. KOPEjkMRMhdkiWdApGwB/0qrcq1eDQGTR63Yito8f2ndSIeXzQfm5KfW QyWwoJTxnn8DJFxPzntjMHglDB6PSRCgrqwUFkCGqBAniNhR6N3CKc9T TuR/ieiYhkcFonqlHAtG+t1JfwsU8osSuQP+ce9xhnml6edt+7fNE285 e54=

udesc.br. 13476 IN A 200.19.105.151

udesc.br. 8278 IN RRSIG DNSKEY 5 2 43200 20190502162947 20190318152947 49306 udesc.br. ZWwECNw9Uf+zbi4EkC4F5InL/cAMHmjMdIIPtYZCkh+VmTSuL6rNk+Yy AmOQ+IJJAMWCgzJbCI0BVchyd6tDfq2YUHs4FvUmF+2Su75lF8zBcGxz JZZpNgEgrML2uA4eM9qD6iYZgMO2kSidzdC3618zwBLonBc8CIeXhYhG ddg=

udesc.br. 8278 IN DNSKEY 257 3 5 AwEAAb15uU5ECfjGjAGkd6krM5NxvDIsGd+gA1vFUVeTIeA+z54XerMj NwbMt3CYPHQkkaKT+jl0++CZxoXk6YaFF6Bu3sfmm1Q9BWmxIV8/7qxt ma9djKcIaxX7JM59E34oP22gziyyhfla0glK8UwVJF1skUKesgYyOO7m /fevHpUb

;; Query time: 12 msec

;; SERVER: 181.213.132.2#53(181.213.132.2)

;; WHEN: ter mar 19 21:54:27 -03 2019

;; MSG SIZE rcvd: 1151

**joinville.udesc.br**

dig -t any joinville.udesc.br

; <<>> DiG 9.11.3-1ubuntu1.5-Ubuntu <<>> -t any joinville.udesc.br

;; global options: +cmd

;; Got answer:

;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 55786

;; flags: qr rd ra; QUERY: 1, ANSWER: 6, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:

; EDNS: version: 0, flags:; udp: 65494

;; QUESTION SECTION:

;joinville.udesc.br. IN ANY

;; ANSWER SECTION:

joinville.udesc.br. 43200 IN SOA dns.joinville.udesc.br. root.joinville.udesc.br. 2019012301 86400 21600 2419200 172800

joinville.udesc.br. 300 IN TXT "v=spf1 include:spf.protection.outlook.com -all"

joinville.udesc.br. 300 IN MX 0 joinville-udesc-br.mail.protection.outlook.com.

joinville.udesc.br. 43200 IN NS dns.joinville.udesc.br.

joinville.udesc.br. 43200 IN NS dns.udesc.br.

joinville.udesc.br. 43200 IN A 200.19.106.1

;; Query time: 3 msec

;; SERVER: 127.0.0.53#53(127.0.0.53)

;; WHEN: Tue Mar 19 14:48:07 -03 2019

;; MSG SIZE rcvd: 261

**manjaro.org**

dig -t any manjaro.org

; <<>> DiG 9.13.7 <<>> -t any manjaro.org

;; global options: +cmd

;; Got answer:

;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 45712

;; flags: qr rd ra; QUERY: 1, ANSWER: 7, AUTHORITY: 3, ADDITIONAL: 1

;; OPT PSEUDOSECTION:

; EDNS: version: 0, flags:; udp: 4096

; COOKIE: 6167bf1913dc812399a8cb195c9187d7ddbdd247af357e65 (good)

;; QUESTION SECTION:

;manjaro.org. IN ANY

;; ANSWER SECTION:

manjaro.org. 86400 IN TXT "v=spf1 mx -all"

manjaro.org. 86400 IN MX 10 mail.manjaro.org.

manjaro.org. 86400 IN SOA ns1.first-ns.de. postmaster.robot.first-ns.de. 2019031803 14400 1800 604800 86400

manjaro.org. 72574 IN A 176.9.38.148

manjaro.org. 72573 IN NS robotns2.second-ns.de.

manjaro.org. 72573 IN NS robotns3.second-ns.com.

manjaro.org. 72573 IN NS ns1.first-ns.de.

;; AUTHORITY SECTION:

manjaro.org. 72573 IN NS robotns2.second-ns.de.

manjaro.org. 72573 IN NS robotns3.second-ns.com.

manjaro.org. 72573 IN NS ns1.first-ns.de.

;; Query time: 224 msec

;; SERVER: 181.213.132.2#53(181.213.132.2)

;; WHEN: ter mar 19 21:22:47 -03 2019

;; MSG SIZE rcvd: 325

**1)**

Sim, em ambos udesc.br e joinville.udesc.br, aparece o servidor dns.udesc.br (**A dns.udesc.br),** porém o RR não é igual, apenas essa parte.

**2)**

**RRSIG**, é uma assinatura de um RRset ( conjunto de records do DNS com mesmo nome, classe e tipo). Essa assinatura garante que as informações enviadas sobre um domínio são verdadeiras através de uma criptografia assimétrica.

**DNSKEY**, chave pública de criptografia.

**DS**, contém uma hash de uma DNSKEY.

**NSEC**, aponta para a próxima zona.

**3)**

**udesc.br**

dns.udesc.br

dns2.udesc.br

adns1.pop-sc.rnp.br

adns2.pop-sc.rnp.br

**joinville.udesc.br**

dns.joinville.udesc.br

dns.udesc.br

**manjaro.org**

robotns2.second-ns.de

robotns3.second-ns.com

ns1.first-ns.de

**4)**

**udesc.br**

0 udesc-br.mail.protection.outlook.com.

**joinville.udesc.br**

0 joinville-udesc-br.mail.protection.outlook.com.

**manjaro.org**

10 mail.manjaro.org.

**5)**

**udesc.br**

A: 200.19.105.151

AAAA: 2801:bc:0:105::151

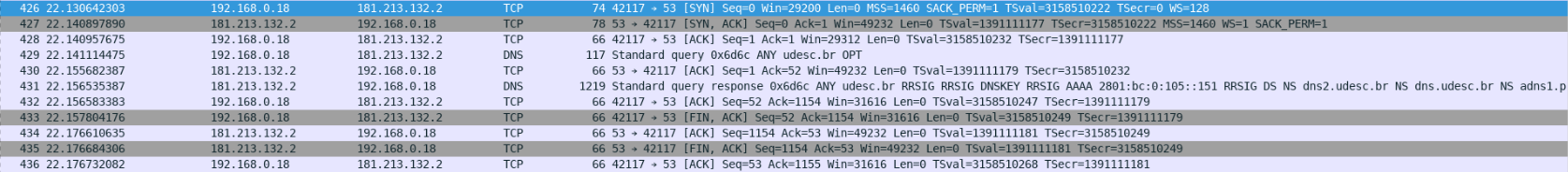
**joinville.udesc.br**

A: 200.19.106.1

**manjaro.org**

A: 176.9.38.148

**6)** Protocolos: TCP e DNS



Dados trocados: IPv6 da udesc.br

Servidor de destino: 181.213.132.2

**7)**

Primeiramente há um aperto de mão (handshake) de 3 vias, o cliente envia um TCP pedindo para se conectar, o servidor responde com outro TCP com a resposta, se positivo então o cliente se conecta, a partir dai o cliente manda um DNS e um TCP para fazer uma requisição, o servidor responde com outro DNS e TCP, e finalmente para encerrar a conexão, o cliente manda um TCP pedindo para desconectar, o servidor responde também com TCP permitindo a desconexão e então o cliente desconecta com um TCP.