Herramientas de resolución de problemas de red

Práctica de laboratorio 5

Parte 1: Inicie la máquina virtual de DEVASC.

Listo!

Parte 2: Explore la herramienta de solución de problemas ifconfig

Usando comando:

```
ifconfig
```

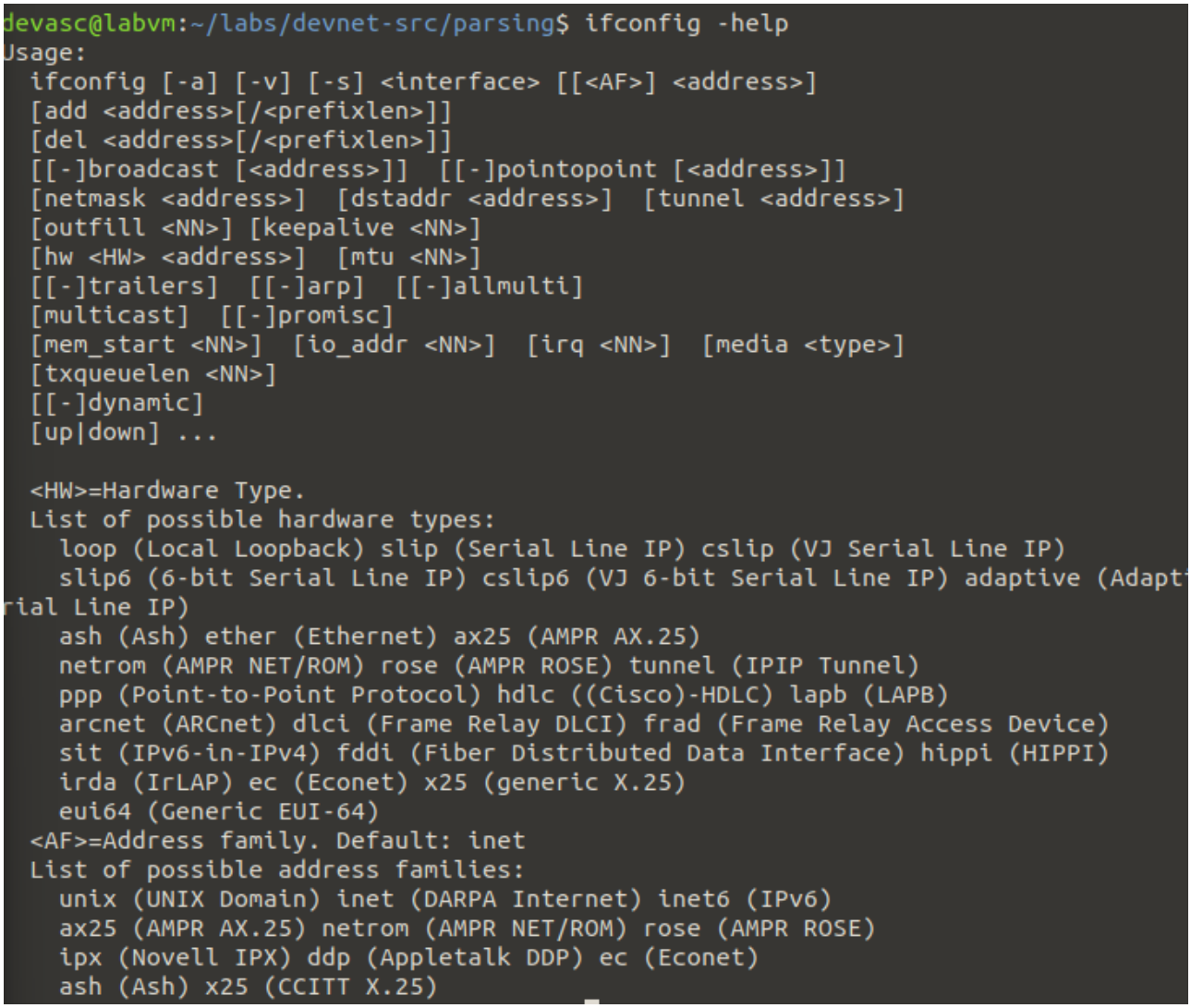
```
devasc@labvm:~/labs/devnet-src/parsing$ ifconfig
dummy0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.0.2.1  netmask 255.255.255.255  broadcast 0.0.0.0
        inet6 fe80::b41d:cdff:fe16:5f15  prefixlen 64  scopeid 0x20<link>
        ether b6:1d:cd:16:5f:15  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 61  bytes 8094 (8.0 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  netmask 255.255.255.0  broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fee9:3de6  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:e9:3d:e6  txqueuelen 1000  (Ethernet)
        RX packets 16653  bytes 23801879 (23.8 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 4193  bytes 337635 (337.6 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 165  bytes 16853 (16.8 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 165  bytes 16853 (16.8 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Usando flags

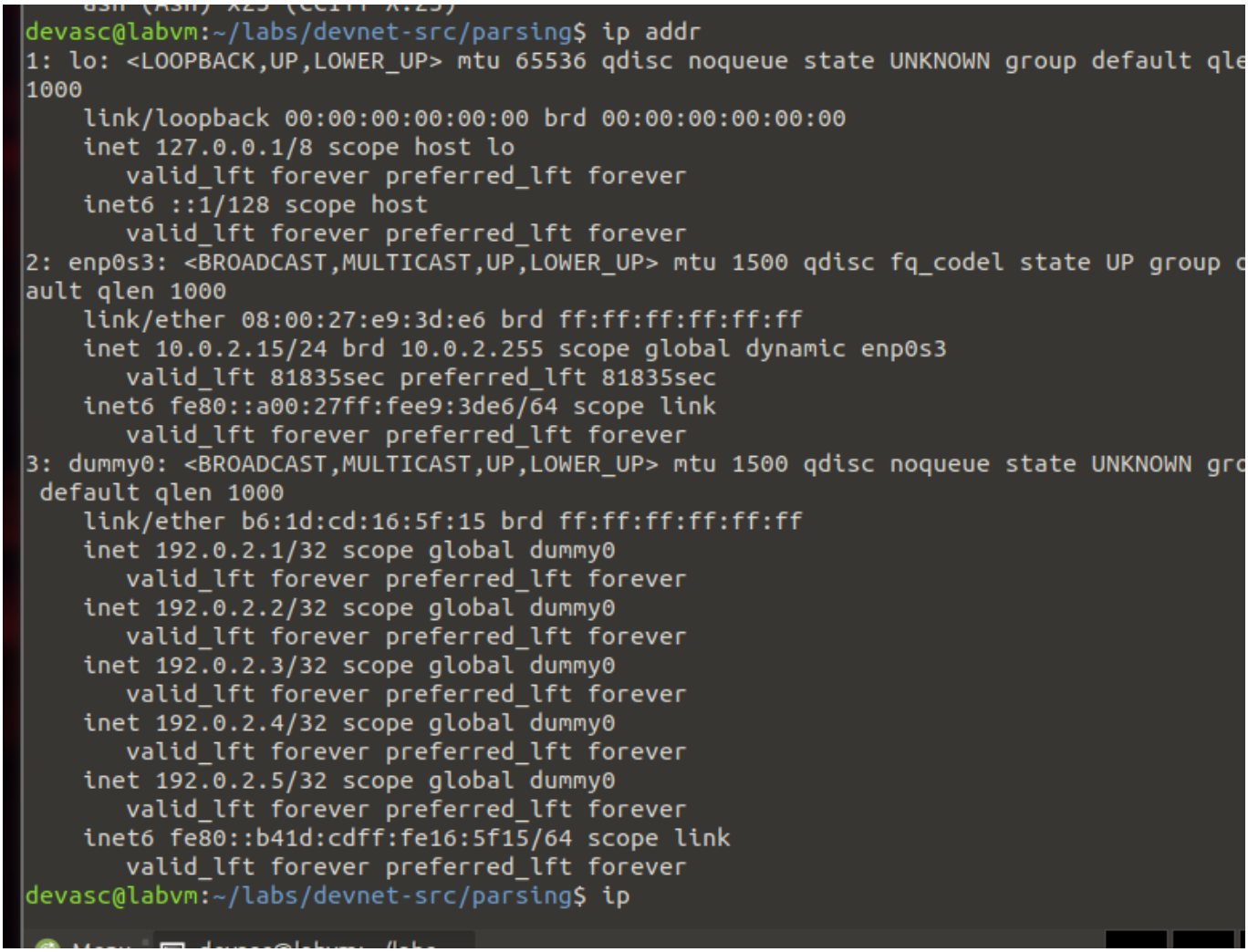
- help: Muestra manual



- add: Agregar una interfaz
- delete: Eliminar una interfaz
- down: Apagar una interfaz
- up: Encender una interfaz
- hw ether: Cambiar la dirección MAC

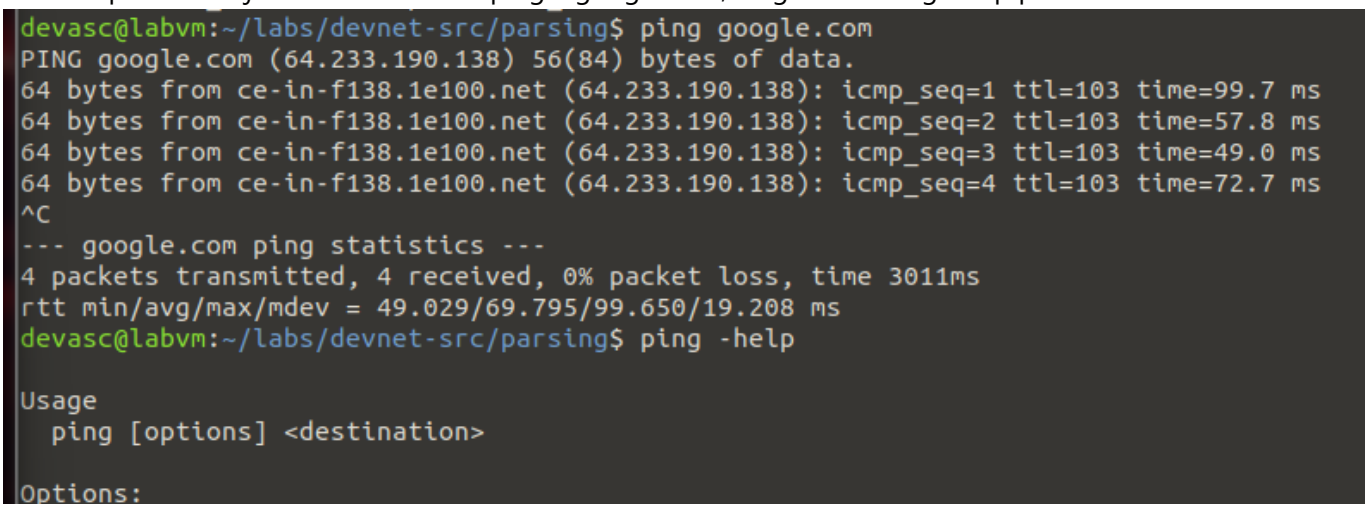
Usando el comando ip

- ip addr: Muestra las direcciones IP



Parte 3: Explore la herramienta de resolución de problemas de ping

Primero procedí a ejecutar el comando ping a google.com; luego usé el flag -help para ver el manual de uso:



Luego ejecuté el comando ping a www.cisco.com con el flag -c 5 para que se ejecutara 5 veces:

```
devasc@labvm:~/labs/devnet-src/parsing$ ping -c 5 www.cisco.com
PING e2867.dsca.akamaiedge.net (23.222.253.33) 56(84) bytes of data.
64 bytes from a23-222-253-33.deploy.static.akamaitechnologies.com (23.222.253.33): icmp
_seq=1 ttl=52 time=40.8 ms
64 bytes from a23-222-253-33.deploy.static.akamaitechnologies.com (23.222.253.33): icmp
_seq=2 ttl=52 time=38.3 ms
64 bytes from a23-222-253-33.deploy.static.akamaitechnologies.com (23.222.253.33): icmp
_seq=3 ttl=52 time=38.7 ms
64 bytes from a23-222-253-33.deploy.static.akamaitechnologies.com (23.222.253.33): icmp
_seq=4 ttl=52 time=40.2 ms
64 bytes from a23-222-253-33.deploy.static.akamaitechnologies.com (23.222.253.33): icmp
_seq=5 ttl=52 time=47.1 ms

--- e2867.dsca.akamaiedge.net ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4009ms
rtt min/avg/max/mdev = 38.339/41.025/47.050/3.148 ms
```

Parte 4: Explore la herramienta de solución de problemas de trazar la ruta(traceroute)

Primero vi la documentación de traceroute:

```
devasc@labvm:~/labs/devnet-src/parsing$ traceroute --help
Usage: traceroute [OPTION...] HOST
Print the route packets trace to network host.

  -f, --first-hop=NUM        set initial hop distance, i.e., time-to-live
  -g, --gateways=GATES       list of gateways for loose source routing
  -I, --icmp                 use ICMP ECHO as probe
  -m, --max-hop=NUM          set maximal hop count (default: 64)
  -M, --type=METHOD          use METHOD (`icmp' or `udp') for traceroute
                             operations, defaulting to `udp'
  -p, --port=PORT            use destination PORT port (default: 33434)
  -q, --tries=NUM            send NUM probe packets per hop (default: 3)
      --resolve-hostnames    resolve hostnames
  -t, --tos=NUM              set type of service (TOS) to NUM
  -w, --wait=NUM             wait NUM seconds for response (default: 3)
  -?, --help                 give this help list
      --usage                give a short usage message
  -V, --version              print program version

Mandatory or optional arguments to long options are also mandatory or optional
for any corresponding short options.

Report bugs to <bug-inetutils@gnu.org>.
```

Luego ejecuté el comando traceroute a www.netacad.com con el comando:

```
traceroute www.netacad.com
```

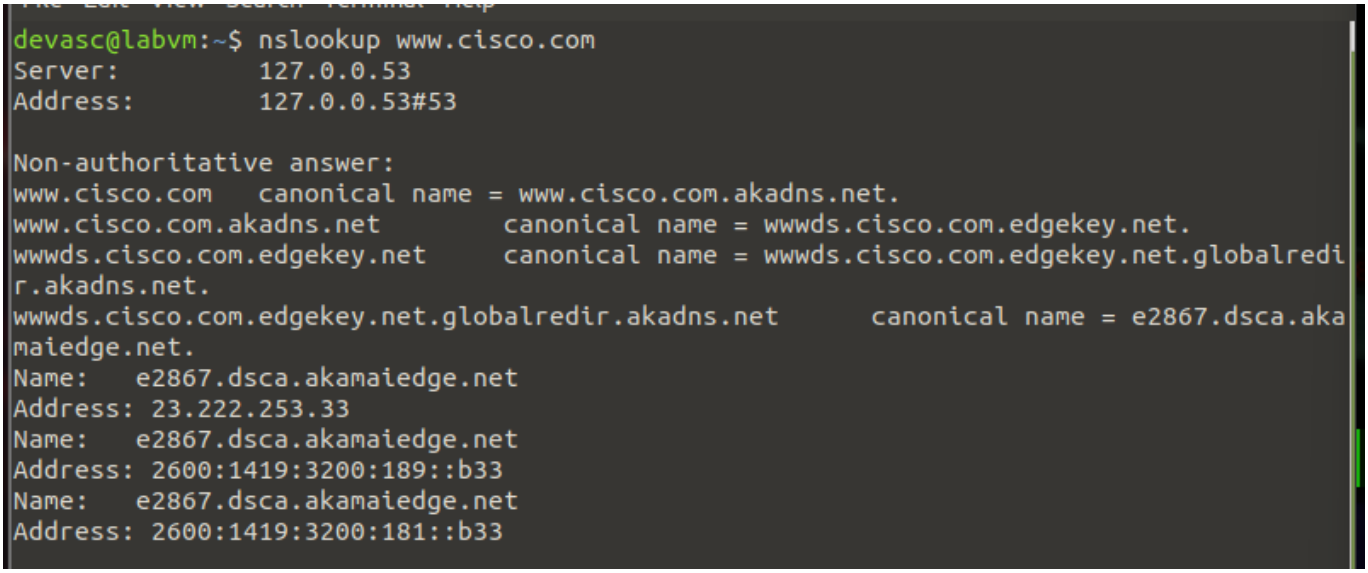
```
devasc@labvm:~/labs/devnet-src/parsing$ traceroute www.netacad.com
traceroute to d1h6v4iwmfkzng.cloudfront.net (18.164.13.86), 64 hops max
  1   10.0.2.2  0.438ms  0.219ms  0.873ms
  2   10.0.2.2  6.556ms  2.191ms  2.794ms
```

La salida muestra que se dieron 2 saltos para llegar al destino.

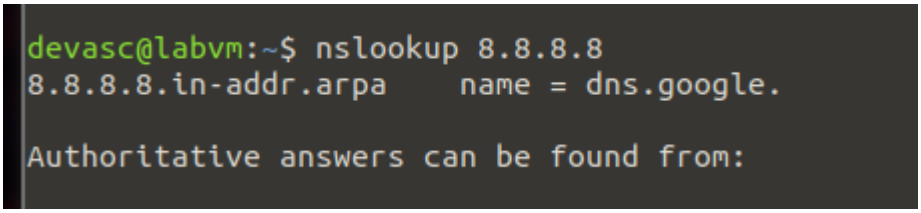
Parte 5: Explore la herramienta de solución de problemas de nslookup

Primero quise determinar el IP de www.cisco.com, para eso usé el comando:

```
nslookup www.cisco.com
```



Luego consulté la dirección IP 8.8.8.8 para ver que pasaba y me arrojó que era un servidor DNS de Google:



Paso 3: Consulte un dominio mediante un servidor DNS específico.

En este paso me salión 'connection timed out' y no pude realizar la consulta.