

```
>>> sr1(IP(dst="192.168.1.16")/UDP()/DNS(rd=1,qd=DNSQR(qname="google.com")))
Begin emission:
.Finished to send 1 packets.
*
Received 2 packets, got 1 answers, remaining 0 packets
<IP version=4L ihl=5L tos=0xc0 len=56 id=1105 flags= frag=0L ttl=255 proto=icmp
chksum=0x9ea3 src=10.0.2.2 dst=10.0.2.15 options=[] |<ICMP type=dest-unreach c
ode=port-unreachable chksum=0xdeb2 reserved=0 length=0 nexthopmtu=0 |<IPerror v
ersion=4L ihl=5L tos=0x0 len=56 id=1 flags= frag=0L ttl=63 proto=udp chksum=0xad
ed src=10.0.2.15 dst=192.168.1.16 options=[] |<UDPerro sport=domain dport=doma
in len=36 chksum=0x1dbc |>>>

>>> sr1(IP(dst="192.168.1.16")/UDP()/DNS(rd=1,qd=DNSQR(qname="google.com",qtype=
"NS"))
Begin emission:
.Finished to send 1 packets.
*
Received 1 packets, got 1 answers, remaining 0 packets
<IP version=4L ihl=5L tos=0xc0 len=56 id=1104 flags= frag=0L ttl=255 proto=icmp
chksum=0x9ea4 src=10.0.2.2 dst=10.0.2.15 options=[] |<ICMP type=dest-unreach c
ode=port-unreachable chksum=0xdeb3 reserved=0 length=0 nexthopmtu=0 |<IPerror v
ersion=4L ihl=5L tos=0x0 len=56 id=1 flags= frag=0L ttl=63 proto=udp chksum=0xad
ed src=10.0.2.15 dst=192.168.1.16 options=[] |<UDPerro sport=domain dport=doma
in len=36 chksum=0x1dbc |>>>

>>> traceroute(["www.google.com"],maxttl=10)
Begin emission:
.Finished to send 10 packets.
*****
Received 10 packets, got 10 answers, remaining 0 packets
 172.217.12.228:tcp80
1 10.0.2.2 11
2 172.217.12.228 SA
3 172.217.12.228 SA
4 172.217.12.228 SA
5 172.217.12.228 SA
6 172.217.12.228 SA
7 172.217.12.228 SA
8 172.217.12.228 SA
9 172.217.12.228 SA
10 172.217.12.228 SA
(<Traceroute: TCP:0 UDP:0 ICMP:1 Other:0>., <Unanswered: TCP:0 UDP:0 ICMP:0 Other
:0>)
```

arp_req.pcap

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No. Time Source Destination Protocol Length Info

1 0.000000 74:d8:3e:54:ca:22 Broadcast ARP 42 who has 192.168.1.3? Tell 192.168.1.7

2 0.004404 IntelCor_05:51:bd 74:d8:3e:54:ca:22 ARP 42 192.168.1.3 is at 34:e6:ad:05:51:bd

Frame 1: 42 bytes on wire (336 bits), 42 bytes captured (336 bits)
Ethernet II, Src: 74:d8:3e:54:ca:22 (74:d8:3e:54:ca:22), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
Address Resolution Protocol (request)
Hardware type: Ethernet (1)
Protocol type: IPv4 (6x0800)
Hardware size: 6
Protocol size: 4
Opcode: request (1)
Sender MAC address: 74:d8:3e:54:ca:22 (74:d8:3e:54:ca:22)
Sender IP address: 192.168.1.7
Target MAC address: 00:00:00:00:00:00 (00:00:00:00:00:00)
Target IP address: 192.168.1.3

0000 ff ff ff ff ff ff 74 d8 3e 54 ca 22 00 06 00 01E..SY..

0010 00 00 00 00 00 01 74 d8 3e 54 ca 22 c0 a8 01 07t..>T....

0020 00 00 00 00 00 00 c0 a8 01 00>T....

arp_req.pcap

Packets: 4 - Displayed: 4 (100.0%)

Profile: Default

```
> Frame 1: 255 bytes on wire (2040 bits), 255 bytes captured (2040 bits) on interface \Device\NPF_{035E44F3-9C08-4385-843C-E35115B9E0DA}, id 0
  Ethernet II, Src: 62:e2:f7:61:0d:c7 (62:e2:f7:61:0d:c7), Dst: Chongqin_6b:a5:af (4c:eb:bd:6b:a5:af)
    Destination: Chongqin_6b:a5:af (4c:eb:bd:6b:a5:af)
      Address: Chongqin_6b:a5:af (4c:eb:bd:6b:a5:af)
        ....0. .... = 1G bit: Globally unique address (factory default)
        ...0. .... = 1G bit: Individual address (unicast)
```

```

0000 4c eb bd 6b a5 af 62 e2 f7 61 0d c7 08 00 45 00 L-k-b- -a---E-
0010 00 f1 82 e4 00 00 ff 11 9e de ac 14 0c 29 e0 00 -----)---)---
0020 00 fb 14 e9 14 e9 00 dd 34 3d 00 00 84 00 00 00 -----4m-----
0030 00 02 00 00 00 03 01 30 01 45 01 31 01 37 01 36 -----0-E-1-7-6
0040 01 39 01 33 01 43 01 32 01 39 01 44 01 41 01 41 -9-3-C-2-9-D-A-A
0050 01 35 01 30 01 31 01 30 01 30 01 30 01 30 01 30 -5-0-1-0-0-0-0-0
0060 01 30 01 30 01 30 01 30 01 30 01 30 01 30 01 30 -0-0-0-0-0-0-0-0
0070 01 38 01 45 01 46 03 69 70 36 04 61 72 70 61 00 -8-E-F-i-p6-arpa-
0080 00 0c 80 01 00 00 00 78 00 11 09 69 50 68 6f 6e -----x---iPhon
0090 65 2d 31 32 05 6c 6f 63 61 6c 00 02 34 31 02 31 e-12-loc a1--41-1
00a0 32 02 32 30 03 31 37 32 07 69 6e 2d 61 64 64 72 2-20-172--in-addr
00b0 c0 50 00 0c 80 01 00 00 78 00 02 c0 60 c0 0c -P-----x-----
00c0 c0 2f 80 01 00 00 78 00 06 c0 0c 00 02 00 08 -f-----x-----
00d0 c0 71 00 2f 80 01 00 00 78 00 06 c0 71 00 02 -q-f-----x---q---
00e0 00 08 00 00 29 05 a0 00 00 11 94 00 12 00 04 00 -----)---)---
00f0 0e 00 b4 2e 96 49 b4 40 bb 62 e2 f7 61 0d c7 08 00 45 00 ...I-@-b--a---

```