

43	192.168.13.254	192.168.13.254	DNS	57 Standard query response 0x1b1 Server failure A 192.168.13.254
44	10.596660	0.0.0.0	DHCP	342 DHCP Discover - Transaction ID 0x6f45747a
45	10.596842	192.168.13.10	DHCP	342 DHCP Offer - Transaction ID 0x6f45747a
46	10.597899	0.0.0.0	DHCP	342 DHCP Request - Transaction ID 0x6f45747a
47	10.598443	192.168.13.10	DHCP	342 DHCP ACK - Transaction ID 0x6f45747a
48	10.613850	PCSSystemtec_51:db:...	Broadcast	ARP 60 Who has 192.168.13.254? Tell 192.168.13.103
49	10.614385	PCSSystemtec_bf:ec:...	ARP	60 192.168.13.254 is at 08:00:27:bf:ec:c1
50	10.614385	192.168.13.103	DNS	84 Standard query 0xf2d9 A detectportal.firefox.com
51	10.614787	PCSSystemtec_bf:ec:...	Broadcast	ARP 60 Who has 192.168.13.1? Tell 192.168.13.254
52	11.626721	PCSSystemtec_bf:ec:...	Broadcast	ARP 60 Who has 192.168.13.1? Tell 192.168.13.254

Frame 44: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface ..., id 0	0000	ff ff ff ff ff 00 00	27 51 db 51 00 00 45 00
Ethernet II, Src: PCSSystemtec_51:db:00:00:27:51, Dst: Broadcast (ff:ff:ff:ff:ff:ff)	0010	01 48 00 00 00 00 40 11	79 a6 00 00 00 00 ff ff
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255	0020	ff ff 00 44 00 43 01 34	55 5c 01 01 06 00 6f 45
User Datagram Protocol, Src Port: 68, Dst Port: 67	0030	74 7a 00 00 00 00 00 00	00 00 00 00 00 00 00 00
Source Port: 68	0040	00 00 00 00 00 00 00 00	27 51 db 51 00 00 00 00
Destination Port: 67	0050	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
Length: 300	0060	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
Checksum: 0x555c [unverified]	0070	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
[Checksum Status: Unverified]	0080	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
[Stream Index: 18]	0090	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
[Stream Packet Number: 1]	00a0	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
[Timestamps]	00b0	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
UDP payload (300 bytes)	00c0	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
Dynamic Host Configuration Protocol (Discover)	00d0	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
	00e0	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
	00f0	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
	0100	00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00

DHCP Discover : A client sends this packet to locate a DHCP server.

▶ Ethernet II, Src: PCSSystemtec_d5:42:da (08:00:27:d5:42:da),
▶ Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
▶ User Datagram Protocol, Src Port: 68, Dst Port: 67
▼ Dynamic Host Configuration Protocol (Discover)
Message type: Boot Request (1)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0x01709a01
Seconds elapsed: 65
▶ Bootp flags: 0x0000 (Unicast)
Client IP address: 0.0.0.0
Your (client) IP address: 0.0.0.0
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: PCSSystemtec_d5:42:da (08:00:27:d5:42:da)
Client hardware address padding: 0000000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP

DHCP Offer : server sends this packet to offer an IP address to the client.

```
> User Datagram Protocol, Src Port: 67, Dst Port: 68
✓ Dynamic Host Configuration Protocol (Offer)
  Message type: Boot Reply (2)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x01709a01
  Seconds elapsed: 0
  ▶ Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0
  Your (client) IP address: 192.168.13.100
  Next server IP address: 0.0.0.0
  Relay agent IP address: 0.0.0.0
  Client MAC address: PCSSystemtec_d5:42:da (08:00:27:d5:42:da)
  Client hardware address padding: 000000000000000000000000
  Server host name not given
  Boot file name not given
```

DHCP Request : client sends this packet to request the offered IP address.

```
▼ Dynamic Host Configuration Protocol (Request)
  Message type: Boot Request (1)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0x01709a01
  Seconds elapsed: 67
  ▶ Bootp flags: 0x0000 (Unicast)
  Client IP address: 0.0.0.0
  Your (client) IP address: 0.0.0.0
  Next server IP address: 0.0.0.0
  Relay agent IP address: 0.0.0.0
  Client MAC address: PCSSystemtec_d5:42:da (08:00:27:d5:42:da)
  Client hardware address padding: 000000000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
  ▶ Option: (53) DHCP Message Type (Request)
  ▶ Option: (61) Client identifier
  ▶ Option: (50) Requested IP Address (192.168.13.100)
  ▶ Option: (54) DHCP Server Identifier (192.168.13.10)
  ▶ Option: (57) Maximum DHCP Message Size
  ▶ Option: (55) Parameter Request List
  ▶ Option: (60) Vendor class identifier
  ▶ Option: (12) Host Name
```

DHCP ACK : The server sends this packet to acknowledge and confirm the IP address

▼ Dynamic Host Configuration Protocol (ACK)

```
Message type: Boot Reply (2)
Hardware type: Ethernet (0x01)
Hardware address length: 6
Hops: 0
Transaction ID: 0x01709a01
Seconds elapsed: 0
▶ Bootp flags: 0x0000 (Unicast)
Client IP address: 0.0.0.0
Your (client) IP address: 192.168.13.100
Next server IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0
Client MAC address: PCSSystemtec_d5:42:da (08:00:27:d5:42:da)
Client hardware address padding: 0000000000000000000000
Server host name not given
Boot file name not given
Magic cookie: DHCP
▶ Option: (53) DHCP Message Type (ACK)
▶ Option: (54) DHCP Server Identifier (192.168.13.10)
▶ Option: (51) IP Address Lease Time
▶ Option: (1) Subnet Mask (255.255.255.0)
▶ Option: (3) Router
▶ Option: (6) Domain Name Server
▶ Option: (255) End
```