

UDP

Wireshark packet capture showing ICMP and UDP traffic. A red box highlights a sequence of UDP packets from 127.0.0.1 to 127.0.0.1 on port 56995 to 11000.

No.	Time	Source	Destination	Protocol	Length	Info
55	160.002986	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
56	160.003009	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
57	164.003235	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
58	164.003288	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
59	172.008404	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
60	172.008450	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
61	173.125286	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
62	174.160721	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
63	175.153891	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
64	176.167792	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
65	177.182367	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
66	178.189805	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
67	179.195055	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
68	180.205318	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
69	181.218324	127.0.0.1	127.0.0.1	UDP	33	56995 → 11000 Len=1
70	182.228945	127.0.0.1	127.0.0.1	UDP	34	56995 → 11000 Len=2
71	197.001771	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
72	200.003594	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
73	203.998913	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
74	211.999521	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
75	235.511456	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
76	237.001323	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
77	240.005854	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
78	240.005907	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)
79	244.004878	192.168.42.25	192.168.42.25	ICMP	84	Destination unreachable (Host unreachable)

Packet details for the selected UDP packet (No. 61):

- Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECN)
- Total Length: 29
- Identification: 0x4c26 (19494)
- 000. = Flags: 0x0
- ...0 0000 0000 0000 = Fragment Offset: 0
- Time to Live: 128
- Protocol: UDP (17)
- Header Checksum: 0x0000 [validation disabled]
- [Header checksum status: Unverified]
- Source Address: 127.0.0.1
- Destination Address: 127.0.0.1
- [Stream index: 12]
- User Datagram Protocol, Src Port: 56995, Dst Port: 11000
 - Source Port: 56995
 - Destination Port: 11000
 - Length: 9
 - Checksum: 0xc73d [unverified]
 - [Checksum Status: Unverified]
 - [Stream index: 4]
 - [Stream Packet Number: 1]
 - [Timestamps]
 - UDP payload (1 byte)
 - Data (1 byte)
 - Data: 31
 - [Length: 1]

Hex dump of the packet data:

```
0000 02 00 00 00 45 00 00 1d 4c 26 00 00 80 11 00 00
0010 7f 00 00 01 7f 00 00 01 de a3 2a f8 00 09 c7 3d
0020 31
```

Šalje s porta: 56995 (de a3)

Port na koji šalje: 11000 (2a f8)

Mijenja se:

Data: 31 (poslana brojka 1)

Checksum: 0xc73d [unverified]

IP Identification: 0x4c2d (19501)

Identification: 0x4c26 (19494)

> 000. = Flags: 0x0

...0 0000 0000 0000 = Fragment Offset: 0

Time to Live: 128

Protocol: UDP (17)

Header Checksum: 0x0000 [validation disabled]

[Header checksum status: Unverified]

Source Address: 127.0.0.1

Destination Address: 127.0.0.1

[Stream index: 12]

▼ User Datagram Protocol, Src Port: 56995, Dst Port: 11000

Source Port: 56995

Destination Port: 11000

Length: 9

Checksum: 0xc73d [unverified]

[Checksum Status: Unverified]

[Stream index: 4]

[Stream Packet Number: 1]

▼ [Timestamps]

[Time since first frame: 0.000000000 seconds]

[Time since previous frame: 0.000000000 seconds]

UDP payload (1 byte)

▼ Data (1 byte)

Data: 31

[Length: 1]

0000 02 00 00 00 45 00 00 1d 4c 26 00 00 80 11 00 00E... l

0010 7f 00 00 01 7f 00 00 01 de a3 2a f8 00 09 c7 3d

0020 31

↑

↑

Checksum

Data

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: null:ip:udp:data]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

▼ Null/Loopback

Family: IP (2)

▼ Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECN)

Total Length: 29

Identification: 0x4c26 (19494)

> 000. = Flags: 0x0

...0 0000 0000 0000 = Fragment Offset: 0

Time to Live: 128

Protocol: UDP (17)

Header Checksum: 0x0000 [validation disabled]

[Header checksum status: Unverified]

Source Address: 127.0.0.1

Destination Address: 127.0.0.1

[Stream index: 12]

▼ User Datagram Protocol, Src Port: 56995, Dst Port: 11000

Source Port: 56995

Destination Port: 11000

0000 02 00 00 00 45 00 00 1d 4c 26 00 00 80 11 00 00E... l

0010 7f 00 00 01 7f 00 00 01 de a3 2a f8 00 09 c7 3d

0020 31

↑

IP ID

Data: 33 (poslana brojka 3)

Checksum: 0xc53d [unverified]

IP Identification: 0x4c28 (19496)

```
Identification: 0x4c28 (19496)
> 000. .... = Flags: 0x0
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128
Protocol: UDP (17)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 127.0.0.1
Destination Address: 127.0.0.1
[Stream index: 12]
▼ User Datagram Protocol, Src Port: 56995, Dst Port: 11000
Source Port: 56995
Destination Port: 11000
Length: 9
Checksum: 0xc53d [unverified]
[Checksum Status: Unverified]
[Stream index: 4]
[Stream Packet Number: 3]
▼ [Timestamps]
[Time since first frame: 2.028605000 seconds]
[Time since previous frame: 0.993170000 seconds]
UDP payload (1 byte)
▼ Data (1 byte)
Data: 33
[Length: 1]
```

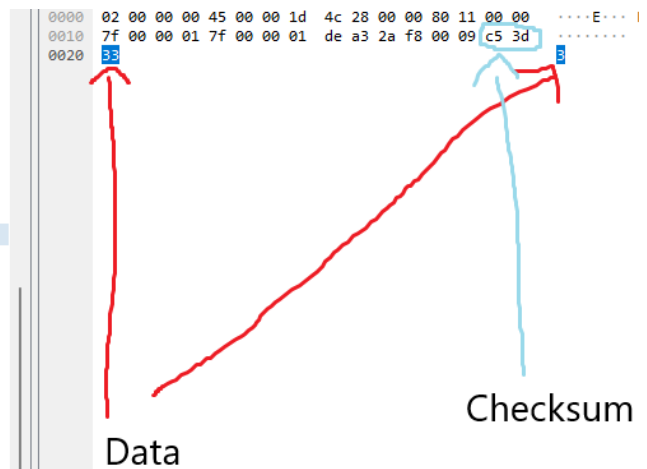


Diagram illustrating the packet structure. The packet is 29 bytes long. The first 20 bytes are the IP header, and the last 9 bytes are the UDP payload. The IP ID field contains the value 4c 28. The UDP payload contains the value 33. A blue arrow points from the IP ID field to the label 'IP ID'.

```
Family: IP (2)
▼ Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECN)
Total Length: 29
Identification: 0x4c28 (19496)
> 000. .... = Flags: 0x0
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128
Protocol: UDP (17)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 127.0.0.1
Destination Address: 127.0.0.1
[Stream index: 12]
▼ User Datagram Protocol, Src Port: 56995, Dst Port: 11000
Source Port: 56995
Destination Port: 11000
Length: 9
Checksum: 0xc53d [unverified]
[Checksum Status: Unverified]
[Stream index: 4]
[Stream Packet Number: 3]
▼ [Timestamps]
```

TCP

Spajanje na server

2	3,857654	127.0.0.1	127.0.0.1	TCP	56 61957 → 11000 [SYN] Seq=0 Win=65535 Len=0 MSS=65495 WS=256 SACK_PERM
3	3,857682	127.0.0.1	127.0.0.1	TCP	56 11000 → 61957 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=65495 WS=256 SACK_PERM
4	3,857782	127.0.0.1	127.0.0.1	TCP	44 61957 → 11000 [ACK] Seq=1 Ack=1 Win=32768 Len=0

[SYN],[SYN,ACK],[ACK]

„rukovanje“ između servera i klijenta

Source port: 62122

Destination port: 11000

Source port: 62122

Destination port: 11000

Source port (f2aa)

Destination port (2af8)

FLAGS

Sequence Number (raw)

Acknowledgment number (raw)

Checksum

Sekvenca se mijenja ovisno o poruci kada se šalje broj npr. 1 Sequence Number = 1 (Sequence Number (raw): 1011510612), raw sekvenca se uvijek mijenja a relativna sekvenca je ista zbog lakšeg analiziranja podataka u Wiresharku. Kako se sekvencijski brojevi povećavaju tako pokazuju sljedeći korak dakle prijelaz iz 1 u 2 pokazuje da postupak ide dalje.

Acknowledgment Number se mijenja s porukom kada se pošalje prva brojka onda je 1 a kada se uzvрати dobivena poruka onda je 2. ACK označuje redni broj sljedećeg podatka kojeg računalo želi da primi

Sekvenca se na svakom ne povećava npr. za 3 jer TCP šalje poruku po poruku svaku posebno