

1. Iniciar Servidor

Capturing from Loopback: lo

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Current filter: tcp.port == 9090

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	127.0.0.1	127.0.0.1	TCP	74	58980 → 9090 [SYN] Seq=0 Win=65495 Len=0 MSS=65495 SACK_PERM=1 TSval=2784699299 TSecr=0..
2	0.000000037	127.0.0.1	127.0.0.1	TCP	74	9090 → 58980 [SYN, ACK] Seq=9 Ack=1 Win=65483 Len=0 MSS=65495 SACK_PERM=1 TSval=2784699..
3	0.000016225	127.0.0.1	127.0.0.1	TCP	66	58980 → 9090 [ACK] Seq=1 Ack=1 Win=65536 Len=0 TSval=2784699299 TSecr=2784699299
4	0.000106566	127.0.0.1	127.0.0.1	TCP	164	58980 → 9090 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=98 TSval=2784699300 TSecr=2784699299
5	0.000171491	127.0.0.1	127.0.0.1	TCP	66	9090 → 58980 [ACK] Seq=1 Ack=99 Win=65408 Len=0 TSval=2784699300 TSecr=2784699300
6	0.000483167	127.0.0.1	127.0.0.1	TCP	269	9090 → 58980 [PSH, ACK] Seq=1 Ack=99 Win=65536 Len=203 TSval=2784699300 TSecr=2784699300
7	0.000489569	127.0.0.1	127.0.0.1	TCP	66	58980 → 9090 [ACK] Seq=99 Ack=204 Win=65408 Len=0 TSval=2784699300 TSecr=2784699300
8	0.000722733	127.0.0.1	127.0.0.1	TCP	277	58980 → 9090 [PSH, ACK] Seq=99 Ack=204 Win=65536 Len=211 TSval=2784699300 TSecr=2784699..
9	0.000944064	127.0.0.1	127.0.0.1	TCP	142	9090 → 58980 [PSH, ACK] Seq=204 Ack=310 Win=65536 Len=70 TSval=2784699300 TSecr=2784699..
10	0.041230665	127.0.0.1	127.0.0.1	TCP	66	58980 → 9090 [ACK] Seq=310 Ack=280 Win=65536 Len=0 TSval=2784699341 TSecr=2784699300

Frame 4: 164 bytes on wire (1312 bits), 164 bytes captured (1312 bits) on interface lo, id 0
 Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)
 Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
 Transmission Control Protocol, Src Port: 58980, Dst Port: 9090, Seq: 1, Ack: 1, Len: 98
 Data (98 bytes)
 5059524f0e300001001000000000004a0001000000003575232073657270656e74207574..

Bytes 38-41: Sequence Number (raw) (tcp.seq_raw) Packets: 10 - Displayed: 10 (100.0%) Profile: Default

2. Cadastrar Animal

Loopback: lo

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

tcp.port == 9090

No.	Time	Source	Destination	Protocol	Length	Info
11	23.128545875	127.0.0.1	127.0.0.1	TCP	74	56302 → 9090 [SYN] Seq=0 Win=65495 Len=0 MSS=65495 SACK_PERM=1 TSval=2785067033 TSecr=..
12	23.128553812	127.0.0.1	127.0.0.1	TCP	74	9090 → 56302 [SYN, ACK] Seq=0 Ack=1 Win=65483 Len=0 MSS=65495 SACK_PERM=1 TSval=278506..
13	23.128559877	127.0.0.1	127.0.0.1	TCP	66	56302 → 9090 [ACK] Seq=1 Ack=1 Win=65536 Len=0 TSval=2785067033 TSecr=2785067033
14	23.128761155	127.0.0.1	127.0.0.1	TCP	164	56302 → 9090 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=98 TSval=2785067034 TSecr=2785067033
15	23.128765098	127.0.0.1	127.0.0.1	TCP	66	9090 → 56302 [ACK] Seq=1 Ack=99 Win=65408 Len=0 TSval=2785067034 TSecr=2785067034
16	23.128945085	127.0.0.1	127.0.0.1	TCP	269	9090 → 56302 [PSH, ACK] Seq=1 Ack=99 Win=65536 Len=203 TSval=2785067034 TSecr=27850670..
17	23.128950766	127.0.0.1	127.0.0.1	TCP	66	56302 → 9090 [ACK] Seq=99 Ack=204 Win=65408 Len=0 TSval=2785067034 TSecr=2785067034
18	23.129215451	127.0.0.1	127.0.0.1	TCP	166	56302 → 9090 [PSH, ACK] Seq=99 Ack=204 Win=65536 Len=100 TSval=2785067034 TSecr=278506..
19	23.129424430	127.0.0.1	127.0.0.1	TCP	247	9090 → 56302 [PSH, ACK] Seq=204 Ack=199 Win=65536 Len=181 TSval=2785067034 TSecr=27850..
20	23.130212549	127.0.0.1	127.0.0.1	TCP	66	56302 → 9090 [FIN, ACK] Seq=199 Ack=385 Win=65536 Len=0 TSval=2785067035 TSecr=2785067..
21	23.130206636	127.0.0.1	127.0.0.1	TCP	66	9090 → 56302 [FIN, ACK] Seq=385 Ack=200 Win=65536 Len=0 TSval=2785067035 TSecr=2785067..
22	23.130297461	127.0.0.1	127.0.0.1	TCP	66	56302 → 9090 [ACK] Seq=200 Ack=380 Win=65536 Len=0 TSval=2785067035 TSecr=2785067035

Frame 1: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface lo, id 0
 Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)
 Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
 Transmission Control Protocol, Src Port: 40730, Dst Port: 9090, Seq: 0, Len: 0

0000 00 00 00 00 00 00 00 00 00 00 00 00 00 45 00E-
 0010 00 3c 31 a4 00 00 40 06 0b 16 7f 00 00 01 7f 00 <1 @ @
 0020 00 01 9f 20 23 82 87 08 34 09 00 00 00 a0 02# 4.....
 0030 ff d7 fe 30 00 00 02 04 ff d7 04 02 08 0a a6 00@.....
 0040 65 c1 00 00 00 01 03 03 07 e.....

wireshark_loSPiX2.pcapng Packets: 32 - Displayed: 22 (68.8%) Profile: Default

3. Ler Animal

52	76.690119614	127.0.0.1	127.0.0.1	TCP	177	36778 → 12345 [PSH, ACK] Seq=273 Ack=316 Win=65536 Len=111 TSval=2785120595 TSecr=2785..
53	76.690754239	127.0.0.1	127.0.0.1	TCP	235	12345 → 36778 [PSH, ACK] Seq=316 Ack=384 Win=65536 Len=169 TSval=2785120596 TSecr=2785..
54	76.690769573	127.0.0.1	127.0.0.1	TCP	66	36778 → 12345 [ACK] Seq=384 Ack=485 Win=65408 Len=0 TSval=2785120596 TSecr=2785120596

Frame 52: 177 bytes on wire (1416 bits), 177 bytes captured (1416 bits) on interface lo, id 0
 Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)
 Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
 Transmission Control Protocol, Src Port: 36778, Dst Port: 12345, Seq: 273, Ack: 316, Len: 111
 Data (111 bytes)
 5059524f0e300000400000002000000570001000000003577232073657270656e74207574..

0030 02 00 fe 30 00 00 01 01 00 0a a6 01 01 53 a6 00S-
 0040 c9 1c 03 03 52 1f 00 30 00 24 05 00 00 02 00 30PYRO.0.....
 0050 00 57 00 01 00 00 00 35 77 23 20 73 65 72 70W-----5w serp
 0060 65 6e 74 20 75 74 66 2d 38 29 70 79 74 68 6f 6eent utf- 8 python
 0070 33 2e 32 0a 2b 27 6f 62 6a 5f 34 64 30 63 65 323.2('ob j_4d0ce2
 0080 11 31 61 39 30 30 34 24 35 39 30 06 30 35 63 6511s0004.500f60cc
 0090 00 33 32 33 33 30 30 32 32 30 27 2c 27 6c 65 7203233892 20','ler
 00a0 5f 61 6e 69 6d 61 6c 27 2c 28 31 2c 29 2c 7b 7danimal','1,),(
 00b0 29.....

Data (data.data), 111 byte(s) Packets: 108 - Displayed: 13 (12.0%) Profile: Default

4. Atualizar Animal


134	136.430287572	127.0.0.1	127.0.0.1	TCP	222	36778 → 12345	[PSH, ACK]	Seq=384	Ack=485	Win=65536	Len=156	TSval=2785180334	TSecr=2785180335
135	136.430494475	127.0.0.1	127.0.0.1	TCP	142	12345 → 36778	[PSH, ACK]	Seq=485	Ack=540	Win=65536	Len=76	TSval=2785180335	TSecr=2785180335
136	136.430427915	127.0.0.1	127.0.0.1	TCP	66	36778 → 12345	[ACK]	Seq=540	Ack=561	Win=65536	Len=0	TSval=2785180335	TSecr=2785180335
Frame 134: 222 bytes on wire (1776 bits), 222 bytes captured (1776 bits) on interface lo, id 0													
Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)													
Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1													
Transmission Control Protocol, Src Port: 36778, Dst Port: 12345, Seq: 384, Ack: 485, Len: 156													
Data (156 bytes)													
Data: 5059524f003000040000000300000008400010000000035a5232073657270656e74207574...													
[PYRO-0]													
0040	91 54 50 59 52 4f 00 30	00 04 00 00 00 03 00 00	[..... 5-# serp										
0050	00 84 00 01 00 00 00 00	35 a5 23 20 73 65 72 70	ent utf. 8 python										
0060	65 6e 74 20 75 74 66 2d	38 20 70 79 74 68 6f 6e	3.2.('ob j.4d0ce2										
0070	33 2e 32 0a 28 27 6f 62	6a 5f 34 64 30 63 65 32	11a90044 598f6ecc										
0080	31 31 61 39 30 34 34 35	39 38 66 36 36 63 65	03233892 26',atu										
0090	30 33 32 33 33 38 39 32	32 36 27 2c 27 61 74 75	alizar a nimal',(
00a0	61 6e 69 7a 61 72 5f 61	6e 69 6d 61 6c 27 2c 28	1,'bobi', '12',m										
00b0	31 2c 27 62 6f 62 69 27	2c 27 31 32 27 2c 27 6d	'12',1 2.0,'459										
00c0	27 2c 27 31 32 27 2c 31	32 2e 38 2c 27 34 35 39	08250863 '),())										
00d0	59 38 32 35 30 38 36 33	27 29 2c 7d 7d 29											
Data (data.data), 156 byte(s)													
Packets: 136 · Displayed: 16 (11.8%)													
Profile: Default													

5. Excluir

143	157.916486429	127.0.0.1	127.0.0.1	TCP	181	36778 → 12345	[PSH, ACK]	Seq=540	Ack=561	Win=65536	Len=115	TSval=2785201821	TSecr=2785201822
144	157.917425753	127.0.0.1	127.0.0.1	TCP	142	12345 → 36778	[PSH, ACK]	Seq=561	Ack=655	Win=65536	Len=76	TSval=2785201822	TSecr=2785201822
145	157.917449358	127.0.0.1	127.0.0.1	TCP	66	36778 → 12345	[ACK]	Seq=655	Ack=637	Win=65536	Len=0	TSval=2785201822	TSecr=2785201822
Frame 143: 181 bytes on wire (1448 bits), 181 bytes captured (1448 bits) on interface lo, id 0													
Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)													
Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1													
Transmission Control Protocol, Src Port: 36778, Dst Port: 12345, Seq: 540, Ack: 561, Len: 115													
Data (115 bytes)													
Data: 0059524f00300004000000040000005b000100000000357d232073657270656e74207574...													
[PYRO-0]													
0030	02 00 fe 9b 00 00 01 01	08 0a a6 02 ce 9d a6 02	[PYRO-0]										
0040	7a af 00 00 52 4f 00 30	00 04 00 00 00 04 00 00	[..... 5]# serp										
0050	00 5b 00 01 00 00 00 00	35 7d 23 20 73 65 72 70	ent utf. 8 python										
0060	65 6e 74 20 75 74 66 2d	38 20 70 79 74 68 6f 6e	3.2.('ob j.4d0ce2										
0070	33 2e 32 0a 28 27 6f 62	6a 5f 34 64 30 63 65 32	11a90044 580f6ecc										
0080	31 31 61 39 30 34 34 35	39 38 66 36 36 63 65	03233892 26',atu										
0090	30 33 32 33 33 38 39 32	32 36 27 2c 27 61 74 75	alizer ani mal',(
00a0	65 75 69 72 5f 61 6e 69	6d 61 6c 27 2c 28 31 2c),())										
00b0	29 2c 7b 7d 29												
Data (data.data), 115 byte(s)													
Packets: 158 · Displayed: 19 (12.0%)													
Profile: Default													

6. Sair

178	199.929369980	127.0.0.1	127.0.0.1	TCP	66	36778 → 12345 [FIN, ACK] Seq=655 Ack=637 Win=65536 Len=0 TSval=2785243834 TSecr=2785201822
179	199.929631095	127.0.0.1	127.0.0.1	TCP	66	12345 → 36778 [FIN, ACK] Seq=637 Ack=656 Win=65536 Len=0 TSval=2785243834 TSecr=2785243834
180	199.929673845	127.0.0.1	127.0.0.1	TCP	66	36778 → 12345 [ACK] Seq=656 Ack=638 Win=65536 Len=0 TSval=2785243835 TSecr=2785243834
Frame 178: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface lo, id 0						
Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)						
Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1						
Transmission Control Protocol, Src Port: 36778, Dst Port: 12345, Seq: 655, Ack: 637, Len: 0						
Data (0 bytes)						
Data (0 bytes)						
0000	00 00 00 00 00 00 00 00	00 00 00 00 00 00 45 00E..			
0010	00 34 5f 34 40 00 40 06	dd 8d 7f 00 00 01 7f 00	-4-@ @-A-..			
0020	00 01 8f aa 30 39 b9 9a	39 f1 bc 20 23 62 80 11	---09-- 9-- #b--			
0030	02 00 fe 28 00 00 01 01	08 0a a6 03 72 ba a6 02	---(--- --r---			
0040	ce 9e		..			

 wireshark_loSPQIX2.pcapng

Packets: 180 · Displayed: 22 (12.2%)

Profile: Default

7. Desconexão do servidor

251	291.026452577	127.0.0.1	127.0.0.1	TCP	66	40736 → 9090	[FIN, ACK]	Seq=310	Ack=280	Win=65536	Len=0	TSval=2785334931	TSecr=278504643
252	291.026722937	127.0.0.1	127.0.0.1	TCP	66	9090 → 40736	[FIN, ACK]	Seq=280	Ack=311	Win=65536	Len=0	TSval=2785334932	TSecr=2785334932
253	291.026767345	127.0.0.1	127.0.0.1	TCP	66	40736 → 9090	[ACK]	Seq=311	Ack=281	Win=65536	Len=0	TSval=2785334932	TSecr=2785334932
Frame 252: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface lo, id 0													
Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)													
Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1													
Transmission Control Protocol, Src Port: 9090, Dst Port: 40736, Seq: 280, Ack: 311, Len: 0													
Data (0 bytes)													
Data (0 bytes)													
0000	00 00 00 00 00 00 00 00	00 00 00 00 00 00 45 00E..										
0010	00 34 1f 81 40 00 40 06	1d 41 7f 00 00 01 7f 00	-4- @ @-A-..										
0020	00 01 23 82 9f 20 c3 b8	fa 41 87 08 35 40 80 11	-#-- --A-5@--										
0030	02 00 fe 28 00 00 01 01	08 0a a6 04 d6 94 a6 04	---(--- --r---										
0040	d6 93												
wireshark_loSPQIX2.pcapng													
Packets: 253 · Displayed: 25 (9.9%)													
Profile: Default													

8. TCP Stream

Wireshark · Follow TCP Stream (tcp.stream eq 2) · Loopback: lo

```
PYRO.0.....5.# serpent utf-8 python3.2
{'handshake':'hello','object':'obj_4d0ce211a90044598f66cc0323389226'}PYRO.
0.....5.CORR..}....D..P..A.%# serpent utf-8 python3.2
{'handshake':'hello','meta':{'methods':
['cadastrar_animal','atualizar_animal','ler_animal','excluir_animal'],'oneway':[],'attrs':[]}}PYRO.
0.....5.# serpent utf-8 python3.2
('obj_4d0ce211a90044598f66cc0323389226','cadastrar_animal',('bob','12','m','12',12.0,'45998250863'),{})PYRO.
0.....@.....5vCORR..s....H....sS0.# serpent utf-8 python3.2
'Animal cadastrado com sucesso! ID: 1'PYRO.0.....W.....5w# serpent utf-8 python3.2
('obj_4d0ce211a90044598f66cc0323389226','ler_animal',(1,),{})PYRO.0.....{.....5.CORR....[...F...^.....#
serpent utf-8 python3.2
{'id':1,'nome':'bob','idade':'12','sexo':'m','peso':'12','tamanho':12.0,'telefone':'45998250863'}PYRO.
0.....5.# serpent utf-8 python3.2
('obj_4d0ce211a90044598f66cc0323389226','atualizar_animal',(1,'bobi','12','m','12',12.0,'45998250863'),
{})PYRO.0.....5VCORR.....{..C....v....P# serpent utf-8 python3.2
TruePYRO.0.....[.....5}# serpent utf-8 python3.2
('obj_4d0ce211a90044598f66cc0323389226','excluir_animal',(1,),{})PYRO.0.....5WCORR....[.
$.0.....# serpent utf-8 python3.2
True
```

Packet 143. 5 client pkt(s), 5 server pkt(s), 9 turn(s). Click to select.