

Laboratorio 1 Tic Tac Toe

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1. Preguntas y respuestas

1. Si se analiza el número de los mensajes enviados dentro de la aplicación. ¿Cúantos son los que logra detectar Wireshark?. Y comparando en base al código, ¿Es la misma cantidad?, si no lo es, ¿A qué se deberá?

Respuesta: En nuestro caso el número de mensajes enviados dentro de la aplicación depende del camino que tome el juego, es decir, si es que el bot no desea jugar solo se enviarían 4 mensajes, tal como lo muestra el diagrama de la tarea. Pero si por ejemplo, estamos jugando y el bot quiso jugar en una casilla ocupada, servidor gato se cominicará continuamente con el servidor intermediario y viceversa hasta encontrar una casilla vacía. Wireshark en estos casos logra detectar todas las interacciones.

- 2. ¿Cuá es el protocolo que se debiese ver a la hora de revisar el intercambio de mensajes en Wireshark? ¿Y cuáles encontró?
 - Respuesta: Se debiesen ver los protocolos UDP y TCP. En nuestro caso, además de dichos protocolos, se encontró el ICMP, que corresponde a Internet Control Message Protocol, y que aparece en la jugada ganadora, avisando que la dirección a la que se quiere llegar no es alcanzable.
- 3. ¿El contenido de los mensajes dentro de Wireshark son legibles?, ¿Por qué si? o ¿Por qué no?

Respuesta: Los mensajes enviados dentro del juego no son legibles dentro de Wireshark, dado que dentro del código el envío de los mensajes vía UDP y TCP se encuentran codificados.

2. Anexo

1 0.98989898 127.8.8.1 127.8.8.1 1CP 76 42712 - 8881 [SVN] Seq=0 Min=05498 Len=0 MSS=05498 2 0.8898989898 127.8.8.1 127.8.8.1 1CP 74 [TCP Out-Order] 42712 - 8891 [SVN] Seq=0 Min=05498 Len=0 MSS=05498 2 0.8898989898 127.8.8.1 127.8.8.1 1CP 74 [TCP Out-Order] 42712 - 8891 [SVN] Seq=0 Ack=1 Win=05483 Len=0 MSS=05498 2 0.889816125 127.8.8.1 127.8.8.1 1CP 74 [TCP Out-Order] 8081 - 42712 [SVN, ACK] Seq=0 Ack=1 Win=05483 Len=0 TS 6 .889816774 127.8.8.1 127.8.8.1 1CP 68 42712 - 8891 [ACK] Seq=1 Ack=1 Win=05536 Len=0 TS 6 .889816774 127.8.8.1 127.8.8.1 1CP 68 42712 - 8891 [ACK] Seq=1 Ack=1 Win=05536 Len=0 TS 6 .83.99698891 127.8.8.1 127.	5 SACK_PERM=1 TSval=1005486980 TSecr=0 WS=128 5495 Len=0 MSS=65495 SACK PERM=1 TSval=1005486980 TSecr-
3 0.808018125 127.0.0.1 127.0.8.1 TCP 76 8801 - 42712 [SVM, ACK] Seq=0 Ack=1 Win=65838 Lens 4 0.808018125 127.0.0.1 127.0.0.1 TCP 74 [TCP Out-0f-Order] 8001 - 42712 [SVM, ACK] Seq=0 Ack=1 Win=65536 Lens TS 0.808016774 127.0.0.1 127.0.0.1 TCP 68 42712 - 8801 [ACK] Seq=1 Ack=1 Win=65536 Lens TS 0.808016774 127.0.0.1 127.0.0.1 TCP 68 (TCP DUP ACK) 127.0.8.1 127.0.0.1 127.0.0.1 TCP 68 (TCP DUP ACK) 127.0.8.01 [ACK] Seq=1 Ack=1 Win=65536 Lens TS 0.8090881317 127.0.0.1 127.0.0.1 TCP 68 8001 - 42712 [SVM, ACK] Seq=1 Ack=2 Win=65536 Lens TS 0.80908155 127.0.0.1 127.0.0.1 TCP 67 [TCP Keep-Alley 42712 - 8001 [FSH, ACK] Seq=1 Ack=2 Win=65536 Lens TS 0.80912 [SVM, ACK] Seq=1 Ack=2 Win=65536 Lens TS 0.80912 [SVM, ACK] Seq=1 Ack=2 Win=65536 Lens TS 0.8090898156 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [FSH, ACK] Seq=1 Ack=2 Win=65536 Lens TS 0.8090898159 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Lens TS 0.8090898159 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Lens TS 0.8090898159 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Lens TS 0.809081159 127.0.0.1 127.0.0.1 UDP 50 8002 - 5002 Lens TS 0.809081159 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Lens TS 0.809081159 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Lens TS 0.809081159 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Lens TS 0.809081159 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Lens TS 0.809081159 Lens TS 0.8090811	5495 Len=0 MSS=65495 SACK PERM=1 TSval=1005486980 TSecr=
4 9.000010125 127.0.0.1 127.0.0.1 127.0.0.1 TCP 74 [TCP OUL-OF-O-Oder] 8001 - 42712 [SYM, ACK] Seq=0 A 5 0.00001074 127.0.0.1 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=1 Ack=1 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=1 Ack=1 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 127.0.0.1 TCP 69 42712 - 8001 [PSH, ACK] Seq=1 Ack=1 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 68 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 67 [TCP Keep-Alive] 42712 - 8001 [PSH, ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 70 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 70 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=2 Ack=3 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=2 Ack=3 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 60 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 60 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-55536 Lene TS 6 0.00001074 127.0.0.1 TCP 60 8001 - 42712 [ACK] Seq=1 Ack=2 Wine-5536 Lene TS 6 0.00001074 127.0.0.1 TCP 60 8001074 127.0.0.1 TCP 60 80	
5 0.000016774 127.0.0.1 12	
6 6,000016774 127.0 8.1 127.0 8.1 1CP 66 [TCP Upp ACK 5#1] 42712 - 8001 [ACK] Seq=1 Ack=1 Win=65536 Len=0 TSV 93.99604815 127.0 8.0.1 1CP 69 42712 - 8001 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=0 TSV 93.99608891 127.0 8.0.1 127.0 8.1 1CP 68 8001 - 42712 [ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 93.996084815 127.0 8.0.1 127.0 8.1 1CP 67 [TCP Keep-Alive] 42712 - 8001 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 13.996084815 127.0 8.0.1 127.0 8.0.1 UDP 52 8002 - 51092 Len=3 123.997125328 127.0 8.0.1 127.0 8.0.1 TCP 79 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 143.996098815 127.0 8.0.1 127.0 8.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 143.9960988117 127.0 8.0.1 127.0 8.0.1 UDP 43 51092 - 8002 Len=1 153.996783117 127.0 8.0.1 127.0 8.0.1 UDP 43 51092 - 8002 Len=1 163.99698115 127.0 8.0.1 127.0 8.0.1 UDP 50 8002 - 51092 Len=8	
7 3.996064815 127.0.0.1 127.0.0.1 TCP 69 42712 - 8001 [PSH, ACK] Seq-1 Ack=1 Win=65536 Len=0 TSV 9 3.996783117 127.0.0.1 127.0.0.1 UDP 45 51992 - 8002 Len=0 113.99698115 127.0.0.1 127.0.0.1 UDP 52 8002 - 51992 Len=0 127.0.0.1 127.0.0.1 UDP 52 8002 - 51992 Len=0 123.997125328 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 13.997125328 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 14.3.996908155 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 15.3.9967083117 127.0.0.1 127.0.0.1 UDP 43 51092 - 8002 Len=0 127.0.0.1 127.0.0.1 UDP 59 8002 - 51992 Len=0 127.0.0.1 127.0.0.1 UDP 50 8002 - 51992 Len=0 127.0.0.1 UDP 50	
8 3.99698891 127.0.0.1 127.0.0.1 127.0.0.1 TCP 68 8001 - 42712 [ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 93.996783117 127.0.0.1 127.0.0.1 TCP 65 15092 - 8092 Len=1 10 3.996084815 127.0.0.1 127.0.0.1 TCP 67 [TCP Keep-Alive] 42712 - 8001 [PSH, ACK] Seq=1 Ack 113.996081156 127.0.0.1 127.0.0.1 TCP 70 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 143.996098819 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 153.996783117 127.0.0.1 127.0.0.1 UDP 43 51092 - 8002 Len=0 TSV 153.996783117 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Len=8	
9 3.996783117 127.0.0.1 127.0.0.1 UDP 45 51092 - 8082 Len=1 18 3.996864155 127.0.0.1 127.0.0.1 TCP 67 [TCP Keep-Alive] 42712 - 8001 [PSH, ACK] Seq=1 Ack 113.996981155 127.0.0.1 127.0.0.1 UDP 52 8082 - 51092 Len=8 12 3.997145328 127.0.0.1 127.0.0.1 TCP 70 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len= 133.997141046 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [PSH, ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 14 3.996098891 127.0.0.1 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 15 3.996783117 127.0.0.1 127.0.0.1 UDP 43 51092 - 8002 Len=1 16 3.996981155 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Len=8	
19 3.996968415 127.8.8.1 127.8.8.1 127.8.8.1 TCP 67 [TCP Keep-Alive] 42712 - 8001 [PSH, ACK] Seq=1 Ack 1 3.996981156 127.8.0.1 127.8.0.1 UDP 52 8082 - 51892 Len=8 123.997125328 127.8.0.1 127.8.0.1 TCP 70 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len= 13 3.997141046 127.8.0.1 127.8.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSN 14 3.996698891 127.8.0.1 127.8.0.1 TCP 68 8091 - 42712 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSN 15 3.996783117 127.8.0.1 127.8.0.1 UDP 43 51892 - 8002 Len=1 127.8.0.1 UDP 50 8002 - 51802 Len=8	val=1005490976 TSecr=1005490976
11 3.996981156 127.0.0.1 127.0.0.1 UDP 52 8002 - 51092 Len=8 CK] 12 3.997125328 127.0.0.1 127.0.0.1 TCP 70 8001 - 42712 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len=13 3.996708891 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 14 3.996708811 127.0.0.1 127.0.0.1 UDP 43 51092 - 8002 Len=1 [ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 15 3.996708117 127.0.0.1 UDP 43 51092 - 8002 Len=1 16 3.996981156 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Len=8	
12 3.997125328 127.8.8.1 127.8.8.1 1CP 76 8681 - 42712 [PSH, ACK] Seq=1 Ack=2 Win=65536 Len=8 TSV 14 3.99698891 127.8.8.1 127.8.8.1 TCP 66 8691 - 42712 [ACK] Seq=2 Ack=3 Win=65536 Len=8 TSV 15 3.996783117 127.8.8.1 127.8.8.1 UDP 43 51892 - 8892 Len=1 16 3.996981156 127.8.8.1 UDP 50 8092 - 51892 Len=8	k=1 Win=65536 Len=1 TSval=1005490976 TSecr=1005486980
13 3.997141046 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=2 Ack=3 Win=65536 Len=0 TSV 14 3.99609891 127.0.0.1 127.0.0.1 TCP 66 8001 - 42712 [ACK] Seq=1 Ack=2 Win=65536 Len=0 TSV 15 3.996783117 127.0.0.1 127.0.0.1 UDP 43 51092 - 8002 Len=1 16 3.996931156 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Len=0	
14 3.99698891 127.0.0.1 127.0.0.1 TCP 66 8801 - 42712 [ACK] Seq=1 Ack=2 Win=65536 Len=0 TSv 15 3.996783117 127.0.0.1 127.0.0.1 UDP 43 51992 - 8002 Len=1 16 3.996981155 127.0.0.1 127.0.0.1 UDP 50 8002 - 51992 Len=8	
15 3.996783117 127.0.0.1 127.0.0.1 UDP 43 51092 - 8002 Len=1 16 3.996981156 127.0.0.1 127.0.0.1 UDP 50 8002 - 51092 Len=8	
16 3.996981156 127.0.0.1 127.0.0.1 UDP 50 8002 → 51092 Len=8	val=1005490976 TSecr=1005490976
17 3.997125328 127.0.0.1 127.0.0.1 TCP 68 [TCP Spurious Retransmission] 8001 → 42712 [PSH, A	
18 3.997141046 127.0.0.1 127.0.0.1 TCP 66 [TCP Dup ACK 13#1] 42712 - 8001 [ACK] Seq=2 Ack=3	
19 6.877033266 127.0.0.1 127.0.0.1 TCP 71 42712 → 8001 [PSH, ACK] Seq=2 Ack=3 Win=65536 Len=	
20 6.877074331 127.0.0.1 127.0.0.1 TCP 68 8001 → 42712 [ACK] Seq=3 Ack=5 Win=65536 Len=0 TSV	
	ACK] Seq=2 Ack=3 Win=65536 Len=3 TSval=1005493857 TSecr=
22 6.877327437 127.0.0.1 127.0.0.1 UDP 50 51092 - 27247 Len=6	
23 6.877509380 127.0.0.1 127.0.0.1 UDP 45 27247 → 51092 Len=1	
24 6.877640680 127.0.0.1 127.0.0.1 TCP 76 8001 → 42712 [PSH, ACK] Seq=3 Ack=5 Win=65536 Len=	
25 6.877074331 127.0.0.1 127.0.0.1 TCP 66 8001 → 42712 [ACK] Seq=3 Ack=5 Win=65536 Len=0 TSV	
26 6.877655980 127.0.0.1 127.0.0.1 TCP 68 42712 → 8001 [ACK] Seq=5 Ack=11 Win=65536 Len=0 TS	Sval=1005493857 TSecr=1005493857
27 6.877327437 127.0.0.1 127.0.0.1 UDP 48 51092 → 27247 Len=6	
28 6.877509380 127.0.0.1 127.0.0.1 UDP 43 27247 → 51092 Len=1	
	ACK] Seq=3 Ack=5 Win=65536 Len=8 TSval=1005493857 TSecr=
30 6.877655980 127.0.0.1 127.0.0.1 TCP 66 [TCP Dup ACK 26#1] 42712 → 8001 [ACK] Seq=5 Ack=11	
31 10.012994944 127.0.0.1 127.0.0.1 TCP 71 42712 → 8001 [PSH, ACK] Seq=5 Ack=11 Win=65536 Ler	
	5 Ack=11 Win=65536 Len=3 TSval=1005496993 TSecr=10054938
33 10.013043629 127.0.0.1 127.0.0.1 TCP 68 8001 → 42712 [ACK] Seq=11 Ack=8 Win=65536 Len=0 TS	Sval=1005496993 TSecr=1005496993
34 10.013332369 127.0.0.1 127.0.0.1 UDP 50 51092 → 27247 Len=6	
35 10.013043629 127.0.0.1 127.0.0.1 TCP 66 [TCP Dup ACK 33#1] 8001 - 42712 [ACK] Seq=11 Ack=8	
36 10.013539526 127.0.0.1 127.0.0.1 UDP 45 27247 → 51092 Len=1	8 W1n=65536 Len=0 TSVa1=1005496993 TSecr=1005496993

Figura 1: Parte 1 juego de gato.

37 10.013332369 127.0.0.1	127.0.0.1		48 51092 → 27247 Len=6
38 10.013761503 127.0.0.1	127.0.0.1	UDP	50 51092 → 27247 Len=6
39 10.013539526 127.0.0.1	127.0.0.1	UDP	43 27247 → 51092 Len=1
40 10.013761503 127.0.0.1	127.0.0.1	UDP	48 51092 → 27247 Len=6
41 10.013944855 127.0.0.1	127.0.0.1	UDP	43 27247 → 51092 Len=1
42 10.014099853 127.0.0.1	127.0.0.1	TCP	74 8001 → 42712 [PSH, ACK] Seq=11 Ack=8 Win=65536 Len=8 TSval=1005496994 TSecr=1005496993
43 10.013944855 127.0.0.1	127.0.0.1	UDP	45 27247 → 51092 Len=1
44 10.014118043 127.0.0.1	127.0.0.1	TCP	66 42712 → 8001 [ACK] Seq=8 Ack=19 Win=65536 Len=0 TSval=1005496994 TSecr=1005496994
45 10.014099853 127.0.0.1	127.0.0.1	TCP	76 [TCP Spurious Retransmission] 8001 → 42712 [PSH, ACK] Seq=11 Ack=8 Win=65536 Len=8 TSval=1005496994 TSect
46 10.014118043 127.0.0.1	127.0.0.1	TCP	68 TCP Dup ACK 44#1] 42712 → 8001 [ACK] Seq=8 Ack=19 Win=65536 Len=0 TSval=1005496994 TSecr=1005496994
47 11.756352476 127.0.0.1	127.0.0.1	TCP	71 42712 → 8001 [PSH, ACK] Seq=8 Ack=19 Win=65536 Len=3 TSval=1005498736 TSecr=1005496994
48 11.756352476 127.0.0.1	127.0.0.1	TCP	69 [TCP Retransmission] 42712 → 8001 [PSH, ACK] Seq=8 Ack=19 Win=65536 Len=3 TSval=1005498736 TSecr=10054969
49 11.756571312 127.0.0.1	127.0.0.1	TCP	79 8001 → 42712 [PSH, ACK] Seq=19 Ack=11 Win=65536 Len=11 TSval=1005498736 TSecr=1005498736
50 11.756609917 127.0.0.1	127.0.0.1	TCP	68 42712 → 8001 [ACK] Seq=11 Ack=30 Win=65536 Len=0 TSval=1005498736 TSecr=1005498736
51 11.756571312 127.0.0.1	127.0.0.1	TCP	77 [TCP Spurious Retransmission] 8001 → 42712 [PSH, ACK] Seq=19 Ack=11 Win=65536 Len=11 TSval=1005498736 TS€
52 11.756778005 127.0.0.1	127.0.0.1	UDP	47 51092 - 27247 Len=3
53 11.756609917 127.0.0.1	127.0.0.1	TCP	66 [TCP Dup ACK 50#1] 42712 → 8001 [ACK] Seq=11 Ack=30 Win=65536 Len=0 TSval=1005498736 TSecr=1005498736
54 11.756778005 127.0.0.1	127.0.0.1	UDP	45 51092 → 27247 Len=3
55 15.344975590 127.0.0.1	127.0.0.1	TCP	69 42712 → 8001 [PSH, ACK] Seq=11 Ack=30 Win=65536 Len=1 TSval=1005502325 TSecr=1005498736
56 15.344975590 127.0.0.1	127.0.0.1	TCP	67 [TCP Keep-Alive] 42712 - 8001 [PSH, ACK] Seq=11 Ack=30 Win=65536 Len=1 TSval=1005502325 TSecr=1005498736
57 15.345069660 127.0.0.1	127.0.0.1	TCP	68 42712 → 8001 [FIN, ACK] Seq=12 Ack=30 Win=65536 Len=0 TSval=1005502325 TSecr=1005498736
58 15.345231150 127.0.0.1	127.0.0.1	UDP	45 51092 → 8002 Len=1
59 15.345362049 127.0.0.1	127.0.0.1	UDP	45 51092 → 27247 Len=1
60 15.345069660 127.0.0.1	127.0.0.1	TCP	66 [TCP Out-Of-Order] 42712 → 8001 [FIN, ACK] Seq=12 Ack=30 Win=65536 Len=0 TSval=1005502325 TSecr=10054987
61 15.345394223 127.0.0.1	127.0.0.1	ICMP	73 Destination unreachable (Port unreachable)
62 15.345519554 127.0.0.1	127.0.0.1	TCP	68 8001 → 42712 [FIN, ACK] Seq=30 Ack=13 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325
63 15.345550463 127.0.0.1	127.0.0.1	TCP	68 42712 → 8001 [ACK] Seq=13 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325
64 15.345231150 127.0.0.1	127.0.0.1	UDP	43 51092 → 8002 Len=1
65 15.345362049 127.0.0.1	127.0.0.1	UDP	43 51092 → 27247 Len=1
66 15.345394223 127.0.0.1	127.0.0.1	ICMP	71 Destination unreachable (Port unreachable)
67 15.345519554 127.0.0.1	127.0.0.1	TCP	66 [TCP Out-Of-Order] 8001 → 42712 [FIN, ACK] Seq=30 Ack=13 Win=65536 Len=0 TSval=1005502325 TSecr=100550232
68 15.345550463 127.0.0.1	127.0.0.1	TCP	66 [TCP Dup ACK 63#1] 42712 → 8001 [ACK] Seq=13 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325

Figura 2: Parte 2 juego de gato.

	30 13.343231130 127.0.0.1	121.0.0.1	UUP	49 31092 → 0002 Len-1			
	59 15.345362049 127.0.0.1	127.0.0.1	UDP	45 51092 → 27247 Len=1			
	60 15.345069660 127.0.0.1	127.0.0.1	TCP	66 [TCP Out-Of-Order] 42712 → 8001 [FIN, ACK] Seq=12 Ack=30 Win=65536 Len=0 TSval=1005502325 TSecr=10054987			
	61 15.345394223 127.0.0.1	127.0.0.1	ICMP	73 Destination unreachable (Port unreachable)			
	62 15.345519554 127.0.0.1	127.0.0.1	TCP	68 8001 → 42712 [FIN, ACK] Seq=30 Ack=13 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325			
	63 15.345550463 127.0.0.1	127.0.0.1	TCP	68 42712 → 8001 [ACK] Seq=13 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325			
	64 15.345231150 127.0.0.1	127.0.0.1	UDP	43 51092 → 8002 Len=1			
	65 15.345362049 127.0.0.1	127.0.0.1	UDP	43 51092 → 27247 Len=1			
L	66 15.345394223 127.0.0.1	127.0.0.1	ICMP	71 Destination unreachable (Port unreachable)			
	67 15.345519554 127.0.0.1	127.0.0.1	TCP	66 [TCP Out-Of-Order] 8001 - 42712 [FIN, ACK] Seq=30 Ack=13 Win=65536 Len=0 TSval=1005502325 TSecr=100550232			
	68 15.345550463 127.0.0.1	127.0.0.1	TCP	66 [TCP Dup ACK 63#1] 42712 → 8001 [ACK] Seq=13 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325			
4				, *			
- F	rame 61: 73 bytes on wire (584	hits). 73 bytes	captured (58	34 bits) on interface any, id 1			
	inux cooked capture	///		,,,,			
	Finternet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1						
	Internet Control Message Protocol						

Figura 3: Protocolo ICMP.

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5915.3455894917.0.0.1 127.0.0.1 UP 45 1092 - 27247 10032 1003 127.0.0.1 127.0.0.1 UP 45 1092 - 27247 10032 1003 127.0.0.1 127.0.0.1 127.0.0.1 127.0.0.1 TCP 66 [TCP Out-Of-Order] 42712 - 8001 [FIN, ACK] Seq=12 Ack=30 Win=65536 Len=0 TSval=1005502325 TSecr=10054987: 61 15.345509403 127.0.0.1 127.0.0.1 TCP 68 40212 - 8001 [ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=10054087: 63 15.34551954 127.0.0.1 127.0.0.1 TCP 68 42712 - 8001 [ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (4 15.34553195 127.0.0.1 127.0.0.1 UDP 43 51092 - 27247 Len=1 (ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (5 15.0.0.1 127.0.0.1 UDP 43 51092 - 27247 Len=1 (ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (6 15.34553042) 127.0.0.1 127.0.0.1 UDP 43 51092 - 27247 Len=1 (ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (6 15.34553042) 127.0.0.1 127.0.0.1 TCP 66 [TCP Out-Of-Order] 8001 - 42712 [FIN, ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (6 15.0.0.1) (1 127.0.0.1) TCP 66 [TCP Out-Of-Order] 8001 - 42712 [FIN, ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (6 15.0.0.1) (1 127.0.0.1) TCP 66 [TCP Out-Of-Order] 8001 - 42712 [FIN, ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (6 15.0.0.1) (1 127.0.0.1) TCP 66 [TCP Out-Of-Order] 8001 - 42712 [FIN, ACK] Seq=30 Ack=31 Win=65536 Len=0 TSval=1005502325 TSecr=1005502325 (6 15.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (1 127.0.0.1) (
```

Figura 4: Mensajes ilegibles.