

In this example, we will do a Wireshark analysis of an **FTP** server: **ftp://ftp.adobe.com**
Again, we set the host as ftp.adobe.com in the Capture Filters of Wireshark. **FTP** is an application layer protocol which uses TCP as its transport layer protocol. So, since the packets are sent over TCP, there is a possibility of ECN support.

ECN Related Details: Inspecting the TCP SYN packet sent by our system, we see that the **ECE** and **CWR** are set to **1**, indicating that the client support ECN.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	192.168.43.71	192.147.130.111	FTP	72	Request: PASV
2	0.346452467	192.147.130.111	192.168.43.71	TCP	66	21 → 41386 [ACK] Seq=1 Ack=7 Win=4036 Len=0 TSval=3252752854
3	0.346484234	192.147.130.111	192.168.43.71	FTP	117	Response: 227 Entering Passive Mode (192,147,130,111,58,53)
4	0.346515666	192.168.43.71	192.147.130.111	TCP	66	41386 → 21 [ACK] Seq=7 Ack=52 Win=64042 Len=0 TSval=383729495
5	0.347054133	192.168.43.71	192.147.130.111	FTP	73	Request: CWD /
6	0.347195848	192.168.43.71	192.147.130.111	TCP	74	48680 → 14901 [SYN, ECN, CWR] Seq=0 Win=64240 Len=0 MSS=1460
7	0.679074657	192.147.130.111	192.168.43.71	TCP	74	14901 → 48680 [SYN, ACK] Seq=0 Ack=1 Win=3930 Len=0 MSS=1310
8	0.679132596	192.168.43.71	192.147.130.111	TCP	66	48680 → 14901 [ACK] Seq=1 Ack=1 Win=64240 Len=0 TSval=3837295
9	0.687130742	192.147.130.111	192.168.43.71	TCP	66	21 → 41386 [ACK] Seq=52 Ack=14 Win=4043 Len=0 TSval=325275319
10	0.687153599	192.147.130.111	192.168.43.71	FTP	103	Response: 250 Directory successfully changed.
11	0.687544959	192.168.43.71	192.147.130.111	FTP	72	Request: LIST
12	1.035392648	192.147.130.111	192.168.43.71	TCP	66	21 → 41386 [ACK] Seq=89 Ack=20 Win=4049 Len=0 TSval=325275354
13	5.022684325	192.147.130.111	192.168.43.71	TCP	54	14901 → 48680 [RST, ACK] Seq=1 Ack=1 Win=3930 Len=0

Transmission Control Protocol, Src Port: 48680, Dst Port: 14901, Seq: 0, Len: 0

Source Port: 48680
Destination Port: 14901
[Stream index: 1]
[TCP Segment Len: 0]
Sequence number: 0 (relative sequence number)
[Next sequence number: 0 (relative sequence number)]
Acknowledgment number: 0
1010 = Header Length: 40 bytes (10)
Flags: 0x0c2 (SYN, ECN, CWR)
000. = Reserved: Not set
...0 = Nonce: Not set
.... 1... = Congestion Window Reduced (CWR): Set
.... 1.. = ECN-Echo: Set
.... .0. = Urgent: Not set
.... ..0 = Acknowledgment: Not set
.... ...0 = Push: Not set

Packets: 13 · Displayed: 13 (100.0%) · Dropped: 0 (0.0%) Profile: Default

However, the server responds with the **ECE bit set to 0** in the SYN+ACK response, indicating that it does not support ECN.

No.	Time	Source	Destination	Protocol	Length	Info
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Transmission Control Protocol, Src Port: 14901, Dst Port: 48680, Seq: 0, Ack: 1, Len: 0

Source Port: 14901
Destination Port: 48680
[Stream index: 1]
[TCP Segment Len: 0]
Sequence number: 0 (relative sequence number)
[Next sequence number: 0 (relative sequence number)]
Acknowledgment number: 1 (relative ack number)
1010 = Header Length: 40 bytes (10)
Flags: 0x012 (SYN, ACK)
000. = Reserved: Not set
...0 = Nonce: Not set
.... 0... = Congestion Window Reduced (CWR): Not set
.... .0. = ECN-Echo: Not set
.... .0. = Urgent: Not set
.... ..1 = Acknowledgment: Set

Packets: 13 · Displayed: 13 (100.0%) · Dropped: 0 (0.0%) Profile: Default