

Name:Lana AL-deaiji  
ID:431201365  
LAB1



```
Wireshark - Packet 3500 - 域名 Wi-Fi

> Frame 3500: Packet, 298 bytes on wire (2384 bits), 298 bytes captured (2384 bits) on interface \Device\NPF_{4C3BFF40-9BCA-41D5-8594-BDF07F6293D8}, id 0
> Ethernet II, Src: Intel_4b:20:8a (18:26:49:4b:20:8a), Dst: HuaweiTechno_77:c7:88 (08:31:8b:77:c7:88)
> Internet Protocol Version 4, Src: 192.168.3.11, Dst: 2.16.70.4
> Transmission Control Protocol, Src Port: 7787, Dst Port: 80, Seq: 1, Ack: 1, Len: 244
> Hypertext Transfer Protocol
  > GET /MFEwTzBNMEmwSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPI7wEVwxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYjzkCEA77f1R%2B3w%2Fx8pruV2lte6A%3D HTTP/1.1\r\n
    Request Method: GET
    Request URI: /MFEwTzBNMEmwSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPI7wEVwxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYjzkCEA77f1R%2B3w%2Fx8pruV2lte6A%3D
    Request Version: HTTP/1.1
    Connection: Keep-Alive\r\n
    Accept: */*\r\n
    User-Agent: Microsoft-CryptoAPI/10.0\r\n
    Host: ocsp.digicert.com\r\n
  \r\n
  [Response in frame: 3510]
  [Full request URI: http://ocsp.digicert.com/MFEwTzBNMEmwSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPI7wEVwxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYjzkCEA77f1R%2B3w%2Fx8pruV2lte6A%3D]

0000 08 31 8b 77 c7 88 18 26 49 4b 20 8a 08 00 45 00  ··1-w·· & I K ··E·
0010 01 1c 5d 3c 48 00 80 06 00 0c a8 03 eb 02 10  ··]@··· ······
0020 46 04 1e 6b 00 5b df 07 9f a3 44 01 c7 1e 5b 18  F-·K-P ··D-P·
0030 00 ff 0c dd 00 00 47 45 54 28 2f 4d 46 45 77 54  ····· GE T /MFEwT
0040 7a 42 4e 4d 45 73 77 53 54 41 4a 42 67 55 72 44  zBNMEmwS TAjBgUrD
0050 67 4d 43 47 67 55 41 42 52 41 35 30 6f 74 78 25  gMCggUAB Q50otx%2
0060 32 46 68 30 5a 74 6c 25 32 42 7a 38 53 69 50 49  2Fh0Zt1%2Bz8SiPI
0070 37 77 45 57 56 78 44 6c 51 51 55 54 69 4a 55 49  7wEVwxDlQQUTiJU
0080 42 69 56 35 75 75 35 67 25 32 46 36 25 32 42  B1vSuNu5g%2F6%2B
0090 72 6b 53 37 51 59 58 6a 7b 6b 43 45 31 37 37 66  rks7QYjzkCEA77f
00a0 6c 52 25 32 42 33 77 25 32 46 78 42 70 72 75 56  1R%2B3w%2Fx8pruV
00b0 32 6c 74 65 36 41 25 33 44 28 48 54 54 50 2f 31  2lte6A%3 D HTTP/1
00c0 2e 31 0d 0a 43 6f 6e 6e 65 63 7d 69 6f 6e 3a 28  .- Conn ection:
00d0 4b 65 65 70 2d 41 6c 69 76 65 0d 0a 41 63 63 65  Keep-Ali ve · Acce
00e0 78 74 3a 20 2a 2f 2a 0d 0a 55 73 65 72 2d 41 67  pt: /*- .- User-Ag
00f0 65 6e 74 3a 20 4d 69 63 72 6f 73 6f 66 74 2d 43  ent: Mic rosoft-C
0100 72 79 78 74 6f 41 58 49 2f 31 30 2e 30 0d 0a 48  ryptоАPI /10.0 - H
0110 6f 73 74 3a 20 6f 63 73 70 2e 64 69 67 69 63 65  ost: ocs p.digice
0120 72 74 2e 63 6f 6d 0d 0a 0d 0a  ···
```

No.	Time	Source	Destination	Protocol	Length	Info
16584	162.597366	199.232.82.172	192.168.3.11	HTTP	331	HTTP/1.1 206 Partial Content
16517	162.804912	199.232.82.172	192.168.3.11	HTTP	910	HTTP/1.1 206 Partial Content
16558	163.822152	199.232.82.172	192.168.3.11	HTTP	331	HTTP/1.1 206 Partial Content
16594	163.993058	199.232.82.172	192.168.3.11	HTTP	912	HTTP/1.1 206 Partial Content
16619	164.221884	199.232.82.172	192.168.3.11	HTTP	1173	HTTP/1.1 206 Partial Content
16632	164.420128	199.232.82.172	192.168.3.11	HTTP	910	HTTP/1.1 206 Partial Content
16668	164.648751	199.232.82.172	192.168.3.11	HTTP	1171	HTTP/1.1 206 Partial Content
1411	48.688983	95.181.114.42	192.168.3.11	HTTP	797	HTTP/1.1 206 Partial Content (application/x-chrome-extension)
2088	49.896982	95.181.114.42	192.168.3.11	HTTP	393	HTTP/1.1 206 Partial Content (application/x-chrome-extension)
2827	50.497891	95.181.114.42	192.168.3.11	HTTP	635	HTTP/1.1 206 Partial Content (application/x-chrome-extension)
15392	148.538716	34.223.124.45	192.168.3.11	HTTP	593	HTTP/1.1 301 Moved Permanently (text/html)
2656	59.282927	2.16.70.4	192.168.3.11	OCSP	784	Response
3435	72.864988	2.16.70.4	192.168.3.11	OCSP	784	Response
3488	72.582332	2.16.70.4	192.168.3.11	OCSP	784	Response
3510	72.658866	2.16.70.4	192.168.3.11	OCSP	784	Response
3524	72.700251	2.16.70.4	192.168.3.11	OCSP	784	Response
3834	74.910172	2.16.70.4	192.168.3.11	OCSP	784	Response
3867	75.353743	2.16.70.4	192.168.3.11	OCSP	784	Response

Wireshark - Packet 3510 - ፳፻፲፭ Wi-Fi

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> Internet Protocol Version 4, Src: 2.16.70.4, Dst: 192.168.3.11
> Transmission Control Protocol, Src Port: 80, Dst Port: 7787, Seq: 1, Ack: 245, Len: 726
  Hypertext Transfer Protocol
    < HTTP/1.1 200 OK\r\n
      Response Version: HTTP/1.1
      Status Code: 200
      [Status Code Description: OK]
      Response Phrase: OK
      Content-Type: application/ocsp-response\r\n
    > Content-Length: 471\r\n
    Cache-Control: max-age=2545\r\n
    Expires: Sun, 08 Feb 2026 04:17:58 GMT\r\n
    Date: Sun, 08 Feb 2026 03:35:33 GMT\r\n
    Connection: keep-alive\r\n
    Akamai-GRN: 0.0c6d1402.1770521733.fbea57f6\r\n
  \r\n
  Response in Envelope: 35001
  
```

0000	18 26 49 4b 26 8a 08 31 8b 77 c7 88 81 00 00 00	-&K ..1 W.....
0010	08 00 45 00 02 fe 58 7d 4e 00 39 06 da b5 02 10	.. E X} @ 9 .....
0020	4e 04 c6 a8 03 0b 00 50 1e 6b 44 01 c7 1e df 07	F .....P kD .....
0030	a9 97 50 18 01 f5 c5 cd 00 00 48 54 54 50 2f 31	.P..... HTTP/1
0040	2e 31 20 32 30 30 20 4f 4b 0d 0a 03 43 6f 6e 74 65	.1 200 0 K Conte
0050	6e 74 2d 54 79 70 65 3a 2e 61 70 70 6c 69 63 61	nt-Type: applica
0060	74 69 6f 6e 27 6f 65 73 70 2d 72 65 73 70 6f 6e	tion/ocsp-respon
0070	73 65 80 0a 43 6f 6e 74 65 66 74 2d 4c 65 66 67	se Cont ent-Leng
0080	74 68 3a 20 34 37 31 0d 0e 43 61 63 68 65 2d 43	th: 471 Cache-C
0090	6f 6e 74 72 6f 6d 3a 20 6d 61 78 2d 61 67 65 3d	ontrol: max-age=
00a0	32 35 34 35 0d 0e 45 78 70 69 72 65 73 3a 20 53	2545- Ex pires: S
00b0	75 6e 2c 20 30 38 28 46 65 62 20 32 32 36 28	un, 08 F eb 2026
00c0	30 34 3a 31 37 33 35 38 20 47 4e 54 0d 0a 44 61	04:17:58 GMT Da
00d0	74 65 3a 20 53 75 6e 2c 20 30 38 28 46 65 62 28	te: Sun, 08 Feb
00e0	32 30 32 30 28 30 33 33 3a 33 35 3a 33 33 20 47 4d	2026 03: 35:33 GM
00f0	54 0d 0a 43 6f 6e 6e 65 63 74 69 6f 6e 3a 2a 6b	T Conn ection: k
0100	65 65 70 2d 61 6c 69 76 65 0d 0a 41 6b 61 6d 61	eep-aliv e - Akama
0110	69 2d 47 52 4e 3a 28 30 2e 38 63 36 64 31 34 30	i-GRN: 0 .0c6d140
0120	32 2e 31 37 37 30 35 32 31 37 33 33 2e 66 62 65	2.177052 1733.fbe
0130	61 35 37 66 36 0d 0a 0d 0e 30 82 01 d3 0a 01 00	a57f6... 0 .....
0140	a0 82 01 cc 30 82 01 c8 .. 09 2b 06 01 05 05 07	.... 0 .....

No: 3510 - Time: 72.658866 - Source: 2.16.70.4 - Destination: 192.168.3.11 - Protocol: OCSP - Length: 784 - Info: Response

Show packet bytes Layout: Vertical (Stacked) ▾

Close Help

Wireshark - Packet 3510 - રાસું Wi-Fi

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[Status Code Description: OK]
Response Phrase: OK
Content-Type: application/ocsp-response\r\n
Content-Length: 471\r\n
Cache-Control: max-age=2545\r\n
Expires: Sun, 08 Feb 2026 04:17:58 GMT\r\n
Date: Sun, 08 Feb 2026 03:35:33 GMT\r\n
Connection: keep-alive\r\n
Akamai-GRN: 0.0c6d1402.1770521733.fbea57f6\r\n
\r\n
[Request in frame: 3500]
[Time since request: 60.499000 milliseconds]
[Request URI: /MFEwTzBNMewSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPi7wEWvxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYXjkCEA77f1R%2B3w%2Fx8pruV21te6A%3D]
[Full request URL: http://ocsp.digicert.com/MFEwTzBNMewSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPi7wEWvxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYXjkCEA77f1R%2]
File Data: 471 bytes
> Online Certificate Status Protocol
```

No.	Time	Source	Destination	Protocol	Length	Info
0000	18:26:49.4b	20.8a.08.31	8b.77.c7.88.81.00.00.00	HTTP	298	GET /MFEwTzBNMewSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPi7wEWvxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYXjkCEA77f1R%2B3w%2Fx8pruV21te6A%3D
0010	08:00:45.00.02.0e.58.7d	40.00.39.06.0a.b5.02.10	HTTP	58	443 + 7786 [ACK] Seq=1 Ack=198 Win=64128 Len=0	
0020	46:04:c8:a8:03:b0	1e.6b.44:01.c7.1e.0f.07	HTTP	58	443 + 7786 [ACK] Seq=2825 Ack=198 Win=64128 Len=1272 [TCP PDU reassembled in 3504]	
0030	a0:97:50:18:01:f5	c5:cd:0e:00:48:54	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0040	2e:31:29:32:30:20:4f	4b:0d:00:43:6f:6e:74:65	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0050	6e:74:2d:54:79:70:65:3a	20:61:70:70:6c:69:63:61	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0060	74:69:6f:6e:2f:6f	63:73:70:2d:72:65	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0070	73:65:0d:0a:43:6f:6e:74	65:6e:74:2d:4c:65:6e:67	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0080	74:68:3a:20:34:37:31:0d	0a:43:61:63:68:65:2d:43	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0090	6f:6e:74:72:6f:6c:3a:28	6d:61:78:2d:61:67:65:3d	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0100	32:35:34:35:0d:0a:45:78	70:69:72:65:73:3a:2a:53	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0110	75:6e:2c:20:30:38:26:46	65:62:20:32:30:32:3a:28	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0120	30:34:3e:31:37:3a:35:38	28:47:4d:54:0d:0a:44:61	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0130	74:65:3a:20:53:75:6e:2c	20:30:38:26:46:65:62:20	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0140	32:30:36:20:39:33:33:20	33:33:20:47:4d:54:0d:0a	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0150	65:65:70:2d:61:6c:69:76	65:0d:0a:41:6b:61:6d:61	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0160	69:2d:47:52:46:3a:26:30	2e:58:63:36:64:31:34:30	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0170	32:2e:31:37:37:30:35:32	31:37:33:33:2e:66:62:65	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0180	61:35:37:66:36:0d:0a:0d	0a:30:82:01:d3:0a:01:00	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	
0190	a0:82:02:cc:30:82:01:c8	0e:05:2b:06:01:05:05:07	HTTP	58	443 + 7786 [ACK] Seq=198 Ack=2825 Win=64128 Len=0	

No: 3510 - Time: 72.658866 - Source: 2.16.70.4 - Destination: 192.168.3.11 - Protocol: OCSP - Length: 784 - Info: Response

Show packet bytes Layout: Vertical (Stacked)

Close Help

\* રાસું Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

tcp

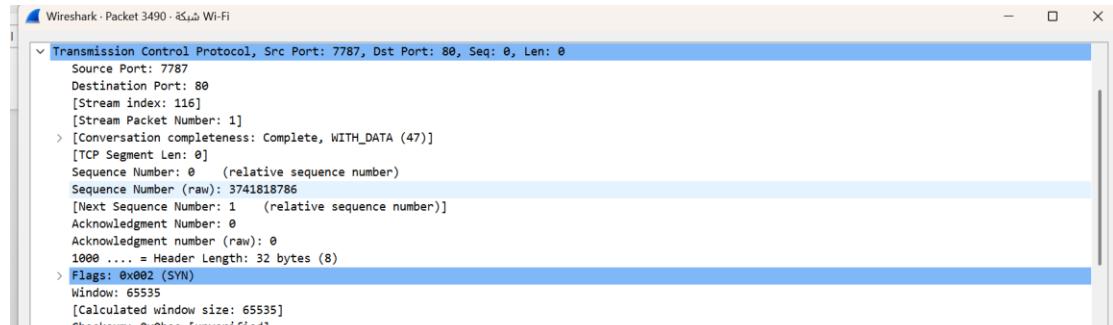
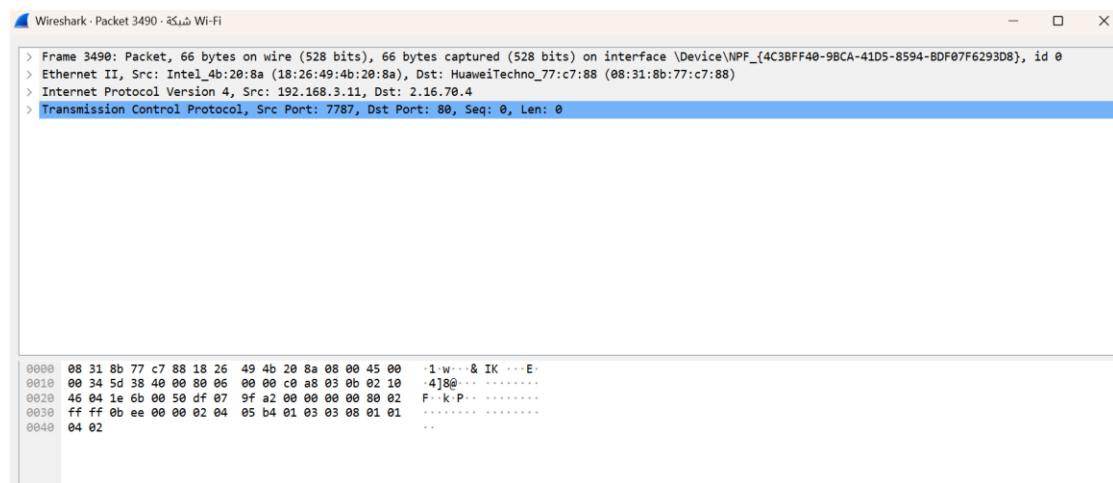
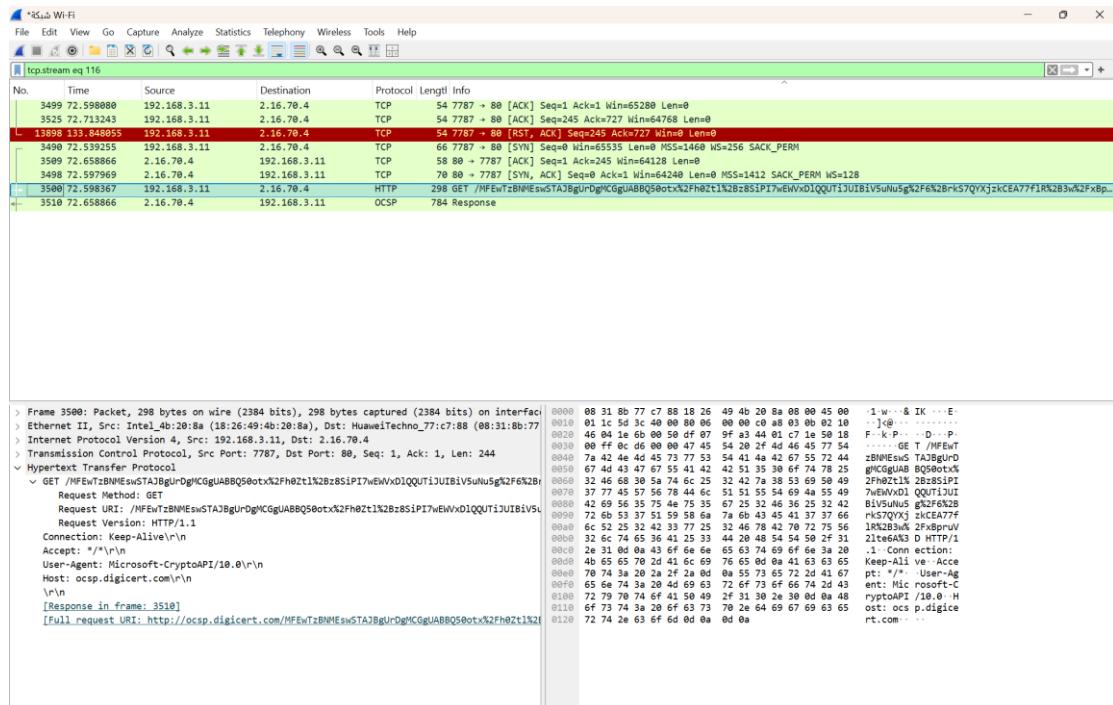
No.	Time	Source	Destination	Protocol	Length	Info
3500	72.598367	192.168.3.11	2.16.70.4	HTTP	298	GET /MFEwTzBNMewSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPi7wEWvxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYXjkCEA77f1R%2B3w%2Fx8pruV21te6A%3D
3501	72.619445	184.31.6.21	192.168.3.11	TLSv1.2	2882	Server Hello
3502	72.61945	184.31.6.21	192.168.3.11	TLSv1.2	2882	Server Hello
3503	72.619445	184.31.6.21	192.168.3.11	TCP	1338	443 + 7786 [PSH, ACK] Seq=2825 Ack=198 Win=64128 Len=1272 [TCP PDU reassembled in 3504]
3504	72.619445	184.31.6.21	192.168.3.11	TLSv1.2	1478	Certificate, Certificate Status
3505	72.619586	192.168.3.11	184.31.6.21	TCP	54	7786 + 443 [ACK] Seq=198 Ack=5569 Win=65280 Len=0
3506	72.641842	2.16.70.4	192.168.3.11	TCP	78	80 + 7788 [SYN, ACK] Seq=0 Ack=1 Win=64248 Len=0 MSS=1412 SACK_PERM Win=128
3507	72.641954	192.168.3.11	2.16.70.4	TCP	54	7788 + 80 [ACK] Seq=1 Ack=1 Win=65280 Len=0
3508	72.642816	192.168.3.11	2.16.70.4	HTTP	329	GET /MFEwTzBNMewSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPi7wEWvxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYXjkCEA77f1R%2B3w%2Fx8pruV21te6A%3D
3509	72.658866	2.16.70.4	192.168.3.11	TCP	58	80 + 7787 [ACK] Seq=1 Ack=245 Win=64128 Len=0
3510	72.658866	2.16.70.4	192.168.3.11	OCSP Response	784	Response
3511	72.668583	20.223.36.55	192.168.3.11	TLSv1.2	249	Application Data
3512	72.668583	20.223.36.55	192.168.3.11	TLSv1.2	96	Application Data
3513	72.668667	192.168.3.11	20.223.36.55	TCP	54	7777 + 443 [ACK] Seq=7957 Ack=7408 Win=260864 Len=0
3514	72.698296	20.223.36.55	192.168.3.11	TCP	58	443 + 7779 [ACK] Seq=6232 Ack=721 Win=261888 Len=0
3515	72.692658	20.223.36.55	192.168.3.11	TLSv1.2	109	Change Cipher Spec, Encrypted Handshake Message
3516	72.692658	20.223.36.55	192.168.3.11	TLSv1.2	127	Application Data
3517	72.692658	192.168.3.11	20.223.36.55	TLSv1.2	147	Server Key Exchange, Server Hello Done
3518	72.692744	192.168.3.11	20.223.36.55	TCP	54	7779 + 443 [ACK] Seq=721 Ack=6352 Win=261888 Len=0
3519	72.695426	192.168.3.11	20.223.36.55	TLSv1.2	3176	Application Data
3520	72.695495	192.168.3.11	184.31.6.21	TLSv1.2	188	Client Key Exchange, Change Cipher Spec, Encrypted Handshake Message
3521	72.695702	192.168.3.11	20.223.36.55	TLSv1.2	3147	Application Data

Wireshark · Follow TCP Stream (tcp.stream eq 116) - રાસું Wi-Fi

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GET /MFEwTzBNMewSTAjBgUrDgMCggUABQ50otx%2Fh0Zt1%2Bz8SiPi7wEWvxDlQQUTiJUIBiV5uNu5g%2F6%2BrkS7QYXjkCEA77f1R%2B3w%2Fx8pruV21te6A%3D
3D HTTP/1.1
Connection: Keep-Alive
Accept: */*
User-Agent: Microsoft-CryptoAPI/10.0
Host: ocsp.digicert.com

HTTP/1.1 200 OK
Content-Type: application/ocsp-response
Content-Length: 471
Cache-Control: max-age=2545
Expires: Sun, 08 Feb 2026 04:17:58 GMT
Date: Sun, 08 Feb 2026 03:35:33 GMT
Connection: keep-alive
Akamai-GRN: 0.0c6d1402.1770521733.fbea57f6

0...
.....0....+....0....0....0....N" T ....n.....9...20260207174851Z0s0q0I0
.....9....~T~....Wim{....20260207174851Z....20260214174851Z0
.
*H.
.....F.OH..~].j..R.....c..;.BU_ M.>.z.K..C%...N.Y.d.).').^.U.f.z...[....{....i.R..Jcd.5..X.....C.....T5..d...
;T.....q.Yw.$....P..d.+T...E.X....b.Am{....T....`...Q....SF.F.r...4....mW....(....5:k.....M....r....f(.4....>.^V
1.u$...
```



```
Wireshark - Packet 3490 - રસ્યાન વિફિ

[TCP Segment Len: 0]
Sequence Number: 0 (relative sequence number)
Sequence Number (raw): 3741818786
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 0
Acknowledgment number (raw): 0
1000 .... = Header Length: 32 bytes (8)
> Flags: 0x002 (SYN)
Window: 65535
[Calculated window size: 65535]
Checksum: 0xbbe5 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
> Options: (12 bytes), Maximum segment size, No-Operation (NOP), Window scale, No-Operation (NOP), No-Operation (NOP), SACK permitted
> [Timestamps]
[Client Contiguous Streams: 1]
[Server Contiguous Streams: 1]
```

```
Wireshark - Packet 3498 - રસ્યાન વિફિ

> Frame 3498: Packet, 70 bytes on wire (560 bits), 70 bytes captured (560 bits) on interface \Device\NPF_{4C3BFF40-9BCA-41D5-8594-BDF07F6293D8}, id 0
> Ethernet II, Src: HuaweiTechno_77:c7:88 (08:31:8b:77:c7:88), Dst: Intel_4b:20:8a (18:26:49:4b:20:8a)
> 802.1Q Virtual LAN, PRI: 0, DEI: 0, ID: 0
> Internet Protocol Version 4, Src: 2.16.70.4, Dst: 192.168.3.11
< Transmission Control Protocol, Src Port: 80, Dst Port: 7787, Seq: 0, Ack: 1, Len: 0
Source Port: 80
Destination Port: 7787
[Stream index: 116]
[Stream Packet Number: 2]
> [Conversation completeness: Complete, WITH_DATA (47)]
[TCP Segment Len: 0]
Sequence Number: 0 (relative sequence number)
Sequence Number (raw): 1140967197
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 1 (relative ack number)
Acknowledgment number (raw): 3741818787
1000 .... = Header Length: 32 bytes (8)
> Flags: 0x012 (SYN, ACK)
[Calculated window size: 64240]
Checksum: 0xbff3 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
> Options: (12 bytes), Maximum segment size, No-Operation (NOP), No-Operation (NOP), SACK permitted, No-Operation (NOP), Window scale
> [Timestamps]
> [SEQ/ACK analysis]
[Client Contiguous Streams: 1]
[Server Contiguous Streams: 1]
```

```
Wireshark - Packet 3498 - રસ્યાન વિફિ

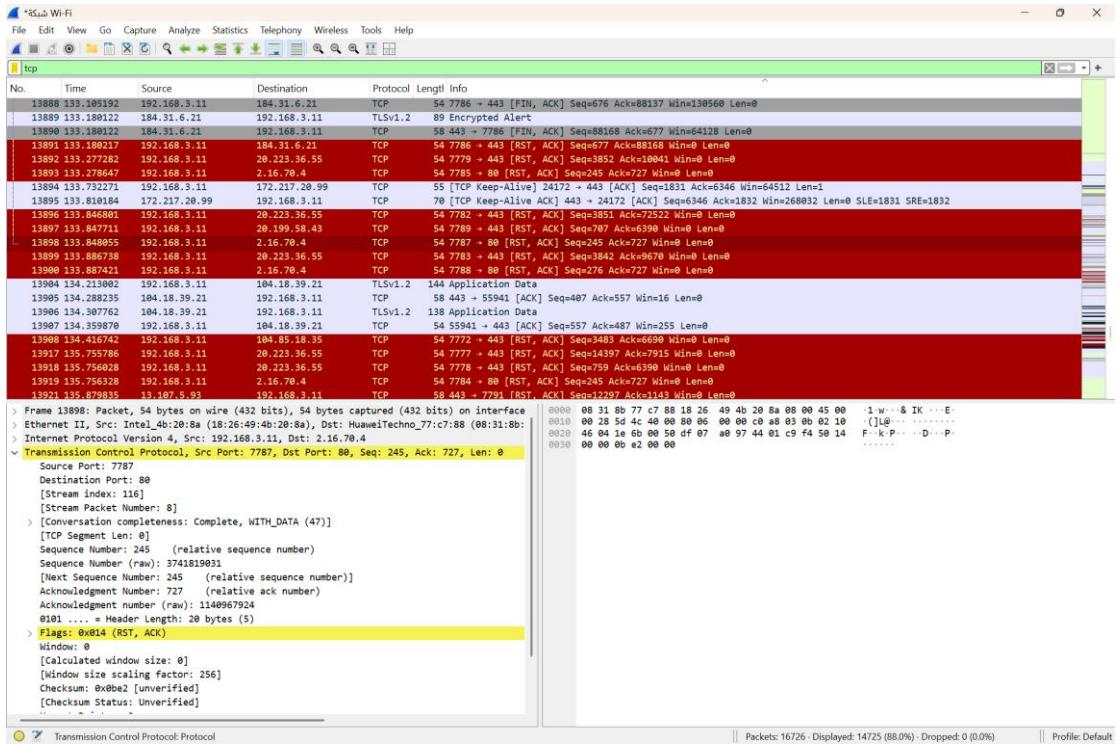
Sequence Number: 0 (relative sequence number)
Sequence Number (raw): 1140967197
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 1 (relative ack number)
Acknowledgment number (raw): 3741818787
1000 .... = Header Length: 32 bytes (8)
> Flags: 0x012 (SYN, ACK)
Window: 64240
[Calculated window size: 64240]
Checksum: 0xbff3 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
> Options: (12 bytes), Maximum segment size, No-Operation (NOP), No-Operation (NOP), SACK permitted, No-Operation (NOP), Window scale
> [Timestamps]
> [SEQ/ACK analysis]
[Client Contiguous Streams: 1]
[Server Contiguous Streams: 1]
```

```
Wireshark - Packet 3509 - રસ્યાન વિફિ

> Frame 3509: Packet, 58 bytes on wire (464 bits), 58 bytes captured (464 bits) on interface \Device\NPF_{4C3BFF40-9BCA-41D5-8594-BDF07F6293D8}, id 0
> Ethernet II, Src: HuaweiTechno_77:c7:88 (08:31:8b:77:c7:88), Dst: Intel_4b:20:8a (18:26:49:4b:20:8a)
> 802.1Q Virtual LAN, PRI: 0, DEI: 0, ID: 0
> Internet Protocol Version 4, Src: 2.16.70.4, Dst: 192.168.3.11
< Transmission Control Protocol, Src Port: 80, Dst Port: 7787, Seq: 1, Ack: 245, Len: 0
Source Port: 80
Destination Port: 7787
[Stream index: 116]
[Stream Packet Number: 5]
> [Conversation completeness: Complete, WITH_DATA (47)]
[TCP Segment Len: 0]
Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 1140967198
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 245 (relative ack number)
Acknowledgment number (raw): 3741819031
0101 .... = Header Length: 20 bytes (5)
> Flags: 0x010 (ACK)
[Calculated window size: 64128]
[Window size scaling factor: 128]
Checksum: 0xf89d [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
> [Timestamps]
> [SEQ/ACK analysis]
[Client Contiguous Streams: 1]
[Server Contiguous Streams: 1]
```

```
Wireshark - Packet 3509 - રસ્યાન વિફિ

Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 1140967198
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 245 (relative ack number)
Acknowledgment number (raw): 3741819031
0101 .... = Header Length: 20 bytes (5)
> Flags: 0x010 (ACK)
Window: 501
[Calculated window size: 64128]
[Window size scaling factor: 128]
Checksum: 0xf89d [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
> [Timestamps]
> [SEQ/ACK analysis]
[Client Contiguous Streams: 1]
[Server Contiguous Streams: 1]
```



	TCP or UDP	Reasons
Reliability and Connection Establishment	TCP	TCP is connection-oriented 3-way handshake and provides reliable delivery using acknowledgments and retransmissions.
Data Integrity and Ordering	TCP	TCP uses sequence numbers and acknowledgments to ensure in-order delivery and detect missing data. UDP does not guarantee order or delivery.

### Task 2: Identify the use Cases and Performance of TCP and UDP.

Use cases	TCP	UDP
	websites (HTTP/HTTPS), email, downloading/uploading files.	video calls, online games, live streaming, DNS.
Performance	bit slower because it checks and re-sends packets, but it's reliable.	Faster because it doesn't check/re-send, but it can <b>lose packets</b> .

