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No.      Time      Source      Destination      Protocol Length Info
1213 2023-02-13 20:10:25.634662 10.162.31.137 128.119.245.12 TCP 66 59223 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460
WS=256 SACK_PERM
Frame 1213: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
  Section number: 1
    Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
      Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
      Interface description: Ethernet
    Encapsulation type: Ethernet (1)
  Arrival Time: Feb 13, 2023 20:10:25.634662000 Eastern Standard Time
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1676337025.634662000 seconds
  [Time delta from previous captured frame: 0.002198000 seconds]
  [Time delta from previous displayed frame: 0.002198000 seconds]
  [Time since reference or first frame: 15.901203000 seconds]
  Frame Number: 1213
  Frame Length: 66 bytes (528 bits)
  Capture Length: 66 bytes (528 bits)
  [Frame is marked: True]
  [Frame is ignored: False]
  [Protocols in frame: eth:ethertype:ip:tcp]
  [Coloring Rule Name: HTTP]
  [Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
  Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
    Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
      ....0. .... = LG bit: Globally unique address (factory default)
      ....0. .... = IG bit: Individual address (unicast)
  Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
    Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
      ....0. .... = LG bit: Globally unique address (factory default)
      ....0. .... = IG bit: Individual address (unicast)
  Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
  0100 .... = Version: 4
  ....0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    0000 00.. = Differentiated Services Codepoint: Default (0)
    ....00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
  Total Length: 52
  Identification: 0x6701 (26369)
  010. .... = Flags: 0x2, Don't fragment
    0... .... = Reserved bit: Not set
    .1.. .... = Don't fragment: Set
    ..0. .... = More fragments: Not set
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 128
  Protocol: TCP (6)
  Header Checksum: 0x0000 [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 10.162.31.137
  Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59223, Dst Port: 80, Seq: 0, Len: 0
  Source Port: 59223
  Destination Port: 80
  [Stream index: 51]
  [Conversation completeness: Complete, WITH_DATA (31)]
  [TCP Segment Len: 0]
  Sequence Number: 0 (relative sequence number)
  Sequence Number (raw): 450055718
  [Next Sequence Number: 1 (relative sequence number)]
  Acknowledgment Number: 0
  Acknowledgment number (raw): 0
  1000 .... = Header Length: 32 bytes (8)
  Flags: 0x002 (SYN)
    000. .... = Reserved: Not set
    ...0 .... = Accurate ECN: Not set
    ....0... = Congestion Window Reduced: Not set
    ....0... = ECN-Echo: Not set
    ....0... = Urgent: Not set
    ....0... = Acknowledgment: Not set
    ....0... = Push: Not set
    ....0... = Reset: Not set
    ....0... = Syn: Set
    [Expert Info (Chat/Sequence): Connection establish request (SYN): server port 80]
    [Connection establish request (SYN): server port 80]
    [Severity level: Chat]
    [Group: Sequence]
    ....0... = Fin: Not set
  [TCP Flags: .....S.]
  Window: 64240
  [Calculated window size: 64240]
  Checksum: 0x9fd5 [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]
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[Time since first frame in this TCP stream: 0.000000000 seconds]
[Time since previous frame in this TCP stream: 0.000000000 seconds]
No.    Time                Source                Destination          Protocol Length Info
1218  2023-02-13 20:10:25.637919  10.162.31.137       128.119.245.12      TCP                66      59224 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460
WS=256 SACK_PERM
Frame 1218: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.637919000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.637919000 seconds
[Time delta from previous captured frame: 0.000339000 seconds]
[Time delta from previous displayed frame: 0.000339000 seconds]
[Time since reference or first frame: 15.904460000 seconds]
Frame Number: 1218
Frame Length: 66 bytes (528 bits)
Capture Length: 66 bytes (528 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0. .... = IG bit: Individual address (unicast)
Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0. .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 52
Identification: 0x6702 (26370)
010. .... = Flags: 0x2, Don't fragment
0... .... = Reserved bit: Not set
.1.. .... = Don't fragment: Set
..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128
Protocol: TCP (6)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 10.162.31.137
Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59224, Dst Port: 80, Seq: 0, Len: 0
Source Port: 59224
Destination Port: 80
[Stream index: 52]
[Conversation completeness: Incomplete, ESTABLISHED (7)]
[TCP Segment Len: 0]
Sequence Number: 0 (relative sequence number)
Sequence Number (raw): 3692041922
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 0
Acknowledgment number (raw): 0
1000 .... = Header Length: 32 bytes (8)
Flags: 0x002 (SYN)
000. .... = Reserved: Not set
...0 .... = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... .0.. = ECN-Echo: Not set
.... ..0. = Urgent: Not set
.... ...0 = Acknowledgment: Not set
.... .... 0... = Push: Not set
.... .... .0.. = Reset: Not set
.... .... ..1. = Syn: Set
[Expert Info (Chat/Sequence): Connection establish request (SYN): server port 80]
[Connection establish request (SYN): server port 80]
[Severity level: Chat]
[Group: Sequence]
.... .... ...0 = Fin: Not set
[TCP Flags: .....S.]
Window: 64240
[Calculated window size: 64240]
Checksum: 0x9fd5 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0

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Options: (12 bytes), Maximum segment size, No-Operation (NOP), Window scale, No-Operation (NOP), No-Operation (NOP), SACK permitted
[Timestamps]
[Time since first frame in this TCP stream: 0.00000000 seconds]
[Time since previous frame in this TCP stream: 0.00000000 seconds]

No.	Time	Source	Destination	Protocol	Length	Info
1232	2023-02-13 20:10:25.658147	128.119.245.12	10.162.31.137	TCP	66	80 → 59223 [SYN, ACK] Seq=0 Ack=1 Win=29200

Len=0 MSS=1460 SACK_PERM WS=128
Frame 1232: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.658147000 Eastern Standard Time
[Time shift for this packet: 0.00000000 seconds]
Epoch Time: 1676337025.658147000 seconds
[Time delta from previous captured frame: 0.005134000 seconds]
[Time delta from previous displayed frame: 0.005134000 seconds]
[Time since reference or first frame: 15.924688000 seconds]
Frame Number: 1232
Frame Length: 66 bytes (528 bits)
Capture Length: 66 bytes (528 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]

Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... 0.00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 52
Identification: 0x0000 (0)
010. = Flags: 0x2, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0xab15 [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137

Transmission Control Protocol, Src Port: 80, Dst Port: 59223, Seq: 0, Ack: 1, Len: 0
Source Port: 80
Destination Port: 59223
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 0]
Sequence Number: 0 (relative sequence number)
Sequence Number (raw): 3944635450
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 1 (relative ack number)
Acknowledgment number (raw): 450055719
1000 = Header Length: 32 bytes (8)
Flags: 0x012 (SYN, ACK)
000. = Reserved: Not set
...0 = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... 0. = ECN-Echo: Not set
.... 0. = Urgent: Not set
.... 1. = Acknowledgment: Set
.... 0... = Push: Not set
.... 0. = Reset: Not set
.... 1. = Syn: Set
[Expert Info (Chat/Sequence): Connection establish acknowledge (SYN+ACK): server port 80]
[Connection establish acknowledge (SYN+ACK): server port 80]
[Severity level: Chat]
[Group: Sequence]
.... 0. = Fin: Not set
[TCP Flags:A..S.]
Window: 29200
[Calculated window size: 29200]
Checksum: 0xc546 [unverified]

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[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]
    [Time since first frame in this TCP stream: 0.023485000 seconds]
    [Time since previous frame in this TCP stream: 0.023485000 seconds]
[SEQ/ACK analysis]
    [This is an ACK to the segment in frame: 1213]
    [The RTT to ACK the segment was: 0.023485000 seconds]
    [iRTT: 0.023610000 seconds]
No.      Time                Source                Destination          Protocol Length Info
1233 2023-02-13 20:10:25.658272  10.162.31.137        128.119.245.12      TCP 54 59223 → 80 [ACK] Seq=1 Ack=1 Win=262656 Len=0
Frame 1233: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
    Section number: 1
    Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
    Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
    Interface description: Ethernet
    Encapsulation type: Ethernet (1)
    Arrival Time: Feb 13, 2023 20:10:25.658272000 Eastern Standard Time
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1676337025.658272000 seconds
    [Time delta from previous captured frame: 0.000125000 seconds]
    [Time delta from previous displayed frame: 0.000125000 seconds]
    [Time since reference or first frame: 15.924813000 seconds]
    Frame Number: 1233
    Frame Length: 54 bytes (432 bits)
    Capture Length: 54 bytes (432 bits)
    [Frame is marked: True]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:ip:tcp]
    [Coloring Rule Name: HTTP]
    [Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
    Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
        Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
        ....0. .... = LG bit: Globally unique address (factory default)
        ....0. .... = IG bit: Individual address (unicast)
    Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
        Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
        ....0. .... = LG bit: Globally unique address (factory default)
        ....0. .... = IG bit: Individual address (unicast)
    Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
    0100 .... = Version: 4
    ....0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0xb8 (DSCP: EF PHB, ECN: Not-ECT)
        1011 10.. = Differentiated Services Codepoint: Expedited Forwarding (46)
        ....00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    Total Length: 40
    Identification: 0x6703 (26371)
    010. .... = Flags: 0x2, Don't fragment
        0... .... = Reserved bit: Not set
        .1.. .... = Don't fragment: Set
        ..0. .... = More fragments: Not set
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 128
    Protocol: TCP (6)
    Header Checksum: 0x0000 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 10.162.31.137
    Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59223, Dst Port: 80, Seq: 1, Ack: 1, Len: 0
    Source Port: 59223
    Destination Port: 80
    [Stream index: 51]
    [Conversation completeness: Complete, WITH_DATA (31)]
    [TCP Segment Len: 0]
    Sequence Number: 1 (relative sequence number)
    Sequence Number (raw): 450055719
    [Next Sequence Number: 1 (relative sequence number)]
    Acknowledgment Number: 1 (relative ack number)
    Acknowledgment number (raw): 3944635451
    0101 .... = Header Length: 20 bytes (5)
    Flags: 0x010 (ACK)
        000. .... = Reserved: Not set
        ...0 .... = Accurate ECN: Not set
        ....0... = Congestion Window Reduced: Not set
        ....0... = ECN-Echo: Not set
        ....0. .... = Urgent: Not set
        ....1. .... = Acknowledgment: Set
        ....0... = Push: Not set
        ....0... = Reset: Not set
        ....0... = Syn: Not set
        ....0... = Fin: Not set
    [TCP Flags: .....A....]
    Window: 1026
    [Calculated window size: 262656]
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[Window size scaling factor: 256]
Checksum: 0x7427 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
    [Time since first frame in this TCP stream: 0.023610000 seconds]
    [Time since previous frame in this TCP stream: 0.000125000 seconds]
[SEQ/ACK analysis]
    [This is an ACK to the segment in frame: 1232]
    [The RTT to ACK the segment was: 0.000125000 seconds]
    [iRTT: 0.023610000 seconds]
No.      Time                               Source                               Destination                         Protocol Length Info
1234 2023-02-13 20:10:25.658652      10.162.31.137                       128.119.245.12                     HTTP      526      GET /wireshark-labs/HTTP-wireshark-file3.html
HTTP/1.1
Frame 1234: 526 bytes on wire (4208 bits), 526 bytes captured (4208 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.658652000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.658652000 seconds
[Time delta from previous captured frame: 0.000380000 seconds]
[Time delta from previous displayed frame: 0.000380000 seconds]
[Time since reference or first frame: 15.925193000 seconds]
Frame Number: 1234
Frame Length: 526 bytes (4208 bits)
Capture Length: 526 bytes (4208 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp:http]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0. .... = IG bit: Individual address (unicast)
Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0. .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 512
Identification: 0x6704 (26372)
010. .... = Flags: 0x2, Don't fragment
0... .... = Reserved bit: Not set
.1.. .... = Don't fragment: Set
..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128
Protocol: TCP (6)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 10.162.31.137
Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59223, Dst Port: 80, Seq: 1, Ack: 1, Len: 472
Source Port: 59223
Destination Port: 80
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 472]
Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 450055719
[Next Sequence Number: 473 (relative sequence number)]
Acknowledgment Number: 1 (relative ack number)
Acknowledgment number (raw): 3944635451
0101 .... = Header Length: 20 bytes (5)
Flags: 0x018 (PSH, ACK)
000. .... = Reserved: Not set
...0 .... = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... .0.. = ECN-Echo: Not set
.... ..0. = Urgent: Not set
.... ...1 = Acknowledgment: Set
.... .... 1... = Push: Set
.... .... .0.. = Reset: Not set
.... .... ..0. = Syn: Not set
.... .... ...0 = Fin: Not set
[TCP Flags: .....AP...]
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Window: 1026
[Calculated window size: 262656]
[Window size scaling factor: 256]
Checksum: 0xa1a1 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
[Time since first frame in this TCP stream: 0.023990000 seconds]
[Time since previous frame in this TCP stream: 0.000380000 seconds]
[SEQ/ACK analysis]
[iRTT: 0.023610000 seconds]
[Bytes in flight: 472]
[Bytes sent since last PSH flag: 472]
TCP payload (472 bytes)
Hypertext Transfer Protocol
GET /wireshark-labs/HTTP-wireshark-file3.html HTTP/1.1\r\n
[Expert Info (Chat/Sequence): GET /wireshark-labs/HTTP-wireshark-file3.html HTTP/1.1\r\n]
[GET /wireshark-labs/HTTP-wireshark-file3.html HTTP/1.1\r\n]
[Severity level: Chat]
[Group: Sequence]
Request Method: GET
Request URI: /wireshark-labs/HTTP-wireshark-file3.html
Request Version: HTTP/1.1
Host: gaia.cs.umass.edu\r\n
Connection: keep-alive\r\n
Upgrade-Insecure-Requests: 1\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/109.0.0.0 Safari/537.36\r\n
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9\r\n
Accept-Encoding: gzip, deflate\r\n
Accept-Language: en-US,en;q=0.9\r\n
\r\n
[Full request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file3.html]
[HTTP request 1/1]
[Response in frame: 1260]

No.      Time                               Source                Destination            Protocol Length Info
1247 2023-02-13 20:10:25.663022      128.119.245.12         10.162.31.137          TCP                    66      80 → 59224 [SYN, ACK] Seq=0 Ack=1 Win=29200
Len=0 MSS=1460 SACK_PERM WS=128
Frame 1247: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.663022000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.663022000 seconds
[Time delta from previous captured frame: 0.003055000 seconds]
[Time delta from previous displayed frame: 0.003055000 seconds]
[Time since reference or first frame: 15.929563000 seconds]
Frame Number: 1247
Frame Length: 66 bytes (528 bits)
Capture Length: 66 bytes (528 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0 .... = IG bit: Individual address (unicast)
Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0 .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... 00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 52
Identification: 0x0000 (0)
010. .... = Flags: 0x2, Don't fragment
0... .... = Reserved bit: Not set
.1.. .... = Don't fragment: Set
..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0xab15 [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137
```

Transmission Control Protocol, Src Port: 80, Dst Port: 59224, Seq: 0, Ack: 1, Len: 0
Source Port: 80
Destination Port: 59224
[Stream index: 52]
[Conversation completeness: Incomplete, ESTABLISHED (7)]
[TCP Segment Len: 0]
Sequence Number: 0 (relative sequence number)
Sequence Number (raw): 2665194378
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 1 (relative ack number)
Acknowledgment number (raw): 3692041923
1000 = Header Length: 32 bytes (8)
Flags: 0x012 (SYN, ACK)
 000. = Reserved: Not set
 ...0 = Accurate ECN: Not set
 0... = Congestion Window Reduced: Not set
 0.. = ECN-Echo: Not set
 0. = Urgent: Not set
 1 = Acknowledgment: Set
 0... = Push: Not set
 0.. = Reset: Not set
 1. = Syn: Set
 [Expert Info (Chat/Sequence): Connection establish acknowledge (SYN+ACK): server port 80]
 [Connection establish acknowledge (SYN+ACK): server port 80]
 [Severity level: Chat]
 [Group: Sequence]
 0 = Fin: Not set
 [TCP Flags:A..S.]
Window: 29200
[Calculated window size: 29200]
Checksum: 0x405f [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]
 [Time since first frame in this TCP stream: 0.025103000 seconds]
 [Time since previous frame in this TCP stream: 0.025103000 seconds]
[SEQ/ACK analysis]
 [This is an ACK to the segment in frame: 1218]
 [The RTT to ACK the segment was: 0.025103000 seconds]
 [iRTT: 0.025221000 seconds]
No. Time Source Destination Protocol Length Info
1248 2023-02-13 20:10:25.663140 10.162.31.137 128.119.245.12 TCP 54 59224 → 80 [ACK] Seq=1 Ack=1 Win=262656 Len=0
Frame 1248: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.663140000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.663140000 seconds
[Time delta from previous captured frame: 0.000118000 seconds]
[Time delta from previous displayed frame: 0.000118000 seconds]
[Time since reference or first frame: 15.929681000 seconds]
Frame Number: 1248
Frame Length: 54 bytes (432 bits)
Capture Length: 54 bytes (432 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
 0. = LG bit: Globally unique address (factory default)
 0 = IG bit: Individual address (unicast)
Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
 0. = LG bit: Globally unique address (factory default)
 0 = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0xb8 (DSCP: EF PHB, ECN: Not-ECT)
 1011 10.. = Differentiated Services Codepoint: Expedited Forwarding (46)
 00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 40
Identification: 0x6705 (26373)
010. = Flags: 0x2, Don't fragment
 0... = Reserved bit: Not set
 .1.. = Don't fragment: Set
 ..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128

```

Protocol: TCP (6)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 10.162.31.137
Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59224, Dst Port: 80, Seq: 1, Ack: 1, Len: 0
Source Port: 59224
Destination Port: 80
[Stream index: 52]
[Conversation completeness: Incomplete, ESTABLISHED (7)]
[TCP Segment Len: 0]
Sequence Number: 1      (relative sequence number)
Sequence Number (raw): 3692041923
[Next Sequence Number: 1      (relative sequence number)]
Acknowledgment Number: 1      (relative ack number)
Acknowledgment number (raw): 2665194379
0101 .... = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
    000. .... = Reserved: Not set
    ...0 .... = Accurate ECN: Not set
    ....0... = Congestion Window Reduced: Not set
    ....0... = ECN-Echo: Not set
    ....0... = Urgent: Not set
    ....1... = Acknowledgment: Set
    ....0... = Push: Not set
    ....0... = Reset: Not set
    ....0... = Syn: Not set
    ....0... = Fin: Not set
[TCP Flags: .....A....]
Window: 1026
[Calculated window size: 262656]
[Window size scaling factor: 256]
Checksum: 0xef3f [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
    [Time since first frame in this TCP stream: 0.025221000 seconds]
    [Time since previous frame in this TCP stream: 0.000118000 seconds]
[SEQ/ACK analysis]
    [This is an ACK to the segment in frame: 1247]
    [The RTT to ACK the segment was: 0.000118000 seconds]
    [iRTT: 0.025221000 seconds]
No.      Time                Source                Destination          Protocol Length Info
1256 2023-02-13 20:10:25.681985 128.119.245.12      10.162.31.137      TCP        60      80 → 59223 [ACK] Seq=1 Ack=473 Win=30336 Len=0
Frame 1256: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
    Section number: 1
    Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
    Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
    Interface description: Ethernet
    Encapsulation type: Ethernet (1)
    Arrival Time: Feb 13, 2023 20:10:25.681985000 Eastern Standard Time
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1676337025.681985000 seconds
    [Time delta from previous captured frame: 0.012011000 seconds]
    [Time delta from previous displayed frame: 0.012011000 seconds]
    [Time since reference or first frame: 15.948526000 seconds]
    Frame Number: 1256
    Frame Length: 60 bytes (480 bits)
    Capture Length: 60 bytes (480 bits)
    [Frame is marked: True]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:ip:tcp]
    [Coloring Rule Name: HTTP]
    [Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
    Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
        Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
        ....0. .... = LG bit: Globally unique address (factory default)
        ....0. .... = IG bit: Individual address (unicast)
    Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
        Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
        ....0. .... = LG bit: Globally unique address (factory default)
        ....0. .... = IG bit: Individual address (unicast)
    Type: IPv4 (0x0800)
    Padding: 000000000000
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
    0100 .... = Version: 4
    ....0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
        0000 00.. = Differentiated Services Codepoint: Default (0)
        ....00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
    Total Length: 40
    Identification: 0x19fc (6652)
    010. .... = Flags: 0x2, Don't fragment
        0... .... = Reserved bit: Not set
        .1.. .... = Don't fragment: Set
        ..0. .... = More fragments: Not set

```



```
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0x9125 [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137
Transmission Control Protocol, Src Port: 80, Dst Port: 59223, Seq: 1, Ack: 473, Len: 0
Source Port: 80
Destination Port: 59223
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 0]
Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 3944635451
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 473 (relative ack number)
Acknowledgment number (raw): 450056191
0101 .... = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
  000. .... = Reserved: Not set
  ...0 .... = Accurate ECN: Not set
  .... 0... = Congestion Window Reduced: Not set
  .... .0.. = ECN-Echo: Not set
  .... ..0. = Urgent: Not set
  .... ...1 = Acknowledgment: Set
  .... .... 0... = Push: Not set
  .... .... .0.. = Reset: Not set
  .... .... ..0. = Syn: Not set
  .... .... ...0 = Fin: Not set
[TCP Flags: .....A....]
Window: 237
[Calculated window size: 30336]
[Window size scaling factor: 128]
Checksum: 0x7564 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
  [Time since first frame in this TCP stream: 0.047323000 seconds]
  [Time since previous frame in this TCP stream: 0.023333000 seconds]
[SEQ/ACK analysis]
  [This is an ACK to the segment in frame: 1234]
  [The RTT to ACK the segment was: 0.023333000 seconds]
  [iRTT: 0.023610000 seconds]
No.      Time                               Source                Destination           Protocol Length Info
1257 2023-02-13 20:10:25.682413 128.119.245.12        10.162.31.137         TCP 1514 80 → 59223 [ACK] Seq=1 Ack=473 Win=30336
Len=1460 [TCP segment of a reassembled PDU]
Frame 1257: 1514 bytes on wire (12112 bits), 1514 bytes captured (12112 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id
0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.682413000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.682413000 seconds
[Time delta from previous captured frame: 0.000428000 seconds]
[Time delta from previous displayed frame: 0.000428000 seconds]
[Time since reference or first frame: 15.948954000 seconds]
Frame Number: 1257
Frame Length: 1514 bytes (12112 bits)
Capture Length: 1514 bytes (12112 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
  .... ..0. .... = LG bit: Globally unique address (factory default)
  .... ...0 .... = IG bit: Individual address (unicast)
Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
  .... ..0. .... = LG bit: Globally unique address (factory default)
  .... ...0 .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
  0000 00.. = Differentiated Services Codepoint: Default (0)
  .... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 1500
Identification: 0x19fd (6653)
010. .... = Flags: 0x2, Don't fragment
```

```

0... .... = Reserved bit: Not set
1... .... = Don't fragment: Set
..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0x8b70 [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137
Transmission Control Protocol, Src Port: 80, Dst Port: 59223, Seq: 1, Ack: 473, Len: 1460
Source Port: 80
Destination Port: 59223
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 1460]
Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 3944635451
[Next Sequence Number: 1461 (relative sequence number)]
Acknowledgment Number: 473 (relative ack number)
Acknowledgment number (raw): 450056191
0101 .... = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
000. .... = Reserved: Not set
...0 .... = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... .0.. = ECN-Echo: Not set
.... ..0. = Urgent: Not set
.... ...1 = Acknowledgment: Set
.... .... 0... = Push: Not set
.... .... .0.. = Reset: Not set
.... .... ..0. = Syn: Not set
.... .... ...0 = Fin: Not set
[TCP Flags: .....A....]
Window: 237
[Calculated window size: 30336]
[Window size scaling factor: 128]
Checksum: 0xe83e [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
[Time since first frame in this TCP stream: 0.047751000 seconds]
[Time since previous frame in this TCP stream: 0.000428000 seconds]
[SEQ/ACK analysis]
[iRTT: 0.023610000 seconds]
[Bytes in flight: 1460]
[Bytes sent since last PSH flag: 1460]
TCP payload (1460 bytes)
[Reassembled PDU in frame: 1260]
TCP segment data (1460 bytes)
No.      Time                Source                Destination          Protocol Length Info
1258 2023-02-13 20:10:25.682413 128.119.245.12      10.162.31.137      TCP      1514 80 → 59223 [ACK] Seq=1461 Ack=473 Win=30336
Len=1460 [TCP segment of a reassembled PDU]
Frame 1258: 1514 bytes on wire (12112 bits), 1514 bytes captured (12112 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.682413000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.682413000 seconds
[Time delta from previous captured frame: 0.000000000 seconds]
[Time delta from previous displayed frame: 0.000000000 seconds]
[Time since reference or first frame: 15.948954000 seconds]
Frame Number: 1258
Frame Length: 1514 bytes (12112 bits)
Capture Length: 1514 bytes (12112 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... ..0. .... = LG bit: Globally unique address (factory default)
.... ...0 .... = IG bit: Individual address (unicast)
Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... ..0. .... = LG bit: Globally unique address (factory default)
.... ...0 .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)

```

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... 00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 1500
Identification: 0x19fe (6654)
010. = Flags: 0x2, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0x8b6f [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137
Transmission Control Protocol, Src Port: 80, Dst Port: 59223, Seq: 1461, Ack: 473, Len: 1460
Source Port: 80
Destination Port: 59223
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 1460]
Sequence Number: 1461 (relative sequence number)
Sequence Number (raw): 3944636911
[Next Sequence Number: 2921 (relative sequence number)]
Acknowledgment Number: 473 (relative ack number)
Acknowledgment number (raw): 450056191
0101 = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
000. = Reserved: Not set
...0 = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... .0.. = ECN-Echo: Not set
.... ..0. = Urgent: Not set
.... ...1 = Acknowledgment: Set
.... 0... = Push: Not set
....0.. = Reset: Not set
....0. = Syn: Not set
....0 = Fin: Not set
[TCP Flags:A.....]
Window: 237
[Calculated window size: 30336]
[Window size scaling factor: 128]
Checksum: 0x0d48 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
[Time since first frame in this TCP stream: 0.047751000 seconds]
[Time since previous frame in this TCP stream: 0.000000000 seconds]
[SEQ/ACK analysis]
[iRTT: 0.023610000 seconds]
[Bytes in flight: 2920]
[Bytes sent since last PSH flag: 2920]
TCP payload (1460 bytes)
[Reassembled PDU in frame: 1260]
TCP segment data (1460 bytes)

No.	Time	Source	Destination	Protocol	Length	Info
1259	2023-02-13 20:10:25.682413	128.119.245.12	10.162.31.137	TCP	1514	80 → 59223 [ACK] Seq=2921 Ack=473 Win=30336 Len=1460 [TCP segment of a reassembled PDU]

Frame 1259: 1514 bytes on wire (12112 bits), 1514 bytes captured (12112 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0

Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.682413000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.682413000 seconds
[Time delta from previous captured frame: 0.000000000 seconds]
[Time delta from previous displayed frame: 0.000000000 seconds]
[Time since reference or first frame: 15.948954000 seconds]
Frame Number: 1259
Frame Length: 1514 bytes (12112 bits)
Capture Length: 1514 bytes (12112 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... ..0. = LG bit: Globally unique address (factory default)
.... ...0 = IG bit: Individual address (unicast)
Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)

```

.... ..0. .... = LG bit: Globally unique address (factory default)
.... ..0. .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..0. = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 1500
Identification: 0x19ff (6655)
010. .... = Flags: 0x2, Don't fragment
    0... .... = Reserved bit: Not set
    .1.. .... = Don't fragment: Set
    ..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0x8b6e [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137
Transmission Control Protocol, Src Port: 80, Dst Port: 59223, Seq: 2921, Ack: 473, Len: 1460
Source Port: 80
Destination Port: 59223
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 1460]
Sequence Number: 2921      (relative sequence number)
Sequence Number (raw): 3944638371
[Next Sequence Number: 4381      (relative sequence number)]
Acknowledgment Number: 473      (relative ack number)
Acknowledgment number (raw): 450056191
0101 .... = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
    000. .... = Reserved: Not set
    ...0 .... = Accurate ECN: Not set
    .... 0... = Congestion Window Reduced: Not set
    .... .0.. = ECN-Echo: Not set
    .... ..0. = Urgent: Not set
    .... ...1 = Acknowledgment: Set
    .... .... 0... = Push: Not set
    .... .... .0.. = Reset: Not set
    .... .... ..0. = Syn: Not set
    .... .... ...0 = Fin: Not set
    [TCP Flags: .....A....]
Window: 237
[Calculated window size: 30336]
[Window size scaling factor: 128]
Checksum: 0x1de1 [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
    [Time since first frame in this TCP stream: 0.047751000 seconds]
    [Time since previous frame in this TCP stream: 0.000000000 seconds]
[SEQ/ACK analysis]
    [iRTT: 0.023610000 seconds]
    [Bytes in flight: 4380]
    [Bytes sent since last PSH flag: 4380]
TCP payload (1460 bytes)
[Reassembled PDU in frame: 1260]
TCP segment data (1460 bytes)
No.      Time                        Source                Destination            Protocol Length Info
1260 2023-02-13 20:10:25.682413 128.119.245.12        10.162.31.137          HTTP      535      HTTP/1.1 200 OK (text/html)
Frame 1260: 535 bytes on wire (4280 bits), 535 bytes captured (4280 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.682413000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.682413000 seconds
[Time delta from previous captured frame: 0.000000000 seconds]
[Time delta from previous displayed frame: 0.000000000 seconds]
[Time since reference or first frame: 15.948954000 seconds]
Frame Number: 1260
Frame Length: 535 bytes (4280 bits)
Capture Length: 535 bytes (4280 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp:http:data-text-lines]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Routerbo_eb:56:c3 (08:55:31:eb:56:c3), Dst: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Destination: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)

```

```
.... ..0. .... = LG bit: Globally unique address (factory default)
.... ..0. .... = IG bit: Individual address (unicast)
Source: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... ..0. .... = LG bit: Globally unique address (factory default)
.... ..0. .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.162.31.137
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..0. = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 521
Identification: 0x1a00 (6656)
010. .... = Flags: 0x2, Don't fragment
0... .... = Reserved bit: Not set
.1.. .... = Don't fragment: Set
..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 48
Protocol: TCP (6)
Header Checksum: 0x8f40 [validation disabled]
[Header checksum status: Unverified]
Source Address: 128.119.245.12
Destination Address: 10.162.31.137
Transmission Control Protocol, Src Port: 80, Dst Port: 59223, Seq: 4381, Ack: 473, Len: 481
Source Port: 80
Destination Port: 59223
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 481]
Sequence Number: 4381 (relative sequence number)
Sequence Number (raw): 3944639831
[Next Sequence Number: 4862 (relative sequence number)]
Acknowledgment Number: 473 (relative ack number)
Acknowledgment number (raw): 450056191
0101 .... = Header Length: 20 bytes (5)
Flags: 0x018 (PSH, ACK)
000. .... = Reserved: Not set
...0 .... = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... .0.. = ECN-Echo: Not set
.... ..0. = Urgent: Not set
.... ...1 = Acknowledgment: Set
.... .... 1.. = Push: Set
.... .... .0.. = Reset: Not set
.... .... ..0. = Syn: Not set
.... .... ...0 = Fin: Not set
[TCP Flags: .....AP...]
Window: 237
[Calculated window size: 30336]
[Window size scaling factor: 128]
Checksum: 0x477e [unverified]
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
[Time since first frame in this TCP stream: 0.047751000 seconds]
[Time since previous frame in this TCP stream: 0.000000000 seconds]
[SEQ/ACK analysis]
[iRTT: 0.023610000 seconds]
[Bytes in flight: 4861]
[Bytes sent since last PSH flag: 4861]
TCP payload (481 bytes)
TCP segment data (481 bytes)
[4 Reassembled TCP Segments (4861 bytes): #1257(1460), #1258(1460), #1259(1460), #1260(481)]
Hypertext Transfer Protocol
HTTP/1.1 200 OK\r\n
[Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
[HTTP/1.1 200 OK\r\n]
[Severity level: Chat]
[Group: Sequence]
Response Version: HTTP/1.1
Status Code: 200
[Status Code Description: OK]
Response Phrase: OK
Date: Tue, 14 Feb 2023 01:10:25 GMT\r\n
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.33 mod_perl/2.0.11 Perl/v5.16.3\r\n
Last-Modified: Mon, 13 Feb 2023 06:59:02 GMT\r\n
ETag: "1194-5f48f61cef310"\r\n
Accept-Ranges: bytes\r\n
Content-Length: 4500\r\n
Keep-Alive: timeout=5, max=100\r\n
Connection: Keep-Alive\r\n
Content-Type: text/html; charset=UTF-8\r\n
\r\n
[HTTP response 1/1]
```

```
[Time since request: 0.023761000 seconds]
[Request in frame: 1234]
[Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file3.html]
File Data: 4500 bytes
Line-based text data: text/html (98 lines)
No.      Time                Source                Destination           Protocol Length Info
 1261 2023-02-13 20:10:25.682552 10.162.31.137        128.119.245.12       TCP 54 59223 → 80 [ACK] Seq=473 Ack=4381 Win=262656
Len=0
Frame 1261: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
  Section number: 1
  Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
    Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
    Interface description: Ethernet
  Encapsulation type: Ethernet (1)
  Arrival Time: Feb 13, 2023 20:10:25.682552000 Eastern Standard Time
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1676337025.682552000 seconds
  [Time delta from previous captured frame: 0.000139000 seconds]
  [Time delta from previous displayed frame: 0.000139000 seconds]
  [Time since reference or first frame: 15.949093000 seconds]
  Frame Number: 1261
  Frame Length: 54 bytes (432 bits)
  Capture Length: 54 bytes (432 bits)
  [Frame is marked: True]
  [Frame is ignored: False]
  [Protocols in frame: eth:ethertype:ip:tcp]
  [Coloring Rule Name: HTTP]
  [Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
  Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
    Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
      ....0. .... = LG bit: Globally unique address (factory default)
      ....0. .... = IG bit: Individual address (unicast)
  Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
    Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
      ....0. .... = LG bit: Globally unique address (factory default)
      ....0. .... = IG bit: Individual address (unicast)
  Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
  0100 .... = Version: 4
  ....0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    0000 00.. = Differentiated Services Codepoint: Default (0)
    ....00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
  Total Length: 40
  Identification: 0x6706 (26374)
  010. .... = Flags: 0x2, Don't fragment
    0... .... = Reserved bit: Not set
    .1. .... = Don't fragment: Set
    ..0. .... = More fragments: Not set
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 128
  Protocol: TCP (6)
  Header Checksum: 0x0000 [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 10.162.31.137
  Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59223, Dst Port: 80, Seq: 473, Ack: 4381, Len: 0
  Source Port: 59223
  Destination Port: 80
  [Stream index: 51]
  [Conversation completeness: Complete, WITH_DATA (31)]
  [TCP Segment Len: 0]
  Sequence Number: 473 (relative sequence number)
  Sequence Number (raw): 450056191
  [Next Sequence Number: 473 (relative sequence number)]
  Acknowledgment Number: 4381 (relative ack number)
  Acknowledgment number (raw): 3944639831
  0101 .... = Header Length: 20 bytes (5)
  Flags: 0x010 (ACK)
    000. .... = Reserved: Not set
    ...0 .... = Accurate ECN: Not set
    ....0... = Congestion Window Reduced: Not set
    ....0... = ECN-Echo: Not set
    ....0... = Urgent: Not set
    ....1... = Acknowledgment: Set
    ....0... = Push: Not set
    ....0... = Reset: Not set
    ....0... = Syn: Not set
    ....0... = Fin: Not set
  [TCP Flags: .....A....]
  Window: 1026
  [Calculated window size: 262656]
  [Window size scaling factor: 256]
  Checksum: 0x9fc9 [unverified]
  [Checksum Status: Unverified]
  Urgent Pointer: 0
```

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[Timestamps]
[Time since first frame in this TCP stream: 0.047890000 seconds]
[Time since previous frame in this TCP stream: 0.000139000 seconds]
[SEQ/ACK analysis]
[This is an ACK to the segment in frame: 1259]
[The RTT to ACK the segment was: 0.000139000 seconds]
[iRTT: 0.023610000 seconds]
No.      Time                Source                Destination          Protocol Length Info
1262 2023-02-13 20:10:25.682582 10.162.31.137        128.119.245.12      TCP                54      59223 → 80 [ACK] Seq=473 Ack=4862 Win=262144
Len=0
Frame 1262: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}, id 0
Section number: 1
Interface id: 0 (\Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC})
Interface name: \Device\NPF_{1DD7923C-13AB-467D-9439-E2A4D71AF3BC}
Interface description: Ethernet
Encapsulation type: Ethernet (1)
Arrival Time: Feb 13, 2023 20:10:25.682582000 Eastern Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1676337025.682582000 seconds
[Time delta from previous captured frame: 0.000030000 seconds]
[Time delta from previous displayed frame: 0.000030000 seconds]
[Time since reference or first frame: 15.949123000 seconds]
Frame Number: 1262
Frame Length: 54 bytes (432 bits)
Capture Length: 54 bytes (432 bits)
[Frame is marked: True]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Micro-St_06:51:9e (00:d8:61:06:51:9e), Dst: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Destination: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
Address: Routerbo_eb:56:c3 (08:55:31:eb:56:c3)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0 .... = IG bit: Individual address (unicast)
Source: Micro-St_06:51:9e (00:d8:61:06:51:9e)
Address: Micro-St_06:51:9e (00:d8:61:06:51:9e)
.... 0. .... = LG bit: Globally unique address (factory default)
.... 0 .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.162.31.137, Dst: 128.119.245.12
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... 00.. = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 40
Identification: 0x6707 (26375)
010. .... = Flags: 0x2, Don't fragment
0... .... = Reserved bit: Not set
.1.. .... = Don't fragment: Set
..0. .... = More fragments: Not set
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128
Protocol: TCP (6)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 10.162.31.137
Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 59223, Dst Port: 80, Seq: 473, Ack: 4862, Len: 0
Source Port: 59223
Destination Port: 80
[Stream index: 51]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 0]
Sequence Number: 473 (relative sequence number)
Sequence Number (raw): 450056191
[Next Sequence Number: 473 (relative sequence number)]
Acknowledgment Number: 4862 (relative ack number)
Acknowledgment number (raw): 3944640312
0101 .... = Header Length: 20 bytes (5)
Flags: 0x010 (ACK)
000. .... = Reserved: Not set
...0 .... = Accurate ECN: Not set
.... 0... = Congestion Window Reduced: Not set
.... 0... = ECN-Echo: Not set
.... 0... = Urgent: Not set
.... 1... = Acknowledgment: Set
.... 0... = Push: Not set
.... 0... = Reset: Not set
.... 0... = Syn: Not set
.... 0... = Fin: Not set
[TCP Flags: .....A....]
Window: 1024
[Calculated window size: 262144]
[Window size scaling factor: 256]
Checksum: 0x9fc9 [unverified]

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```
[Checksum Status: Unverified]
Urgent Pointer: 0
[Timestamps]
  [Time since first frame in this TCP stream: 0.047920000 seconds]
  [Time since previous frame in this TCP stream: 0.000030000 seconds]
[SEQ/ACK analysis]
  [This is an ACK to the segment in frame: 1260]
  [The RTT to ACK the segment was: 0.000169000 seconds]
  [iRTT: 0.023610000 seconds]
```