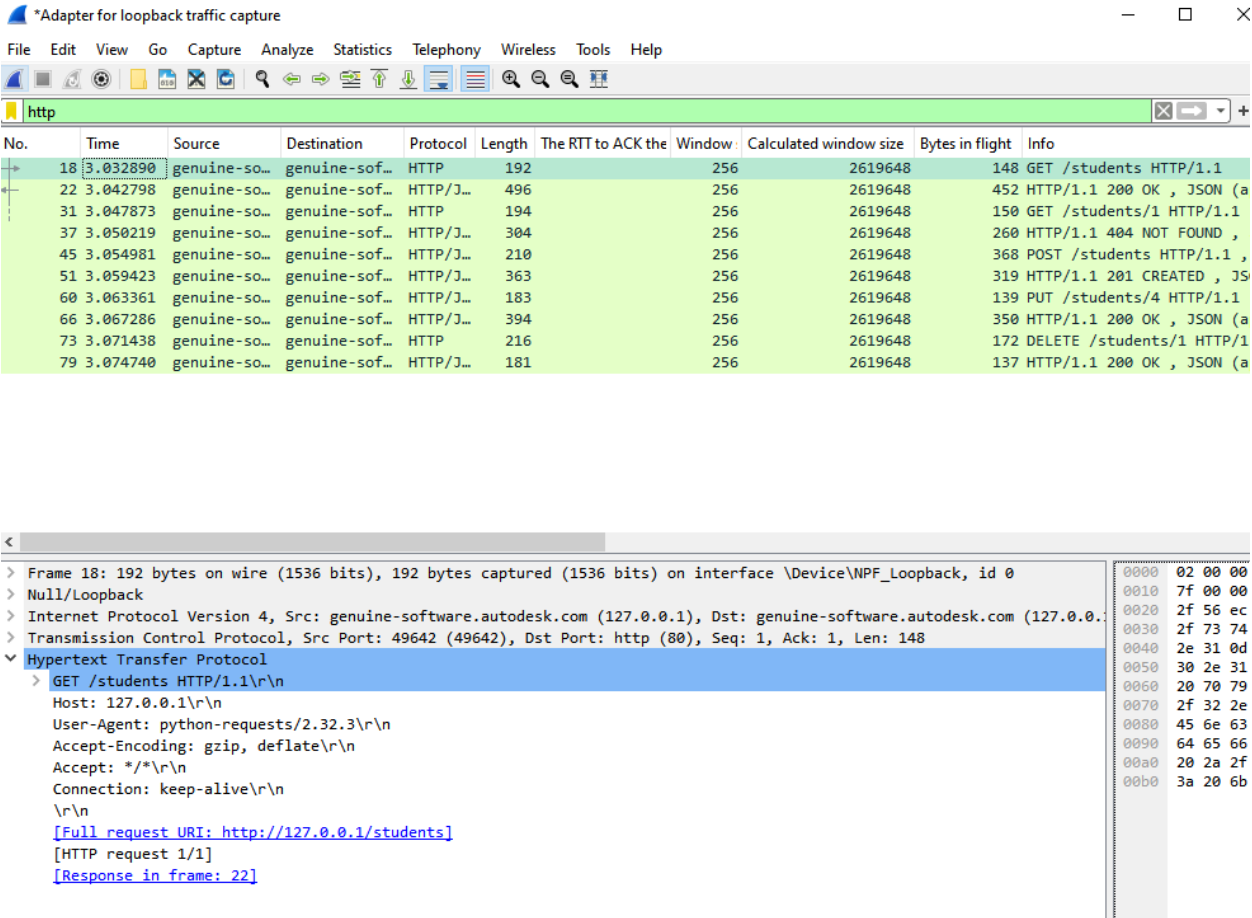


Задание №5

Метод Get



The screenshot shows a Wireshark capture of network traffic on the loopback interface. The top pane displays a list of captured packets, with packet 18 selected. The middle pane shows the details of packet 18, which is an HTTP GET request to /students. The bottom pane shows the raw packet data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	The RTT to ACK the	Window	Calculated window size	Bytes in flight	Info
18	3.032890	genuine-so...	genuine-sof...	HTTP	192		256	2619648	148	GET /students HTTP/1.1
22	3.042798	genuine-so...	genuine-sof...	HTTP/J...	496		256	2619648	452	HTTP/1.1 200 OK, JSON (a
31	3.047873	genuine-so...	genuine-sof...	HTTP	194		256	2619648	150	GET /students/1 HTTP/1.1
37	3.050219	genuine-so...	genuine-sof...	HTTP/J...	304		256	2619648	260	HTTP/1.1 404 NOT FOUND ,
45	3.054981	genuine-so...	genuine-sof...	HTTP/J...	210		256	2619648	368	POST /students HTTP/1.1 ,
51	3.059423	genuine-so...	genuine-sof...	HTTP/J...	363		256	2619648	319	HTTP/1.1 201 CREATED, JS
60	3.063361	genuine-so...	genuine-sof...	HTTP/J...	183		256	2619648	139	PUT /students/4 HTTP/1.1
66	3.067286	genuine-so...	genuine-sof...	HTTP/J...	394		256	2619648	350	HTTP/1.1 200 OK, JSON (a
73	3.071438	genuine-so...	genuine-sof...	HTTP	216		256	2619648	172	DELETE /students/1 HTTP/1
79	3.074740	genuine-so...	genuine-sof...	HTTP/J...	181		256	2619648	137	HTTP/1.1 200 OK, JSON (a

Frame 18: 192 bytes on wire (1536 bits), 192 bytes captured (1536 bits) on interface \Device\NPF_{Loopback}, id 0

Null/Loopback

Internet Protocol Version 4, Src: genuine-software.autodesk.com (127.0.0.1), Dst: genuine-software.autodesk.com (127.0.0.1)

Transmission Control Protocol, Src Port: 49642 (49642), Dst Port: http (80), Seq: 1, Ack: 1, Len: 148

Hypertext Transfer Protocol

GET /students HTTP/1.1\r\n

Host: 127.0.0.1\r\n

User-Agent: python-requests/2.32.3\r\n

Accept-Encoding: gzip, deflate\r\n

Accept: */*\r\n

Connection: keep-alive\r\n

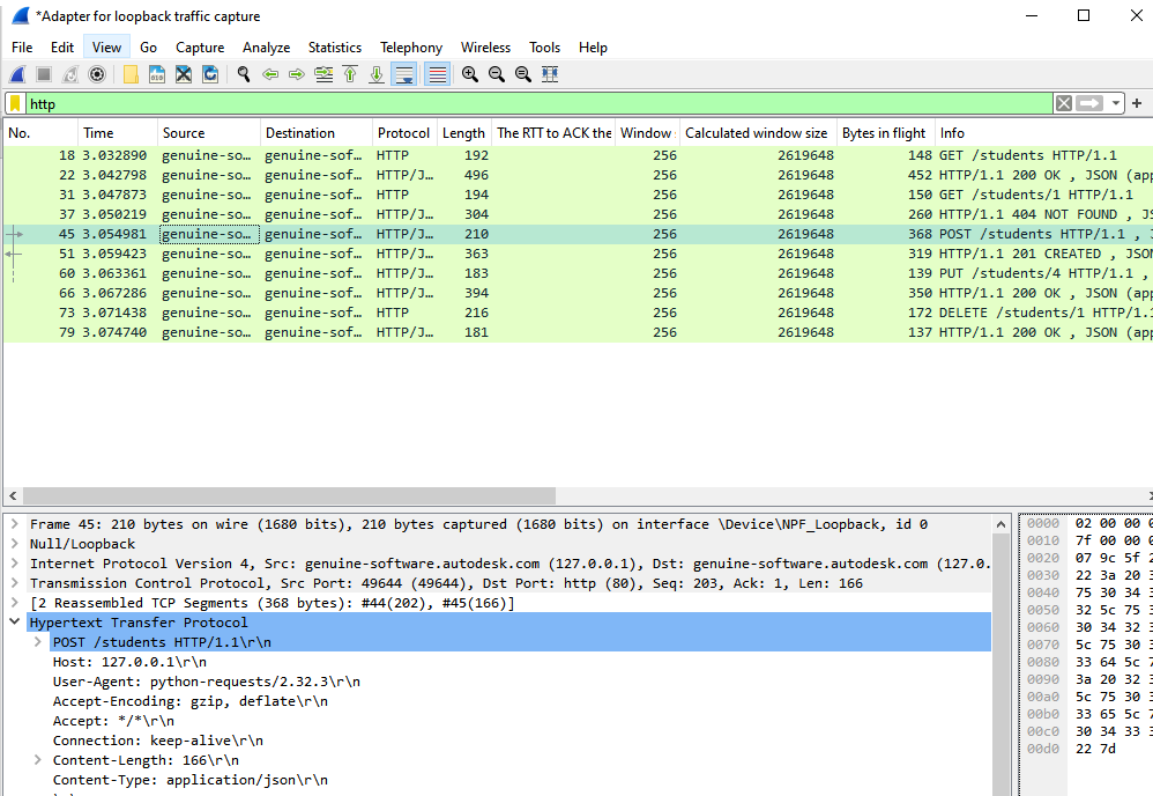
\r\n

[Full request URI: http://127.0.0.1/students]

[HTTP request 1/1]

[Response in frame: 22]

Метод Post



The screenshot shows a Wireshark capture of network traffic on the loopback interface. The top pane displays a list of captured packets, with packet 45 selected. The middle pane shows the details of packet 45, which is an HTTP POST request to /students. The bottom pane shows the raw packet data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	The RTT to ACK the	Window	Calculated window size	Bytes in flight	Info
18	3.032890	genuine-so...	genuine-sof...	HTTP	192		256	2619648	148	GET /students HTTP/1.1
22	3.042798	genuine-so...	genuine-sof...	HTTP/J...	496		256	2619648	452	HTTP/1.1 200 OK, JSON (ap
31	3.047873	genuine-so...	genuine-sof...	HTTP	194		256	2619648	150	GET /students/1 HTTP/1.1
37	3.050219	genuine-so...	genuine-sof...	HTTP/J...	304		256	2619648	260	HTTP/1.1 404 NOT FOUND, JS
45	3.054981	genuine-so...	genuine-sof...	HTTP/J...	210		256	2619648	368	POST /students HTTP/1.1 ,
51	3.059423	genuine-so...	genuine-sof...	HTTP/J...	363		256	2619648	319	HTTP/1.1 201 CREATED, JSON
60	3.063361	genuine-so...	genuine-sof...	HTTP/J...	183		256	2619648	139	PUT /students/4 HTTP/1.1 ,
66	3.067286	genuine-so...	genuine-sof...	HTTP/J...	394		256	2619648	350	HTTP/1.1 200 OK, JSON (ap
73	3.071438	genuine-so...	genuine-sof...	HTTP	216		256	2619648	172	DELETE /students/1 HTTP/1.
79	3.074740	genuine-so...	genuine-sof...	HTTP/J...	181		256	2619648	137	HTTP/1.1 200 OK, JSON (ap

Frame 45: 210 bytes on wire (1680 bits), 210 bytes captured (1680 bits) on interface \Device\NPF_{Loopback}, id 0

Null/Loopback

Internet Protocol Version 4, Src: genuine-software.autodesk.com (127.0.0.1), Dst: genuine-software.autodesk.com (127.0.0.1)

Transmission Control Protocol, Src Port: 49644 (49644), Dst Port: http (80), Seq: 203, Ack: 1, Len: 166

[2 Reassembled TCP Segments (368 bytes): #44(202), #45(166)]

Hypertext Transfer Protocol

POST /students HTTP/1.1\r\n

Host: 127.0.0.1\r\n

User-Agent: python-requests/2.32.3\r\n

Accept-Encoding: gzip, deflate\r\n

Accept: */*\r\n

Connection: keep-alive\r\n

Content-Length: 166\r\n

Content-Type: application/json\r\n

\r\n

Метод Put

The screenshot shows a Wireshark packet capture of an HTTP PUT request. The packet list table is as follows:

No.	Time	Source	Destination	Protocol	Length	The RTT to ACK the	Window	Calculated window size	Bytes in flight	Info
18	3.032890	genuine-so...	genuine-sof...	HTTP	192		256	2619648	148	GET /students HTTP/1.1
22	3.042798	genuine-so...	genuine-sof...	HTTP/J...	496		256	2619648	452	HTTP/1.1 200 OK, JSON (ap
31	3.047873	genuine-so...	genuine-sof...	HTTP	194		256	2619648	150	GET /students/1 HTTP/1.1
37	3.050219	genuine-so...	genuine-sof...	HTTP/J...	304		256	2619648	260	HTTP/1.1 404 NOT FOUND, J
45	3.054981	genuine-so...	genuine-sof...	HTTP/J...	210		256	2619648	368	POST /students HTTP/1.1 ,
51	3.059423	genuine-so...	genuine-sof...	HTTP/J...	363		256	2619648	319	HTTP/1.1 201 CREATED, JSO
60	3.063361	genuine-so...	genuine-sof...	HTTP/J...	183		256	2619648	139	PUT /students/4 HTTP/1.1 ,
66	3.067286	genuine-so...	genuine-sof...	HTTP/J...	394		256	2619648	350	HTTP/1.1 200 OK, JSON (ap
73	3.071438	genuine-so...	genuine-sof...	HTTP	216		256	2619648	172	DELETE /students/1 HTTP/1.
79	3.074740	genuine-so...	genuine-sof...	HTTP/J...	181		256	2619648	137	HTTP/1.1 200 OK, JSON (ap

The packet details pane for frame 60 (PUT /students/4 HTTP/1.1) shows the following structure:

- > Frame 60: 183 bytes on wire (1464 bits), 183 bytes captured (1464 bits) on interface \Device\NPF_{...}, id 0
- > Null/Loopback
- > Internet Protocol Version 4, Src: genuine-software.autodesk.com (127.0.0.1), Dst: genuine-software.autodesk.com (127.0.0.1)
- > Transmission Control Protocol, Src Port: 49645 (49645), Dst Port: http (80), Seq: 204, Ack: 1, Len: 139
- > [2 Reassembled TCP Segments (342 bytes): #58(203), #60(139)]
- > Hypertext Transfer Protocol
 - > PUT /students/4 HTTP/1.1\r\n
 - Host: 127.0.0.1\r\n
 - User-Agent: python-requests/2.32.3\r\n
 - Accept-Encoding: gzip, deflate\r\n
 - Accept: */*\r\n
 - Connection: keep-alive\r\n
 - Content-Length: 139\r\n
 - Content-Type: application/json\r\n
 - \r\n
 - [Full request URI: http://127.0.0.1/students/4]
 - [HTTP request 1/1]

Метод Delete

The screenshot shows a Wireshark packet capture of an HTTP DELETE request. The packet list table is as follows:

No.	Time	Source	Destination	Protocol	Length	The RTT to ACK the	Window	Calculated window size	Bytes in flight	Info
18	3.032890	genuine-so...	genuine-sof...	HTTP	192		256	2619648	148	GET /students HTTP/1.1
22	3.042798	genuine-so...	genuine-sof...	HTTP/J...	496		256	2619648	452	HTTP/1.1 200 OK, JSON (ap
31	3.047873	genuine-so...	genuine-sof...	HTTP	194		256	2619648	150	GET /students/1 HTTP/1.1
37	3.050219	genuine-so...	genuine-sof...	HTTP/J...	304		256	2619648	260	HTTP/1.1 404 NOT FOUND, J
45	3.054981	genuine-so...	genuine-sof...	HTTP/J...	210		256	2619648	368	POST /students HTTP/1.1 ,
51	3.059423	genuine-so...	genuine-sof...	HTTP/J...	363		256	2619648	319	HTTP/1.1 201 CREATED, JSO
60	3.063361	genuine-so...	genuine-sof...	HTTP/J...	183		256	2619648	139	PUT /students/4 HTTP/1.1 ,
66	3.067286	genuine-so...	genuine-sof...	HTTP/J...	394		256	2619648	350	HTTP/1.1 200 OK, JSON (ap
73	3.071438	genuine-so...	genuine-sof...	HTTP	216		256	2619648	172	DELETE /students/1 HTTP/1.
79	3.074740	genuine-so...	genuine-sof...	HTTP/J...	181		256	2619648	137	HTTP/1.1 200 OK, JSON (ap

The packet details pane for frame 73 (DELETE /students/1 HTTP/1.1) shows the following structure:

- > Frame 73: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface \Device\NPF_{...}, id 0
- > Null/Loopback
- > Internet Protocol Version 4, Src: genuine-software.autodesk.com (127.0.0.1), Dst: genuine-software.autodesk.com (127.0.0.1)
- > Transmission Control Protocol, Src Port: 49646 (49646), Dst Port: http (80), Seq: 1, Ack: 1, Len: 172
- > Hypertext Transfer Protocol
 - > DELETE /students/1 HTTP/1.1\r\n
 - Host: 127.0.0.1\r\n
 - User-Agent: python-requests/2.32.3\r\n
 - Accept-Encoding: gzip, deflate\r\n
 - Accept: */*\r\n
 - Connection: keep-alive\r\n
 - Content-Length: 0\r\n
 - \r\n
 - [Full request URI: http://127.0.0.1/students/1]
 - [HTTP request 1/1]
 - [Response in frame: 79]