

Project 3

http-ethereal-trace-5

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.1.102	192.168.1.104	SNMP	92	get-request 1.3.6.1.4.1.11.2.3.9.4.2.1.2.2.1.0
2	0.016960	192.168.1.104	192.168.1.102	SNMP	93	get-response 1.3.6.1.4.1.11.2.3.9.4.2.1.2.2.1.0
3	2.485886	192.168.1.102	128.119.245.12	TCP	62	4335 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM=1
4	2.506136	128.119.245.12	192.168.1.102	TCP	62	80 → 4335 [SYN, ACK] Seq=0 Ack=1 Win=5840 Len=0 MSS=1460 SACK_PERM=1
5	2.506166	192.168.1.102	128.119.245.12	TCP	54	4335 → 80 [ACK] Seq=1 Ack=1 Win=64240 Len=0
6	2.508229	192.168.1.102	128.119.245.12	HTTP	571	GET /ethereal-labs/protected_pages/lab2-5.html HTTP/1.1
7	2.532158	128.119.245.12	192.168.1.102	TCP	60	80 → 4335 [ACK] Seq=1 Ack=518 Win=6432 Len=0

> Frame 1: 92 bytes on wire (736 bits), 92 bytes captured (736 bits)

> Ethernet II, Src: Dell_4f:36:23 (00:08:74:4f:36:23), Dst: HewlettP_61:eb:ed (00:30:c1:61:eb:ed)

> Internet Protocol Version 4, Src: 192.168.1.102, Dst: 192.168.1.104

Use: Datagram Protocol, Src Port: 4334, Dst Port: 161

Source Port: 4334

Destination Port: 161

Length: 58

Checksum: 0x65f8 [unverified]

[Checksum Status: unverified]

[Stream index: 0]

> Simple Network Management Protocol

UDP Header fields

1. The UDP header contains 4 fields: source port, destination port, length, and checksum.
2. The length of each UDP header field is 2 bytes
3. The length field specifies the number of bytes in the UDP segment (header plus data). So the length is 58(50(data length in bytes)+8(header fields length in bytes))
4. The maximum number of bytes that can be included in a UDP payload is $(2^{16} - 1) - 8$. This gives $65535 - 8 = 65527$ bytes. 8 is the UDP header field length.
5. The largest possible source port number is $2^{16} - 1 = 65535$
6. The IP protocol number for UDP is 0x11 hex, which is 17 in decimal value.

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The image displays two screenshots of the Wireshark network protocol analyzer. The top screenshot shows the packet list pane with seven packets. Packet 1 is an SNMP get-request from 192.168.1.102 to 192.168.1.104. Packet 2 is the corresponding get-response. Packets 3-6 are TCP segments for a SYN-ACK exchange, and packet 7 is an HTTP GET request. The packet details pane for packet 2 is expanded, showing the User Datagram Protocol (UDP) section with Source Port 4334 and Destination Port 161 highlighted in red. The bottom screenshot shows the packet list pane with the same seven packets. The packet details pane for packet 7 is expanded, showing the User Datagram Protocol (UDP) section with Source Port 161 and Destination Port 4334 highlighted in red.

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7	2.532158	128.119.245.12	192.168.1.102	TCP	60	80 → 4335 [ACK] Seq=1 Ack=518 Win=6432 Len=0

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> Internet Protocol Version 4, Src: 192.168.1.102, Dst: 192.168.1.104

> User Datagram Protocol, Src Port: 4334, Dst Port: 161

Source Port: 4334

Destination Port: 161

Length: 58

Checksum: 0x65f8 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

> Simple Network Management Protocol

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7	2.532158	128.119.245.12	192.168.1.102	TCP	60	80 → 4335 [ACK] Seq=1 Ack=518 Win=6432 Len=0

> Frame 2: 93 bytes on wire (744 bits), 93 bytes captured (744 bits)

> Ethernet II, Src: HewlettP_61:eb:ed (00:30:c1:61:eb:ed), Dst: Dell_4f:36:23 (00:08:74:4f:36:23)

> Internet Protocol Version 4, Src: 192.168.1.104, Dst: 192.168.1.102

> User Datagram Protocol, Src Port: 161, Dst Port: 4334

Source Port: 161

Destination Port: 4334

Length: 59

Checksum: 0x53f2 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

> Simple Network Management Protocol

- The source port of the UDP packet sent by the host is the same as the destination port of the reply packet, and the destination port of the UDP packet sent by the host is the same as the source port of the reply packet