

Assignment 1

Qn 1: Identify the network protocol being used using wireshark

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	127.0.0.1	224.0.0.251	MDNS	442	Standard query 0x0000 PTR _airport._tcp.local, "QM" question PTR _homekit._tcp.local, "QM" question PTR
2	0.000043	fe80::1	ff02::fb	MDNS	462	Standard query 0x0000 PTR _airport._tcp.local, "QM" question PTR _homekit._tcp.local, "QM" question PTR
3	0.000154	10.124.12.158	224.0.0.251	MDNS	471	Standard query 0x0000 PTR _airport._tcp.local, "QM" question PTR _homekit._tcp.local, "QM" question PTR
4	0.000176	fe80::4d9:dc2...	ff02::fb	MDNS	491	Standard query 0x0000 PTR _airport._tcp.local, "QM" question PTR _homekit._tcp.local, "QM" question PTR
5	1.384107	127.0.0.1	127.0.0.1	TCP	68	59535 → 8080 [SYN] Seq=0 Win=65535 Len=0 MSS=16344 WS=64 TSval=140572652 TSecr=0 SACK_PERM=1
6	1.384173	127.0.0.1	127.0.0.1	TCP	68	8080 → 59535 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=16344 WS=64 TSval=140572652 TSecr=140572652 SA
7	1.384180	127.0.0.1	127.0.0.1	TCP	56	59535 → 8080 [ACK] Seq=1 Ack=1 Win=408256 Len=0 TSval=140572652 TSecr=140572652
8	1.384186	127.0.0.1	127.0.0.1	TCP	56	[TCP Window Update] 8080 → 59535 [ACK] Seq=1 Ack=1 Win=408256 Len=0 TSval=140572652 TSecr=140572652
9	1.389335	127.0.0.1	127.0.0.1	TCP	60	59535 → 8080 [PSH, ACK] Seq=1 Ack=1 Win=408256 Len=4 TSval=140572657 TSecr=140572652
10	1.389353	127.0.0.1	127.0.0.1	TCP	56	8080 → 59535 [ACK] Seq=1 Ack=5 Win=408256 Len=0 TSval=140572657 TSecr=140572657
11	1.404739	fe80::78ef:17...	ff02::fb	MDNS	494	Standard query response 0x0000 SRV, cache flush 0 0 56708 21bd429c-7d33-44c1-adea-af56fd0cd34f.local A
12	2.409116	fe80::78ef:17...	ff02::fb	MDNS	494	Standard query response 0x0000 SRV, cache flush 0 0 56708 21bd429c-7d33-44c1-adea-af56fd0cd34f.local A
13	3.091701	fe80::78ef:17...	ff02::fb	MDNS	152	Standard query response 0x0000 PTR CLink-1cab9c9ddfa6_companion-link._tcp.local OPT
14	5.092539	fe80::78ef:17...	ff02::fb	MDNS	152	Standard query response 0x0000 PTR CLink-1cab9c9ddfa6_companion-link._tcp.local OPT
15	7.093399	fe80::78ef:17...	ff02::fb	MDNS	152	Standard query response 0x0000 PTR CLink-1cab9c9ddfa6_companion-link._tcp.local OPT
16	9.447743	127.0.0.1	127.0.0.1	TCP	72	59535 → 8080 [PSH, ACK] Seq=5 Ack=1 Win=408256 Len=16 TSval=140580674 TSecr=140572657
17	9.447793	127.0.0.1	127.0.0.1	TCP	56	8080 → 59535 [ACK] Seq=1 Ack=21 Win=408256 Len=0 TSval=140580674 TSecr=140580674
18	9.450376	127.0.0.1	127.0.0.1	TCP	78	8080 → 59535 [PSH, ACK] Seq=1 Ack=21 Win=408256 Len=22 TSval=140580676 TSecr=140580674
19	9.450429	127.0.0.1	127.0.0.1	TCP	56	59535 → 8080 [ACK] Seq=21 Ack=23 Win=408256 Len=0 TSval=140580676 TSecr=140580676

Frame 9: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface lo0, id 0

Null/Loopback

Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1

Transmission Control Protocol, Src Port: 59535, Dst Port: 8080, Seq: 1, Ack: 1, Len: 4

Source Port: 59535

Destination Port: 8080

[Stream index: 0]

[TCP Segment Len: 4]

Sequence number: 1 (relative sequence number)

Sequence number (raw): 2321174797

[Next sequence number: 5 (relative sequence number)]

Acknowledgment number: 1 (relative ack number)

Acknowledgment number (raw): 2264256954

1000 = Header Length: 32 bytes (8)

0020 86 f5 d1 ba 80 18 eb fe 2c 00 00 01 01 08 0a jon

0030 08 60 f7 f1 08 60 f7 ec 6a 6f 6e 0a jon

1. Network Protocol: Null / Loopback
2. IP Protocol: IP/V4
3. Transport Protocol: TCP

- a) What is the message code/command used for WHOISIN? **"users\n"**
- b) What is the message code/command used for LOGOUT? **"exit\n"**
- c) What is the message code/command used for sending chat messages?
 - i) Send All **"msg<MESSAGE>"**
 - ii) Send User **"msg@username<MESSAGE>"**