Assignment 12
210010033

Part 1:

1. SSID "30 Munroe St" and "linksys12" are the ones issuing most of the beacon frames in this trace.

2. Beacon Interval is 0.102400 [Seconds] for "30 Munroe St"and Beacon Interval is 0.102400 [Seconds] for "linksys12"

3. Source address: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)

4. Destination address: Broadcast (ff:ff:ff:ff:ff:ff)

5. BSS Id: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)

6. The supported rates are as follows:

```
∨ Tag: Supported Rates 1(B), 2(B), 5.5(B), 11(B), [Mbit/sec]
    Tag Number: Supported Rates (1)
    Tag length: 4
    Supported Rates: 1(B) (0x82)
    Supported Rates: 2(B) (0x84)
    Supported Rates: 5.5(B) (0x8b)
    Supported Rates: 11(B) (0x96)
```

The extended rates are as follows(in Mbps):

```
Tag: Extended Supported Rates 6(B), 9, 12(B), 18, 24(B), 36, 48, 54, [Mbit/sec]
    Tag Number: Extended Supported Rates (50)
    Tag length: 8
    Extended Supported Rates: 6(B) (0x8c)
    Extended Supported Rates: 9 (0x12)
    Extended Supported Rates: 12(B) (0x98)
    Extended Supported Rates: 18 (0x24)
    Extended Supported Rates: 24(B) (0xb0)
    Extended Supported Rates: 36 (0x48)
    Extended Supported Rates: 48 (0x60)
    Extended Supported Rates: 54 (0x6c)
```

Part 2:

1.

The respective address are as follows:

```
Receiver address: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)
Transmitter address: Intel_d1:b6:4f (00:13:02:d1:b6:4f)
Destination address: CiscoLinksys_f4:eb:a8 (00:16:b6:f4:eb:a8)
Source address: Intel_d1:b6:4f (00:13:02:d1:b6:4f)
BSS Id: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)
```

The TCP SYN message is contained in the frame sent at t=24.811093 seconds.(Frame No. 474)

The MAC address corresponding to the wireless host is 00:13:02:d1:b6:4f.
The MAC address corresponding to the Access point is 00:16:b6:f7:1d:51
The MAC address corresponding to the First hop router is 00:16:b6:f7:1d:51

Source IP:192.168.1.109
Destination IP: 128.119.245.12

2.

Receiver address: 91:2a:b0:49:b6:4f
Transmitter address: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)
BSS Id: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)

The TCP SYNACK message is received at t=24.827751 seconds into the trace.(Frame No. 476)

The MAC address corresponding to the wireless host is 00:16:b6:f7:1d:51.
The MAC address corresponding to the Access point is 91:2a:b0:49:b6:4f
The MAC address corresponding to the BSS is 00:16:b6:f7:1d:51

Server IP: 128.119.245.12

Part 3:
1.

```
1733 07:35:56.656072 192.168.1.109      192.168.1.1                          DHCP      390 DHCP Release  - Transaction ID 0xea5a526
1734 07:35:56.656228                     Intel_d1:b6:4f (00:13:02:d1:b6:4f) (RA)  802.11    38 Acknowledgement, Flags=........C
1735 07:35:56.682074 Intel_d1:b6:4f      CiscoLinksys_f7:1d:51                 802.11    54 Deauthentication, SN=1605, FN=0, Flags=........C
1736 07:35:56.682227                     Intel_d1:b6:4f (00:13:02:d1:b6:4f) (RA)  802.11    38 Acknowledgement, Flags=........C
```

The two actions taken include DHCP release(frame 1733) and Deauthentication (frame 1735)

The action which was expected here was a diassociation message.

2. 15 Authentication messages were sent.

3. Yes, the host wants authentication to be open.

4. No, I don't see reply AUTHENTICATION from the linksys_ses_24086 AP in the trace.

5.

AUTHENTICATION frame from the host to 30 Munroe St. AP at: 63.168087s (Frame No. 2156)
Reply AUTHENTICATION sent from that AP to the host reply at: 63.169071s (Frame No. 2158)
AUTHENTICATION frame retransmitted from host to 30 Munroe St. AP at: 63.169707s (Frame No. 2160)
Reply AUTHENTICATION sent from that AP to retransmitted host reply at: 63.170692s(Frame No. 2164)

6.
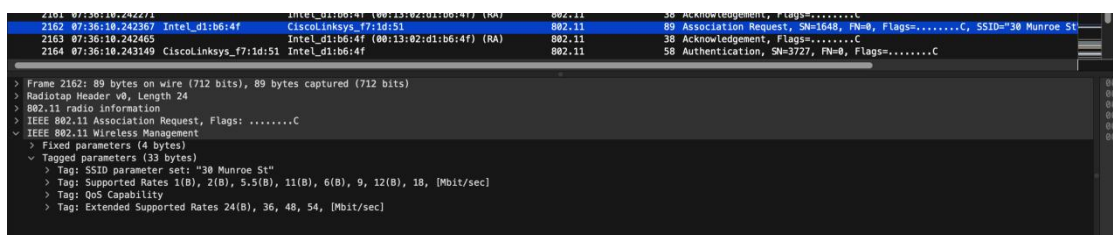
Frame: 2162 at time = 7:36:10.24 contains the association request from the host
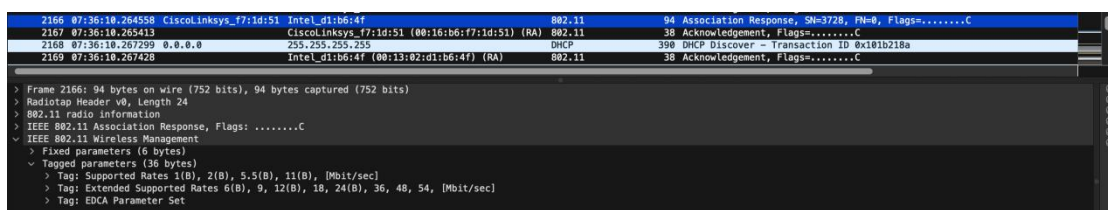
Frame: 2166 at time = 7:36:10.2 contains the association response to the host.

7. Rates supported by host include: 1(B), 2(B), 5.5(B), 11(B), 6(B), 9, 12(B), 18, 24(B), 36, 48, 54, [Mbit/sec]

Rates supported by the AP include: 1(B), 2(B), 5.5(B), 11(B), 6(B), 9, 12(B), 18, 24(B), 36, 48, 54, [Mbit/sec]

Part 4:
1.

Respective addresses are

Frame: 2121 contains the PROBE REQUEST

Frame: 2153 contains the PROBE RESPONSE

Probe Request Frames are sent by a device when it wants to discover nearby Wi-Fi networks.This frame is used by devices to search for available networks. When we turn on the Wi-Fi or manually search for networks on the device, it sends out Probe Request frames to find nearby access points.

Probe Response Frames: An access point (AP) or Wi-Fi router sends a Probe Response frame in response to a Probe Request from a client device. The Probe Response contains information about the access point, including its SSID (network name), supported Wi-Fi standards, security settings, and other network parameters. This information helps the client device decide which network to connect to.