**Exp: no: 2**

Simulation of Data Link layer and Network Layer Protocols.

**Aim:**

To simulate Data Link layer and Network Layer Protocols and write the syntax, execute and place the screenshot for all the commands worked on.

1. Demonstrate the frame transmission scenario using Sniffing tool.

**Syntax:**

1. Open Wireshark and start a new capture on the network interface you want to monitor (e.g., Ethernet, Wi-Fi).
2. Perform a network activity that involves communication between devices, like accessing a shared folder on a networked computer or pinging another computer on the same network.
3. Stop the capture in Wireshark after some packets have been captured.
4. Look for frames in the capture:
   * Filter for Data Link layer protocols like Ethernet by typing eth in the filter bar.
   * You should see frames with information like source and destination MAC addresses, Ether Type, etc.
5. Select a frame to view its details, including the frame header and payload.

A screenshot of a computer

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1. Demonstrate the packet transmission scenario using Sniffing tool.

**Syntax:**

1. In Wireshark, start a new capture again on the same network interface.
2. Perform a network activity that involves communication over IP, such as opening a website in a web browser or using ping to contact an external server (e.g., ping google.com).
3. Stop the capture after a few packets are captured.
4. Look for packets in the capture:
   * Filter for Network layer protocols like IP by typing ip in the filter bar.
   * You should see packets containing information like source and destination IP addresses, protocol types (e.g., TCP, UDP), etc.
5. Select a packet to view its details, including the IP header and encapsulated segment data.
6. To filter for specific protocols, use more detailed filters like:
   * tcp for TCP packets.
   * udp for UDP packets.
   * icmp for ICMP packets (used in ping).

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**Result:**

All experiments have been successfully executed, with no errors or issues encountered. The expected results have been achieved, as demonstrated by the attached screenshots.