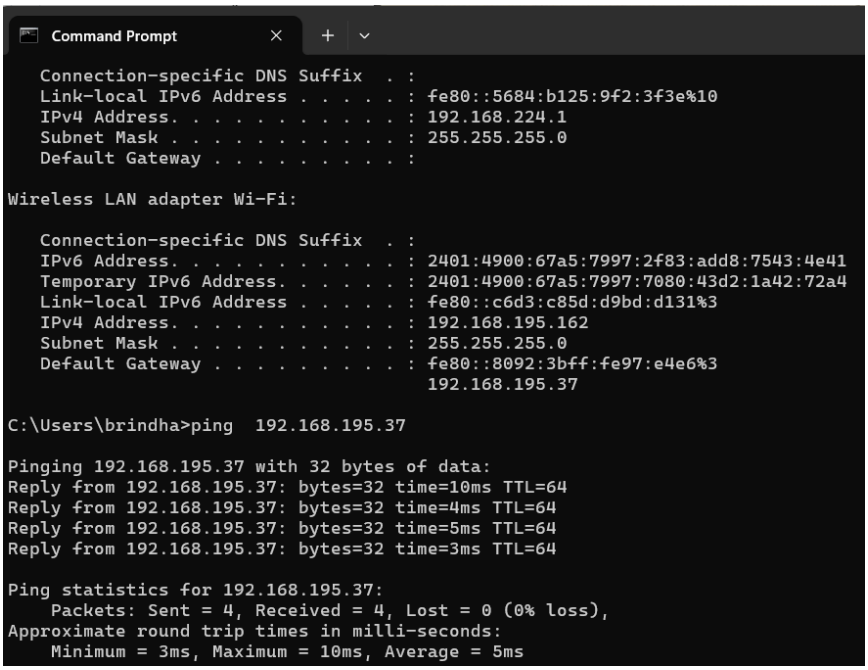
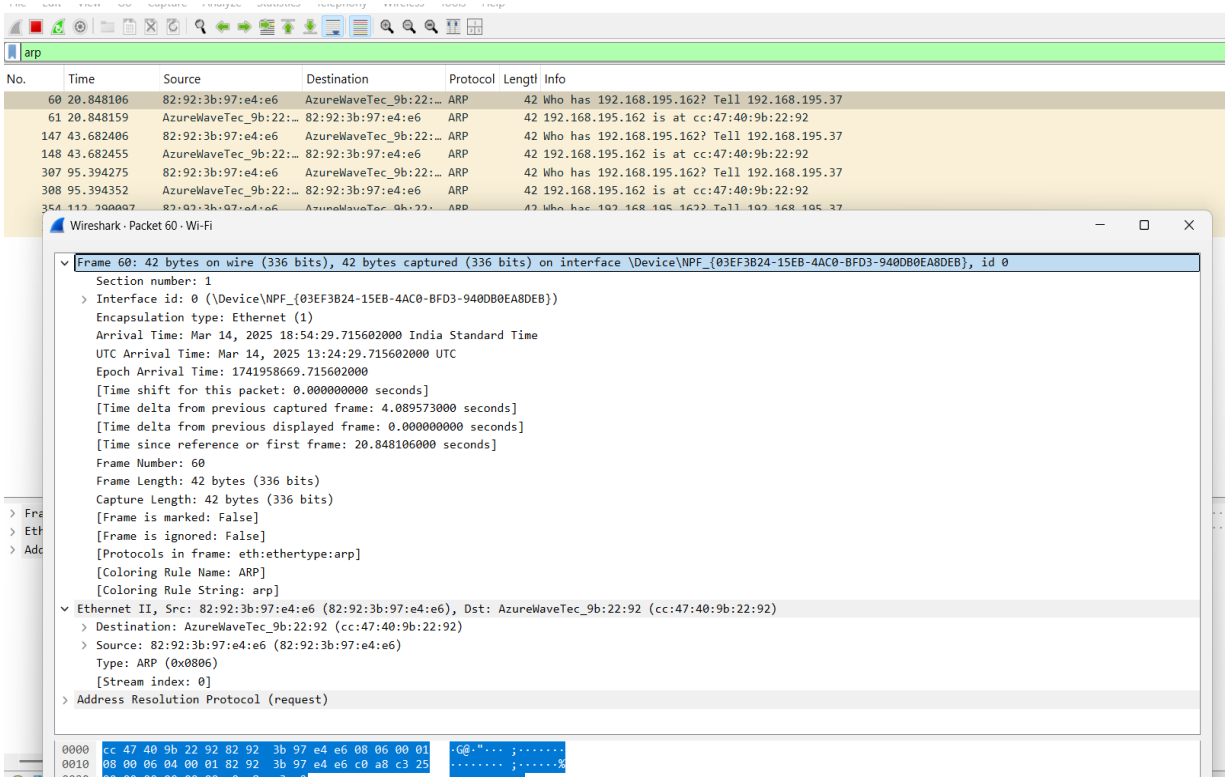
Q1. Capture and analyze ARP packets using Wireshark. Inspect the ARP request and reply frames when your device attempts to find the router's MAC address. Discuss the importance of ARP in packet forwarding.



Wireshark Analysis



ARP Request

Source MAC Address: 82:92:3b:97:e4:e6

Destination MAC Address: cc:47:40:9b:22:92

Protocol: ARP (0x0806)

ARP Reply

Source MAC Address: cc:47:40:9b:22:92

Destination MAC Address: 82:92:3b:97:e4:e6

Packet forwarding

This ARP exchange allows a device to find out the MAC address linked to an IP address before sending any data.

192.168.195.37 is the default gateway, then the system now knows how to send packets outside the local network.

This process is essential for packet forwarding, as without knowing the MAC address, the device wouldn’t be able to communicate.

Packet forwarding ensures data reaches the right device