Date: 06/08/2025

Lab Practical #09:

Study Packet capture and header analysis by Wireshark (HTTP, TCP, UDP, IP, etc.)

Practical Assignment #09:

1. Explain usage of Wireshark tool.

Wireshark is a tool that helps you see what's really happening on a network. Think of it like a microscope for network traffic—it lets you capture and study the data that travels between computers, servers, and devices.

Usage:

1. To Watch Network Traffic in Real-Time
   - You can see every packet (tiny piece of data) going in and out of your network.
   - It shows details like where it came from, where it's going, and what protocol it uses.

2. To Understand Network Protocols
   - Wireshark can "translate" thousands of different protocols (like HTTP, DNS, or TCP) into a readable form, so you don't have to decode them yourself.

3. To Fix Network Problems
   - If your internet feels slow or connections keep dropping, Wireshark can help find the cause—like packet loss, delays, or misconfigured devices.

4. To Keep an Eye on Performance
   - You can check how much bandwidth is being used and whether the network is overloaded.

5. To Filter and Focus
   - Wireshark lets you filter out unnecessary information and look only at the data that matters to you.

6. To Save and Share Results
   - You can save what you capture and share it with your team for further investigation.

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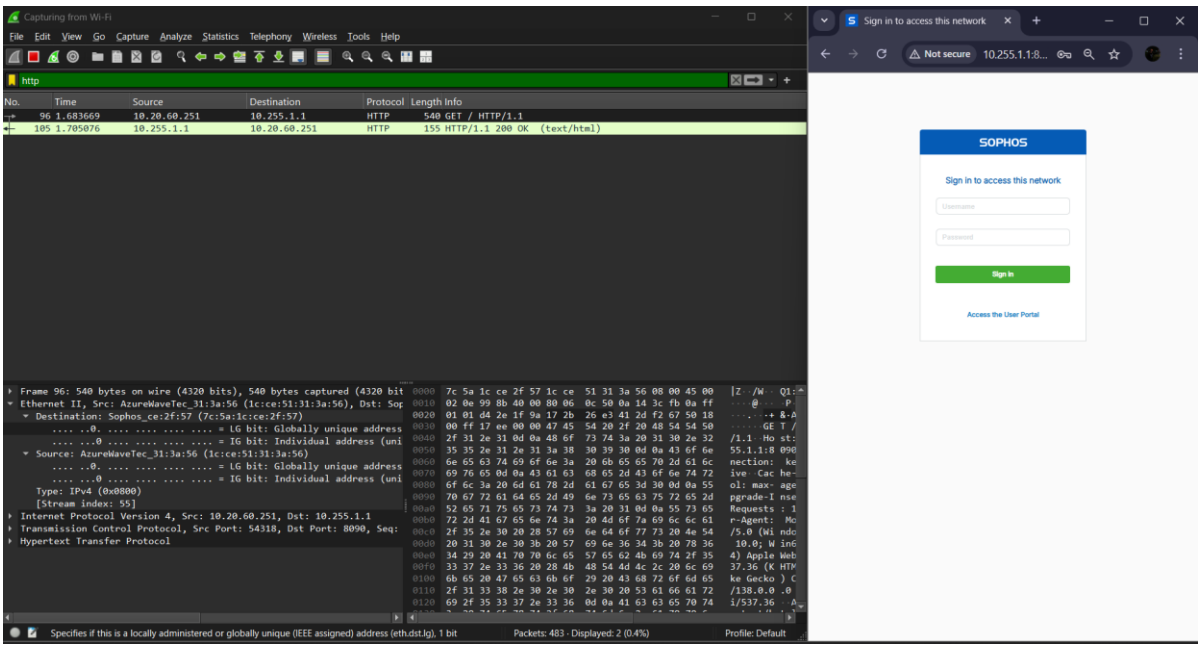
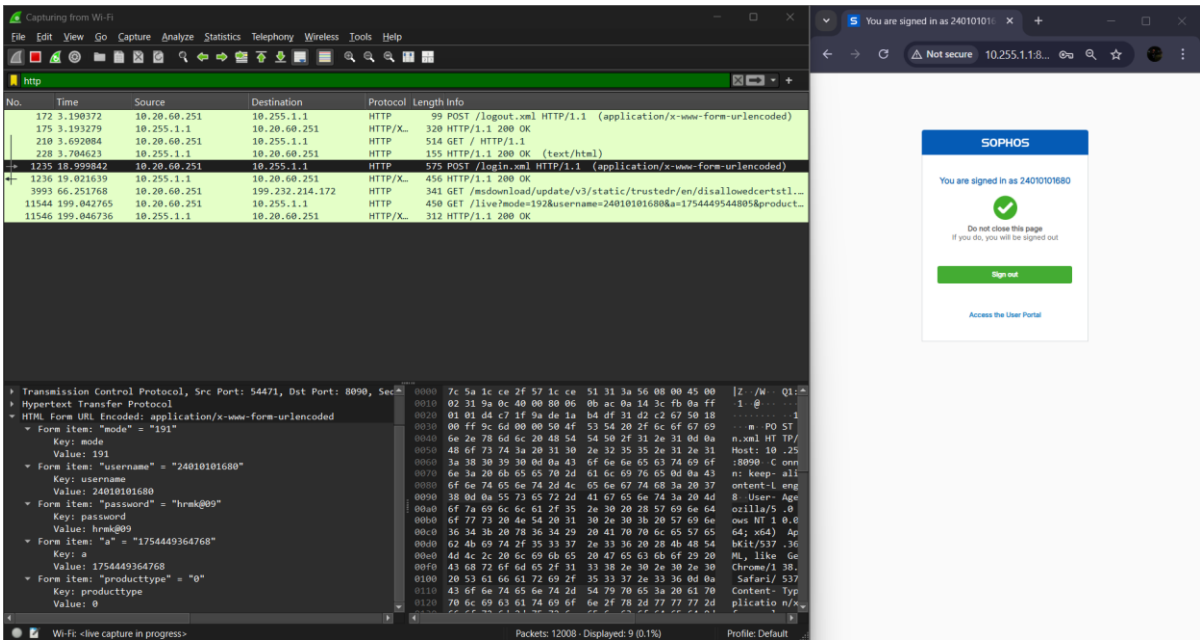
2. Packet capture and header analysis by Wireshark (HTTP, TCP, UDP, IP, etc.)



1.1 Analysis of HTTP without login Sophos



1.2 Analysis of HTTP with login Sophos

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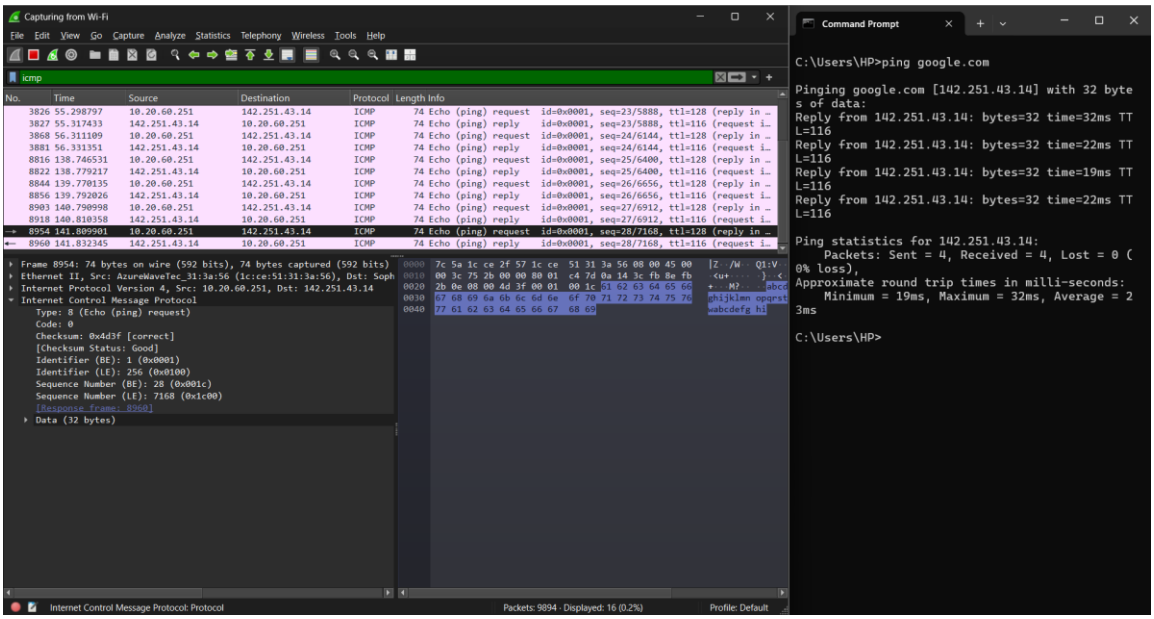
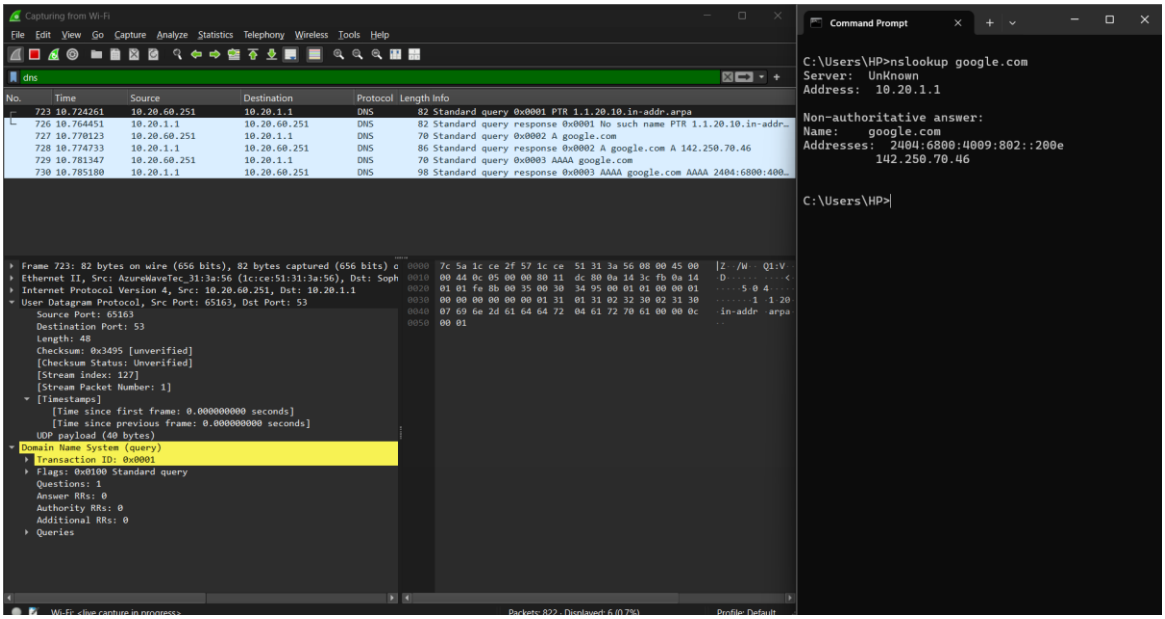


1.3 Analysis of ICMP



1.4 Analysis of DNS

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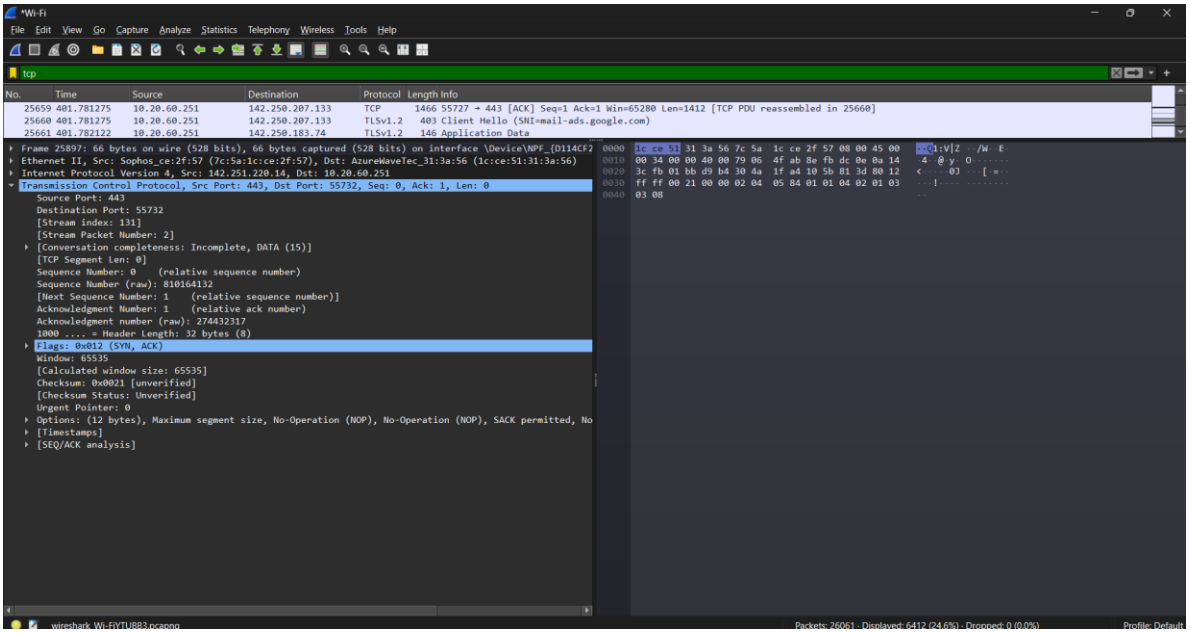
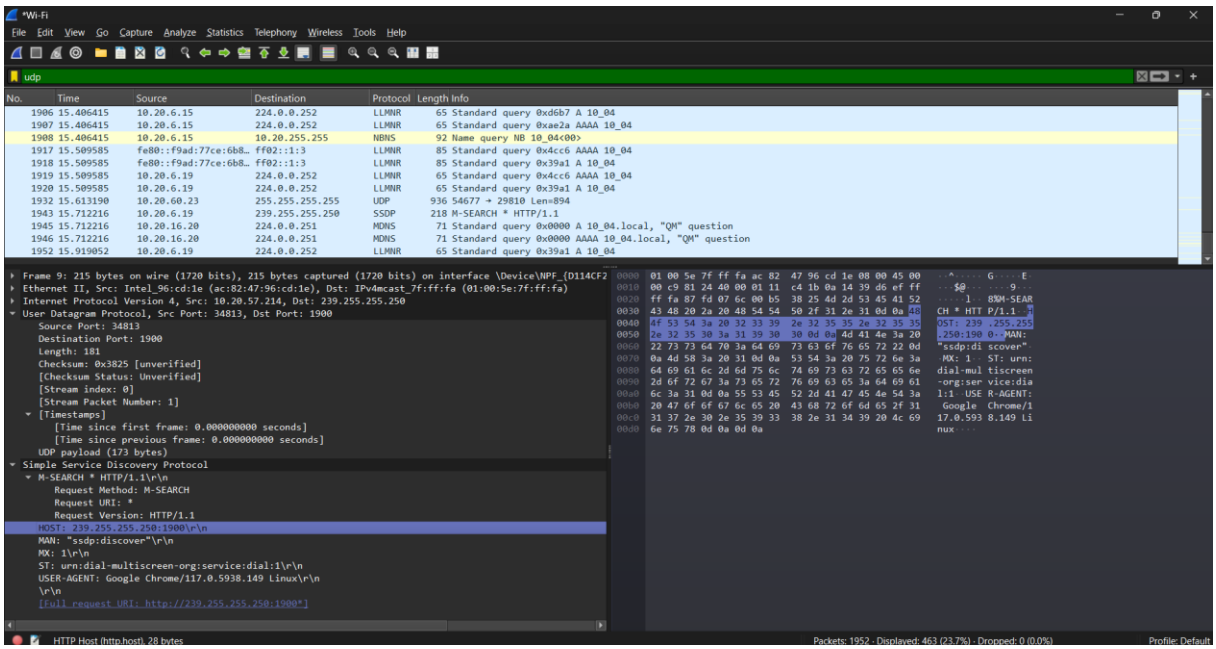


1.5 Analysis of TCP



1.6 Analysis of UDP