Exp no : 14

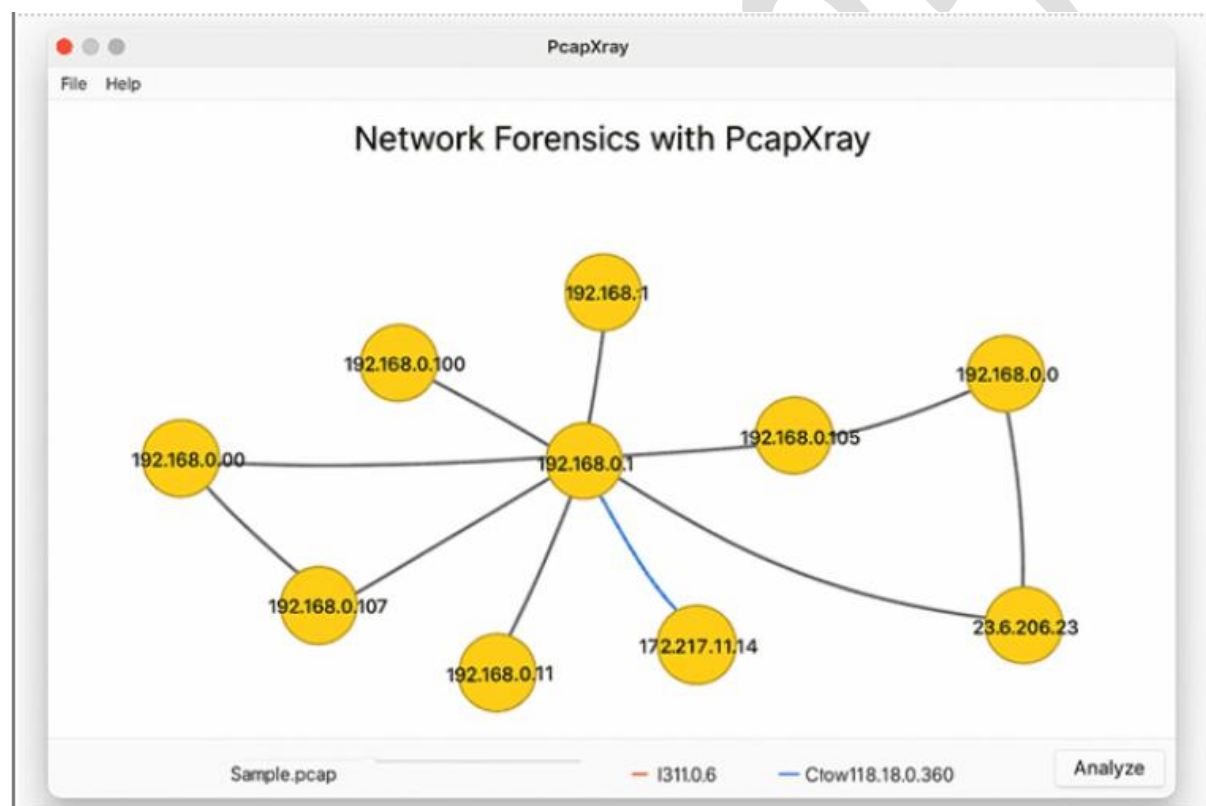## DEMONSTRATE NETWORK FORENSICS USING PCAPXRAY TOOLS

Aim:

To analyze captured network traffic using PcapXray and identify hosts, traffic patterns, and suspicious network activities for forensic investigation.

Algorithm:

1. Install prerequisites:

- Install Python 3, pip, Graphviz, Tkinter, and required libraries.

- Clone the PcapXray repository and install dependencies using pip install -r requirements.txt.

2. Prepare input:

- Obtain a .pcap file containing network traffic to be analyzed.

- Ensure the PCAP is from a safe/testing source for learning purposes.

3. Launch PcapXray:

- Open main.py in the repository using Python.

- Load the selected .pcap file via the GUI.

4. Analyze traffic**:**

- Observe the network graph of hosts (nodes) and connections (edges).

- Filter traffic based on Web, Tor, Malicious, DNS, or ICMP.

- Click on nodes/edges to view traffic details, HTTP requests, or extracted payloads.

5. Record observations:

- Note suspicious hosts, unusual ports, or Tor traffic.

- Check extracted files or payloads for anomalies.

- Optionally, cross-verify suspicious IPs with WHOIS or threat intelligence sources.

6. Document results:

- Capture screenshots of network diagrams and significant flows.

- Summarize the suspicious activities identified during analysis.

Output (status):

Network Forensics with PcapXray

Result:

- **Hosts with the most connections were identified as central nodes.**

- **Web traffic, Tor traffic, and DNS requests were visualized clearly.**

- **Suspicious or unusual traffic flows were highlighted for further investigation.**

- **Payload extraction revealed potential files or URLs of interest.**

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