29/10/24

EXERCISE - 14

Aim:

To write code using RAW sockets to implement packet sniffing.

Algorithm:

→ start sniffing : capture packets on specified network interface.

→ check packet Type : for each packet check if its IP packet.

→ Identify protocol : Determine the protocol.

→ Display

→ repeat

→ First install scapy

→ PIP install scapy.

CODE:

packet-sniffer.py

```
from scapy.all import sniff
from scapy.layers.inet import IP, TCP, UDP, ICMP

def packet_callback(packet):
    if IP in packet[IP]
        protocol = ip_layer.proto
        src_ip = ip_layer.src
        dst_ip = ip_layer.dst

        protocol_name = ""
```

```
    if protocol == 1:
        protocol_name = "ICMP"
    elif protocol == 6:
        protocol_name = "TCP"
    elif protocol == 17:
        protocol_name = "UDP"
    else:
        protocol_name = "Unknown protocol"
    print(f"Protocol : {protocol}")
    print(f"source IP : {src_ip}")
    print(f"destination IP : {dst_ip}")
    print("-" * 50)

def main():
    sniff(iface = 'wifi', prn = packet_callback, filter = "ip",
          store = 0)

if __name__ == "__main__":
    main()
```

output:

```
Protocol : TCP
source IP : 51.132.193.105
Destination IP : 192.168.34.193
--------------------------------------------------
Protocol : TCP
source IP : 51.132.193.105
Destination IP : 51.132.193.105
```

Result:

Thus implementation of packet sniffing is done using Raw sockets.