# Basic Network Sniffer - Python Beginner Project

This project is a simple network packet sniffer written in Python using the Scapy library. It's designed for beginners who want to understand how data flows through a network and get hands-on experience with basic networking and protocols.

The script captures network packets and displays:

- Source IP Address

- Destination IP Address

- Protocol Number

- Raw Payload (Data)

Steps to Run:

1. Install Scapy using pip:

   pip install scapy

2. Save the code below as sniffer.py

3. Run the script as administrator (Important for Windows):

   - Right-click IDLE or terminal and choose "Run as administrator"

4. Open any website while the script is running to generate network traffic.

Python Code:

```
from scapy.all import sniff, IP

def packet_callback(packet):
    if packet.haslayer(IP):
```

```python
        ip_layer = packet[IP]
                print(f"[+] Packet: {ip_layer.src} -> {ip_layer.dst} | Protocol:
{ip_layer.proto}")
        print(f"    Payload: {bytes(packet.payload)}")
        print("-" * 50)


print("Starting network packet sniffer...")
sniff(prn=packet_callback, store=False)
```