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

LOG_FILE = "packet_log.txt"

def packet_analyzer(packet):
    if IP in packet:
        src_ip = packet[IP].src
        dst_ip = packet[IP].dst
        protocol = packet[IP].proto
        time_stamp = datetime.now().strftime("%Y-%m-%d %H:%M:%S")

        log_data = f"\nTime: {time_stamp}\n"
        log_data += f"Source IP: {src_ip}\n"
        log_data += f"Destination IP: {dst_ip}\n"
        log_data += f"Protocol: {protocol}\n"

    if TCP in packet:
        log_data += "Protocol Type: TCP\n"
        log_data += f"Payload: {bytes(packet[TCP].payload)}\n"

    elif UDP in packet:
        log_data += "Protocol Type: UDP\n"
        log_data += f"Payload: {bytes(packet[UDP].payload)}\n"
```



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log_data += "-" * 50

print(log_data)

with open(LOG_FILE, "a") as file:
    file.write(log_data)

print("Starting packet capture... Logging to packet_log.txt")
sniff(prn=packet_analyzer, store=False)
```



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