* **Packet Capture Library**
* **Sniffer Software**
* **Operating System**
* **Additional Libraries**
* **Network Interface Card (NIC)**
* **Computer or Server**
* **Cables and Connectors**

Software

Hardware

Basic Network Sniffer

**Step 1: Set Up Your Environment**

1. Operating System
2. Install Python
3. Install Required Packages

**Step 2: Create the Sniffer Script**

1. Create a New Python File
2. Open the File in an Editor
3. Import Required Modules
4. Create a Raw Socket
5. Set Up Packet Capture Loop
6. Complete Script

**Step 3: Run the Sniffer**

1. **Run the Script with Root Privileges:** Since capturing packets requires administrative access, run your script with sudo
2. **Observe Output**: The console will display raw packet data as it is captured from the network.

**Step 4: Parse and Analyze Packets (Optional)**

To make your sniffer more useful, consider adding functionality to parse and analyze packet contents:

* Extract headers (like IP and TCP headers) from the captured packets.
* Display source and destination IP addresses.
* Analyze protocols used in the packets.