

To run the discovering-topology.py traceroute program:

1. Open the terminal
2. Change to the directory where discovering-topology.py is saved (cd ~/.../)
3. Install scapy if not already installed (pip3 install scapy)
4. Run sudo python3 -E discovering-topology.py

To run the sub.py traceroute program:

1. Open the terminal
2. Change to the directory where sub.py is saved (note: ensure sub.py and topology-tracing.py are saved in the same directory)
3. Install necessary dependencies (scapy, etc) if not already installed
4. Edit the ip\_ranges list to contain all target ip addresses you would like to traceroute
5. Run sudo python3 sub.py

To run the topology-tracing.py traceroute program:

1. Open the terminal
2. Change to the directory where sub.py is saved (note: ensure sub.py and topology-tracing.py are saved in the same directory)
3. Install necessary dependencies (scapy, etc) if not already installed
4. Edit line 85 - public\_ip\_range = generate\_ips(start\_ip, end\_ip, skip=64) - and change the skip value as needed (or set skip=1 for public ips)
5. Run sudo python3 topology-tracing.py *start-ip end-ip*