```
In [1]: # Run this in a Jupyter Notebook cell
!pip install scapy
```

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In [2]: pip install psutil

^C

Note: you may need to restart the kernel to use updated packages.

In [3]: from scapy.all import get\_if\_list
print("Available interfaces:", get\_if\_list())

WARNING: No libpcap provider available ! pcap won't be used Available interfaces: ['\\Device\\NPF\_{CCBC8174-5A40-4029-87A3-C42407CB02EB}', '\\D evice\\NPF\_{6CB16CAB-C4E7-4327-86FE-AE74FA092EAF}', '\\Device\\NPF\_{CB320964-3154-4 B4E-BA34-B5216ED4476B}', '\\Device\\NPF\_{24038850-A22A-4605-82C5-A7C0EF0BC88C}', '\ \Device\\NPF\_{25C6DA61-5DA1-44A0-869B-7BDBE29C45BF}', '\\Device\\NPF\_{60C2DCC2-88B C-4C94-BCE1-746781BC928F}', '\Device\\NPF\_{E9E4E1FB-9309-4C68-8FBB-FC275C8B7E5C}', '\\Device\\NPF {C2A5579D-BEC5-11EC-89D0-806E6F6E6963}', '\\Device\\NPF {0AB32154-23 52-11F0-8A94-806E6F6E6963}', '\Device\\NPF\_{0AB32155-2352-11F0-8A94-806E6F6E696 3}', '\\Device\\NPF\_{0AB32156-2352-11F0-8A94-806E6F6E6963}', '\\Device\\NPF\_{0AB324 95-2352-11F0-8A94-3003C83D1E58}', '\\Device\\NPF\_{0AB32496-2352-11F0-8A94-3003C83D1 E58}', '\Device\\NFF\_{0AB32497-2352-11F0-8A94-3003C83D1E58}', '\Device\\NFF\_{0AB3 2498-2352-11F0-8A94-3003C83D1E58}', '\\Device\\NPF\_{0AB32499-2352-11F0-8A94-3003C83 D1E58}', '\Device\\NFF\_{0AB3249A-2352-11F0-8A94-3003C83D1E58}', '\\Device\\NFF\_{00} 3A46EE-33E7-4955-A8B6-D03F0394072F}', '\\Device\\NPF\_{7C830B7D-F43F-4528-99CD-40653 2670B9F}', '\\Device\\NPF\_{BA14C47D-FC77-4B94-914C-64CEA4C7E7B0}', '\\Device\\NPF\_ {BB3EF57D-154E-4171-88AA-2BFAFEF6CE7D}', '\Device\\NFF\_{8AF1C706-50B5-46F4-A7A1-AE 606A22617F}', '\\Device\\NPF\_{909200CF-8C38-4136-8E67-5E8D3E7F2A1C}', '\\Device\\NP F\_{50BD8EC0-AD75-4DEE-BEB3-8B60C0ADFF12}', '\Device\NPF\_{27601CB1-641E-410C-94C7-AB8F2B5617C9}', '\\Device\\NPF\_{0AB3220D-2352-11F0-8A94-3003C83D1E58}', '\\Device\ \NPF\_{D2A19102-E7C8-11EF-8A8A-FDBF743E5802}', '\\Device\\NPF\_{D2A19103-E7C8-11EF-8A 8A-FDBF743E5802}', '\Device\\NPF\_{74AA39D0-BAD1-11EF-8A7E-3203C83D1E57}', '\Devic e\\NPF\_{0AB3220F-2352-11F0-8A94-3003C83D1E58}', '\\Device\\NPF\_{0AB32210-2352-11F 0-8A94-3003C83D1E58}', '\\Device\\NPF\_{74AA39D2-BAD1-11EF-8A7E-3203C83D1E57}', '\\D evice\\NPF\_{0AB32D54-2352-11F0-8A94-3003C83D1E58}', '\\Device\\NPF\_{D2A192D0-E7C8-1 1EF-8A8A-005056C00008}', '\\Device\\NPF\_{0AB32D69-2352-11F0-8A94-3003C83D1E58}', '\ 2-11F0-8A94-3003C83D1E58}', '\Device\\NPF\_{D2A194B0-E7C8-11EF-8A8A-005056C00008}', '\\Device\\NPF\_{74AA39D4-BAD1-11EF-8A7E-3203C83D1E57}', '\\Device\\NPF\_{0AB32E99-23 52-11F0-8A94-3003C83D1E58}', '\Device\\NPF\_{0AB32E9A-2352-11F0-8A94-3003C83D1E5 8}', '\Device\\NPF {DD3F97C3-6F5C-4C31-8FAE-F21F69B2C28B}', '\Device\\NPF {83EFA1 EA-99F8-423F-A047-CD232D3FA893}', '\\Device\\NPF\_{93123211-9629-4E04-82F0-EA2E4F221 468}', '\Device\\NPF\_{2EE2C70C-A092-4D88-A654-98C8D7645CD5}', '\Device\\NPF\_{0737}', '\Dev 4750-E68B-490E-9330-9FD785CD71B6}', '\\Device\\NFF\_{D540C6D3-3EFB-42D4-B819-DE4B662 DDF9A}', '\Device\\NPF\_{D00F43A9-AF81-46CC-8C85-6D49F54EB86B}', '\Device\\NPF\_{7F 98C603-785D-404B-B347-225233CC952C}', '\Device\\NPF {23DB3B8E-56BA-438D-824C-A873E 6421796}']

```
In [4]:
        from scapy.all import get if list
        import psutil
        # Get all network interfaces from both scapy and psutil
        scapy_interfaces = get_if_list()
        psutil_interfaces = psutil.net_if_addrs()
        print("Available network interfaces with IP addresses:")
        for interface in scapy_interfaces:
            print(f"\nInterface name (Scapy): {interface}")
            # Try to find matching interface in psutil
            found = False
            for ps_name, addrs in psutil_interfaces.items():
                # Simple name matching (works on Linux/macOS)
                if ps_name == interface:
                    found = True
                    print(f"Human-readable name: {ps_name}")
                    print("IP Addresses:")
                    for addr in addrs:
                        print(f" - {addr.family.name}: {addr.address}")
                # For Windows, try matching by MAC address (if available)
                for addr in addrs:
                    if addr.family == psutil.AF LINK and interface.endswith(addr.address.re
                         found = True
                         print(f"Human-readable name: {ps_name}")
                        print("IP Addresses:")
                        for a in addrs:
                             if a.family != psutil.AF_LINK: # Skip MAC address
                                 print(f" - {a.family.name}: {a.address}")
                         break
            if not found:
                print(" - No IP addresses found for this interface")
        # Also show interfaces that psutil knows about but scapy doesn't
        print("\nAdditional interfaces detected by psutil but not by scapy:")
        for ps_name, addrs in psutil_interfaces.items():
            if ps name not in scapy interfaces:
                print(f"\nInterface: {ps_name}")
                print("IP Addresses:")
                for addr in addrs:
                    if addr.family != psutil.AF_LINK: # Skip MAC address
                         print(f" - {addr.family.name}: {addr.address}")
```

```
Available network interfaces with IP addresses:
Interface name (Scapy): \Device\NPF_{CCBC8174-5A40-4029-87A3-C42407CB02EB}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {6CB16CAB-C4E7-4327-86FE-AE74FA092EAF}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {CB320964-3154-4B4E-BA34-B5216ED4476B}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{24038850-A22A-4605-82C5-A7C0EF0BC88C}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{25C6DA61-5DA1-44A0-869B-7BDBE29C45BF}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {60C2DCC2-88BC-4C94-BCE1-746781BC928F}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{E9E4E1FB-9309-4C68-8FBB-FC275C8B7E5C}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{C2A5579D-BEC5-11EC-89D0-806E6F6E6963}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32154-2352-11F0-8A94-806E6F6E6963}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {0AB32155-2352-11F0-8A94-806E6F6E6963}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {0AB32156-2352-11F0-8A94-806E6F6E6963}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32495-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32496-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32497-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {0AB32498-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32499-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {0AB3249A-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{003A46EE-33E7-4955-A8B6-D03F0394072F}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{7C830B7D-F43F-4528-99CD-406532670B9F}
 - No IP addresses found for this interface
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Interface name (Scapy): \Device\NPF {BA14C47D-FC77-4B94-914C-64CEA4C7E7B0}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {BB3EF57D-154E-4171-88AA-2BFAFEF6CE7D}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{8AF1C706-50B5-46F4-A7A1-AE606A22617F}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{909200CF-8C38-4136-8E67-5E8D3E7F2A1C}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {50BD8EC0-AD75-4DEE-BEB3-8B60C0ADFF12}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{27601CB1-641E-410C-94C7-AB8F2B5617C9}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB3220D-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {D2A19102-E7C8-11EF-8A8A-FDBF743E5802}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {D2A19103-E7C8-11EF-8A8A-FDBF743E5802}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{74AA39D0-BAD1-11EF-8A7E-3203C83D1E57}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB3220F-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32210-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{74AA39D2-BAD1-11EF-8A7E-3203C83D1E57}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32D54-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{D2A192D0-E7C8-11EF-8A8A-005056C00008}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {0AB32D69-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32D6A-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32E98-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{D2A194B0-E7C8-11EF-8A8A-005056C00008}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{74AA39D4-BAD1-11EF-8A7E-3203C83D1E57}
 - No IP addresses found for this interface
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Interface name (Scapy): \Device\NPF_{0AB32E99-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{0AB32E9A-2352-11F0-8A94-3003C83D1E58}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{DD3F97C3-6F5C-4C31-8FAE-F21F69B2C28B}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{83EFA1EA-99F8-423F-A047-CD232D3FA893}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{93123211-9629-4E04-82F0-EA2E4F221468}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF {2EE2C70C-A092-4D88-A654-98C8D7645CD5}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{07374750-E68B-490E-9330-9FD785CD71B6}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{D540C6D3-3EFB-42D4-B819-DE4B662DDF9A}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{D00F43A9-AF81-46CC-8C85-6D49F54EB86B}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{7F98C603-785D-404B-B347-225233CC952C}
 - No IP addresses found for this interface
Interface name (Scapy): \Device\NPF_{23DB3B8E-56BA-438D-824C-A873E6421796}
 - No IP addresses found for this interface
Additional interfaces detected by psutil but not by scapy:
Interface: Ethernet 3
IP Addresses:
 - AF_INET: 192.168.56.1
 - AF_INET6: fe80::7cec:9c36:173a:4537
Interface: Local Area Connection* 3
IP Addresses:
 - AF_INET: 169.254.178.191
 - AF INET6: fe80::abc2:11fe:e8be:8bf6
Interface: Local Area Connection* 4
IP Addresses:
 - AF_INET: 169.254.192.149
 - AF INET6: fe80::4262:784b:140f:61fe
Interface: VMware Network Adapter VMnet1
IP Addresses:
 - AF_INET: 192.168.38.1
 - AF_INET6: fe80::8655:9d5f:737a:e6f2
Interface: VMware Network Adapter VMnet8
IP Addresses:
 - AF INET: 192.168.232.1
```

- AF\_INET6: fe80::91de:1b0b:e3d:7887

Interface: Wi-Fi
IP Addresses:

- AF\_INET: 192.168.198.173

- AF\_INET6: 2401:4900:92e9:6c79:db79:1c1b:19c1:fcdd - AF\_INET6: 2401:4900:92e9:6c79:b060:12b8:a649:29b2

- AF\_INET6: fe80::256:7b00:37d7:59d4

Interface: Bluetooth Network Connection

IP Addresses:

- AF\_INET: 169.254.63.61

- AF\_INET6: fe80::bea2:b7df:5fa7:3536

Interface: Loopback Pseudo-Interface 1

IP Addresses:

- AF\_INET: 127.0.0.1 - AF\_INET6: ::1

In [ ]: