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tcpdump Command in Linux with Examples



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tcpdump is a packet sniffing and packet analyzing tool for a System Administrator to troubleshoot connectivity issues in Linux. It is used to capture, filter, and analyze network traffic such as TCP/IP packets going through your system. It is many times used as a security tool as well. It saves the captured information in a pcap file, these pcap files can then be opened through <u>Wireshark</u> or through the command tool itself.

Installing topdump tool in Linux

Many Operating Systems have topdump command pre-installed but to install it, use the following commands. For RedHat based linux OS

yum install tcpdump

For Ubuntu/Debian OS

apt install tcpdump

Working with tcpdump command

1. To capture the packets of current network interface

sudo tcpdump

```
manav@ubuntilmur.- $ sudo tcpdump
tcpdump: verbose output suppressed, use v or vv for full protocol decode
listening on wiol, link-type B1000 (Ethernet), capture size 20244 byte.

Listening on wiol, link-type B1000 (Ethernet), capture size 20244 byte.

Listening on wiol, link-type B1000 (Ethernet), capture size 20244 byte.

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Listening on wiol, link-type B1000 (Ethernet), capture size 2024 byte.

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Listening on wiol, link-type B1000 (Ethernet), capture size 2024 byte.

Listening on wiol, link-type B1000 (Ethernet), capture size 2024 byte.

Listening on wiol, link-type B1000 (Ethernet), capture size 2020 (Ethernet), capture s
```

This will capture the packets from the current interface of the network through which the system is connected to the internet. **2.** To capture packets from a specific network interface

sudo tcpdump -i wlo1

```
manav@ubuntulinux:-$ sudo tcpdump -i wlo1
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on wlo1, link-type ENIONB (Ethernet), capture size 262144 bytes
23.141.10.564597 JP b.resolvers.tevel3.net.domain > ubuntulinux.331861: 48220 2/8/8 CNUME beacons-handoff.gcp.gvt2.com., A 216.58.284.131 (84)
23.141.10.564597 JP b.resolvers.tevel3.net.domain > ubuntulinux.331861: 48220 2/8/8 CNUME beacons-handoff.gcp.gvt2.com., A 216.58.284.131 (84)
23.141.10.564597 JP b.resolvers.tevel3.net.domain > ubuntulinux.31861: 48220 2/8/8 CNUME beacons-handoff.gcp.gvt2.com., A 216.58.284.131 (84)
23.141.10.564597 JP b.resolvers.tevel3.net.domain > ubuntulinux.31861: 48220 2/8/8 CNUME beacons-handoff.gcp.gvt2.com., A 216.58.284.131 (84)
23.141.10.564597 JP b.resolvers.tevel3.net.domain > ubuntulinux.54571 protocolors.tevel3.net.domain > ubuntulinux.54571 protocolors.tevel3.net.domain > ubuntulinux.54571 protocolors.tevel3.net.domain > ubuntulinux.54571 protocolors.tevel3.net.domain > ubuntulinux.54572 protocolors.tevel3.net.domain > ubuntulinux.54572 protocolors.tevel3.net.domain > ubuntulinux.52692 protocolors.tev
```

This command will now capture the packets from wlo1 network interface. **3.** To capture specific number of packets

sudo tcpdump -c 4 -i wlo1

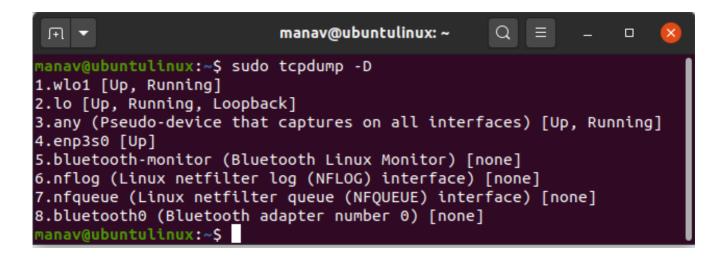
```
manav@ubuntulinux:-$ sudo tcpdump -c 4 -i wlo1
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on wlo1, link-type ENIOMB (Ethernet), capture size 262144 bytes
23:15:20.257784 IP 192.168.0.3.ndns > 224.0.0.251.mdns: 25 [2q] PTR (QM)? _233637DE._sub._googlecast._tcp.local. PTR (QM)? _googlecast._tcp.local. (61)
23:15:20.259572 IP ubuntulinux.50749 > b.resolvers.Level3.net.domain: 37963 PTR? 251.0.0.224.in-addr.arpa. (42)
23:15:20.463051 IP ubuntulinux.54591 > b.resolvers.Level3.net.domain: 7530+ PTR? 3.0.168.192.in-addr.arpa. (42)
4 packets captured
7 packets received by filter
6 packets dropped by kernel
manav@ubuntulinux:-$
```

This command will capture only 4 packets from the wlo1 interface. **4.** To print captured packets in ASCII format

sudo tcpdump -A -i wlo1

This command will now print the captured packets from wlo1 to ASCII value. **5.** To display all available interfaces

sudo tcpdump -D



This command will display all the interfaces that are available in the system. **6.** To display packets in HEX and ASCII values

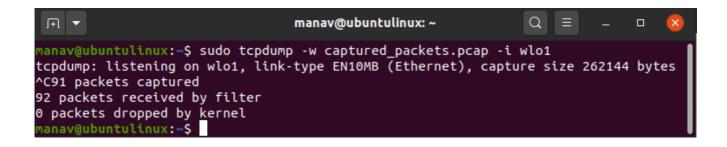
sudo tcpdump -XX -i wlo1

```
| Section | Sect
```

This command will

now print the packets captured from the wlo1 interface in the HEX and ASCII values. **7.** To save captured packets into a file

sudo tcpdump -w captured_packets.pcap -i wlo1



This command will now output all the captures packets in a file named as captured_packets.pcap. **8.** To read captured packets from a file

sudo tcpdump -r captured packets.pcap

```
manav@ubuntulinux:-5 sudo tcpdump -r captured packets.pcap
reading from file captured packets.pcap, link-type ENIONB (Ethernet)
23:24:33:38:39:30 ABP, Request who has gateway tell 192:08.0.4. [ength 6
23:24:33:38:39:39:40 ABP, Request who has gateway tell 192:08.0.4. [ength 6
23:24:33:78:39:10 Bubuntulinux.5988 > IT-NiL-AWR 6015. Etawviewer.com.5938: Elags [P.], seq 364440140:366440164, ack 1195143799, win 501, options [nop,nop,T5 val 3603339075], length 2
23:24:34:378013 IP ubuntulinux.4928 oct.25:510:125:33.us-west-2.compute.amazonaws.com.https: plags [P.], seq 262379460:32532817, ack 1035148658, win 501, options [nop,nop,T5 val 1903586394 ecr 3603339075], length 2
23:24:34:576120 IP ubuntulinux.4928 oct.25:510:125:33.us-west-2.compute.amazonaws.com.https: plags [P.], seq 2677:7949, ack 1, win 501, options [nop,nop,T5 val 233124109] ecr 1076918888], length 2
23:24:34:576170 IP ubuntulinux.49928 oct.25:510:125:33.us-west-2.compute.amazonaws.com.https: plags [P.], seq 2677:7949, ack 1, win 501, options [nop,nop,T5 val 233124109] ecr 1076918888], length 272
23:24:35:1649771 IP ec2-35:510:125:33.us-west-2.compute.amazonaws.com.https: plags [P.], seq 2677:7949, ack 1, win 501, options [nop,nop,T5 val 233124109] ecr 1076918888], length 272
23:24:35:1648615 IP ec2-35:161:25:33.us-west-2.compute.amazonaws.com.https: bubuntulinux.49928: Flags [P.], ack 1348, win 349, options [nop,nop,T5 val 1076920207 ecr 2331241011], length 0
23:24:25:1648615 IP ec2-35:161:25:33.us-west-2.compute.amazonaws.com.https: wbuntulinux.49928: Flags [P.], seq 2477, win 3499, options [nop,nop,T5 val 1076920207 ecr 2331241011], length 0
23:24:24:35.046415 IP ec2-35:161:25:33.us-west-2.compute.amazonaws.com.https: plags [P.], seq 24:48, ack 2949, win 3499, options [nop,nop,T5 val 1076920207 ecr 2331241011], length 0
23:24:43:064185 IP ec2-35:161:25:33.us-west-2.compute.amazonaws.com.https: Plags [P.], seq 1:774, ack 2949, win 3499, options [nop,nop,T5 val 1076920207 ecr 2331241011], length 0
23:24:43:064185 IP ec2-35:161:25:33.us-west-2.compute
```

This command will now read the captured packets from the captured_packets.pcap file. **9.** To capture packets with ip address

sudo tcpdump -n -i wlo1

This command will now capture the packets with IP addresses. **10.** To capture only TCP packets

sudo tcpdump -i wlo1 tcp



This command will now capture only TCP packets from wlo1.

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