tcpdump Packet capture

CONCEPTS

Options go first, then the filter. Quote the filter so the shell leaves parentheses alone.

CAPTURE

tcpdump -D
List capture interfaces

tcpdump -i *<iface>*
Capture on one interface

tcpdump -i any
Capture on all interfaces

tcpdump -c *<n>*
Stop after n packets

tcpdump -s 0
Capture full packets

tcpdump -s *<bytes>*
Limit bytes kept per packet

OUTPUT

tcpdump -n
No host name lookups

tcpdump -nn
No host or port name lookups

tcpdump -v
More protocol detail (-vv, -vvv more)

tcpdump -A
Payload as ASCII

tcpdump -X
Payload as hex and ASCII

tcpdump -e
Show link-level (MAC) header

tcpdump -tttt
Readable date and time

tcpdump -l
Line-buffer stdout for pipes

SAVE AND READ

tcpdump -w *<file>*`.pcap`
Write raw packets to a file

tcpdump -r *<file>*`.pcap`
Read a saved capture

tcpdump -C *<size>* **-w** *<file>*
Rotate by size (millions of bytes)

FILTERS: HOSTS AND PORTS

host *<ip>*
Traffic to or from a host

src host *<ip>*
Only from this host

dst host *<ip>*
Only to this host

net *<cidr>*
A whole network, e.g. 10.0.0.0/8

port *<n>*
Source or destination port

dst port *<n>*
Destination port only

FILTERS: PROTOCOLS AND LOGIC

tcp
TCP only (also udp, icmp)

icmp
ICMP, e.g. ping

udp
UDP only

A and B
Both must match

A or B
Either matches

not A
Negate (also !)

'(A or B) and C'
Group with quoted parentheses

TCP DETAILS

'tcp[tcpflags] & tcp-syn != 0'
Packets with SYN set

'tcp[tcpflags] & tcp-rst != 0'
Resets

Reading a line

Flags	Meaning
`[S]`	SYN, connection start
`[S.]`	SYN-ACK
`[.]`	ACK only
`[P.]`	data pushed
`[F.]`	FIN, closing
`[R]`	RST, refused or reset