

# intro to networking

(not the business major kind)

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all messages can be put in *packets*

computers talk by sending packets

*packets* are just nested envelopes

OS/ is a model with 7 envelopes

Layer 2 - Ethernet Frames

Layer 3 - IP

Layer 4 - TCP

Layer 7 - HTTP

UDP is *fast*

TCP is *accurate*

*MAC* is a hardware address

*IP* is a internet address

how do I see these? (demo)

how do I look at packets?

Answer: Wireshark (demo)

# how do I capture packets?

- tcpdump
- Wireshark's capture mode (demo)

Wireshark can do more than HTTP  
(demo)



how exactly do IPs work?

networks have *subnets*

this is represented by a *subnet mask*

this tells you the *network IP range*

how do I see who's on my network?

Answer: ifconfig + nmap (demo)

a *port* lets services on your computer talk  
over networks

ex. HTTP, SSH, DNS

how do I see what ports I have open? (demo)

# how do I communicate with ports?

- netcat (demo)
- nmap (demo)

*metasploit* can automate attacks  
against services on ports

(demo)