# Socket Programming




## Agenda

1. Sockets
   - what
   - Types of Sockets
   - Ephemeral ports
2. Socket programming
   - echo server (C-S)
   - multiple connections
   - multithread
   - Port scanner

(IP, PORT)  (IP, PORT)

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How? → Sockets

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phone call — country code
— phone number
} IP & Port

mobile | telephone — Socket

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```
y = 10
x = y+1
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→ console.log(x)
→ sysout(x)
→ print(x)
→ cout

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x = "On the strobe of mid"

File f = open( )

→ interface

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Socket → way to transfer info. over the network

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Port vs Socket  multiplexing

→ identifier

→ Socket → interface that allows us to transfer in formation

(IP + PORT)

Socket → Local IP + PORT
→ Remote IP + PORT
→ Protocol → multicast




Application layer to talk to the Transport layer

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axios, request, HTTP client

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Socket → Socket
C S

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Types of sockets

- TCP - Stream socket
- UDP - Datagram socket
- RAW -

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Lifecycle of a socket







1. Create a socket
1.5 OS assigns us a port (short lived) temporary

EPHEMERAL

2. Connect to IP + PORT (1)
3. Sending
4. Recv.
5. Close

1. Create a socket
   IP | TCP | UDP
2. Bind to a port & IP
3. Listening
4. Accept (1) connection
5. Recieve
6. Send
7. Close socket

Sockets - blocking