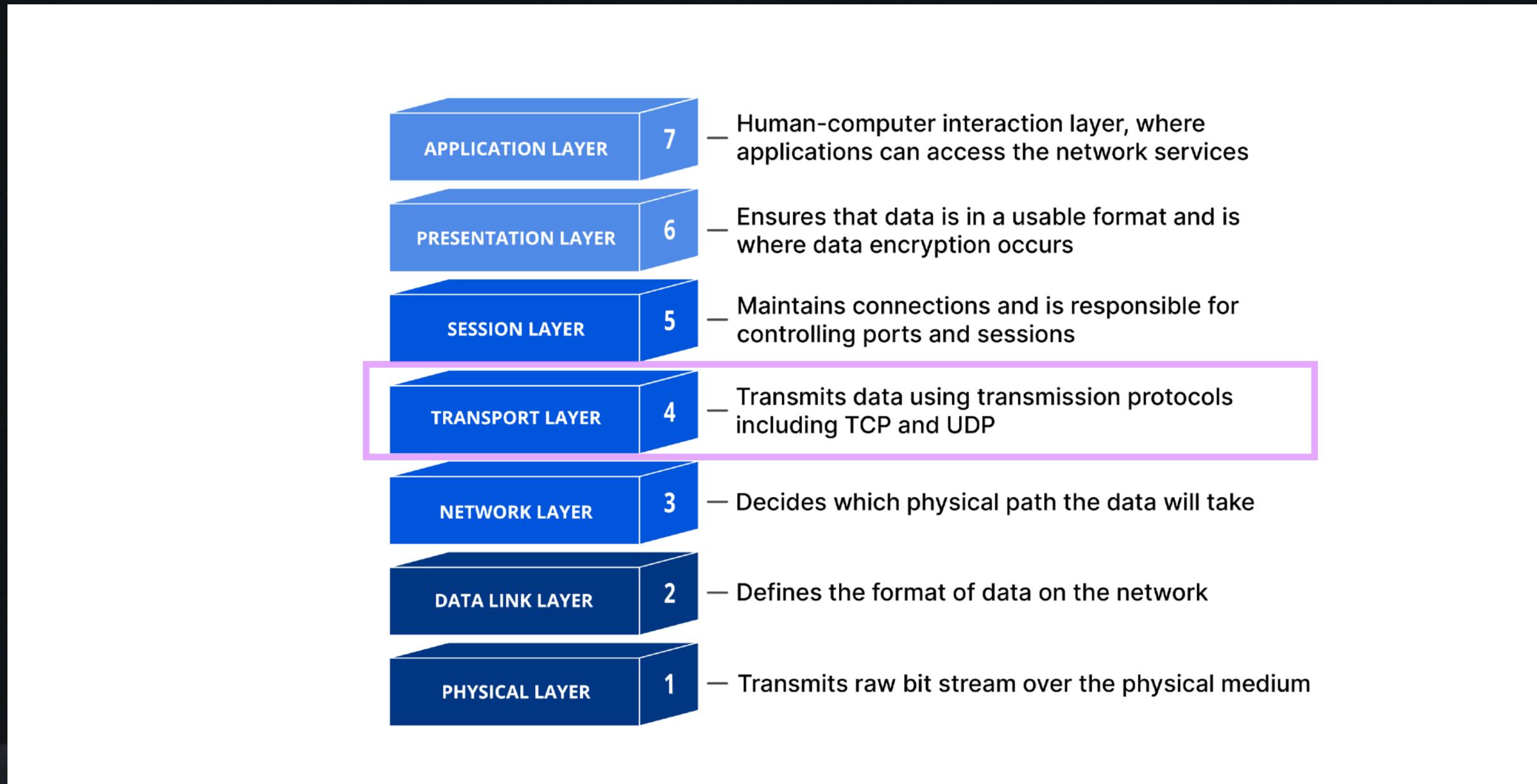


# WebSockets

TCP, Socket.io, Realtime Communications

# TCP



- HTTP is at the very top of the OSI hierarchy
- We're moving down a few abstraction levels to the Transport Layer
  - How do we get messages from here to there?
  - TCP vs UDP

# TCP vs UDP



TCP

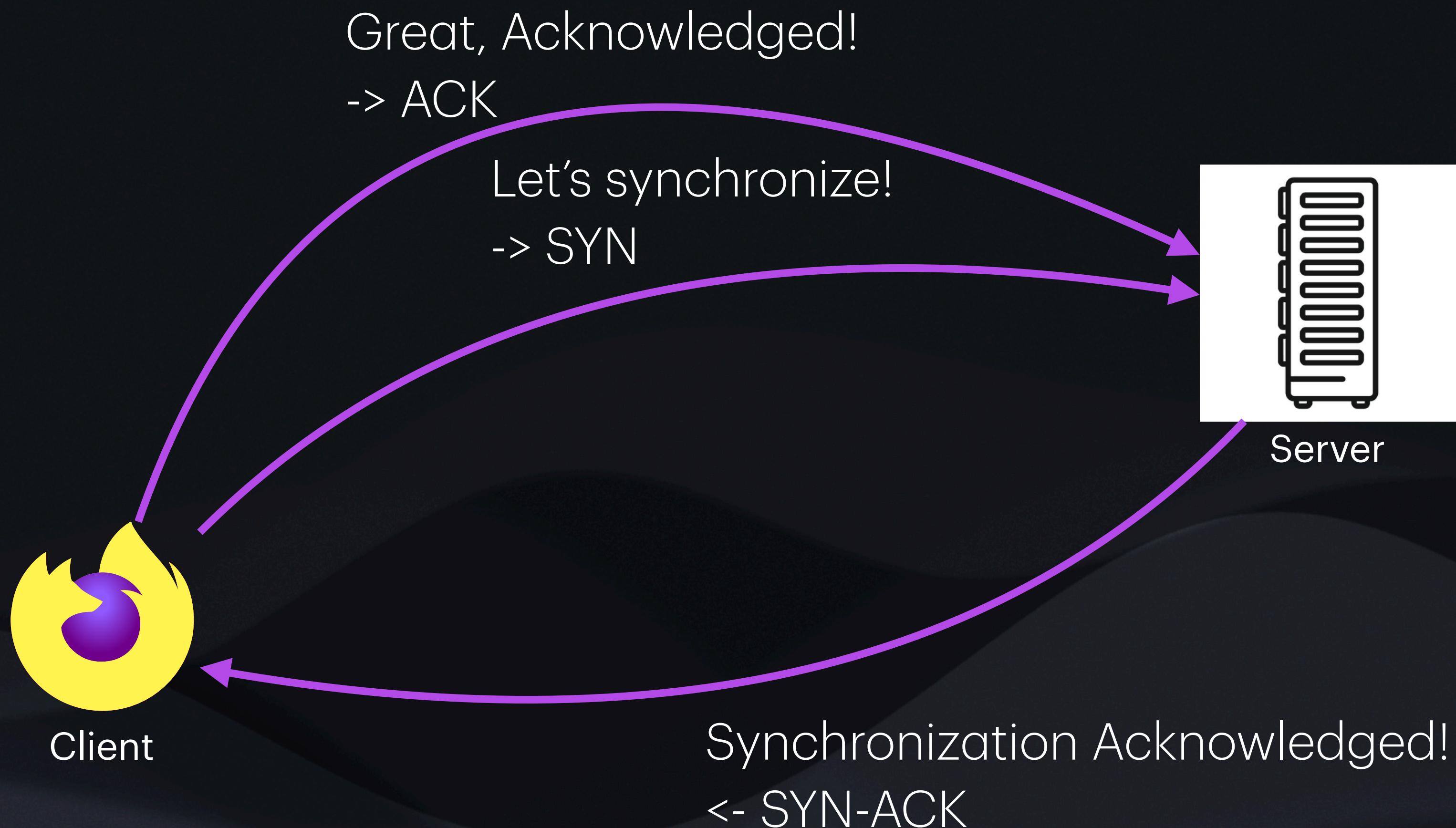
- Reliable
- Consistent connection
- Slower
- Proper error handling



UDP

- Unreliable
- Connectionless
- Fast!
- Minimal error handling

# TCP Handshake



# TCP & WebSockets



# Socket.io



[socket.io](https://socket.io)

# Socket.io

- Two related NPM packages: socket.io and socket.io-client
- Implements the WebSocket upgrade so you don't have to!
- Automatic reconnection if connection is lost
- Define custom events, like "new-chat"
- Lots of callback event-handlers

# WebSockets Practice

