Day 2: Chat Application with Sockets

# 1. Sockets and Server Setup

Sockets operate on the network, enabling fast, real-time communication. To use them, you must first create a server. The following code uses express and the built-in http module to set up a basic server. Socket.IO is then initialized and linked to the server.

JavaScript code example:

const express = require('express');  
const http = require('http');  
const socketIo = require('socket.io');  
  
const app = express();  
const server = http.createServer(app);  
const io = socketIo(server);  
  
server.listen(3000, () => {  
 console.log('Server running on port 3000');  
});

# 2. Client-Side Integration

Both the client (HTML) and server require the Socket.IO library to communicate. Include it using a CDN or serve from your server. Tip: always check the code editor (e.g., bottom-right for "HTML"). For displaying chat messages, use an unordered list (<ul>) for a bottom-up approach.

HTML code example:

<!DOCTYPE html>  
<html>  
 <head>  
 <title>Chat App</title>  
 <script src="/socket.io/socket.io.js"></script>  
 </head>  
 <body>  
 <ul id="messages"></ul>  
 <form id="form">  
 <input id="input" autocomplete="off" /><button>Send</button>  
 </form>  
 <script src="/client.js"></script>  
 </body>  
</html>

# 3. Event Handling and User Input

Prevent page reload on form submission with e.preventDefault() in the callback function for a smooth user experience.

JavaScript code example:

document.getElementById('form').addEventListener('submit', function(e) {  
 e.preventDefault();  
 // send message logic  
});

Both the server and client listen for events using io.on(). The server listens for a 'connection' event (for new users) and a 'disconnection' event (when users leave), tracking them using the unique socket.id.

JavaScript (Server code) example:

io.on('connection', (socket) => {  
 console.log('A user connected:', socket.id);  
 socket.on('disconnect', () => {  
 console.log('User disconnected:', socket.id);  
 });  
});