**CLIENT/SOCKET.JS**

**NOTE – editorpage.js and socket.js important hai**

**Socket ka logic server ke index.js me hai**

This code defines a reusable function to initialize and configure a real-time connection to a server from a client-side application using the **Socket.io-client** library.

In simple terms, this function is responsible for **"dialing the number"** and setting the rules for a persistent, real-time conversation between the user's web browser (the client) and a server.

**Step-by-Step Breakdown**

1. **import {io} from "socket.io-client";** This line imports the main io function from the socket.io-client library. This function is the factory that creates the client socket.
2. **export const initSocket = async() => { ... };** This declares and exports a function named initSocket.
   * **export**: Makes this function available to be used in other files within the same project.
   * **const initSocket**: A modern way to define a function that won't be reassigned.
3. **const options = { ... };** This object defines the specific configuration for the connection.
   * **'force new connection': true**: This tells Socket.io to always create a new connection, rather than reusing an existing one. This can be useful for debugging or specific application logic.
   * **transports: ['websocket']**: This forces the client to *only* use the **WebSocket** protocol. By default, Socket.io might try other methods like long-polling first. Specifying websocket directly can be more efficient if the server and network environment support it.
   * **reconnectionAttempt: 'infinity'**: This line contains a typo and should likely be reconnectionAttempts: Infinity. The intent is to tell the client to try reconnecting an infinite number of times if the connection is lost.
   * **timeout: 10000**: Sets a timeout of 10,000 milliseconds (10 seconds). The connection will fail if it's not established within this time.
4. **return io(process.env.REACT\_APP\_BACKEND\_URL, options);** This is the core action of the function.
   * It calls the io() function to start the connection process.
   * **process.env.REACT\_APP\_BACKEND\_URL**: This is an environment variable that holds the URL of the Socket.io server (e.g., http://localhost:5000). Using an environment variable is a best practice, as it allows you to change the server address for different environments (like development vs. production) without changing the code.
   * **options**: It passes the configuration object to the io function.
   * The function **returns the socket object**, which is the main interface used to send and receive real-time messages (e.g., socket.on(...) and socket.emit(...)).