|  |  |  |  |
| --- | --- | --- | --- |
| **MESSAGE** | **TYPE** | **CONTENT** | **ACTION** |
| LoginRequest | Client 🡪 Server | <string> Username | Server checks that Username exists in its DB, answers with challenge or with LoginError |
| LoginChallenge | Server 🡪 Client | <bytes> Salt  <bytes> Nonce | Client solves the challenge and sends it back to the server |
| LoginUnlock | Client 🡪 Server | <bytes> Token | Server checks the solved challenge, grants or denies access |
| LoginAccessGranted | Server 🡪 Client | <object> User | Client logs in the user, the User object has a list of all the owned documents |
| LoginError | Server 🡪 Client | <string> Description | Client handles the error |
| AccountCreate | Client 🡪 Server | <string> Username  <string> Nickname  <Image> Icon  <string> Password | Server checks validity of the provided fields and creates the account, otherwise error |
| AccountUpdate | Client 🡪 Server | <string> Nickname  <Image> Icon  <string> Password | Server checks validity of the new nickname / password and updates info (should notify other clients in the same workspace), otherwise error |
| AccountConfirmed | Server 🡪 Client | <object> User | Client updates the user object locally and proceeds |
| AccountDenied | Server 🡪 Client | <string> Reason | Client handles the response |
| Logout | Client 🡪 Server | // | Client immediately shuts down the socket, Server handles the disconnection and notifies other clients in the workspace |
| DocumentCreate | Client 🡪 Server | <string> Doc. name | Server creates the new document and adds it to the DB, opens the workspace and sends the document to the client, otherwise DocumentError |
| DocumentOpen | Client 🡪 Server | <URI> Document URI | Server checks the validity of the URI and the ownership of the document, adds the user to the workspace (notifying other clients) and sends the document to the client, otherwise error |
| DocumentReady | Server 🡪 Client | <object> Document | Client receives the document data and loads it into TextEdit |
| DocumentClose | Client 🡪 Server | // | Server removes the user from the current workspace but keeps the connection open, sends confirmation |
| DocumentExit | Server 🡪 Client | // | Client closes the editor and goes back to document selection; exit can be an expected message (confirmation) or a notification of forced document close |
| DocumentRemove | Client 🡪 Server | <URI> Document URI | Server checks validity of the URI and removes it from the User’s list (file deleted if no owners are left), otherwise DocumentError |
| DocumentDismissed | Server 🡪 Client | // | Document removal confirmed, Client proceeds |
| DocumentError | Server 🡪 Client | <string> Reason | Client handles the error |
| CharsInsert | Client 🡪 Server  Server 🡪 Client | <Vector[object]> Symbols  <bool> isLast flag  <object> Block ID  <object> Block format | Server receives the message, applies the change locally and dispatches the message to all other clients in the workspace, which apply it immediately |
| CharsDelete | Client 🡪 Server  Server 🡪 Client | <Vector> Positions | // |
| CharsFormat | Client 🡪 Server  Server 🡪 Client | <Vector> Positions  <Vector[object]> Formats | // |
| BlockEdit | Client 🡪 Server  Server 🡪 Client | <object> Block ID  <object> Block format | // |
| ListEdit | Client 🡪 Server  Server 🡪 Client | <object> Block ID  <object> List ID  <object> List format | // |
| CursorMove | Client 🡪 Server  Server 🡪 Client | <int> Editor ID <int> Cursor position | Server dispatches the message for all clients in the workspace, which move the specified user cursor accordingly |
| PresenceAdd | Server 🡪 Client | <int> Editor ID  <string> Presence name <Image> Icon | Client adds the Presence in the current document and shows it in the editor sidebar;  The name is the nickname (if available), otherwise username |
| PresenceUpdate | Server 🡪 Client | <int> Editor ID  <string> Presence name  <Image> Icon | Clients update the Presence information accordingly |
| PresenceRemove | Server 🡪 Client | <int> Editor ID | Clients remove the user’s presence from the current document (in the text editor) |
| Failure | Server 🡪 Client | <string> Error | Client should handle the error, close the connection and disconnect the user from the editor by bringing him back to the login page |