Sequence Diagram:

client1 (room1)	client2 (room1)	server	client3 (room2)	client4 (room2)

client1 → server: connect

server → client1: Connected to server

server → client1: client1 has entered the chat

client1 → server: Hello

server → client1: Hello

server → client1: [client1]

client2 → server: connect

server → client2: Connected to server

server → client1: Client2 has entered the chat

server → client2: Client2 has entered the chat

client2 → server: Hello

server → client2: Hello

server → client2: [client1, client2]

server → client1: Hello

server → client1: [client1, client2]

client3 → server: connect

server → client3: Connected to server

server → client3: Client3 has entered the chat

client3 → server: Hello

server → client3: Hello

server → client3: [client3]

client4 → server: connect

server → client4: Connected to server

server → client3: Client3 has entered the chat

server → client4: Client4 has entered the chat

client3 → server: Hello

server → client4: Hello

server → client4: [client3, client4]

server → client3: Hello

server → client3: [client3, client4]
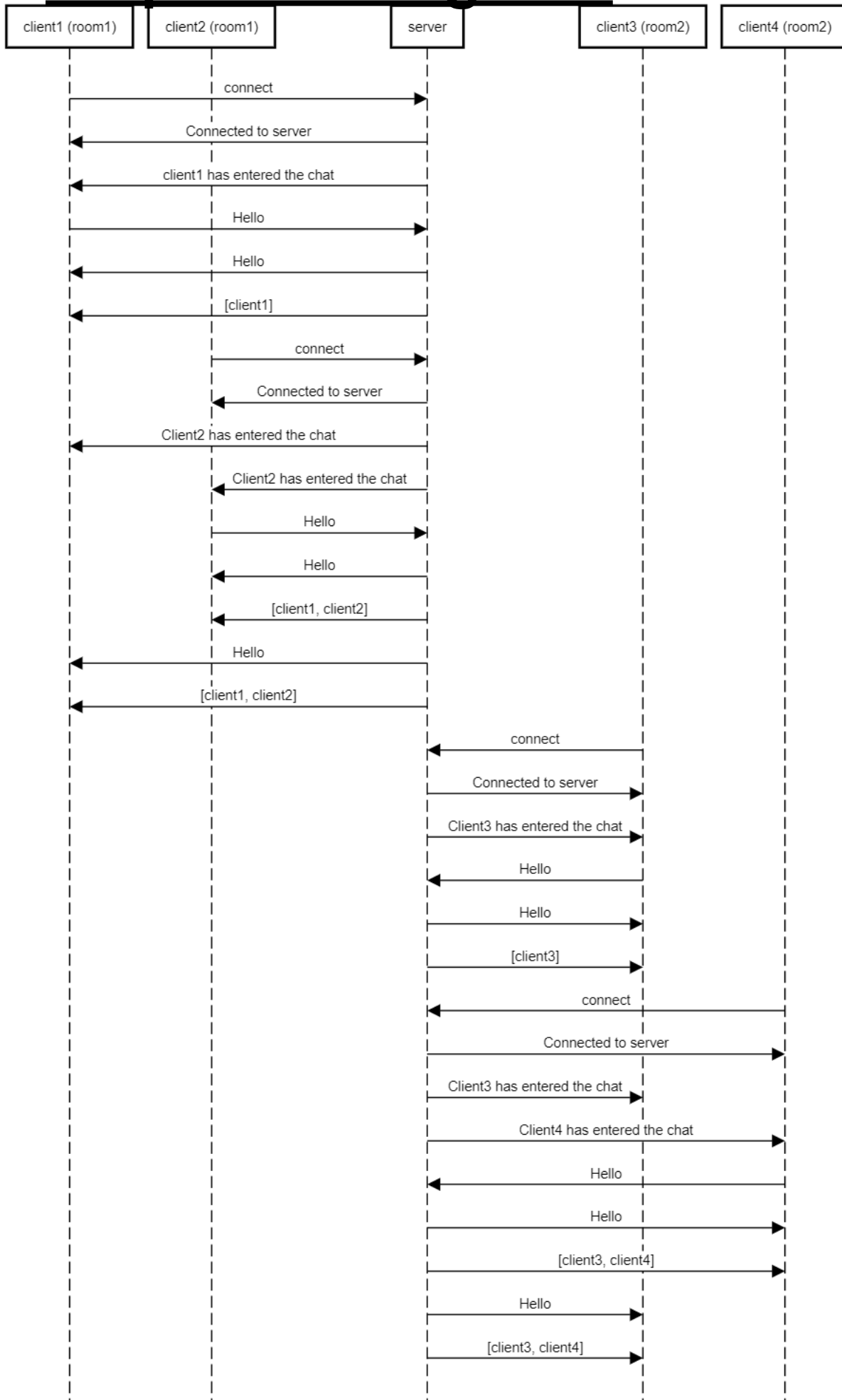
Verbal Protocol Explanation:

the protocol is pretty basic. it consists of five parts. the first four bytes is the length of the message that needs to be sent. The next part is the message itself. Next, there is one byte representing the room the message is sent from. the next 4 bytes are the length of the username. Last is the username of the user who sent the message. for example, 0002hi10005becky would send hi to room one from a user named becky. another example is 0005hello40003guy which would send hello to room four from a user named guy. it should be noted that sometimes a message is sent from the server to one user in which the room will be zero and the name will be server
(0019Connected to server00007server).