

Team 5 – Client Invocations

<i>METHOD</i>	<i>ONE_WAY</i>	<i>DB_ACCESS</i>	<i>SZ_REQUEST</i>	<i>SZ_REPLY</i>
login()	No	Yes	? bytes ¥	4, 256, 512, or 1024
logout()	No	Yes	? bytes §	4, 256, 512, or 1024

¥ 24 bytes + (2 bytes * length of clientname)

§ 18 bytes + (2 bytes * length of clientname)

public int [] login(String username, String password, String clientname, int replySize)

In the baseline version, the login() method receives two strings as parameters, the username and the password (In Java, strings use unicode characters which are 2 bytes). It queries the database to see if the password is correct, and if so, updates the user table to specify that the user is logged in. The login() method returns a 4 byte acknowledgement in the form of an int. This acknowledgement tells the client whether or not the login action was successful. The acknowledgement is false if the method could not connect to the database or the password is incorrect.

In the evaluation version, the login() method receives two additional parameters, the connecting client machine name and a reply size. The login() method performs the same functionality as the baseline version but also adds the time it started, the time it ended, the connecting client machine name, and its method name to the four corresponding probe lists. Timestamps are recorded as the number of microseconds since the application started. We had to modify our system to use Java 1.5 as this newest version of Java (<http://java.sun.com/>) provides a method for measuring time in nano seconds. After receiving notification from all clients that they have finished, the server will write all its probe data to disk. In addition to these changes, the method returns an int array where the first value is the acknowledgement and whose size is specified by the replySize parameter divided by 4 (in Java, int primitives are 4 bytes).

public int [] logout(String username, int sessionNumber, String clientName, int replySize)

In the baseline version, the logout() method receives a username and a session number. The session number specifies the chat room in which the user was chatting. The logout() method sets the logged_in value to false for the user's entry in the users table in the database. It then looks at the messages table in the database, and if there are no longer any users in the room specified by sessionNumber, it clears the messages table of the messages from that chat room.

In the evaluation version, the logout() method has the same changes and additions as specified above in the description of the evaluation version of login().