**Question** - Close the server and attempt connecting using the client. What happens and why?
**Solution** - The client cannot connect to the server and in turn cannot send a message to the server.

**Question** - What is distribution transparency? Using WebSockets for communication does not offer distribution transparency. Justify this statement (hint: there are a number of reasons including naming in the context of location transparency. Also consider the previous question).
**Solution** - Achieving distribution transparency is an important goal of a distributed system. The aim is to hide that processes and resources are distributed across multiple machines. In other words, it tries to make the distribution of processes and resources transparent, that is invisible, to users and applications.

The aim of location transparency is to hide where an object is located; here an object can be a resource or a process. A WebSocket does not offer location transparency because when communicating the IP addresses and port numbers of the communicating parties must be specified.

The solution to the previous question demonstrates that WebSockets do not offer failure transparency. In this example the server failed; this prevented communication and was not hidden from the client.

**Question** - Design a middleware for communication build on WebSockets which offers greater distribution transparency than WebSockets.
**Solution** - This will be discussed in a later lecture.