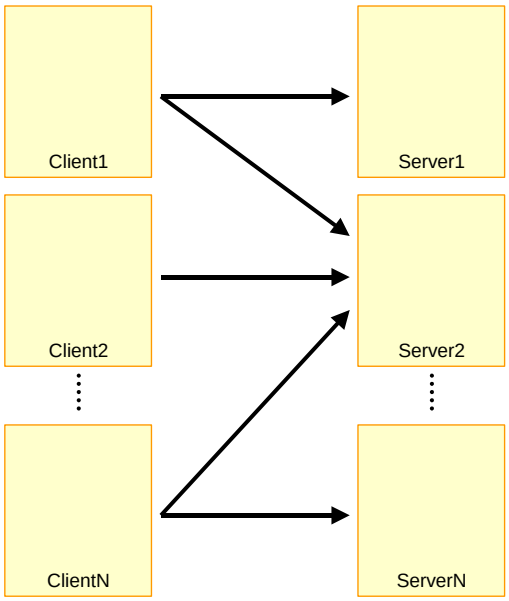
Brunel University

Department of Electronic & Computer Engineering
MSc Course in Distributed Computing Systems Engineering

Network-programming with Sockets and RMI

The aim of the workshop is to gain knowledge about network programming in Java. For this a distributed Job server architecture shall be implemented and discussed.



Requirements

- It shall be possible, that several clients connect several servers at the same time
- A server shall process several jobs at once.
- The communication between client and server should be implemented by using RMI
- After starting the client, it should find the server by executing a multicast-lookup.

The assignment

The assignment should contain several essential parts:
The first part is the theoretical part which describes network-programming with Sockets and RMI in Java. Also describe in a short form the advantages and disadvantages of RMI versus Sockets (approx. 33% percent of the assignment).

The main part of the assignment should contain the following topics:
Show the architecture of the Job server and the client regarding the network communication.
Discuss other solutions to show why your approach is the best for your use-case.

In the analysis/discussion of the possible solutions the following topics may be considered:

- Using one or several clients on one or several computers to send the jobs
- Using several servers means to run the jobs really in parallel
- Using sockets (TCP or UDP) for the communication instead of RMI
- Using static or dynamic load-balancing for optimizing the performance
- etc.