18. Java RMI

In this lab, we will experiment with the Java Remote Method Interface (RMI).

1. Addition

Download the files that make up the adder project from the course website.

For running the client, you will need the following files:

- *AdditionClient.java*
- *AdderInterface.java*
- *security.policy*

To run it correctly, use the following VM argument (in Eclipse, go to run configurations > Arguments > VM Arguments):

-Djava.security.policy=file:${workspace_loc}/RMIClientSide/security.policy (modify using your project name)

Replace "*RMIClientSide*" with your own's project name in the VM arguments.

Task 1: Connect to the addition server (see the whiteboard for the IP address, the resource name is: ourAdder) and perform an addition.

Next, set up your own server. The files needed for the server are:

- *AdditionServer.java*
- *Adder.java*
- *AdditionInterface.java*
- *security.policy*

Task 2: Perform an addition on your own server.

2. Print Server

Write a client and a server so that the client can send a string to the server
and the server prints the string to standard output. Use interface *PrintInterface.java*
from the course website.

An instance providing this service is running under the name "printer" on the machine
shown on the whiteboard. You can use it for testing.

3. Echo Server

Write a client and a server so that the client can send a string to the server,
the server modifies the string (e.g., attaches a prefix to it) and returns it to the client,
and the client prints the string to standard output.

4. Broadcast Server

Write a server that accepts registrations from clients.
When a client sends a string to the server,
the server calls all registered clients and lets them print the string it received.
Hint: For this to work, you need to use remote object references.