

Programming assignment 0 – Start

Introduction

The purpose of programming assignment 0 (PA0) is to introduce you to the assignment framework.

We use the *Eclipse IDE* to edit and run the assignments. The framework and Kompics uses *Maven* to manage the project and its dependencies, and for this we will use the *Maven Integration for Eclipse (m2e)* plugin.

Installation

Start by downloading and installing the latest Java SE Development Kit 8 from <http://www.oracle.com/technetwork/java/javase/downloads/index.html>. Use default installation options. Then download the **Eclipse IDE for Java EE Developers** package from <http://www.eclipse.org/downloads/>. We choose this package since m2e is included (if you download some other package then you might have to install the m2e plugin separately). Unpack the downloaded file (named something like `eclipse- java-luna-SR1a-win32-x86_64.zip`) to some location on your computer (for example to a folder on the Desktop).

Then download the PA0 zip-file from the course website, <https://canvas.instructure.com/courses/902299/pages/programming-assignments>. Also unpack this file to some location on your computer.

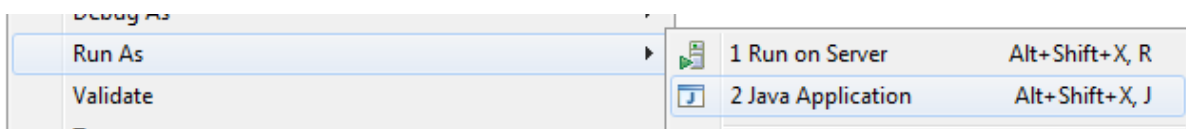
Start Eclipse by double-clicking `eclipse.exe`, which is in the folder where you unpacked Eclipse. Then go to File -> Import... -> Maven -> Existing Maven Project, and click the Next button. Enter the folder where you unpacked the PA0 zip-file as Root Directory, and press Enter.



Make sure the `/pom.xml` project is selected and press Finish. The project should load in Eclipse.

Run the framework

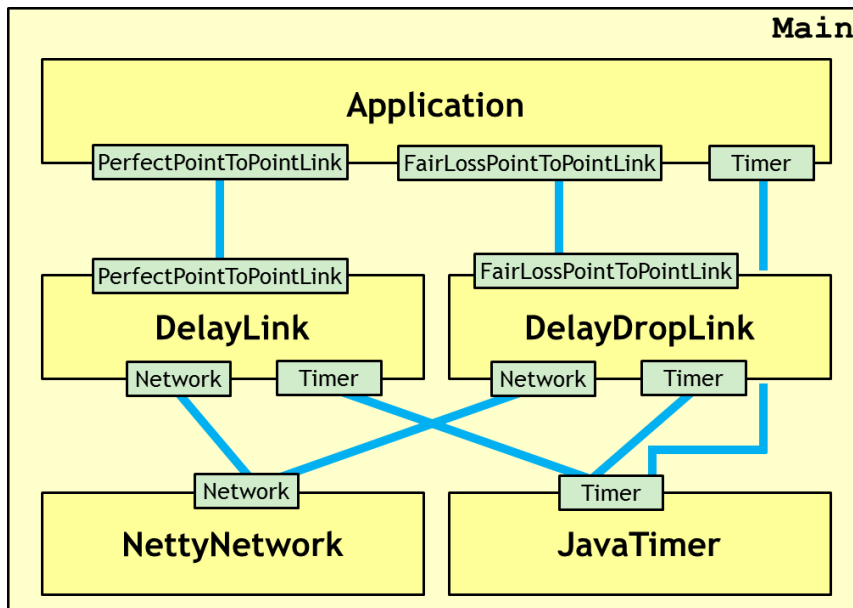
Expand `id2203-ass0-start` -> `se.kth.ict.id2203.pa.start` in the Package Explorer and right-click `Executor.java`. In the context-menu that is opened, click on the menu item `Run As` (it is in the bottom half of the context menu) and then click on `Java Application`. This will start the framework.



Two process windows will open side by side. Write `help` and press enter in the left command input field to see the commands that the application can handle. Try sending a message from one process

to the other by running the command `Pmsg`. Enter the `X` command in the right input field to exit both processes.

Architecture of PA0



The boxes in the figure above are the components that run in each process (the `JavaConsole` component is also used, but not shown in the figure). The **Main** and **Application** components are located in the `se.kth.ict.id2203.pa.start` package.

Exploration

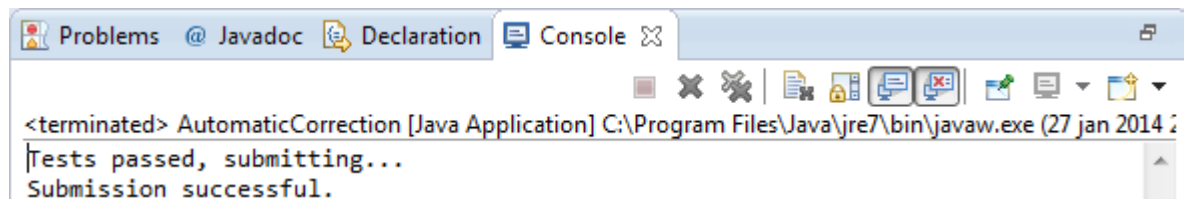
You should explore in the following ways...:

- Look through the source code of all files in the `se.kth.ict.id2203.pa.start` package so that you understand how they work.
 - Look particularly in `Main.java` to see how the subcomponents of the **Main** component are created and connected.
- Experiment with changing the topology and scenario in `Executor.java` to get a solid understanding of how that works.
- Try editing the `log4j.properties` file located in `src/main/resources`, to familiarize with the logging facilities.

Automatic correction

First you need to get a password to use with the automatic correction service. Go to <http://cloud7.sics.se:11700/sendemail> and type in your email and press Submit, and your password will be sent to your email address (the address that you used to register for the course).

Open the file `AutomaticCorrection.java` and update the email and password strings with your email and the password that you have received. Then run `AutomaticCorrection.java` by right-clicking the file and choosing `Run As -> Java Application`. If everything goes well you should see the following:



You can log in with your email/password at <http://cloud7.sics.se:11700> to see the status of your assignments.

FAQ

Q: How do I install the m2e plugin in Eclipse if it isn't installed already in my Eclipse installation?

A: It can be installed from the Eclipse Marketplace, which is accessible from the Help -> Eclipse Marketplace... menu item in Eclipse.