

**Software Engineering**  
**MSc in Engineering in Computer Science**  
**Sapienza Università di Roma**

*Programming test –Duration 90 mins*

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On the server –IP address 192.168.50.83 – it is running a SOAP Web service *Interface* on port 8080. The WSDL is accessible at the URL: <http://192.168.50.83:8080/Interface?wsdl>

The service exposes functionalities about professors. In particular, the service offers the following operation (the Java signature is reported for simplicity):

- `Professor getDetails(String id)` - given an `id` (`String`) returns the full details of the given professor; a `Professor` object consists of a `String` `name`, a `String` `surname`, and a `String` `course` (we assume a professor teaches only one course),

As well, on the server, on port 61616, a JMS provider offers a topic `dynamicTopics/professors` in which messages are published. The messages are published by a *publisher*. Each message has a property `id` of type `String` (corresponding to the `id` of a professor whose details are offered by the Web service). The JMS provider is Apache ActiveMQ.

The student must write a client program which continuously outputs all the details of all (and only of those) professors which are mentioned in the messages (through their `ids`). The figure below reports an example.

```
--- exec-maven-plugin:1.2.1:exec (default-cli) @ Exam--2020-06-22--APossibleSolutionClient -
Item 10>> professor with id 4
Professor with id 4 has details Tiziana Catarci, HCI
Item 11>> professor with id 2
Professor with id 2 has details Maurizio Lenzerini, Data Management
Item 12>> professor with id 2
Professor with id 2 has details Maurizio Lenzerini, Data Management
Item 13>> professor with id 3
Professor with id 3 has details Giuseppe De Giacomo, Formal Methods
Item 14>> professor with id 4
Professor with id 4 has details Tiziana Catarci, HCI
Item 15>> professor with id 5
Professor with id 5 has details Andrea Marrella, Business Processes
Item 16>> professor with id 4
Professor with id 4 has details Tiziana Catarci, HCI
Item 17>> professor with id 5
Professor with id 5 has details Andrea Marrella, Business Processes
```

The client program can be a command line application, a Java Swing program, a servlet/jsp, whatever depending on the choice of the student.