

Software Developer Test

Europeana Foundation

This test is part of the selection process for the position of Software Developer at Europeana. It takes approximately 5 to 6 hours to complete and must be completed before the second interview where the candidate will be asked to present their approach to solve the problem.

Notice: *This test is confidential and must not be shared outside the recruitment process.*

Find the solution for the following problem:

Determine the smallest positive number that can be divided by a sequential range of numbers (from 1 to 25) without remainder.

The following examples show the expected outcome:

- 2520 is the smallest number that can be divided by 1 to 10
- 360360 is the smallest number that can be divided by 1 to 15
- and so on...

What is asked from you?

An application must be developed that implements a solution to the problem, fulfilling the following additional requirements:

- Develop two REST controllers: one to set the upper number being check (e.g. 25; and a second controller to start the calculation and return back in JSON and XML formats (determined through the "Accept" HTTP request header) the result and the time spend performing the calculation;
- Create a maven project, defining dependencies and configuration for compilation and deployment;
- Use of Spring Controllers and demonstrate some dependency injection, using only annotations;
- Produce structured logging ideally using slf4j-log4j;
- Define JUnit tests for the solution;
- Produce in-code documentation and a README file with clear instructions on how to build and execute the application.

What will be evaluated?

- the effectiveness and elegance of the solution;
- the performance of the solution, meaning that the faster the application calculates the result the better (e.g. over 5 seconds for the upper number of 25, would be a considered a slow solution, nevertheless a slow solution is better than no solution);
- quality of the code produced considering aspects such as: readability, understandability, and complexity.

How to submit the results?

All the source code files and other files required to build and run the application must be sent via email. You can either send a compressed zip file as attachment or the URL to a GitHub project where the code has been committed.