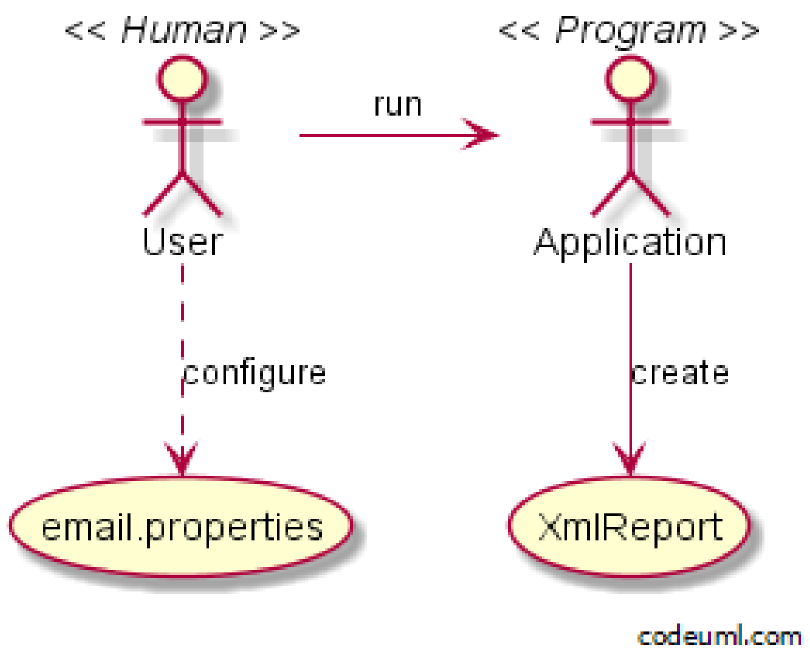
Functional Specification

Project Name	Email Converter
Version Number	1.0.0
Revision Date-time	23/10/2012 12:20:00 PM
Development Project Lead	Siarhei Yanusheuski

Contents

General Overview and Project Description



Email Converter is a simple program that reads daily reports from configurable email and converts it into xml files.

Requirements

- At least jdk-1.7
- Apache Maven 3.0.4+

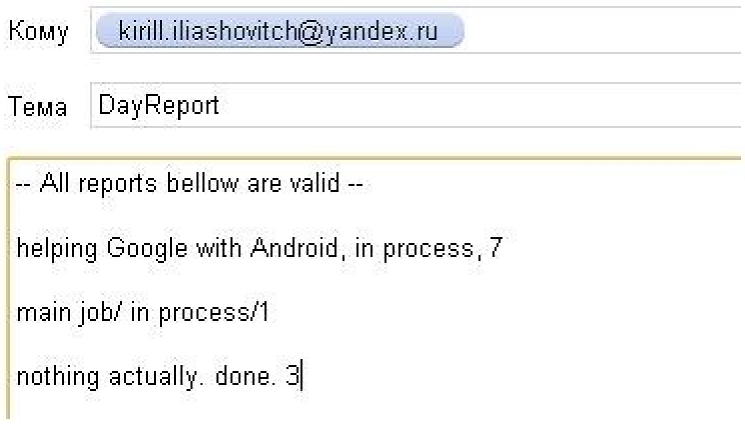
Getting Started

In order to run the program take the following steps:

- git clone git://github.com/fiti128/Time.git (you can also download zip file from https://github.com/fiti128/Time)
- cd time
- mvn install
- mvn assembly:single
- cd target
- java –jar time-1.0.0-RELEASE.jar

Valid Email Messages

Now you can send day reports to the configured email, default is mr.server.serverovich@yandex.ru. The program will read all messages in this email but converts only valid reports. The body of your email message should contain work description, status and elapsed time exactly in such order separated by **“,”** or by **“.”** by **“/”**. The program will read person id and date automatically. Example of the valid email message:



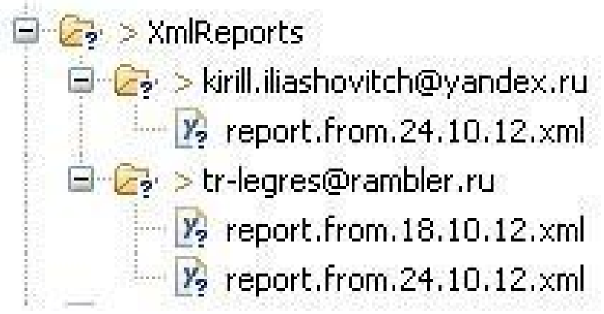
Кому kirill.iliashovitch@yandex.ru

Тема DayReport

```
-- All reports bellow are valid --

helping Google with Android, in process, 7

main job/ in process/1

nothing actually. done. 3
```

Output

The output should look like:

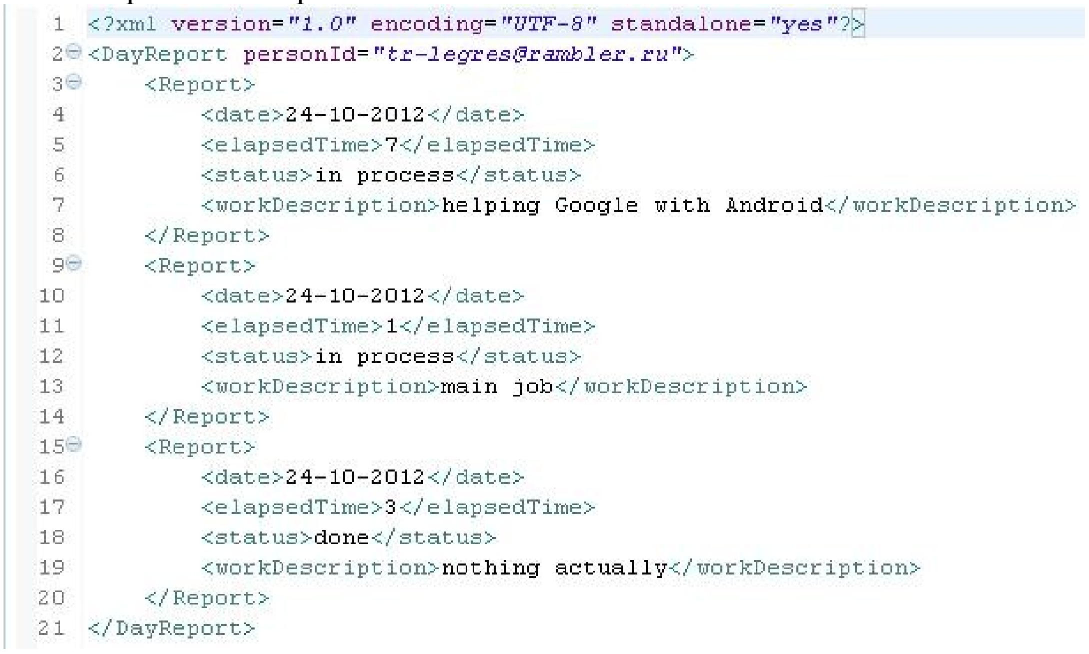


```
> XmlReports
  > kirill.iliashovitch@yandex.ru
      report.from.24.10.12.xml
  > tr-legres@rambler.ru
      report.from.18.10.12.xml
      report.from.24.10.12.xml
```

It could be only one report saved from the particular person per day. So the program will always rewrite day report with the latest email message from the particular person. The converter was designed in such way to solve human trait of making mistakes. Person has time till next day to make changes in his day report by sending new email. He has time till 23:59:59. At 00:00:00 will be next day and next file.

Xml File

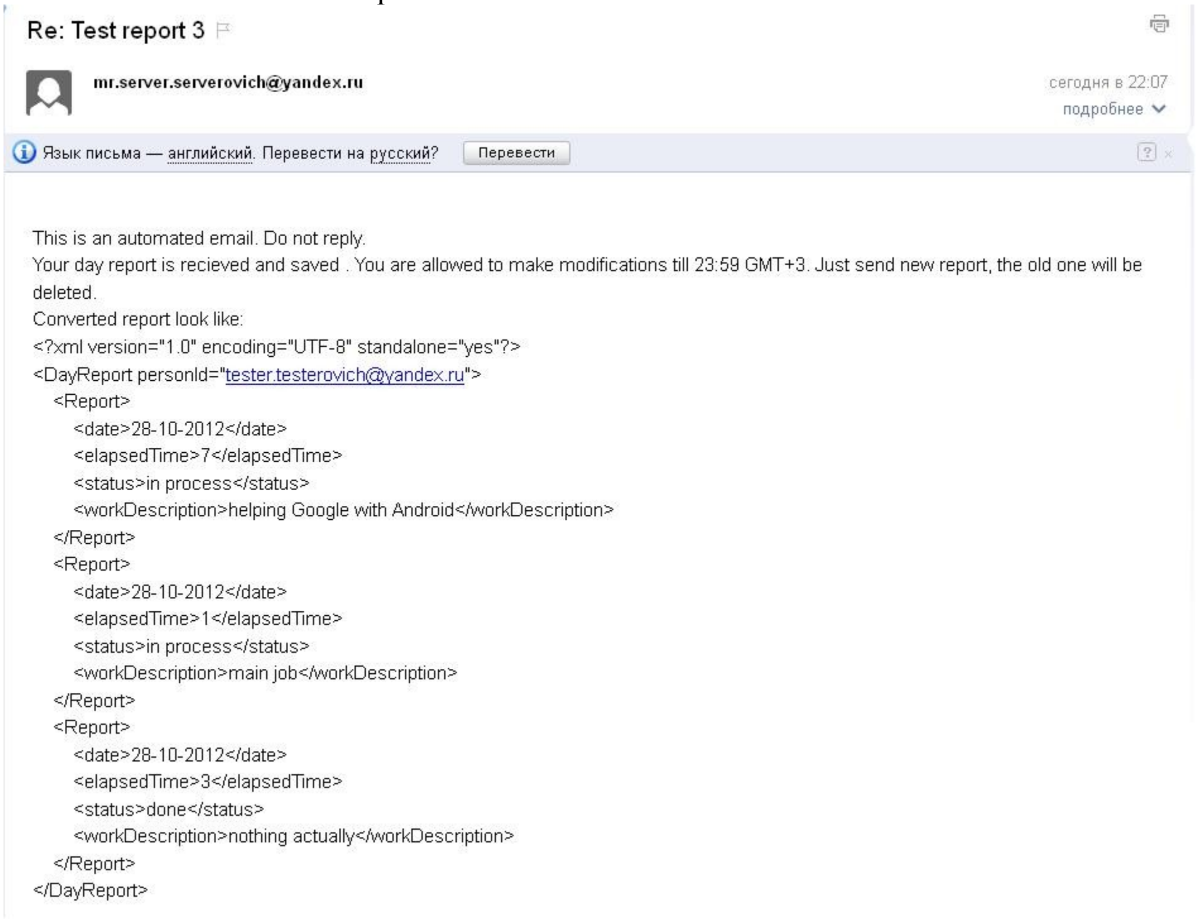
Example of the output xml file:



```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<DayReport personId="tr-legres@rambler.ru">
    <Report>
        <date>24-10-2012</date>
        <elapsedTime>7</elapsedTime>
        <status>in process</status>
        <workDescription>helping Google with Android</workDescription>
    </Report>
    <Report>
        <date>24-10-2012</date>
        <elapsedTime>1</elapsedTime>
        <status>in process</status>
        <workDescription>main job</workDescription>
    </Report>
    <Report>
        <date>24-10-2012</date>
        <elapsedTime>3</elapsedTime>
        <status>done</status>
        <workDescription>nothing actually</workDescription>
    </Report>
</DayReport>
```

Confirmation Email

If email message contains at least one valid sub-report, the program will send a confirmation Emal. An example is shown below:



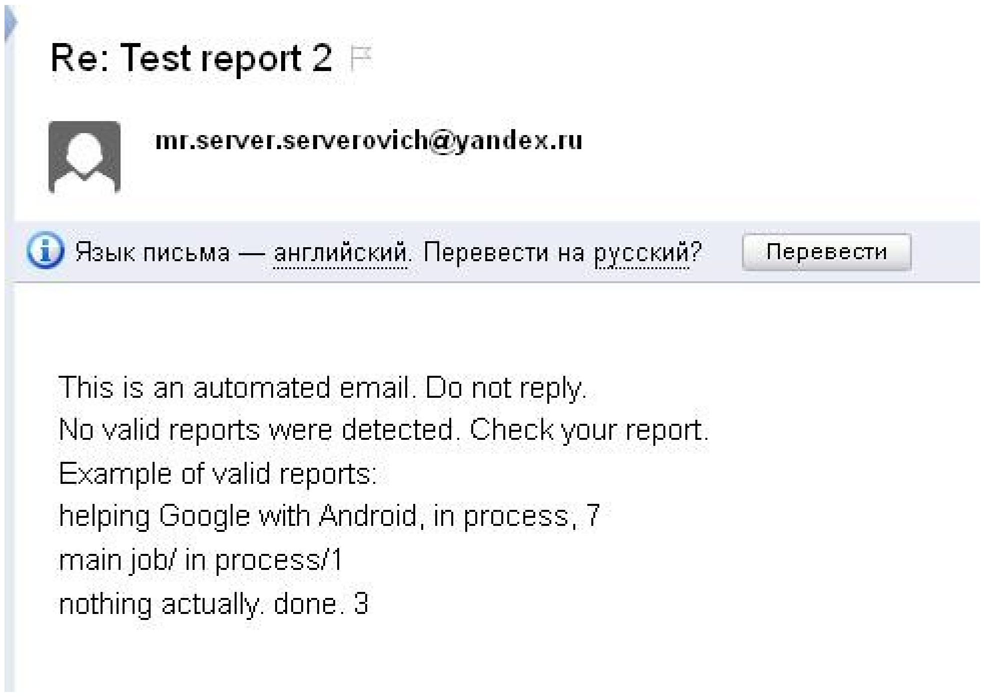
Re: Test report 3
mr.server.serverovich@yandex.ru
сегодня в 22:07
подробнее
Язык письма — английский. Перевести на русский?
Перевести

This is an automated email. Do not reply.
Your day report is recieved and saved . You are allowed to make modifications till 23:59 GMT+3. Just send new report, the old one will be deleted.
Converted report look like:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<DayReport personId="tester.testerovich@yandex.ru">
  <Report>
    <date>28-10-2012</date>
    <elapsedTime>7</elapsedTime>
    <status>in process</status>
    <workDescription>helping Google with Android</workDescription>
  </Report>
  <Report>
    <date>28-10-2012</date>
    <elapsedTime>1</elapsedTime>
    <status>in process</status>
    <workDescription>main job</workDescription>
  </Report>
  <Report>
    <date>28-10-2012</date>
    <elapsedTime>3</elapsedTime>
    <status>done</status>
    <workDescription>nothing actually</workDescription>
  </Report>
</DayReport>
```

Error Email

If email message doesn’t contain any valid report, the program will send an Error Emal. An example is shown below:



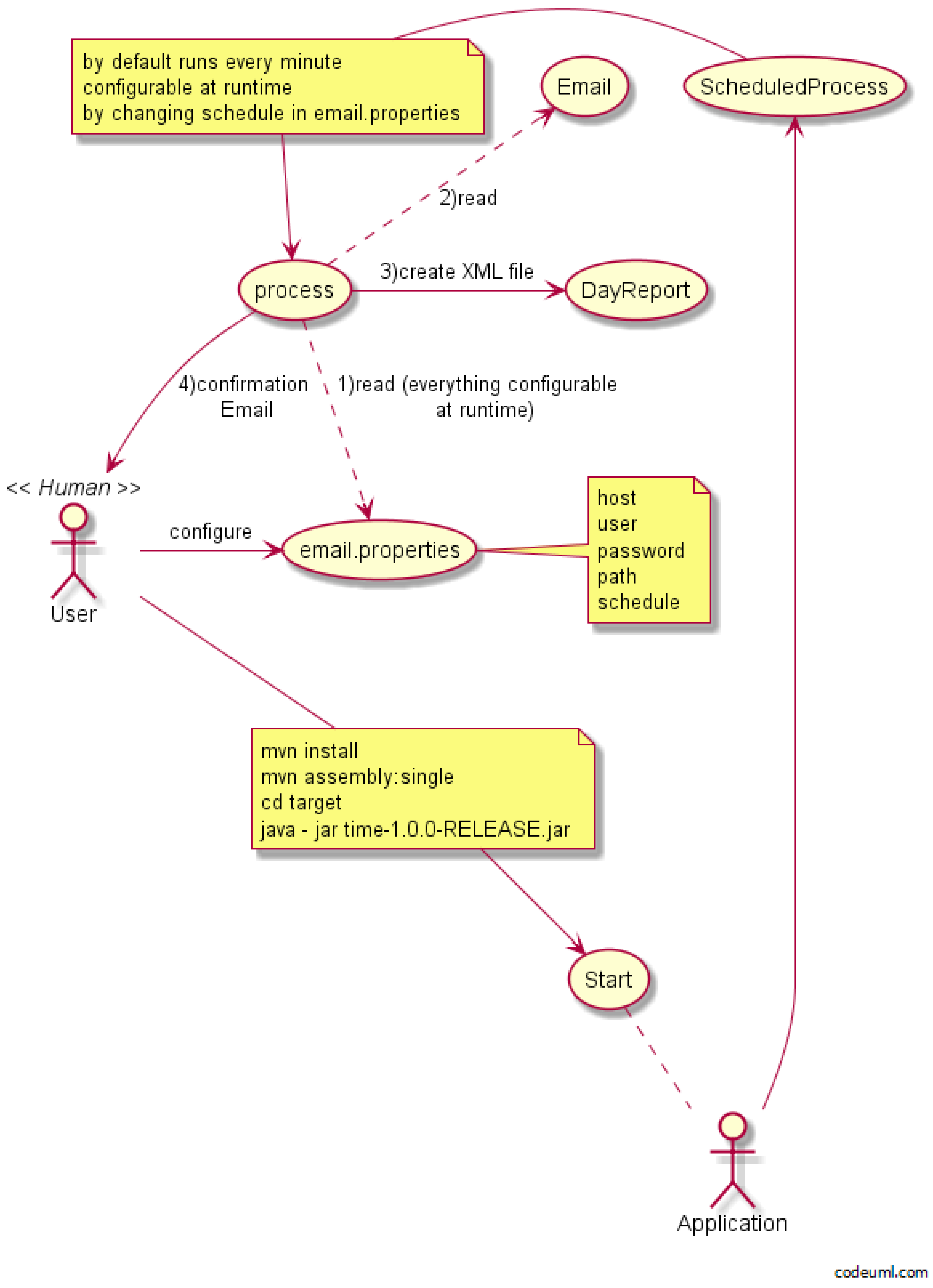
Re: Test report 2

mr.server.serverovich@yandex.ru

This is an automated email. Do not reply.
No valid reports were detected. Check your report.
Example of valid reports:
helping Google with Android, in process, 7
main job/ in process/1
nothing actually. done. 3

Project in Depth

Detailed diagram



Main Classes

SheduledProcess

```
package ru.retbansk.utils.scheduled;
```

This class is used to provide scheduling for the program. It runs automatically when scheduledConfig.xml is loaded

When the program starts Spring automatically runs process() method in SheduledProcess class. Process() method would be invoked every minute with a fixed delay, meaning that the period will be measured from the completion time of each preceding invocation.

DynamicSchedule

```
package ru.retbansk.utils.scheduled;
```

It is used to provide runtime configuration of the schedule. Main method is *setDelay(int delay)*. It automatically restarts schedule if new delay is less than the old one. Or waits the next schedule if new delay is greater

DayReport

```
package ru.retbansk.mail.domain;
```

Main domain class. Implements Comparable interface so it can be sorted. *Hashcode* and *equals* are overridden.

ReadEmailAndConvertToXmlSpingImpl

```
package ru.retbansk.utils.scheduled.impl;
```

Initializing by SheduledProcess class. It loads additional spring configuration. Method execute actually does the entire job: loads email properties, reads email and converts valid ones into xml files.

Email properties are loaded every schedule so you can configure them at any moment by placing email.properties file into the folder with time-1.0.0-RELEASE.jar. Keys are: host, host.send, user, password, path and schedule. For example, you can put email.properties with body like this:

```
host=pop.yandex.ru
host.send=smtp.yandex.ru
user=mr.server.serverovich@yandex.ru
password=server
path=D:/XmlReports/
schedule=60000
```

On next schedule program will read from yandex mail service with credentials `mr.server.serverovich@yandex` as a user and `server` as a password and will save valid reports at d:/XmlReports/. Schedule is 1 minute. (1000 Milliseconds = 1 second)

How to stop the program

You can stop the program just by adding “continue=no” line into your email.properties file. For example, put email.properties file into the folder with time-1.0.0-RELEASE.jar with body like this:

```
host=pop.yandex.ru
host.send=smtp.yandex.ru
user=kirill.iliashovitch@yandex.ru
password=godBlessMe
path=D:/XmlReports/
schedule=60000
continue=no
```

The program will stop at next schedule.

Testing

Complete module testing with separate configuration.

Logging

Logs are saved in logs/conveter.log relative to time-1.0.0-RELEASE.jar.