

Feature Request ID FR-19: Testcase that test all XML-files

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1. Aim

To create a testclass that can test all XML-files. The test should be started by Eclipse GUI menu [Run as] – [JUnit]. There should be two modes for the testclass:

1. Executable test: Done repeatedly by a user or developer. Should finish in a short time.
2. Complete test: Done automatically. Will take a long time.

2. Description

1. The XML-files should automatically be found by searching in the file path /src/xml/.
2. Some XML-files has order to be executed, see docs/bio/takeuchi_et_al_2006.html. This should be arranged automatically.
3. GUI or execution should be aborted after a short time when running in the Executable test mode.

3. System Design

3.1. XmlFilesTest

Make a testclass named **XmlFilesTest** that on the Setup lists all XML-files automatically and makes four different string arrays. One for all protocols, one for all make XML-files, one for all model XML-files and one for all generated models. The array containing all make XML-files will be sorted, because some of the make XML-files use a base model that is generated by another make XML-file.

Use a private boolean variable, `runComplete`, to decides if a complete test or a executable test will be run.

Create a new method, `RunModelInGUI`, that call the class GUI for all models (and generated models) and run each model in the GUI. Dependent on the value of `runComplete` the model will run until it's complete or for maximum 5 seconds to verify that it works.

By accessing the private fields of the GUI class and set status to `STATUS_CLOSED` (1) before exit `simBio` will avoid `simBio` to open a dialog box that will ask if you want to save changed initial values when exit `simBio` in the method `RunModelInGUI`.

Apart from the GUI class will also the Entry class for protocols and make XML-files be used.

Move the declaration of "ParameterChanger changer = null;" from method `modify()` and `demo()` in the class:

`/src/main/java/org/simBio/ResultGenerator.java` to make it possible to reach the private field. This field will be used to abort the iteration when running protocol XML-files in executable test mode.

In the class "XmlFilesTest" I will make following three testcases:

1. Testcase **testModelXmlFiles** will call the method `RunModelInGUI`, who will run each model complete or for maximum 5 sec to verify that it works dependent on the value of `runComplete`.
2. Testcase **testMakeXmlFiles** will first generate the models and then run each generated model. The

models will be generated by calling the class Entry for all make files. This class will also open the file in the class read by the tag attribute "launch" from the XML-file. Then each generated model will be run. This will be done by calling the method RunModelInGUI, who will run each generated model to completion or for maximum 5 sec to verify that it works depending on the value of runComplete.

3. Testcase **testProtocolXmlFiles** will call the class Entry for all protocols, who will run all iterations until it's complete or only the first iteration to verify that it works dependent on the value of runComplete. The possibility to only run the first iteration will be solved by setting the private variable "iterationNum_" to 1 by another thread.

With this design, all testcases are independent of each other.

3.2. Testcase Affects

The new testclass XmlFilesTest found some errors in the current XML-files. It also affects current ResultGeneratorTest class as described below.

1. For make XML-files the path for the baseModel located in the simBio project must start with "../simBio/" to be able to run outside the simBio project. This affects following three XML-files:
/src/xml/henriquez_et_al_2001/**voltageDependency.xml**
/src/xml/sarai_et_al_2006/figure/**1.make.xml**
/src/xml/terashima_et_al_2006/**Fig.5.make.xml**
2. Remove the duplicate copy of the node "model/page/Ca concentration/interval" in the XML-file:
/src/xml/matsuoka_et_al_2004/**Fig5.xml**
3. Change the offset from parameter tag to link tag in the XML-file:
/src/xml/oka_et_al_2006/propagation/**Fig6_NaK_Block.xml**
4. Remove testcase testMain in the file ResultGeneratorTest.java because this is now tested in the new testclass XmlFilesTest. Also included "../simBio/" for the path in testcase testModify1 to make it possible to run the testcase outside the simBio project.
/src/test/java/org/simBio/**ResultGeneratorTest.java**

4. Error Detection

For information about error detection for XmlFilesTest, see [Error detection for XmlFilesTest](#).

5. Committed Files

The version has been tagged to XmlFilesTest in the simBio_mikael project. After the increment was accepted it was merged to the simBio project.