cy3sbml build instructions

This document describes how to setup the requirements for cy3sbml and build the cy3sbml app from the source code.

Setup Requirements

To build cy3sbml git, java and maven have to be available. To use the app Cytoscape 3 has to be installed.

git

Follow instructions for your platform to install git (https://git-scm.com/).

Ubuntu

```
sudo apt-get install git
```

Java JDK

Cytoscape apps are build with Oracle Java 7 (or Java 8). Follow the instructions for your platform. To check the java version

```
java -version
```

Ubuntu

First remove the openjdk

```
sudo apt-get purge openjdk*
```

install oracle java

```
sudo -E add-apt-repository ppa:webupd8team/java
sudo apt-get update
sudo apt-get install oracle-jdk7-installer
sudo apt-get install oracle-java8-installer
```

set the java version to use

```
sudo update-java-alternatives -s java-8-oracle
```

test installation

```
java -version
javac -version
```

Maven

Apps are build with maven version 3 or higher. Follow the instructions for your platform to install maven (https://maven.apache.org/). The version can be tested with

```
mvn -v
```

Maven requires internet access to download dependencies. If you are behind a proxy set the proxy settings for maven (http://maven.apache.org/guides/mini/guide-proxies.html).

Ubuntu

```
sudo apt-get install maven
```

Cytoscape

Download and install the lastest Cytoscape 3 version (>3.2.1) from http://www.cytoscape.org.

Build cy3sbml

You should setup an environment variable referring to the cy3sbml source folder. This will simplify the subsequent setup.

```
export CY3SBML=/home/mkoenig/git/cy3sbml
```

Git repository

Now clone the source code from git in this folder

```
git clone https://github.com/matthiaskoenig/cy3sbml.git $CY3SBML
```

If you already have the repository pull the latest code via

```
cd CY3SBML
git pull
```

You can get an overview over the available branches via

```
git branch -a
```

The master branch contains the stable releases, with development code in the develop branch.

All development work is done in the development branch. To work with the development branch, you'll need to create a local tracking branch:

```
git checkout -b develop origin/develop
```

To build the master version, checkout the master branch

```
git checkout master
```

To build the development version, checkout the develop branch

```
git checkout develop
```

Maven dependencies

Some Maven dependencies as well as the JSBML jars have to be added to your local maven repository. The necessary jars for the local repository are located in the lib subfolder

```
$CY3SBML/cy3sbml/lib
```

To add these jars to your local repository run the script

```
$CY3SBML/cy3sbml/lib/local_maven_repo.sh
```

Alternatively add the files manually to your local maven repository

```
cd $CY3SBML/cy3sbml/lib
mvn install:install-file -DgroupId=cysbml-temp -DartifactId=spi-full -Dversion=0.2.4
-Dfile=spi-full-0.2.4.jar -Dpackaging=jar -DgeneratePom=true
mvn install:install-file -DgroupId=cysbml-temp -DartifactId=jigsaw-dateParser
-Dversion=0.1 -Dfile=jigsaw-dateParser-0.1.jar -Dpackaging=jar -DgeneratePom=true
# JSBML
mvn install:install-file -DgroupId=cysbml-temp -DartifactId=core -Dversion=1.0
-Dfile=core.jar -Dpackaging=jar -DgeneratePom=true
mvn install:install-file -DgroupId=cysbml-temp -DartifactId=qual -Dversion=1.0
-Dfile=qual.jar -Dpackaging=jar -DgeneratePom=true
```

```
mvn install:install-file -DgroupId=cysbml-temp -DartifactId=layout -Dversion=1.0
-Dfile=layout.jar -Dpackaging=jar -DgeneratePom=true
```

This will resolve the maven dependencies of the form

```
<dependency>
    <groupId>org.sbml.jsbml</groupId>
    <artifactId>core</artifactId>
    <version>1.0</version>
</dependency>
```

All Cytoscape dependencies are provided.

Rebuild JSBML jars

All necessary jars are available in the lib folder. To build against the latest development version of JSBML build the necessary jars from the JSBML SVN and install them your local repository overwriting the provided jars. First you have to checkout the JSBML code

```
# set environment variable
export JSBMLCODE=$HOME/svn/jsbml-code
svn checkout svn://svn.code.sf.net/p/jsbml/code/trunk $JSBMLCODE
```

Than build the JSBML jars via

```
$CY3SBML/cy3sbml/lib/build_jsbml_jars.sh
```

After building you have to register the build jars in the local maven repository

```
$CY3SBML/cy3sbml/lib/local_maven_repo.sh
```

cy3sbml maven build

After providing the maven dependencies you can build cy3sbml via

```
cd $CY3SBML/cysbml
```
```
mvn install
```

The target can be found in

```
$CY3SBML/cysbml/target/
```

cy3sbml install

The last step is installing the app. You can install cy3sbml as app with the created jar file directly within Cytoscape

```
Apps → App Manager → Install Apps
```

or set a symbolic link of the to the build cy3sbml jar in the Cytoscape installed apps folder

```
ln -s $CY3SBML/cy3sbml/target/cy3sbml-0.1.3.jar
$HOME/CytoscapeConfiguration/3/apps/installed/cy3sbml-latest.jar
```

Eclipse setup

Install Eclipse with Maven and git support. The latest eclipse Luna has maven & git integration already out of the box, earlier eclipse version should install the m2eclipse & Egit plugins
http://wiki.cytoscape.org/Cytoscape_3/AppDeveloper/SettingUpAnIDE/Eclipse

Now generate the project in eclipse

```
File → new → Java project
```

Project name:

```
cy3sbml
```

Location:

```
$CY3SBML/cy3sbml
```

After converting the project to Maven

```
Project Settings → Configure → Convert to Maven Project
```

one can build cy3sbml with maven in eclipse via

```
Run as → Maven install
```

JSBML source code

Get latest code via

```
export JSBMLCODE=$HOME/svn/jsbml-code
svn checkout svn://svn.code.sf.net/p/jsbml/code/trunk $JSBMLCODE
```

```
cd $JSBMLCODE
svn update
```

Cytoscape source code

Get the code for the respective Cytoscape release via the instructions from
https://github.com/cytoscape/cytoscape with cy tools

```
bash cy -r init
cd cytoscape
git checkout remotes/origin/release/3.2.0
```

build

```
mvn -fae clean install
```