

# libSBML

Status update

Sarah Keating

on behalf of the

SBML Team

# libSBML

- API library for working with SBML

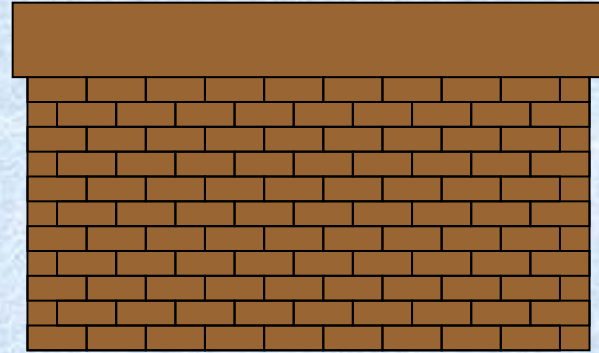
# libSBML

- read



# libSBML

- read
- create



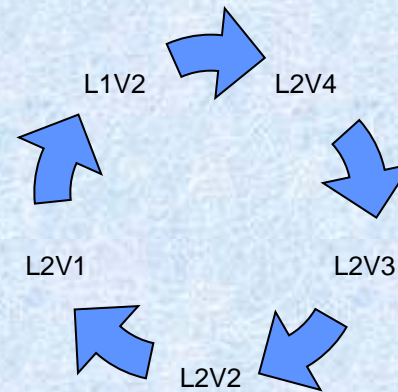
# libSBML

- read
- create
- manipulate



# libSBML

- read
- create
- manipulate
- convert between levels/versions



# libSBML

- read
- create
- manipulate
- convert between levels/versions
- write



# libSBML

- read
- create
- manipulate
- convert between levels/versions
- write
- validate





# libSBML

- API library for working with SBML



# libSBML

- Standard ANSI C++

- C

- C#

- Python

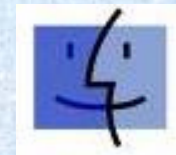
- MATLAB

- Java

- Octave

- Perl

- Ruby



LGPL

**Current status**

# libSBML Releases

Name ▾

Modified ▲

 [Parent folder](#)

 [5.0-packages-beta](#)

2011-04-15

 [5.0.0](#)

2011-04-14

 [4.3.1](#)

2011-03-29

# libSBML Releases

Name ▾

Modified ▲

↑ Parent folder

📁 5.0-packages-beta

2011-04-15

📁 5.0.0

2011-04-14

📁 4.3.1

2011-03-29

# libSBML 4.3.1

- no longer writes out an unset attribute

# libSBML 4.3.1

- no longer writes out an unset attribute
- improved building MATLAB/Octave

- << matlab
- Name
- buildSBML.m
- CheckAndConvert.m
- Contents.m
- ConvertFormulaToMathML.m
- installSBML.m
- isoctave.m
- isSBML\_Model.m
- OutputSBML.c
- OutputSBML.m
- OutputSBML.mexw64
- test.xml
- TranslateSBML.c
- TranslateSBML.m
- TranslateSBML.mexw64

Select a file to view details

```

New to MATLAB? Watch this Video, see Demos, or read Getting Started.

MATLAB desktop keyboard shortcuts, such as Ctrl+S, are now customizable.
In addition, many keyboard shortcuts have changed for improved consistency
across the desktop.

To customize keyboard shortcuts, use Preferences. From there, you can also
restore previous default settings by following the steps outlined in Help.

Click here if you do not want to see this message again.

Installing the libSBML MATLAB interface.

* Doing preliminary checks of runtime environment ...
  - This appears to be MATLAB and not Octave.
  - MATLAB reports the OS is Windows 64-bit.
Checking for executables ...
Executables found
adding C:\Program Files\SBML\libSBML-5.0.0-libxml2-x64\bindings\matlab\matlab to the path

Testing the installation.

checking for TranslateSBML
checking OutputSBML
Document written
Installation successfully completed
fx >>
    
```



# libSBML 4.3.1

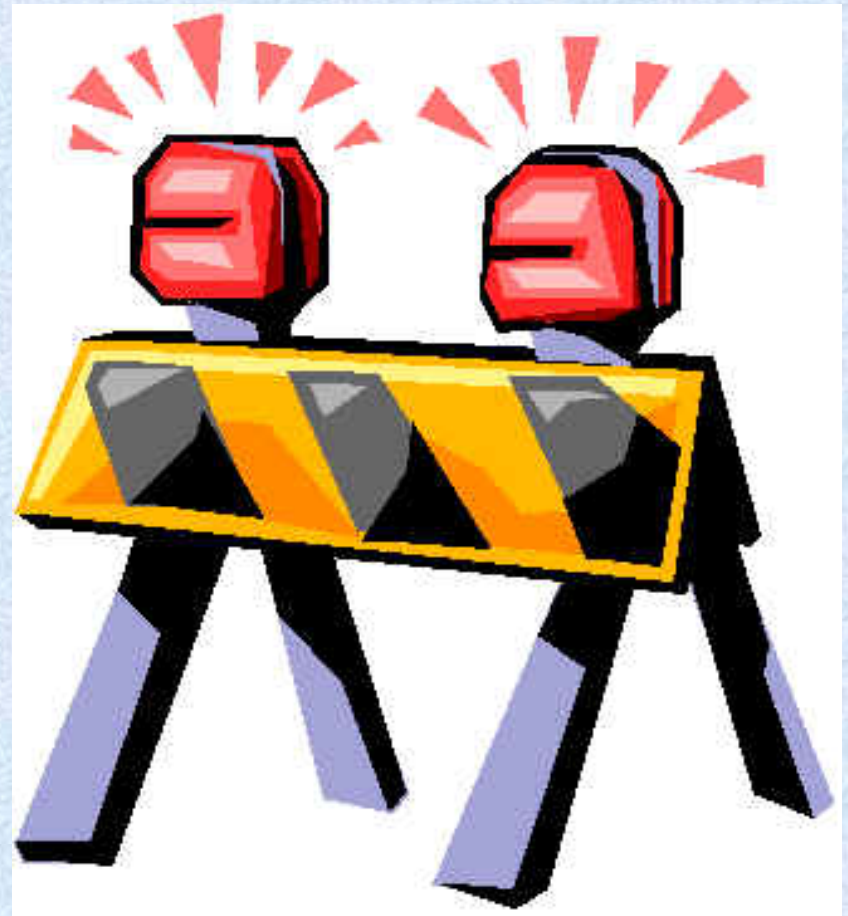
- supports SBML
  - Level 1
  - Level 2
  - Level 3 Core

# libSBML 4.3.1

- supports SBML
  - Level 1
  - Level 2
  - Level 3 Core
- stable

# libSBML 4.3.1

- supports SBML
  - Level 1
  - Level 2
  - Level 3 Core
- stable





# libSBML 5.0.0



# libSBML Releases

Name ▾

Modified ▲

↑ Parent folder

📁 5.0-packages-beta

2011-04-15

📁 5.0.0

2011-04-14

📁 4.3.1

2011-03-29

# libSBML 5.0.0

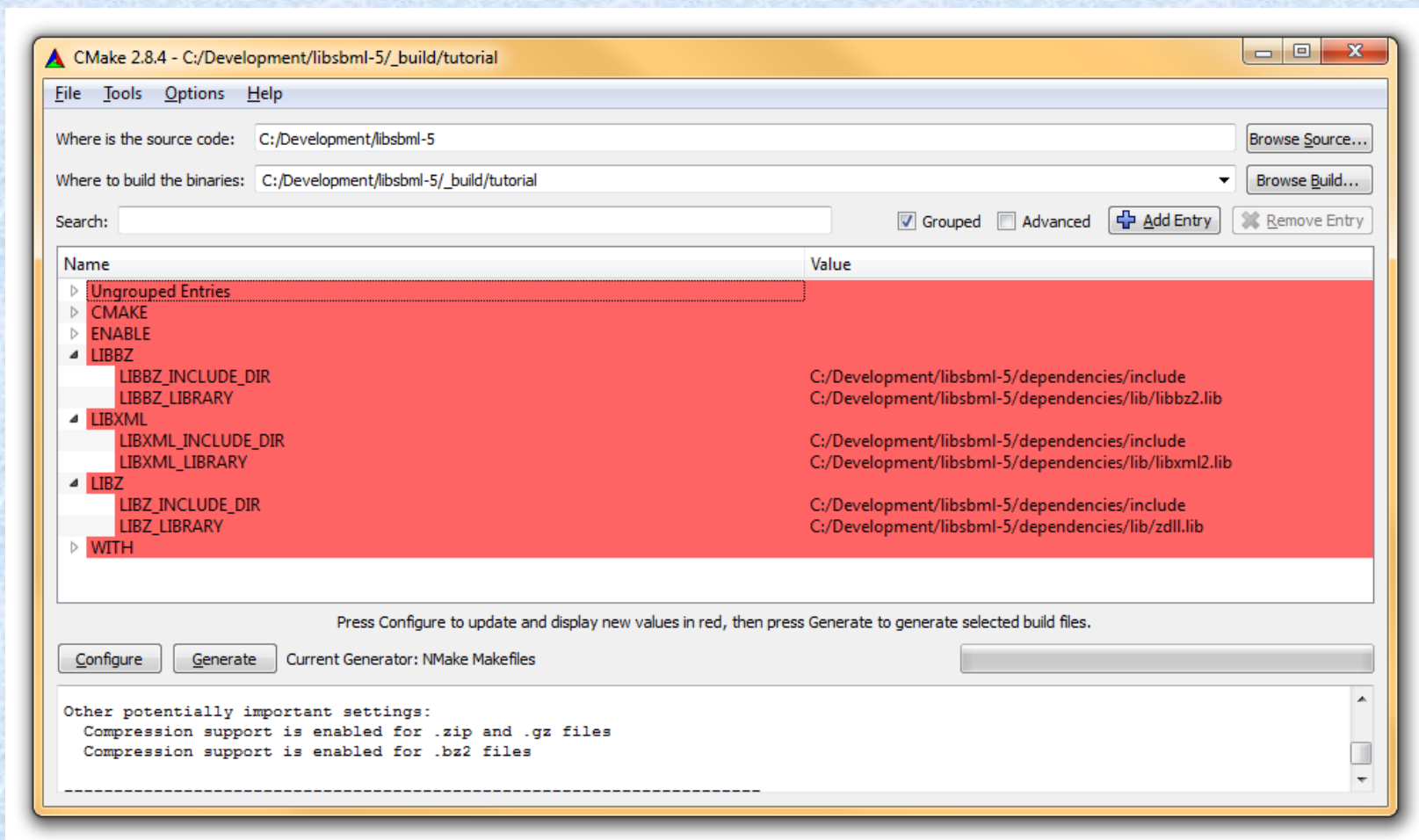
- supports SBML
  - Level 1
  - Level 2
  - Level 3 Core
- stable

# libSBML 5.0.0

- supports SBML
  - Level 1
  - Level 2
  - Level 3 Core
- stable
- extension mechanism for packages




# libSBML 5.0.0



libSBML 5.0.0

**Please upgrade**

# libSBML Releases

Name ▾	Modified ▲
<a href="#">↑ Parent folder</a>	
 <a href="#">5.0-packages-beta</a>	2011-04-15
 <a href="#">5.0.0</a>	2011-04-14
 <a href="#">4.3.1</a>	2011-03-29

# libSBML 5.0.0 packages

[Home](#) / [libsbml](#) / [5.0-packages-beta](#)

Name ▼

[↑](#) **Parent folder**

[fba-5.0.0-beta-1.zip](#)

[groups-5.0.0-beta-1.zip](#)

[README.txt](#)

[req-5.0.0-beta-1.zip](#)

[spatial-5.0.0-beta-1.zip](#)

# Developers of new packages

## libSBML-5 Documentation

[Main Page](#)[Classes](#)[Files](#)

About libSBML and its use

### How to implement a package extension

This section describes the summary of how to implement a package extension for libSBML-5.

(Note that since libSBML-5 is currently in development stage the API described in this documentation may be changed in the future.)

1. [Implement an SBMLExtension derived class](#)
2. [Implement SBase derived classes of the package extension](#)
3. [Implement SBasePlugin derived classes](#)
4. [Implement a forward declaration file](#)
5. [Implement a header file which includes all SBML types defined in the extension](#)
6. [Defines a macro value of the package extension](#)
7. [How to import a source tree of a package extension into the source tree of libSBML-5](#)

#### 1. Implement an **SBMLExtension** derived class

Firstly, an **SBMLExtension** derived class for your package needs to be implemented based on the steps described in **SBMLExtension** class.

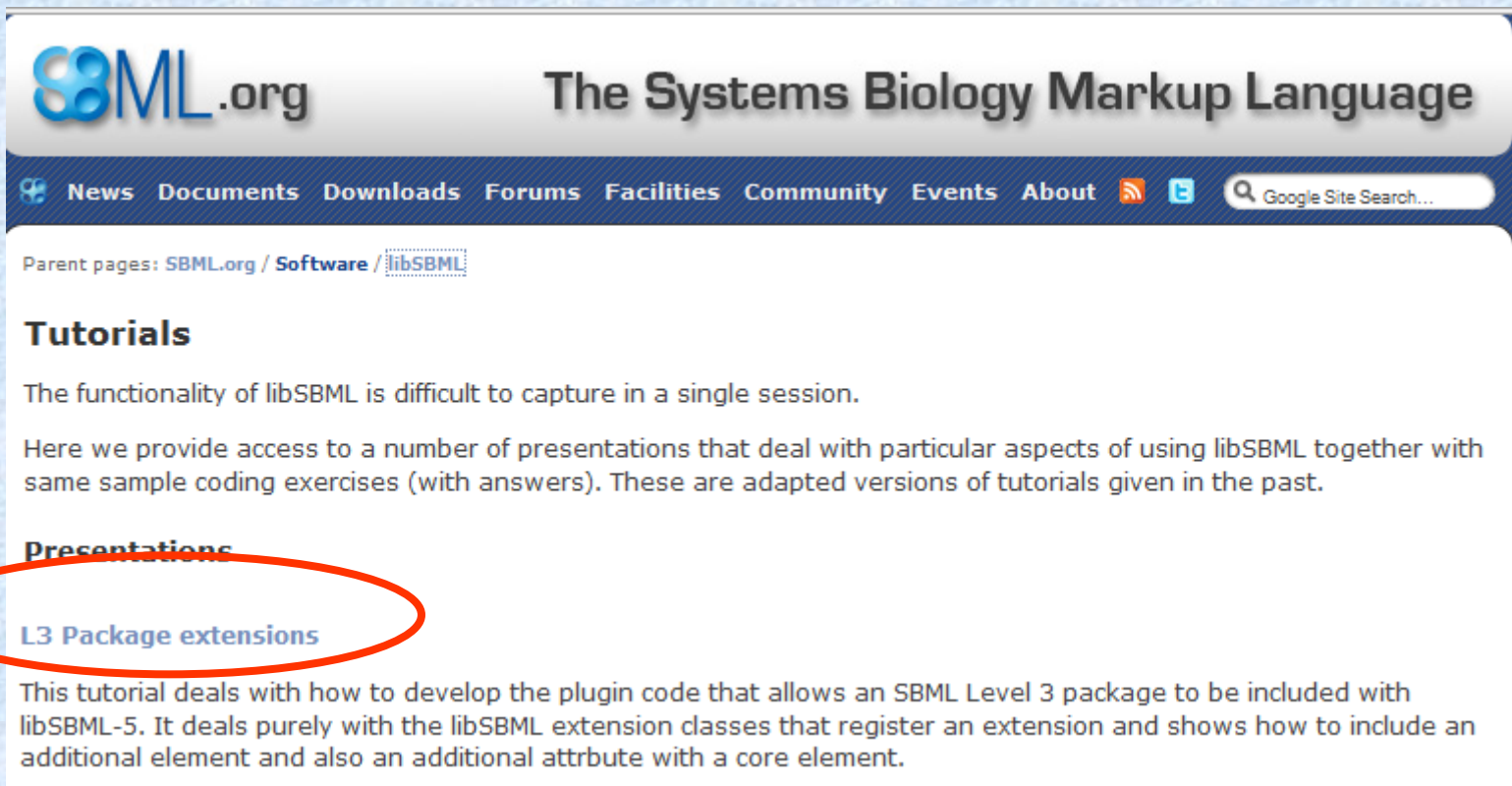
#### 2. Implement **SBase** derived classes of the package extension

Secondly, **SBase** derived classes for your package need to be implemented based on the following steps:

# Developers of new packages



libSBML-5 Documentation

<http://sbml.org/Software/libSBML/Tutorials>



The screenshot shows the SBML.org website header with the logo and the text "The Systems Biology Markup Language". Below the header is a navigation menu with links for News, Documents, Downloads, Forums, Facilities, Community, Events, and About, along with social media icons and a search bar. The main content area shows the breadcrumb "Parent pages: SBML.org / Software / libSBML" and a section titled "Tutorials". The text under "Tutorials" states that the functionality of libSBML is difficult to capture in a single session and provides access to presentations and coding exercises. Below this is a section titled "Presentations" with a sub-link "L3 Package extensions" circled in red. The text under "L3 Package extensions" describes how to develop plugin code for SBML Level 3 packages.

**SBML.org** The Systems Biology Markup Language

News Documents Downloads Forums Facilities Community Events About  

Parent pages: [SBML.org](#) / [Software](#) / [libSBML](#)

## Tutorials

The functionality of libSBML is difficult to capture in a single session.

Here we provide access to a number of presentations that deal with particular aspects of using libSBML together with some sample coding exercises (with answers). These are adapted versions of tutorials given in the past.

### Presentations

[L3 Package extensions](#)

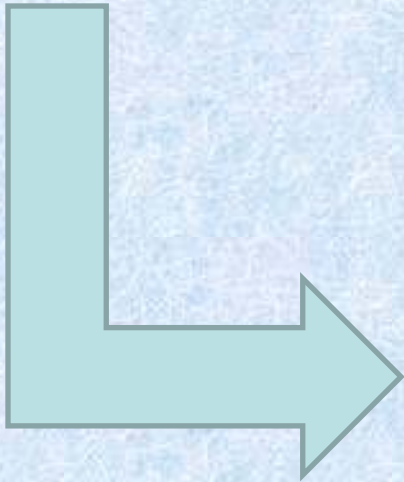
This tutorial deals with how to develop the plugin code that allows an SBML Level 3 package to be included with libSBML-5. It deals purely with the libSBML extension classes that register an extension and shows how to include an additional element and also an additional attribute with a core element.

# Developers using libsbml svn

[svn/branches/libsbml-5](https://svn.sbo.ca.uk/repos/libsbml/trunk)

# Developers using libsbml svn

svn/branches/libsbml-5



svn/trunk/libsbml



# Acknowledgements

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JPL, USA



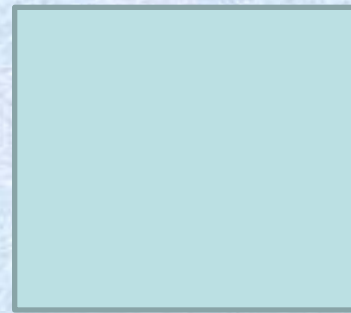
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USA



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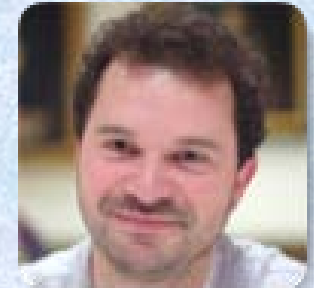


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