KIELER Pre-Release 0.9.0

KIELER Rich Client Application 0.9.0

Official Project Website

- Built on Eclipse 4.3 "Kepler"

We are happy to provide the ninth release of the **Kiel Integrated Environment for Layout Eclipse Rich Client**! It is a framework for enhanced user interaction in graphical modeling basing on the Eclipse platform. This being a pre-release it provides some basic core contributions as listed below. The full user experience will follow in upcoming releases. For known shortcomings and problems also see below.

- Installation
- Release Notes
    - New Features Included in 0.9.0
    - Deprecated Features Removed in 0.8.0
- Quickstart
    - Start with the ABO ("Hello World") Example
- Known Problems and Limitations
- Bug Reports, Comments

Installation

You can either download the Rich Client Application (RCA) which is a self-contained application bundled with everything you need to run KIELER, or you can install the single KIELER features via an update site on top of your own Eclipse installation (Eclipse 4.3 "Kepler" required).

- See the KIELER Downloads site for download details.
- You'll require a Java Runtime Environment >= version 1.5.
- Nice graph layouts can be obtained by GraphViz. KIELER makes use of a GraphViz installation on your machine, so you probably want to install it.
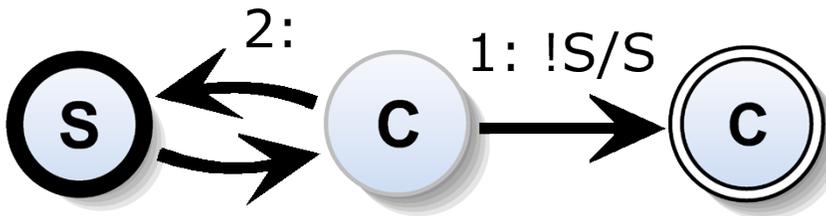
Release Notes

The 0.9.0 release comes with major changes as we replaced our GMF based SyncCharts editor by a new Xtext based SCCharts editor (see below).

New Features Included in 0.9.0

Here's a list of the most prominent new features provided with version 0.9.0:

- Support for Eclipse 4.3 "Kepler".
- KLay Layered
    - ...
- KLighD
    - ...
- SyncCharts / S
    - **SCCharts replace SyncCharts**

    - **Textual Xtext based SCCharts edior (*.sct files) added**
    - **SCCharts KLighD based automatic diagram synthesis**
    - Extended SCCharts transformation to Core SCCharts (experimental)
    - Core SCCharts normalization (experimental)
    - Core SCCharts to SCG transformation (experimental)
    - SCG to C code generation (highly experimental)

Deprecated Features Removed in 0.8.0

The following features were shipping with version 0.7.0, but are not included in version 0.8.0 anymore:

- The GMF SyncCharts Editor (ThinkCharts Editor) was removed, *.kixs files can be imported into the new SCCharts format (moreover they keep their meaning)

Quickstart

Start with the ABO ("Hello World") Example

The 0.9.0 release provides examples you can add and play around with. You can start with an example by doing one of the following things:

- Create a new project and name it as you like.
- Create a new *.sct file in the project (create a file and give it the file extension ".sct")
- Open the file (it should open in the SCCharts editor)
- Start with the SCT language using the following ABO example:

---

abo.sct

```
@VHLayout
scchart ABO {
  input output bool A;
  input output bool B;
  output bool O1;
  output bool O2;
  region:

  initial state Init
  --> WaitAB immediate with / O1 = false; O2 = false;
  state WaitAB {
    region HandleA:
    initial state WaitA
    --> DoneA  immediate with A / B = true; O1 = true;
    final state DoneA;
    region HandleB:
    initial state WaitB
    --> DoneB with B / O1 = true;
    final state DoneB;
  }
  >-> GotAB with / O1 = false; O2 = true;
  state GotAB;
}
```

Known Problems and Limitations

- If KIELER fails to start with an error message such as "Failed to load the JNI shared library...", you might have downloaded KIELER 64bit even though you're running Java 32bit, or vice versa. This is a known Eclipse problem and can be fixed by downloading the proper version of KIELER. Note that if you have installed multiple versions of the JVM on your machine, you have to make sure that Eclipse (resp. KIELER RCA) finds the right one. You can achieve this either by adding the Java bin directory to your PATH variable or by specifying the path to your JVM executable in your eclipse.ini file, using the -vm option, as explained on this page.
- Project Status with Release 0.9.0

Extension	Progress		Released
SCCharts Editor (*.sct)	Implemented and tested		0.9.0
SCG Editor	Implemented and tested		0.9.0
SCL Editor	Implementation not yet finished		planned for 0.10.0
Extended 2 Core SCCharts	Implemented, not yet fully tested		0.9.0
Core 2 Normalized SCCharts	Implemented, not yet fully tested (some known bugs)		0.9.0
Normalized SCCharts 2 SCG	Implemented, not yet fully tested (some known bugs)		0.9.0
SCG 2 Sequential SCG	Implemented and partly tested, straightforward scheduler for 0.9.0 release, enhanced scheduler planned for 0.10.0 release.		0.9.0
SCG 2 C	Implemented by transformation via common S language (this can also be translated into Java -> SJL)		0.9.0
Simulation	A full featured simulation is currently being developed		planned for 0.10.0

Bug Reports, Comments

We're working hard to make the graphical modeling user experience as convenient as possible. However, bugs can still remain in the code and some things might not be as you would expect them. Please don't hesitate to send in bug reports or give other comments like feature requests.

Send bug reports to kieler@…, please. For news or general questions subscribe to the rt-kieler mailing list.