# KIELER Pre-Release 0.8.0

## KIELER Rich Client Application 0.8.0

- Official Project Website
- Built on Eclipse 4.2 "Juno"

We are happy to provide the eighth 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.

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## 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 4.2 "Juno" 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 0.8.0 release is mainly a service release intended to provide proper support for Eclipse Juno 4.2 and to fix problems found in previous versions. You can find a complete list of solved tickets for this release at our issue tracking system. Release notes of older releases can be found at our Release Notes page.

### New Features Included in 0.8.0

Here's a list of the most prominent new features provided with version 0.8.0:

- Support for Eclipse 4.2 "Juno".
- The KIELER menu was removed. All of its functionality was moved to more appropriate places.
- KIELER View Management
    - The buttons placed in the toolbar were replaced by a single button through which KIVI combinations can be reached.
- KLay Layered
    - The algorithm now supports the placement of edge labels.
    - The algorithm also supports the placement of node labels and proper resizing of nodes.
    - Several improvements to the polyline edge routing algorithm.
- SyncCharts / S
    - SyncCharts-S-Simulation (default simulator)
        - Support: Entry-/During-/Exit-Actions, Pre-Operator, History Transitions, Count Delays, embedded C-Hostcode (and C-Variable interactions)
        - Visual Debgugging possibility
        - Benchmark possibility
    - SyncCharts to S Transformation
    - SyncCharts to Core SyncCharts Transformations
    - Fixed dependency analysis

### 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 Export Examples Wizard was removed.

## Quickstart

### Start with an Example

The 0.8.0 release provides examples you can add and play around with. You can start with an example by doing one of the following things:

- Select "Samples" on the Welcome page and select one of the provided examples. This will create a new project with the chosen example and open it in an editor.
- Use the *New Wizard* or the *Import Wizard* to select examples from a list of available ones:
    - File -> New -> Example -> KIELER
    - Choose a category (e.g. SyncCharts or KAOM) and select some examples
    - Finish

## Start with an Empty Workspace

When you start KIELER, you will probably start a new empty workspace.

- If it is not already there, open the **KIELER Perspective**! It opens the most important views that KIELER adds to Eclipse and adds some shortcuts to the New menu.
    - Window -> Open Perspective -> Other... -> KIELER Modeling
- Create a new empty simple project.
    - File -> New -> Project

In your new project you can create new graphical or textual models. Here is some possible use case:

- Create a new SyncCharts diagram.
    - File -> New... -> SyncCharts Diagram
- Create a new initial SyncChart
    - Select empty canvas -> KIELER main menu -> Add Default
- Edit the diagram
    - Select existing graphical objects in the diagram, choose editing operations from the KIELER main menu or the context menu (right-click). You won't need the palette. Layout is always performed automatically.
- Trigger automatic layout
    - Use the corresponding little button in the toolbar (or Ctrl-R L)
    - Use the *Layout* view to customize the automatic layout: choose different layout algorithms---even within the same diagram for different hierarchical nodes---or configure specific options.
- Save the SyncChart to automatically validate it.
- Simulate the SyncChart with the *Execution Manager* view
    - From the dropdown list select the matching schedule *synccharts*. This will setup KIEM for SyncCharts Simulation.
    - Press the play button.
    - Use the Execution Manager view and the *Data Table* view to interact with the model (i.e. see outputs and enter inputs).
- Checkout the key-bindings! Key-bindings help you to be faster with KIELER. All KIELER bindings have the Sequence *Ctrl+R <key>*, where <key> is some additional key that is pressed in sequence with Ctrl+R (CMD+R on Mac).
    - Press only Ctrl+R and wait to get a list shown with all possible key-bindings.
    - Maybe most frequently used are *Ctrl+R L* for autolayout and *Ctrl+R Z* for zoom to fit.

# 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.
- The performance of SyncCharts simulation visualization with focus & context is rather bad on some platforms. This may cause problems when the step size is set to a small value (< 500 ms). Please deactivate the SyncCharts visualization component if you wish a faster simulation.
- Currently there is no full-blown user documentation integrated. See our

# 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.