KIELER Pragmatics Release 2014/10

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- Official Project Website
- Built on Eclipse 4.3 "Kepler"

We are happy to provide release 2014/10 of the **KIELER Pragmatics Project**! KIELER Pragmatics is a framework for enhanced user interaction in graphical modeling that builds on the Eclipse platform. This document describes how to install the release and highlights the most exciting new features.

As a bonus, we are co-releasing our KLighD-based **KIELER Ptolemy Browser**.

Installation

KIELER Pragmatics 2014/10 is provided as a set of features, available to be added to your Eclipse installation via an update site. KIELER Pragmatics 2014/10 was tested on Eclipse 4.3 "Kepler", but may also be compatible with other versions of Eclipse.

- See the KIELER Downloads site for download details.
- KIELER Pragmatics requires an installed Java Runtime Environment >= version 1.5.
- The layout components of KIELER can make use of the layout algorithms provided by the Graphviz library. You may want to install that.

Also refer to the KIELER Downloads page to download the KIELER Ptolemy Browser and the KIELER Web Service.

Release Notes

You can find a 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.

If you're wondering where components have gone that were traditionally a part of KIELER, you might not know yet that the KIELER was split into two separate projects, KIELER Pragmatics and KIELER Semantics, which release pretty much independently.

API Changes in 2014/10

This is a summary of the API changes introduced with version 2014/10:

- Core Changes
  - `IPropertyHolder`'s `setProperty(...)` and `copyProperties(...)` now return `IPropertyHolder` instead of `void`, implementations are supposed to return `this` for convenience
- KIELER Lightweight Diagrams
  - Added `DiagramSyntheses` class providing lots of convenience methods for configuring the view model in diagram synthesis implementations (preliminary version introduced with last previous release)
  - `IViewer` provides `getZoomLevel()`
  - `IViewer` provides methods for registering `IViewChangeListeners`
  - `IUpdateStrategy` now requires the method `requiresDiagramSynthesisReRun(...)` that allows to tell KLighD's runtime whether a new synthesis run is required for performing a (certain) diagram update
  - Introduced `IKlighdSelection` interface abstracting `KlighdTreeSelection` and `KlighdTextSelection`
  - Updated `layoutDiagram(...)` methods in `LightDiagramServices`

New Features Included in 2014/10

Here's a few highlights of what's new in version 2014/10:

- KIELER Lightweight Diagrams
  - Improved integration of the *magnifying lens* (hit `alt + ctrl/cmd`) and *rubber band zoom* (press `ctrl/cmd` and drag on canvas)
  - Enabled the contribution of action invocation buttons (execution of `IActions`) in the diagram side bar (so far actions could only be executed by clicking on a diagram element of via menu contributions), see related hook in `AbstractDiagramSynthesis`
  - Added `editable` flag to `KText` in order to distinguish *cursor selectability* and *editability*
  - Enabled the zoom level-based visibility of diagram elements (nodes, ports, edges, labels) and figure elements (fine grained figure details, texts, ...), see `setUpperVisibilityScaleBound` & `setLowerVisibilityScaleBound` methods in `DiagramSyntheses`
  - Enabled output-dependent visibility (main diagram, outline, printout, image export) of figure elements (highlightings, fine grained figure details, texts, ...), see corresponding methods in `DiagramSyntheses`

    - Diagram image export now supports tiled exports enabling the export of huge diagrams, which may be prevented by memory limitations in the past
    - Contributed appropriate print support and (customizable) print dialog with preview
    - Contributed a customized SVG image exporter based on FreeHEP (http://freehep.github.io/freehep-vectorgraphics/) being able to attach semantic data to the image data
    - Contributed generic `PortRotationModifier` (style modifier) that realizes the rotation of port figures in case ports are moved to a different side by the automatic layout computation
    - Added zoom style `ZOOM_TO_ACTUAL_SIZE`, added corresponding configuration methods in `IAction.ActionResult`
    - Added switch in `KlighdSynthesisProperties` to deactivate minimal diagram figure size estimation in case size data are already available
- KGraph Text
    - A new option `de.cau.cs.kieler.kgraphsynthesis.defaults` can enable default values for element sizes and labels to make KGT files more compact.

Important Bugs Fixed in 2014/10

Among others, the following bugs were fixed in version 2014/10:

- KIELER Layout Algorithms
    - In KLay Layered, the polyline edge router could produce results where edges overlapped nodes.
    - In KLay Layered, the polyline edge router could produce weird results when more than one edge leaves a given port.

Quickstart

Diagram Layout

One of the core features of KIELER Pragmatics is the KIELER Infrastructure for Meta-Layout (KIML). It provides the glue between diagram editors and layout algorithms. If you have installed layout support for GMF editors, you may want to try the following:

- Open a diagram using a GMF editor.
- Press the Layout button in the toolbar: ? Unknown Attachment
- Open the *Layout View* by clicking *Window -> Show View -> Other...* and choosing *Layout* from the *KIELER Layout* category.
- Change some of the values and press the Layout button again.

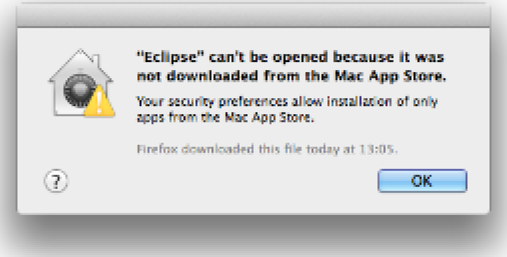
Viewing Ptolemy Models

If you have a Ptolemy installation, try the following:

- Save a Ptolemy model as a `.moml` file somewhere.
- Download and start our *Ptolemy Model Browser*.
- Open your moml file.
- Double-click actors that have further models inside them. Also double-click modal model states that have refinements. Use the sidebar on the right to influence how your model is displayed.

Known Problems and Limitations

- Starting with Mac OS X Mountain Lion, trying to start our software may give you an error message similar to this:

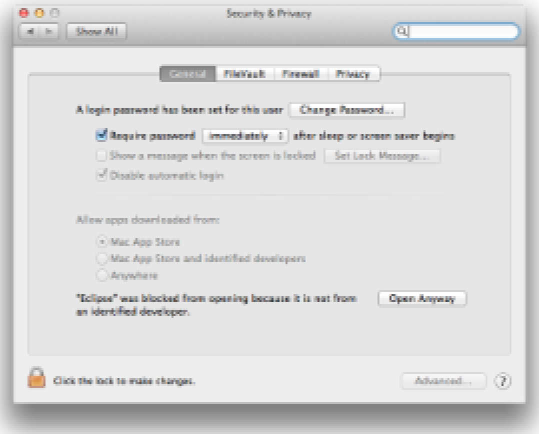


"Eclipse" can't be opened because it was not downloaded from the Mac App Store.

Your security preferences allow installation of only apps from the Mac App Store.

Firefox downloaded this file today at 13:05.

The solution is to open your system preferences and navigate to the *Security & Privacy* settings. Therein, either click on *Open Anyway* if available or change *Allow apps downloaded from* to *Anywhere*.



A login password has been set for this user

☑ Require password immediately after sleep or screen saver begins

□ Show a message when the screen is locked

☑ Disable automatic login

Allow apps downloaded from:

● Mac App Store

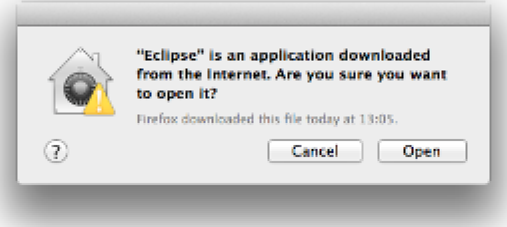
○ Mac App Store and identified developers

○ Anywhere

"Eclipse" was blocked from opening because it is not from an identified developer.

Click the lock to make changes.

Starting our software will now result in the following message:

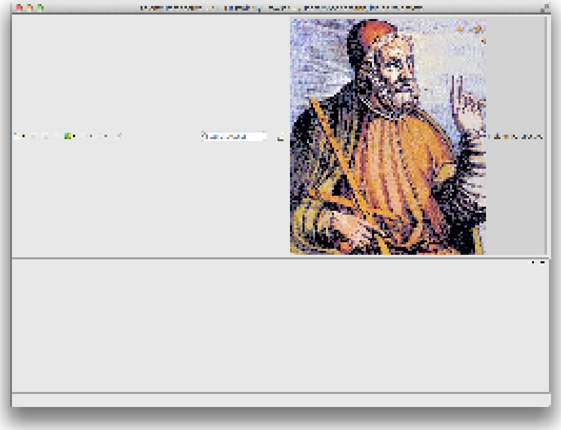


"Eclipse" is an application downloaded from the Internet. Are you sure you want to open it?

Firefox downloaded this file today at 13:05.

Simply click *Open* and you're good to go.

- Upon starting the Ptolemy Model Browser, you may get something like this:



The solution is to exit the application, remove your existing workspace, and restart the Ptolemy Model Browser. Your workspace can be found in your home folder and is called `kielerPtolemyWs`.

- The Ptolemy Model Browser can properly display only a limited set of actors. Other actors may look a lot different than they do in Ptolemy.
- Currently there is no full-blown user documentation integrated. See our KIELER Project for more information.

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.