

News in RSA-RTE 10.3

updated for sprint 2018.40

Mattias Mohlin, October 2018

Overview

- **Now based on Eclipse Photon (4.8)**
- **Contains everything from RSARTE 10.2 and also additional features and bug fixes**
 - See the What's New presentation for RSARTE 10.2 to learn about the new features that are also present in version 10.2



IBM Rational® Software Architect RealTime Edition

Version: 10.3.0.v20181005_1032

Release: 2018.40

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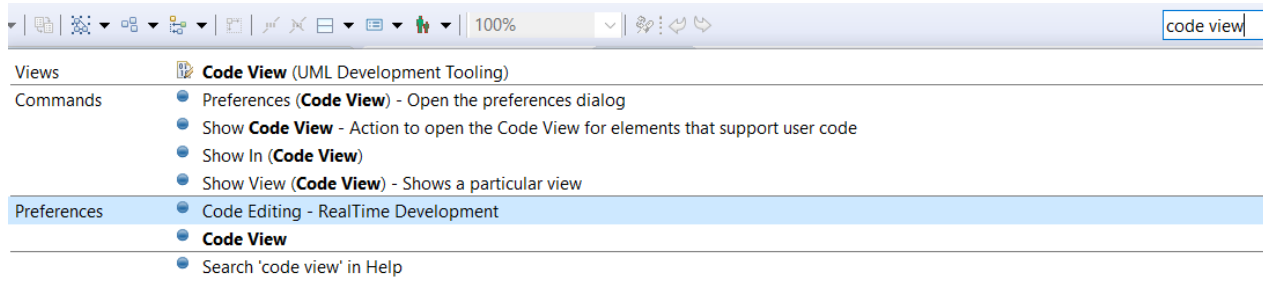
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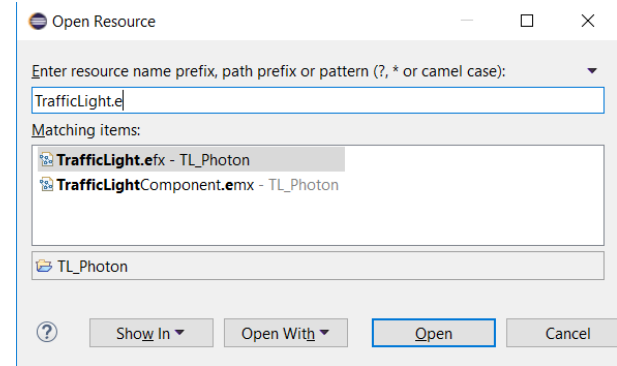


Eclipse 4.8 (Photon)

- Finding preference page by keyword in Quick Access
 - The same keywords as can be used when searching in the Preferences dialog can now be used from the Quick Access field

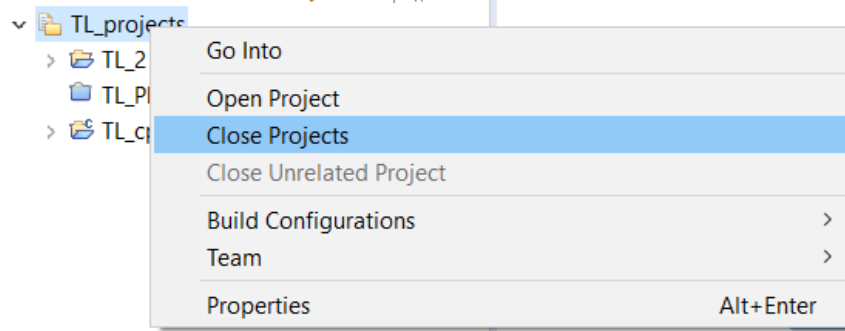


- Improved sorting of matches in dialogs that support filtering, e.g. the Open Resource dialog
 - Items that match the typed filter exactly are now always shown on top
- Open Resource dialog now highlights characters that match the typed search filter
 - Also the workspace path is now shown for matching files



Eclipse 4.8 (Photon)

- More commands available in the Working Set context menu
 - For example to open or close all projects in the working set

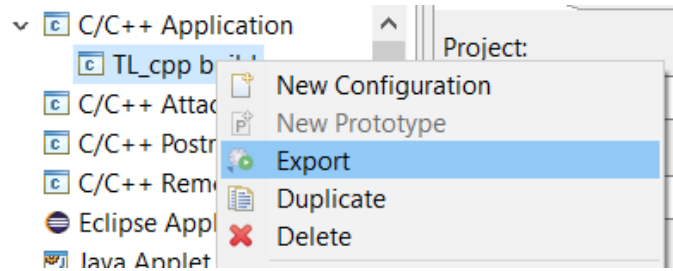


- Improved default layout of Debug perspective
 - The Project Explorer, Display and Expressions views are now initially visible since they are commonly used when debugging
 - Views less commonly used when debugging, such as Tasks, are now not initially visible

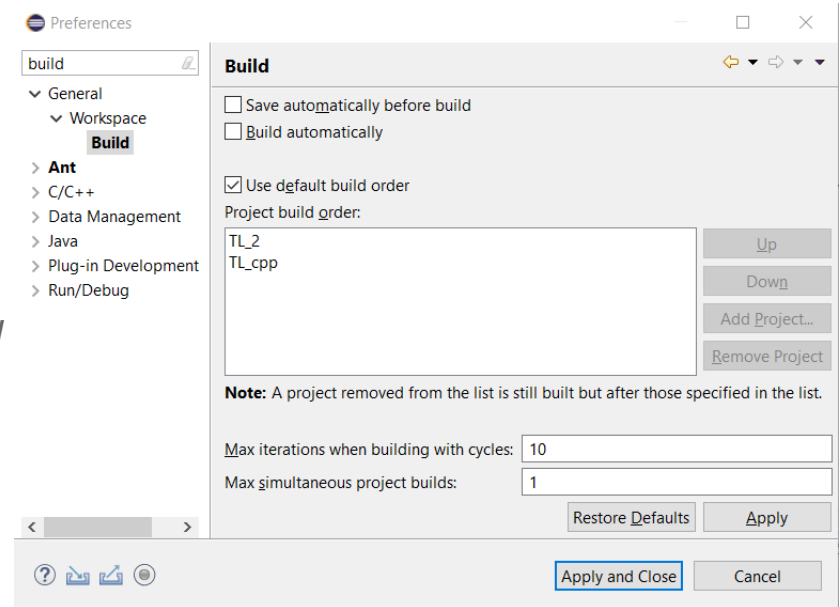


Eclipse 4.8 (Photon)

- Easier to export launch configurations
 - A new Export command is now available in the context menu in the Launch Configurations dialog

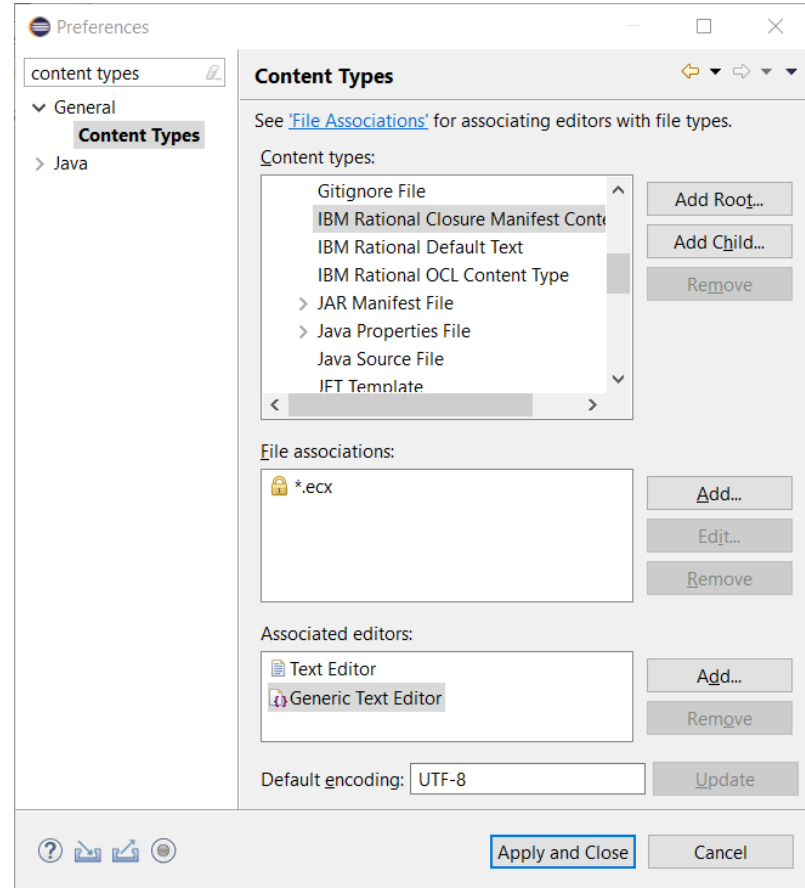


- Support for parallel build of projects
 - New preferences in *General – Workspace – Build* allows you to set-up how projects can be built in parallel
 - Potentially a big performance improvement when building a workspace with several independent projects



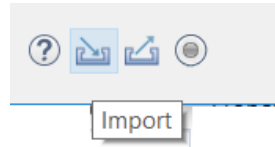
Eclipse 4.8 (Photon)

- Improved workflow for associating editors with file extensions
 - This should now be done from *Preferences – General – Content Types*
 - The old way of using *Preferences – Editors – File Associations* should no longer be used
 - A file name pattern (including wildcards) can now be used for associating certain files with certain editors (previously only the file extension could be used)

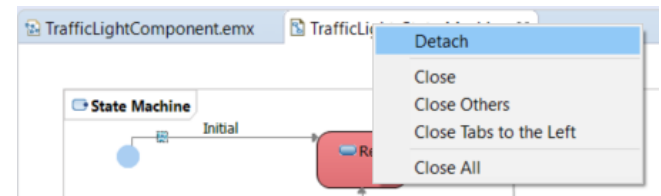


Eclipse 4.8 (Photon)

- Preferences can now be imported or exported directly from the Preference dialog
 - Convenient buttons are now available in the bottom left corner of the dialog



- Many cosmetic improvements for the dark theme
 - Better fonts, redesigned icons, improved contrast in popups etc.
- Easier to detach editors
 - New context menu command in the editor header tab
 - Previously it was necessary to detach by dragging the header tab outside of the Eclipse main window which is difficult when that window is maximized



Eclipse 4.8 (Photon)

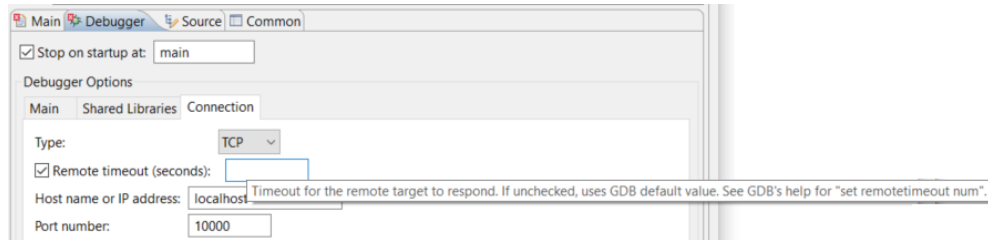
- Significant improvements on Linux/GTK3
 - Accessibility is now working again. It was broken in Eclipse Oxygen and assistive technologies now work again on this platform
 - Improved memory usage (memory leaks fixed)
- Removed obsolete features
 - XULRunner no longer supported as browser rendering engine
 - Support for CVS is no longer included by default (has to be installed separately)

For more information about improvements and changes in Eclipse Photon see <https://www.eclipse.org/eclipse/news/4.8/platform.php>



CDT 9.5 (included as part of Eclipse Photon)

- Open Declaration
 - More "fault tolerant" navigation. Possible to navigate from a function declaration to its implementation even if the function signatures don't match exactly.
- C++ 14 and C++ 17
 - The CDT parser has been improved to support more C++ 14 and C++ 17 specific constructs
- C++ remote debugging timeout
 - This can now be configured which is useful when debugging over slow connections



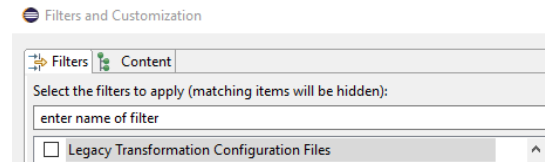
For more information about improvements and changes in CDT 9.5 see

<https://wiki.eclipse.org/CDT/User/NewIn95>

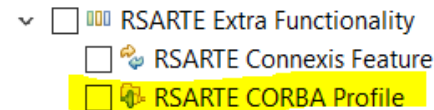


Removal of Old Features

- The classic builder has been removed and the model compiler is now the only builder
 - Users that still rely on features only supported by the classic builder (e.g. C code generation) have to use RSARTE 10.2 until the model compiler supports these features
- Transformation configurations in the old format can no longer be created
 - You can still build old TCs using the model compiler, but other activities involving old TCs should be performed in RSARTE 10.2.
 - Old TCs are by default not shown in the Project Explorer, but you can turn off a filter "Legacy Transformation Configuration Files" to make them visible. After that you can double-click on them to view them in the old TC editor.



- The IDL code generator (CORBA support) has been removed
 - If requested, support for IDL may be added to the model compiler in the future, but until then you need to use RSARTE 10.2 if you rely on IDL code generation.
 - It is still possible to install the CORBA profile (a separate choice when installing RSARTE). Do this if your models have references to elements in this profile.



Restructured Preference Pages

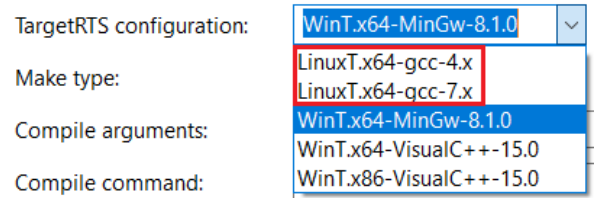
- After removal of old features there was a need to restructure preference pages
 - The preference page "UML Development" has been renamed to "RealTime Development"
 - Preference pages under this page have been restructured, to remove obsolete preferences and sometimes place preferences at more logical places
 - In particular preferences related to C++ code generation have been affected by this (due to the removal of the classic builder)

- ▼ RealTime Development
 - ▼ Build/Transformations
 - C++
 - Code Editing
 - Code To Model Synchronization
 - ▼ Diagrams
 - Class
 - Sequence
 - State Chart
 - Structure
 - Project Explorer
 - Properties View
 - Resource Resolution
- ▼ Search
 - Index
 - Transformation Configuration Editor



New TargetRTS Libraries

- Prebuilt 64-bit Linux libraries for new versions of GCC are now included in the installation
 - GCC 4.x and 7.x



TargetRTS Improvements

- A new class `RTJsonEncoding` can be used to encode messages and data to JSON
 - Useful for example when you need to send data from your application to a cloud server where JSON is a popular format
- A new class `RTDynamicStringOutBuffer` implements a dynamic string buffer (based on `std::string`)
 - Useful when you don't know the size of the encoded string and want it to be dynamic
- Note: These classes are not included by default (in `RTStructures.h`) so you need to include them if you want to use them

```
RTDynamicStringOutBuffer buf;  
RTJsonEncoding coding(&buf);  
coding.put_msg(msg);  
  
cout << "Received msg: " << buf.getString() << endl << flush;
```



THANK YOU!