Release Notes 2.7.0

g9

June 15, 2017

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1 News and Changes

1.1 The Dialog Editor Palette

The Palette View is removed and replaced with a palette integrated with the Dialog Editor. The palette groups and content are as before. The functionality offered is

- Initially shown in an unpinned mode
- Shows a blue ribbon with an unpinned icon
- Clicking or hovering the ribbon makes the palette visible and you may select from it
- Click the unpinned icon to set the palette in pinned mode
- The palette remembers the size if you resize it

Below is the Dialog Editor with a pinned palette:
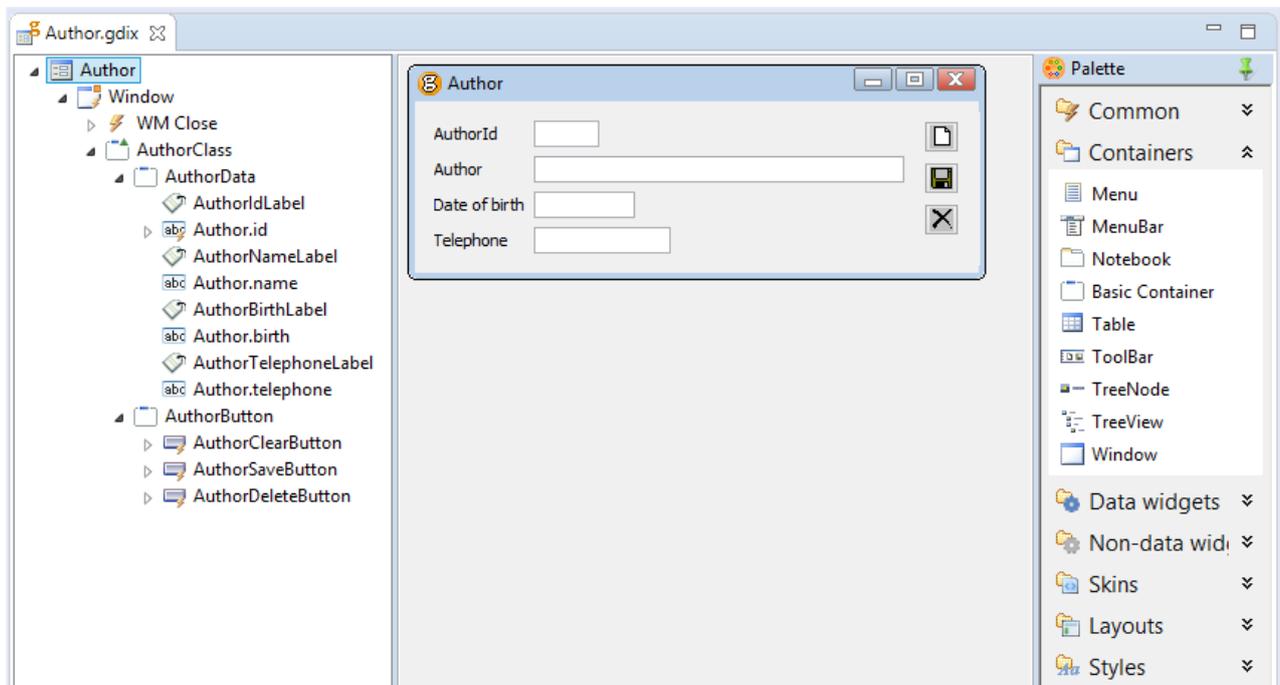
1.2 Fast creation of Object Selections

Add new object selections by selecting classes in the Domain Model and click the **Create Object Selection with <class> as root** menu option.

This will analyze the model and create the best structure possible based on the selected classes and their associations.

1.3 Generating value change and find on New Dialog

The dialog generator will now generate search functionality on root roles. The following is generated if the root role has a primary key:

- Value Change event on the field for the primary key attribute
- A new method find<role> with a find action on the root role
- The event is connected to the find<role> method

1.4 Generate one role dialogs

Selecting multiple classes in the Domain Model Classes and choosing Create Dialog Model(s) from the context menu will for each class create

- One role Object selections based on the classes
- Dialog models based on the generated object selections
- The generation will use the Default Dialog Template
- Each Dialog will have Value Change event on the field representing the primary key
- A find<role> method connected to the Value Change event
- Structure and functions as defined by the Default Dialog Template

The OneRole template is useful for this kind of dialogs and will generate dialogs similar to the sample below:
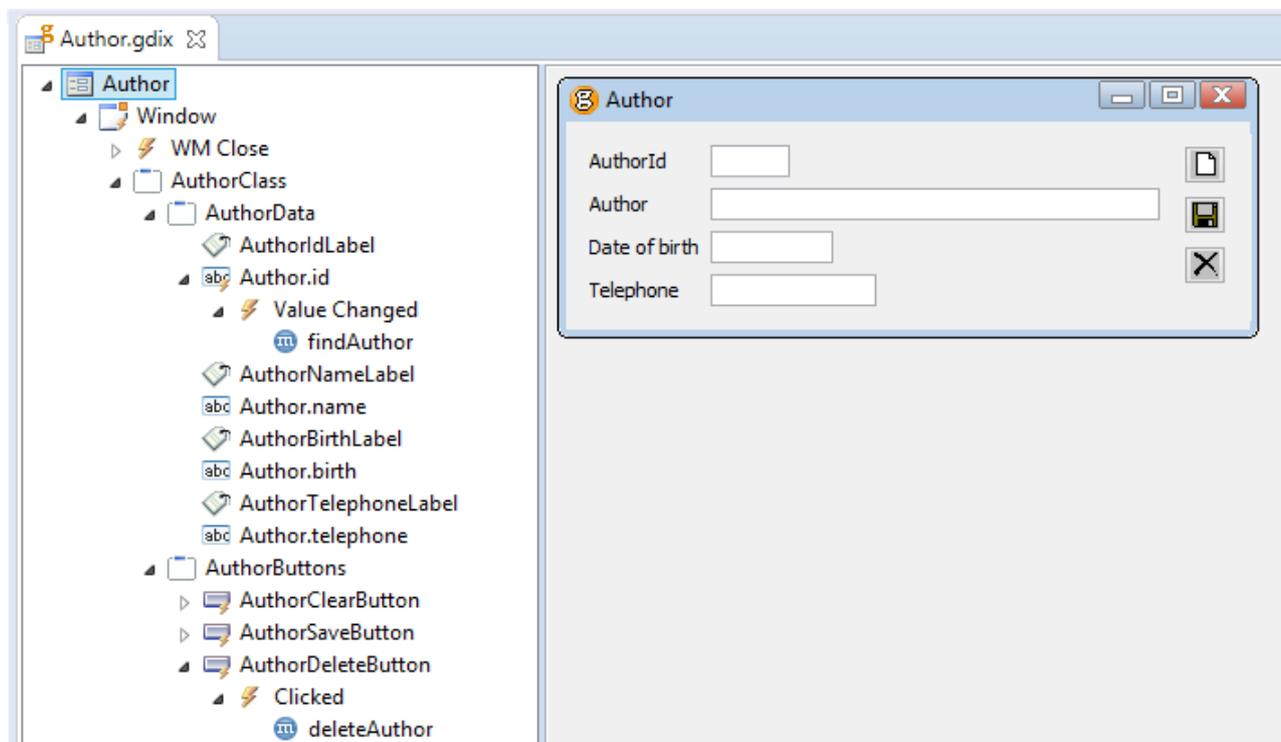
1.5 Added Application frameworks support on New > g9 Modeling Project

Three new application framework stacks are added:

- REST server with JPA annotated domain classes
- REST server with REST JGrape service Wrapper, JGrape and g9's Hibernate runtime
- Web Service server with SOAP/Castor, WSDL and XSD

1.6 Modify built-in generators

All g9 generators are available for change and are distributed with full source. If you need to change the result from a generator, you can make a generator copy and make necessary changes. The generator will be available in the Build section of g9 project properties. Create a new project:

Select **File** > **New** > **Project...** and select *Copy of g9 Generator Project* from the wizard.
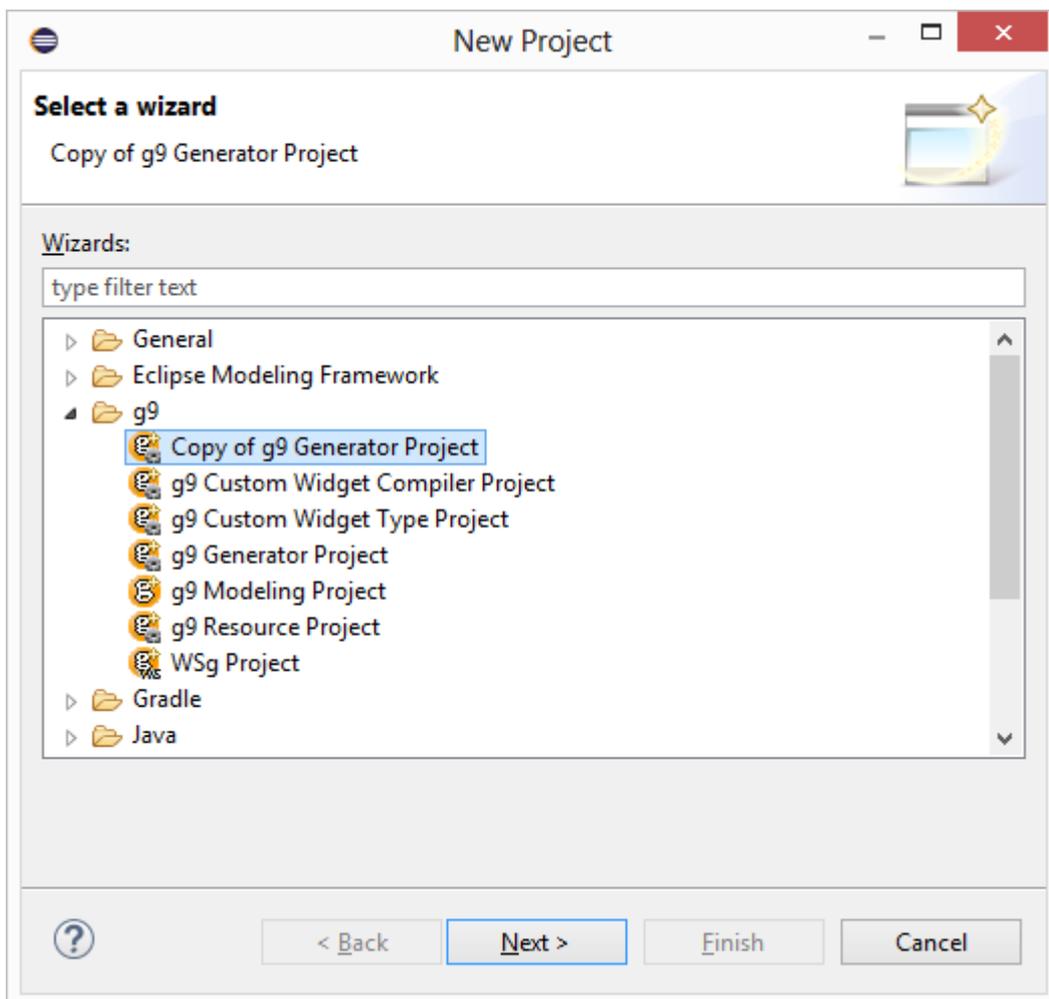
Select the wanted Generator (Oracle in this sample):
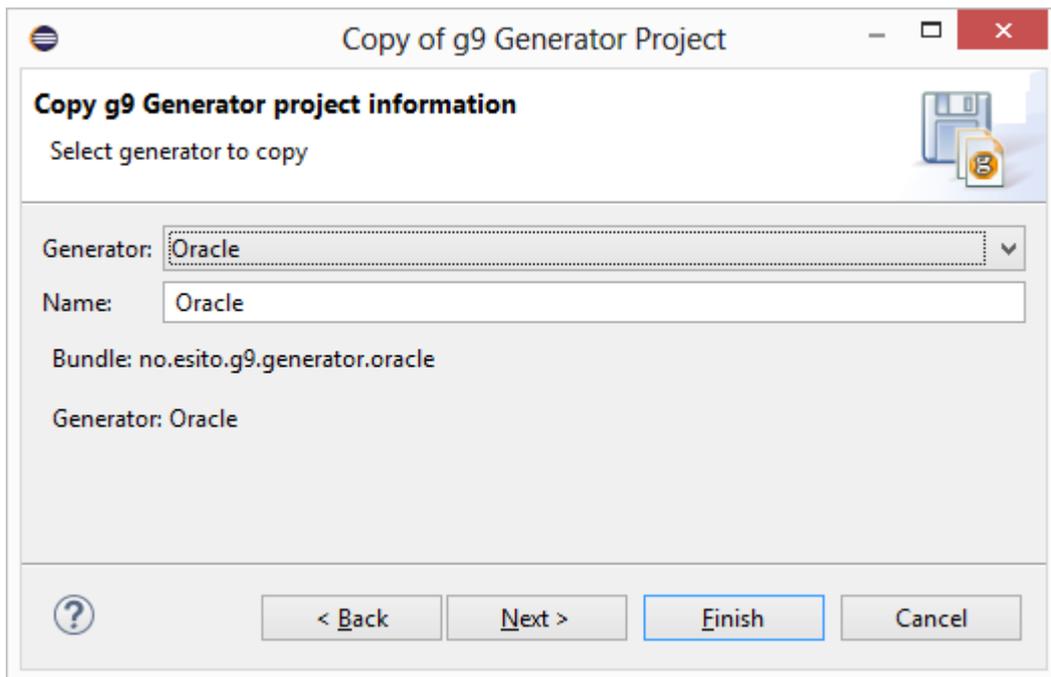
If you choose same name as the original generator, it will immediately replace the built-in generator in all g9 projects where it is used. If you change the name, it will be available in the Build section as a new generator with the name given.

More information is available in the Copy and modify built-in generators chapter in the User Guide.

1.7 Generation of dialog Function buttons

Generation of dialog function buttons have changed. The changed strategy implies that *Insert* and *Update* buttons are never created in a new dialog if a *Save* button for the same role will be created. Adding all three types of function buttons (Save, Insert and Update) and enabling all of them for the root role of the Object Selection will make new dialogs only contain one of these buttons.

Dialog templates are extended with a new function button: *Find.*

If a dialog template has *Find* button added and enabled, new dialogs will be created with a *Find* button. A New Method *find<Rolename>* will be added and Connected to the *Find* button's *Clicked* event. The Method will contain the action *Find* with the role as target.

In addition, if the root role's primary key consist of only one attribute and that attribute is not excluded from the Object Selection, the data item for this attribute will be equipped with a *Value Changed* event connected to the *find* Method for the root role.

1.8 List of Part Generators

g9 Preferences have the *List Generators* button. The list dialog now contains a *List Part Generators* button. It will display the dialog below:

List Part Generators

List of available part generators

All currently available part generators for use by other generators

Name	BundleId	Location	Used by
MyCastor	mycastor	C:/eclipse/eclipseNeon3/samples/...	
Java Common	no.esito.g9.generator.javacommon	plugins/no.esito.g9.generator.java...	AngularJS/Bootstrap, JGrape, Java Domain, Java2XML, OSConst,
Castor	no.esito.g9.generator.castor	plugins/no.esito.g9.generator.cast...	JMS/Castor, SOAP/Castor
Transport	no.esito.g9.generator.transport	plugins/no.esito.g9.generator.trans...	Castor, MyCastor
OSConst	no.esito.g9.generator.osconst	plugins/no.esito.g9.generator.osco...	JMS/Castor, Jvine, SOAP/Castor, SpreadsheetExport
Jvine	no.esito.g9.generator.jvine	plugins/no.esito.g9.generator.jvine...	ICEfaces, Jouteur

1.9 Runtime on Maven Central

The g9 runtime is now available on Maven Central. The first version is 2.7.0.

2 Generated code and Model Changes

2.1 Changes in model files

Skin and Image references in some Dialog Templates did not contain IDs, only name. Rename would caused problems.

OneRole template

Skin StandardOneColumn sets No frame and No borders.

Insert/Update functions

All Dialog templates have got new function buttons Insert and Update in addition to Save. See Generation of dialog Function buttons above.

2.2 Changes in generated code

Regeneration of code is necessary.

3 Dependent versions

g9 runtime libraries uses 3. party open source libraries. Supported versions in this release are:

Library	Version		Library	Version
Spring	4.3.5.RELEASE		Hibernate	5.1.4.Final
ICEfaces	4.1.1 4.1.0-GA		JSF	2.2.10
log4j	2.8		Jetty	9.4.1.v20170120
Jackson	2.8.6		Spring WS	2.4.0.RELEASE
Castor	1.4.1		JasperReports	6.4.0
Joda Time	2.9.7		Apache POI	3.9
EJB	3.2.0		Guava	21.0

4 Improvements and corrected Errors

If nothing is written in the *Release Comment* section about an error, the error is corrected and a comment is not necessary.

4.1 g9

SUP-4886 - Values of properties in models should get a Problem when values are illegal
Release Comment: When a property in a model has an illegal value the element is marked with a problem telling what is wrong with the property. The same error text is also displayed in the property view.
When the property is used in editors, wizards or generators the default value will be used instead of the illegal value. This prevents editors, wizards and generators from experience unexpected exceptions.

SUP-5046 - Automatic build issues
Release Comment: Automatic build is now also triggered by changes in generator and build configurations.

SUP-5496 - ClassCastExp on file compare

SUP-5549 - Wizards sometimes proposes illegal names
Release Comment: All class and package names proposed by the project wizards will be syntactical correct according to java. When a user changes such values in a wizard the class name and package path will be validated.

SUP-5571 - Project settings loading doesn't refresh properly

SUP-5577 - Menus, toolbars and labels should be theme neutral

SUP-5582 - Generator projects are slow in local dev mode

SUP-5587 - NPE when testing for XText version

SUP-5589 - NPE on maintain JDBC drivers on plugin install

SUP-5590 - Database models are always saved as a new model after domain model update
Release Comment: Only if changes are recorded in the model will the model file be updated

SUP-5592 - Part Generator projects don't override built-in generators

SUP-5594 - New Model Project wizard fails when having alternative database generators

SUP-5596 - Make part generators overridable and reachable just by name

SUP-5599 - Generator project doesn't restart after editing Xtend/Java files

SUP-5605 - Illegal value in default resource model

SUP-5606 - Class and RelationType properties in object selection roles are editable
Release Comment: The two properties are now read only.

SUP-5607 - Quick fix for "Id property for Association reference is wrong" in object selections does nothing

SUP-5609 - Use association first strategy when building OS automatically

SUP-5610 - Create dialogs based on multiple class selection
Release Comment: Selecting multiple classes in the domain model and choosing Create Dialog Model(s) from the context menu will create one Object selection and one Dialog model for each selected class.

SUP-5613 - Compare With System menu entry should not show when the source is a system resource

SUP-5616 - Add Find Button as a function button type in Dialog Templates
Release Comment: In the dialog templates a function button type is available: Find
If a dialog template has this button added and enabled, new dialogs will be created with a *Find* button. A New Method *find<Rolename>* will be added and Connected to the *Find* button's *Clicked* event. The Method will contain the action *Find* with the role as target. In addition, if the root role's primary key consist of only one attribute and that attribute is not excluded from the Object Selection, the data item for this attribute will be equipped with a *Value Changed* event connected to the *find* Method for the root role.

SUP-5623 - Creating object selection from selected classes should always follow association links

SUP-5626 - New context menu item in package explorer: Generate dialog models from selected classes

SUP-5627 - Set Participate in Build for new and example wizards

SUP-5628 - The runtime version used by new project wizard is hardwired
Release Comment: The g9 Version used in Maven pom.xml files when creating new g9 Modelling Project is set to the installed g9 Runtime version. The same is the case when g9 example projects are imported into the workspace.

SUP-5631 - Toggle expand on property view doesn't work when not showing categories

SUP-5632 - NPE in property view when setting "Use Image" for a button without an image

SUP-5635 - Set No Frame on OneRole template

SUP-5636 - Compare toolbar messed up by "action.SwitchLeftToRight"

SUP-5637 - Next in compare does not move the selection when multiple children have same label

SUP-5638 - Create List of Available Part generators

SUP-5639 - Changes in strategy in creation of buttons when generating a new dialog
Release Comment: The New strategy implies that insert and update buttons are never created in a new dialog if a save button for the same role will be created. Adding all three types of function buttons (Save, Insert and Update) and enabling all of them for the root role of the Object Selection will make new dialogs only contain one of these buttons.

SUP-5640 - Create Object Selection from Domain Model does not follow associations contained in attributes of value object type

SUP-5643 - Compare: Conflicting handlers for org.eclipse.compare.copyAllRightToLeft

SUP-5644 - NPE when deleting multiple models

SUP-5647 - Internal references between elements in a resource model should always be based on id
Release Comment: The System Resource model is corrected. Now all references are based only on id and not on name. In existing resource models existing name references will be removed the first time the Resource model is saved. This can be achieved by running an Upgrade on the project.

SUP-5650 - The source folder src/main/test should not be part of source in generated pom.xml file
Release Comment: The "g9 Modeling Project" wizard created a pom.xml file containing the specification <source>src/test/java</source> which is not needed.

SUP-5651 - "Artifacts" sub menu should sort by name

SUP-5653 - The .classpath file generated with g9 Model Wizard does not contain correct source paths
Release Comment: The "g9 Modeling Project" wizard created a .classpath file that did not difference between src and test code in the context of a maven project.

4.2 React generator

SUP-5580 - Unnecessary imports in ReactJS generated code
Release Comment: Various unnecessary imports have been removed from generated code.

SUP-5584 - Errors from the REST server are not shown in the browser
Release Comment: Error messages from the server are now shown in a message box.

SUP-5585 - Allow override of the key for Find actions
Release Comment: The hook property "keyOverride" is added to allow for customized keys for Find actions. Use the "obtained" hook function to add the key value to the request path.

SUP-5621 - Update ReactJS dependencies to newer versions
Release Comment: All dependencies have been updated to the latest released versions. React v15.5 has required changing imports of "PropTypes" which changes all container and presentation files. React-router version 4 has required a rewrite of the routing index.jsx file.

4.3 Swing generator

SUP-5579 - Generate serialVersionUID to the View class to avoid compiler warning
Release Comment: A serialVersionUID with the value 1L is now generated to the <Dialog>View classes.

SUP-5611 - The <application>Default class references the <applicationWindow>View class
Release Comment: The <application>Default class now references the <applicationWindow>DefaultView class instead of the view subclass.

4.4 Jouteur generator

SUP-5649 - Invalid package in Jouteur when "Generated package" is empty
Release Comment: The package statement in the generated Java files was invalid when the "Generated package" generator configuration property for Jouteur was empty.

4.5 Java Domain generator

SUP-5598 - The JAXB annotation XmlRootElement for classes does not use the "Name in Model" property
Release Comment: The annotation now gets the "name" attribute from "Name in Model" if it has a value.

4.6 EA/Xcore/Java synchronization

SUP-5591 - Application and dialog models are unnecessary saved after a domain model update from Enterprise Architect

SUP-5586 - Excluding single java source files from domain model update fails

4.7 RESTful services generator

SUP-5583 - Exceptions from the osHelper are not caught
Release Comment: The usage of the "osHelper" is now within the try/catch block in the controller methods.

SUP-5646 - The primary key name and type is missing when the primary key is inherited
Release Comment: When the primary key of a role was inherited from a super class, the generated code for the controller and helper classes did not compile.

4.8 Hibernate generator

SUP-5617 - TAD-919 - Wrong param name for the Oracle sequence name
Release Comment: The parameter name for the sequence name is now changed from "sequence" to "sequence_name".

4.9 Known Issues

4.9.1 New example projects can get cyclic dependency errors

This can happen occasionally due to issues with some versions of Xcore/Xtext. New Example projects can get into a cyclic dependency error situation, shown as an exclamation mark on the project node. In this situation "Clean" or reopening the project does not always help, however it is usually resolved by restarting Eclipse.

4.9.2 Slow Eclipse workspaces

If you experience that your Eclipse IDE is becoming slow, it is possible to improve. Here are some improvement suggestions:

1. Plugin cache - "eclipse.exe -clean"
   Reloads all plugin cache (safe - you won't lose anything)
2. Local history
   Remove ".metadata/.plugins/org.eclipse.core.resources/.history/"
3. Markers
   In sub-directories of ".metadata/.plugins/org.eclipse.core.resources/.projects/" remove ".markers" and ".markers.snap" files.
   https://codedrawer.wordpress.com/2011/07/25/slow-or-frozen-eclipse-ide-start-after-a-crash/
4. Settings
   When upgrading major version of Eclipse, settings are not cleaned up properly.
   Export your settings, then rename the ".metadata" directory, then import your settings.
   http://blog.pdark.de/2011/09/02/restoring-a-corrupted-workspace-in-eclipse/
5. Create a new Eclipse workspace and import your projects into it.

5 Distribution

The g9 2.7.0 distribution consists of the g9 plugin update site. Information about downloading and installation is available on www.esito.no.

The g9 plugins contain all generators and the Java run-time jars. The run-time jars are available on Maven Central.

6 Requirements

The g9 tool-set consists of code that runs on Windows and Linux operating systems. The tool set runs as an Eclipse plug-in and requires Java version 8, and Eclipse Mars or newer.

6.1 Xcore modeling

To use Xcore for creating the domain models for g9, the Xcore and Xtext plugins must be installed. Some Eclipse packages already have Xcore and Xtext installed. If not, the recommended update site for Xtext is "Xtext All In One - Releases" http://download.eclipse.org/modeling/tmf/xtext/updates/composite/releases/ . The recommended update site for Xcore is http://download.eclipse.org/modeling/emf/emf/updates/2.10.x/.

For Xcore modeling, the following plugin versions have been tested:

- EMF Xcore version 1.4.0
- Xtext version 2.11.0

6.2 Writing generators in Xtend

To be able to create your own generators in the Xtend language, the Xtend and Xtext plugins must be installed. Some Eclipse packages already have Xtend and Xtext pre-installed. If not, the recommended update site is "Xtext All In One - Releases"

For Xtend support, the following plugin versions have been tested:

- Xtend and Xtext versions: 2.11.0