



# Release Notes 2.9.0

**g9**

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## News and Changes

### SQL schema as database model input

From this version is it possible to import database models based on SQL files with CREATE TABLE statements. See more on this in the Import Database Model Wizard chapter.

### Multiple database schemas/connections

You may now mix schemas from SQL or database connections. The generated program however, will only have support for one connection. All database operations must use this one and only connection.

### React package.json upgrades

Generated *package.json* configuration file has been updated to more recent versions of various dependencies. Among those are

- react 16.8.6
- webpack 4.23.2
- node.js 12.16.3
- npm 6.14.4

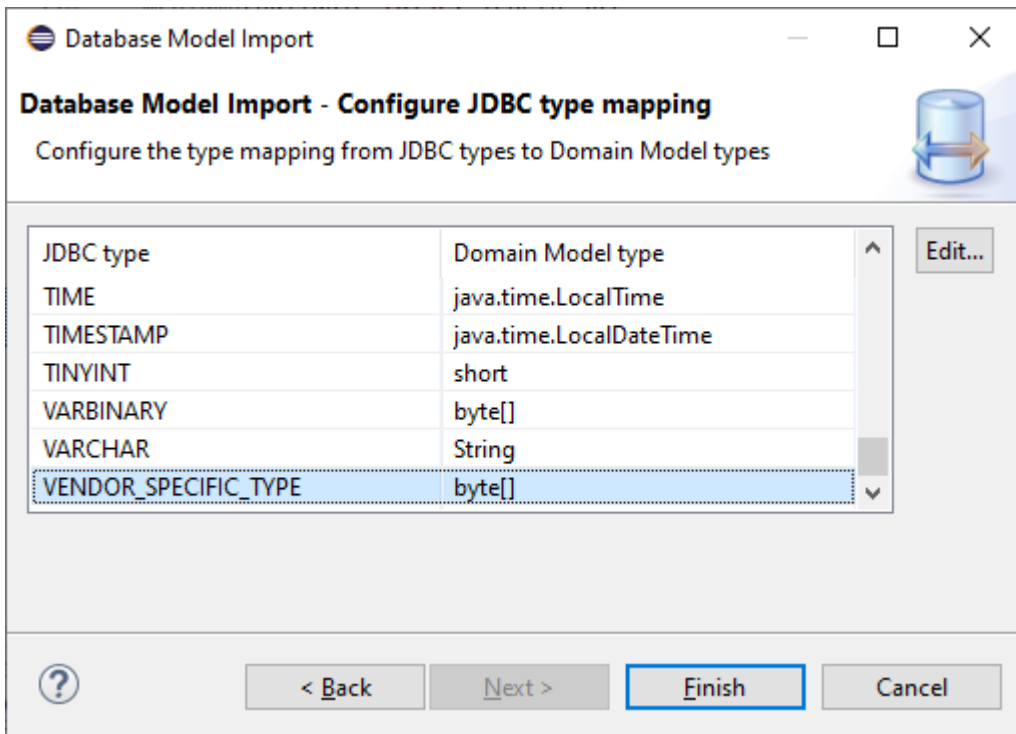
Remove the `node_modules` directory and the `package-lock.json` files before `npm install`.

### JPA @IdClass

When generating JPA annotations will groups that are primary key for a domain class be generated as an inner class in the domain class. The domain class itself will be annotated with `@IdClass` with this inner class as target.

### Vendor specific database type

JDBC type 1111 (Other) is imported as `VENDOR_SPECIFIC_TYPE` with default type `unknown.VendorSpecificType`. This may be overridden in the JDBC type mapping:



## (un)check All on Table selection

There's a new tri-state toggle on all toggle lists, positioned above the toggle column. Toggle on/off will select/unselect all items in list. It will display as grayed, if there is mixed states in the list.

## Removed AngularJS

The AngularJS generator is not available and supported any more.

## Java versions

The default setting for java version in example projects and wizard generated projects are java 1.8. If you want to upgrade to java 10, do as follows.

Add the following dependencies to your pom.xml:

**pom.xml**

```
<dependency>
  <groupId>javax.xml.bind</groupId>
  <artifactId>jaxb-api</artifactId>
  <version>2.3.0</version>
</dependency>
<dependency>
  <groupId>com.sun.xml.bind</groupId>
  <artifactId>jaxb-core</artifactId>
  <version>2.3.0</version>
</dependency>
<dependency>
  <groupId>com.sun.xml.bind</groupId>
  <artifactId>jaxb-impl</artifactId>
  <version>2.3.0</version>
</dependency>
<dependency>
  <groupId>javax.activation</groupId>
  <artifactId>activation</artifactId>
  <version>1.1.1</version>
</dependency>
```

## Example projects

Change the java version settings in the example project pom.xml files to this:

**pom.xml**

```
<configuration>
  <source>10</source>
  <target>10</target>
</configuration>
```

## g9 Modeling projects

Change the java version settings in the generated pom.xml file to this:

**pom.xml**

```
<java.version>10</java.version>
```

## JDBC Driver for MySQL (Connector/J)

Test of MySQL Connector/J driver versions:

MySQL server	Connector/J 5	Connector/J 8
version 5	OK	OK, new driver class
version 8	not OK	OK, new driver class

## Maven central

Maven central has moved the repository to https based repository with a new URL: <https://repo1.maven.org/maven2>.

## Derby 10.14.2.0

All example projects uses Derby version 10.14.2.0.

## Generated code and Model Changes

### Changes in model files

The Dialog Profile is upgraded.

### Changes in generated code

Regeneration of code is necessary for generators mentioned in this release note.

## Dependent versions

g9 runtime libraries uses 3. party open source libraries used together with Java 8. Supported versions in this release are:

Library	Version		Library	Version
Spring	4.3.25.RELEASE		Hibernate	5.1.17.Final
ICEfaces	4.2.0 4.1.0-GA		JSF	2.2.10
log4j	2.11.2		Jetty	9.4.19.v20190610
Jackson	2.9.9		Spring WS	2.4.6.RELEASE
Castor	1.4.1		JasperReports	6.9.0
Joda Time	2.10.3		Apache POI	3.9
EJB	3.2.0		Guava	28.1-jre
React	16.8.6		Webpack	4.32.2
Spring Boot	1.5.22.RELEASE			

## 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.



## g9

**SUP-6189** - The AngularJS/Bootstrap generator are removed

**SUP-6148** - The g9 entry in the Open Console menu does not change to the g9 console when multiple consoles are open

**SUP-6147** - Add g9 icon to Display Selected Console menu

**SUP-6146** - Multiple console views are created during automatic builds

**SUP-6114** - New model project wizard does not add all used projects to working set

**Release Comment:** When creating a new model project, the project may be added to a set of working sets. The target projects will be added to the same working set.

**SUP-6090** - The Database Models node in Model View has no warning annotation when warnings exists

## Java Domain

**SUP-6184** - Generate JPA annotation @IdClass for primary key groups

**Release Comment:** When generating JPA annotations, groups that are primary key for a domain class, will be generated as an inner class in the domain class. The domain class itself will be annotated with @IdClass with this inner class as target.

**SUP-6181** - Attributes are generated with Usertype type name and not model type

## React

**SUP-6208** - npm install reports vulnerabilities

**Release Comment:** Upgraded to webpack 4 ++.

## Swing

**SUP-6151** - Potential null pointer access in generated java code

**Release Comment:** The change may be observed in the generated files <DialogName>Methods.java in the method recursiveObtain(List pathToTarget, boolean singleObtain, boolean forceObtain) when object selection contains many related role(s). The changes are introduced to prevent the compiler from reporting unneeded "Potential null pointer access" error. The correction does not have any impact on program behavior.

## Database Import

**SUP-6277** - NPE when generating java code

**Release Comment:** The error occurs when the java generator is trying to report a generator problem. Now any generator problems will be written as warnings messages in the Error Log view.

**SUP-6240** - Maintain JDBC Drivers does not add driver

**Release Comment:** Added support for adding jar with or without Maven GAVs.

**SUP-6239** - Remove use of connection pools

**SUP-6225** - Schema parser does not accept qualified table names for SQLServer

**Release Comment:** The parser now accepts [database\_name.][schema\_name.][table\_name] formats.

**SUP-6203** - SQLException: Stream has already been closed, when reading metadata from database

**Release Comment:** This is an Oracle driver error. The error occurs if a table contains a column with Oracle type LONG or LONGRAW and this column has a default value.

**SUP-6197** - Support for unknown jdbc type read from database connection

**Release Comment:** JDBC type 1111 (Other) is imported as `VENDOR_SPECIFIC_TYPE` with default type `unknown.vendorSpecificType`. This may be overridden in the JDBC type mapping.

**SUP-6184** - Generate JPA annotation `@IdClass` for groups that are primary keys

**Release Comment:** When generating JPA annotations will groups that are primary key for a domain class be generated as an inner class in the domain class. The domain class itself will be annotated with `@IdClass` with this inner class as target.

**SUP-6159** - Need (un)selectAll on Table selection

**Release Comment:** Introduced a new tri-state toggle on toggle lists, positioned above the toggle column. Toggle on/off will select/unselect all items in the list. It will display as gray in mixed state.

**SUP-6144** - Schema parser does not strip quotes for MySQL

## Known Issues

### 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.

### 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.

## Installation & Requirements

### Distribution

The g9 2.9 distribution consists of the g9 plugin update site. Information about downloading and installation is available on <https://www.esito.no/en/download/>.

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

### 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 2018-09 or newer. Some Xtext and Xcore plugins must be installed prior to the g9 installation.

### Installation

g9 requires Xtext and Xcore installed before installing g9 itself. Some Eclipse packages (**Eclipse IDE for Java and DSL Developers**) already have Xcore and Xtext installed. If you choose **Eclipse IDE for Java Developers** or **Eclipse IDE for Enterprise Java Developers**, it is not. To install Xcore/Xtext, start Eclipse and select *Help > Install New Software ...*, which opens the *Available Software* dialog. Select the eclipse version update site (2019-12) in the *Work with:* combo box and type *Xcore* in the filter. Select the **EMF - Eclipse Modeling Framework Xcore SDK** version shown (1.12) and install it.

Do the same for Xtext, type *Xtext* in the filter and select the **Xtext Complete SDK** (2.20) and install it.

Install g9 from g9 update site: <http://www.esito.no/updatesite/g9>, read instructions on <https://www.esito.no/en/download/>.

### Xcore/Xtext versions

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

Eclipse version	Xcore	Xtext
2020-06-R	1.14.0	2.22.0
2020-03-R	1.13.0	2.21.0
2019-12-R	1.12.0	2.20.0
2019-09-R	1.11.0	2.19.0
2019-06-R	1.10.0	2.18.0
2019-03-R	1.9.0	2.17.0

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<b>Eclipse version</b>	<b>Xcore</b>	<b>Xtext</b>
2018-12-R	1.8.0	2.16.0

## Writing generators in Xtend

To be able to create your own generators in the Xtend language, the Xtend and Xtext plugins must be installed. See Installation above.