Release Notes
DB Gene 4.1.0

January 2nd, 2024

Important Notes

Please take into account the following important information when using the new version of
DB Gene 4.1.0*, released on January 2nd, 2024.*

> **Note:**
>
> **DB Gene 4.1.0 introduces several infrastructure updates and deprecations.**
> **They are described in the DB Gene 4.1.0 Migration Guide, available from the [DecisionBrain website](#).**
>
> **The following information only focuses on the main changes in this release.**

Versioning

DB Gene 4.1.0 is the first release using the new versioning format ***<major>.<minor>.<hotfix>***.
From now on, there will only be minor version releases and no fix packs, the last one being version 4.0.3-fp3.
The next release is planned as a minor version and will therefore be named 4.2.0.

Updates

DB Gene 4.1.0 introduces the following infrastructure updates.

Node.Js Update

DB Gene 4.1.0 now uses Node.Js 20.9.0. It was formerly version 16.15.1.

Spring Updates

DB Gene 4.1.0 now uses Spring Framework 6.0.13. It was formerly version 6.0.5.
DB Gene 4.1.0 now uses Spring Cloud 2022.0.3. It was formerly version 2022.0.1.
DB Gene 4.1.0 now uses Spring Boot 3.0.12. It was formerly version 3.0.3.

Angular Update

DB Gene 4.1.0 now uses Angular 17.0.7. It was formerly version 16.2.8.

Deprecations

Widget Data Loading Mechanism

Previously it was assumed `loadData` would emit only one value and complete. Since this assumption was not enforced, it was possible for `loadData` to return an observable that emitted multiple times.

This behavior is now deprecated and the data loading mechanism of this class will now complete the observable returned by `loadData` after the first value emitted. The old behavior can be enabled by calling the (deprecated) `GeneBaseDataWidgetComponent.setAutoCompleteLoadData(boolean)` method with `false`.

GraphQL Classes and Methods

The following classes and methods from `@gene/data` are deprecated.

- `SchemaResponse`,
- `GraphQLSchemaMetaData`,
- `GeneRelayConnectionHelper`,

- `DataBaseGenericAccess`,
- `GeneQueryBuilderUtil`, and
- `GeneQueryBuilderService`

In the class `GeneSchemaService`, the methods `getTypeByName()`, `getQueryByName()`, and `getSchemaFromUrl()` are deprecated.

Scenario Service REST Endpoint

For the `/api/scenario/scenariosIdsAndNames` endpoint, the `GET` method is now deprecated.
Use the `POST` method instead.

Deprecated Features and API Scheduled for Removal in Release 4.2.0

- In class `GeneContextService`, methods `setScenarioIds()` and `addScenarioId()` have been deprecated since June 2020. Use `setScenarioSelection()`, resp. `addToScenarioSelection()` instead.

- The type and constant `GeneScenarioEventType` have been deprecated since 4.0.1 FP2. Use `ScenarioNotificationType` instead.

- In class `GeneSettingsService`, methods `registerDefaultSettings()` and `resetSettings()` have been deprecated since April 2020. Use `registerDefaultApplicationSettings(), resp. resetApplicationSettings()` instead.

- In interface `GeneWidgetHeaderConfiguration`, member `showMenu` has been deprecated since October 2021. Use `GeneMenuItemsProvider` instead.

- In interface `GeneModalDialogButton`, member shortcut and associated type `GeneDialogButtonShortcut` have been deprecated since February 2021 .

- In class `ExecuteOptimizationServerTaskStatement`, the variant of the `withOutputScenario()` method that takes a format as argument has been deprecated since 4.0.0 FP4. Use the other variant of this method instead, as only the CSV format is supported.

- In type `JobInputType`, the constant `NUMERIC` and the method `numeric()` have been deprecated since 4.0.1 FP3. Use `REAL, resp. real()` instead.

End-User Features

DB Gene 4.1.0 introduces several end-user features and improvements regarding dashboard configuration, issue management, and data filtering. In addition to these changes, it also provides users with enhancements in the Chart, Composite, KPI, Rich Text, Scenario List and New Job Button widgets.

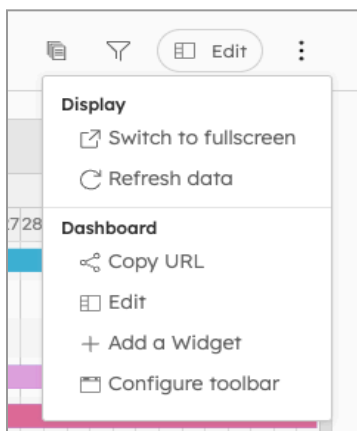## Improved Configuration for Dashboards

The Dashboard toolbar and edition mode have been improved in several ways.

Improved Edition Mode for Dashboards

On dashboards, the Edition mode now allows renaming the dashboard and reverting changes on the fly.
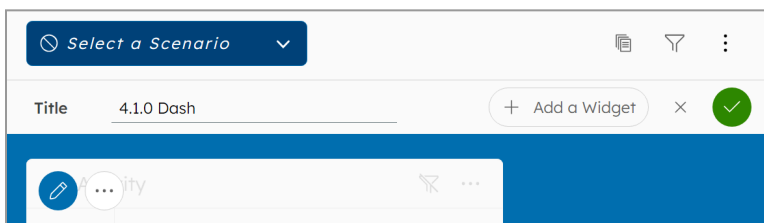
Also, when closing a widget configurator, the Edition Mode now remains active to ease the addition and edition of several widgets in a row.

Improved Toolbar for Dashboards

On dashboards the toolbar content has now been reduced by moving some functionalities to a new toolbar menu, which includes a new option "Configure Toolbar".

This new feature allows users to configure the toolbar in each dashboard with custom buttons, without the need for code customization. Each button can be configured to trigger any other custom "Action", such as "Navigate to a Dashboard" or "Run a New Job". This way, it can fully replace a New Job Button to avoid cluttering a dashboard.

It also allows to hide default elements such as the scenario selector or filter.

Users are provided with some sample actions to help understand the possible uses of the API.
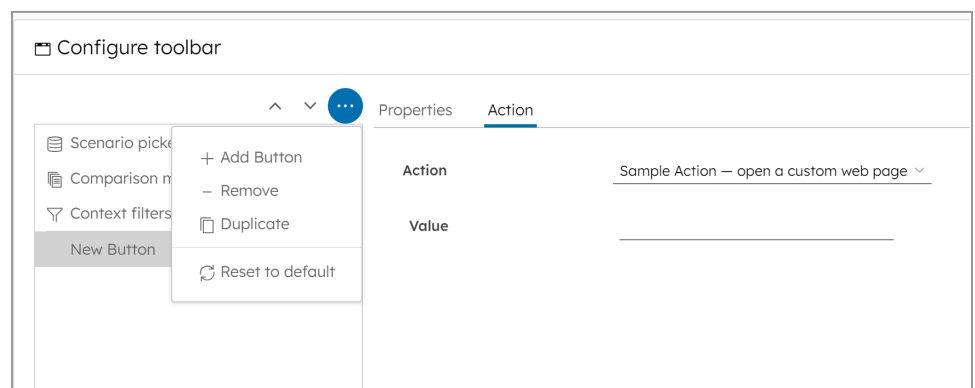
Improved Issue Management

Improvements have been made for what concerns the management of issues both in the Data Grid/Data Explorer and in the Issue List widgets.

Improved "Show Issues Only" Option in the Data Grid/Explorer Widgets

In the Data Grid and Data Explorer widgets, clicking on the option "Show issues only" displays the full list of issues in the table faster.

Also, the option "Show issues only" is disabled and a new warning is displayed if the number of issues exceeds a limit that can be set via the Application Preferences. By default, it is set to 5000.

Users can then click on the three-dot menu on the top right of the widget to filter the list based on the issue severity, which can be *Other*, *Error*, *Warning,* or *Info*.
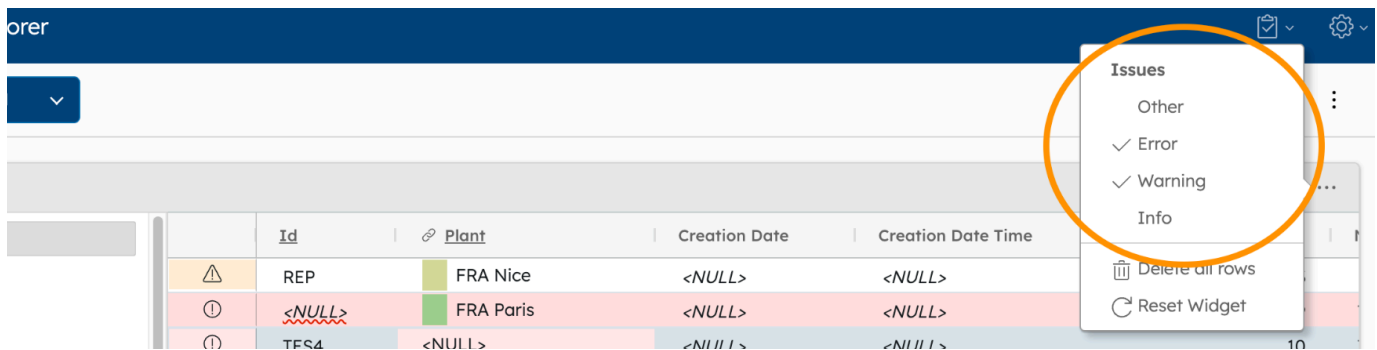
Improved Issue List Widget

In the Issue List widget:

- A new warning appears if the number of issues exceeds the limit of issues the widget can display. This limit can be set via the Application Preferences. By default, it is set to 5000.

- Also, the text in the column "Message" is now wrapped by default. This can be unset via the configurator.

- In addition, part or all of the content of a cell can now be selected and copied using text selection.
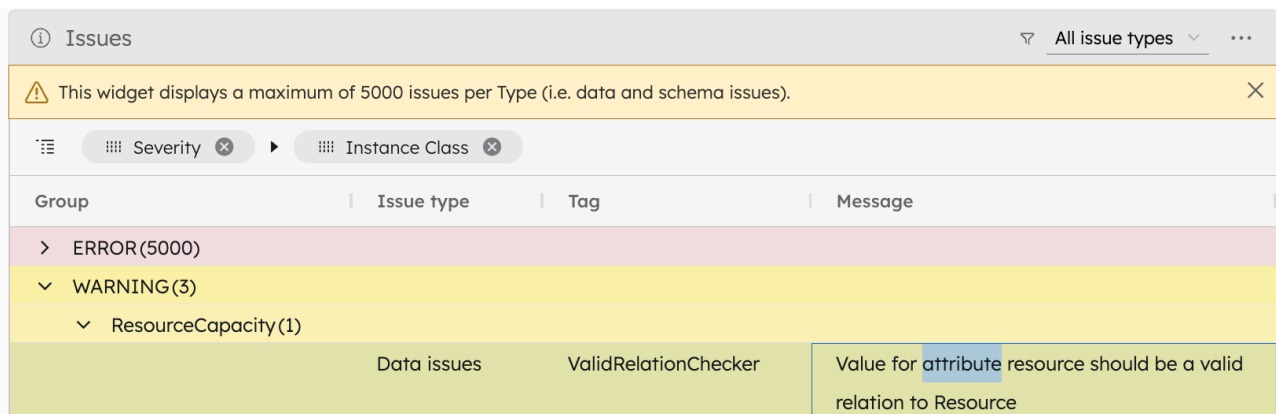
New Symbol Options for Series in the Chart Widget

In the Chart widget, users can now set a symbol and its size for line, curve, area, and dot series.
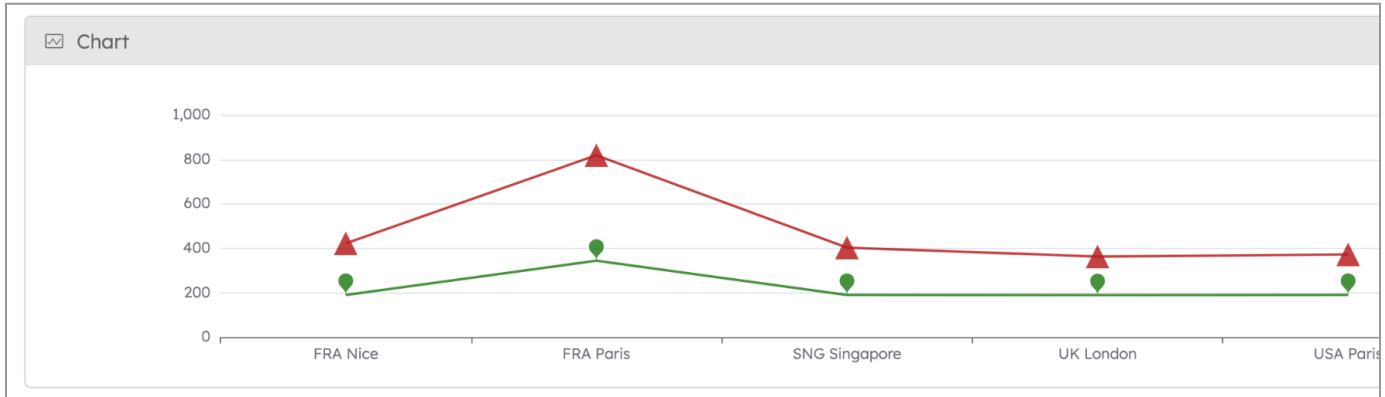
Improved Filters in the Composite Widget

In the Composite widget, each nested widget can now be configured with its own filter configuration.. This only applies to compatible widgets.

Improved Line Spacing for the KPI Widget

In the KPI widget, the line spacing is now more harmonious.

Reduced Minimum Height for the Rich Text Widget

In the Rich Text widget, the minimal widget height is now one row instead of two.

New Columns Related to the "Last Job" in the Scenario List Widget

The Scenario List widget configurator now allows displaying columns with information related to the latest Job executed on the scenario, such as its name, ID, status, executing user, creation, start and end date as well as its duration.

Improved Creation for the New Job Button Widget

In the New Job Button configurator, a warning message is now displayed if no task is set.

Technical Features

DB Gene 4.1.0 introduces several technical improvements, such as an enhanced Action API, aggregated metrics for Prometheus, and a change in 3rd-party default credentials.

New Action API

The new Action API allows creating custom actions that can be launched from different locations in the application. For the moment, these custom actions can only be used when adding new buttons to a dashboard toolbar, via the new feature introduced in this release.
In the future, these custom actions should be available through different UI elements.

Improved Metrics for Prometheus

The Platform now exposes in Prometheus an aggregated metric indicating if the system is in use.

```
❯ curl -s http://scenario-service:8079/actuator/prometheus | grep gene_idle_time
# HELP gene_idle_time_seconds
# TYPE gene_idle_time_seconds gauge
gene_idle_time_seconds 0.0
```

The curl command above returns the idle time of the system. In this example, the value `0.0` indicates that the system is not idle, i.e. it is in use.

Improved Configuration for 3rd-Party Components Credentials

The Platform now uses other credentials than the default ones provided by the following embedded 3rd-party components: Keycloak, Postgres, MongoDB, and RabbitMQ.

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Changelog

DB Gene 4.1.0 introduces several improvements and bugfixes listed in detail below.

Improvements

DB Gene 4.1.0 introduces the following improvements:

Application *Views & Dashboards*	*DBPF-5771*	A new Dashboard configuration view now allows displaying or hiding default and custom buttons on a dashboard toolbar
	DBPF-5765	A new Dashboard configuration view now allows configuring a dashboard name, layout and toolbar
	DOC-378	A new API now allows configuring custom buttons for a dashboard toolbar
Dev *3rd-party Components*	*DBPF-5593*	The Platform now relies on Angular 17
	DOC-613	The Platform now relies on Spring 6.0.8+
	DBPF-5627	The Platform now relies on Node.js 20.9
	DBPF-5874	The Platform 3rd-party libraries now support Angular 17
Data *Generation*	*DOC-661*	The JPA generated entities and repository are now aligned with the Database schema
Dev *Deployment*	*DBPF-5025*	The Platform now exposes an aggregated metric indicating to Prometheus if the system is in use
Dev *Security*	*DBPF-5391*	The Platform now uses other credentials than the default credentials of the embedded 3rd-party components

UI Charts	DBPF-5745	Users can now configure a Symbol and Symbol size for Chart Series
	DBPF-5611	In the Chart widget configurator, some option labels are now rephrased
UI Composite	DBPF-5616	In the Composite widget, each widget can now have its own data filtering
UI Job	DBPF-5735	In the New Job Button configurator, a warning message is now displayed if no task is set
UI KPI	DBPF-5220	In the KPI widget, the line spacing is now more harmonious
UI Rich Text	DOC-703	In the Rich Text widget, the minimal widget height is now one row instead of two
UI Tables	DBPF-5586	In the Data Grid/Explorer widgets, the option "Show issues only" is now disabled above a user-defined number of issues
	DOC-392	In the Data Grid/Explorer widget, the option "Show issues only" now allows filtering Errors, Warning, Info and/or Other issues
	DOC-701 / DOC-594	In the Issue List widget, the text in the column "Message" is now wrapped by default
	DBPF-5618	In the Issue List widget configurator, the tab "Filter" is now obsolete and has been removed
	DOC-658	In the Issue List widget, part or the whole content of a cell can now be selected and copied using the mouse
	DOC-356	In the Scenario List widget configurator, options now allow displaying various columns related to the last executed job

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Bugfixes

DB Gene 4.1.0 introduces the following bugfixes:

Application **Views & Dashboards**	*DBPF-5676*	In the Views and Dashboards view, duplicating a dashboard was not automatically updating the Views Structure panel
	DBPF-5657	The Views and Dashboards view was crashing if a dashboard was empty
	DBPF-5648	Duplicating and setting a dashboard as Home view was causing it to be displayed inconsistently in the configuration and Sidebar
Application **Workspaces & Scenarios**	*DOC-476*	In the case of a large number of scenarios, it was not possible to retrieve a map of scenario ids and names
Data **Built-in Import/Export**	*DOC-707*	the Platform was failing to export to Excel due to an exceeded row limit and was not notifying the user
	DBPF-5494	After an Import error, the notification was not disappearing from the screen
Data **Data Integration Framework**	*DBPF-5440*	"GeneBaseDataWidgetComponent" was not unsubscribing from "loadData"
DBOS **Master**	*DOC-708*	Providing a "null " value as a DBOS input in a scripted task was triggering an NPE
	DOC-709	Using "StringExpression.of("")" was generating a "null" expression
	DOC-599	In some cases, the Platform was not receiving the last output of a DBOS job

Dev *Build*	*DOC-520*	The packaging was not including dependencies along in the Python worker
	DBPF-4214	Inconsistencies between scaffolding and user parameters were causing the build to fail
	DBPF-5802	The Platform was not properly scaffolding the ".npmrc" file
	DBPF-5675	The Gradle task "pythonTest" was failing on Windows
	DBPF-5817	The option for custom DOM generation was not working properly
Dev *Python*	*DBPF-5791*	The default configuration of a scaffolding was preventing the use of a Python version above 3.12.0
Scripted Tasks *Jobs*	*DOC-366*	Creating and deleting a scenario in the same task was causing the Execution Service to throw an exception at the end of the Job
UI *Charts*	*DBPF-5610*	In some cases, when switching between views, the Chart widget was not automatically refreshing the data
	DBPF-5543	In the Chart widget configurator, long "Series" names were displaying a wide line spacing
	DOC-509	In the Chart widget, when there was not enough space, the chart was not rendering symbols properly
UI *Extensibility*	*DOC-615*	When using a custom controller, the toolbar was not displaying the "GeneSelectElement" properly

UI *Gantt*	*DBPF-5680*	In the Gantt Chart widget, the configurator was still requiring setting the "Data source" when using a custom controller implementing "loadData"
	DBPF-5679	In the Gantt Chart widget, the tooltip was not applying a custom format on "LocalDateTime" values
	DOC-605	The Gantt Chart widget was displaying both the loading indicator and the message "No data to display"
UI *General*	*DBPF-5493*	The toolbar option "Application Configuration > Color" was lacking a visibility parameter in the Application Preferences
	DOC-620	In the Data Grid/Explorer widgets, editing an empty table was not removing the message "There is no data to display"
	DBPF-5635	In the Scenario Selector, when the Home view did not contain a Scenario List, the link "SHOW ALL" was not working properly
UI *Job*	*DBPF-5850*	In the New Job Button widget configurator, editing the icons was not updating the widget accordingly
	DBPF-5530	In the New Job Button widget configurator, editing the label was not updating the preview accordingly
UI *KPI*	*DBPF-5518*	In the KPI widget configurator, validation error messages were containing inconsistencies
	DOC-506	In the KPI widget, the display was cropping letter descenders in labels
UI *Look & Feel*	*DBPF-5198*	In a widget configurator, unchecking the option "Use Custom Colors" was not updating the widget colors accordingly

UI Map	DBPF-5501	When resizing the Map widget, the map itsfelf was not automatically resizing
UI *Pivot Table*	DOC-722	In the Pivot Table widget, when using a "LocalDate" value as a column header, the widget was displaying the wrong date
	DOC-607	In the Pivot Table widget, using the option "Value format" for dates was not working properly
UI *Tables*	DOC-674	Copying a "LocalDateTime" field formatted as "luxon#yyyy/MM/dd T" was returning a "NULL" value when pasting
	DOC-690	In the Data Grid/Explorer widgets, columns combining different entities were not filtering data properly
	DOC-706	In the Data Grid/Explorer widgets, the Issues tooltip was not properly displaying data due to unescaped HTML characters
	DOC-689	In the Data Grid/Explorer widgets, columns were not filtering data properly
	DOC-666	In the Data Grid/Explorer widgets, the option "Show issues only" is now disabled above a user-defined number of issues
	DBPF-5849	In the Data Grid/Explorer widget, when filling an empty "LocalDate" field, the date was changing to day — 1 upon validation
	DBPF-5535	In some cases in the Data Explorer configurator, changing the common configuration settings was not updating the widget properly
	DBPF-5658	In the Scenario List widget, setting a custom Action task parameter to "Hidden" was not working properly