



DB Gene 4.7.0 Release Notes

September 26th, 2025

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DB Gene 4.7.0 Release Notes

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Note:

DB Gene 4.7.0 introduces several infrastructure updates and deprecations.

They are described in more detail in the DB Gene 4.7.0 Migration Guide, available on the [DecisionBrain website](#).

The following information only focuses on the main changes in this release.

Important Notes

*Please take into account the following important information when using the new version of the **DB Gene 4.7.0**, released on September 26th, 2025.*

Updates

DB Gene 4.7.0 introduces the following dependency updates.

Spring Update

DB Gene 4.7.0 now uses Spring Boot 3.5.5, Spring Cloud 2025.0.0, and Spring Framework (Context) 6.2.10. Formerly, it was version 3.4.5, version 2024.0.1, and version 6.2.6.

AG Grid Update

DB Gene 4.7.0 now uses AG Grid 34.1.0. Formerly, it was version 33.3.0.

Keycloak Update

DB Gene 4.7.0 now uses Keycloak 26.3.1. Formerly, it was version 26.2.4.

MongoDB Update

DB Gene 4.7.0 now uses MongoDB 8.0.12. Formerly, it was version 8.0.9.

PostgreSQL Update

DB Gene 4.7.0 now uses PostgreSQL 15.14. Formerly, it was version 15.13.

RabbitMQ Update

DB Gene 4.7.0 now uses RabbitMQ 4.1.3. Formerly, it was version 4.1.0.

Deprecations

- **DBPF-8500** In the DOM, some deprecated JDL features and APIs have been removed. In `model-generator/jdl-model/src/main/java/com/decisionbrain/dom/model/jdl/JdlTag.java`, `DOM_GENERATED_JDL`, `DOM_ENTITY_CLASS`, `DOM_ENTITY_SIMPLE_PRIMARY_KEYS`, `DOM_FIELD_DEFAULT_VALUE`, `OBSOLETE_DOM_ENTITY_SINGLETON`, `DOM_FIELD_FOREIGN_KEY_REFERENCE`, `DOM_FIELD_RELATION_NAME`, `DOM_RELATION_INVERTED_RELATION_FIELD_NAME`, and `DOM_RELATION_FIELD_NAME` are now ignored and should be removed from the JDL.
- **DBPF-8498** In the Execution Service, the deprecated methods `ExecuteRoutineStatement.onBackendService`, `JobInstanceService.eraseJob`, `GeneTask.getPersistSystemLog`, and `GeneTask.setPersistSystemLog` have been removed.
- **DBPF-8499** In the web client, in `gene-data-api.service.ts`, the deprecated method `getEntities()` has been removed. Instead, use `getAllEntities(params)`.
- **DBPF-8497** In the web client, the deprecated interface `GeneWidgetCustomViewToolbarController` has been removed.
- **DBPF-6690** In the web client, the deprecated legacy Issue List widget has been removed.
- **DBPF-7562** In the web client, the deprecated legacy Pivot Table widget has been removed.
- **DBPF-8786** In the Gene Online web client, the deprecated legacy Tableau widget has been removed.
- **DBPF-6696, DBPF-8000** In the Gantt Chart widget:
 - The classes `BaseGanttDataSource`, `DefaultGanttDataSource`, and `DynamicGanttDataSource` are now deprecated and no longer used by the framework. They have been replaced by `MultiSeriesGanttDataSource`, but kept for compatibility with existing customizations. The code related to loading the TASK series has been moved to `GanttTaskLoader` and `GanttDynamicTaskLoader`.
 - In `BaseGanttDataSource`, the `buildEvents` method is deprecated. Instead, use `DbGanttBuilder.buildEvents`.
 - In `DefaultGanttDataSource`, the `retrieveEvents` method is deprecated. Instead, use `DefaultGanttDataSource.retrieveEventsAndBuildModels`.

- In `DbGanttBuilder`, the `toggleGroup`, `getGroupStates`, and `setGroupStates` methods are deprecated. The responsibility has been moved to `MultiSeriesGanttDataSource`.
- In `DbGanttBuilder`, the `getResourceRequestedFields`, `getResourceIdFields`, and `getAdditionalGroupingFields` methods are deprecated. Instead, use the methods from `gantt-builder-utils`.
- In `GanttController`, since multiple TASK series are possible, the `providesMainRenderer` method will no longer be called. Instead, `getRenderer` will be called for each configured series.
- In `GanttController`, the `processEvents` and `processResources` methods are remnants of the legacy Gantt component. Instead, `postProcessChartModel` should be implemented.

End-User Features

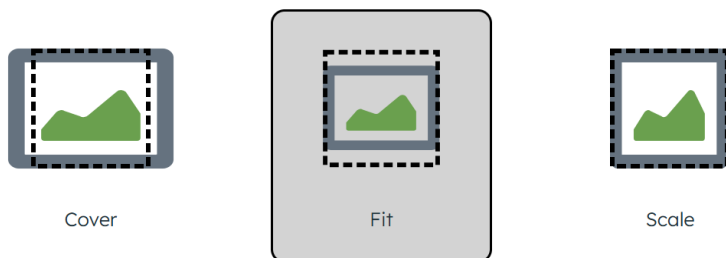
DB Gene 4.7.0 delivers several improvements for end users, including a new Image Widget, a Notebook Visualization Widget, and enhanced Chart and Gantt Chart capabilities. Gene Online also benefits from a smoother configuration workflow and better handling of data model rebuilds.

New Image Widget

DBPF-8135 (4.6.1)

The new Image widget now allows **displaying an image stored in a scenario**.

The entity must be stored as a BINARY or TEXT field containing base64-encoded data.



The option *Display Type* allows **configuring the layout** to Cover the whole widget, *Fit* inside the widget, or *Scale* with the size of the widget.

Source

☒ Scenario
 ☐ File
 ☐ URL

Widget will display the image stored in the current selected scenario data.

Data type

GeneParameter

Field

value

Image Field must be a Text field containing a base64 encoded image, or a Binary field.

Caption

+ ADD FIELD

Add icon

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Normal

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Sans Serif

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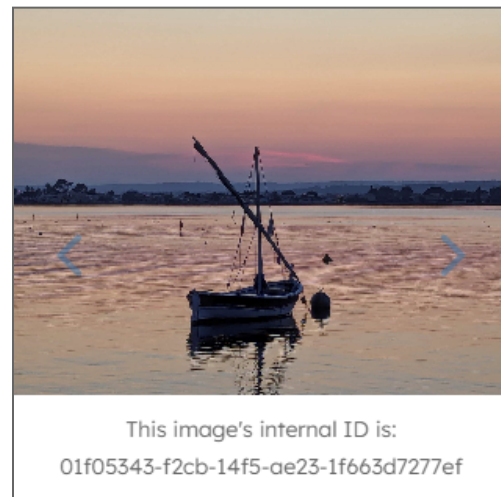
☰

☷

☰

☷

This image's internal ID is: [dbGeneInternalId](#)



If the query returns multiple images, users can click on the left and right arrows that appear on the image to browse them in **carousel mode**.

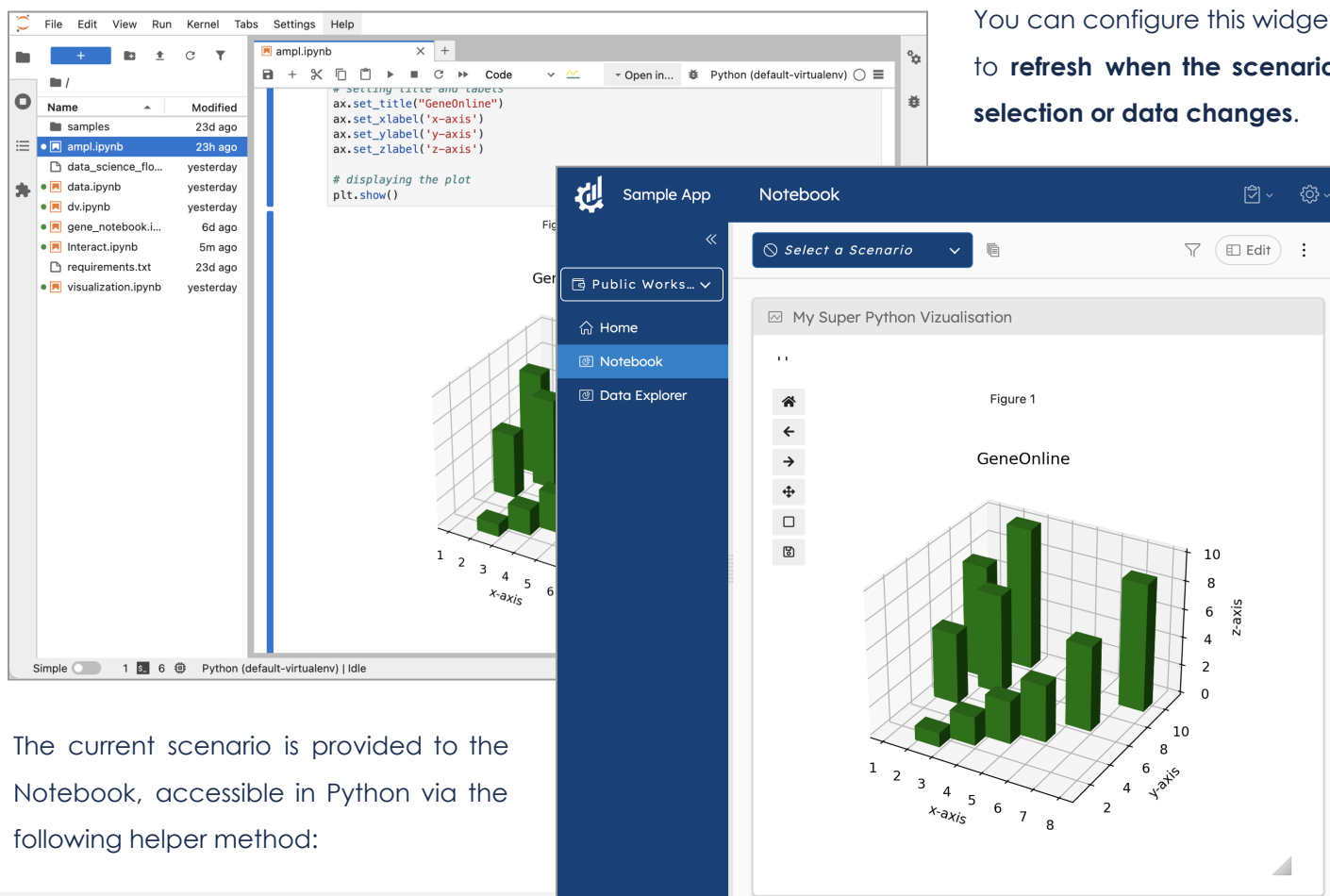
The Image Widget also **displays a dynamic caption** that can mix static text, icons, and entity values.

New Notebook Visualization Widget

DBPF-8633

JupyterLab allows for powerful **custom visualizations** for analysts and developers who work directly with code. The new Notebook Visualization widget can now display these visualizations in a **code-free** format that relies on the Voilà server, a tool that converts Jupyter notebooks into standalone web visualizations.

You can configure this widget to **refresh when the scenario selection or data changes**.



The current scenario is provided to the Notebook, accessible in Python via the following helper method:

Python

```
from dbgene.jupyter import GeneHelper as helper

scenario = helper.get_context_scenario(GeneOnline)
```

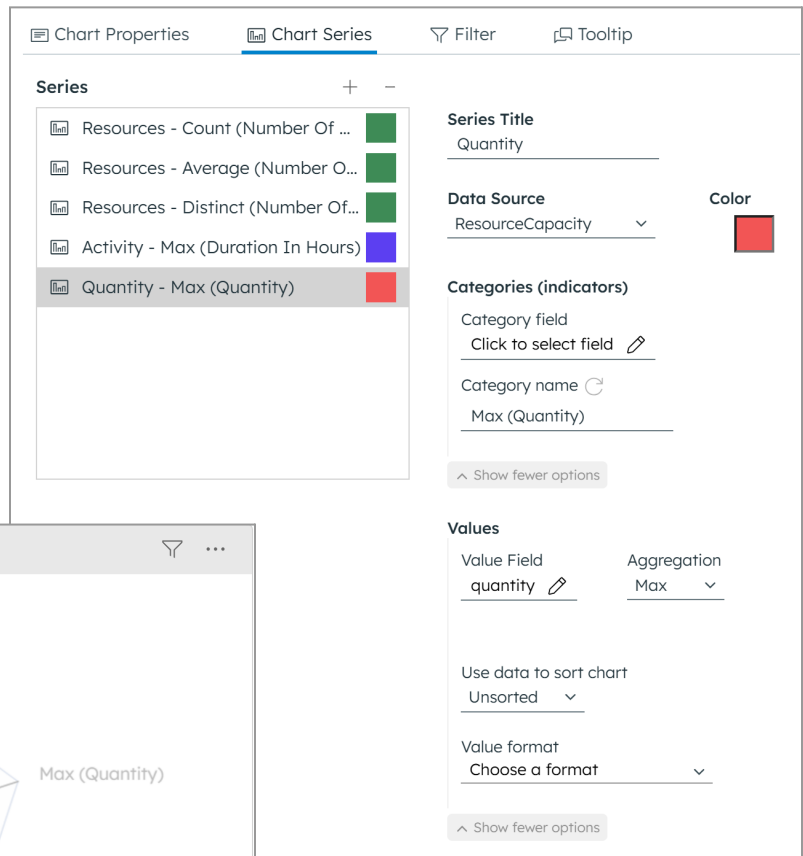
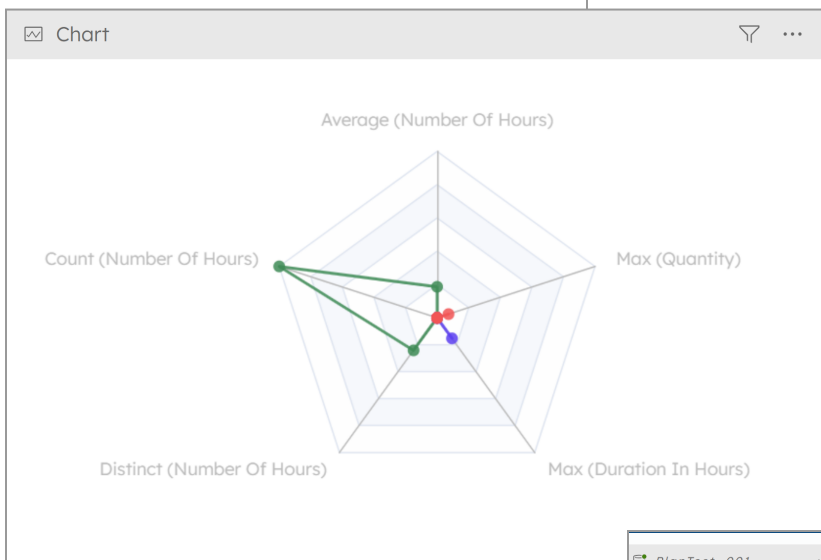
A sample Notebook visualization, [gene_visualization.ipynb](#), demonstrates the usage of this API.

Improved Radar Chart Widget

DOC-622

In the Chart Widget, when using a Radar display, users can now **compare aggregated entity values across one or several scenarios**.

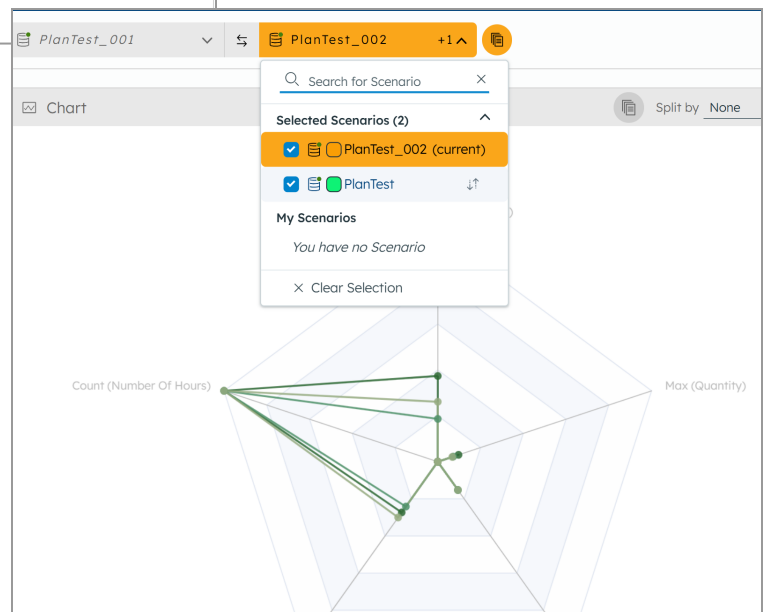
To do so, add a Chart Series for each entity for which you want to aggregate the values. Set the desired entity as the *Data Source* and leave the *Category Field* to *None*.

The radar will display **each aggregation as a single point**.

Series with identical Series Title share the same color, and each label can be renamed via the Category Name option. By default, the label displays the *Aggregation* and *Value Field*.

It is then possible to **use the Scenario Comparison** feature, where scenarios are represented in the chart with different colors.

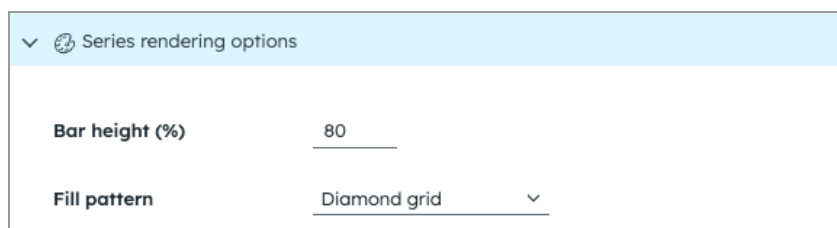
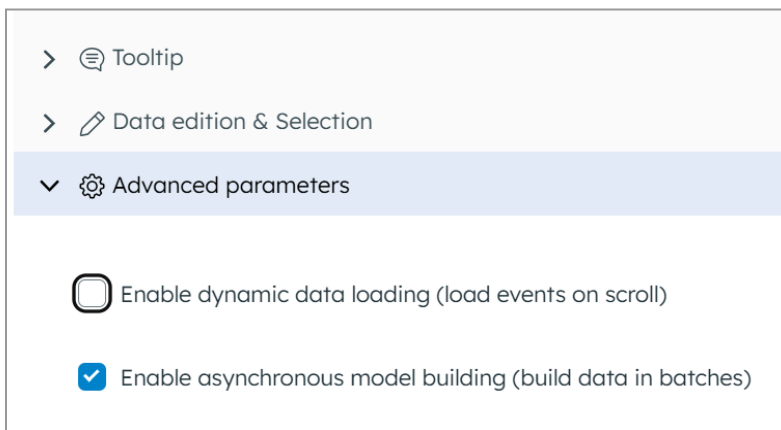


Improved Gantt Chart Widget

DOC-1245, DOC-980, DBPF-8691, DBPF-6696, DOC-1280, DOC-1311, DOC-1310

In addition to dynamic data loading that loads events on scroll, the Gantt Chart widget now allows to *Enable asynchronous model building* for each series.

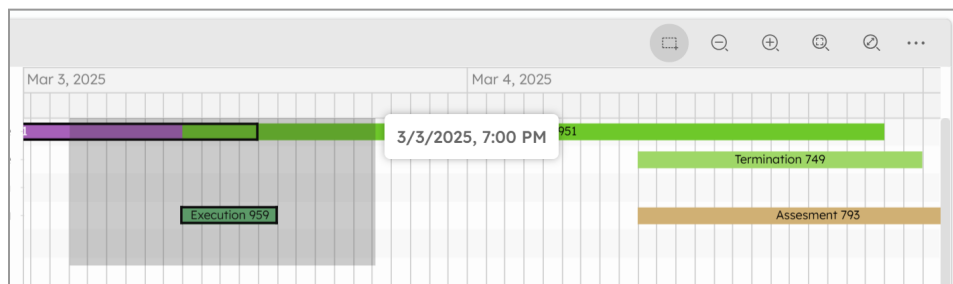
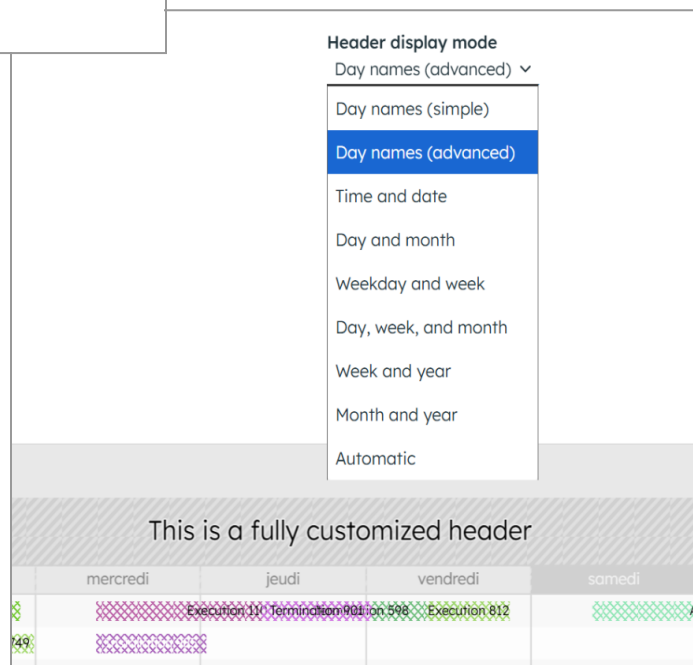
This option **progressively displays large datasets with numerous resources and updates** from various sources.



The **new custom controller sample, Header Customization**, allows extending the *Header display mode* with capabilities similar to those of the bar chart time axis. For instance, it proposes two *Day names* implementations that can be copied and edited to **display a fully customizable header**.

In addition, if custom loading is implemented, the Gantt Chart **custom controller has better multi-series support** and no longer requires a series configuration.

For Task/Event series, users can now **customize the event Bar Height** and its *Fill Pattern*.



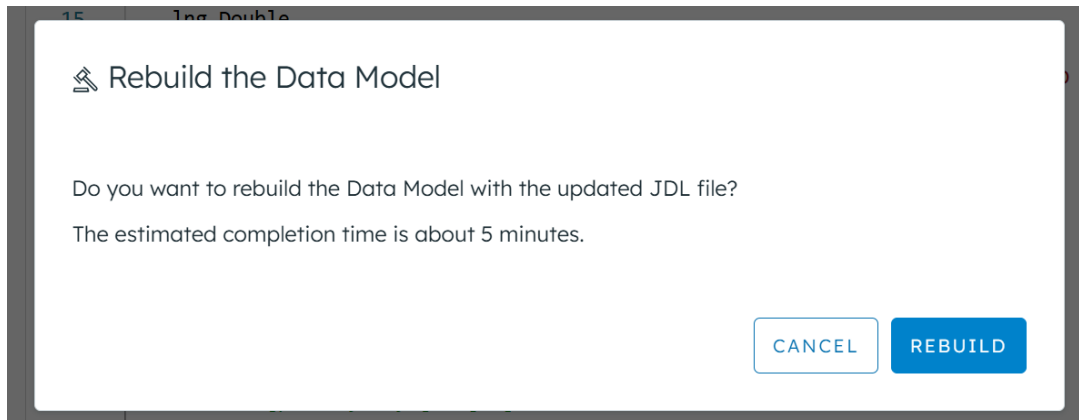
Finally, it is now possible to **select events from different Task/Event series** using the mouse, directly from the widget.

Improved Gene Online

DBPF-8729, DBPF-7642, DBPF-7611

In version 4.7.0, Gene Online has mainly improved on data model handling.

For instance, Gene Online now **preserves scenario data when the data model rebuilds**.



In addition, in Gene Online, the **Application Configuration import and export now include the data model**. This allows importing the data model and application structure in a single step.

Technical Features

DB Gene 4.7.0 improves security, enhances the data model rebuild, and simplifies collector class handling. It also updates API clients, JupyterLab integration, scenario services, and build performance.

Improved Security

DB Gene security has been improved as follows:

- **DBPF-8493, DBPF-8496:** The Gene Generator base image and **Yeoman Generator** have been updated to address the latest CVEs.
- **DBPF-7366** Keycloak password policy has been enhanced for password reuse.
- **DBPF-8469** DBOS now invalidates the JWT token on password change or if it was revoked by an admin, by integrating a session cleaning mechanism.
- **DBPF-7224** The **Permissions-Policy** header has been added to the DBOS web console and documentation to prevent security issues.
- **DBPF-7364** The security context has been hardened to run containers with a user ID above ten thousand, as the user ID "10001" is used for every container deployed with the app umbrella Helm chart. The security context has also been hardened to run the containers with a read-only file system.

Improved Data Model Rebuild

DBPF-2211

A newly built-in task now keeps scenarios in the application when changing the data model, by archiving and unarchiving them automatically upon data model rebuild.

Improved Collector Class Name Handling

DBPF-8156

If the JDL provides a collector class name, it will be used by the generator without asking the user.

Improved Scenario Service Performance

DBPF-8584 (4.6.2)

The Scenario Service now notifies all the activities to the UI asynchronously for improved performance.

Improved Spring Rest API Clients

DBPF-8640, DBPF-8640 (4.6.2)

In the Data Service, Scenario Service, and Execution Service clients, the URL of the service can now be configured via one Spring property (`services.<service name>.base-url`) instead of two (`services.<service name>.host` and `services.<service name>.port`). The base URL takes precedence if all three properties are declared.

The Documentation has been updated to explain how to configure the Keycloak credentials. For more details, refer to Chapter [Understanding the Data Service API](#).

In addition, the Feign clients are now using dedicated Spring properties for credentials.

Improved JupyterLab Integration

JupyterLab Integration has been improved as follows:

- **DBPF-8630** The Voilà server, used for the Jupyter Notebook Visualization widget, is now available with JupyterLab by default.
- **DOC-1112** The JupyterLab idle metric now reports a more accurate value.
- **DBPF-8633** JupyterLab's default virtual environment now uses a new logging configuration for the default Python logging module. The console log level is now set to `DEBUG` by default. In addition, a 1MB rotating log file, `logs.txt`, is stored in the Notebook folder. It also uses the `DEBUG` level and includes the Jupyter Kernel ID and current Thread ID in all entries. When a Notebook runs through the Voilà server, the default log level is set to `INFO` to avoid cluttering the visualization.