



DOC 4.5.0

Migration Guide

March 11th, 2024

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DOC 4.5.0 Migration Guide

Application Changes.....	5
Views & Dashboards.....	5
Deprecated Attributes in GeneWidgetManifest.....	5
Improved Dashboard/View Configuration.....	5
Dev Changes.....	7
Model.....	7
Improved Python DOM API.....	7
Database.....	8
Updated Data API.....	8
JDL.....	8
Improved JDL validation.....	8
Built-in Import/Export.....	8
Removed Export Task.....	8
Updated Export Permissions.....	8
Updated Python Data API.....	8
Data Service.....	9
Removed Endpoints.....	9
DBOS Changes.....	10
Master.....	10
New Configurable CRON Through Properties.....	10
Clients.....	10
Improved KpiDTO Object.....	10
Dev Changes.....	11
3rd-Party Components.....	11
Updated Dependencies.....	11
Updated Angular Dependencies.....	12
Updated MongoDB Dependencies.....	14
Build.....	16
Updated JupyterLab Processing Files.....	16
Gene Online.....	16
Updated Default Configuration.....	16
New JDL AI Assistant.....	17

Deployment.....	18
Updated Environment Variables.....	18
JupyterLab.....	18
Improved Jupyter Notebook Compatibility.....	18
Improved Jupyter Notebook Samples.....	18
Improved JupyterLab Helper.....	18
New Jupyter Notebook Task and Statement.....	18
Python.....	19
Deprecated Methods.....	19
Improved Python DOM API.....	19
Improved CSV Parsing in Python.....	19
Scripted Tasks Changes.....	20
Definition.....	20
Improved Exit Script in Tasks.....	20
New Statement to Execute a JupyterLab Notebook.....	20
Jobs.....	21
Updated Memory Usage.....	21
Routines.....	21
Updated Method in Composite Data Model Routines.....	21
New Built-in Routine for Rule Execution.....	21
New Built-in Routine for ChatGPT Interaction.....	21
UI Changes.....	22
General UI Changes.....	22
Improved Application Name Display.....	22
Improved Sidenav Display.....	22
Improved Sidenav and Topbar Menus.....	23
Improved Boolean Filter Display.....	23
Improved Widget Configuration.....	23
Application Preferences.....	24
Updated Application Preferences Configuration.....	24
New Application Preferences Settings.....	24
Chart Widgets.....	24
Improved Y-Axis Labels.....	24

Gantt Chart Widget	25
Improved Edition.....	25
Filter Widget	25
Improved "Applies to" Setting.....	25
New Key Descriptions Display.....	25
Pivot Table Widget	26
New Pivot Table Options.....	26
Code Editor Widget	26
New Auto-Scroll-to-Bottom Setting.....	26
Deprecated Features and APIs Scheduled for Removal in the Next Release	27
Deprecated Custom Views.....	27
Deprecated ExcelExportRoutine.....	27

- Each section is structured as follows: Removed, Deprecated, New, Improved, and Updated.
- Dependency updates are listed in Section **Dev Changes > 3rd-Party Components**.
- Future removals are listed in Section **Deprecated Features and APIs Scheduled for Removal in the Next Release**.
- For more details, please refer to the [DOC Documentation and Release Notes](#).

Application Changes

This part lists all changes related to:

- *the lifecycle, non-UI features, or APIs of views and dashboards, in Section **Views & Dashboards**.*
-

Views & Dashboards

This section lists all changes related to the lifecycle, the non-UI features, or the APIs of views and dashboards.


Deprecated Attributes in GeneWidgetManifest

[DBPF-7829](#)

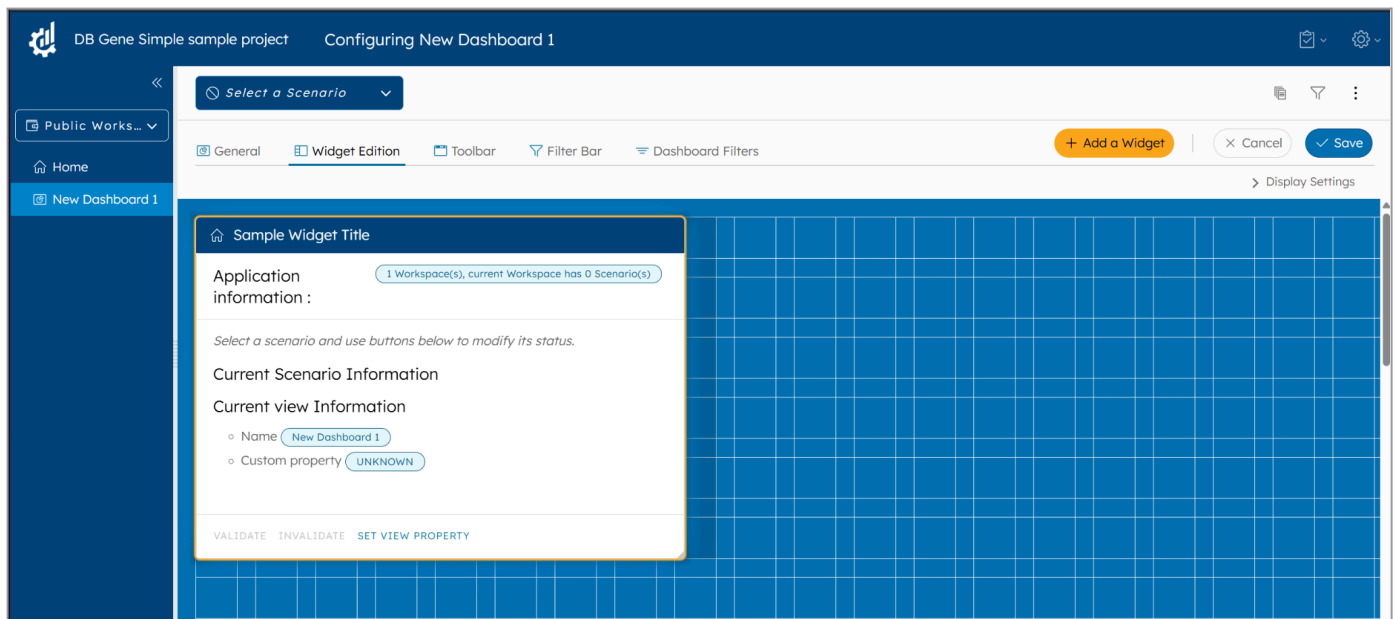
- `minItemCols` is now deprecated and will not be taken into account on a dashboard, all widgets can be resized to take up only one column.
- `minItemRows` is now deprecated and will not be taken into account on a dashboard, all widgets can be resized to take up only one row.

Improved Dashboard/View Configuration

[DBPF-7546](#) [DBPF-7547](#) [DBPF-7548](#) [DBPF-7550](#) [DBPF-7830](#) [DBPF-7553](#) [DOC-1027](#)

The items "Configure Dashboard" and "Edit Layout", formerly available from the toolbar menu , are no longer available. Instead, the button "Edit" on the toolbar opens the dashboard configurator.

The "Widget Layout" can be configured in a dedicated tab with a new collapsible section to edit specific global settings. For instance, the outer margin checkbox has been removed (the same result can be achieved by setting the margin value to 0). The outer margins (top, right, bottom, left) have been combined into one input and will therefore always be the same, which allows for more uniformity across the dashboard.



In addition:

- In the tab *"Toolbar"*, a new option allows showing or hiding the toolbar on the dashboard.
- In the tab *"Filter Bar"*, a new option allows setting the default visibility of the Filter Bar to:
 - *"Expanded"*
 - *"Collapsed"*
 - *"Use Preferences Settings"*, which is controlled by the Application Preferences setting, *DEFAULT_FILTER_BAR_STATE*. By default, it is set to open. When this setting is closed, the Filter Bar of all views/dashboards with the default visibility set to *"Use Preferences Settings"* will be collapsed by default.

Dev Changes

This part lists all changes related to:

- concepts or the meta-model representation, in Section **Model**.
 - generated code, either SQL, Java, Python, or else, in Section **Generation**.
 - the database schema, storage, or queries, in Section **Database**.
 - the import or export mechanism provided by the product, in Section **Built-in Import/Export**.
-

Model

This section lists all changes related to concepts or the meta-model representation.

Improved Python DOM API

[DBPF-5626 DBPF-7639](#)

There was only an API for deleting one row. To delete all the rows of a given type, it was necessary to use the following code:

```
Unset
for issue in [it for it in input_collector.get_all_gene_issues()]:
    input_collector.remove(issue)
```

Now, a new `remove_all_xxx()` API allows it, as in:

```
Unset

input_collector.remove_all_gene_issues().
```

Database

This section lists all changes related to the database schema, storage, or queries.

Updated Data API

[DBPF-7842](#)

Data API no longer exposes internal IDs of relations in Python dataframes.

JDL

This section lists all changes related to the language definition and parsing.

Improved JDL validation

[DBPF-7745](#)

JDL validation now returns all syntax errors at once.

Built-in Import/Export

This section lists all changes related to the import or export mechanism provided by the product.

Removed Export Task

[DBPF-7563](#)

`SimpleExcelExportTask` task has been removed.

Updated Export Permissions

[DBPF-7564](#) [DOC-1047](#)

Users with ACCESS-only permission can now export scenarios.

Updated Python Data API

[DBPF-7755](#)

Internal IDs are now optional in Dataframes scenario data.

Data Service

This section lists all changes related to the Data Service API.

Removed Endpoints

[DBPF-7563](#)

In the Data Service, the endpoints `api/data/simple-excel-export` and `api/data/simple-excel-import` have been removed.

DBOS Changes

This part lists all changes related to:

- the DBOS worker registration, job scheduling & monitoring, and communication with Gene, in Section **Master**.
 - the ability for customers to define other DBOS master clients than the Web Console, in **Section Clients**.
-

Master

This section lists all changes related to the DBOS worker registration, job scheduling & monitoring, and communication with Gene.

New Configurable CRON Through Properties

[DBPF-5531](#)

All the CRONs in the DBOS scheduler are now configurable via properties or environment variables.

Clients

This section lists all changes related to the ability, for customers, to define other DBOS master clients than the Web Console.

Improved KpiDTO Object

[DBPF-7863](#)

DBOS worker KPIs are now displayed in the DBOS console. You may use the `KpiDTO<T>` in Java clients (especially the `stomp` client), its generic type has been removed.

Dev Changes

This part lists all changes related to:

- the DOC external dependencies and libraries, such as Spring, Angular, or Keycloak, in Section **3rd-Party Components**.
 - the DOC Scaffolding and Gradle scripts, in Section **Build**.
 - any DOC security issues, in Section **Security**.
 - Gene Online feature, in Section **Gene Online**.
 - the DOC integration with DOCKER or Helm, in Section **Deployment**.
 - the Python integration with DOC, except for Workers (Python) and Routines, in Section **Python**.
-

3rd-Party Components

This section lists all changes related to the DOC external dependencies and libraries, such as Spring, Angular, or Keycloak.

Updated Dependencies

- [DBPF-7674](#) Updated Spring Boot from 3.3.5 to 3.4.3
- [DBPF-7674](#) Updated Spring Cloud from 2023.0.3 to 2024.0.0
- [DBPF-7674](#) Updated Spring Framework from 6.1.14 to 6.2.3
- [DBPF-7674](#) Updated graphql-java-extended-scalars to version 22.0
- [DBPF-7674](#) Updated Apache Commons Compress from 1.26.1 to 1.27.1
- [DBPF-7674](#) Updated Apache Commons IO for 2.16.1
- [DBPF-7674](#) Updated Open API Generator from 7.9.0 to 7.12.0
- [DBPF-7678](#) Updated Angular from 18.2.10 to 19.1.7
- [DBPF-7681](#) Updated ag-grid-angular from version 31.2.0 to version 33.1.1
- [DBPF-7681](#) Updated ag-grid-community from version 31.2.0 to version 33.1.1
- [DBPF-7681](#) Updated ag-grid-enterprise from version 31.2.0 to version
- [DBPF-7263](#) Updated Keycloak from 26.0.5 to 26.1.3
- [DBPF-7676](#) Updated MongoDB from 6.0.5 to 8.0.5
- [DBPF-7182](#) [DBPF-7519](#) Updated PostgreSQL to version 15.10 (Alpine version)
- [DBPF-7677](#) Updated RabbitMQ from 4.0.2 to version 4.0.7
- [DBPF-7188](#) Updated Java service to version JDK 17
- [DBPF-7197](#) Updated Bouncy Castle libraries from 1.70 to version 1.78.1
- [DBPF-7193](#) DBOS - Updated Tools to python:3.12.8-alpine3.21
- [DBPF-7195](#) DBOS - Updated Java-WebSocket to version 1.6.0

- [DBPF-7190 DBPF-7520 DBPF-7683](#) DBOS - Updated NGINX to version 1.27.3 in the DOC Web base image in UI and documentation
- [DBPF-7191](#) DBOS - Updated Master to latest Ubuntu Noble base image to version noble-20240904.1
- [DBPF-7198](#) DBOS - Updated `springdoc-openapi-starter-webmvc-ui` to version 2.0.3
- [DBPF-7199](#) DBOS - Updated Kubernetes `client-java` to version 20.0.0
- [DBPF-7203](#) DBOS - Updated `jszip` from version 3.7.0 to version 3.10.1.
- [DBPF-7204](#) DBOS - Updated `luxon` from version 2.3.2 to version 3.5.0.
- [DBPF-7205](#) DBOS - Updated `groovy-all` to version 4.0.24
- [DBPF-7205](#) DBOS - Updated `springdoc-openapi-starter-webmvc-ui` to 2.6.0
- [DBPF-7205](#) DBOS - Updated `springdoc-openapi-starter-common` to 2.6.0
- [DBPF-7205](#) DBOS - Updated `mongock` has been updated to 5.5.0
- [DBPF-7205](#) DBOS - Updated `swagger-ui` webjar to `>= v4.18.2`
- [DBPF-7206](#) DBOS - Removed `testng`
- [DBPF-7681](#) DBOS - Updated `ag-grid-angular` from version 31.2.0 to version 32.3.3
- [DBPF-7681](#) DBOS - Updated `ag-grid-community` from version 31.2.0 to version 32.3.3
- [DBPF-7681](#) DBOS - Updated `ag-grid-enterprise` from version 31.2.0 to version 32.3.3
- [DBPF-7201](#) Java workers - Updated `aws-java-sdk-s3` to 1.12.780
- [DBPF-7232](#) DOC Generator (Scaffolder) - Updated base Docker image to `nodejs-20-minimal:1-1736729465`.

Updated Angular Dependencies

[DBPF-7678](#) / [DBPF-7679](#) [DBPF-7680](#) [DBPF-7682](#)

Angular has been upgraded to 19.1.7.

Angular 19 introduces a breaking change in the configuration of Directives, Components, and Pipes.

They are now standalone by default. For any existing non-standalone Directive, Component, or Pipe present in your project:

- have the `standalone:false` setting added to their configuration, or
- remove the `standalone:true` setting of any element that was already standalone.

Angular has a migration script that can handle this for you. It is highly recommended to run the Angular migration script after migrating your project.

You can do so with the following commands:

Unset

```
ng update @angular/cli --from 18 --to 19 --migrate-only --allow-dirty
ng update @angular/core --from 18 --to 19 --migrate-only --allow-dirty
```

The following dependencies have been updated

```
Unset
@angular/animations           from 18.2.10 to 19.1.7
@angular/cdk                  from 18.2.2  to 19.1.5
@angular/common               from 18.2.10 to 19.1.7
@angular/compiler             from 18.2.10 to 19.1.7
@angular/core                 from 18.2.10 to 19.1.7
@angular/forms                from 18.2.10 to 19.1.7
@angular/google-maps          from 17.2.1  to 19.1.5
@angular/localize             from 18.2.10 to 19.1.7
@angular/platform-browser     from 18.2.10 to 19.1.7
@angular/platform-browser-dynamic from 18.2.10 to 19.1.7
@angular/router               from 18.2.10 to 19.1.7
@bluehalo/ngx-leaflet         from 18.0.2  to 19.0.0
@bluehalo/ngx-leaflet-markercluster from 18.0.1  to 19.0.0
@clr/angular                  from 17.0.1  to 17.6.0
@danielmoncada/angular-datetime-picker from 18.1.0  to 19.1.0
@fullcalendar/angular         from 6.1.15  to 6.1.16
@fullcalendar/daygrid         from 6.1.10  to 6.1.15
@fullcalendar/interaction     from 6.1.10  to 6.1.15
@fullcalendar/list            from 6.1.10  to 6.1.15
@fullcalendar/timegrid        from 6.1.10  to 6.1.15
@ng-select/ng-select          from 13.7.0  to 14.2.2
ag-grid-angular               from 32.3.1  to 33.1.1
ag-grid-community              from 32.3.1  to 33.1.1
ag-grid-enterprise            from 32.3.1  to 33.1.1
angular-gridster2             from 18.0.1  to 19.0.0
echarts                       from 5.4.3   to 5.6.0
keycloak-angular              from 16.1.0  to 19.0.2
keycloak-js                   from 26.1.3  to 26.0.5
monaco-editor                  from 0.49.0  to 0.52.2
ngx-echarts                    from 17.1.0  to 19.0.0
ngx-monaco-editor-v2          from 18.0.1  to 19.0.2
ngx-quill                     from 26.0.8  to 27.0.1
zone.js                       from 0.14.10 to 0.15.0
@angular-devkit/build-angular from 19.1.8  to 19.1.8
@angular/cli                   from 19.1.8  to 19.1.8
@angular/compiler-cli         from 19.1.7  to 19.1.7
@angular/language-service     from 19.1.7  to 19.1.7
```

Updated MongoDB Dependencies

DBPF-7676

The Platform now relies on MongoDB 8. MongoDB 8 will fail to start if there is data written by MongoDB 6.0.5 in the deployment volume.

To keep existing data, an upgrade procedure must be performed. See the [Release Notes for MongoDB 8.0](#) for detailed information.

Before any migration, to avoid data loss, it's mandatory to back up your data.

Mongo database must be upgraded step by step:

- 6.0.5 to 7.0
- 7.0 to 8.0.5

Note that the current database can be in any 6.x database version.

Validate the current database version

In the Mongo container, the following command must be run:

```
Unset
mongosh -u adminUser -p adminPassord
> db.adminCommand( { getParameter: 1, featureCompatibilityVersion: 1 } )
```

This command should print something like:

```
Unset
{ featureCompatibilityVersion: { version: 'X.Y' }, ok: 1 }
```

Where 'X.Y' is the current database version. At this stage, if the version is lower than '6.0', the database must be updated to version '6.0':

```
Unset
> db.adminCommand( { setFeatureCompatibilityVersion: "6.0" } )
```

The command will ask you to confirm your choice, You can do that with the following command:

```
Unset
db.adminCommand( { setFeatureCompatibilityVersion: "6.0", confirm: true } )
```

Migrate to 7.0

Once the database is in version '6.0+', the migration to '7.0' can be achieved. To do so, an intermediate MongoDB server in version 7.0.x must be started with the current data.

Then, to migrate the database, the following commands should be run in the terminal in the mongo container:

```
Unset
mongosh -u adminUser -p adminPassord

> db.adminCommand( { setFeatureCompatibilityVersion: "7.0" } )
```

The command will ask you to confirm your choice, You can do that with the following command:

```
Unset
db.adminCommand( { setFeatureCompatibilityVersion: "7.0", confirm: true } )
```

Migrate to 8.0

Finally, the operation must be reproduced to migrate to version '8.0'.

The provided Mongo in version 8.0.5 should be started with the current data (in version 7.0) and the following command to complete the migration:

```
Unset
mongosh -u adminUser -p adminPassord

> db.adminCommand( { setFeatureCompatibilityVersion: "8.0" } )
```

The command will ask you to confirm your choice, You can do that with the following command:

```
Unset
db.adminCommand( { setFeatureCompatibilityVersion: "8.0", confirm: true } )
```

Build

This section lists all changes related to the DOC Scaffolding and Gradle scripts.

Updated JupyterLab Processing Files

[DBPF-7941](#)

The implementation of JupyterLab has been changed. Almost all files in `processing/jupyterlab/*` have been reworked. Pay attention to the change of the default kernel name of the scaffolded Python notebooks. You'll have to update the following section in your existing Python notebooks:

Unset

```
"kernel_spec": {  
  "display_name": "Python (default-virtualenv)",  
  "language": "python",  
  "name": "default-virtualenv"  
}
```

Gene Online

This section lists all changes related to the Gene Online feature

Updated Default Configuration

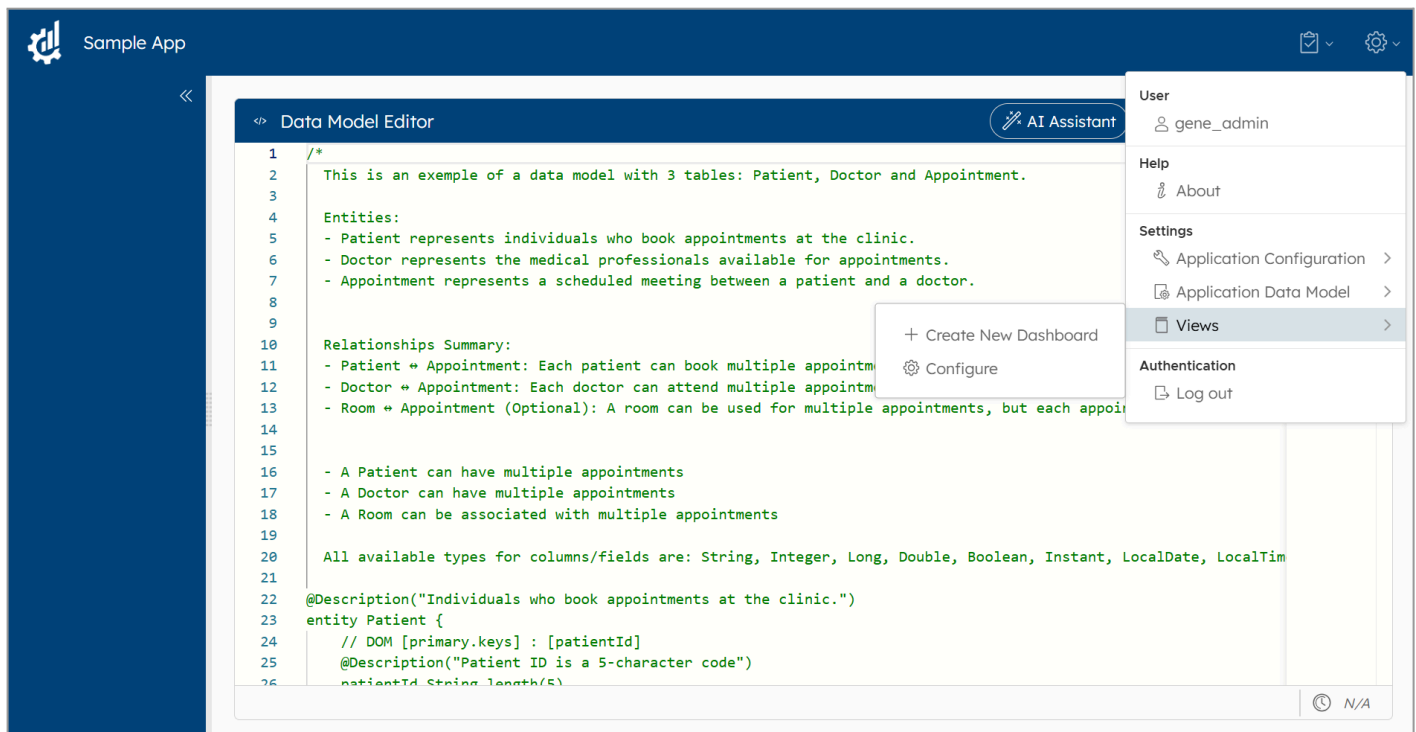
[DBPF-7534](#), [DBPF-7536](#) [DOC-382](#), [DOC-1098](#) [DBPF-7528](#) [DBPF-7531](#)

[DBPF-7538](#) [DBPF-7489](#) [DBPF-7643](#)

By default in Gene Online:

- The notions of “Views” and “Workspaces” are now disabled.
Therefore, the Workspace Selector and the “Views” separator have been removed from the Sidenav.

- Also in the Sidenav,
 - The button “Home” is now hidden by default and can be restored by setting `SIDEBAR_SHOW_HOME` to true in the Application Preferences.
 - The Home view is still available by clicking the application name next to the logo.
 - A button “+ New Dashboard” is available.
- The default Filter Scope is now set to “VIEW”.
- A blank JDL Data Model Editor now shows a commented example with no **application** block, which is now optional.



New JDL AI Assistant

[DBPF-7708](#)

An AI Assistant, available in the JDL Data Model Editor toolbar, has been integrated. It allows the generation of a data model from different types of files, such as Excel, text, image, or audio files.

Deployment

This section lists all changes related to DOC integration with Docker and Helm.

Updated Environment Variables

DOC-1044

In Keycloak deployments (Helm and docker-compose), the following deprecated environment variables have been migrated to the new ones:

- Updated `KEYCLOAK_ADMIN` for `KC_BOOTSTRAP_ADMIN_USERNAME`.
- Updated `KEYCLOAK_ADMIN_PASSWORD` for `KC_BOOTSTRAP_ADMIN_PASSWORD`.

According to the Keycloak [Upgrading Guide](#), the following two environment variables have been removed:

- `KC_HOSTNAME_STRICT_HTTPS=false`
- `KC_PROXY=edge`

And the following one is introduced

- `KC_HTTP_ENABLED=true`

JupyterLab

This section lists all changes related to the JupyterLab integration with DOC.

Improved Jupyter Notebook Compatibility

DBPF-7648

Jupyter Notebook can now use 3rd party libraries.

Improved Jupyter Notebook Samples

DBPF-7409 DBPF-7709

Improved Jupyter Notebook samples are now available

Improved JupyterLab Helper

DBPF-7636 DBPF-7710

Jupyter Notebook Gene Helper has been improved and now uses XCSV instead of CSV API.

New Jupyter Notebook Task and Statement

DBPF-7475

A JupyterLab notebook can now be executed from the application using a new "Execute a Jupyter Notebook" task and a new `ExecuteJupyterNotebookStatement` statement.

Python

This section lists all changes related to the Python integration with DOC, except for Workers (Python) and Routines.

Deprecated Methods

[DBPF-7710](#)

The `show_api_key_input(api_key)` has been deprecated in favor of `set_api_key(api_key)`.

The `show_scenario_picker(parameter_name)` has been deprecated in favor of `select_scenario(collector_class, parameter_name)`.

Improved Python DOM API

[DBPF-7638](#) [DBPF-7639](#) [DBPF-5626](#)

The Python DOM API has been improved to implement `__str__()` and `display(entity)` methods.

There was only an API for deleting one row. To delete all the rows of a given type, it was necessary to use the following code:

Unset

```
for issue in [it for it in input_collector.get_all_gene_issues()]:  
    input_collector.remove(issue)
```

Now, a new `remove_all_xxx()` API allows it, as in:

Unset

```
input_collector.remove_all_gene_issues()
```

Improved CSV Parsing in Python

[DBPF-5454](#) [DBPF-7271](#)

When reading a CSV from Python, `null` values are now kept as null instead of an empty string.

Scripted Tasks Changes

This part lists all changes related to:

- the task definition and script language, in Section **Definition**.
 - job triggering, execution, and monitoring, in Section **Jobs**.
 - routines in Java & Python, in Section **Routines**.
-

Definition

This section lists all changes related to the task definition and script language.

Improved Exit Script in Tasks

[DBPF-7804 DOC-1086](#)

The exit script of a scripted task now has access to the variable named `com.decisionbrain.gene.latestStepLabel`, similar to the variables that contain the job status and error message from the main script, if any. This new variable will be `null` if the main script completes normally. Otherwise, it will be the label of the step that was interrupted, as seen in the Job Details widget.

New Statement to Execute a JupyterLab Notebook

[DBPF-7487](#)

Statement `ExecuteJupyterNotebookStatement` has been introduced and documented. It executes the cells of a JupyterLab notebook on a given scenario.

Scripted task `ExecuteJupyterNotebookTask` has also been introduced. It is activated with the `@AddJupyterLabTask` annotation. It calls the above statement and can typically be executed from a UI Action set on a button of the toolbar of the application.

The `ExecuteJupyterNotebookTask` uses an API key instead of a JWT token to load and save scenarios.

Jobs

This section lists all changes related to job triggering, execution, and monitoring.

Updated Memory Usage

[DBPF-7595](#)

The memory needed to save the task outputs for a list of files is now reduced.

Routines

This section lists all changes related to routines in Python or Java.

Updated Method in Composite Data Model Routines

[DBPF-7127](#)

When using routines in a Composite Data Model application, the `markModified` method now applies to all visible reference scenarios

New Built-in Routine for Rule Execution

[DBPF-7127](#)

The routine `ExecuteRulesetOnScenario` has been introduced and documented. It compiles and executes a set of rules written in Drools Rule Language on the data of a scenario. It is activated by adding the `@AddExecuteRulesetOnScenarioRoutine` annotation to the configuration of the Backend service.

Scripted task `ExecuteRulesetOnScenarioTask` has also been introduced. It is activated with the `@AddExecuteRulesetOnScenarioTask` annotation. It calls the above routine and can typically be executed from a UI Action set on a button of the toolbar of a Code Editor widget. It is used by the Rules Script Editor widget.

New Built-in Routine for ChatGPT Interaction

[DBPF-7127](#)

The Routine `ProcessChatGptConversationRoutine` has been introduced and documented. It processes and extends a conversation with OpenAI's GPT large language models. It is activated by adding the `@AddChatGptConversationRoutine` annotation to a configuration of the Backend service.

Scripted task `ProcessChatGptConversationTask` has also been introduced. It is activated with the `@AddChatGptConversationTask` annotation. It calls the above routine and can typically be executed from a UI Action set on a button of the toolbar of a Code Editor widget.

UI Changes

This part lists all changes related to:

- *the Application Preferences, not its Configuration, in Section **Application Preferences**.*
 - *specific UI widgets, in Section **Data Grid/Explorer, Scenario, Issue, Job, Navigation Button, Chart, Gantt, KPI, Filter, Composite, Map, Calendar, Rich Text, or Pivot Table Widget** — if a change impacts more than one widget, it is listed in the most relevant section and referred to in the others.*
-

General UI Changes

This section lists all changes related to all widgets, regardless of their type, or non-widget elements of the UI, such as the Sidenav, menus, scenario selector, or views and dashboards, except for the Access Control elements, such as permissions and API keys.

Improved Application Name Display

[**DBPF-7530 DBPF-7531**](#)

The application name in the header is now clickable and redirects to the Home view, the same way as the logo does.

Improved Sidenav Display

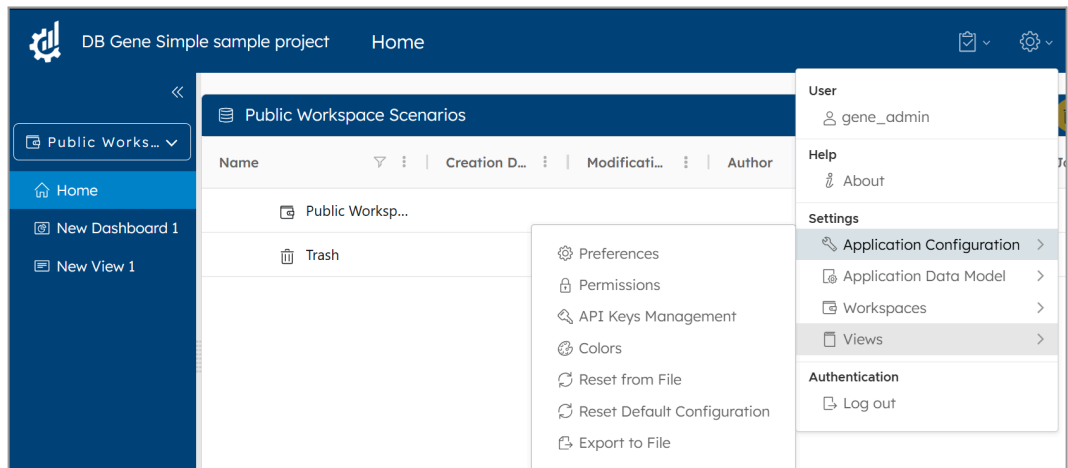
[**DBPF-7538**](#)

The colors of the Sidenav bar now reflect the application colors. To use the old colors, the application preference `USE_LEGACY_SIDEBAR_COLORS` is available and can be set to true.

Improved Sidenav and Topbar Menus

The colors of the Sidenav bar now reflect the application colors. The legacy Sidenav colors can be restored by setting `USE_LEGACY_SIDEBAR_COLORS` to true in the Application Preferences.

Also, as the notion of “views” and “dashboards” is being reworked, the Views separator has been removed from the Sidenav.



In the Topbar Settings menu:

- “Views and Dashboards” has been renamed “Views”.
- “Application Preferences” is now named “Preferences”, and it has been moved under “Application Configuration”.

Finally, on the left side of the Topbar:

- Clicking the application name now redirects to the Home view, and
- The name of the view or dashboard is not underlined when hovered anymore, as it could be confused for a link.

Improved Boolean Filter Display

[DBPF-7337](#)

The outside area of the buttons is now visible when the button is not selected or hovered.

Improved Widget Configuration

[DBPF-7555](#) [DBPF-7556](#)

The widget type and description are now displayed in the widget configurator.

Application Preferences

This section lists all changes related to the Application Preferences, not the Application Configuration.

Updated Application Preferences Configuration

[DBPF-7535](#)

In the Settings menu, the item “Application Preferences” is now named “Preferences” and has been moved under Application Configuration.

New Application Preferences Settings

[DBPF-7550](#)

New Application Preferences settings are available:

- The new preference `SHOW_GENE_DASHBOARD_LAYER_BUTTON` under the Component `DASHBOARD` will show the previously perpetually present menu to order the widget layers in edition mode when set to true. The default is false.
- To use the old colors for the Sidenav, the application preference `USE_LEGACY_SIDEBAR_COLORS` is available and can be set to true.
- `TASK_MENU_SHOW_JUPYTERLAB` under component `TASK_MENU` allows displaying the menu entry that opens JupyterLab in the Task menu. The default is true.

Chart Widgets

This section lists all changes related to the Chart widget.

Improved Y-Axis Labels

[DBPF-7505](#) [DOC-809](#)

Y-axis labels are now left-aligned with the axis

Gantt Chart Widget

This section lists all changes related to the Gantt Chart widget.

Improved Edition

[DBPF-7240](#) [DBPF-7245](#) [DBPF-7246](#) [DBPF-7631](#) [DBPF-7574](#) [DBPF-7612](#)

Version 4.5.0 introduces several improvements in the Gantt Chart widget:

- Data edition now supports snap to grid, drag and drop scrolling, and deleting events.
- The Custom Controller API now supports controlling editions.
- The Gantt Chart API now supports rendering images

Finally, the `readUpdates` method of the `GanttDataSource` interface now returns a boolean to indicate if updates have been applied.

This method should return `true` and request a refresh on the Gantt chart itself in this case. If it returns `false`, the Gantt component may refresh after calling `readUpdates`.

Filter Widget

This section lists all changes related to the Filter widget.

Improved “Applies to” Setting

[DBPF-7219](#)

"Applies to" can be edited when a "Filter field" is selected.

New Key Descriptions Display

[DBPF-7649](#) [DOC-948](#)

The Filter widget now displays descriptive values alongside keys.

Pivot Table Widget

This section lists all changes related to the Pivot Table widget.

New Pivot Table Options

[DBPF-7423 DOC-940 DBPF-7328](#)

The Pivot Table widget configurator now provides users with new options:

- Pin row groups
- Autoexpand on scroll
- Aggregated Rows Views
 - Double-clicking on a cell opens a table with all the aggregation lines.
 - If the column is editable, you can edit the value
 - When you save, the pivot table is refreshed

Also, the data edition pop-up table can now be displayed next to the pivot table.

Finally, the Server Pivot Table requires functionality to allow users to freeze the columns enabled in the “Row Groups” section. This feature will ensure these columns remain visible while the user scrolls horizontally.

Code Editor Widget

This section lists all changes related to the Code Editor widget.

New Auto-Scroll-to-Bottom Setting

[DBPF-7495 DOC-1017](#)

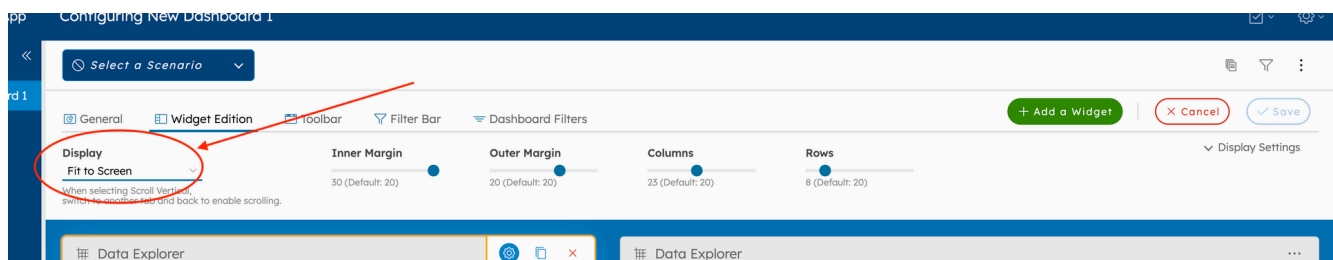
A new “Auto scroll to bottom on update” option in the Code Editor widget configurator is enabled by default.

Deprecated Features and APIs Scheduled for Removal in the Next Release

This section lists all removals that are planned to come in <Next-Release>.

Deprecated Custom Views

Starting with the 4.5.0 the Custom Dashboards layout can be configured with a “fit to screen” option which allows the positioning of a single widget to fit the whole screen just like in a Custom View. Therefore Custom Views are now deprecated and will be removed in the next release.



Deprecated ExcelExportRoutine

This routine `ExcelExportRoutine` has been deprecated in 4.0.1-fp2 and will be removed in the next release.