

IBM DOC 4.4.0.4.6.0 Release Notes

June 23rd, 2025

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IBM DOC 4.4.0.4.6.0 Release Notes

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Note:

IBM DOC 4.4.0.4.6.0 introduces several infrastructure updates and deprecations. They are described in detail in IBM DOC 4.4.0.4.6.0 Migration Guide, available on the <u>DecisionBrain</u> <u>website</u>. 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 **IBM DOC 4.4.0.4.6.0**, released on March 24th, 2025.

Updates

IBM DOC 4.4.0.4.6.0 introduces the following dependency updates.

Spring Update

IBM DOC 4.4.0.4.6.0 now uses **Spring Boot 3.4.5** and **Spring Cloud 2024.0.1**. Formerly, it was version 3.4.3 and version 2024.0.0.

AG Grid Update

IBM DOC 4.4.0.4.6.0 now uses AG Grid 33.3.0. Formerly, it was version 33.1.1.

Keycloak Update

IBM DOC 4.4.0.4.6.0 now uses Keycloak 26.2.4. Formerly, it was version 26.1.3.

MongoDB Update

IBM DOC 4.4.0.4.6.0 now uses MongoDB 8.0.9. Formerly, it was version 8.0.5.

PostgreSQL Update

IBM DOC 4.4.0.4.6.0 now uses PostgreSQL 15.13. Formerly, it was version 15.10.

RabbitMQ Update

IBM DOC 4.4.0.4.6.0 now uses RabbitMQ 4.1.0. Formerly, it was version 4.0.7.

Deprecations

The following deprecated elements will no longer be supported from version 4.4.0.4.7.0.

DOM

- The following JDL syntaxes were **deprecated in 4.0.3-fp1**.
 - // DOM HIDDEN FK
 - // DOM FIELD [xxx] [foreign.key.reference] ,
 - // DOM FIELD [xxx] [java.referenceName]
 - \rightarrow They are now ignored and can be removed from your JDL.

Execution Service

- com.decisionbrain.gene.execution.model.script.ExecuteRoutineStatement#onBackendService() was deprecated in 4.0.1-fp2.
 - \rightarrow Instead, use **#of(Expression)**.
- com.decisionbrain.gene.execution.service.JobInstanceService#eraseJob() was deprecated in 4.0.3.
 - → Instead, use JobInstanceService#deleteJobInstanceAndOutputs(String).
- com.decisionbrain.gene.execution.model.ScriptedTaskDescription#getPersistSystemLog() and #setPersistSystemLog() were deprecated in 4.0.3-fp3.
 - \rightarrow They should no longer be used.

Web Client

- The Legacy Pivot Table and Legacy Issue List widgets were deprecated in version 4.0.3-fp3.
 → Instead, use the non-legacy widgets.
- The interface GeneWidgetCustomViewToolbarController was deprecated in version 4.4.0.4.6.0.
 → It should no longer be used.
- com.decisionbrain.gene.execution.model.script.ExecuteRoutineStatement#onBackendService() was deprecated in version 4.0.3-fp3.
 - \rightarrow Instead, use **#of(Expression)**.
- In web/web-frontend-base/projects/gene/widget-data/src/lib/modules/application-sta te/gene-application.service.ts, the function getApplication() was deprecated in version 4.0.3-fp3.
 - \rightarrow Instead, use **#getCurrentApplication()**.
- In web/web-frontend-base/projects/gene/data/src/lib/modules/data-api/service/genedata-api.service.ts, the functions getCurrentSchema() and getEntities() were deprecated in version 4.0.3-fp1.
 - \rightarrow Instead, use GeneMetaModelService and getAllEntities(params), respectively.

End-User Features

IBM DOC 4.4.0.4.6.0 delivers an improved user experience through enhanced dashboards, expanded widget functionalities, and smarter scenario comparison tools. Dashboards now feature a new UI, widget duplication. Several widgets, such as the Gantt Chart, Calendar, have been extended. Gene Online also improves its AI-powered JDL conversion and provides users with more reliable editing workflows.

Improved Dashboards

Version 4.4.0.4.6.0 introduces noteworthy changes related to dashboards.

New Dashboard-Only Interface

Custom views have been removed and replaced by custom dashboards. Menus and APIs have been updated accordingly. On applications with no dashboard, a button "+ New Dashboard" is now also available by default in the Sidenav.

DB Gene Simple so	ample project Home			کې د
≪ ☐ Public Works ♥ ☆ Home	Public Workspace Scenarios Name V I Creation D I	Modificati 🗄 Author 🏹	User S gene_admin Help Å About	
⊕ New Dashboard	✓ ☑ Public Works Ⅲ ⋸ Capacity 23/06/2025 1 1 Ⅲ Ⅲ Trash 1	23/06/2025 1 gene_admin + Create New Dashboard	Settings & Application Configuration Application Data Model Workspaces Dashboards	>
		 Configure 	Authentication ☐ Log out	

Improved Custom Colors

The color of the text now automatically adjusts to CSS variables everywhere in the application when Custom Colors are set.

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New Widget Gallery for Dashboards

Clicking on "Add a Widget" now displays a gallery instead of a dropdown list.

Also, the following widget names have changed:

- Issue Details Widget > Issue Details
- Issues List Widget > Issue List
- Composite Widget >
 - Composite Widget Container
- Map Widget > Map
- Calendar Widget > Calendar

5 ∂		+ Add a	Widget	X Cancel Save
				> Display Settings
		A		
(×		Add	a Widget ×
Creation Date	$\overline{\mathbb{V}}$		Showi	ng 24/24
			Ð	Button A clickable button that triggers an action, such as opening a new page, or starting a task.
			[]]	Calendar A calendar that allows you to customize how to view your events or tasks.

New Widget Duplication Mechanism

A new button, "Duplicate to other Dashboard", is now available in the widget toolbar in Edition Mode. It opens a modal to select the dashboard where to replicate the widget and determine layout options.

		Edit Widge	t Si:
of 3 Duplicate to other Author ∇ : Acti	×	Duplico	
Duplicate Widget to Dashbo Iy Dashboards ① @ New Dashboard 1	oard ~		

Improved Widgets

Version 4.4.0.4.6.0 brings improvements on scenario comparison as well as new features to the Gantt and Calendar widgets.

Improved Scenario Comparison

A new Application Preferences parameter, ENABLE_MULTIPLE_SCENARIO_COMPARISON, is set to true by default. This allows comparing up to 10 scenarios simultaneously, using the KPI or Chart widgets.

The Comparison Scenario Selector updates accordingly, provided that the dashboard contains at least one of these widgets that support multi-scenario comparison.

Scenario comparison is now also available between scenarios with issues of type "Error", as long as they are not schema errors, i.e., they do not appear in GeneSchemalssue but in GeneIssue.

Improved Gantt Chart Widget

The Gantt Chart widget now supports "multi-series" with a configurator similar to the Chart widget, with a series list on the left and a series configurator on the right.

A visual tool for manag	ing projects, displaying	tasks along a timeline with	start and end dates. Useful for tracking processes or project progress.
Gantt properties	🖹 Data source	≦ Selection	
Series	∧ ∨ + -		
E Activity		Series Title	Activity
		Series type	Task / Event \vee
		✓ [┘] Series data	
		Event type	Activity ~
		Start time field	creationDate 🖉
		End time field	creationDate 🖉
		Event label	Click to select field \checkmark
		Group by Additional grouping fields	Click to select field
		✓	
		✓ eg series color	

Different types of series are now available: "Task / Event" and "Period / Shift", which both span over a determined time length, and "Instant / Deadline", for punctual events.



Finally, in addition to the color opacity that can now be defined, it is also possible to indicate either:

- a "Single color" for the whole series, to differentiate between the multiple series, or
- a "Color-by property" (formerly named "Event color by") and select a field.

\checkmark \textcircled{G} Series color	
	• Color by property
Opacity (%)	100
(i) If no field the widge	is selected, label field will be used. If more than one field is selected, a selector will be added to t header
Event color by	
	⊕ Add field

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Improved Calendar Widget

The Calendar widget can now use the rich text editor to **customize tooltips and labels**, and now supports the **"Color by" configuration for events**.

ject Conf	figuring Data Ex	plorer						Ŝ~ ĝ~
	Tooltip type	⊖ Fie	eld 💿 Template					
	Tooltip template	+ad	D FIELD Add icon					
		B Not	<u>IU</u> ÷ ", "ν rmal ≑ ▲ 涨	H1 H2 ⅔ ∷ Sans Serif 🗘		ײ	Normal 🗘	
			Duration: activity.durationIn Plant: activity.plant.country Resource: resource.name		t.plantId		Q (C	
	Default event color							
	Color by $activity \rightarrow plant \rightarrow plantId $ $\checkmark \times$							
	Background event							
	Inverted background event							
	> 🖓 Conditional for	matting						
2019						Schedule - ID7124	< > \\	
mar.	mer		jeu.	ven.	[1-1]	05/10/2019 00:00 - 23:59	dim.	* *
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				Schedule - ID0101	F	Resource: M2	ule - ID4137	
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Improved Gene Online

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	🪀 AI Assistant	User ≥ gene_admin	
		Help \mathring{l} About	
coom.		Settings	>
	🖄 Data Model Editor	Application Data Model	>
	\pm Data Model	🗍 Views	>
LocalDateTime, Duratio	m m m Excel Template	Authentication	

In 4.4.0.4.6.0, Gene Online mainly improves on the Data Model Editor.

New Download Option for the Data Model in Gene Online

It is now possible to **download the data model** of a Gene Online application from the Settings menu in the Topbar.

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Improved Display for the Data Model Editor in Gene Online

In the JDL Data Model Editor, all syntax errors reported by the parser are now displayed at the same time.

Also, the JDL Editor now notifies the user of unsaved changes before leaving the view.

rors	1 er 2	<pre>ntity Activity { // DOM [primary.keys] : [id]</pre>
the	3 4 } 5	id int
of		ntity Foo { i°d String
	9 10	/* non closed comment

Improved JDL Converter in Gene Online

You have unsaved changes that will be lost. Are you sure you want to leave?

Unsaved Changes

In the Data Model Editor, when using the AI Assistant to generate a JDL model from imported files, the conversion mechanism leverages the error-reporting improvements made to the JDL parser. This allows the AI Assistant to converge more quickly to a valid JDL to propose.

CANCEL

Technical Features

IBM DOC 4.4.0.4.6.0 brings backend improvements that enhance system reliability and developer productivity. It includes updates to DBOS, Python APIs for partial data handling, HTTP APIs, and environment dependencies. The JupyterLab integration is now more robust, with improved activity tracking and support for binary data.

New Python API for Partial Scenario Data Handling

When working with either dataframes or a collector, scenarios can now be filtered when loading or saving from the Python API. It is now possible to add an entity filter parameter to load/save scenario functions in Python.

When working with dataframes, you can now:

• Load a partial DataFrameDict:

None
scenario_data = scenario.load_as_dataframes({'Plant'})

```
display(scenario_data)
```

DataFrameDict contains 1 entity types and a total of 7 rows

 Entity
 Count

 Plant
 7

Note that:

The display function, which is available in Jupyter notebooks, only pertains to notebooks, not workers.

However, it uses **_repr_html_**, which is available for workers.

It creates an HTML block to represent the current entity, as in <entity_>repr_html_().

• Add a new row:

```
None
df = scenario_data['Plant']
new_rows = DataFrame([{
    'plant_id': 'Foo',
    'country.id': 'FRA'
}])
scenario_data['Plant'] = concat([df, new_rows], ignore_index = True)
```

Note that:

For the moment, using country.id to set the country of the new plant only works in Jupyter notebooks,

not workers.

As a reminder, this is how to set a relation in a Python worker. This has not changed:

```
None
new_rows = DataFrame([{
    'plant_id': 'Foo',
    'country.id': 'FRA',
    'country_id': 'any valid internal id of a Country that also has <FRA> for
ID'
}])
```

<u>Save only one table:</u>

None # Save back the data scenario.save_from_dataframes(scenario_data, {'Plant'})

When working with a collector, you can now:

• Load a partial collector:

None

```
collector = scenario.load_as_collector({'Plant', 'Country'})
display(collector)
```

DbDomCollector contai	ns 24 e	ntity types and a total of 16 row
Entity	Count	
Activity	0	
Calendar	0	
Country	4	
DateType	0	
DefaultValuesTest	0	
DemoComputedFields	0	
Genelssue	0	
GeneParameter	0	
GeneSchemalssue	0	
LobType	0	
Plant	12	

• Add a new entity:

```
None
country = collector.find_country_by_business_key('FRA')
plant = collector.create_plant()
plant.set_plant_id('BAZ')
plant.set_country(country)
```

• <u>Save only one entity:</u>

```
None
# Save back the data
scenario.save_from_collector(collector, {'Plant'})
```

New Auto-Stop Mechanism for Data Integration

The import and export tasks using XCSV now stop when an unrecoverable error (such as a database restart) occurs.

Improved HTTP API

The calls to the HTTP API now support both relative URLs /api/xxx and api/xxx.



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Improved JupyterLab Integration

When displaying a collector, the size of the printed data is now limited to look the same as a DataFrame.

Finally, the system's idle time calculation (gene_idle_time_seconds) has been enhanced to accurately incorporate user activity from JupyterLab sessions. That aims at preventing premature auto-pausing when JupyterLab is in use, by considering both actively open JupyterLab sessions and the last recorded kernel activity.

Improved Collector Class Name Input

When the collector class name is present in the JDL, it can now be used automatically, and the user is no longer prompted for input.

Changelog

IBM DOC 4.4.0.4.6.0 introduces several improvements and bugfixes listed in detail below.

Improvements

IBM DOC 4.4.0.4.6.0 introduces the following improvements:

Application	DBPF-8086	Custom Views are now removed
Views & Dashboards	DOC-1140 DOC-807	It is now possible to duplicate a widget to another view
	DOC-1138 DOC-1139	Widgets are now selected through the Widget Gallery
Data Data Integration Framework	DOC-1148	Data integration now stops in case of error
Dev 3rd-party	DBPF-7921	SpringBoot has been upgraded to 3.4.4, Spring Cloud to 2024.0.1 and Spring Framework to 6.2.5
Components	DBPF-7926	Keycloak has been upgraded to 26.1.4
	DBPF-7930	AG Grid has been updated to 33.2.1 in Gene
	DBPF-8065	Gene no longer depends on keycloak-angular library
	DBPF-8066	DBOS no longer depends on keycloak-angular library
	DBPF-8194	Python max version has been updated to 3.12.10
	DBPF-8195	SpringBoot has been upgraded to 3.4.5 and Spring Framework to 6.2.6
	DBPF-8196	Keycloak has been upgraded to 26.2.4
	DBPF-8197	Apache Commons text has been upgraded to 1.13.1 and Apache POI to 5.4.1



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	DBPF-7208	DependencyCheck - Gene - Upgrade npm package to graphql 16.10.0 and json-to-graphql-query to 2.3.0
	DBPF-7226	Zap - Gene - CSP: script-src unsafe-eval
uı General Changes	DBPF-8171	Widget titles have been renamed and descriptions have been rewritten
	DOC-1237	The calls to Gene HTTP API support both relative URLs /api/xxx and api/xxx
uı Look & Feel	DBPF-7539	[UI] Text colour has been adjusted to use CSS variables when applied on application colours
uı Scenario Comparison	DOC-773	Users can now compare Scenarios on Error having no Schema Issue
	DBPF-7826	Dashboards are now able to display Multiple (>2) or Simple Scenario Comparison based on settings and configuration
	DBPF-7827	The Scenario Picker now supports Multiple (>2) Scenarios Comparison
	DBPF-8301	Multiple scenario comparison is now activated by default in the Application Preferences
UI	DBPF-7589	[Gantt] Deprecated loadEvents / loadResources have been removed
Gantt	DOC-670	Gantt chart now supports multiple series
	DOC-676	[Gantt] Gantt now support single color series
uı Calendar	DOC-1132	Calendar now supports events "color by" configuration
	DOC-1134	Calendar now supports advanced tooltip configuration
	DOC-1135	Calendar now support advanced configuration of labels

Bugfixes

IBM DOC 4.4.0.4.6.0 introduces the following bugfixes:

Application Views & Dashboards	DBPF-7866	[Dashboards][Gene-online] Setting a dashboard as home was making it unusable and show the link to the default home view
	DBPF-8264	[Dashboard] A new widget was replacing an existing one under certain conditions
	DBPF-8270	[UI - Views and Dashboards] Adding widgets with gene-popover that do not have a configurator to a dashboard led to an error in the console
Data	DOC-1127	Import Scenario was failing
Data Integration Framework	DOC-1142	Relation wasn't correctly set when importing an Excel file
Data	DOC-1090	Data loading was failing because of uninitialized cache
Data Service	DOC-1170	Excel Export was broken when using a filter (regression)
	DBPF-8144	Deadlock between data and scenario services at startup when migrating Mongo data to 4.5.2
	DOC-1247	IBM DOC wasn't saving data from Routine with input scenario link
Data JDL	DOC-1145	GeneOnline —JDL @Description annotation was not supporting strings containing special characters
Data Scenario Service	DOC-1230	When migrating old scenarios, scenarioType was not being created
DBOS Master	DOC-993	DBOS workers collection was not cleaned
DBOS - Worker (Java)	DOC-1109	DBOS worker stack traces were not captured



Dev 3rd-Party Components	DOC-1044	Keycloak Realm export did not work anymore
Dev Build	DBPF-7859	[Gene Online] Renaming an entity by changing only the capitalization of its first letter would prevent the data service from restarting
	DOC-1124	Gateway service error on macos : Unable to load io.netty.resolver.dns.macos.MacOSDnsServerAddressStreamProvider
Dev DOM	DBPF-7910	JDL can now use java reserved keywords for field names
Dev Gene Online	DBPF-7903	[Gene Online] editor wasn't detecting entities with the same name case insensitive
	DOC-1145 DOC-1188	[Gene Online] Compilation was failing because of unicode character
	DOC-1210	[Gene Online] Min and Max JDL value with decimal wasn't working
	DBPF-8318	GeneOnline — data-service pod killed during rebuild was making the application stuck
Dev JupyterLab	DBPF-7807	Jupyter notebook execution failed with "Interrupted waiting for lock" error
	DBPF-7941	There were permission issues when creating a virtualenv in JupyterLab
	DBPF-8188	[JupyterLab] Binary field was failing to save null values
	DBPF-8247	The Python CPO notebook was not working anymore



uı General Changes	DBPF-7870	A user that did not have edit rights was able to see and click on the add widget link on an empty dashboard
	DBPF-7907	[UI] New UI Dashboard link was missing on newly generated app
	DBPF-7939	There were Web client warnings in the console
	DBPF-7991	In Dashboard edition mode, undoing/redoing a step without changing the grid type was rendering the Dashboard Settings unusable
	DBPF-8229	The Gene WebUI was not redirected correctly to Keycloak login page when the JWT is expired
uı Look & Feel	DBPF-8077	Scroll vertical layout was broken after undo action
UI	DBPF-7831	JDL editor was highlighting line 1 on errors with no line information
Code Editor	DOC-1125	GeneCompositeConfiguratorComponent and GeneRulesScriptEditorConfiguratorComponent have the same selector
uı Composite	DBPF-8333	[Composite Widget] The title of the configurator was mentioning another widget
UI	DBPF-6953	[Data Explorer] The preview was not being updated correctly
Data Grid / Explorer	DBPF-7898	[UI] Confirmation was no longer asked when leaving a dashboard with unsaved data modifications
	DBPF-7909	ag-grid was using the wrong font in grid cells
	DBPF-8266	[DataGrid] Date time editor/picker icon was misaligned when using a small column width
	DBPF-8267	[DataGrid] Date/Time cell could remain in edition after leaving the edition mode
	DBPF-8286	[DataGrid] It was not possible to edit binary fields



uı Filter	DOC-1178	Filter bar's handling of special characters
uı Pivot Table	DBPF-8365	The widget was not displaying the time of DateTime fields and was parsing Date values incorrectly when aggregated
	DOC-1232	The widget was getting stuck on loading when filtering on dates through in-built filters
uı Gantt	DBPF-7769	[Gantt] Gantt header was displaying the wrong year in some cases
	DBPF-7896	[Gantt] Edition mode allowed dropping an event onto a group
	DOC-1130	[Gantt] Gantt wasn't reloading on DataUpdated events if related to entities unrelated to the configuration
	DOC-1156	[Gantt] Dynamic loading didn't work for primitive properties
	DBPF-8067	[Gantt] Data edition was not refreshing correctly with dynamic loading enabled
	DOC-1234	Gantt loadData method was no longer being called
uı Scenario Comparison	DBPF-8091	[Scenario Comparison] It was possible to pick the same scenario as active and reference
	DBPF-8102	[UI - Scenario comparison] The reference scenario list could have multiple entries of the same scenario