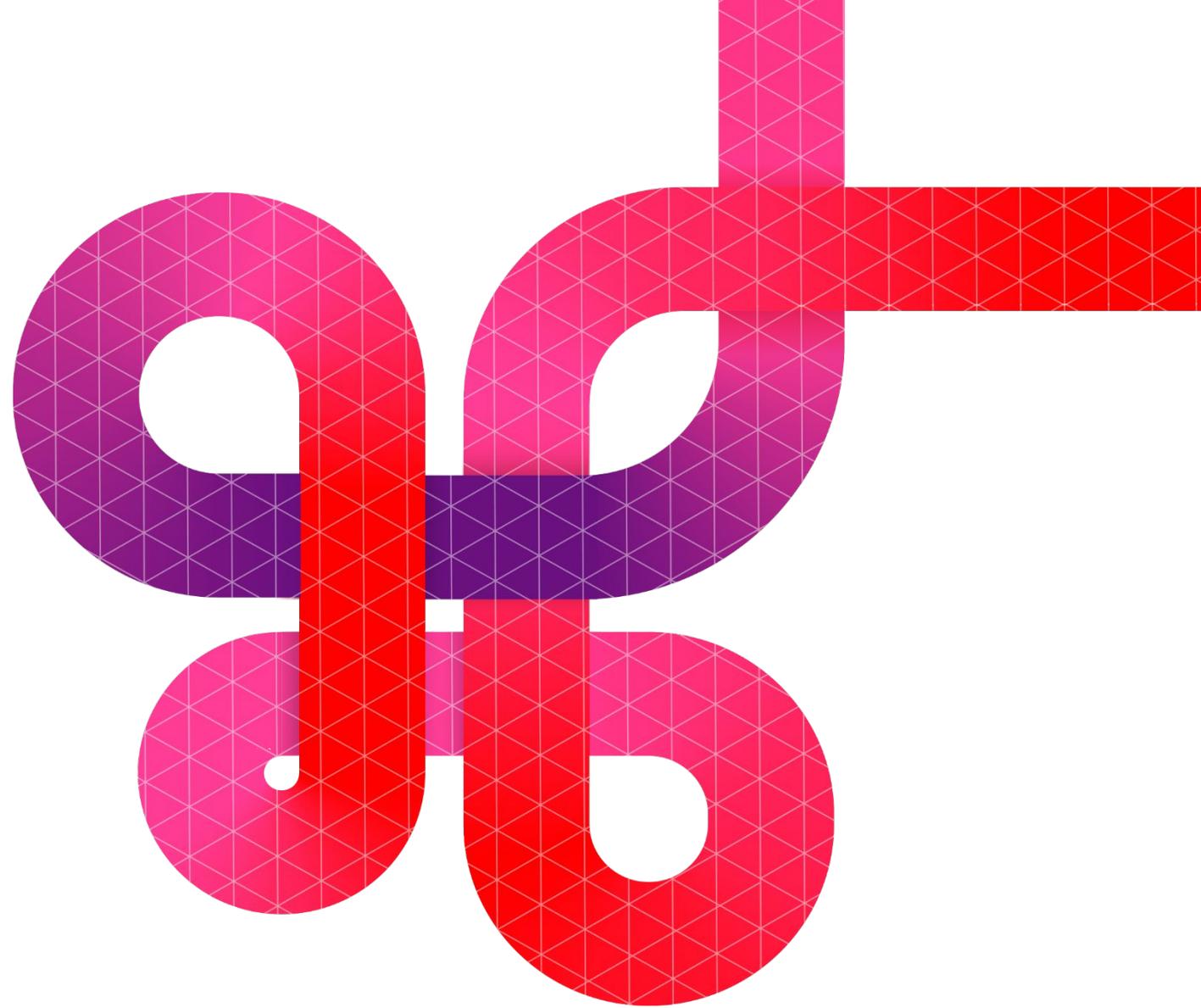




Celonis Process Mining 4.7.3.2 Release Notes



Disclaimer

Updating to Celonis Process Mining 4.7.3.2

Please be aware that before updating to Celonis Process Mining 4.7.3.2, it is **required to install and run version 4.7.2.**

For detailed information and further required steps, please refer to the **Celonis 4.7.3 - Update Guide 1.14.**

Important changes

OAuth 2.0 support for mail distribution

With Celonis Process Mining 4.7.3.2, we added support for OAuth 2.0 (XOAUTH2) SMTP authentication for automatic mail distribution with the *“Stories”* functionality.

In addition we now expose an SMTP Authentication API to periodically refresh or rotate short-lived OAuth tokens.

More information can be found here: <https://help.celonis.de/display/CPM47/Mail>.

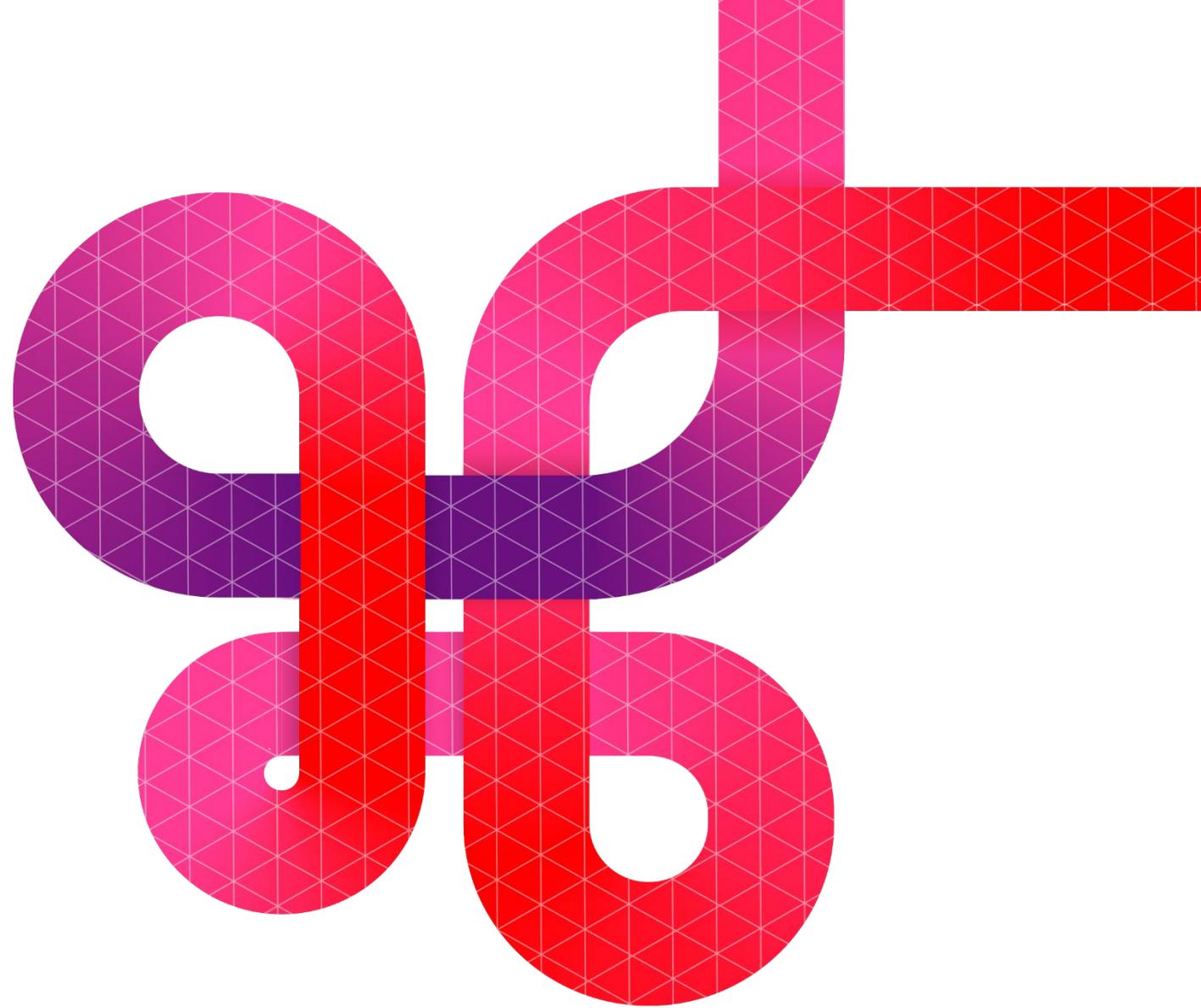
SSL Protocols and Ciphers configuration

We added a feature to limit allowed SSL protocols and ciphers in case strict security limitations are required. For example, to explicitly prohibit TLSv1.2 protocol or DHE ciphers.

For more information, please refer to the Operation Guide 1.16, p. 16-17.



Celonis Process Mining 4.7.3 Release Notes



Disclaimer

Updating to Celonis Process Mining 4.7.3

Please be aware that before updating to Celonis Process Mining 4.7.3, it is **required to install and run version 4.7.2.**

For detailed information and further required steps, please refer to the **Celonis 4.7.3 - Update Guide 1.14.**

Important changes

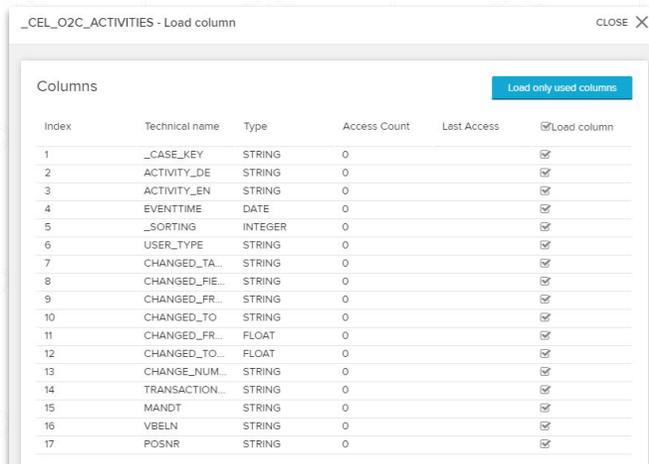
Deprecation note: Optimized load

With Celonis Process Mining 4.7.3, we are deprecating parts of the “optimized load” functionality (Data Model → Loading → Load column).

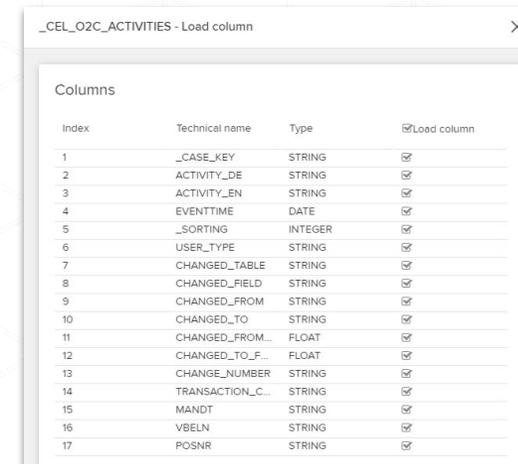
Remaining functionality: The user can manually select which columns of a certain table are included/excluded from a data model load.

Deprecated functionality:

- The application no longer tracks the access count and last access dates for columns
- The “Load only used columns” functionality is no longer available. This functionality was used to automatically include columns that were not available but accessed by a user into the next load



Index	Technical name	Type	Access Count	Last Access	Load column
1	_CASE_KEY	STRING	0		<input checked="" type="checkbox"/>
2	ACTIVITY_DE	STRING	0		<input checked="" type="checkbox"/>
3	ACTIVITY_EN	STRING	0		<input checked="" type="checkbox"/>
4	EVENTTIME	DATE	0		<input checked="" type="checkbox"/>
5	_SORTING	INTEGER	0		<input checked="" type="checkbox"/>
6	USER_TYPE	STRING	0		<input checked="" type="checkbox"/>
7	CHANGED_TA...	STRING	0		<input checked="" type="checkbox"/>
8	CHANGED_FIE...	STRING	0		<input checked="" type="checkbox"/>
9	CHANGED_FR...	STRING	0		<input checked="" type="checkbox"/>
10	CHANGED_TO	STRING	0		<input checked="" type="checkbox"/>
11	CHANGED_FR...	FLOAT	0		<input checked="" type="checkbox"/>
12	CHANGED_TO...	FLOAT	0		<input checked="" type="checkbox"/>
13	CHANGE_NUM...	STRING	0		<input checked="" type="checkbox"/>
14	TRANSACTION...	STRING	0		<input checked="" type="checkbox"/>
15	MANDT	STRING	0		<input checked="" type="checkbox"/>
16	VBELN	STRING	0		<input checked="" type="checkbox"/>
17	POSNR	STRING	0		<input checked="" type="checkbox"/>



Index	Technical name	Type	Load column
1	_CASE_KEY	STRING	<input checked="" type="checkbox"/>
2	ACTIVITY_DE	STRING	<input checked="" type="checkbox"/>
3	ACTIVITY_EN	STRING	<input checked="" type="checkbox"/>
4	EVENTTIME	DATE	<input checked="" type="checkbox"/>
5	_SORTING	INTEGER	<input checked="" type="checkbox"/>
6	USER_TYPE	STRING	<input checked="" type="checkbox"/>
7	CHANGED_TABLE	STRING	<input checked="" type="checkbox"/>
8	CHANGED_FIELD	STRING	<input checked="" type="checkbox"/>
9	CHANGED_FROM	STRING	<input checked="" type="checkbox"/>
10	CHANGED_TO	STRING	<input checked="" type="checkbox"/>
11	CHANGED_FROM...	FLOAT	<input checked="" type="checkbox"/>
12	CHANGED_TO_F...	FLOAT	<input checked="" type="checkbox"/>
13	CHANGE_NUMBER	STRING	<input checked="" type="checkbox"/>
14	TRANSACTION_C...	STRING	<input checked="" type="checkbox"/>
15	MANDT	STRING	<input checked="" type="checkbox"/>
16	VBELN	STRING	<input checked="" type="checkbox"/>
17	POSNR	STRING	<input checked="" type="checkbox"/>

MS SQL Configuration Store – JDBC Driver

In case the application is configured to use the Celonis Configuration Store based on MS SQL in `config-custom.properties`, a manual update has to be applied:

Validating the usage of MS SQL

- Navigate to `<installDir>/config-custom.properties`
- Check if this exact property exists within your `config-custom.properties` file. In case the property is commented (#) the manual update does not have to be applied:

```
database.dialect=org.hibernate.dialect.SQLServer2008Dialect
```

Updating the property

- Navigate to `<installDir>/config-custom.properties`
- Replace the old value `org.hibernate.dialect.SQLServer2008Dialect` of the property `database.dialect` with the following value:

```
de.celonis.pm.utils.engine.CPMSQLServer2012Dialect
```

Please refer to the Celonis Update Guide 1.14 for more information. Not applying this update may lead to the application not being able to start.

Microsoft JDBC Driver for SQL Server Authentication Library for Windows

We also removed the `mssql-jdbc_auth-<version>.x<64/86>.dll` (Microsoft JDBC Driver for SQL Server Authentication Library for Windows) from the embedded dependencies. In case the application is running on Windows and the SQL Server Authentication (indicated by `integratedSecurity=true` in the JDBC string) is used to connect to the Celonis Configuration Store or the Analytics Database, the library has to be deployed manually:

1. Stop the application
2. Download the respective driver version based on your SQL Server version and compatibility from [here](#). Please follow the Microsoft recommendations in case of any questions: [here](#).
3. Place the library in `<installDir>\jre\bin`
4. Start the application

Please refer to the Celonis Update Guide 1.14 for more information. Not applying this configuration can lead to MS SQL connections failing.

Updated log file structure & log rotation

With version 4.7.3, we revamped the full log file structure on the application server. In addition to that, we enabled log rotation by default for the main Celonis Frontend and Compute Compute service logs.

- If custom logging was configured previously, please migrate the configuration to the approach (see the next slide).
- If scheduled OS logrotate was configured, please deactivate it and use the default CPM4 log rotation. Alternatively, you can apply a custom logging configuration as highlighted on the next slide.

Please refer to the Celonis Update Guide 1.14 for more information.

Custom logging configuration

The custom logging configuration was updated with version 4.7.3. It was previously configured in `<installDir>config-custom.properties` via the property `logging.config=`. This property is no longer supported.

To apply a custom configuration you can either:

- Refer a custom logging config file using the JVM property `-Dlogging.config` in `<installDir>/cpm.user.vmoptions`
- Refer a custom logging configuration in the file `application.properties#logging.config` residing in the same directory as the application jar.

Note: The logging library was changed from log4j2 to logback. Therefore, an update to the `logging.xml` configuration format could be required. For more information, please refer to: <https://logback.qos.ch/manual/configuration.html>

Please refer to the Celonis Update Guide 1.14 for more information. Not applying this update will lead to the application not picking up the previous custom logging configuration.

Analysis improvements

Improved Conformance Checker

Custom dimension

The Conformance Checker component can now be configured to use a custom dimension in two places (requires being in edit mode):

- During the setup when selecting “mine process model”
- In the component settings



Improved violation list

The violation list is now paginated for better usability and performance.

Additionally, violations can now be added to the allowlist directly, without opening the detail screen.



Color mapping based on NULL

Previously, the color mapping of analysis components was limited to numeric values. Therefore, we added the option to map null values to a specific background or font color.

Color mapping editor

Name
New color mapping

Coloring based on values of
Series

Color thresholds

<input type="checkbox"/>	If	is null		
<input type="checkbox"/>	If	equals	1	

Add threshold

Administration & security

Improved “Scheduled loads” overview

We added more information to the “Scheduled loads” overview (System Settings → Data loads → Scheduled loads):

- Data model ID
- Load ID
- Load schedule/partial load schedule
- Schedule configuration

The screenshot shows the 'System Settings' interface with the 'Data loads' section selected. Under 'Data loads', the 'Scheduled loads' sub-section is active. A search bar is present at the top of the 'Scheduled loads' section. Below the search bar, two entries are listed:

Data model name	Last load	Next load	Load scheduling	CRON Configuration	Located in	Load ID
Order to Cash - Demo (ID: 4)	19.05.2022 13:47	19.05.2022 13:47	Load scheduling: CRON	*****?*	Project ComponentTest	1aa07090-a3b6-4d95-ae3c-796cd418f018
Purchase to Pay - Demo (ID: 3)	19.05.2022 13:00	19.05.2022 14:00	Partial Load scheduling: Hourly		Project ComponentTest	8bf5bcdb-82ee-4df8-964b-3ecf98d709df

Improved system monitoring

Celonis now logs two new monitoring metrics:

- The available and used storage of `config.properties#filesystem.writableroot=` (once per hour). Example:

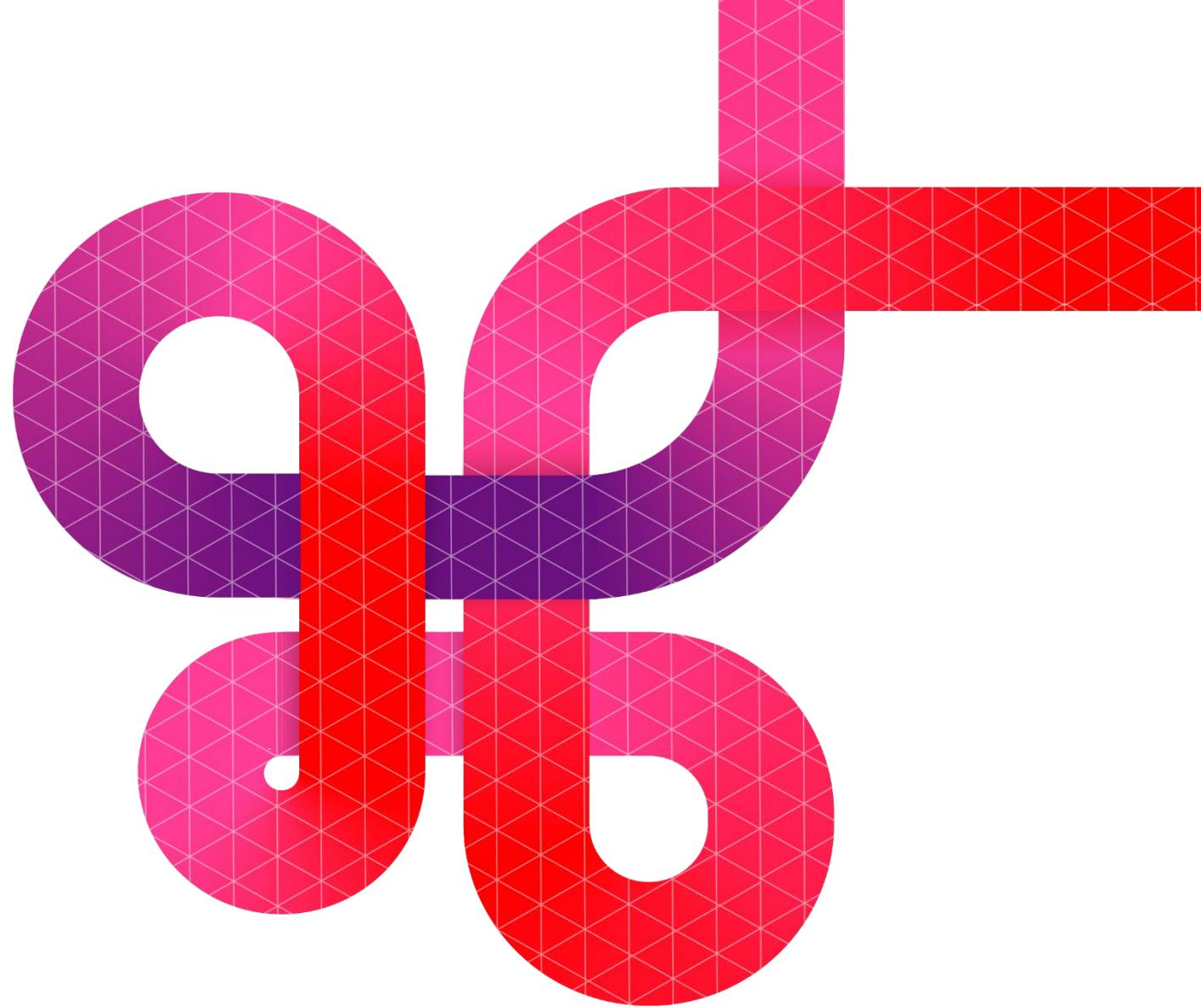
```
<yyyy-MM-dd'T'HH:mm:ss.SSSXXX> INFO ResourceMonitor - [STORAGE (writable root)] available 64 GB, used 32 GB (50.00%)
```

- Information about the Data Model Load Pool configuration (`config-custom.properties#model.max.parallel`) and workload (once per hour). Example:

```
<yyyy-MM-dd'T'HH:mm:ss.SSSXXX> INFO ResourceMonitor - [Data Model Load Pool] current pool size = 3, maximum pool size = 6, active tasks = 0, completed tasks = 3, queued tasks = 0
```



Celonis Process Mining 4.7.2 Release Notes



Disclaimer

Updating to Celonis Process Mining 4.7.2

Please be aware that before updating to Celonis Process Mining 4.7.2, it is **required to install and run version 4.7.1.**

For detailed information and further required steps, please refer to the **Celonis 4.7.2 - Update Guide 1.13.**

Important changes

Deprecation note: legacy audit logger

With Celonis Process Mining 4.7.2, we are deprecating the legacy audit logger configured in `<installDir>/component_configurations/audit-logging.properties`. In case the audit logs are used in your installation, a migration of the audit logging configuration to the new `audit-logging-advanced.properties` file is required.

For detailed information and further required steps, please refer to the Celonis 4.7.2 – Update Guide 1.13. Not following the instructions will lead to no audit logs being written.

Amazon Athena JDBC driver

With Celonis Process Mining 4.7.2, we no longer distribute the Amazon Athena JDBC driver (`com.simba.athena.jdbc.Driver`) with the application. If you are currently connecting to Amazon Athena, please follow the instructions in the Update Guide 1.13 to deploy the Amazon Athena JDBC driver. This change is required to ensure full version compatibility.

For detailed information and further required steps, please refer to the Celonis 4.7.2 – Update Guide 1.13. Not following this instruction will lead to all Amazon Athena connections failing.

Time zone information in log files

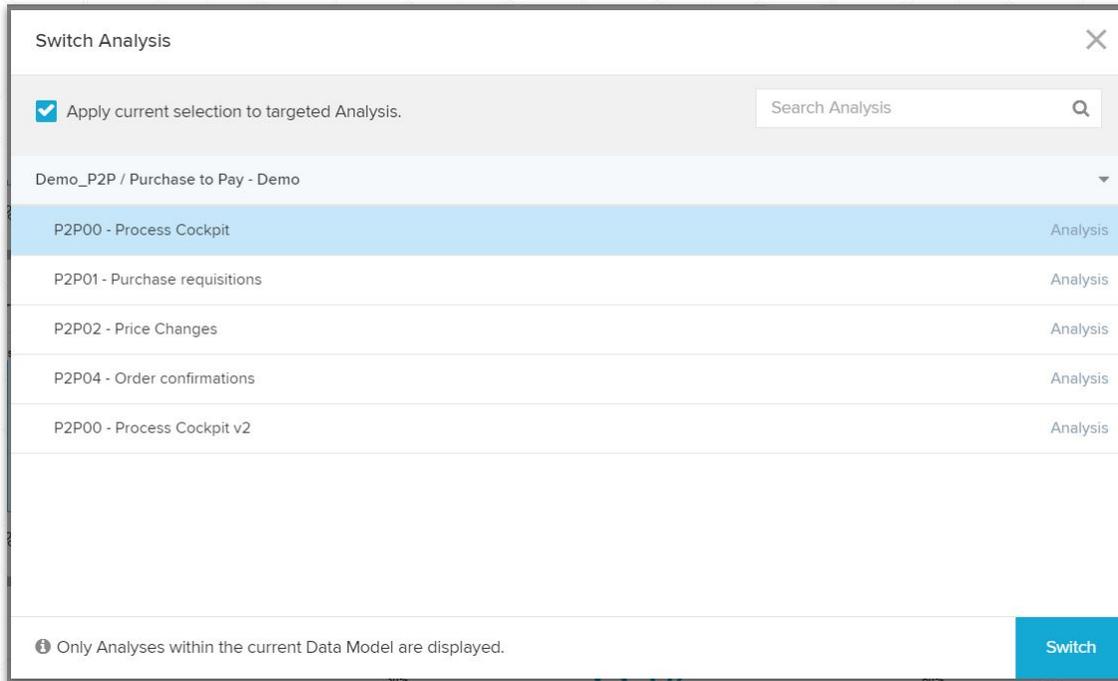
The log format of the stdout log files (located in `<installDir/logs>`) and the advanced audit logs was adapted from `yyyy-MM-dd HH:mm:ss` to `yyyy-MM-ddT'HH:mm:ss.SSSXXX`, adding information about the application server time zone.

For detailed information and further required steps, please refer to the Celonis 4.7.2 - Update Guide 1.13.

Analysis improvements

Switching analyses with selections

Since Celonis Process Mining 4.7.2, it is possible to browse and open another analysis from the current one.



Doing so, it is also possible to forward the current selections to the target Analysis if they are connected to the same data model.

1. Access the pop-up menu
2. Select, whether the current selections should be carried to the target analysis
3. Browse through the analyses
4. Select and go to analysis

Other changes

"Include into axis range" for position lines in Scatter Plots

The checkbox to include position lines into the axis range was added to the Scatter Plot component. When this option is active, the axis range will always be calculated to include the position line.

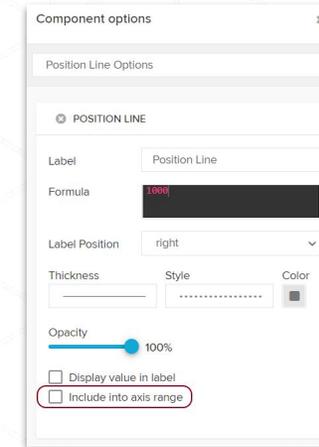
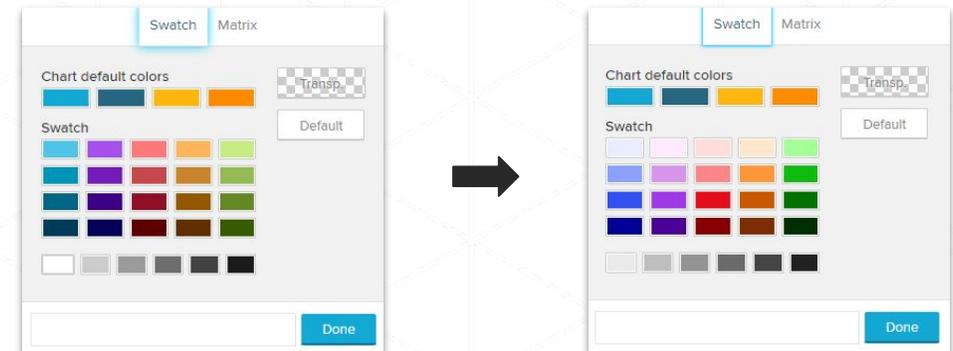


Chart color swatch

The color swatch of all chart components was optimized for colorblindness.



Other changes

Input validation for Date Picker components

Date Picker components now validate the input date. Invalid input is highlighted in red.



Filter by Time:

Created on

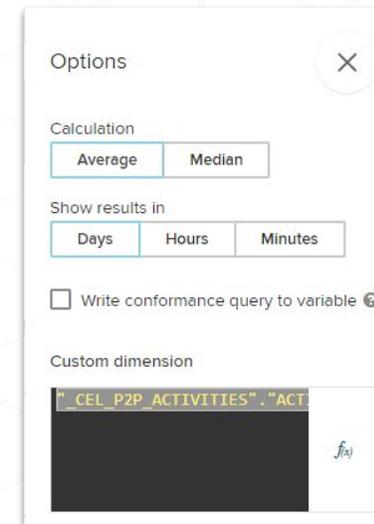
2020-13-03

YYYY-MM-DD

Custom dimension for the Conformance Checker

Users can now provide a custom dimension in the Conformance Checker to measure the conformance of a column other than the default activity column.

This setting is accessible in the settings of the Conformance Checker or while "Mining the target process".



Options

Calculation

Average Median

Show results in

Days Hours Minutes

Write conformance query to variable

Custom dimension

"CEL_P2P_ACTIVITIES"."ACT

Administration & security

Audit logging to external databases

With release 4.7.2, we support audit logging to external databases to enable advanced analysis of the logging events.

You can find the required new properties in the `audit-logging-advanced.properties.sample` file in `<installDir>/component_configurations` after the update. If you are already using the advanced audit logs, you can copy the new properties into the existing `audit-logging-advanced.properties.sample` file.

More information about the configuration of the advanced audit logs can be found in the Operation Guide 1.14.

User and group report

The new user and group report enables our customers to effortlessly export a list of the current users, groups, and group memberships. Therefore, this functionality targets audits, system assessments, and migrations to the Celonis EMS!

Content of the user and group report:

- User overview
- Group membership overview
- Effective user role overview

More information on how to retrieve the report can be found on help.celonis.de under *"User management & permission reports"*.

Permission report

In addition to the user report, a permission report can be generated. This report lists the content permissions (folder, analysis, data model) of every user and if access was granted on a user- or group level.

Content of the permission report:

- Content overview
- Permitted users & groups
- Effective content permissions
- Project-specific information
- Effective user role overview

More information on how to retrieve the report can be found on help.celonis.de under "*User management & permission reports*".

Authorization report

Lastly, an authorization report can be generated. This report lists authorization objects that have a manual value mapping (authorization objects querying databases are not taken into consideration here).

Content of the authorization report:

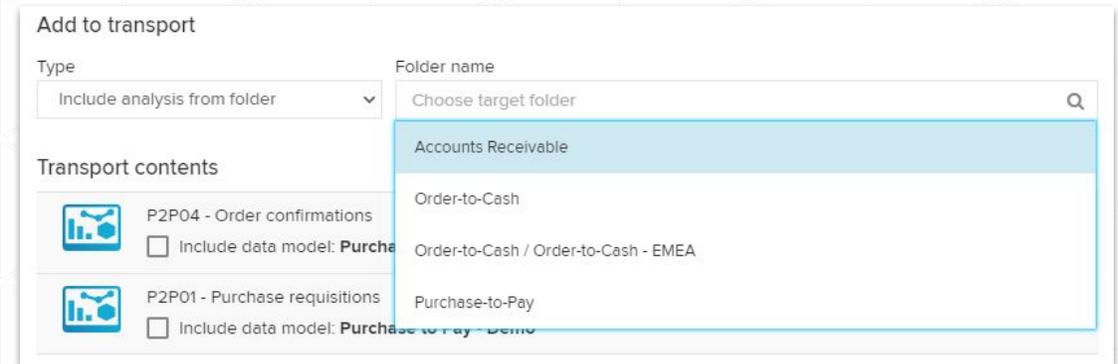
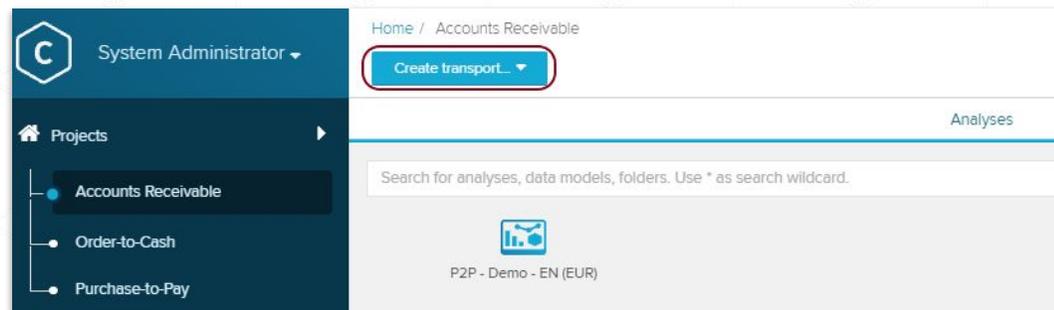
- All data models with authorization objects assigned to them (incl. information such as ID, name)
- Data model overview
- Affected users
- Authorization object overview (restricted to manual value mapping)
- Project-specific information

More information on how to retrieve the report can be found on help.celonis.de under "*User management & permission reports*".

Improved transport creation

In the new version, you can now create transports more efficiently. We added the options to directly include:

- all analyses from a selected folder
- all analyses from a selected folder and all of its subfolders
- all data models from a selected project
- all analyses and data models from a selected project



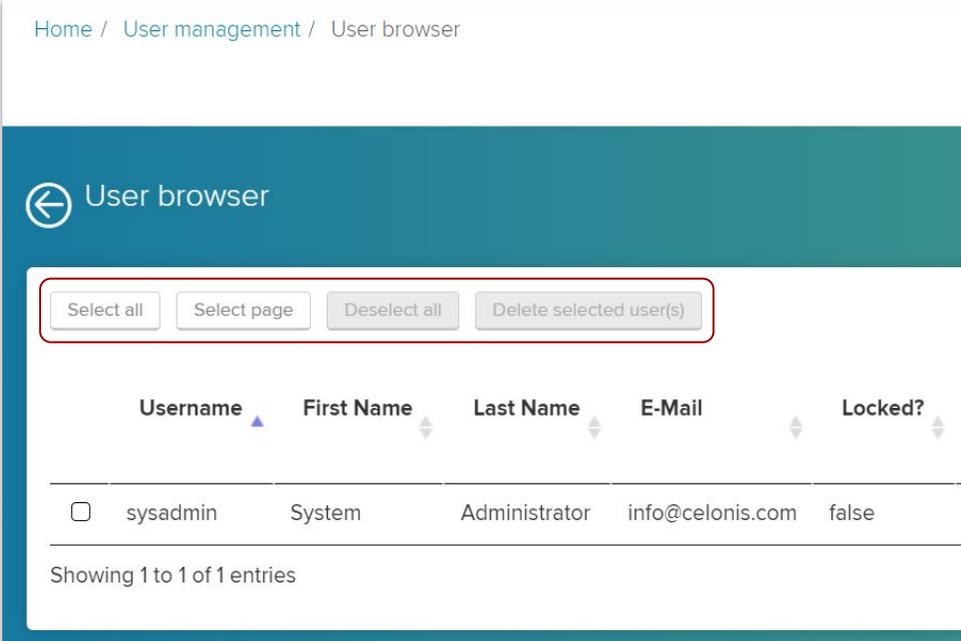
In addition to that, you can select the new transport creation options directly when viewing a folder or project.

Bulk user deletion

Previously, it was cumbersome to delete large amounts of users from the front end. Therefore, we enabled bulk user deletions in the *User Browser*.

The end user is now able to:

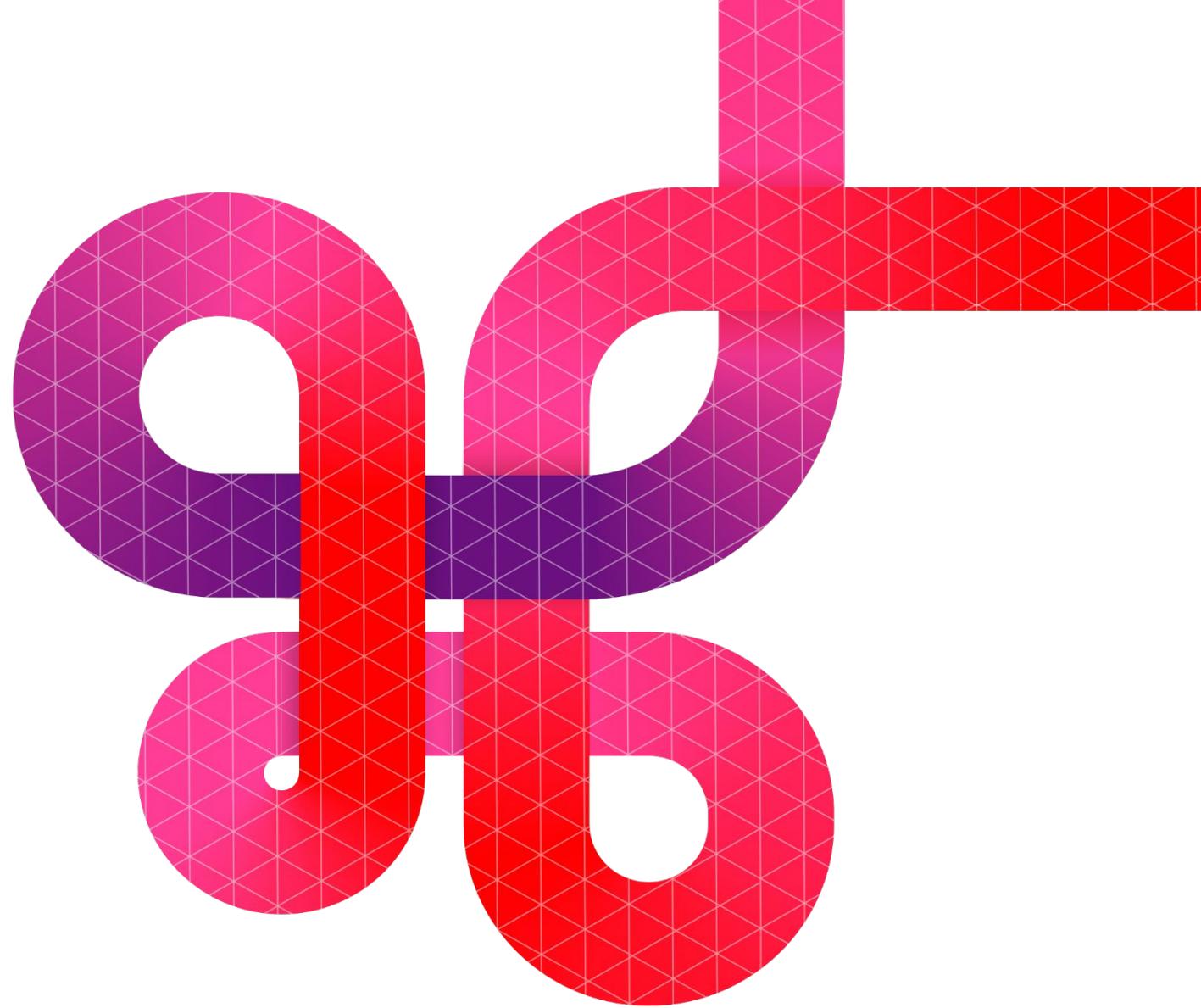
- Select all users
- Select all users on the current page
- Deselect all
- Delete all selected users



The screenshot shows the 'User browser' interface. At the top, there is a breadcrumb trail: 'Home / User management / User browser'. Below this is a teal header with a back arrow and the text 'User browser'. A red box highlights a toolbar containing four buttons: 'Select all', 'Select page', 'Deselect all', and 'Delete selected user(s)'. Below the toolbar is a table with columns: 'Username', 'First Name', 'Last Name', 'E-Mail', and 'Locked?'. The first row of data shows a user with the following details: sysadmin, System, Administrator, info@celonis.com, false. At the bottom of the table, it says 'Showing 1 to 1 of 1 entries'.



Celonis Process Mining 4.7.1 Release Notes



Disclaimer

Updating to Celonis Process Mining 4.7.1

Please be aware that before updating to Celonis Process Mining 4.7.1, it is **required to install and run version 4.7.0.**

For detailed information and further required steps, please refer to the **Celonis 4.7.1 – Update Guide 1.12.**

Important changes

SAP HANA JDBC driver

With Celonis Process Mining 4.7.1, we no longer distribute the SAP HANA JDBC driver (ngdbc.jar) with the application.

If you are currently connecting to a SAP HANA database, please follow the instructions in the Update Guide 1.12 to deploy the SAP HANA JDBC driver. As each SAP HANA Support Stack brings its own version of the SAP HANA JDBC this is required to ensure the full compatibility of the driver with the HANA version!

Not following this instruction will lead to all SAP HANA connections failing (e.g for Data Model loads).

Custom writable root configuration

In the new version we slightly adapted the configuration of the *filesystem.writableroot* property:

The *filesystem.writableroot* is set to the installation directory in the installer script, and always overrides this property on upgrade. If the target or the subdirectory that points to the writableroot are manually changed, two writableroots are created during the update configuration can be lost by duplicate temporary files and Configuration Store backups. To prevent such a scenario, we introduced a new property called *filesystem.writableroot.allow_different_dir* in the *config.properties* file.

For detailed information and further required steps, please refer to the Celonis 4.7.1 – Update Guide 1.12.

Improved security

CyberArk integration – AAM

Secure your database credentials

With this integration, sensitive database credentials do not have to be entered in the Celonis frontend or the configurations files anymore. The passwords can be retrieved from the CyberArk Secure Vault at runtime.

Find more information on the integration in the updated Operation Guide 1.13 or on help.celonis.de.



Restriction of concurrent user sessions

With the release of this version, the amount of concurrent user sessions (authentication from different browsers/endpoints using the same credentials) can now be limited.

The setting is configured in the *config-custom.properties* file via the new property *server.maximumSessions*.

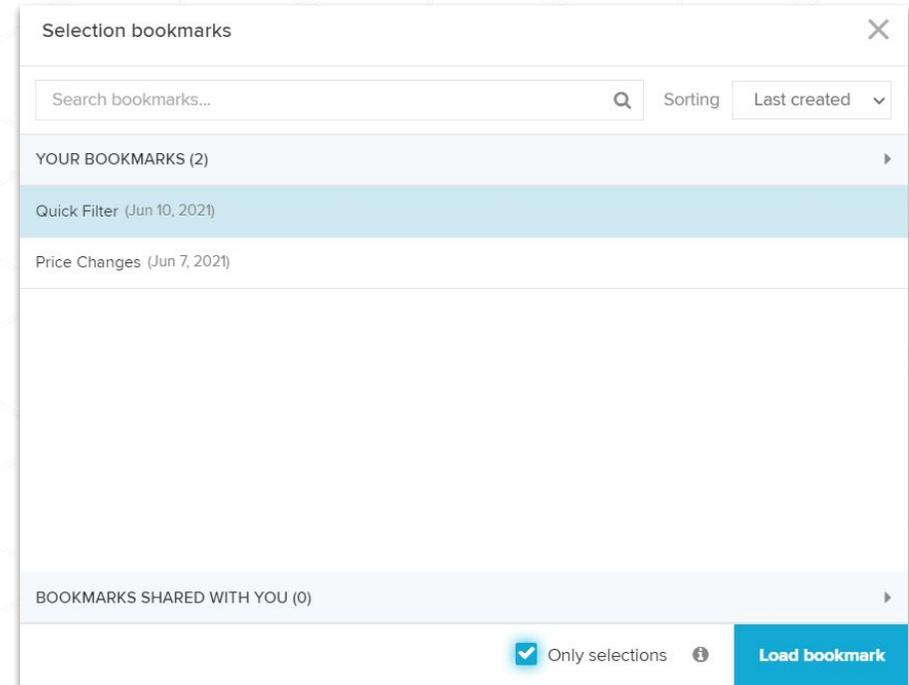
Analysis improvements

Improved bookmark concept

With Celonis Process Mining 4.7.1, we have reworked and improved the current bookmarks:

- When loading a bookmark, there is now an option that allows users to choose if they only want to load selections or the whole state of the analysis
- The icons were updated to ensure better visibility

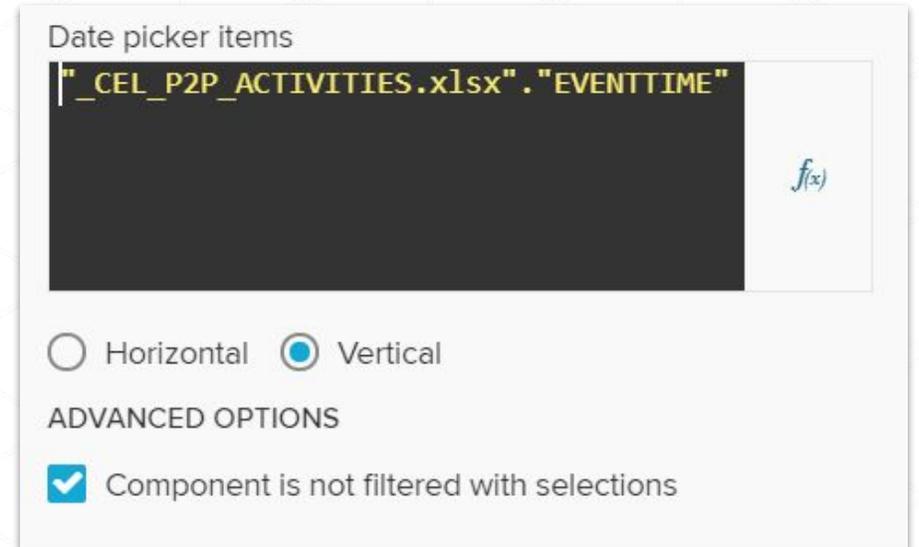
Note: A bookmark saves the state of the analysis. The analysis state includes selections, variables, process explorer view, and states of components such as sorting in OLAP tables.



Improved Date Picker component

The Date Picker now has a new advanced setting that lets the Analyst decide, if the component should be filtered with selections.

Filtering the component also restricts the available dates. If the component is not filtered with selections, all dates can still be selected.



Administration

Scheduled trash bin housekeeping

We noticed that a lot of System Administrators never empty the Analysis trash bin. That can lead to various problems, including backup files constantly growing in size. Therefore, we introduced a housekeeping mechanism to specify how long each Analysis should be preserved in the trash before being permanently deleted.

The screenshot displays the Celonis System Administrator interface. On the left is a dark blue sidebar with navigation options: Home (with a 'C' logo), Projects, Starred, and Trash. The main content area is titled 'Home / Trash' and features a red 'Empty trash' button. Below this is a search bar with the placeholder text 'Search for analyses, data models, folders. Use * as search wild'. A table lists three items in the trash, each with a trash icon, a name, and a deletion timestamp:

Item Name	Deleted on
P2P - Demo - EN (EUR)	Jun 11, 2021 15:5
P2P00 - Process Cockpit v2	Jun 11, 2021 15:5
P2P04 - Order confirmations	Jun 11, 2021 15:5

On the right side of the interface, a 'Trash Bin Housekeeping' settings panel is open. It includes a checked checkbox for 'Enabled', a 'Retention policy' section with an input field set to '30' and the unit 'days', and a blue 'Save changes' button.

Scheduled analysis draft housekeeping

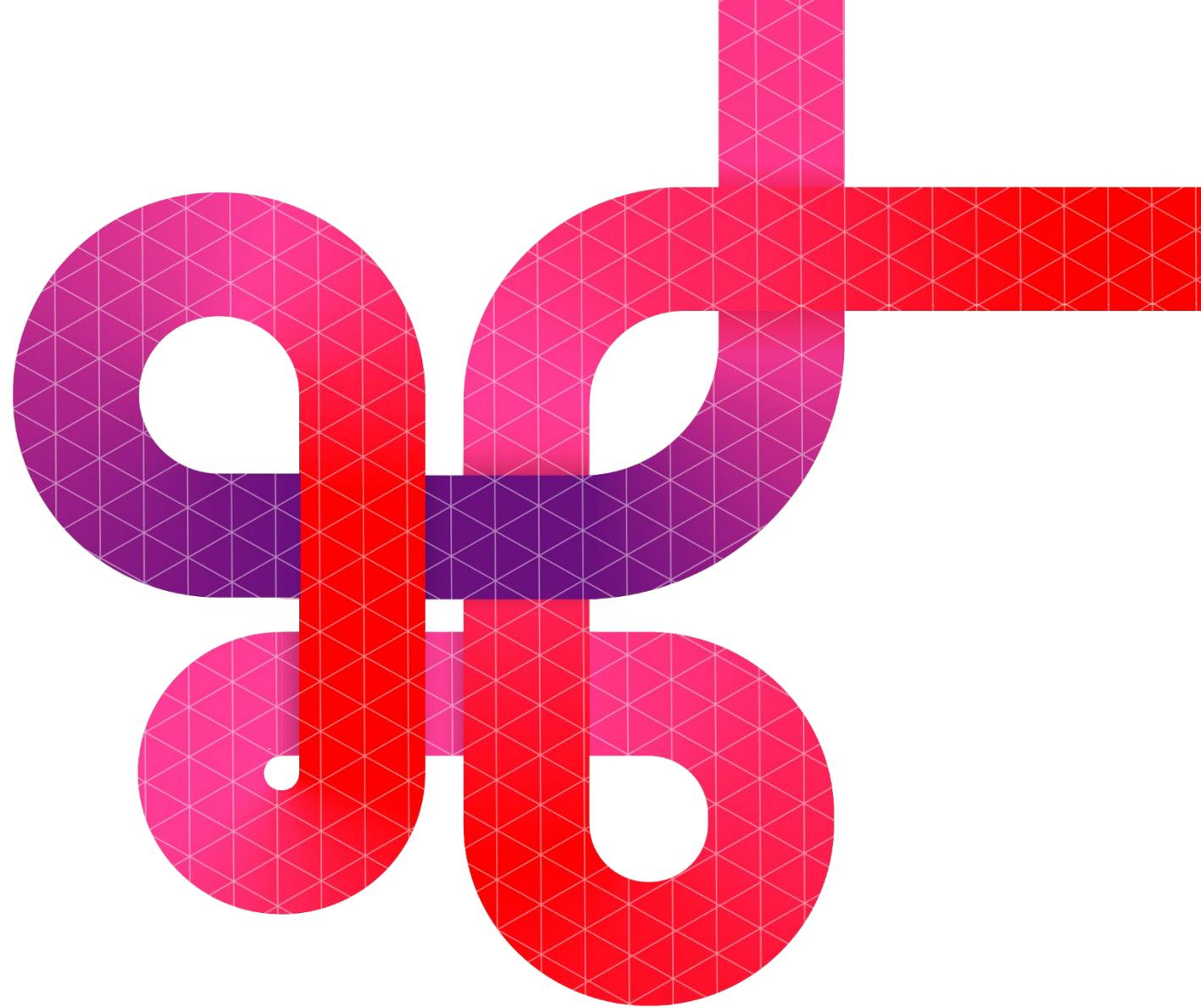
To further reduce the overall footprint of the application, 4.7.1 enables you to configure housekeeping for Analysis drafts. So far, the full draft history is persisted and written to the backup files. We implemented three new properties that can be found in the updated `config-custom.properties.sample` file. By uncommenting them, you can now control:

- If draft housekeeping should be enabled
- How many drafts should be kept at minimum, regardless of their age
- How long historical drafts should be preserved



Celonis Process Mining 4.7

Release Notes



Disclaimer

Updating to Celonis Process Mining 4.7

Please be aware that before updating to Celonis Process Mining 4.7, it is **required to install and run version 4.6.3.x**. Otherwise, the new version compatibility verification will terminate the update procedure.

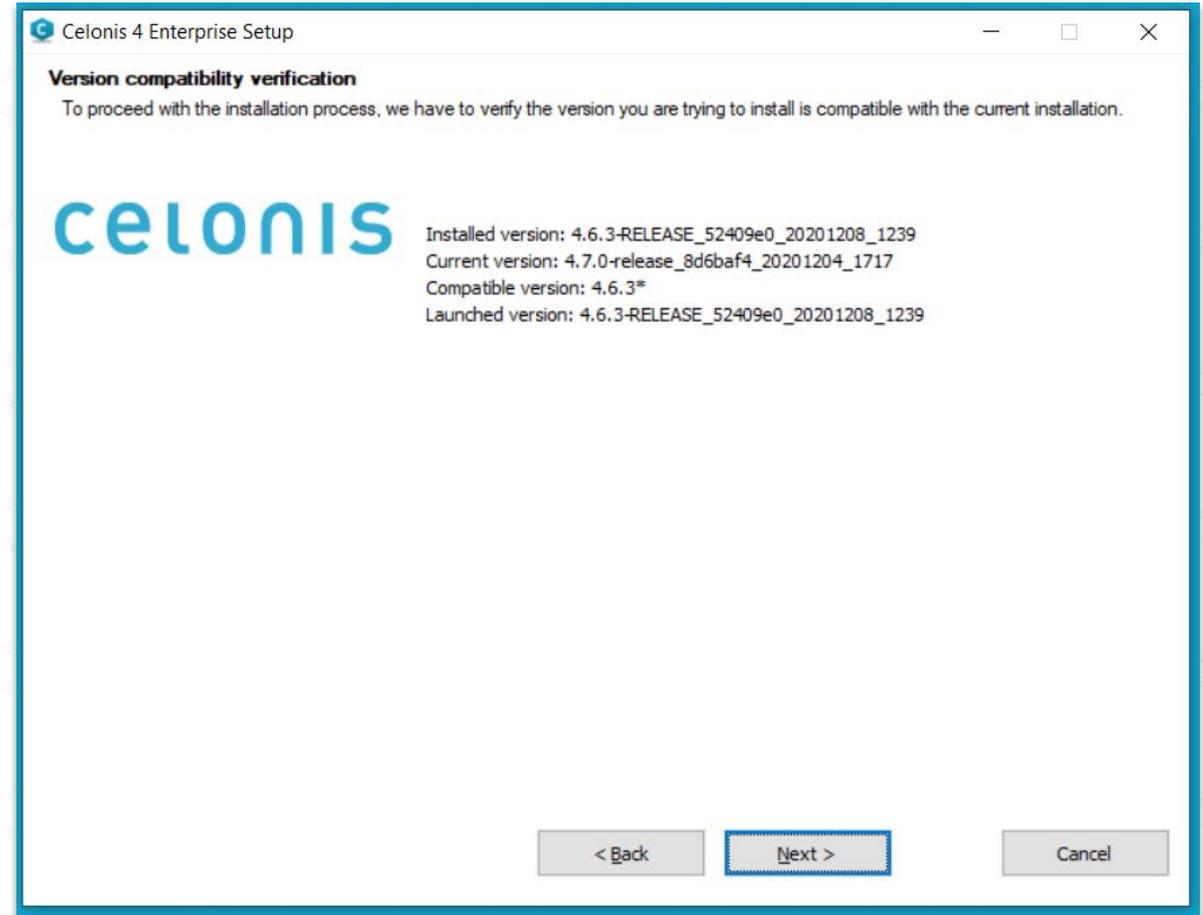
For detailed information and further required steps, please refer to the **Celonis 4.7 - Update Guide 1.11**

Operations, stability & administration

Version compatibility verification

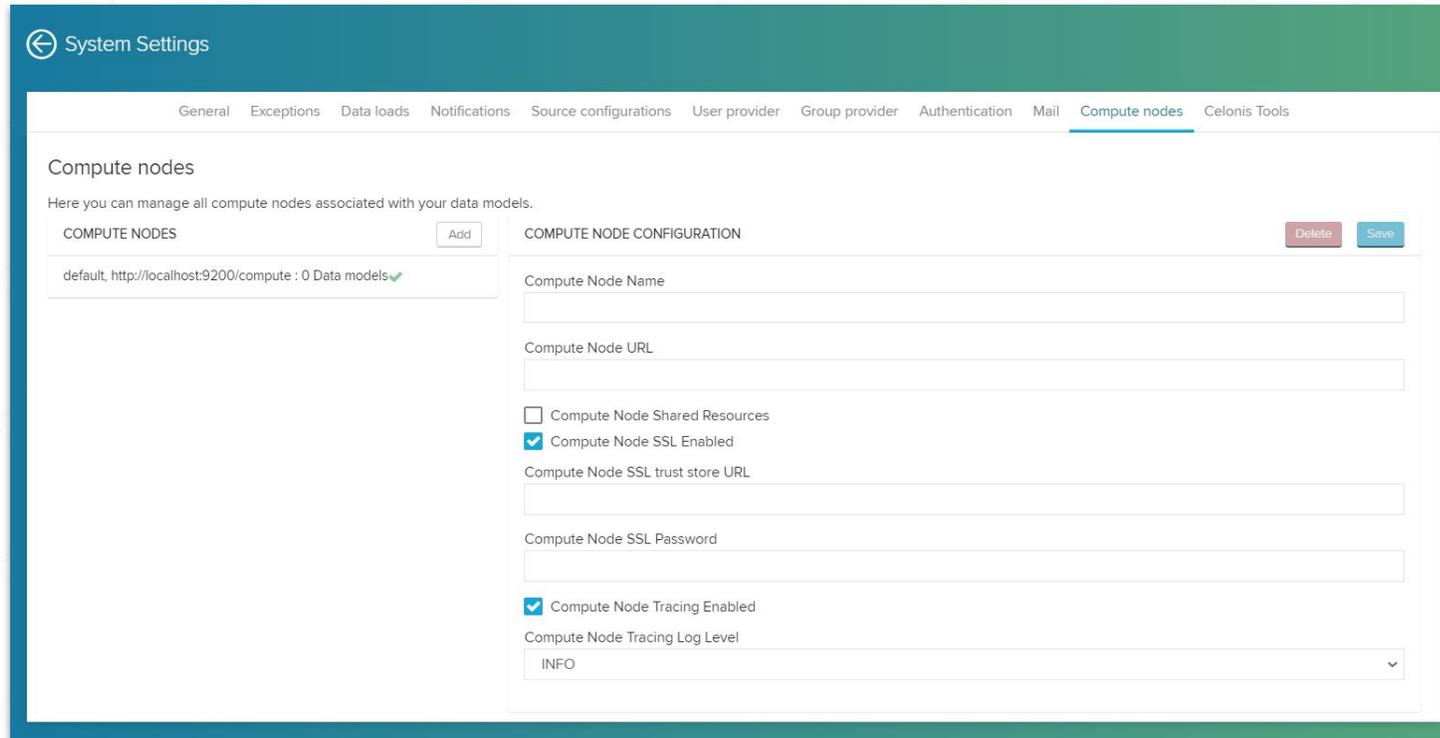
With every major release, we introduce a variety of new features that often require database migrations and other structural changes. Therefore, a sequential upgrade path for major release versions is required to avoid issues.

With the new version CPM 4.7, we enforce a version compatibility verification during the installation process. In case the currently installed version is not compatible with the new version, the installation process will cancel.



Compute Management Overview

Added frontend to manage Compute Nodes



System Settings

General Exceptions Data loads Notifications Source configurations User provider Group provider Authentication Mail **Compute nodes** Celonis Tools

Compute nodes

Here you can manage all compute nodes associated with your data models.

COMPUTE NODES	COMPUTE NODE CONFIGURATION
default, http://localhost:9200/compute : 0 Data models ✓ Add	Delete Save
	Compute Node Name
	Compute Node URL
	<input type="checkbox"/> Compute Node Shared Resources
	<input checked="" type="checkbox"/> Compute Node SSL Enabled
	Compute Node SSL trust store URL
	Compute Node SSL Password
	<input checked="" type="checkbox"/> Compute Node Tracing Enabled
	Compute Node Tracing Log Level
	INFO

Previously, distributed Compute Nodes were managed within the *config-custom.properties* file.

For improved usability, we created a frontend page for Compute Node configurations. Additionally, the Central Application does not have to be restarted anymore in case the configuration changes.

User/Group Provider scheduling

The synchronization of the User Provider and the Group Provider can now be scheduled with a CRON string. Previously it was only possible to configure a delay between synchronization attempts.

Active

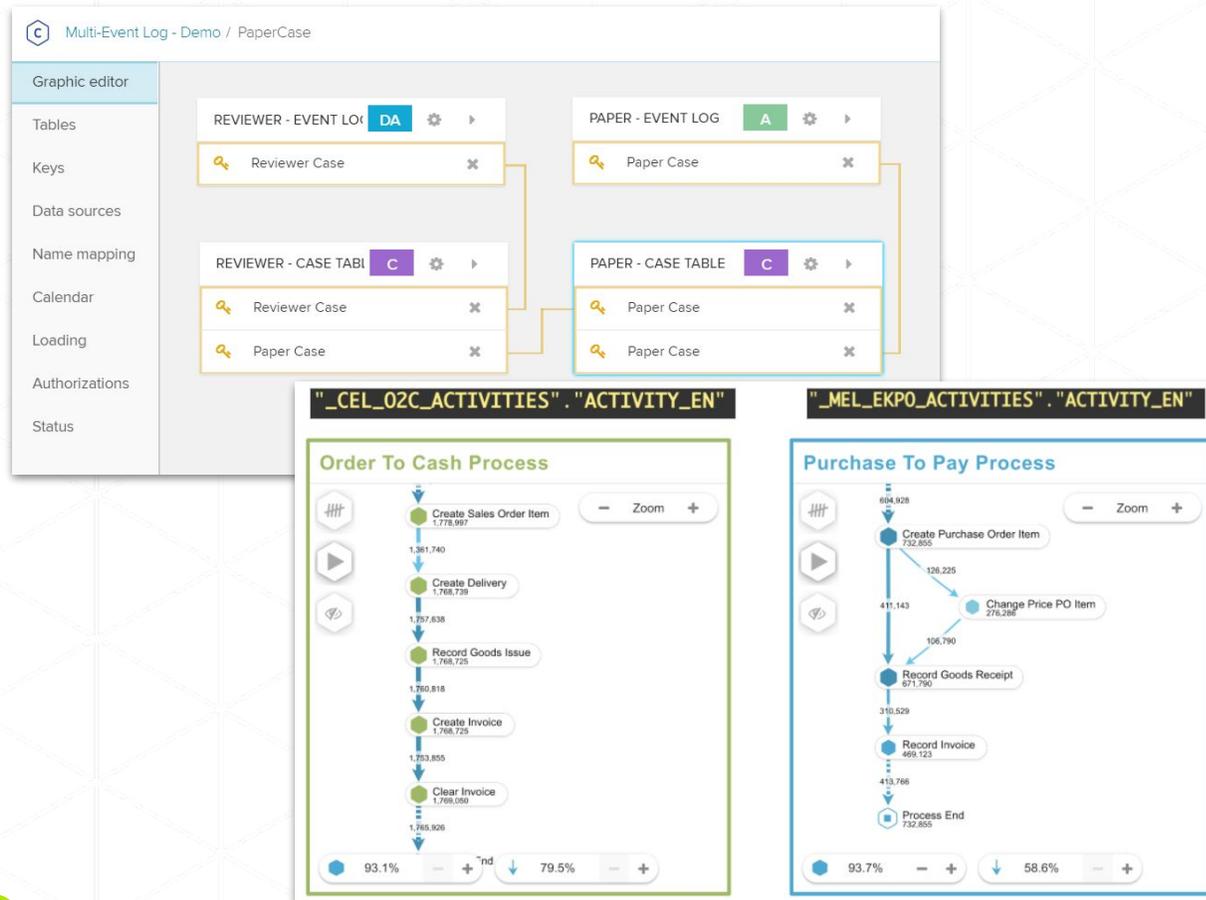
When to synchronize with the provider

CRON String

Improved analytical capabilities

Multi-Event-Log enabled Data Models

Analyze E2E business processes



The Multi-Event Log technology provides the capability to analyze end-to-end business processes and their interdependencies within one analysis. It allows to connect directly linked processes and to bring indirectly linked processes into context.

The Multi-Event Log technology allows you to include multiple Event Logs with their respective case tables in one semantic Data Model. All Event Logs can be linked to each other as well as to master data via joins/foreign key relationships. A holistic analysis can then access all this data on top

Please find detailed information about the configuration on help.celonis.de.

Constant Variables

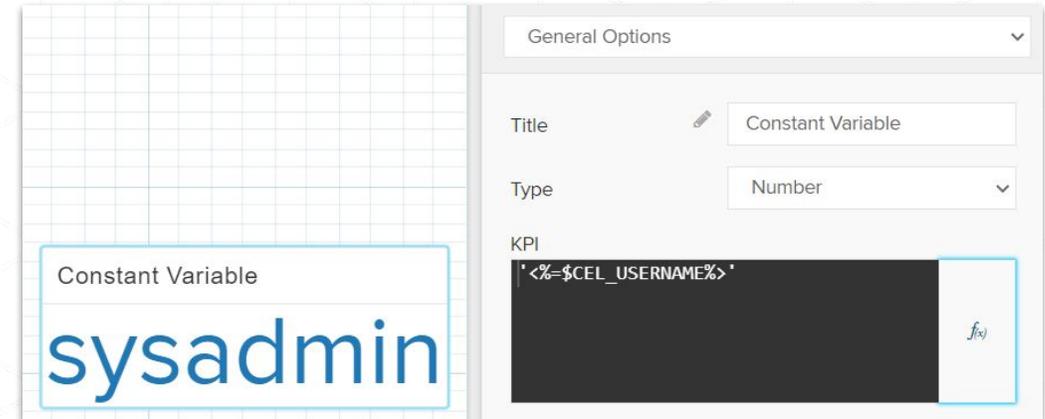
Take advantage of predefined variables

A new concept of Constant Variables was introduced in the Analysis. They are similar to regular variables but can not be defined by the user.

For the beginning the following two constants were implemented:

\$CEL_ACTIVE_FILTERS - The Filters/Selections that are currently applied to the respective Analysis

\$CEL_USERNAME - The name of the user currently viewing/editing the Analysis



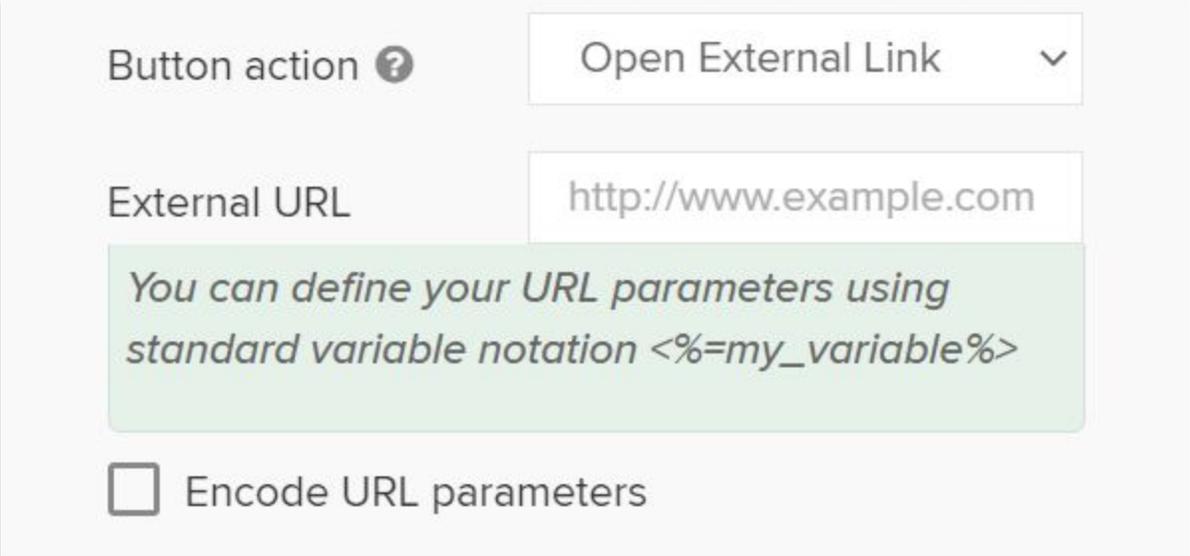
Hint: Constants can also be forwarded to External Links, by using the new action of the Button Component.

Button component – new action type

Open external links & pass filter parameters

Additionally, there is a new action for the Button Component in the Analysis: **"Open External Link"**

This action is used to open external links with the possibility to pass parameters with the variable notation. Supported parameters are Variables and Constant Variables.



The screenshot shows a configuration window for a Button action. The 'Button action' dropdown is set to 'Open External Link'. The 'External URL' field contains 'http://www.example.com'. A green callout box provides instructions: 'You can define your URL parameters using standard variable notation <%=my_variable%>'. At the bottom, there is an unchecked checkbox labeled 'Encode URL parameters'.

New PQL operators & functions 1/2

We added a variety of new PQL Operators to grant even more flexibility in analyzing business data:

Operator	Description
REPLACE	Replaces substrings in a column and returns the column entries with respective replacements
CLUSTER_STRINGS	Clusters strings in a column based on their similarity
LEAD & LAG	Returns the row that follows/precedes the current row by offset number of rows
PU_STRING_AGG	Returns the concatenation of strings from the given parent column
RANGE_APPEND	Creates values inside a range based on a given step size and appends them to a column
RUNNING_SUM	Returns the sum of the previous rows
TO_STRING & TO_INT	Convert INT input to STRING output and vice versa

New PQL operators & functions 2/2

We added a variety of new PQL Operators to grant even more flexibility in analyzing business data:

Operator	Description
GREATEST & LEAST	Returns the greatest/least element that is not NULL from a set of values
TRANSIT_COLUMN	Computes transition edges between related cases from two different processes
Process index functions	<p>Index functions functions create integer indices based on a column. The following Process Index functions are available:</p> <ul style="list-style-type: none">• INDEX_ACTIVITY_LOOP• INDEX_ACTIVITY_LOOP_REVERSE• INDEX_ACTIVITY_ORDER• INDEX_ACTIVITY_ORDER_REVERSE• INDEX_ACTIVITY_TYPE• INDEX_ACTIVITY_TYPE_REVERSE

Integrated Example & Use Case Library

Discover exciting use cases & PQL examples

We extended the PQL Function Library by more Examples and Use Cases to show how through combining various operators, complex process related questions can be answered.

The screenshot displays the Celonis PQL interface. At the top, it shows '3 of 3 cases selected' and '100%'. The left sidebar contains a process flow diagram with steps: Process Start, PO created, Approval requested, Approval granted, and Process End. The main area is divided into three sections:

- Filter:** A bar chart showing the distribution of cases across three variants. Variant #1 is the most common, covering 33% of cases. Below the chart, it indicates '1 of 3 variants' and '33% of cases covered'.
- Activities Table:** A table listing activities for each case. The activities include 'PO created', 'Approval requested', 'Change of PO for approval requested', and 'PO changed'.
- Query and Result:** A PQL query is shown: `SELECT * FROM 'Activities' WHERE 'Activity' = 'Approval requested' AND ACTIVITY_LEAD ('Activities', 'Activity') = 'Change of PO for approval requested' AND ACTIVITY_LEAD ('Activities', 'Activity', .) = 'PO changed';` The result table shows one case with the activity sequence 'Approval requested - Change of PO for approval requested - PO ch...' and a count of 2.

At the bottom, there is a footer with the text 'Calculations on Activity Sequences' and a 'Documentation' link.

PQL – calendar functions rework

- The day/time based calendars were merged into one calendar implementation, the WEEKDAY_CALENDAR. It now supports shifts of true 24 hours (previously only 23h and 59 min)
- The factory calendar expects that start date \leq end date. Invalid intervals will be ignored in the calculations
- The new WORKDAY_CALENDAR (previously sometimes called SAP Factory Calendar) can handle gaps in the years of the TFACS configuration
- ADD_WORKDAYS using the workday calendars configured during data load is deprecated
- ADD_WORKDAYS (AW)/WORKDAYS_BETWEEN (WB) are given an additional (optional) argument to control the behaviour
- In the reworked implementation for AW/WB, dates outside the TFACS configuration are mapped to null
- Performance was improved for all the calendar implementations
- Intersecting arbitrary calendars is now possible with the new INTERSECT function

Connectivity

AWS Athena connection template

Custom name for group member attribute

Database connection settings

Template:
AWS Athena

Name:
Name

Connection String:
jdbc:awsathena://AwsRegion=<Region>;S3OutputLocation=<Output>;LogLevel=1;

User name:
User name

Password:

Schema Name:
Schema Name

Driver Name:
com.simba.athena.jdbc.Driver

With Celonis Process Mining 4.7, we added a Database Connection Template for Amazon AWS Athena.

Please find the full list of available database connections on help.celonis.de. More general information on how to import data into Celonis can be found there.

Other improvements

Other improvements

- The timestamp of the last recorded login of a given user is now visible in the respective user profile
- Users can now be locked after a certain period of inactivity (configured in the "config-custom.properties" file via instance.usersLocker.expirationDays)
- Locked users no longer count towards the license
- API Key Authentication can now be universally disabled (configured in the "config-custom.properties" file via apiKey.authentication.active)
- Error handling was improved in several areas, e.g. PDF Export, Data Model load fails
- Improved performance of the Process Explorer in certain scenarios

Deprecated features & operators

Deprecated features & operators

The following features & operators are deprecated with Celonis Process Mining 4.7:

1. The R Server functions from previous versions are deprecated and no longer available
2. Query Precaching is deprecated and can no longer be configured. Query caching replaces the precaching functionality and will be enabled by default from now on.

Additional resources

Help resources

celonis **Celopeers**

www.celopeers.com

The screenshot shows the Celonis Celopeers community homepage. It features a navigation bar with 'Community', search, and settings. A welcome message states the purpose of the community is to create a space for exchange and support. Below this, there are 'Useful Links' (Access guidelines etc.) and a 'Public Forum Area used by customers and partners'. The main content area is divided into 'Announcements & Events', 'Success with Celonis', 'Product', and 'Technical Implementation'. A 'Settings & Search' section allows users to change settings and find content. A 'Latest Topics' section lists recent discussions.

Settings & Search
Change your settings and find existing content

Useful Links
Access guidelines etc.

Public Forum Area
used by customers and partners

Latest Topics
Newest discussions happening in the community



celonis **Help Page**

help.celonis.de

- ▼ Data Model Design
 - Join functionality
- ▼ Data Types
 - DATE
 - FLOAT
 - INT
 - STRING
- ▼ Functions
 - › Aggregation Functions
 - › Custom Functions
 - › DateTime Functions
 - › Descriptive Functions
 - › Machine Learning Functions
 - › Math Functions
 - › Predicate Functions
 - › Process Functions
 - › Statistic Functions
 - › String Functions

The screenshot shows a query editor with a query: `PROCESS_ORDER("Table1"."ACTIVITY")`. Below the query, there are 'Input' and 'Output' sections. The 'Input' section shows a table with columns 'CASE_ID : STRING', 'ACTIVITY : STRING', and 'TIMESTAMP : DATE'. The 'Output' section shows a table with column 'Column1 : INT'.

CASE_ID : STRING	ACTIVITY : STRING	TIMESTAMP : DATE
1	A	Sun Jan 01 2017 13:00:00.000
1	B	Sun Jan 01 2017 13:01:00.000

Column1 : INT
1
2

The screenshot shows the Celonis Worldmap interface. It features a 'QuickStart' section with instructions on how to use the worldmap to visualize geo locations of process data. Below this is an 'Overview' section with a 'Worldmap' tab. The worldmap shows a globe with various regions highlighted in green and red, indicating process data locations.

QuickStart

- You can use the worldmap to visualize geo locations of your process data
- You can explore data points and answer questions such as: "Which vendors are close by and have a good on-time delivery rate?"
- You can compare regional differences and discover insights from local context

Worldmap

Visualize geo locations of your process data

The Celonis logo features the word "celonis" in a white, lowercase, sans-serif font. The letter "o" is partially obscured by a vibrant orange-red, irregular shape that resembles a flame or a drop. The background is a dark grey with a subtle, repeating diamond-shaped grid pattern.

celonis