ConSol Software GmbH

Release Notes ConSol CM 6.15

Contents

1.　　　General update and installation instructions

For an update of *ConSol CM* from one version to another two possible ways exist:

- **Distribution installation:**
  The distribution is installed into the application server. For an update every local configuration, like the data source configuration, has to be saved before and reconfigured afterwards.
  This type of update ensures that really every change between the versions is installed. This type of update is recommended for updates of the major or minor version, e.g. for an update from 6.12.1 to 6.13.0.

- **EAR / WAR update:**
  For this type of update of the ConSol CM, the EAR (`cm6.ear`, `cmrf.ear`) and WAR (`cm-track.war`) files of the new version have to be installed into the application server. Additionally every installation related change described in the chapters "Update and installation instructions" have to be applied manually. The changes have to be applied for every version between your original CM version and the new CM version, e.g. for an update from 6.13.0.3 to 6.13.0.7 the instructions of the versions 6.13.0.4, 6.13.0.5 and 6.13.0.6 have to be checked.
  This type of update is only recommended for updates within a minor version.

Additionally for every type of update, the "Update and installation instructions" chapter has to be checked for further important notes.

If available, the solution-specific Release Notes have to be checked too.

2.   Breaking changes and mandatory actions

The following table lists the breaking changes which need to be checked before performing an update.

Version	Change	Affected area	Required action
6.15.6.0	Security and third-party library updates	CM/Doc	Update CM/Doc
6.15.5.0	JODConverter disabled by default (#657361)	Scripts	Check system property
6.15.5.0	New URL for authenticating in CM/EBIA (#657127)	CM/EBIA	Modify authentication URL
6.15.3.0	Security and third-party library updates	CM/Doc	Update CM/Doc
6.15.2.0	Disabled fields hidden in CM/Track (#654515)	CM/Track	Check disabled fields
6.15.2.0	Change to transaction handling (#655302)	Update	Change settings for MySQL
6.15.2.0	Editor behavior change affecting script templates (#643896)	Templates	Check script templates for blanks
6.15.0.0	Support for WildFly changed (#651775)	Update	Update WildFly
6.15.0.0	Support for JBoss changed (#650952)	Update	Update JBoss
6.15.0.0	Display of additional engineers modified (#651054, #651154)	Web Client	Check page customization
6.15.0.0	Support level of Internet Explorer 11 changed (#650442)	Update	Update browser
6.15.0.0	Usage of Joda-Time deprecated (#635223)	Scripts	Check scripts
6.15.0.0	Case subject pattern exported (#632737)	Email	Check email configuration
6.14.0.8	Third-party libraries updated in CM/Doc (#652086)	CM/Doc	Update CM/Doc
6.14.0.5	Automatic expiry of CM/EBIA tokens added (#651094)	CM/EBIA	Update JWT key
6.14.0.4	API method for retrieve engineers removed (#650971)	Scripts	Check scripts
6.14.0.3	Third party library updated in CM/Doc and CM/Archive (#650183, #650186)	CM/Doc	Update CM/Doc

Version	Change	Affected area	Required action
6.14.0.3	Support for CM/Doc changed (#649135)	CM/Doc	Update Microsoft Office
6.14.0.3	SSO support for CM/Track added (#648118)	CM/Track	Check custom projects
6.14.0.2	Property added to XML configuration files (#649965)	Update	Update XML configuration files
6.14.0.2	Contact and resource IDs added to the DWH (#649261, #649262, #649931)	DWH	Execute task script
6.14.0.1	New columns added to data warehouse (#649055)	DWH	Perform DWH update
6.14.0.1	Information of failed email notifications enhanced (#648335)	Emailing	Update template
6.14.0.1	Stricter password policy (#648272)	Security	Check password policy
6.14.0.0	Third-party library updated in (#647557)	CM/Doc	Update CM/Doc
6.14.0.0	Fixed-point number support modified (#647060, #647656)	Data models, DWH	Execute update script
6.14.0.0	Method of embedding in an iFrame changed (#645520)	CM/Track	Update JBoss / Tomcat configuration
6.14.0.0	Scope of condition scripts changed (#645473)	Workflow	Check workflow
6.14.0.0	Handling of update events for password changes via REST API adapted (#645279, #646194)	CM/Track	Check scripts
6.14.0.0	Wicket upgraded (#630774)	Monitoring	Check monitoring
6.14.0.0	Support for MySQL 8 added (#642079)	Update	Update JBoss configuration, JDBC connector and MySQL
6.13.0.11	Support for Tomcat changed (#649926)	CM/Track	Update Tomcat
6.13.0.9	Handling of incoming emails with disallowed attachments improved (#649455, #649457)	Web Client	Check system property
6.13.0.8	Property to define allowed attachment types modified (#648115)	Web Client, CM/Track	Check system property

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Version	Change	Affected area	Required action
6.13.0.8	Third-party library updated in CM/Doc (#647557)	CM/Doc	Update CM/Doc
6.13.0.7	Third-party libraries updated in CM/Doc (#646853)	CM/Doc	Update CM/Doc
6.13.0.6	Display of empty fields in CM/Doc changed (#645572)	CM/Doc	Update CM/Doc
6.13.0.4	Support for Tomcat for CM/Track changed (#645504)	Update	Update Tomcat
6.13.0.4	Bouncycastle removed from distribution package (#645459)	Update	Update JBoss con-figuration
6.13.0.2	DWH performance improved (#644165), API for generating DWH cubes (#643922)	DWH	Execute update script
6.13.0.1	Machine learning improvements (#644231, #644243)	Scripting	Adapt scripts
6.13.0.0	JBoss configuration changed (#643782)	Setup	Update JBoss con-figuration
6.13.0.0	CSV export feature adapted (#643579)	Web Client	n/a
6.13.0.0	Support for Wildfly changed (#642632)	System require-ments	Update Wildfly
6.13.0.0	Support for JBoss EAP 7 changed (#642631, #643350)	System require-ments	Update JBoss
6.13.0.0	Support for JBoss EAP 6.4 dropped (#642630)	System require-ments	Update JBoss
6.13.0.0	Support for Oracle 11g dropped (#641966, #641967)	System require-ments	Update Oracle
6.13.0.0	New layout for data fields (#641891)	Web Client	Check layout
6.13.0.0	commons-fileupload library removed (#633754)	Scripting	Check scripts
6.13.0.0	Behavior of readonly annotation changed (#632772)	CM/Track	n/a
6.12.1.3	No automatic line break when using includes in templates (#644151)	Templates	
6.12.1.3	Behavior when deleting list items via REST API changed (#644033)	REST API	
6.12.1.3	Export of page customization attributes modified (#643199)	Import/Export	

Version	Change	Affected area	Required action
6.12.1.2	Third party libraries for CM/Track V2 updated (#642673)	CM/Track	
6.12.1.2	Ticket URL changed (#642572)	Import/Export	
6.12.1.1	Support for CM/Track with embedded Tomcat dropped (#642875)	System requirements	
6.12.1.1	Supported Tomcat version changed (#642778)	System requirements	
6.12.1.1	Notifications API changed (#642692)	Scripting	
6.12.1.1	PDFBox updated (#632554)	Scripting	
6.12.1.1	Third party libraries for CM/Track V2 updated (#642504)	CM/Track	
6.12.1.1	jackson-databind library updated (#642462)	Scripting	
6.12.1.0	Support for WebLogic phased out (#642451)	System requirements	
6.12.1.0	Support for Windows Server 2008 phased out (#642299)	System requirements	
6.12.1.0	Support for Firefox changed (#642228)	System requirements	
6.12.1.0	jQuery updated (#642077)	Scripting	
6.12.1.0	New text editor in the Web Client (#634544)	Page customization	
6.12.1.0	Trigger behavior changed when several attachments are added (#632885)	Scripting	
6.12.0.0	Support for Oracle 10g dropped (#641334)	System requirements	
6.12.0.0	Guava library updated (#634494)	Scripting	
6.12.0.0	Support for multicast dropped (#634234)	Cluster	
6.12.0.0	Deprecated methods removed from TicketPayload (#633196)	Scripting	
6.12.0.0	Unused methods removed from UnitCriteria (#631800)	Scripting	
6.12.0.0	JMS removed (#631352)	Update	

Version	Change	Affected area	Required action
6.12.0.0	Support for Internet Explorer 9 and 10 dropped (#630877, #641333)	System require-ments	
6.12.0.0	Support for Microsoft SQL Server 2008 dropped (#630861)	System require-ments	
6.11.2.8	Update events streamlined (#641603, #641631)	Scripting	
6.11.2.8	Third party libraries updated (#642058, #642191)	Scripting	
6.11.2.5	Apache POI library updated (#641435)	Scripting	
6.11.2.3	Default value of csrf.domain.allow.none changed (#634912)	REST API, CM/Track	
6.11.2.2	Firefox support changed (#634493)	System require-ments	
6.11.2.2	Support for Java 7 dropped (#634157)	System require-ments	
6.11.2.2	Support for CM/Track V1 phased out (#634144)	CM/Track	
6.11.2.2	Line breaks in messages added (#633969)	Templates	
6.11.2.2	Unique constraint for permissions added (#633968)	Update	
6.11.2.2	Changes to the responses returned by the REST API (#633959)	REST API, CM/Track	
6.11.2.2	WebLogic support changed (#633958, #634363)	System require-ments	
6.11.2.2	Cross-Site Request Forgery prevention mechanism introduced for the ConSol CM REST API (#633811)	REST API, CM/Track	
6.11.2.2	DWH task creation optimized (#631804)	DWH	
6.11.2.2	Support for JBoss EAP 6.2 dropped (#630861)	System require-ments	
6.11.2.0	Support of JDK 6 dropped (#633096)	System require-ments	
6.11.1.16	DWH adapted to support dates until 01.01.2100 (#641871)	DWH	
6.11.1.7	Contact anonymization for GDPR (#633502)	DWH	

Version	Change	Affected area	Required action
6.11.1.7	Content of pContext variable after queue change (#633441)	Scripting	
6.11.1.7	Content of pContext variable in actions changed (#633475)	Scripting	
6.11.1.6	Contact deletion for GDPR (#633392)	DWH	
6.11.1.6	Support for secure SMTP introduced (#633298)	DWH	
6.11.1.1	Support for HTTP status / error codes for the Webhook (#632695)	Scripting	
6.11.1.0	REST API returning FAQ tickets streamlined (#630997)	REST API	

3.   Version 6.15.0 (22.04.2022)

ConSol CM version 6.15.0 includes the following releases:

Release	Date	Scope	Merged versions
6.15.0.0	22.04.2022	New major version, includes new features, changes and bug fixes	6.14.0.7
6.15.0.1	07.07.2022	Hotfix version, includes 1 bug fix	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠️ Please check the Breaking changes and mandatory actions.

3.1   Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.0 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

3.1.1   System upgrade from 6.14 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.14 or earlier versions to version 6.15.0.

This *ConSol CM* release needs specific planning for an update from earlier releases.

3.1.2   Data Warehouse update

All ongoing transfer and update operations must be completed before updating an existing *ConSol CM* system to 6.15.0.0, see Multithreading for DWH operations (#622191).

3.1.3   Configuration modification requirements

The changes in this release require several system properties, configuration files or page customizations to be reviewed and possibly adjusted. Please see the following sections for details:

- Global settings for the rich text editor (#646570)
- Heap settings configuration in domain properties file (#648313)
- max-post-size setting added to properties files (#649355)
- New way of configuring page sections (#649800)
- Display of additional engineers modified (#651054, #651154)
- Configurable time threshold for operation times logging (#651357)

3.1.4   Script modification requirements

This release features some interface changes in API methods. These changes can either by improvements which offer the potential of simplifying your scripts or breaking changes. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- Usage of Joda-Time deprecated (#635223)
- New API method to reinitialize a time trigger (#651962)

3.1.5   Support level of Internet Explorer 11 changed (#650442)

Due to Microsoft ending the support for Internet Explorer 11, the support for Internet Explorer 11 has been changed for *ConSol CM*. Starting with version 6.15.0.0, only a basic support for the *Web Client* and *CM/Track* will be provided. This means that the basic availability and functionality of all features is ensured as far as technically possible. Nevertheless, layout and smaller behavioral imperfections might exist.

> ⚠ The support for Internet Explorer 11 will be phased out in the next major version.

3.1.6   Support for JBoss changed (#650952)

The support for JBoss as an application server for running *ConSol CM* has been changed. The supported JBoss version is now version 7.4. Version 7.3 is not supported anymore.

The new JBoss version comes with the security subsystem Elytron.

3.1.7   Support for WildFly changed (#651775)

The support for WildFly as an application server for running *ConSol CM* has been changed. The supported WildFly version is now version 23.0.2. Version 18.0.1 is not supported anymore.

No further instructions available.

3.2 New features

The features newly introduced in this **ConSol CM** version 6.15.0 are described in detail in this section.

3.2.1 New way of configuring page sections (#649800)

The sections of the case, contact and resource pages of the **Web Client** are now configured in a new way. Each section is an independent card. The cards can be placed in one or several columns using the page customization.

3.2.1.1 General layout changes

The main panel now has a gray background. Its content is shown as one or several cards with a white background. The left panel with the case list and the right panel with the activities, workspace and favorites have a white background. Buttons which apply to the whole page are shown above the card or cards.

3.2.1.2 Display of case, contact and resource pages

The displayed sections can be either expanded or collapsed by default. If a section is collapsed, the user can expand it by clicking the arrow in the upper right corner, the three dots at the bottom or the section headline. An expanded section can be collapsed by clicking the arrow in the upper right corner or the section headline.

Empty sections are collapsed by default. When expanded, they contain an image and a message that there are no entries yet.
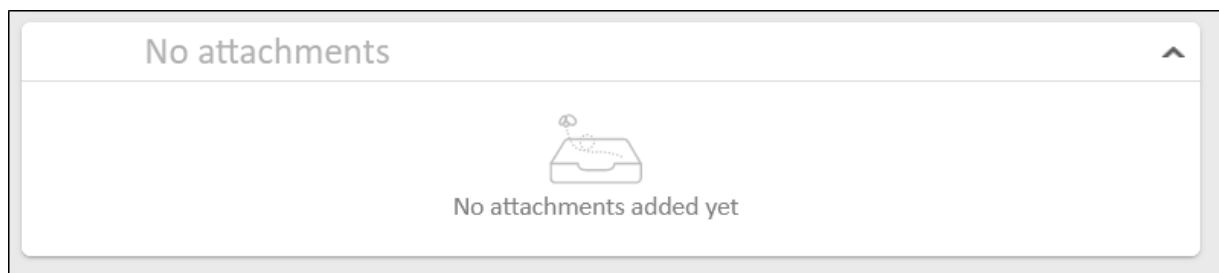
Configuring the layout

The new page customization attribute `config` has been added to the type `sectionsGrid`. It is used to define the order of the sections and their state in JSON format.

The following JSON attributes are available:

- **sectionId**: internal name of the section, the possible values depend on the type of page:
  - **Case creation page**: customfields, customers, comment
  - **Case details page**: customfields, customers, relations, calendar, resources, history, attachments
  - **Person details page**: customfields, calendar, tickets, additional_details, relations, resources, history
  - **Company details page**: customfields, calendar, tickets, contacts, additional_details, relations, resources, history
  - **Resource details page**: customfields, additional_details, calendar, resource_relations, unit_relations, ticket_relations, history
- **row**: row which the section will be placed in, starting with 1
- **col**: column which the section will be placed in, starting with 1
- **state**: initial state of the section when loading the page, possible values: "expanded", "collapsed" or "hidden"
- **positionInCell**: optional, only relevant if several sections are displayed in the same cell (same column and same row), defines the order of this section in the cell, starting with 1

> ⓘ Configurations with two sections in a row will only take effect if the users' screen offers enough space. The grid mechanism will automatically fallback to one section per row if the screen size / resolution of the user is not sufficient. This behavior can be changed via CSS skinning.

The attribute `state` in the types `section` and `sectionList` is still present and can be used to determine whether a section is expanded or collapsed. Nevertheless, this attribute is considered only, if there is no JSON configuration for the type of page or if the JSON configuration does not contain a `state` setting for the section.

The page customization type `boxContent` with the attribute `order`, which was used to determine the order of the sections in previous **ConSol CM** versions, has been removed. Its value is written to the `config` attribute during the update from a previous **ConSol CM** version.

> ⚠ After an update from a previous **ConSol CM** version, the configuration is present as a comma-separated list. The support for this way of configuring the section order will be removed in 6.16.0. Therefore, you will need to change the value to the JSON format before updating to 6.16.0.

Layout examples

The following example shows a layout with two columns for sections which usually have few content.

JSON configuration:

```
[{"sectionId":"customfields","row":1,"col":1,"state":"expanded"},
 {"sectionId":"customers","row":2,"col":1,"state":"expanded"},
 {"sectionId":"relations","row":2,"col":2,"state":"expanded"},
 {"sectionId":"attachments","row":3,"col":1,"state":"expanded"},
```

```
{"sectionId":"resources","row":3,"col":2,"state":"expanded"},
{"sectionId":"calendar","state":"hidden"},
{"sectionId":"history","row":5,"col":1,"state":"expanded"}]
```

Result:

The following example shows a layout with two columns and a shared cell for case relations and resource relations. Sharing cells can be useful if you expect much content in the sections in one column, so that several section can fit in the column next to it.

JSON configuration:

```
[{"sectionId":"customfields","row":1,"col":1,"state":"expanded"},
 {"sectionId":"customers","row":2,"col":1,"positionInCell":1,"state":"expande
d"},
 {"sectionId":"attachments","row":2,"col":1,"positionInCell":2,"state":"expande
d"},
 {"sectionId":"relations","row":2,"col":2,"positionInCell":1,"state":"expande
d"},
 {"sectionId":"resources","row":2,"col":2,"positionInCell":2,"state":"expande
d"},{"sectionId":"calendar","row":3,"col":1,"state":"hidden"},
 {"sectionId":"history","row":4,"col":1,"state":"expanded"}]
```

Result:

3.3   Changes

This section illustrates all relevant software product changes for version 6.15.0 of **ConSol CM**.

3.3.1   Usability improvements

Dragging email addresses (#634152)

It is now possible to drag email addresses between the fields *To*, *Cc* and *Bcc* in the email editor of the **Web Client**.
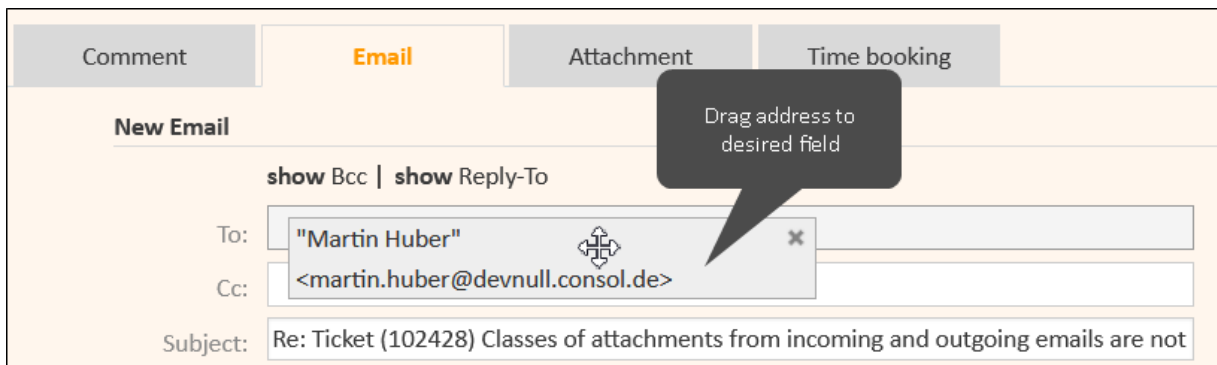
New tooltip styling (#648091)

The tooltips displayed in different places of the **Web Client** have been enhanced. They are now accessible and have a new styling.
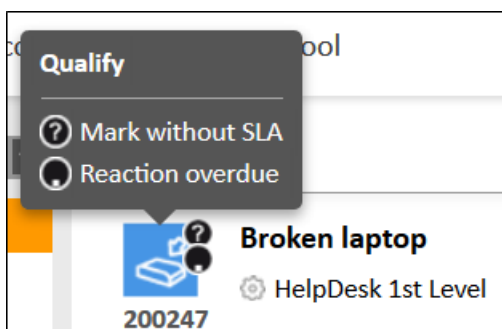
Related resources section improved (#649597)

The *Related resources* section of case, contact and resources pages of the **Web Client** has been improved:

- The name of the resource is a link which can be opened in another tab. Therefore, the *Jump to resource* option has been removed from the context menu.
- The context menu now has the label *Action*. The delete option is now called *Remove relation*.
- The resource details can be displayed by clicking the arrow icon between the resource icon and name.

Wording of the case history section improved (#649735)

The case history section in the **Web Client** is now called *Communication and history* to better convey its meaning. In addition, the German translation for "history" is now "Historie". This has been changed for the contact and resource page as well.

New design of MLA fields in edit mode (#649811)

The display of MLA fields in the edit mode of the **Web Client** has been improved. The fields now have a white background as other editable fields and an edit icon. When the user clicks the field, the value selector is shown.
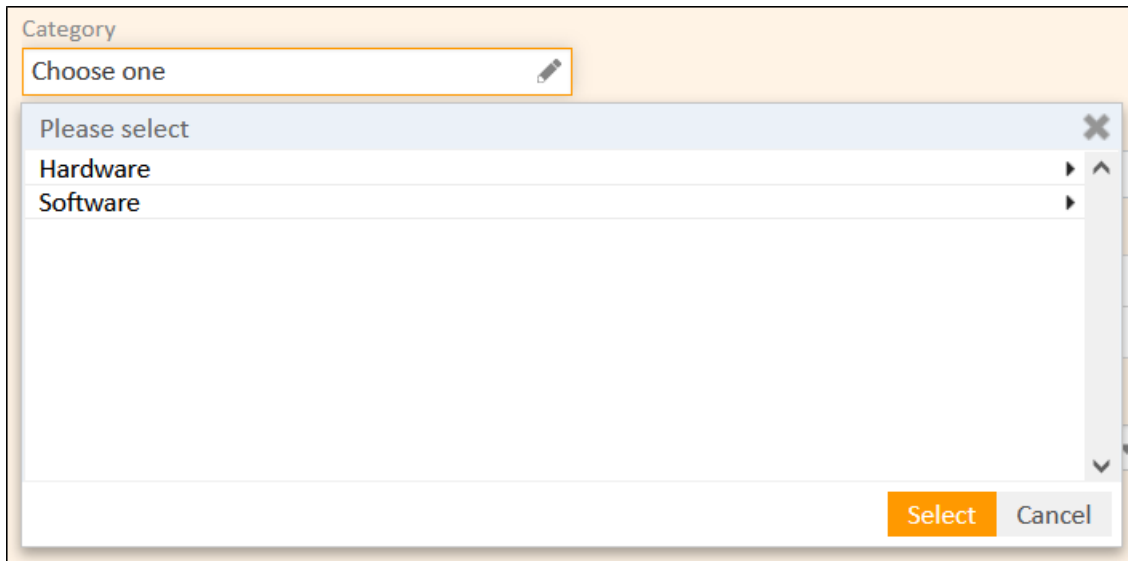
Wording of case history filter improved (#649921)

The wording of option to display only communication entries in the case history filter in the **Web Client** has been improved. It is now *Only emails and comments* to better describe its meaning. The tooltip which explained the meaning of the filter option has been removed as it is not needed anymore.

Layout of *Forms* page improved (#650024)

The layout of the *Forms* page of the **Web Client** has been improved. The fields in the upper part of the screen are now distributed in two columns to make better use of the available space.

Wording of *Forms* page improved (#650092)

The names of the fields on the *Forms* page of the **Web Client** have been adapted to better convey their meaning:

- The publish type DENIED is now called NONE.
- The checkbox *Permission recording* is now called *Persist submits*.
- The checkbox *Active* is now called *Form active*.

In addition, explanatory tooltips have been added.

Spelling of "email" unified (#650384)

The spelling of the word "email" in the **Web Client** has been unified. It is now "email" in English and "E-Mail" in German in all places.

Company deletion form improved (#650874)

The form which is shown when trying to delete a company with data in the **Web Client** has been improved. The buttons *Transfer data and continue* and *Cancel* are now displayed below the selector, so the layout of the form is consistent with other forms which are opened above cases, contacts or resources.

Permission wording improved (#651161)

The names of the different queue, customer group and resource type permissions on the *Roles* page of the **Web Admin Suite** have been modified to better convey the meaning of the permission. They are now longer, more descriptive and follow the terminology defined in Display of additional engineers modified (#651054, #651154).

Layout of the case list improved (#651188)

The layout of the case list of the **Web Client** has been improved. The selected group is now highlighted in blue instead of orange, the buttons and settings of the case list have a white background, and the busy indicator has a more modern design.

Case list filters renamed (#651725)

The options of the case list filter in the **Web Client** have been renamed to follow the terminology defined in Display of additional engineers modified (#651054, #651154). The following options have been changed:

- Own and referenced cases -> My cases and cases I participate in
- Own and unassigned cases -> My and unassigned cases
- Own cases -> My cases

3.3.2   Multithreading for DWH operations (#622191)

It is now possible to transfer history data to the DWH in several threads to increase the performance of transfer and update operations. By default, one thread is used to transfer the history data. The number of threads can be increased using the **Web Admin Suite**. When starting a new transfer or

update on the *Administration* page, you can set the number of threads in the field *CMRF thread count*, which has been added to the transfer and update dialogs for this purpose.

> ⚠️ All ongoing transfer and update operations must be completed before updating an existing **ConSol CM** system to 6.15.0.0.

3.3.3   Case subject pattern exported (#632737)

The pattern for incoming email subjects which is entered on the *Email configuration* page of the **Web Admin Suite** or the *Email* section of the **Admin Tool** is now part of the scene export if the complete configuration is exported (option *All*).

> ⚠️ If you use different patterns in different system types, you need to review the email configuration after importing a scene from another system.

3.3.4   Color of failure message changed (#632787)

The color of the message which is displayed in the **Web Client** when using the method `client.failure()` has been changed from green to red to better convey its meaning.

3.3.5   Unused page customization *appendOrReplaceOnClone* removed (#634921)

The page customization attribute `appendOrReplaceOnClone` from the type `acimSection` has been removed because it was not used anymore.

3.3.6   Usage of Joda-Time deprecated (#635223)

The usage of the `Joda-Time` library is now deprecated. Instead, the `java.time` API or the date and time methods of Groovy should be used for date and time operations in scripts.

> ⚠️ Joda-Time will be removed in the future **ConSol CM** version 6.16.0 and all scripts which use it will need to be modified.

3.3.7   Third-party library AngularJS updated (#646299)

The third-party library AngularJS, which is used for **CM/Track**, has been updated from version 1.4.14 to version 1.8.2.

> ⚠️ **Notes for custom projects:**
>
> If you customized the date validation in *CM/Track* by modifying the file `validation-msg.html`, you need to adapt the file in the following way:
>
> Previous code:
>
> ```
> <li ng-message="date"><span translate="validation_date" translate-
>   values="{{attrs}}"></span></li>
> ```
>
> New code:
>
> ```
> <li ng-message="parse"><span ng-if="attrs.ngModel == 'date'"
>   translate="validation_date" translate-values="{{attrs}}"></span></li>
> ```
>
> If you added new modules or directives, you might need to review and align them to the new angular version, see https://docs.angularjs.org/guide/migration.

3.3.8   New way of adding content to cases (#646501)

The buttons from the header of the history section of a case have been replaced by a new button bar with a plus icon. It contains the buttons *Comment*, *Email*, *Attachments*, *Document* and *Time booking* to add content to the case. The field *Add comment, e-mail or attachment*, which could be used to add content has been removed completely.

In addition, the section is now called *Communication and history*.
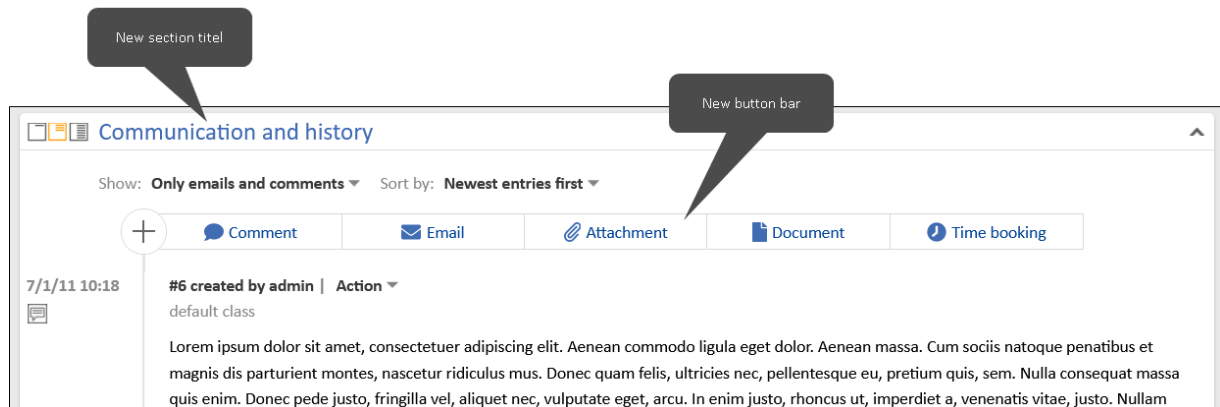
The page customization attribute `recordLastUsedAcimTab` from the type `acimSection` has been removed because it is not needed anymore.

3.3.9   Global settings for the rich text editor (#646570)

The font and font size of the rich text editors in the ***Web Client*** can now be determined globally. The new page customization attributes `globalRichTextFont` and `globalRichTextFontSize` have been added to the type `cmApplicationCustomization` for this purpose. The set font and font size applies to all rich text editors, i.e. both the comment and email editor, and the editors of rich text fields. This facilitates unifying the font style for all rich text content.

For the email and comment editor, the settings are overwritten by the already existing attributes `font` and `fontSizeValue` in the type `cmRichTextEditor`.

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3.3.10 Library for *CM/Forms* updated (#647208)

The third-party library form.io used to define web forms on the *Forms* page of the **Web Client** has been updated from version 3.9.3 to version 4.13.7. The update includes several changes, e.g.:

- Improved styling
- Search field above the components to find elements which can be added to the form
- New components, e.g. tree and text editor
- File upload in separate *File* section
- Layout tab in the element properties to add HTML attributes

3.3.11 History visibility setting for attachment deletion (#647681)

The setting *Attachment added* in the *History* section of the **Admin Tool**, which determines the visibility level of the history entry which is shown in the **Web Client** after adding an attachment, now applies to both the addition and the deletion of attachments. It was renamed to *Attachment added/deleted* for this purpose.

3.3.12 Domain configuration files adapted (#647730)

The domain configuration files `cm6-<DB>.xml` have been adapted by removing unused subsystems.

3.3.13 Unused client configuration properties removed (#647874)

The following properties from the `localization.json` files of the client configuration are not in use anymore and have been removed from the `TrackV2` template:

```
"ticket_create_attachment_placeholder": "Attachment",
"ticket_create_selectFile_label": "Drop files or click to select files",
"ticket_create_changeFile_label": "Change",
"ticket_create_removeFile_label": "Remove",
"tickt_create_option_yes": "Yes",
"tickt_create_option_no": "No",
"ticket_create_default_value": "Please select",
"ticket_details_history_addFileLabel": "File input",
"ticket_details_history_changeFileLabel": "Change",
"ticket_details_history_removeLabel": "Remove",
"ticket_details_history_help": "Add comment and/or select file",
"ticket_list_status_label": "Status",
"ticket_list_search_btn": "Search"
```

> ⓘ The properties are not removed from existing installations. If desired, the localization files can be edited manually to delete them.

3.3.14 Heap settings configuration in domain properties file (#648313)

The configuration properties file `cm6-domain-config.properties` has been extended by heap settings. The following additional settings can now be configured in the properties file, instead of the XML files:

ConSol CM (clustered-cm6-server-group):

- cm6.metaspace.max-size=512m
- cm6.heap.max-size=2G
- cm6.heap.size=2G

DWH (cmrf-server-group):

- cmrf.metaspace.max-size:=512m
- cmrf.heap.size=2G
- cmrf.heap.max-size=2G

> (i) The XML configuration files `cm6-<DB>.xml`, `master-host.xml` and `slave-host.xml` have been modified accordingly.

3.3.15 max-post-size setting added to properties files (#649355)

The setting `max-post-size-bytes` has been added to the properties files `cm6-config.properties`, `cm6-cmrf-config.properties` and `cm6-domain-config.properties`. It is used to configure the setting `max-post-size` from the JBoss XML configuration files. The default value is 104857600 Bytes.

This setting determines the maximum size of binary uploads supported on the system. It must be aligned with the system property `attachment.max.size` from the module `cmas-core-server`.

> (i) The XML configuration files `cm6-<DB>.xml`, `cm6-DWH-<DB>.xml` and `cm6-cmrf-<DB>.xml` have been modified accordingly.

3.3.16 Workspace support for the back button (#649383)

If the user clicks the back button of the browser when having unsaved changes in the **Web Client**, the affected case, contact or resource is now saved to the workspace. The workspace works in the same way when clicking the browser back button as when clicking a link within the **Web Client**.

3.3.17 Logging configuration adapted (#649520)

The pattern of the log entries in the different log files has been aligned.

> (i) All XML configuration files have been modified accordingly.

3.3.18 New password hashing algorithm (#650021)

The password hashing algorithm used to validate user passwords in the **Web Client**, **Web Admin Suite**, **Admin Tool**, **Process Designer** and **CM/Archive** has been changed from MD5 to Bcrypt. When a user, whose password was still hashed with the old algorithm, logs in successfully, the new password hash is automatically created and stored.

> (i) This change does not apply to **CM/Track**.

3.3.19 Third-party library Hibernate upgraded (#650110)

The third-party library **Hibernate** has been updated from version 5.3.17 to version 5.6.0.

3.3.20   Third-party library Apache Wicket updated (#650114)

The third-party library Apache Wicket, which is used in the **Web Client** has been updated from version 8.10.0 to version 8.13.0.

3.3.21   Annotation label-in-view removed (#650154)

The annotation `label-in-view` has been removed because it is not compatible with the new data field grid introduced in version 6.13.

3.3.22   Default case pattern modified (#650291)

The default pattern for matching incoming emails to cases in **ConSol CM** has been modified. The new pattern is `(Ticket #123456)`. Therefore, the default value of the field *Template for outgoing email subjects* is now `(Ticket #${ticketName})`. The default value of the field *Pattern for incoming email subjects* is now `.?\(Ticket\s#(\S+?)\).*`.

> ⓘ This change does not affect existing systems, i.e. the pattern defined in an existing system is not overwritten during the update.

3.3.23   Unneeded settings removed from setup (#650513)

The wizard which is displayed when setting up a new **ConSol CM** system has been streamlined. Settings which are not needed at this stage have been removed, so that the user can perform the setup more quickly. The settings can be made in the **Web Admin Suite** or **Admin Tool** after completing the setup.

This affects the following settings:

- *General* **tab**: Setting *Cluster mode* removed
- *Administrator* **tab**: Settings *Select authentication mode* and *Kerberos v5 authentication* removed
- *Index* **tab**: Tab removed, included the settings *Indexing master server* and *Indexing master failover timeout*
- *Incoming e-mail* **tab**: Settings *Incoming email subject pattern* and *Identifier* removed

3.3.24   Log message for missing user permissions improved (#650684)

The message which is written to the log files if a script tries to assign a user without assign permissions to a case has been improved. It now states the reason why the user assignment fails, i.e. the lack of the permission *Other users can assign cases to users with this role*.

3.3.25   Content display in the *Contacts* section improved (#650749)

The content display in the *Contacts* section of cases in the **Web Client** has been improved for two-level contact models. On the visibility level *Extended*, the person fields are shown, and the company name is displayed without the company fields. On the visibility level *Detail*, both the person and company fields are shown. On all visibility levels, it is possible to fold and unfold the content to show or hide the data fields.

Visibility level, selected option "Extended"

Arrow to hide the person fields

Arrow to show the company fields
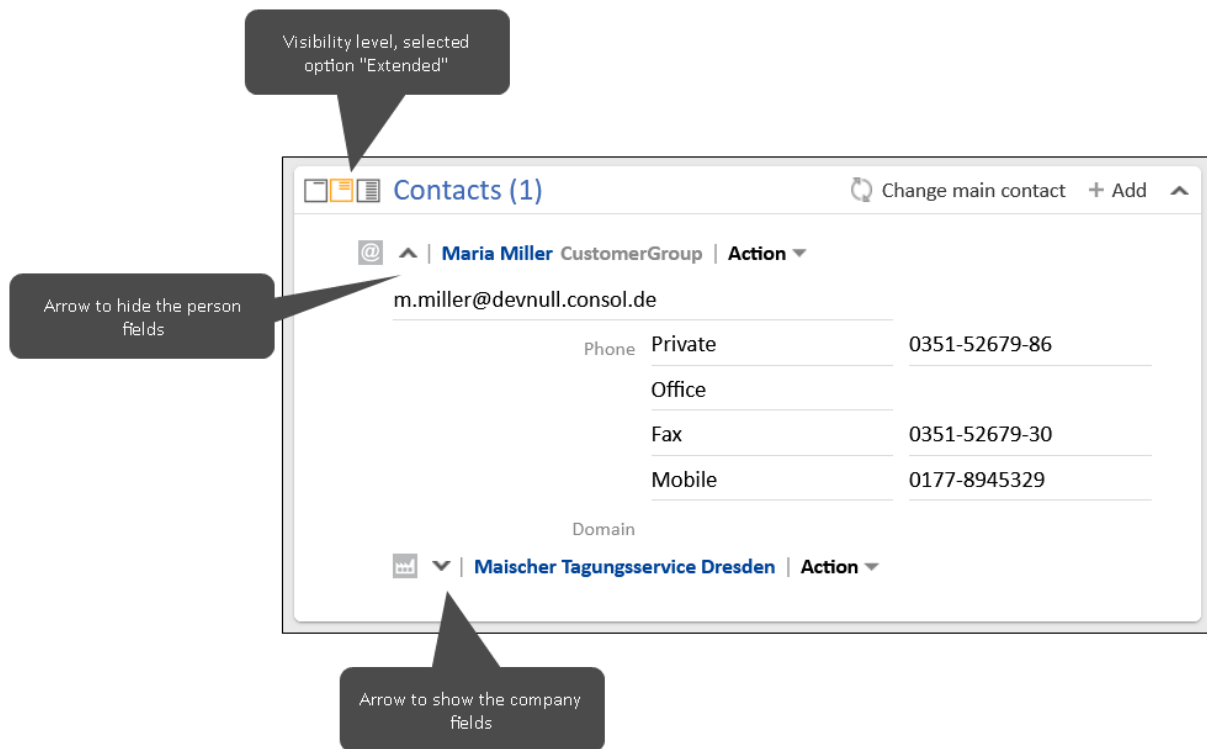
3.3.26   Display of additional engineers modified (#651054, #651154)

Additional engineers are now called "participants" in the **Web Client** and the **Web Admin Suite** by default, see Labels for the term additional engineers added (#651452).

The participants of a case are now shown in the case header next to the assignee. When the user hovers the text, the users are shown under their roles in a tooltip. The information about additional participants is only shown if the case has additional participants and if the newly added page customization attribute `enableAdditionalParticipantsView` in the type `TicketPanel` is set to "true".

Number of additional engineers with details in tooltip
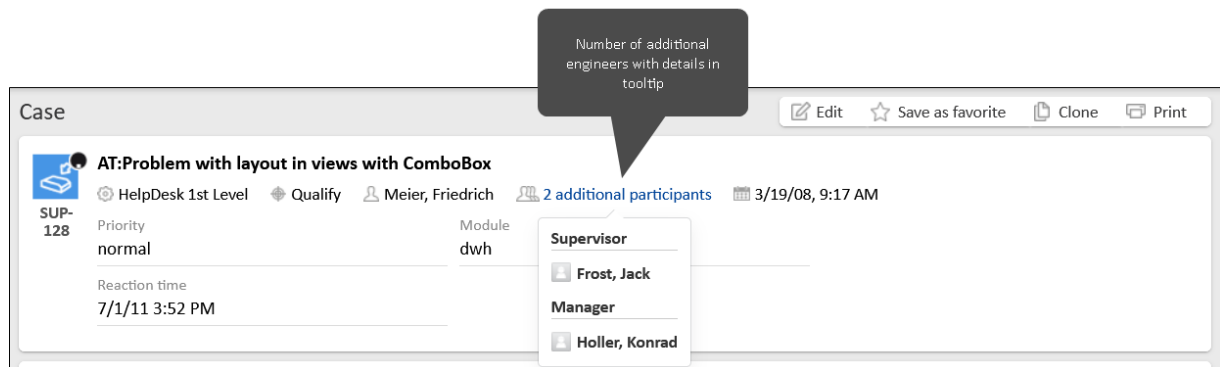
To change the additional participants, the user needs to click the *Edit* button of the case. He can click the new *Additional participants* field below the case subject to open a modal window which allows adding and removing additional participants.

It is only possible to add a participant if the newly added page customization attribute `enableAdditionalParticipantsEdit` in the type `TicketPanel` is set to "true".

The possibility to edit the note of an already existing additional participant has been removed, and the order of the additional participants cannot be changed anymore.

The *Additional engineers* section has been removed from the default configuration because it is not needed anymore with the new approach. It can be re-enabled by setting the newly added page customization attribute `legacyAdditionalEngineersSectionEnabled` in the type `TicketPanel` to "true". In addition, you need to manually add the section `engineers` to the type `sectionsGrid`.

> ⚠ The *Additional engineers* section is deprecated and will be removed in a future release.

3.3.27   Third-party libraries for *CM/Track* updated (#651073)

The following third party libraries used in *CM/Track* have been updated:

- **gradle**: update from version 6.2 to version 6.8
- **grails**: update from version 4.0.2 to version 4.0.13

`logback.groovy` has been moved to `logback.xml` and timestamps have been added to logs.

> ⓘ The distribution needs to be updated for custom projects for *CM/Track*.

3.3.28   Configurable time threshold for operation times logging (#651357)

It is now possible to configure the execution time threshold for logging long-running web requests to the file `operationtimes.log`. The threshold can be defined in the newly added system property `request.log.threshold.milliseconds` from the module `cmweb-server-adapter`. The default value is 5000 milliseconds, which means that requests whose execution takes more than 5000 milliseconds are logged to the file.

3.3.29   Third-party library Infinispan updated (#651413)

The third-party library Infinispan was updated:

- **infinispan -core**: from version 11.0.0 to version 11.0.6
- **infinispan-jboss-marshalling**: from version 11.0.3.Final to version 11.0.6.Final
- **infinispan-hibernate-cache-v53**: from version 11.0.1.Final to version 11.0.3.Final

3.3.30   Labels for the term additional engineers added (#651452)

The term used for additional engineers is now configurable using labels in the **Admin Tool** and **Web Admin Suite**. The default term is now "participants" in English and "Beteiligte" in German to better convey the meaning of the user's role in the case.

The following labels are added during setup or update:

Label	English	German
cmweb.main.participants.headline	Additional participants	Weitere Beteiligte
cmweb.main.participants.plural.initcap	Participants	Beteiligte
cmweb.main.participants.plural.initlow	participants	Beteiligte
cmweb.main.participants.singular.initcap	Participant	Beteiligte(r)
cmweb.main.participants.singular.initlow	participant	Beteiligte(r)

3.3.31   Handling of cluster-related index setting improved (#651457)

The handling of the system property `synchronize.archive.timeout.minutes` from the module `cmas-core-index-common`, which is required to correctly handle index updates in clustered **ConSol CM** systems has been improved. It is now set to "60" when setting up a new **ConSol CM** system, but its value is only considered for clusters, i.e. if the property `cluster.mode` from the module `cmas-core-shared` is set to "true". If the property is set to "0" on a clustered system, a warning is logged to the `server.log` file.

3.3.32   Email configuration for DWH streamlined (#651955)

The configuration for emails which are sent when a transfer to the DWH was not successful has been removed from the **Web Admin Suite** and the **Admin Tool** because this feature had never worked (in case of an unsuccessful transfer, the email configured for the error case was sent).

The tab *Unsuccessful transfer* has been removed. In addition, the system properties, where this configuration was saved have been removed. This affects the following properties of the module `cmas-dwh-server`:

- notification.finished_unsuccessfully.description
- notification.finished_unsuccessfully.from
- notification.finished_unsuccessfully.subject
- notification.finished_unsuccessfully.to

These properties are removed when updating the **ConSol CM** system to 6.15.0.0. In addition, the properties notification.finished_unsuccessfully.from and notification.finished_ unsuccessfully.to have been removed from the *Addresses* tab of the *Email configuration* page of the **Web Admin Suite**.

3.3.33   New API method to reinitialize a time trigger (#651962)

The class WorkflowContextService has been extended by the method reinitializeTrigger (Ticket pTicket, String pTriggerName, Date pBaseDate) which allows to reinitialize a trigger for the case which is passed as a parameter. This method can be used to reinitialize a time trigger of another case in a workflow activity or in a task script.

Usage example:

```
workflowApi.reinitializeTrigger(ticket, "defaultScope/Scope1/TimerTrigger8" ,
  new Date())
```

3.3.34   Froala editor updated (#652316, #652321)

The Froala editor, used to write comments and fill rich text fields, has been updated from version 3.2.1 to version 4.0.10 in the **Web Client** and **CM/Track**.

3.4   Bugs fixed

The following defects have been corrected in **ConSol CM** version 6.15.0.0.

Number	Description
635542	**SMTP configuration logged twice during startup** When starting the **ConSol CM** server, the SMTP configuration was written twice to the log files. This problem has been solved and the SMTP configuration is logged only once now.
645385	**Email account password could not contain a colon** If a password which contained a colon was entered for an incoming or outgoing email account in the *Email configuration* section of the **Admin Tool**, the connection to the account could not be established. This problem has been solved and using passwords with colons in the **Admin Tool** is possible now.
645649	**Wrong database version in health check** The database version returned by the health check API and shown on the dashboard of the **Web Admin Suite** could be incorrect because it used the database dialect. This problem has been solved and the installed database version is now returned. In addition, the database name is now properly spelled.
648640	**Validation message displayed as toast** Validations messages which should be displayed next to the affected field in **CM/Track** were displayed as toast messages instead. This problem has been solved and the validation messages are now displayed next to the field provided in the method to create the message.
649797	**Blank page when trying to open a case without permissions from the workspace** If the workspace of a user contains a case, which is passed to a queue to which he does not have permissions while he is still logged in to the **Web Client**, an error occurs when the user tries to open the case from the workspace. This problem has been solved and cases to which the current user does not have permissions anymore are now removed from the workspace automatically.
649879	**X-Frame header not applied to all *Web Client* pages** The headers which can be defined in the system property `X-Frame-Options` from the module `cmweb-server-http-headers` were not applied to all **Web Client** pages. This problem has been solved and the defined headers are now considered on all **Web Client** pages.
650026	**Incorrect header of collapsed *Related resources* section** If the *Related resources* section of a case in the **Web Client** was collapsed by default, its headline was always *No related resources* even if the case had related resources, which were displayed when expanding the section. This problem has been solved and the headline now shows the correct number of related resources even if it is collapsed.

Number	Description
650040	**Duplicate attributes in text templates** The source code of some text templates in the **Web Client** could contain duplicate attributes, which could cause problems when using the template after modifying it. This problem has been solved and duplicate attributes are marked as such during the update. They are removed when the user edits and saves a template on the *Text template* page of the **Web Client**.
650378	**Error after canceling manual quoting** When clicking the *Select entries* link to quote a history entry while writing an email in the **Web Client**, selecting an entry and clicking the *Cancel* button, the quoting dialog was closed, but the scissor icons at the history entries remained visible and an error occurred when clicking an entry. This problem has been solved and the scissor icons are now removed when canceling the dialog.
651819	**Browser back button needed to be clicked twice on case creation** After switching the queue on the page to create a new case in the **Web Client**, it was required to click the browser's back button twice to go to the previous page. This problem has been solved and only one click on the browser's back button is now required to leave the case creation page and return to the previous page.
651836	**User import failed for export without related contact model** When importing a scene which contains a portal user used in a contact model which is not part of the scene, the import failed. This problem has been solved by omitting the user and writing a warning message that the user was not imported to the log file.
652092	**Validation message did not vanish when executing another action** Validation messages, which can be displayed when executing a workflow activity in the **Web Client**, did not disappear after editing case data. This problem has been solved and all validation messages are now removed after performing another action.
652272	**Wrong description of DWH update action** The info box in the modal window, which is displayed when clicking the *Update* button on the *Administration* page of the **Web Admin Suite**, contained the description for the transfer action instead of the update action. This problem has been solved and the description of the update action is shown now.

The following defects have been corrected in **ConSol CM** version 6.15.0.1.

Number	Description
653117	**Update scripts not executed for MySQL 8** When updating a **ConSol CM** system with MySQL 8 database from a 6.14 version to 6.15.0.0, some update scripts were not executed. This could lead to missing labels and problems with the page customization. This problem has been solved and all required update scripts are now executed on MySQL 8.

4.   Version 6.15.1 (12.08.2022)

ConSol CM version 6.15.1 includes the following releases:

Release	Date	Scope	Merged versions
6.15.1.0	12.08.2022	New major version, includes new features, changes and bug fixes	6.14.0.8, 6.14.0.9, 6.14.0.10
6.15.1.1	14.09.2022	Hotfix version, includes 4 bug fixes	
6.15.1.2	26.10.2022	Hotfix version, includes 1 bug fix and solves security vulnerability of Apache Commons Text	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠️ Please check the Breaking changes and mandatory actions.

4.1   Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.1 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

4.1.1   System upgrade from 6.15.0 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.15.0 or earlier versions to version 6.15.1.

This *ConSol CM* release needs specific planning for an update from earlier releases.

4.1.2   Script modification requirements

This release features some interface changes in API methods. These changes can either by improvements which offer the potential of simplifying your scripts or breaking changes. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- API to add email to case history (#650962)
- API to send emails with template attachments (#650963)
- API to delete single time bookings added (#651414)
- Deletion of time bookings in DWH added (#651772)
- GET requests and token-based security for webhooks
- Machine learning export without HMTL tags (#652274)
- Class for integration scripts moved (#652935)

4.1.3   Configuration modification requirements

The changes in this release require several system properties, configuration files or page customizations to be reviewed and possibly adjusted. Please see the following sections for details:

- Secure session cookies introduced (#648539)
- Display of case relations improved (#651871)

No further instructions available.

4.2   New features

The features newly introduced in this **ConSol CM** version 6.15.1 are described in detail in this section.

4.2.1   Script generator for email scripts (#646951)

The script editor of the **Web Admin Suite** has been extended by a script generator to create email scripts. It allows to generate the code for an email based on a number of settings. The generated code can be edited afterwards.

The script generator can be accessed from the code snippets window. The section *Script generators* with the option *Email script from case* has been added for this purpose. Clicking *Generate script* opens a modal window with the following options:

- **Recipient**: Select the recipient of the email. The available options are *Main contact of the case* and *Assignee of the case*.

- **Template name**: Select the template to be used for the email text. The selector includes all **Web Admin Suite** templates (WAS) and the **Web Client** templates which are marked as "Workflow" (WEB).

- **Include case attachments**: Select this checkbox if the attachments of the case should be attached to the email.

- **Apply outgoing email script of the queue**: Select this checkbox if the outgoing email script of the queue should be used..

- **Encryption**: Choose if the email should be encrypted (only if encryption is configured in the system). By default this is determined by the system property `mail.encryption` of the module `cmas-core-server`, but it can be overridden for specific emails by choosing *Encrypted* or *Plain*.

- **Add email to case history**: Select this checkbox if the email should be added to the case history automatically. You can change the text class in the code, if needed.

- **Add email to case history on failure**: Select this checkbox if the email should be added to the case history with a failure state if the email sending failed. If not selected, the execution of the activity which includes the script will fail instead.

When the user clicks on generate, the corresponding code is inserted into the position of the cursor within the current script. The script code can be edited as desired. It includes some comments which facilitate editing.

4.2.2   New attachment section for cases (#651055)

The *Attachments* section of the **Web Client** has been redesigned. It now has a responsive design which fits well into the new card layout.

The following features have been added:

- **Deletion**: The user can delete one or several attachments. It is not required anymore to jump to the respective history entry first.

- **Download**: The user can download several attachments as a ZIP file.

- **Preview**: A preview of the file content is shown when hovering the name of a TXT, CSV, HTML, XML, PNG, JPG, GIF, SVG or PDF file.

- **User-friendly filtering and sorting**: The user can define filters for the list of attachments using the text class, user and file type by clicking the *Filters* button. Filtering by the attachment name is possible using the search field above the list. In addition, the list can be sorted by clicking the column names.

4.2.3   GET requests and token-based security for webhooks

ConSol CM webhooks have been enhanced by the possibility to use GET requests and token-based security. This enables webhooks for additional use cases, as for example adding approval links to

emails. The link consists of the URL to the webhook endpoint and a token. The token determines the validity of the link, the number of allowed submits and the context, which can then be used in the integration script.

4.2.3.1 Support for GET requests in webhooks (#652258)

The webhook configuration page has been extended with the new option *HTTP Method*. It is set to "POST" for all existing webhooks. You can change the value to "GET" to enable a GET endpoint.

4.2.3.2 Token-based security for webhooks (#652288)

The webhook configuration page has been extended with the *API token* section which contains the checkbox *Enabled*. You can select this checkbox to use the token-based security. Token-based security can be used in addition to the already existing security mechanisms (IP filtering and shared secret).

The procedure for using token-based security is as follows:

1. Create a link to the webhook endpoint in a script, e.g. the activity script which generates the email with the approval link. You can use the method `linkTo.webhookWithToken` to generate a link with token.

2. Process the submitted information in the webhook integration script.

4.2.3.3 Easier use of webhook URLs (#652381)

The **ConSol CM** API has been enhanced with methods to create links to webhooks. The URL of the webhooks is stored in the newly added system property `url.webhooks` of the module `cmas-core-server`. The system property is added automatically during setup or update. Its value is empty initially. You need to enter the correct value for your system before using the methods, e.g. `http://localhost:8080/intg`.

The class `LinkService` has been extended with the methods `webhook` and `webhookWithToken` to generate the link to a webhook. The name of the webhook must be passed as a parameter to the method. If you use the method `linkTo.webhookWithToken`, you can also pass context information.

4.2.3.4 Integration script template adapted (#652659)

The template for scripts of the type *Integration*, which is used when creating a new integration script on the *Scripts* page of the **Web Admin Suite** has been updated. Now the template from the **Admin Tool**, which contains examples for processing the submitted data, is used.

4.2.3.5 Coding examples

Example 1: Create a GET request to the webhook "MyWebhook" without token

```
linkTo.webhook('MyWebhook', 'param1', 'val1', 'param2', 'val2')
```

The generated URL is:
`http://localhost:8080/intg/MyWebhook/service?param1=val1&param2=val2`.

In the integration script, you can access the values as follows:

```
payload?.each{println "${it.key} - ${it.value}"}
```

Example 2: Create a GET request to the webhook "MyWebhook" with token, validity 1 day

```
linkTo.webhookWithToken('MyWebhook', 1, [param1: val2, param: 'val2'] )
```

The generated URL is: http://localhost:8080/intg/MyWebhook/service?token=713f707f-6dd2-4247-bf70-7f6dd2f2476d

In the integration script, you can access the values as follows:

```
log.info context.param1
```

4.3   Changes

This section illustrates all relevant software product changes for version 6.15.1 of *ConSol CM*.

4.3.1   Usability improvements

Whole case subject displayed in relations box (#648738)

When the visibility level *Detail* is selected for the *Relations* section of a case in the **Web Client**, the whole subject of the related cases is now shown. Previously, the subject was cut off if it contained more than 40 characters.

Sorting detail search results by scope (#650461)

The results of a detail search in the **Web Client** can now be sorted by the Scope column. Sorting is done alphabetically by the name of the scope.

Additional participants sorted alphabetically (#651872)

The additional participants which are assigned to a case in the **Web Client** are now sorted alphabetically both in the tooltip, and in the selector and modal window to edit the additional participants.

Communication buttons always displayed above case history (#652370)

The buttons to add content to a case (*Comment*, *Email*, *Attachment*, *Time booking*, *Document*) are now always displayed above the case history in the **Web Client**, so they are easy to find. Previously, they were displayed at the bottom if the case history was sorted by *Oldest entries first*.

Layout of resources boxes improved (#652372)

The layout of the resource boxes which are displayed in the *Related resources* section of the **Web Client** when the visibility level *Basic* or *Extended* is selected has been improved. The length of the boxes has been increased so that the their content fits better and there is less horizontal wrapping.

Layout of forms with MLA improved (#652374)

MLA fields in activity or action forms in the **Web Client** are now aligned vertically with data fields of other types displayed in the same row.

Validation message for email fields improved (#652388)

The validation message, which is displayed in the **Web Client** when entering an incorrect value in a data field which is set to contain an email address, has been improved. It now includes the incorrect value instead of the affected data field.

Layout of related resources box improved (#652494)

The display of the box with the related resources of a case, contact or resource in the **Web Client**, which is shown when the visibility level *Detail* is selected for the *Related resources* section, has been improved by aligning the length of the *Date* field with the length of the other resource fields, so that the creation date of the relation is displayed in one line.

Consistent section headlines (#652595)

The section headings in the **Web Client** are now consistent regarding the usage of upper and lower case letters at the beginning of the words. Only the first word in the headline starts with a capital letter now.

Additional participants field read-only if permissions are missing (#652940)

The *Additional participants* field of a case in the **Web Client** is now read-only if the user does not have permissions to edit additional participants. Therefore, the modal window for editing additional participants is only shown if the user has the required permissions.

Keyboard shortcut to add additional list values (#653856)

When creating a list value on the *Sorted lists* page of the **Web Admin Suite**, the user can now press SHIFT + ENTER to save the current value and create the next one (*Create list value and next* button). In addition, the *Internal name* field is automatically focused in all browsers.

Layout of related resources box improved (#654159)

The box with the related resources of a case, contact or resource in the **Web Client** now has round corners so that its layout is consistent with the new card layout and the display of the new boxes for related cases.

4.3.2 Improved log messages in case of missing label (#647940)

Error messages are written to the log files when the value of a label is missing in a **ConSol CM** system and a page where this label is used is opened in the **Web Client**. A log message with the log level WARN, which contains the key of the affected label, is now written to the log files before the error message, so that the administrator can easily identify the problem and add the missing value to the label.

4.3.3 Secure session cookies introduced (#648539)

The session cookies for the **Web Client** and **Web Admin Suite** can now use the "secure" flag which allows only connections using https or connections from localhost. The **ConSol CM** configuration properties files `cm6-config.properties`, `cm6-domain-config.properties` and `cm6-cmrf-config.properties` have been adapted by adding the attribute `enforce.secure.cookies`. By default, it is set to "false". You can set it to "true" to enable secure session cookies.

4.3.4 Enforce HTTPS connection for *Admin Tool* and *Process Designer* (#649580)

The **ConSol CM** configuration files `cm6-<DB>.xml`, `cm6-dwh-<DB>.xml` and `domain.xml` have been adapted by adding `proxy-address-forwarding="true"` to the HTTP listener. This forces the **Admin Tool** and **Process Designer** to use HTTPS for requests, which is needed for the Java Webstart applications to work correctly in cloud environments.

4.3.5 Case administration added to *Web Admin Suite* (#650728)

The **Web Admin Suite** has been extended by the page *Case administration* in the *Operation* menu. It provides the same functionality as the *Ticket administration* section in the **Admin Tool**. The user fills out the search criteria in the panel on the left, and the search results are shown in the table on the right.

Several features have been added:

- **Restart open cases**: For open cases, the restart icon is available. It allows to pass the case to the start node of its current workflow.

- **New search criteria**: You can now search cases by single IDs, a comma-separated list of IDs, the close date, the last modification date and the scope. In addition, a free text search is possible.

- **Improved visualization of search results**: The results table now contains a column with the state of the case, and the scope column shows the name of the scope and workflow, so that it is possible to sort by this column. In addition, the table can now be filtered by state and by scope (after selecting a queue). The search field allows to filter the table by case name or subject.

⚠ The delete function is now always available, it cannot be hidden by system property anymore.

4.3.6 API to add email to case history (#650962)

The *ConSol CM* API has been extended to provide an easy way to add emails sent in scripts to the case history. Four methods have been added to the class `Mail` for this purpose:

- **setAppendToTicket(Ticket)**: Allows to add a history entry with the email to the given case.

- **setAppendToTicketContentEntryClass(String)**: Allows to define the text class which should be assigned to the created history entry.

- **setAppendToTicketOnError(boolean)**: Allows to define the behavior in case the email sending fails. The default value "false" means that an exception is thrown in the script where the email is sent. If set to "true", a history entry with a sending failure status is added to the case instead.

- **setAppendToTicketSingleMailEntry(boolean)**: Allows to define whether only one history entry should be created in case several emails are sent (this happens if several recipients are added to one email in the `Mail` object using `setTargetEngineers(List<Engineer>)`). The default value "true" means that only one history entry is created. If set to "false", there is one history entry for each email which is actually sent.

ⓘ History entries are only created for the original recipients, not for recipients who receive the email because they represent one of the original recipients.

4.3.7 API to send emails with template attachments (#650963)

The *ConSol CM* API has been extended to provide an easy way to send emails based on templates which contain attachments in scripts. Six methods have been added to the class `MailTemplate` for this purpose:

- **setIncludeAttachments(boolean)**: Allows to define whether the attachments of the template should be added to the email. The default value is "true".

- **setLocale(Locale)**: Allows to set the language of the template that will be used as email text. If not set, the default locale is used.

- **setName(String)**: Allows to set the name of the template that will be used as email text.

- **setParameters(Map<String,Object>)**: Allows to set user-defined parameters for the template that will be used as email text.

- **setParametersForTicket(Ticket)**: Allows to set the default case parameters for the template that will be used as email text.

- **setUnescapeHtml(boolean)**: Allows to define whether the HTML characters in the template should be changed to their plain text Unicode equivalents. This can be needed to correctly display ampersand characters in Outlook or Mac Mail.

> ⚠ The template attachments are present in the email sent with these methods and in the history entry, which can be created using methods from API to add email to case history (#650962), but they are not added to the *Attachments* section of cases in the **Web Client**.

4.3.8   API to delete single time bookings added (#651414)

The **ConSol CM** API has been extended by the method `delete(TimeBooking... pTimeBookings)` in the class `EngineerBookingService`. This method allows to delete single time bookings.

4.3.9   Deletion of time bookings in *DWH* added (#651772)

The **ConSol CM** API methods `deleteByTicket`, `deleteByProject` and `deleteByEngineer` from the class `engineerBookingService` have been modified. The time bookings are now removed from the **ConSol CM** database and the **DWH** database. Previously, they were only removed from the **ConSol CM** database.

4.3.10   Display of case relations improved (#651871)

The display of case relations on the case page of the **Web Client** has been improved. The relations are now grouped by queue to facilitate an overview by usage in the business process. In addition, the number of relations which is displayed when opening a case can be limited to increase the loading speed and avoid filling the screen with lots of data which it not needed in every interaction with the case.

The design of the *Relations* section has been adapted accordingly. For each queue, there is a box which contains the related cases belonging to this queue. Each box can be expanded and collapsed independently. The type of relation is indicated next to the basic case data.
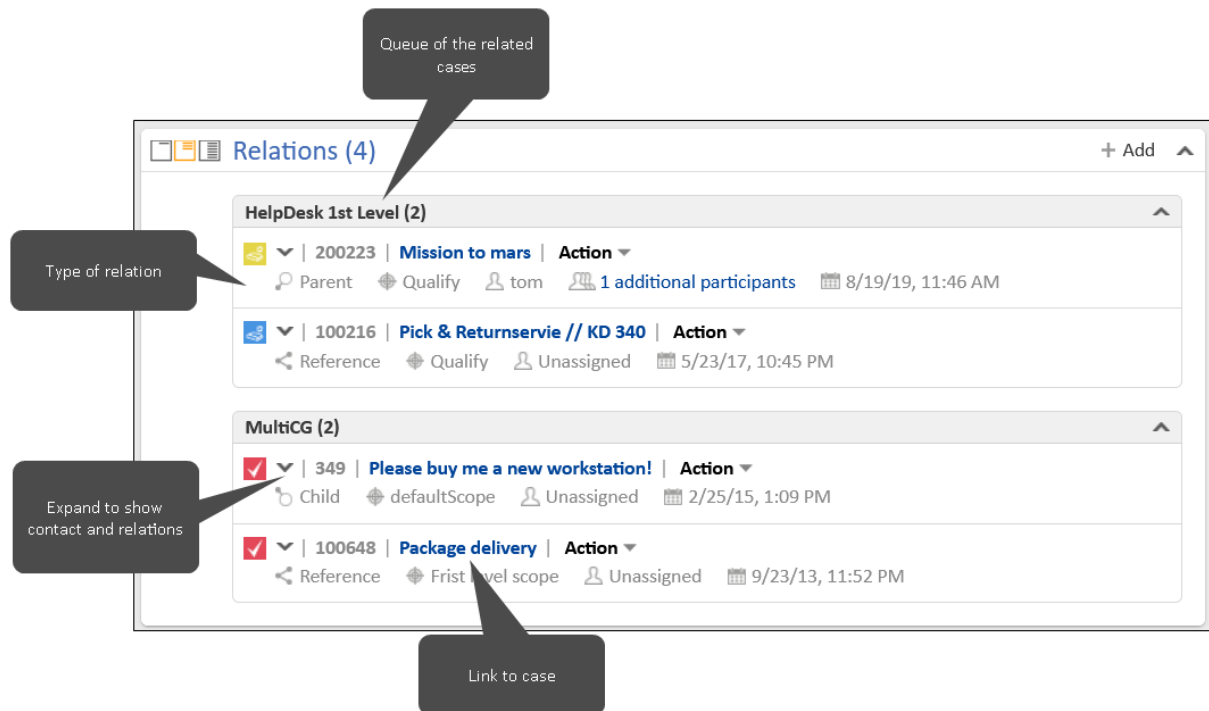
The page customization type `ticketRelations` has been extended by two new attributes which allow to fine-tune the display:

- **displayVariant**: Allows to define how the related cases are grouped. Possible values are "byQueue" (default, there is one box for each queue) and "byRelationType" (restores the previous display of this section without any enhancements, will be removed in a future release)

- **loadingThreshold**: Allows to define how many relations are loaded when opening the case. The default value is 5. If there are more relations, a *Load more* button is shown.

> (i) If there is just one more relation than specified, it is displayed directly to avoid that users need to click the button to show one more item.

4.3.11   Logging for page customization changes added (#651880)

Logging of administrative changes to the `audit.log` has been extended by including changes done in the page customization of the **Web Client**. The `audit.log` file now includes all administrative changes done in the **Web Admin Suite** and **Admin Tool**, and changes of page customizations.

4.3.12   Machine learning export without HMTL tags (#652274)

The case text which can be exported to CSV files to prepare the training data for machine learning is now exported as plain text without HTML code. Therefore, it is not necessary anymore to clean up the CSV files, which were exported using methods from the classes `mlDataService` and `mlTicketTextClassifierService`, to remove HTML tags before using the files to build the machine learning model.

4.3.13 Log level for validation message changed (#652310)

Custom validation messages, which can be displayed in *CM/Track* when a user tries to execute an activity, now cause an entry with the log level INFO in the `server.log` file. Previously, the log level was ERROR although the message did not indicate any problem with the *ConSol CM* system.

4.3.14 Empty section for resource dashboard hidden (#652326)

If no resource dashboard is configured, the section for the resource dashboard on the *Resources* page of the *Web Client* is now hidden for all types of users, including the administrator. Previously, the section was hidden for regular users only, but shown to users with administrator permissions.

> ⚠ In order to restore a previously removed resource dashboard, the section must be re-enabled in the *ConSol CM* database.

4.3.15 Staging resources and design (#652354)

The content of the `design` and `resources` folders in the *ConSol CM* data directory can now be staged using the regular import and export mechanism of *ConSol CM*. The option *Skin and web resource files* has been added to the *Export* page of the *Web Admin Suite* for this purpose. The design and resources files are exported when one of the following export options is selected in the *Web Admin Suite*:

- *All data* in the *Runtime data* section
- *All* in the *Configuration data* section
- *Skin and web resource files* in the *Configuration data* section

During the import, existing files are only overwritten if their modification date is older than the one of the files from the imported scene.

4.3.16 Staging webhooks (#652895, #653206, #653278)

Webhook can now be staged using the regular import and export mechanism of *ConSol CM*. The option *Webhooks* has been added to the *Export* page of the *Web Admin Suite* for this purpose. Both the webhook configuration and the scripts of the type *Integration* are included when staging webhooks. Webhooks are exported when one of the following export options is selected in the *Web Admin Suite*:

- *All data* in the *Runtime data* section
- *All* in the *Configuration data* section
- *Webhooks* in the *Configuration data* section

When importing a scene which contains webhooks to another system, new webhooks are created on the target system with all the settings defined on the source system. Existing webhook configurations on the target system are not overwritten. This means that changes to existing webhook configurations, e.g. modifications of the security, need to be performed manually on the target system after the import.

> ⓘ When updating to *ConSol CM* version 6.15.1.0, orphaned webhook configurations are removed from the *ConSol CM* database.

4.3.17 Class for integration scripts moved (#652935)

The class `IntgServiceResponse` has been moved from `com.consol.cmas.intg.service` to `com.consol.cmas.common.service.intg`. During the update to *ConSol CM* version 6.15.1.0, all scripts of the type *Integration* will be modified accordingly.

> ⚠ If `IntgServiceResponse` is used in another type of script, you need to update the script manually.

4.3.18 Direct upload for attachments to cases (#652937, #653504)

It is now possible to add attachments to a case in the **Web Client** by dragging the file over the browser window. As soon as the user drags a file over a case in the **Web Client**, an orange upload area is shown. When the user drops the file, the *Attachments* section with the uploaded file is displayed and the user can confirm the upload by clicking the *Add attachments* button.
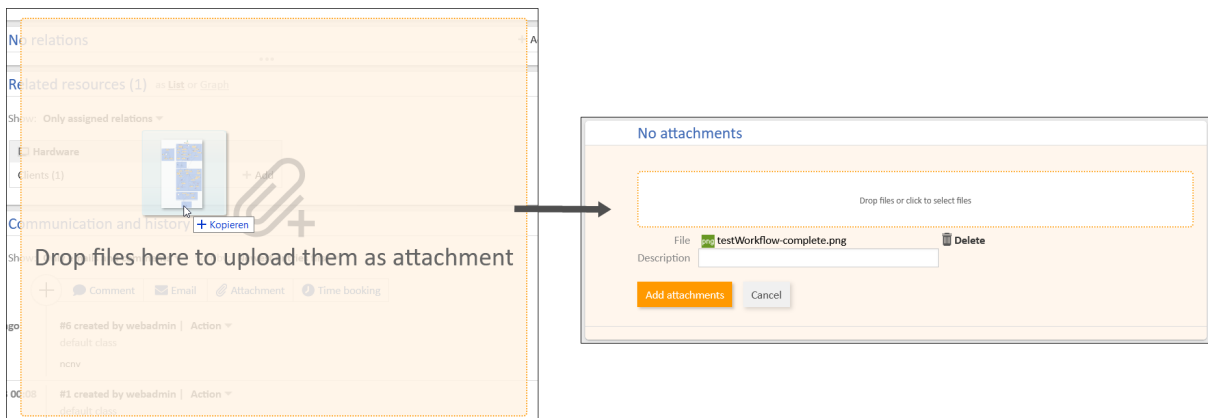
If the *Attachments* section is empty, the hint *Simply drag files over the browser window to upload them* is displayed to inform the users about this new way of uploading files.

> ⓘ The direct upload is only possible for cases in view mode, i.e. the upload area is not displayed if any case section is in edit mode.

4.3.19 Preview for attachments in the case history (#652938)

The case history entry which refers to the action of adding an attachment to the case in the **Web Client** now has a preview feature. When hovering the file name, a preview is displayed:

The preview is available for the following file types: TXT, CSV, HTML, XML, PNG, JPG, GIF, SVG, and PDF

> ⚠ In Internet Explorer 11, the preview is only shown for images.

4.3.20   Queue filter of the quick search improved (#653137)

The queue filter which is displayed next to the results of the quick search in the **Web Client** has been improved. It now shows only queues which have customer groups assigned for which the current user has at least read permissions.

4.3.21   Display of host information enhanced (#653202)

If the page customization attribute `appendhostInfo` in the scope `generalFeedback` is set to "true", the information about the node is added to red error messages which are displayed in the **Web Client** due to system errors. The node information is not displayed anymore for custom error messages, i.e. messages implemented using `workflowApi.addValidationError`.

In addition, the name of the node is now displayed in parenthesis and the label "Note info" is used instead of "Host".

4.3.22   Address autocomplete page added to the **Web Admin Suite** (#653377)

The **Web Admin Suite** has been extended by the page *Address autocomplete* in the *Lists* menu. It provides the same functionality as the *Address autocomplete* section in the **Admin Tool**.

The page consists of two tabs: *Documentation* and *Configuration*. If no address data has been imported to the **ConSol CM** database yet, the *Documentation* tab is opened when accessing the page. Otherwise, the *Configuration* tab is opened.

Several usability improvements have been made:

- The wording of the options has been improved to clarify their meaning. The *Autocomplete* checkbox is now a selector with two options: *Autocomplete field* and *Use field value to auto-complete other fields*.

- All the settings are shown at once in the details panel. The settings for each item (city, street, zip) are shown once a data field has been selected.

4.3.23   Fixed security vulnerability (#655513)

The following security vulnerability has been fixed in **ConSol CM** and its components in version 6.15.1.2:

- Apache Commons Text: updated from version 1.9 to version 1.10.0

4.4   Bugs fixed

The following defects have been corrected in **ConSol CM** version 6.15.1.0.

Number	Description
633536	**User needs to log in twice after session timeout** When a session timeout occurred in the **Web Client**, the first login attempt failed and the user needed to try again to log in. This problem has been solved and the first login attempt after a session timeout now succeeds.
651191	**Missing translation for page element in forms** The page element which is used in forms of the type *Wizard* in **CM/Forms** was not translated into German. The English word "page" was displayed. This problem has been solved and the page is now called "Seite" in German.
651612	**Wrong live mode status for DWH** When initializing the data warehouse in live mode and making changes to runtime objects in the **Web Client** before performing a transfer, the live mode status indicated that an update was needed after performing a transfer and an update. This problem has been solved and the live mode status of the data warehouse is correct now.
651851	**Unneeded placeholder image displayed** When removing all related resources of a case, contact or resource in the **Web Client**, the placeholder image with the text "No items added here yet" was displayed in some occasions. This problem has been solved and this placeholder is never displayed in the *Related resources* section.
651975	**Limitation of cases in grid view did not work for administrators** The page customization attribute `maxGridTicketsNumber` which is used to limit the number of cases displayed in the grid view of the detail search in the **Web Client** did not work correctly for users with administrator permissions, who saw less cases then defined in the attribute. This problem has been solved and the correct number of cases is now displayed for both regular and administrator users.
651977	**Incorrect week column in DWH database** The value of the FULL_WEEK column in the DWH database was incorrect if the 52nd week started in a year and continued in the next year. In such cases, the column contained the next year instead of the previous one leading to incorrect reports. This problem has been solved and the FULL_WEEK column now contains the correct year indication.
652289	**Wrong results for detail search by creation date** In the detail search of the **Web Client**, cases which did not match the search criteria were found if searching for cases created before a certain date, after having searched for cases created on a certain date. In this situation, the cases found in the previous search were also present in the current results even though they did not match the search criteria. This problem has been solved and only cases matching the search criteria are found now.

Number	Description
652312	**Email addresses draggable** The email addresses which are displayed in the *Personal email addresses* section of the user profile in the **Web Client** could be dragged although they are displayed in alphabetical sorting and cannot be moved elsewhere. This problem has been solved and personal email addresses are not draggable anymore.
652371	**Overlapping text in the case list** Text from case list items in the **Web Client** sometimes overlapped the scroll bar displayed at the right side of the case list. This problem has been solved and the text does not overlap the scroll bar anymore.
652452	**Button to confirm relation removal not visible** When the *Related cases* section of a case in the **Web Client** was displayed in a shared row, the button to confirm the removal of a relation to another case was cut off, so that it was not possible to remove the relation. This problem has been solved and the button is now displayed regardless of the position of the section.
652462	**Not possible to modify link when editing a comment** When editing an existing comment with a link in the **Web Client**, it was not possible to modify the link because the user could not click in the *URL* and *Text* field of the link popup. This problem has been solved and modifying links is now possible when editing a comment.
652476	**Switch to tab due to hidden validation** If one tab in the *Details* section of a case, contact or resource in the **Web Client** contains a required field which is hidden, this tab was opened when trying to save the data in another tab. This problem has been solved and hidden fields are not validated anymore.
652477	**Wrong page position when replying to long email or comment** When replying to a long email or comment in the case history of the **Web Client**, the page was scrolled to the middle of the last history entry. This problem has been solved and the page is now scrolled to the editor.
652495	**Missing German translation is form component** The description in the file upload component of **CM/Forms** was partially in English because the German translation was missing. This problem has been solved and the file upload component is been completely localized now.
652604	**Field tooltip shown when opening activity form** When opening an activity form whose first field has a tooltip in the **Web Client**, the tooltip was shown automatically at the top of the form even though the user did not hover the field. This problem has been solved and the field tooltips are now shown only after hovering the field.
652605	**Opening activity form is slow** When executing an activity with an activity form in the **Web Client**, the form was opened slowly and the animation was not smooth. This problem has been solved and activity forms are opened more quickly and smoothly now.

Number	Description
652651	**Long words in tooltip cut off** Long words which did not fit in a tooltip in the **Web Client** were cut off. This problem has been solved and long words now continue in the next line of the tooltip, so the whole word is shown.
652756	**Wrong date format when exporting CSV file with close and modification date** When exporting a CSV file from a detail search table in the **Web Client**, the values in the columns *Close date* and *Last modification date* were not readable because they did not have a date format. This problem has been solved and the close and modification dates are now exported in the correct date format.
652772	**Wrong icon for participant on hover** The icon displayed next to the participant's name was incorrect when hovering the *Additional participants* field in the **Web Client**. On every second attempt, the icon of the previous approval state was shown. This problem has been solved and the correct icon is now displayed when hovering an additional participant.
652870	**Error when trying to remove a participant** When adding a participant to a case in the **Web Client** and trying to remove the added participant directly afterwards, before saving the changes, an error occurred. This problem has been solved and participants can now be removed directly after adding them.
652891	**Wrong position of headline** The headline *List of active sessions* in the *Active sessions* section of the user profile in the **Web Client** was moved a bit to the right, so that there was an empty space to the left of the headline. This problem has been solved and the headline is now left-aligned with the section headline and the table.
652932	**Upload of allowed file type mp4 not possible** It was not possible to upload files with the extension `mp4` in the **Web Client** even though `mp4` was added as an allowed file type to the system property `attachment.allowed.types` of the module `cmas-core-server`. This problem has been solved and it is now possible to upload `mp4` files if they are allowed in the system.
653159	**Error in log when using a comment with image in a notification** When using a comment which contains an inline image as text for a notification in the **Web Client**, error messages were written to the log files because the image cannot be displayed in the notification. This problem has been solved and the placeholder [Image] is now shown instead of the image in the notification text.
653300	**Overlapping text area field** If the defined size of a text area field was larger than the width of the grid column where it was placed in the case, contact or resource in the **Web Client**, the field was overlapped by the field on its right. This problem has been solved and text areas now span at the most the width of their column, even if their defined width is larger.

Number	Description
653394	**Not possible to position additional details of a resource at the bottom of a cell** When using the page customization to define the layout of a resource in the **Web Client**, it was not possible to place the *Comments and attachments* section at the last position of a cell which contained several sections. The section was displayed at the first position of the cell instead. This problem has been solved and the *Comments and attachments* section can now be positioned in any place within a cell.
652314	**Unnecessary message that request processing is not possible** When deactivating a newly created contact or a resource in the **Web Client**, a message that the request cannot be processed was shown after reloading the page even though the deactivation was successful. In addition, such a message was also shown when editing the filter properties twice in the user profile. This problem has been solved and unneeded messages about failed request processing are not displayed anymore.
653193	**Import not possible if scene contains modified comment** Importing a scene which contains cases with comments which have been edited recently could lead to an error. This problem has been solved and edited comments do not cause problems when importing a scene anymore.
653520	**Not possible to delete activity form description** It was not possible to delete the localized description of an activity form on the *Activity forms* page of the **Web Admin Suite** directly after updating the activity form. In this situation the update button was not enabled and the user needed to reload the page first. This problem has been solved and it is now possible to remove the activity form description directly after having updated the form.
653558	**Permission problem when executing scope activity in script** An error due to missing permissions occurred when a user executed a workflow activity with a script which executes an automatic scope activity for another case in the **Web Client**. This problem has been solved and it is now possible to execute automatic scope activities for other cases from script.
653710	**Contact relation created at the wrong position** When creating a new relation on the *Contact relations* page of the **Web Admin Suite** without having selected an existing relation before, the new relation was sorted alphabetically. This problem has been solved and the new contact relation is now placed at the bottom of the table in this situation.
653936	**Temporary file not removed after export** When exporting a scene using the **Admin Tool** or **Web Admin Suite**, the temporary file which was written to the file system during the export was not removed once the export finished. This problem has been solved and temporary files are removed after the export now.

Number	Description
654173	**Missing warning when deleting field used in address autocomplete** When trying to delete a data field which is referenced in an address autocomplete configuration using the **Web Admin Suite**, there was no warning message but an error occurred. This problem has been solved and a warning message that the field cannot be deleted is now shown when trying to delete a field group or field which is used in an address autocomplete configuration.

The following defects have been corrected in ConSol CM version 6.15.1.1.

Number	Description
654137	**Not possible to change text color** It was not possible to apply a text or background color in the rich text editor of the **Web Client** because clicking the respective buttons had no effect. This problem has been solved and the text can now be colored.
654617	**Broken layout of case list** When a user, who has only view permissions for cases in the respective queue, opens a case from the case list in the **Web Client**, the layout of the entry of the selected case was broken, so that the case list was not displayed correctly. This problem has been solved and the case list is now displayed correctly if the user has only view permissions to the cases.
654617	**Integration script update did not work on Oracle** The update to change the location of the class `IntgServiceResponse` in integration scripts, see Class for integration scripts moved (#652935), did not work on Oracle databases. This problem has been solved and the integration scripts are now modified on Oracle databases as well.
654772	**User password changed although wrong password is provided** After logging in to the **Web Client** with the correct password, the user could change his password in the user profile, although he provided an incorrect current password in the *Old password* field. This problem has been solved and the correct current password needs to be provided now to change the user password.

The following defects have been corrected in ConSol CM version 6.15.1.2.

Number	Description
655514	**Special characters broken in template group name** Special characters in the name of a template group were not rendered correctly in the template selector when using the template in a case in the **Web Client**. This problem has been solved and special characters are correctly rendered now.

5.   Version 6.15.2 (21.11.2022)

ConSol CM version 6.15.2 includes the following releases:

Release	Date	Scope	Merged versions
6.15.2	21.11.2022	New major version, includes changes and bug fixes	6.14.0.11

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠ Please check the Breaking changes and mandatory actions.

5.1   Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.2 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

5.1.1   System upgrade from 6.15.1 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.15.1 or earlier versions to version 6.15.2.

This *ConSol CM* release needs specific planning for an update from earlier releases.

5.1.2   Script modification requirements

This release features some interface changes in API methods. These changes can either by improvements which offer the potential of simplifying your scripts or breaking changes. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- New methods for using templates in scripts (#650790)
- API methods to retrieve the creation date of contacts and resources (#652406)
- New signature for method to set text class (#653957)

5.1.3   Configuration modification requirements

The changes in this release require several system properties, configuration files or page customizations to be reviewed and possibly adjusted. Please see the following sections for details:

- Example proxy configuration updated (#653554, #653639, #655003)
- Change to transaction handling (#655302)
- Property to limit the number of loaded workflows (#655676)

5.1.4   REST API client modification requirements

The following REST API enhancements may require to adjust clients accessing *ConSol CM* by using the REST API. The changes might offer a potential for client optimization.

- Disabled fields hidden in CM/Track (#654515)

No further instructions available.

5.2 Changes

This section illustrates all relevant software product changes for version 6.15.2 of *ConSol CM*.

5.2.1 Usability improvements

Log message when trying to import an incorrect file (#646167)

When trying to import an incorrect file on the *Import* page of the **Web Admin Suite**, the import window now shows an appropriate log message instead of a stacktrace in the *Import results* panel.

Technical name of workflow element filled with localized name (#650566)

When adding a new workflow element to a workflow on the *Workflows* page of the **Web Admin Suite**, the *Technical name* field is automatically filled with a default name. This default name is now automatically overwritten by the localized name in the default language once it is provided.

Open attachments in a new tab (#653498)

When clicking an attachment in the **Web Client**, e.g. in the *Attachments* section of a case or in the case history, the file is always opened in a new tab, so that the user can continue working on the page and no work is lost.

Tooltip for visualization script added (#653808)

The name of the visualization script, which can be selected for a data field in the *Field visualization script* field of the *Settings* tab of a case, contact or resource field in the **Web Admin Suite**, is now shown as a tooltip, so that the user can see the complete script name when hovering.

Automatic page scrolling to show validation messages (#653961)

When a green or red validation message is shown above the current object in the **Web Client**, the page is now automatically scrolled to the top, so that the user can see the message. Therefore, the validation message is always visible, even if the user is working in a lower section of the object.

Page included in tab name (#654144)

The browser tab where the **Web Admin Suite** is opened now shows the name of the current **Web Admin Suite** page.
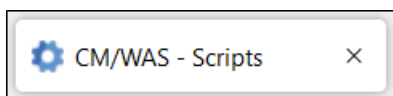
Layout of the menu bar improved (#654145)

The layout of the menu bar of the **Web Admin Suite** has been improved. It is more compact now, and the styling of the menu items on select or hover has been enhanced, to make the selected item more visible and provide a better distinction between the menu groups.

Hovering behavior of attachment class icon changed (#654315)

If it is not possible to change the text class of an attachment in the **Web Client**, e.g. because there is only one attachment class available, hovering the text class icon does not have any effect anymore, i.e. there is no tooltip and no arrow icon indicating that the user can change the text class.

Wording on case administration page improved (#654394)

The wording of the table footer and the success message, which contain the number of displayed and found cases when the user performs a search on the *Case administration* page of the **Web Admin Suite**, has been improved for better consistency and clarity. It is now, for example, *50 cases out of 76 search results in total* in both places.

Handling of search pattern in autocomplete fields improved (#654402)

When entering a search pattern in an autocomplete field in the **Web Admin Suite**, the pattern is now maintained after selecting a value. Therefore, it is easier for the user to select several values based on the same pattern.

Missing German translations for *CM/Forms* added (#654403)

The missing German translations for the *Save* button, the *Add Another* button and the *Type to search* watermark in the search field have been added in **CM/Forms**.

Column selector removed from *Address autocomplete* page (#654405)

The column selector has been removed from the table on the *Address autocomplete* page of the **Web Admin Suite** because it was not needed as there is only one column.

Better navigation between referenced objects (#654411, #654417)

Edit icons which allow to jump to referenced objects have been added in several places of the **Web Admin Suite**:

- **Forms pages**: Jump to the fields used in the form
- **Fields pages**: Jump to the dependent enum scripts assigned to the field group
- **Actions pages**: Jump to the assigned action forms
- **Queues page**: Jump to the workflow, customer groups, text classes and projects
- **Customer groups page**: Jump to the assigned actions
- **Resource types page**: Jump to the assigned actions

When clicking the *Edit* icon, the page where the referenced object can be edited is opened. The user can use the back button of the browser to return to the original page.

In addition, the possibility to edit referenced scripts and templates in a modal window has been added to the *Queues* page.

Validation message for duplicate trigger name in scope (#654537)

If a trigger has the same technical name as a workflow element in its scope, a validation message is now displayed when updating or validating the workflow on the *Workflows* page of the **Web Admin Suite**. This points the user to the incorrect naming.

Validation message to prevent scopes overlapping activities (#654673)

The workflow editor of the **Web Admin Suite** has been extended with a validation message which is shown when a scope (partially) covers an element, in order to prevent incorrect workflow designs.

Unneeded line in history section removed (#654836)

The vertical line which starts at the + icon next to the communication buttons in the *Communication and history* section of a case in the **Web Client** is now displayed only if there are history entries. If the case does not have any history entry, the line is omitted as it serves no purpose.

More space below filters of history section for closed cases (#655094)

The space between the filters and the first history entry of the *Communication and history* section in the **Web Client** has been increased for closed cases to provide a visual separation.

5.2.2   Performance improvements

DWH update for resources with many relations improved (#653800)

The performance of the data warehouse update operation has been improved for resources which have a huge number of relations. Now, only relations which have been modified are updated, so that the update time decreases drastically for resources with lots of relations which are already saved in the DWH database.

Changing to detailed visibility level for related cases improved (#654971)

The performance in the section for related cases of the **Web Client** has been improved. Changing from the visibility level "Extended" to "Detail" is quicker now.

Search for cases by contact field values improved (#655057)

The performance of the search for cases by contact fields has been improved for systems which contain cases with many contacts.

Improved loading time for case history (#655075)

The performance of loading the case history in the **Web Client** has been improved for case histories which contain many entries created by a task execution.

5.2.3   Security and third-party library updates

The following third-party libraries have been updated in this **ConSol CM** version:

- **Froala (#654814)**: Updated from version 4.0.13 to version 4.0.14 in the **Web Client** and **CM/Track** to solve several problems with backspaces and lists in the rich text editor
- **jsoup (#655492)**: Updated from version 1.14.3 to version 1.15.3
- **moment.js (#655800)**: Updated from version 2.26.0 to version 2.29.4
- **npm (#655393)**: Updated from version 6.14.5 to version 8.19.2 in the **Web Admin Suite**, caused updates of react and Material UI among others
- **OSHI (#655195)**: Updated from version 5.8.2 to version 6.2.2
- **sanitize-html (#655619)**: Updated from version 2.7.1 to version 2.7.3

5.2.4   Editor behavior change affecting script templates (#643896)

The behavior of the rich text editor in the **Web Client** has been changed to solve some problems with backspaces and new lines. This affects the rendering of script templates because blanks after HTML tags, which were ignored previously, are now rendered.

Examples:

- A script template which contains `"Hello <b> World </b>"` will result in `"Hello World"` with two blanks between the words.

- A script template which uses blanks to define the indention for better readability of the code will result in unneeded blanks at the beginning of the line in the output.

  To avoid this problem, you need to remove the indention in the lines which contain text output:

```
[#if ticket.queue.name = "Service"]
Your service center
[#else]
Your sales team
[/#if]
```

> ⚠️ Please check all script templates after the update to identify blanks which should not be rendered and remove the unneeded blanks.

5.2.5 Handling of deactivated fields in forms improved (#647325, #654516)

Deactivated fields cannot be added to activity, contact, resource and search forms anymore using the **Web Admin Suite**. In the list of available fields, they are shown in italics and are disabled, so that it is not possible to assign them to the form. If a field which already belongs to a form is disabled, it is shown in italics in the list of assigned fields and can be removed from the form.

In the **Web Client**, deactivated fields are not shown in activity and action forms anymore.

5.2.6 Search in the **Web Admin Suite** menu (#649579)

A search field has been added above the menu bar in the **Web Admin Suite**. The user can type the name of the page to filter the menu. The menu groups which contain a matching page are expanded automatically. When the search pattern is removed, the previous state of the menu bar is restored.
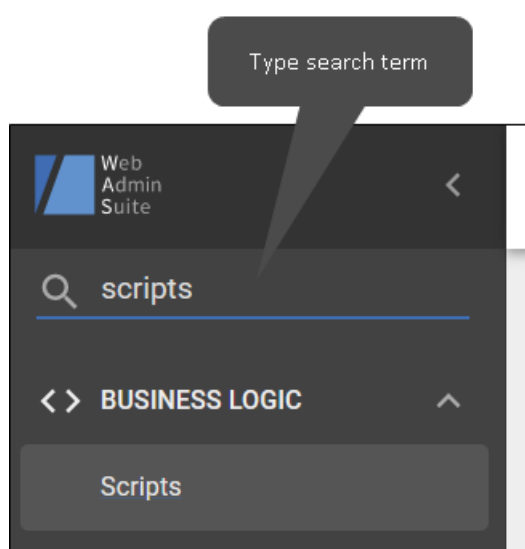
> ℹ️ The search also supports common synonyms, like "ticket" for "case".

The keyboard shortcut used to place the cursor in the search field has been changed from *f* to *ALT + f*. If several search fields are shown on the page, the cursor is placed in the one of the section which is hovered. The user can press *ALT + F* again to focus the next search field.

5.2.7   Filtering of users for notifications (#650054)

The users which are available in the *Select recipients* field for notifications in the **Web Client** are now filtered. Only the users who share with the current user at least one customer group permission to view contacts are shown. This avoids that the users can send notifications to other users who work in different domains.

> (i)   The same mechanism already exists for the *User* selector in the detail search.

5.2.8   Editing list on the data fields pages (#650607)

The integration of enumerated lists on the *Case fields*, *Contact fields* and *Resource fields* pages of the **Web Admin Suite** has been improved. Data fields of the type *Enumerated list* now feature an *Edit* icon next to the selected list. It opens a modal window where the user can modify list settings and list values.
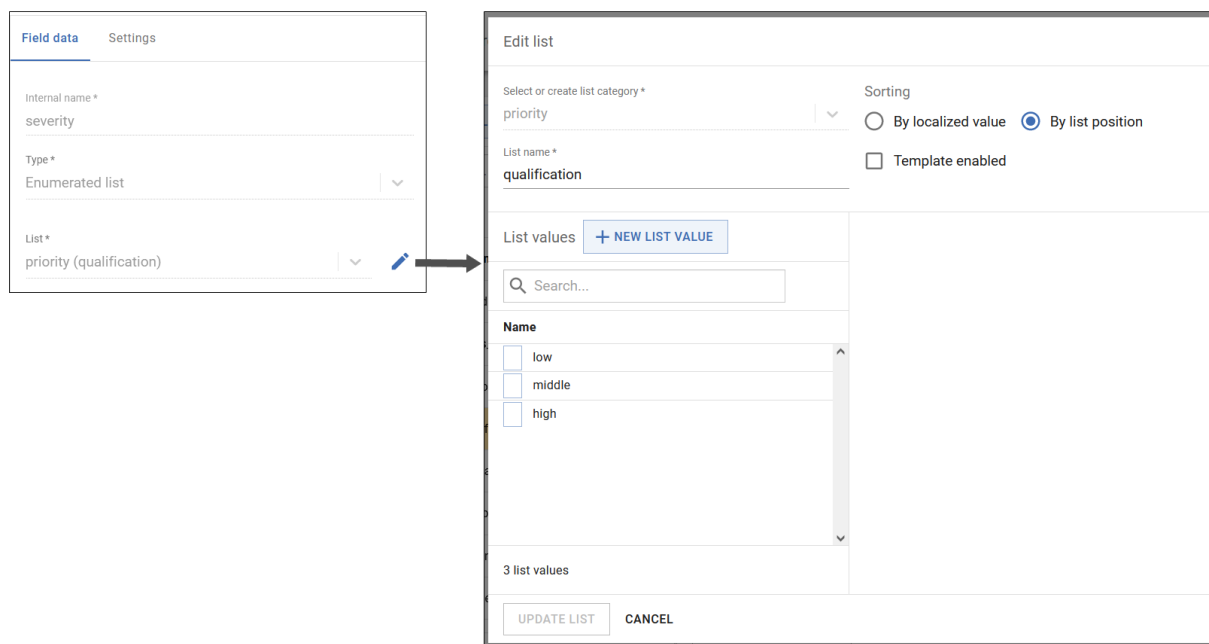
In addition, it is possible to create a new list when creating a new data field. The user can enter the desired name in the list selector and click the *Create* option. This opens a modal window where the user can select the desired list category and create list values.

This way, the user does not have to switch between the enumerated lists and the data fields pages when working with data fields of the type *Enumerated list*.

5.2.9   New methods for using templates in scripts (#650790)

The **ConSol CM** API has been extended by several new methods in the class `WorkflowContextService`, which improve the usage of templates in scripts.

The already available methods `renderTemplate` and `addTicketTemplateText` now have additional signatures which allow using these methods for any case passed as a parameter:

- renderTemplate(Ticket ticket, String templateName)
- renderTemplate(Ticket ticket, String templateName, Locale locale)
- addTicketTemplateText(Ticket ticket, String templateName)
- addTicketTemplateText(Ticket ticket, String templateName, Locale locale)

In addition, the low-level method `renderTemplateWithFiles` to obtain a template with its images and attachments has been added.

- renderTemplateWithFiles(String templateName)
- renderTemplateWithFiles(String templateName, Locale locale)
- renderTemplateWithFiles(Ticket ticket, String templateName)
- renderTemplateWithFiles(Ticket ticket, String templateName, Locale locale)

These methods allow to modify the template components (text, images, attachments) before using the template. They are intended for advanced use cases where the template text, images and files need to be post-processed, e.g. for integration with external systems. The source code of the template contains `<img filename='name'>` tags which link the images.

5.2.10 API methods to retrieve the creation date of contacts and resources (#652406)

Two new methods have been added to the **ConSol CM** API to retrieve the creation date of contacts and resources based on the object's history:

- For contacts: `unitLogService.getCreatedDate(Unit pUnit)`
- For resources: `resourceLogService.getCreatedDate(Resource pResource)`

This method can be used for both new and existing objects.

5.2.11 CSRF filter property adapted to allow connections to localhost (#652466)

During the setup of a new **ConSol CM** system, the system property `csrf.domain.white.list` from the module `cmas-restapi-core` is automatically filled with the URLs to localhost on several common ports (value: http://localhost:8888 | http://localhost:8080 | http://localhost:18080). Therefore the connection between **ConSol CM** and **CM/Track** is possible without further configurations if both are running on the same server.

5.2.12 System documentation page added to the **Web Admin Suite** (#652945)

The **Web Admin Suite** has been extended by the page *System documentation* in the *Staging* menu. It provides the same functionality as the *Documentation Generator* section in the **Admin Tool**.

The generated document is saved in the download folder which is configured in the browser.

The usability of the page has been improved by highlighting the source which the documentation is based on: current ConSol CM instance vs. uploaded XML file from a scene export.
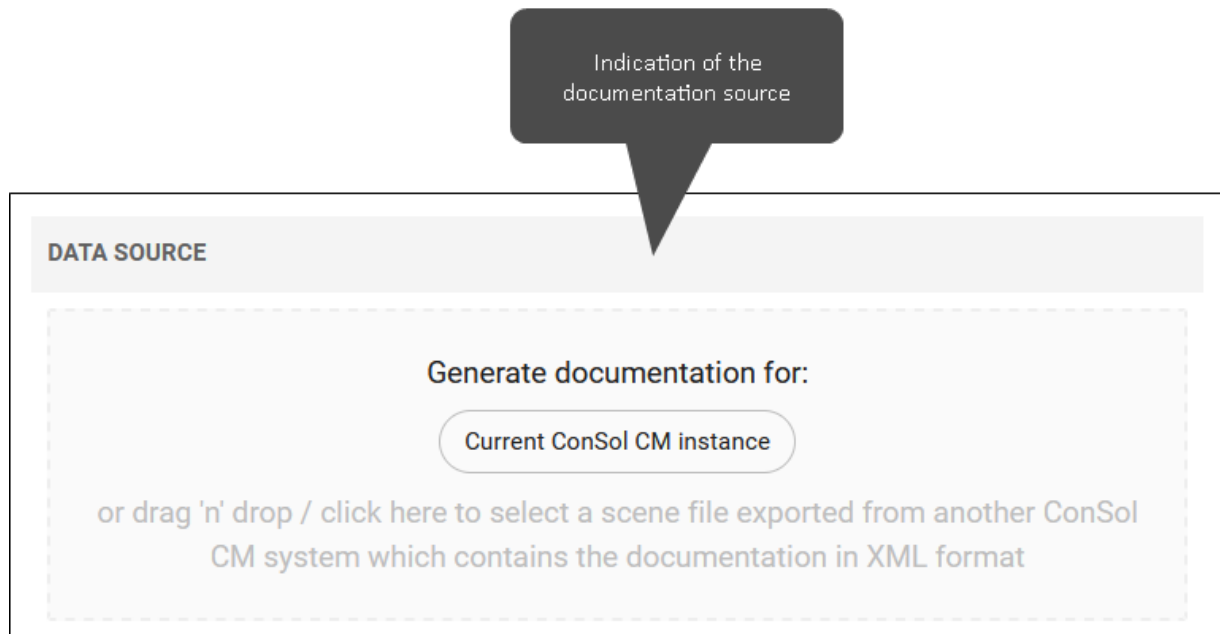
In addition, the performance of the document generation has been improved.

5.2.13   Example proxy configuration updated (#653554, #653639, #655003)

The example configuration for running **ConSol CM** behind a proxy has been updated. Three changes have been made to the `vhost.conf` file.

New redirection rules for the **CM/Archive** application have been added, so that **CM/Archive** can connect to the authentication server which runs inside the **ConSol CM** server via proxy:

```
RewriteRule ^/authserver$ /authserver/ [R,L]
ProxyPass /authserver/ ajp://${CM6_BACKEND_SERVER}/authserver/
ProxyPassReverse /authserver/ ajp://${CM6_BACKEND_SERVER}/authserver/
```

A timeout has been added for the **Web Admin Suite** to avoid timeouts when exporting a large scene:

```
ProxyPass /was/ ajp://${WAS_BACKEND_SERVER}/was/ timeout=300
```

The required rules for the REST API to work behind a proxy have been added:

```
ProxyPass /restapi/proxy/ ajp://${TRACK_BACKEND_SERVER}/restapi/proxy/
ProxyPass /restapi/ ajp://${CM6_BACKEND_SERVER}/restapi/
```

5.2.14   Webhook configuration added to the *Web Admin Suite* (#652820)

The **Web Admin Suite** has been extended with the *Webhooks* page in the *System settings* menu. It allows to create and configure webhooks. Therefore, it replaces the previous way of configuring webhooks using the `<URL>/intg/<webhook>/config` page.

The *Webhooks* page provides several usability improvements:

- List with all webhooks, disabled webhooks are displayed in italics.

- Details panel with short descriptions of the available security providers.

- Edit icon which allows to modify the integration script of a webhook in a modal window.

A new webhook can be created by creating the corresponding integration script. New webhooks are disabled by default and need to be enabled once the configuration is completed. If a webhook is deleted, the corresponding integration script is deleted as well.

When creating a new script of the type Integration on the *Webhooks* or *Scripts* page, the script name is validated, as it may only contain letters, digits and underscores, and may not start with a digit.

In addition, it is not possible anymore to change the script type from *Integration* to another type on the *Scripts* page.

5.2.15   Text classes added to the *Web Admin Suite* (#652944)

The **Web Admin Suite** has been extended by the page *Text classes* in the *Cases* menu. It provides the same functionality as the *Classes of Text* section in the **Admin Tool**. In addition, it is now possible to define the default text classes on the *Text classes* page. The button *Set default classes* opens a modal window which allows to select a text class for each usage. The settings are saved to system properties in the module `cmweb-server-adapter`.

- **Default text class**: Mandatory. Global default text class; used for comments and emails if no queue-specific or content-specific default text classes are set; system property `defaultContentEntryClassName`.

- **For attachments**: Mandatory. Default text class for attachments; used for all new attachments; system property `defaultAttachmentEntryClassName`.

- **For comments**: Optional. Default text class for comments; used for new comments if no queue-specific default text class is set; system property `defaultCommentClassName`.

- **For incoming emails**: Optional. Default text class for incoming emails; used for incoming emails if no queue-specific default text class is set; system property `defaultIncommingMailClassName`.

- **For outgoing emails**: Optional. Default text class for outgoing emails; used for outgoing emails if no queue-specific default text class is set; system property `defaultOutgoingMailClassName`.

In the list of text classes, the default text classes are indicated by a "D" icon.

The following usability improvements have been made:

- Filter by usage above the table

- Checkbox to display only default text classes in the table

- A table column for each usage which allows to track the usages easily

- Improved integration with queues by means of a *Used in queues* selector which allows to directly assign the text class to queues and to navigate to the queues which have the text class assigned

5.2.16   Anchor links in *Web Client* URLs (#653672)

When clicking the header of a group of case history entries in the **Web Client**, the URL now changes to include the anchor. The user can copy the URL to share it with colleagues to point them to certain history entries, e.g. when discussing a specific comment or email.

5.2.17   Session logging extended (#653803)

Additional information about session handling is now written to the `session.log` file. The new log messages can help analyzing session timeouts which seldom occur during imports.

5.2.18   New signature for method to set text class (#653957)

The method `predictNextEntryClass` from the class `WorkflowContextService` now has a second signature which allows to set the text class for a content entry in the given case:

```
workflowApi.predictNextEntryClass(Ticket pTicket, String pEntryClassName)
```

5.2.19   Editing several scripts at once (#653997)

The *Scripts* page of the **Web Admin Suite** has been enhanced by adding the possibility of editing several scripts before saving the changes. This facilitates work if the user needs to modify several scripts to implement a certain change, as it is not required anymore to save intermediate states of work in one script before opening / editing another one.

When the user leaves a script without saving, its name is shown in pink with an asterisk in the list of scripts on the left. The save button below the script editor now includes two options:

- **Save changes**: Saves the current script
- **Save all changes**: Saves all modified scripts
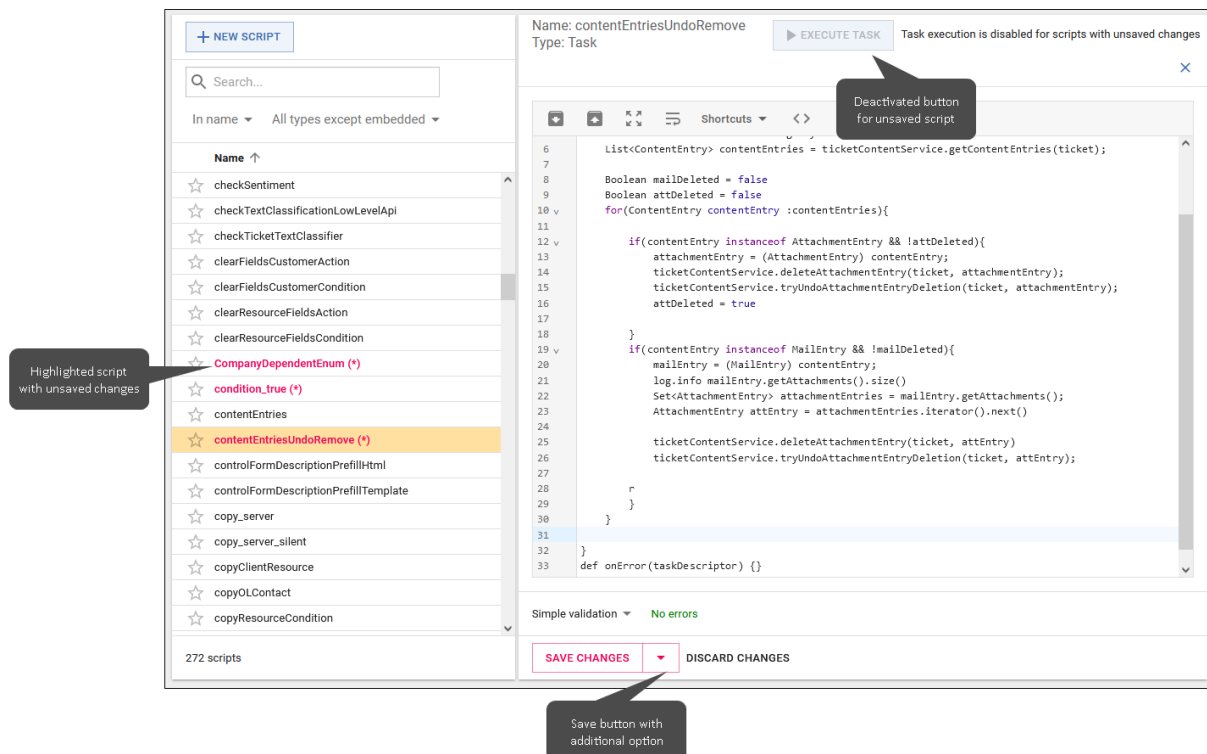
The option *Only modified* has been added to the script type selector. It shows all scripts which have unsaved changes and all scripts which are marked as favorites, see Favorites feature for scripts (#654518).

This mechanism only applies while the user stays on the *Scripts* page. Once he leaves this page, the usual warning to discard changes is shown. If the user discards the changes, all script changes which have not been saved yet are discarded.

> ⓘ This change does not apply to embedded scripts of workflows. When the user makes changes to an embedded script and navigates to another script, the warning to discard changes is shown. If the user decides to discard the changes, only the changes to the current script are discarded.

> ⓘ Task execution is only possible if changes to the affected task script have been saved. Otherwise, the *Execute task* button above the script editor is disabled.

5.2.20   Possibility to view the usage of scripts (#653999)

The *Scripts* page of the **Web Admin Suite** has been enhanced by providing the opportunity to view where a script is used and jump to the respective places. This makes it easier for the user to assess the impact of changes to the script.

The button *Usage* has been added to the script editor for this purpose. It shows the usages of the script and allows the user to jump to the respective places. The following usages are covered:

- **Data fields**: autocomplete scripts, visualization scripts, dependent enum scripts
- **Queues**: clone scripts, email scripts, default values scripts
- **Actions**: action scripts, condition scripts
- **Action forms**: condition scripts, prefill scripts
- **Webhooks**: integration scripts
- **Web forms**: condition scripts
- **Scripts**: any script

> (i) The references inside other scripts are determined based on a full text search for the script name inside quotation marks.
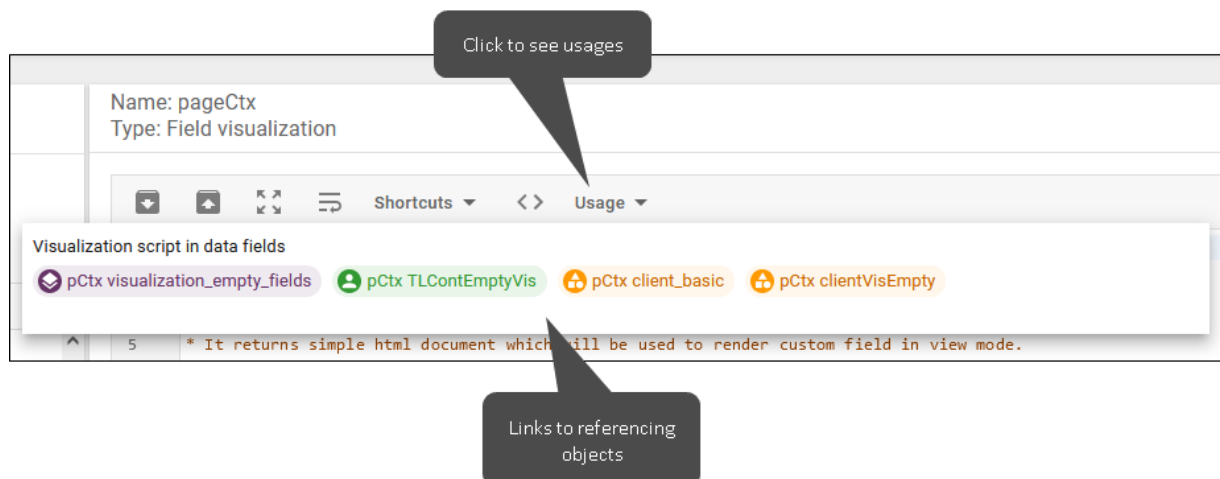
If the script is opened in a modal window, the *Usage* panel is available but there are no links to jump to the referenced places.

5.2.21   View and edit template source code (#654154)

The template editor on the *Text templates* page of the **Web Client** has been extended by an option to view and edit the source code of a template.

When you edit a template, you can click the *Code View* button to view its source code.
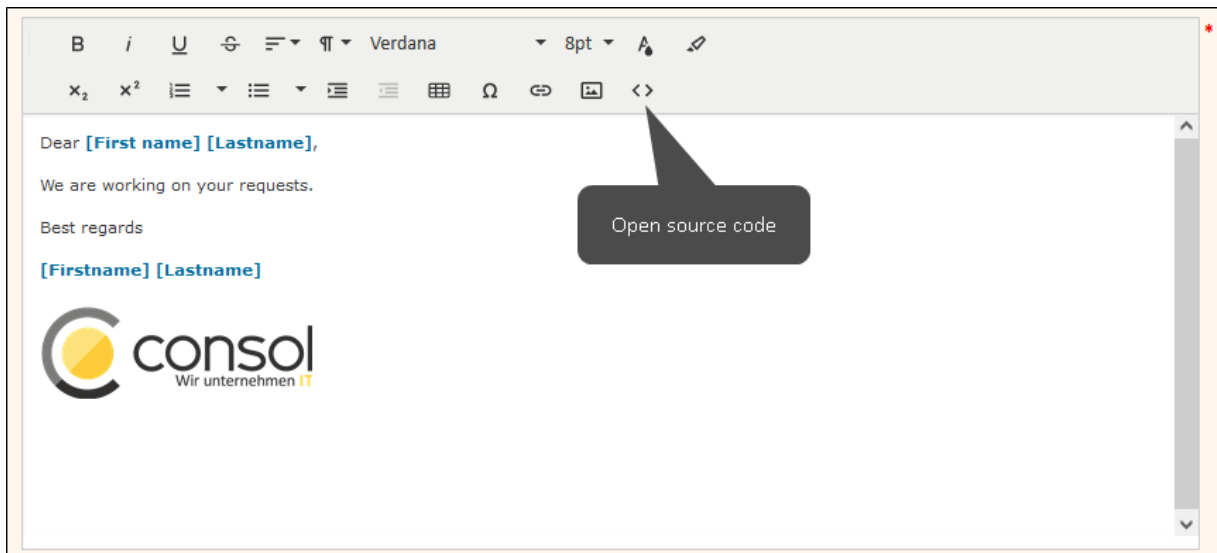
You can then view the HTML code and edit it directly. This allows the user to directly insert HTML code, e.g. Base64-encoded images, and it can be helpful to debug a template.
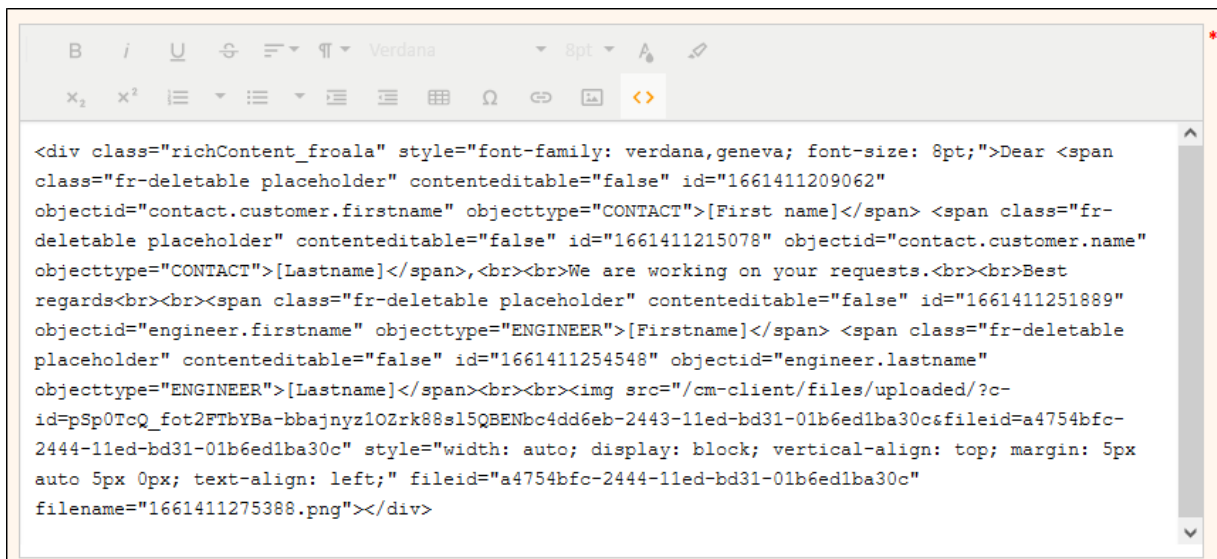
5.2.22   Default text classes by queue (#654194)

It is now possible to set the default text class for a queue in the *Text classes* tab on the *Queues* page of the **Web Admin Suite**. A selector which contains the assigned text classes has been added for this purpose. The queue-specific default text class is applied automatically when a new comment or email is created in a case. Therefore, it overrides both the global default text class and the usage-specific default text classes.

Previously, the queue-specific default text class could only be set via API.

5.2.23   Improved navigation between users and roles (#654418, #655176)

The navigation between the *Users* and the *Roles* pages in the **Web Admin Suite** has been improved. On the *Users* page, it is now possible to click the chip icons of the assigned roles to jump to the

respective role. This opens the *Permissions* tab of the role on the *Roles* page. In addition, the user is pre-selected in the user filter introduced in User filter added to Roles page (#654778), so that only the roles assigned to the user are shown in the list of roles.

The main role of a user is now selected in the *Main role* field below the assigned roles. Any of the assigned roles can be selected as a main role. The implications of the main role are explained in an info box below the selector.
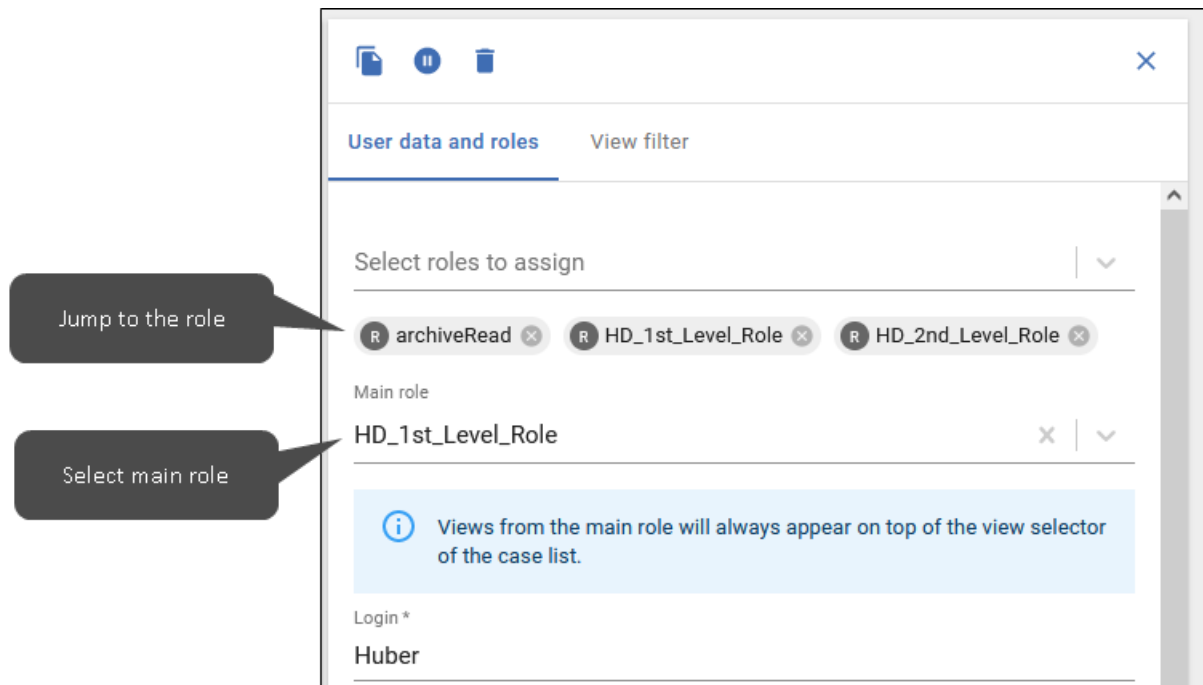
5.2.24   Script and template editor updated (#654497, #655072)

The editor on the *Scripts*, *Templates* and *Client configurations* pages of the **Web Admin Suite** has been updated to the latest version of the underlying library CodeMirror. The new editor brings several improvements:

- Better performance
- Search panel which allows search and replace using a graphical interface
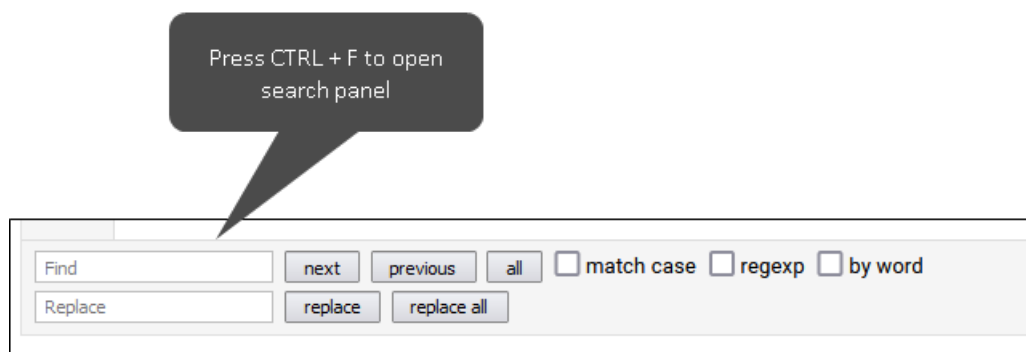
The keyboard shortcuts CTRL + G (find next), SHIFT + CTRL + F (replace) and SHIFT + CTRL + R (replace all) are not needed anymore and have been removed from the list of shortcuts.

On the *Templates* page, the button to change language is now grayed out if there are unsaved changes. When hovering it, the user sees a tooltip, so that he is aware that he needs to save the template first.

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5.2.25   Disabled fields hidden in *CM/Track* (#654515)

Data fields which are disabled in the **Web Admin Suite** or **Admin Tool** are not displayed anymore in **CM/Track**.

The **ConSol CM** REST API has been extended with the boolean attribute `enabled` which is included in the response when retrieving field group definitions using the `/definitions/groups/{name}` endpoint. Only the fields which have the value "true" for this attribute are shown for cases and in activity forms in **CM/Track**.

5.2.26   Favorites feature for scripts (#654518)

The *Scripts* page of the **Web Admin Suite** has been enhanced with a favorites feature. The user can click the star icon next to the script name to mark it as a favorite. Favorites can be pinned on top of the list of scripts. This way, the user can switch between a set of scripts easily, because he does not need to search for the desired script every time he wants to open another script of the set. Scripts of all types, including embedded scripts, can be marked as favorites.

Starred scripts are shown with a filled star icon and a yellow background color. The icon with the stars and the arrow is used to change the sort order, so that the user can decide whether the favorites should be displayed on the top or among the other scripts.
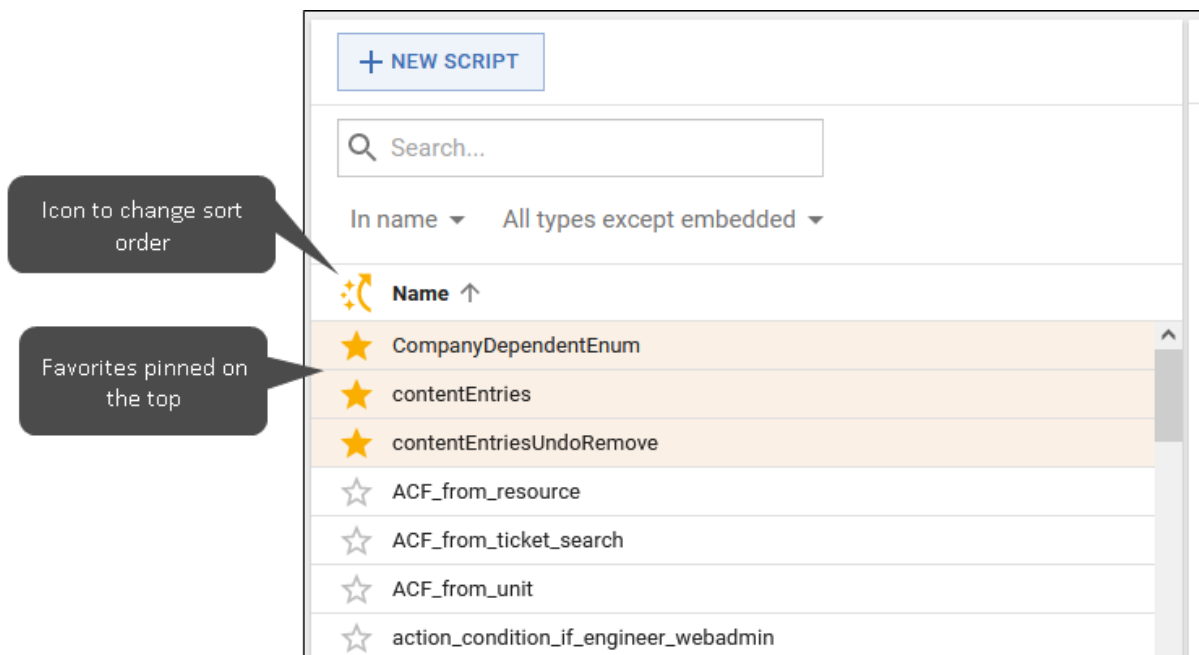
After marking a script, the sort icon is displayed half-filled to indicate that the newly starred scripts can be moved to the top by clicking the icon.
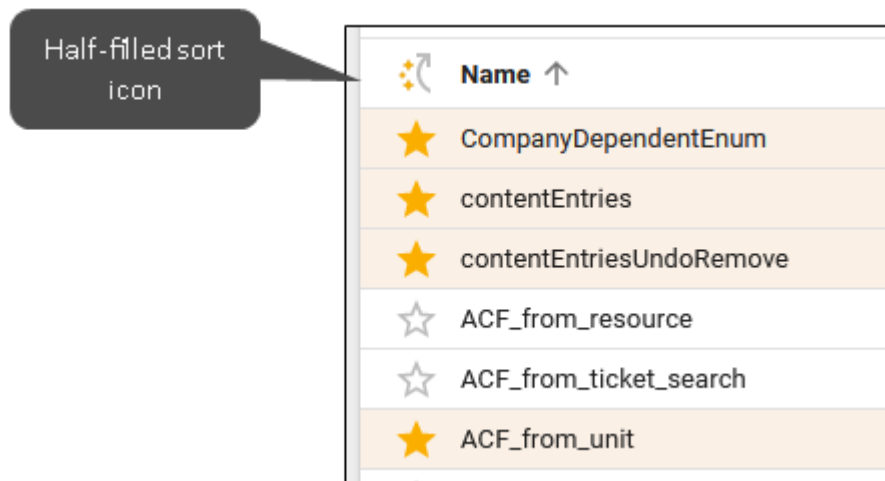
> ⓘ If the favorites are pinned on the top, they are always shown, i.e. they are displayed on top of the list even if they do not match the applied filters in the search field or the script type selector.

The favorites saved for the current user, i.e. each user can have different scripts marked as favorites. They remembered after logging out of the **Web Admin Suite** as long as the browser's local storage is not removed.

5.2.27   Remembering the selected script line (#654521)

The script editor on the *Scripts* page of the **Web Admin Suite** has been enhanced by a feature to remember the selected script line. When placing the cursor in a script, opening another script or page, and going back to the first script, the cursor is now placed in the previously selected line automatically. This improves the usability when working with several scripts, as the user does not have to scroll to the desired position within the script every time he switches between scripts.

5.2.28   User filter added to *Roles* page (#654778)

The *Roles* page of the **Web Admin Suite** has been improved by adding a user filter next to the queue filter. If a user is selected, only the roles which are assigned to the selected user are shown in the table. This facilitates checking the permissions of a given user because the administrator can scroll through the relevant roles easily.

5.2.29   In-place editing of templates (#654859)

On the *Queues*, *Contact models* and *Resource models* pages of the **Web Admin Suite**, it is now possible to create and edit templates, so that the user does not have to switch between the data models and the templates page anymore.

An *Edit* icon is shown next to the template selector, so the user can edit the template in a modal window. In addition, it is possible to create a new template by entering the desired name in the template selector and clicking the create option.

The button *New template* has been removed from the *Templates* tab of the *Contact models* and *Resource models* pages because it is not needed anymore.
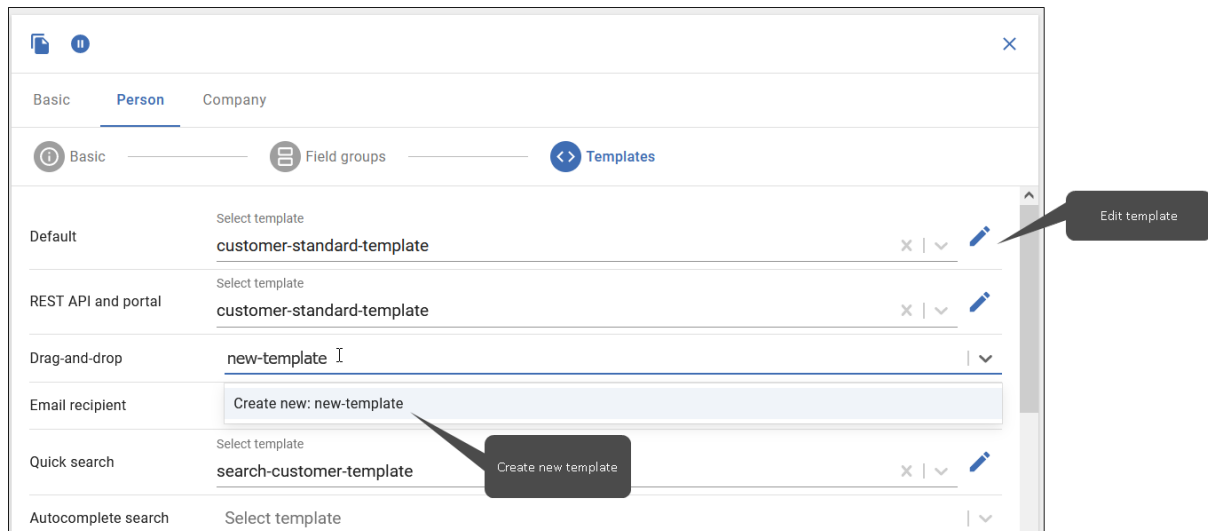
5.2.30   New name pattern for scene exports, logs and system documentation (#654993, #655189)

The names of the files which are created when exporting data using the **Web Admin Suite** has been changed. This applies to the scene export on the *Export* page, the download of log files on the *Log files* page and the generation of system documentation of the *System documentation* page. Now, the following pattern is used, so that the user can see directly to which system the files belong.

- **Scene exports**: cmDataExport_<system name>_<system flavor>_YYYYMMDD_HHMMSS.zip

- **Log files**: logs_<system name>_<system flavor>_YYYYMMDD_HHMMSS.zip

- **System documentation**: documentation_<system name>_<system flavor>_YYYYMMDD_HHMMSS

The values for the system name and flavor are retrieved from the system properties `system.name` and `system.flavor` of the module `cmas-core-shared`. If they are not set, they are omitted from the file name.

5.2.31   Inline display of validation messages for scripts (#655101)

The display of the validation messages, which are shown on the *Scripts* page of the **Web Admin Suite** if there are errors in a script, has been improved. The affected script lines are now indicated by a red circle next to the line number and a red underline. When hovering the affected line, the validation message is displayed. In addition, there is an indication that the script has errors next to the selector of the validation type at the bottom.
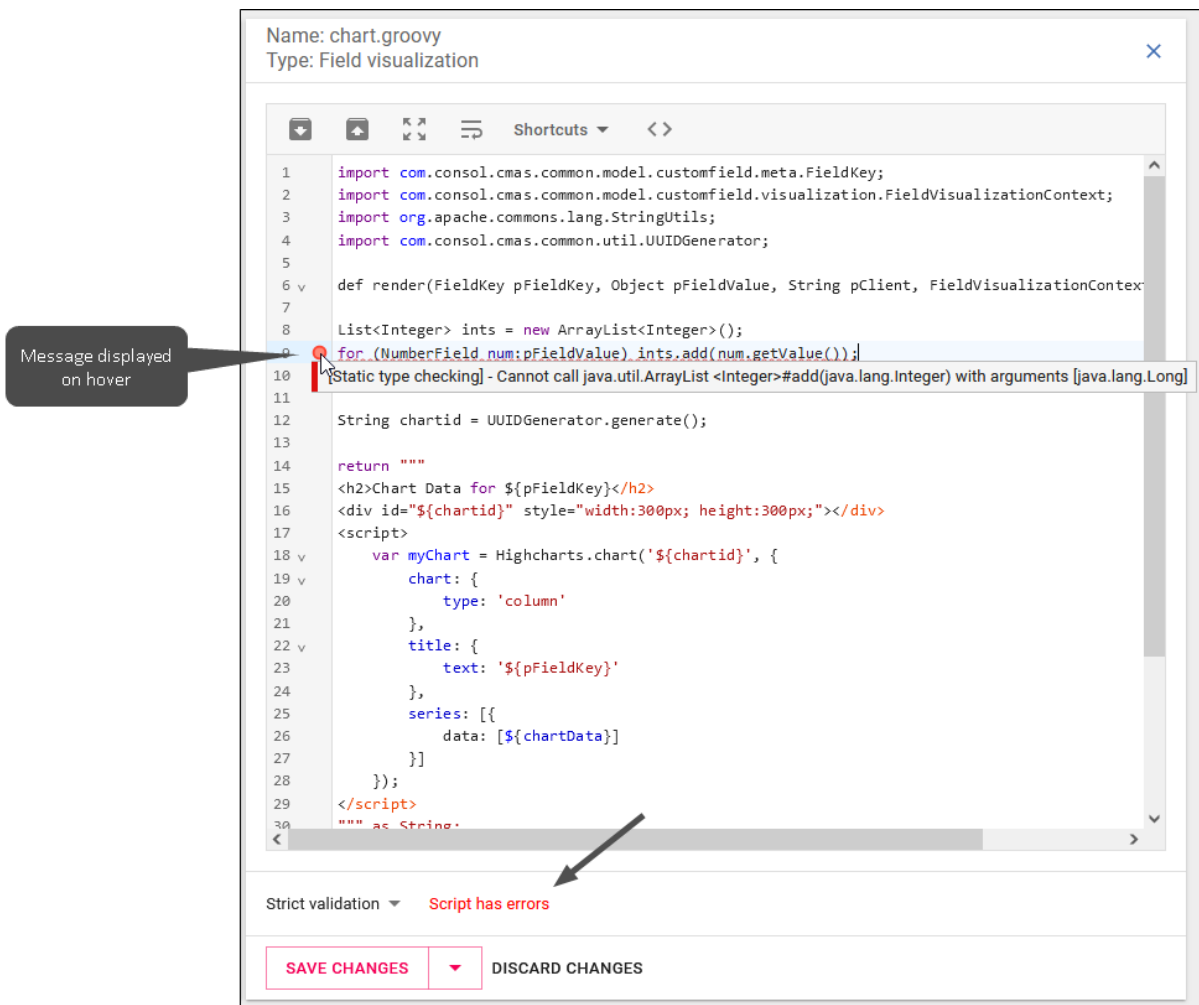
5.2.32   Template for dependent enum scripts (#655211)

When creating a new script of the type *Dependent enum*, a template which lists the available variables and gives a simple example for using a dependent enum to filter list values is added automatically as a script content.

5.2.33   Change to transaction handling (#655302)

Due to problems with scene import, it is recommended to set `xa_detach_on_prepare=off` globally for the database for **ConSol CM** systems which are running on MySQL 8 in version 8.0.29 or higher.

> (i) Add the following setting to the `[mysqld]` section of the `my.cnf` / `my.ini` file of your MySQL installation.
>
> ```
> [mysqld]
> xa_detach_on_prepare=OFF
> ```

5.2.34   Validation for display templates added (#655314)

Templates which determine the display names of users, contacts and resources in the **Web Client** should not contain line breaks in order to avoid layout problems. In the **Web Admin Suite**, a warning message is shown on the *Templates* page when saving a template with line breaks, in case the template is assigned to a contact object or resource type or referenced in the system property `engineer.description.template.name` from the module `cmas-core-server`. In addition, a warning message is shown on the *Contact models* and *Resource models* pages when trying to assign a template with line breaks to a contact object or resource type.

5.2.35   Additional user attributes sent to *CM/EBIA* (#655407)

When using **CM/EBIA** in the embedded mode, i.e. authenticating the users via SSO, the following attributes of the users are now passed to **CM/EBIA** and saved in the *Attributes* section of the user data of **CM/EBIA**:

ConSol CM attribute - *Users* page	CM/EBIA attribute
Company	cm_company
Position	cm_position
Description	cm_description
Login	cm_login
Division	cm_division

> ⚠ Changes on the **CM/EBIA** side are overwritten by the user data from **ConSol CM**. Therefore, you cannot modify the attribute values in **CM/EBIA** or use custom attributes in combination with SSO authentication.

5.2.36   Automatic handling of overlay dimensions (#655476)

In the **Web Admin Suite**, it is possible to upload overlays which are larger then the 16 x 16px which are needed for correct display in the **Web Client**. Therefore, the required dimensions are now automatically applied by the **Web Client**, so that the overlays look nice at the case icon and in the tooltip.

5.2.37   Available scenes in setup changed (#655483, #655484)

When setting up a new **ConSol CM** system, it is now possible to select the Ticketing scene in the *Scene* step of the configuration wizard. The quick start scenes *Quickstart scene (1-lvl customer model)* and *Quickstart scene (2-lvl customer model)* have been removed.

5.2.38   Property to limit the number of loaded workflows (#655676)

The number of workflows which are loaded when opening the *Workflows* page of the **Web Admin Suite** can now be limited to improve the performance of the page. The system property `workflowDefinitionsLimit` of the type "Integer" can be added manually to the module `cmas-was-web` to define the maximum number of old workflow versions which are loaded. For example, if you set the property to "2", the currently deployed and the last 2 modified workflow versions are loaded.

⚠ The *Delete old versions* buttons only removes the loaded workflow versions. Therefore, it is recommended to remove this property before removing old workflows.

5.3   Bugs fixed

The following defects have been corrected in *ConSol CM* version 6.15.2.0.

Number	Description
630581	**Unneeded script validation error** The script editor in the **Web Admin Suite** showed a validation error if the text "package" was included in a comment. This problem has been solved and the keyword "package" does not trigger a validation anymore when used in comments.
633528	**Available actions displayed in italics** The available actions which are displayed when clicking the name column of a deactivated web form or text template in the **Web Client** were displayed in italics. This problem has been solved and the available actions are now displayed in the regular font. Only unavailable actions are shown in italics.
641601	**Methods to include queues in relation graphs did not work** It was not possible to specify included queues for a relation graph to be shown in the **Web Client**. Neither the method `withIncludedQueues()` for configuring the graph in a script, nor the JSON parameter `includedQueues` for configuring the graph in the page customization worked as expected. This problem has been solved and it is now possible to adjust the graph to include cases from certain queues.
645674	**CM/Track user field missing when creating person on company page** When creating a new person on a company page in the **Web Client**, the *Portal user profile* field was not displayed, so that it was not possible to select a CM/Track profile for the person. This problem has been solved and the *Portal user profile* is now shown when creating a person on the company page.
646257	**Problems when saving templates in a non-default language** The display of the template editor on the *Templates* page of the **Web Admin Suite** switched to the default language when saving a template in one of the other configured languages. In addition, the displayed success message always referred to a successful creation, even if an existing template was modified. These problems have been solved and the template editor now shows the template in the language which was saved, and an update message is displayed when saving changes to an existing template.
646302	**Error when sending email to address followed by non-breaking space** An error occurred when a user tried to send an email, if the email address which he pasted into the recipient field of the email editor of the **Web Client** contained a non-breaking space at the end. This problem has been solved by automatically removing any non-breaking space which might be present at the end of an email address.
648092	**Unneeded message to discard changes** When opening a template whose name ends with (1), because it was created by an import which contained a template with the same name but another transfer key, a message to discard changes was shown. This problem has been solved and the message to discard changes is not displayed anymore when opening such a template.

Number	Description
650873	**Missing author for contact and resource attachments**
	Attachments which were added to contacts or resources by a technical user, e.g. a task, did not have a value in the *Added by* column of the attachments table in the **Web Client**. This problem has been solved and "System" is now shown for this kind of attachments.
652270	**Failed authentications in the *Web Admin Suite* not logged**
	Failed attempts to log in to the **Web Admin Suite** were not written to any log file. This problem has been solved and failed authentication attempts in the **Web Admin Suite** are now properly logged.
652329	**Localizations of trigger elements not removed**
	When deleting old workflows in the **Web Admin Suite**, the localizations for trigger elements were not removed, which lead to a huge number of unused localized properties. This problem has been solved and unneeded trigger localizations are correctly removed now.
652459	**Wrong scrolling behavior for autocomplete suggestions**
	The suggestions which are displayed when typing into an autocomplete selector in the **Web Admin Suite** were scrolled together with the page, so that they did not stick to the field where they belong to. This problem has been solved and the autocomplete suggestions are now closed when scrolling the page.
652481	**Wrong case fields displayed in *CM/Track***
	If no case fields are available for the queue in which the user wants to create a case in **CM/Track**, the case fields of the previously selected queue were displayed, although they do not belong to the current queue. This problem has been solved and the correct case fields are now displayed.
653123	**Credentials not removed when unassigning annotations**
	When removing the settings *User name for CM/Track* and *Password for CM/Track* from a contact field in the **Web Admin Suite**, the user names and passwords were not deleted from the database, so the contacts could still log in to **CM/Track**. This problem has been solved and the credentials are now properly removed when unassigning the respective annotations.
653194	**Information about unsaved changes displayed too late**
	When making changes to a list value on the *Sorted lists* page of the **Web Admin Suite**, discarding the changes in the modal window which is displayed when clicking the *Sorted lists* menu item, and making changes to a list value again, the window to discard the changes was not displayed directly when the user clicked a menu item. Instead, it was displayed when the user performed another action after this first click. This problem has been solved and the window to discard changes is now displayed directly when the user clicks another menu item.

Number	Description
653584	**Broken layout when replying to comment in notification** Notifications which were created as reply to a comment in the **Web Client** had a broken layout with lots of white space on the left. This problem has been solved and such notifications are properly displayed now.
653587	**Special characters missing from PDF output** When creating a PDF file using the `contentFileTemplateService.generatePDFDocumentFromXHTML()` method, special characters were missing from the output. This problem has been solved and a font which supports special characters is now used, so that the special characters are correctly displayed in the PDF file.
653773	**Misplaced x icon** The x icon to remove a column from a table in the **Web Client** was displayed lower than the column name. This problem has been solved and the x icon is now properly aligned with the column name.
654005	**Problem with Groovy sandbox in script editor solved** The Groovy sandbox feature did not work correctly in the script editor of the **Web Admin Suite**. This problem has been solved and the Groovy sandbox is now fully functional there.
654031	**Case name shown in div tags in the quick search** Cases names containing a prefix which matches a date pattern were displayed in `<div>` tags in the quick search of the **Web Client**. This problem has been solved and all case names are correctly displayed without `<div>` tags now.
654057	**Long list value overlapped buttons in detail search** When selecting a long list value as a search criterion for the detail search in the **Web Client**, the value overlapped the buttons next to the search criteria. This problem has been solved and long list values are now cut off, so that they fit into the selector.
654106	**Buttons to add relations present for deactivated resource** When deactivating a resource in the **Web Client**, the *Add* buttons to add relations to other resources were still displayed, until the user refreshed the page. This problem has been solved and the *Add* buttons are not displayed anymore for deactivated resources.
654130	**Problems with collapsed but preloaded sections in the *Web Client*** Several **Web Client** sections, which are collapsed but preloaded (page customization setting `collapsed_and_preload` in the `state` attribute) could not be expanded if they did not have any content. If they had content, they could be expanded, but the layout was broken and the content did not span the whole available width. These problems have been solved and collapsed and preloaded sections can now be expanded in any case and their content is displayed correctly.

Number	Description
654314	**Entered values lost on tab switch** When entering some values in one tab of the modal window to configure the DWH on the *Administration* page of the **Web Admin Suite**, and switching to another tab of the same modal window, the values entered in the first tab were lost. This problem has been solved and the entered values are now kept when switching the tabs of the *DWH configuration* window.
654332	**Duplicate attachment information** If the attachment table in the *Attachments* section of the **Web Client** showed only the name of the attachment due to space limitations, the date, text class icon and author below the attachment name were duplicated after expanding the table entry, changing the text class and expanding the table entry again. This problem has been solved and attachment information is not duplicated anymore.
654336	**No views shown after resetting queue filter** When filtering the views on the *Views* page of the **Web Admin Suite** by queue, and then changing the queue filter back to *All queues*, no views were shown in the table. This problem has been solved and all views are now shown after resetting the queue filter.
654401	**Straight corner of main buttons** In some situations, the corners of the main button bar above a case in the **Web Client** were displayed straight after the case was closed. This problem has been solved and the main button bar now always has round corners.
654432	**Error during scene import with delete option** Importing a scene using the **Web Admin Suite** with the option to delete all existing data failed on **ConSol CM** systems which were running on MySQL 8 in version 8.0.29 or higher. This problem has been solved and it is now possible to import a scene with the delete option.
654496	**Flickering when opening the *Address autocomplete* page** When opening the *Address autocomplete* page in the **Web Admin Suite** on a **ConSol CM** system whose database contains address data, there was a short flickering before the *Configuration* tab was opened. This problem has been solved and a processing icon is now displayed on the page while the data is loaded, so that the correct tab is opened directly.
654572	**Error after changing available objects in contact model** When removing all existing contacts from a contact model in the **Web Client** and modifying the contact model in the **Web Admin Suite** afterwards, so that it does not contain companies anymore, an error occurred when the user, who removed the contacts, logged in to the **Web Client** again. This problem has been solved and modifying the available contact objects of an existing contact model does not cause such an error anymore.

Number	Description
654610	**Communication buttons not shown after reopening a case**
	The buttons to add a comment, email, attachment, document or time booking to a case in the **Web Client** were not shown if the case was closed, the page was refreshed and the case was reopened afterwards. In this case, the user needed to reload the page to see the buttons. This problem has been solved and the buttons are now directly visible after reopening a case.
654635	**Not possible to change CM/Track user profile setting**
	After setting the *CM/Track user assignment* field of an existing customer group to "Fixed", selecting a user profile and updating the customer group on the *Customer groups* page of the **Web Admin Suite**, it was not possible to change the CM/Track user assignment anymore, even if the customer group did not contain any contacts yet. This problem has been solved and the CM/Track user assignment can now be changed as long as there are no contacts in the customer group.
654639	**Error when retrieving users via REST API without specifying an accept header**
	An error occurred when trying to retrieve **ConSol CM** users from the `/restapi/engineers` endpoint without specifying XML or JSON in the request header attribute `Accept`. This problem has been solved by adding the missing template `EngineerListElement.xslt`.
654657	**Incomplete error message when trying to delete a template**
	The error message which is displayed when the user cannot delete a template in the **Web Admin Suite** because the template is used in a queue was incomplete. This problem has been solved and the error message now states the reason why the template cannot be deleted.
654736	**Missing x button in *CM/Forms* component on Firefox**
	The x to remove a selected value from a selector in a web form was missing when using Mozilla Firefox as a browser. This problem has been solved and the x button is now shown, so that the user can remove a selected value.
654866	**Explicit customer group selection limits access to cases without contacts**
	When a customer group was chosen in the *Customer group* selector of the **Web Client**, it was not possible to select a view which contains cases without contacts, and cases without contacts could not be found in the quick search. This problem has been solved and the customer groups selector does not affect cases without contacts anymore.
654898	***Web Client* blocked due to contact template with line break**
	If a contact, whose contact template contains a line break, is added to the favorites in the **Web Client**, an error occurred and several **Web Client** actions could not be used. This problem has been solved and line breaks in contact templates do not cause such an error anymore.
654961	**Case with attachment with apostrophe in file name could not be displayed**
	Cases which include an attachment whose file name contains an apostrophe character could not be displayed in the **Web Client**. They blocked the **Web Client**. This problem has been solved and such cases are correctly displayed now.

Number	Description
655174	**Error after deleting view** When assigning a view to a role on the *Roles* page of the **Web Admin Suite** and deleting the assigned view on the *Views* page, there was an error when returning to the *Views assigned* panel on the *Roles* page afterwards. This problem has been solved and deleting views does not cause problems on the *Roles* page anymore.
655236	**Unneeded warnings in log files** When searching for a contact to be added to a case in the **Web Client**, unnecessary warning messages about missing labels for variables were written to the log files. This problem has been solved and the log files do not contain such unneeded messages anymore.
655296	**Enum parameter missing for case without contact** When using a template which contains an enum parameter in a case without contact in the **Web Client**, the field where the user can select a value for the enum parameter was not shown. This problem has been solved and templates with enum parameters now work correctly in cases without contacts.
655298	**Special characters broken in template group name** Special characters in the name of a template group were not rendered correctly in the template selector when using the template in a case in the **Web Client**. This problem has been solved and special characters are correctly rendered now.
655398	**Broken layout when using reply feature in Internet Explorer 11** When clicking the *Reply* action at an email in the case history in the **Web Client** using Internet Explorer 11 as a browser, the **Web Client** layout was broken. This problem has been solved and replying to an email does not affect the layout anymore
655430	**Uniqueness of resource category and contact model not checked** When cloning a resource category or contact model in the **Web Admin Suite** and removing the suffix, so that the new category or model has the same name as the original one, there was no validation message informing the user about the non-unique name. Instead, an error message was displayed after clicking the create button. This problem has been solved and the validation message is now shown below the *Internal name* field and the create button is grayed out if the name of the resource category or contact model is not unique.
655457	**Dashboard widgets misaligned** When placing two widgets in one row on the **Web Client** dashboard, the headline of the right widget was displayed lower than the headline of the left widget. This problem has been solved and the two widgets are now properly aligned.
655543	**Error during case cloning** When cloning a case which had companies as additional contacts in the **Web Client**, an error occurred. This problem has been solved and it is now possible to clone cases with additional companies.

Number	Description
655673	**Oversized tooltip with attachment preview** If the *Attachment* section was collapsed by default using the page customization, the attachment preview displayed when hovering the name of an attachment in the case history of the **Web Client** covered the whole page width. This problem has been solved and the preview is correctly dimensioned now.
655796	**Unable to open case after unassigning contact field group** After unassigning a contact field group from a contact model in the **Web Admin Suite**, it was not possible anymore to open cases whose main contact had at least one value set for a field from the unassigned field group, if one of the available workflow activities included an activity control form. This problem has been solved and unassigning contact field groups does not block cases anymore.

6.   Version 6.15.3 (17.02.2023)

ConSol CM version 6.15.3 includes the following releases:

Release	Date	Scope	Merged versions
6.15.3	17.02.2023	New major version, includes changes and bug fixes	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠ Please check the Breaking changes and mandatory actions.

6.1 Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.3 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

6.1.1 System upgrade from 6.15.2 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.15.2 or earlier versions to version 6.15.3.

This *ConSol CM* release needs specific planning for an update from earlier releases.

6.1.2 Script modification requirements

This release features some interface changes in API methods. These changes can either by improvements which offer the potential of simplifying your scripts or breaking changes. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- Generation of PDF files improved (#655814)
- New API methods to search by field values (#656254)

6.1.3 Configuration modification requirements

The changes in this release require several system properties, configuration files or page customizations to be reviewed and possibly adjusted. Please see the following sections for details:

- CSV files allowed as attachments by default (#655122)
- Configurable size for text file preview (655804)
- Truncation of text fields in the DWH on MySQL (#655886)
- New configuration option for attachment deletion (#656342)
- Template for failure notifications updated (#656869)

6.1.4 Support for Microsoft Windows Server 2022 added (#656424)

Microsoft Windows Server 2022 is now supported as an operating system for running the *ConSol CM* server.

6.1.5 Support for Microsoft SQL Server 2022 added (#656430)

Microsoft SQL Server 2022 is now supported as a database system for both the *ConSol CM* database and the DWH database.

No further instructions available.

6.2   Changes

This section illustrates all relevant software product changes for version 6.15.3 of *ConSol CM*.

6.2.1   Usability improvements

New icons for jumping to other pages (#654857)

There are now two different icons for edit links in the **Web Admin Suite**. One icon for in-line editing (e.g. scripts and templates) and one icon which leads to other pages for editing (e.g. workflows). In this way, the user knows whether he will edit the object in a modal window or jump another page for editing.
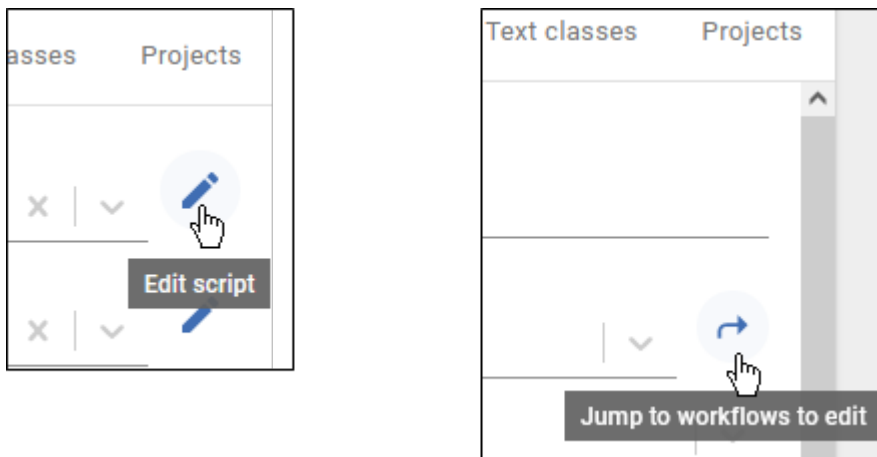
Larger default overlays (#655475)

The default overlays which are available on the *Workflows* page of the **Web Admin Suite** are now larger. They are reduced to the required dimensions automatically in the **Web Client**. In addition, two new overlays were added and are now available by default.

Edit icon for scripts in data fields (#655532)

Scripts which are referenced in data fields in the **Web Admin Suite** can now be edited directly in a modal window. For autocomplete fields, an *Edit* icon is shown next to the script name in the *Field data* tab. In addition, *Edit* icons are shown next to autocomplete and field visualization scripts in the *Settings* tab.

Unified mandatory asterisk for case comments and emails (#655955)

The red asterisk indicating that the comment or email is mandatory for a case in the **Web Client** is now displayed next to the field name instead of next to the rich text editor. Therefore, it is consistent with the asterisk for other mandatory fields.

Description of system properties improved (#656006)

The description, which is displayed when clicking the info icon in the details panel of a property on the *System properties* page of the **Web Admin Suite**, has been improved for the following properties:

- `attachment.allowed.types` from the module `cmas-core-server`
- `mail.attachments.validation.info.sender` from the module `cmas-nimh-extension`
- `mail.attachments.validation.info.subject` from the module `cmas-nimh-extension`

Unified number of empty lines above reply emails (#656058)

When clicking the *Reply to* or *Reply all* button for an email in the **Web Client**, there are now two empty lines above the quoted email to match the behavior when clicking the *Forward* button.

Error messages about license problems improved (#656096)

The error messages which are displayed on the login page of the **Web Client** when there is a problem with the license have been improved to explain more clearly why the user cannot log in, i.e. because all available licenses are used, because the license expired, is not valid for the current version of **ConSol CM** or corrupted / missing.

Number of spaces per tab changed (#656213)

When pressing the tab key in a script in the **Web Admin Suite**, the indention is now 4 spaces long. Previously a tab corresponded to 2 spaces.

Changed order of permission tabs (#656219)

The order of the tabs in the details panel of a role on the *Roles* page of the **Web Admin Suite** has been changed. The *Customer groups* tab now comes before the *Resource types* tab, so that the tab order matches the order of the table columns.

Improved message after bulk deletion of system properties (#656381)

The message which is displayed when deleting multiple properties at once on the *System properties* page of the **Web Admin Suite** has been improved. It now states how many properties were deleted successfully and how many properties could not be deleted because they are required.

Tab for activity form fields renamed (#656704)

The tab which is used to assign case or contact fields to an activity form on the *Activity forms* page of the **Web Admin Suite** is now called *Fields* instead of *Case fields* to represent both field types.

Validation message when trying the create a duplicate entity (#656781)

Scripts and templates can be assigned to entities in several places of the **Web Admin Suite**, e.g. the actions pages. The scripts or templates which are shown in the autocomplete selectors are filtered according to the place, so that for example, only scripts of the type *Contact action* can be used as action scripts on the *Contact actions* page. The autocomplete selectors also allows creating a new script or template by entering the desired name and clicking the *Create* option in the autocomplete suggestions. If a script or template with the given name already exists in the system, but is not shown in the autocomplete suggestions because it does not have the appropriate type for the context, a red validation message is now shown in the selector so that the user is aware of the reason why he cannot create a script or template with the given name.
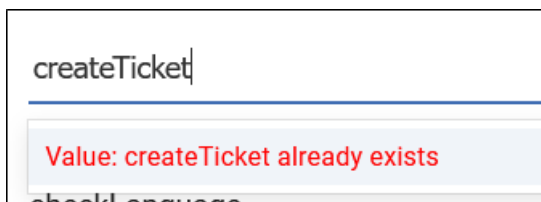
6.2.2   Security and third-party library updates

The following third-party libraries have been updated in this **ConSol CM** version:

- **Json5 (#656489)**: Updated from version 2.2.1 to 2.2.3 in the **Web Client**.

- **Netty (#656587)**: Updated from version 4.1.72 to 4.1.86 in **CM/Doc**.

⚠ The users must update **CM/Doc** for this changes to become effective.

- **Node (#656030)**: Updated from version 12.16.1 to 16.19.0 in **CM/Archive**.
- **qs (#656489)**: Updated from version 6.5.2 to 6.5.3 in the **Web Client**.
- **Spring Boot (#656030)**: Updated from version 2.6.13 to 2.7.7 in **CM/Archive**.
- **Tomcat (#656222)**: Updated from version 9.0.68 to 9.0.71 in **CM/Track**.

6.2.3   DWH languages added to the *Web Admin Suite* (#644959)

It is now possible to set the languages in which localized names of entities should be available in the DWH using the **Web Admin Suite**. Previously, the languages had to provided in the start command of the **CMRF**. Now, the user can select one or several languages in the *CMRF* section of the *Transfer* and *Update* dialogs. The selected languages are saved for the next time when the *Transfer* or *Update* dialog is opened. In addition, they are shown in the details panel of the respective transfer or update operation.

⚠ Transferring localized names for additional tables to the DWH may have a significant performance impact. Only select languages here if they are really needed for reporting. Be aware that some entities, e.g. enum values, are localized by default and do not depend on this setting.

The new language setting adds localizations to the following tables:

- dim_client_group
- dim_contact_role
- dim_customer_definition
- dim_enum_group
- dim_field_definition
- dim_group_definition
- dim_mla
- dim_project
- dim_queue
- dim_ticket_function
- dim_unit_relation_definition
- dim_activity
- dim_scope
- dim_resource_relation_def
- dim_resource_group
- dim_resource_type

6.2.4   Dashboard of the *Web Admin Suite* extended (#653897)

The dashboard of the **Web Admin Suite** has been extended by two items below the new header *JVM statistics*:

- **JVM RAM (used / available)**: Shows the memory usage of the Java Virtual Machine belonging to the **ConSol CM** server.

- **System start properties**: Shows the Java properties which are passed in the command to start the **ConSol CM** server. This can be properties related to the application server, the memory allocation, etc.

The layout of the dashboard has been adapted to accommodate these two items. The metric *Memory / RAM* has been renamed to *RAM (used / available)*. It is shown under header *Global statistics* for machine-related metrics together with *Average CPU load*.

6.2.5   Deletion of used data fields on development systems (#654183)

On **ConSol CM** systems which have set "dev" in the system property `system.flavour` from the module `cmas-core-shared`, it is now possible to remove data fields and data field groups which are in use. When the user tries to delete such a field or field group, a warning message which lists all the places where it is used is shown. If the user clicks the *Force remove all* button, the field or the field group with all its fields is deleted from the system, and all references are removed. If the field had child fields, they are removed as well.

The following references are removed:

- **Data models**: Assignment of the data field group to queues, contact models or resource models

- **Forms**: Assignment of the data field to activity, action and search forms

- **Address autocomplete**: Assignment of the data field to address autocomplete definitions

- **Runtime data**: values set for the data field in cases, contacts or resources

6.2.6   Shortcuts for jumping to referenced scripts (#654556)

Scripts frequently reference other scripts, which should be executed in certain situations or contain methods which are needed for the current script. Navigation between these scripts is now easier. Two shortcuts have been added to the script editor of the **Web Admin Suite** for this purpose:

- Alt + j: Jump to the referenced script

- Alt + p: Open a preview of the referenced script

The shortcuts are available once the user has selected the name of the script.
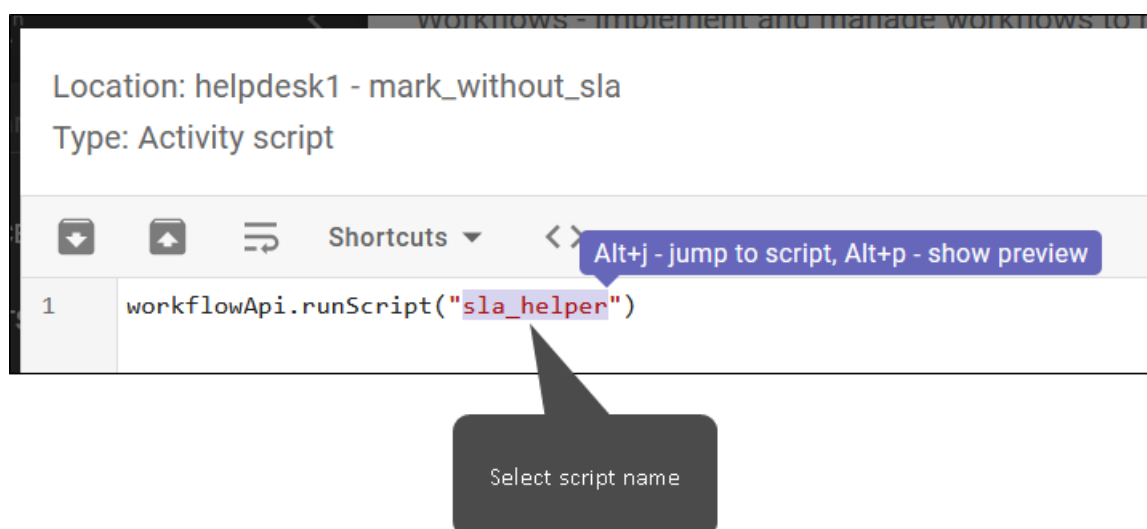
The script preview is a read-only modal window which shows the script content.

When the user decides to jump to the script, the behavior depends on the place where he initiated the action:

- **Scripts page**: The referenced script is opened in the details panel of the same page.

- **Modal window**: The referenced script is opened in a new modal window. In the header, the navigation path is shown, so that the user knows how he reached this script. In addition, the buttons to save or discard the changes have a new wording to point out that the user will return to the previously opened script. If the previously opened script has unsaved changes, the user needs to decide about the changes (save or discard) once he returns to this script.
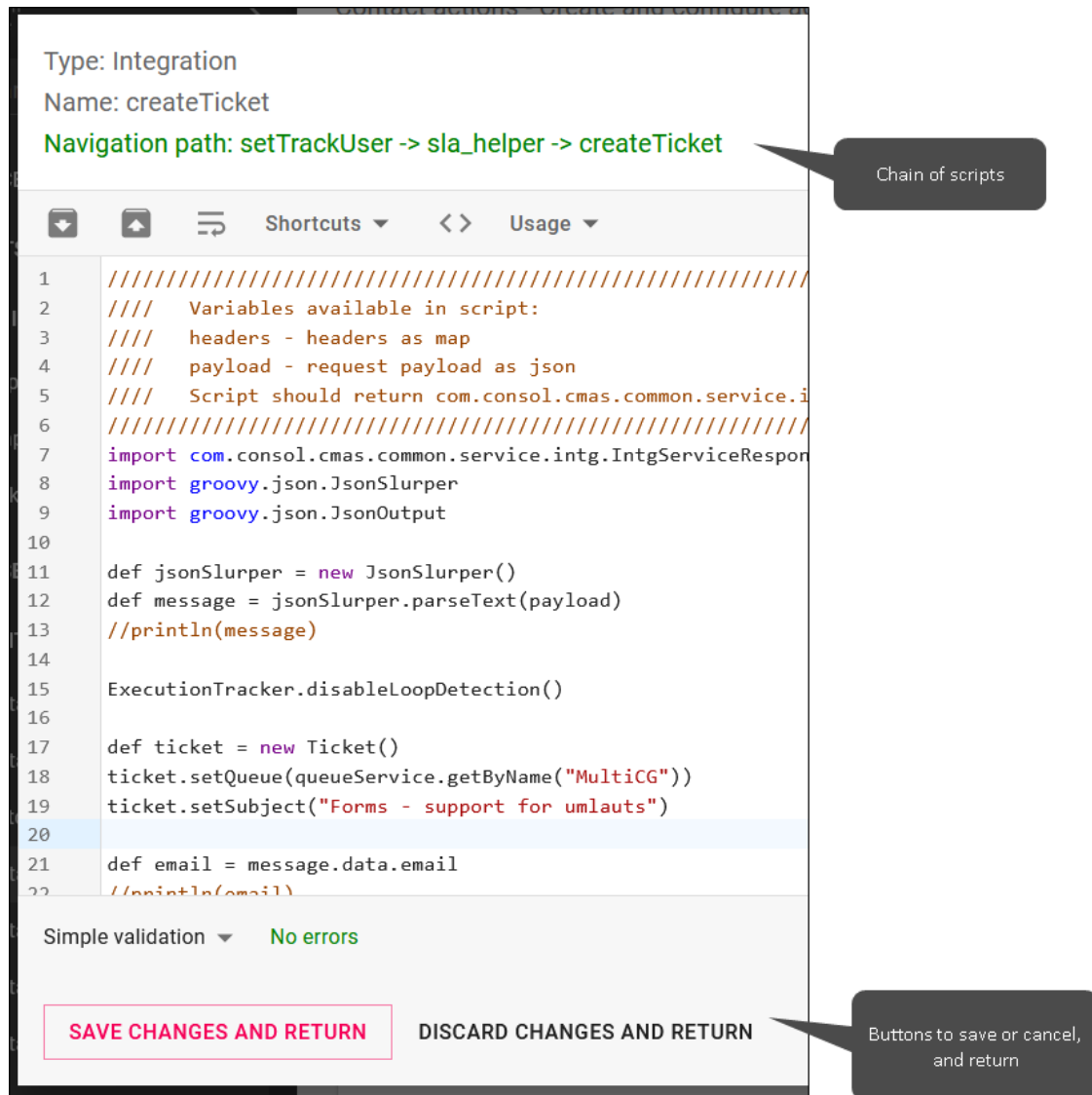
The list of shortcuts in the script editor has been extended with the two new options.

6.2.7   Permission summary for users (#654755)

The *Users* page of the **Web Admin Suite** has been extended by the possibility to view the permissions which the users obtain through their assigned roles. This allows you to get an overview of the permissions of a specific user at a glance, without having to click through his assigned roles.

You can click the *Show permissions* icon in the user details or user row to open a modal window with a permission summary.
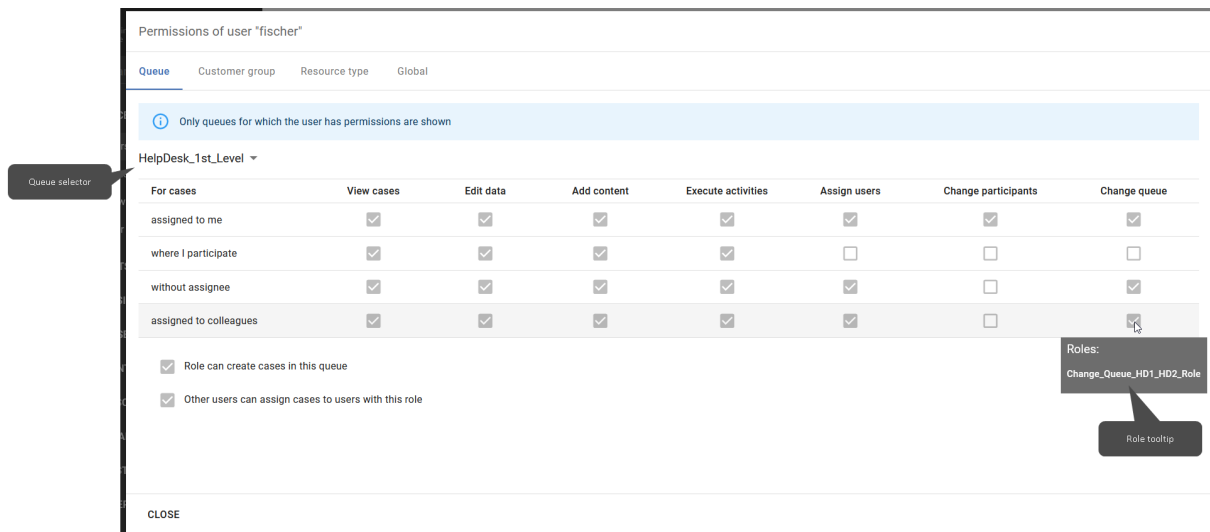
The summary window consists of four tabs for the different types of permissions: *Queue*, *Customer group*, *Resource type* and *Global*. If the user has permissions in a given area, you can select the queue, customer group or resource type to see the individual permissions obtained through the different roles. When you hover over a permission, a tooltip with the roles which include this permission is shown.

6.2.8   Inline button to start tasks added (#655111)

On **ConSol CM** systems which have been defined as development systems (system property `system.flavour` from the module `cmas-core-shared` set to "dev"), an inline button to execute the task is now shown for all task scripts on the *Scripts* page of the **Web Admin Suite**.
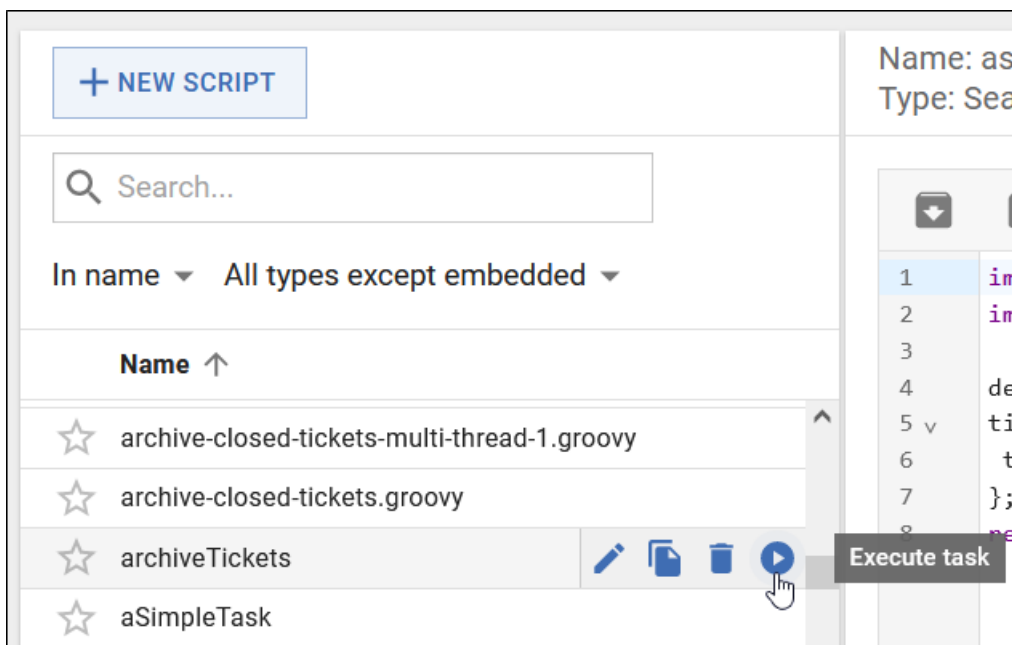
This allows to execute a task without opening the task script first, which can be useful for example to check changes done to methods from other scripts which are called by the task script.

6.2.9   CSV files allowed as attachments by default (#655122)

When setting up a new **ConSol CM** system, the default value of the system property `attachment.allowed.types` of the module `cmas-core-server` now includes "csv", so that CSV files are allowed by default.

> (i) This change does not apply to existing system. If you want to allows CSV attachments on an updated system, you need to add it manually to the property.

6.2.10   Types to categorize templates (#655639, #655776)

The templates which are managed on the *Templates* page of the **Web Admin Suite** now have types to categorize them according to their purpose. The following types are available:

- **Contact**: templates to define the display name of contacts
- **Email**: templates for automatic emails
- **Generic**: templates for any other purpose
- **Resource**: templates to define the display name of resources
- **User**: templates to define the display name of users

The *Templates* page has been extended with the *All types* selector which allows to filter the templates by type. In addition, it is mandatory to select a type when creating a new template. You can use the *Generic* type if your template does not fit into any category.

The template selectors on the *Queues*, *Contact models* and *Resource models* pages now display only the templates which are appropriate for the given place, e.g. on the *Scripts and templates* tab of the *Queues* page, only templates of the type *Email* are available. This makes it easier for the users to select the correct template, as they do not need to scroll through all available templates in the system anymore.

When updating to **ConSol CM** version 6.15.3.0, the template types are automatically set for the existing templates based on the places where they are referenced, e.g. a template which is referenced in the contact model, receives the type *Contact*.

6.2.11   Example proxy configuration updated (#655683)

The example configuration for running **ConSol CM** behind a proxy has been updated. The `httpd.conf` file now includes a comment about how to activate the server status page which includes statistics.

> ⚠ The server status page should only be activated on specific occasions for analysis purposes because it allows attackers to gain information about the system.

6.2.12   New translation cleanup script added (#655755)

When updating to **ConSol CM** version 6.15.3.0, a task script with the name `translationsCleanup.groovy` is added to the *Scripts* page of the **Web Admin Suite**.

> (i) Please execute the task script to remove unneeded localized properties from the system. This reduces the size of the scene export and the scene import duration. The script only needs to be executed once, as such unneeded translations are not created anymore. Please be aware that the execution of the script might take some time.

6.2.13   Configurable size for text file preview (655804)

The attachment preview which is shown when hovering the name of an attachment in the **Web Client** has been adapted to avoid performance problems when rendering the preview for large text files. It is now possible to define a maximum file size for the preview. The preview will not be shown for text files which exceed this limit. The limit is defined in the new page customization attribute `textAttachmentsPreviewThreshold` of the type `cmApplicationCustomization`. The default value is 5, so that the preview is only available for text files with less than 5 MB.

> (i) There is no size limit for images and PDF files because they do not cause any performance problems.

6.2.14   Generation of PDF files improved (#655814)

The generation of PDF files using the **ConSol CM** API has been improved. The method `generatePDFDocumentViaOpenOffice` has been added to `ContentFileTemplateService` for this purpose. It allows to generate PDF files from DOCX, PPTX and XSLX files using OpenOffice or LibreOffice.

The following preparation is needed:

- The LibreOffice application must be installed on the **ConSol CM** server.

- If LibreOffice is not installed in the default directory, e.g. C:\Program Files\ for Windows, you need to add the path to the Java options of the application server:

```
-DofficeHome=C:\LibreOffice
```

- If you want to use named pipes for transferring the file contents, you need to set the path variable:

    - **Linux**: Add the path of the LibreOffice installation to the Java options of the application server.

    ```
    -Djava.library.path=/usr/lib/libreoffice/program
    ```

    - **Windows**: Modify the path variable in the environment variables.

    ```
    set PATH=%PATH%;"c:\Program Files\LibreOffice\program\"
    ```

> ⚠ For security reasons, it is recommended to update LibreOffice regularly and always use the latest version.

6.2.14.1 Code example

The following example shows how to use the new method for creating a PDF file from a PPTX file:

```
InputStream inputStream = getClass().getResourceAsStream("samplepptx.pptx");
ContentFile pptxDocumentContent = new ContentFile("samplepptx.pptx",
 "application/vnd.openxmlformats-officedocument.presentationml.presentation",
 inputStream, inputStream.available());
ContentFile pdfDocumentContent =
 contentFileTemplateService.generatePDFDocumentViaOpenOffice
 (pptxDocumentContent);
```

6.2.15   Truncation of text fields in the DWH on MySQL (#655886)

When using a MySQL database for the data warehouse, the transfer can fail due to the row size limit if a field group contains several text fields to be transferred. To avoid this problem, the values of data fields of the type *Text* (string) are now truncated. By default, only the first 512 characters of the field values are written to the DWH database.

The number of characters to be transferred can be adapted by adding the property `cmrf.mysql.truncate.string` with the desired value to the start command of the **CMRF**.

6.2.16   Reply-to field hidden by default (#655894)

The *Reply-to* field which is available above the rich text editor when writing an email using the **Web Client** is now hidden by default. The page customization attribute `showReplyTo` in the type `mailTemplate` is set to "false" by default. It can be set to "true" to show the *Reply-to* field. If the attribute is set to "false", the field is always hidden, regardless of whether it contains a value or not.

In addition, the user can show the field by clicking *Show Reply-To* above the address fields.

6.2.17   Usage of data fields (#656008)

The *Case fields*, *Contact field* and *Resource fields* pages of the **Web Admin Suite** have been enhanced with a *Usage* tab for each field. It shows which items reference the field and allows to jump to the respective places. In addition, it shows whether the field has a value in runtime objects.

The following usages are shown:

- Usage in runtime data
- References in forms (activity forms and action forms)
- References in scripts
- References in autocomplete definitions
- Child fields

⚠ The usage in scripts is determined by a search for the field name and group name as strings inside the script content. Therefore, the results might not be 100% accurate, depending on how the field references are created inside the script and on whether the same strings are used for other purposes.

6.2.18   Unneeded DWH columns removed (#656070)

During the update of the **CMRF**, the tables `dim_l_*_chg` and `fact_l_*_chg` which belong to data fields of the types *Text (short)*, *Text*, *Text (long)*, *Boolean*, *Date*, *Integer number* and *Fixed-point number* are modified. The columns `*_uid` and `prev_*_uid` are removed because they are empty and not needed.

6.2.19   Additional languages supported for *CM/Track* (#656137)

It is now possible to localize **CM/Track** to other languages than English and German. The language, e.g. `fr`, needs to be added to the `public.json` file of the client configuration in the **Web Admin Suite**. In addition, a `localization.json` file for the required language needs to be created, e.g. `localization_fr.json`.

6.2.20   Resource permissions hidden when CM/Resource Pool is not licensed (#656220)

When CM/Resource Pool is not licensed, the resource permissions are not displayed on the *Roles* page of the **Web Admin Suite** because they are not relevant to the user. The *Resource permissions* column of the roles table, and the *Resources* tab in the details section are hidden.

6.2.21   New API methods to search by field values (#656254)

The **ConSol CM** API has been extended by methods which allows searching for cases, contacts or resources by data field values. This makes it easier to implement scripts for simple operations such as retrieve the cases which have a certain value set in a specific data field.

In `ticketService`, `unitService` and `resourceService`, two new signatures were added to the `getByCriteria` methods:

- Signature to provide the name of the queue, contact object or resource type, and a map of data fields with the desired values

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- Signature to provide the name of the queue, contact object or resource type, and a map of data fields with the desired values, and the option to add further criteria

In addition, new methods `getUniqueByCriteria` with the same signatures were added. They return only the first result and log a warning message if there was more than one result.

> (i) If you want to use the methods without providing a queue, contact object or resource type, you can enter `null` as a parameter and search only by data field.

Example 1: Retrieve all cases from the Helpdesk 1st Level queue with the priority "high".

```
def tickets = ticketService.getByCriteria("HelpDesk_1st_Level", [
    "helpdesk_standard:priority": "high"
])
```

Example 2: Retrieve all open cases from the Helpdesk 1st Level queue with the priority "high".

```
ticketService.getByCriteria("HelpDesk_1st_Level", [
    "helpdesk_standard:priority": "high"
], { ticketCriteria ->
    ticketCriteria.setStatus(TicketCriteria.Status.OPEN)
})
```

6.2.22   New configuration option for attachment deletion (#656342)

It is now possible to determine whether it should be possible to delete attachments in the *Attachments* section of the **Web Client** or not. The new page customization attribute `attachmentDeletionAllowed` has been added to the type `attachmentSection` for this purpose. By default, its value is "true", so that the users can delete attachments in the *Attachments* section. You can set it to "false" to hide the *Delete selected* button.

> (i) The availability of the delete option in the case history is configured in the existing page customization attributes `attachmentDeletionAllowedIncomingEmail`, `attachmentDeletionAllowedManuallyUploaded` and `attachmentDeletionAllowedOutgoingEmail` of the type `acimSection`.

6.2.23   Services added to code autocomplete feature (#656422)

The code autocomplete feature, which is available in the script editor of the **Web Admin Suite**, has been extended. When pressing CTRL + space, all services and the local variables which are defined inside the same script are shown as autocomplete suggestions. The user can continue typing to filter the suggestions. This way, it is easier to find the appropriate service.
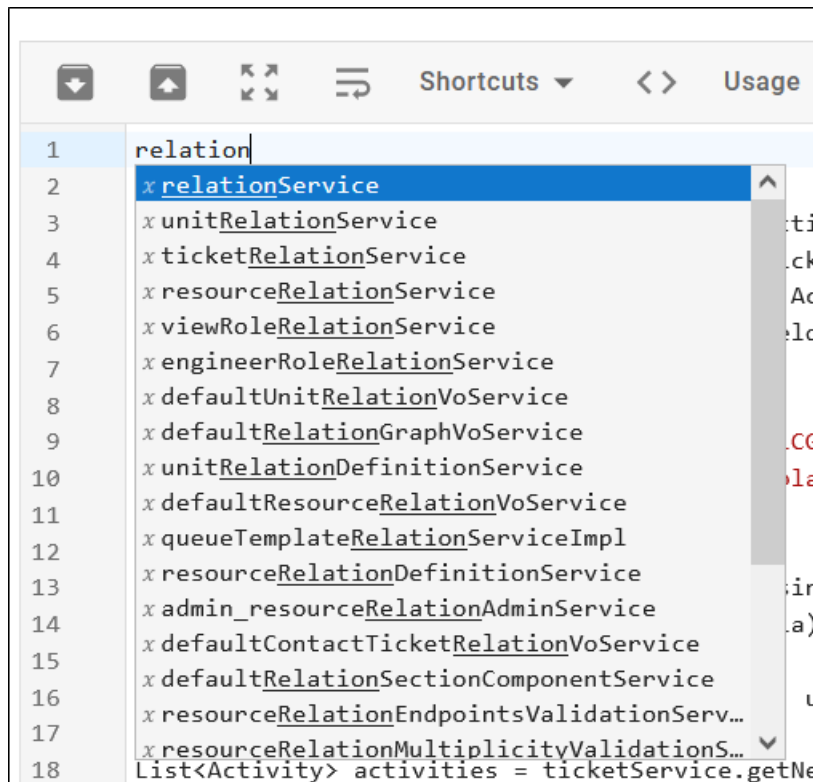
6.2.24   Preview of the script template (#656621)

When creating a new script on the *Scripts* page of the **Web Admin Suite**, the editor is automatically filled with a script template, which usually contains a comment with the available variables and stubs of the methods which need to be implemented in the script.

It is now possible to view this template for an existing script by pressing ALT + T. This opens a modal window with the template, so that the user can quickly see which variables are available and copy the template content if needed. The shortcut has been added to the list of shortcuts above the editor.

6.2.25   Online help versioning changed (#656865)

When clicking the *Open online manual* icon in the header of the **Web Admin Suite**, the online version of the administrator manual for **ConSol CM** is opened. Starting with version 6.15.3.0, the online help for the respective major version, i.e. 6.15, is linked.

6.2.26   Template for failure notifications updated (#656869)

The template `mail-send-failure-template` is used for email notifications, which are sent when sending an email failed. The links which point to the online help have been updated to the following values for new **ConSol CM** systems:

- German: https://tecdoc.consol.de/User/Latest/OnlineHelp/DE/Default.htm#cshid=2

- English: https://tecdoc.consol.de/User/Latest/OnlineHelp/EN/Default.htm#cshid=2

This was needed because the structure of the online help changed and the previously linked pages do not exist anymore.

> ⚠ Please update the links in the template on existing *ConSol CM* systems as well to avoid pointing the users to a non-existing page.

6.3 Bugs fixed

The following defects have been corrected in **ConSol CM** version 6.15.3.0.

Number	Description
645911	**Queue filter for assigning views to role not reset** The queue filter of the *Assign views to role* window, which is shown on clicking the *Assign views* button on the *Roles* page of the **Web Admin Suite**, was not reset when closing the window. When opening the window again, the previously selected queue was still selected. This problem has been solved and the queue filter is now reset when the window is closed.
655431	**Default comment text class applied to email entries** When a default text class for comments was set, it was also applied to email entries, if there was no default text class for the respective type of email (incoming or outgoing). This problem have been solved and incoming and outgoing emails now receive the global default text class, unless a specific text class for incoming or outgoing emails is set.
655511	**Customer group could be assigned to queue without customers** The *Used in queues* selector on the *Basic* tab of a customer group on the *Customer groups* page of the **Web Admin Suite** allowed to assign a customer group to any queue, including queues without customers. This problem has been solved and queues without customers are not available in the selector anymore.
655519	**Problem when reimporting backed up emails** When reimporting several emails at once on the *Email backups* page of the **Web Admin Suite**, the whole import failed if one of the emails was corrupted and could thus not be imported. This problem has been solved and only the emails which cannot be reimported now fail. The other emails are reimported correctly, even if the batch contained corrupted emails.
655762	**Unneeded div tags added in code view** Each time a user clicked the *Code view* button of a text template in the **Web Client**, a new `div` tag was added to wrap the template content. This problem has been solved and only one wrapping `div` tag is now present, regardless of the number of times which the *Code view* button is clicked.
655795	**Missing webhook configuration in the *Web Admin Suite*** Integration scripts which did not have an associated webhook configuration before updating to **ConSol CM** version 6.15.2.0, did not have a corresponding webhook entry on the *Webhooks* page. Therefore, it was not possible to configure the webhook for them. This problem has been solved and an empty webhook configuration is now created automatically when the user saves an integration script which does not have a webhook configuration yet.

Number	Description
655893	**Exception when accessing templates without resource pool license** When opening the *Templates* page of the **Web Admin Suite** on a system without a license for the resource pool, an exception was written to the log files. This problem has been solved and accessing the templates page without resource pool does not cause exceptions anymore.
655893	**Wrong indention for lists** The indention for bullet lists and numbered lists in the rich text editor of the **Web Client** was inconsistent: bullet lists lacked padding to the left and numbered lists had too much padding to the left. The problem has been solved and all lists now have the same amount of padding to the left. In addition, the space between the lists and regular paragraphs has been increased to improve readability.
655957	**Email subject pattern not handled correctly during scene import** When importing a scene to a **ConSol CM** system, the value of the *Pattern for incoming email subjects field* on the target system was not overwritten by the value of the import file, so that the old email subject pattern was still used after the import. This problem has been solved and email subject patterns are now handled correctly during import.
656004	**Incomplete template for text autocomplete scripts** The template which is added to the script editor when creating a new script of the type *Text autocomplete* on the *Scripts* page of the **Web Admin Suite** was incomplete because it did not mention form fields and action forms as part of the context. This problem has been solved and the correct template is now used when creating a text autocomplete script in the **Web Admin Suite**.
656031	**Tab key jumped outside the script editor** When pressing the tab key inside the script editor of the **Web Admin Suite**, the cursor left the editor and focused the next page element. This problem has been solved and pressing the tab key now moves the script line where the cursor is placed to the right.
656035	**Incomplete information in deletion warning** When trying to delete a data field or data field group, which is in use, in the **Web Admin Suite**, the warning dialog which lists the entities referencing the field or group was incomplete, as it contained only one item for each type of usage. This problem has been solved and all referenced entities are now shown in the warning dialog.
656116	**Missing highlighting in script editor** When selecting text in the script editor of the **Web Admin Suite**, matching pieces of text were not highlighted. This problem has been solved and all occurrences of the selected text in the script are now highlighted in green.
656179	**Empty log window after failed import** When the import of a scene failed, the corresponding log messages were removed from the *Import results* area of the *Import* page of the **Web Admin Suite** shortly after the import, so that the user could not see the error message. This problem has been solved and the log messages now remain on the page after a failed import.

Number	Description
656181	**Error in log files during email processing** When an email is received for a case which is assigned to a user who is currently logged in in the **Web Client**, an error was written to the log files in case there was a script which implemented a notification to the user when one of his cases received an email. This problem has been solved and sending a notification about an email to a logged in user does not cause errors anymore.
656251	**JavaScript error during scene import** When importing a scene on the *Import* page of the **Web Admin Suite** with the option to delete all existing data, a JavaScript error was shown in the browser console although the import was successful. This problem has been solved and such an error does not occur anymore.
656256	**Email editor not loaded after working on case data** When the user clicked the *Email* tab in the *Communication and history* section of the **Web Client** after having worked on the case data, sometimes the email editor was not loaded correctly. This problem has been solved and the email editor is now always loaded correctly after modifying case data.
656599	**Authentication request resent when switching browser tabs** When the user provided incorrect credentials on the login page of the **Web Client**, switched the browser tab and switched back to the login page, the browser displayed a popup to resend the authentication request. This problem has been solved and authentication requests are not resent anymore after switching between browser tabs.
656614	**Deleting user with many cases failed** On the *Users* page of the **Web Admin Suite**, it was not possible to delete a user who is assigned to many cases. This problem has been solved and users who are assigned to many cases can now be deleted in the **Web Admin Suite**. In addition, a busy indicator was added to show that the deletion is in progress.
656677	**Sort index of triggers missing in the *Web Admin Suite*** In the **Web Admin Suite**, the sort indexes of triggers in the workflows were not stored in the database, which could lead to problems with the processing order. This problem has been solved and the sort indexes are now stored properly.
656705	**Relation shown in case history although it was not created** When the creation of the relation between a case and a resource failed because the case was already related to one resource and the relation definition did not allow additional relations, the case history of the **Web Client** contained an entry about the created relation nonetheless. This problem has been solved, and the case history does not contain an entry about the creation of a relation anymore if the creation operation failed.

Number	Description
656815	**Wrong name for text template after import** After importing a scene with text templates, some of the templates had incorrect names on the target system. Instead of the name from the source system, the name field was filled with the transfer key. This problem has been solved and template names are now correct after scene import.
656827	**Validation message not displayed in *CM/Track*** Validation messages, which were created without providing a valid field key because they did not refer to a specific field, where only displayed if `null` or `"nokey"` was provided instead of the field key in the method to create the message, e.g. `workflowApi.addValidationError(null, "ERROR")`. Otherwise, they were ignored. This problem has been solved and validation messages are now always displayed as generic messages if the first parameter does not contain a valid field key.
656895	**Possible to create enum values with leading or trailing blanks** On the *Sorted lists* page of the **Web Admin Suite**, it was possible to create enum values whose technical name started or ended with a blank. This problem has been solved and a validation is now displayed in this situation.
656945	**Whitespace at the beginning of the line in default template** The default template, which is inserted automatically in the editor when writing an email or comment in the **Web Client**, could contain unneeded whitespaces at the beginning of some lines. These whitespaces were not present in the original template or when inserting the template manually. This problem has been solved and there are no unneeded whitespaces anymore when using a template as default template for emails or comments.

7.   Version 6.15.4 (17.03.2023)

ConSol CM version 6.15.4 includes the following releases:

Release	Date	Scope	Merged versions
6.15.4	17.03.2023	New version, includes changes and bug fixes	

Newer versions and the respective changes are not included in this *ConSol CM* version.

⚠ Please check the Breaking changes and mandatory actions.

7.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.15.4 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

7.1.1 System upgrade from 6.15.3 and earlier versions

This section informs about specific steps when upgrading **ConSol CM** from 6.15.3 or earlier versions to version 6.15.4.

This **ConSol CM** release needs specific planning for an update from earlier releases.

7.1.2 Script modification requirements

This release features some interface changes in API methods. These changes can either by improvements which offer the potential of simplifying your scripts or breaking changes. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- Launching CM/Doc without creating a new document version (#652755)

No further instructions available.

7.2 Changes

This section illustrates all relevant software product changes for version 6.15.4 of *ConSol CM*.

7.2.1 Usability improvements

Shortcut to format script code (#657151)

The shortcut ALT + F is now available in the script editors on the *Scripts* and *Client configurations* pages of the **Web Admin Suite**. It allows to format the code by applying the correct indention, line breaks and spaces. The shortcut has been added to the *Shortcuts* button in the header of the script editor on the *Scripts* page.

7.2.2 Security and third-party library updates

The following third-party libraries have been updated in this **ConSol CM** version:

- **commons-fileupload (#657049)**: updated from version 1.4 to 1.5

7.2.3 Launching **CM/Doc** without creating a new document version (#652755)

A new signature has been added to the method `launchCMDocEdit` in the class `OperationResponseBuilder`. It allows to specify if the document should be saved to **ConSol CM** with a new version, or if the version used to open the document should be updated.

- `client.launchCMDocEdit("my file", true);` updates the current version of the document. If a new document is created from an external source in a workflow activity, it will have version 1 upon saving.

- `client.launchCMDocEdit("my file", false);` creates a new version of the document. If a new document is created from an external source in a workflow activity, it will have version 2 upon saving. This is the same behavior as the previously available method without the boolean parameter.

7.2.4 German defined as default language after setup (#657112)

When setting up a new **ConSol CM** system, the default language is now German instead of English.

The behavior on import remains as previously: The default language is only changed when importing a scene which has another default language and selecting the *Delete all existing data* option.

7.3   Bugs fixed

The following defects have been corrected in **ConSol CM** version 6.15.4.0.

Number	Description
656611	**Incomplete email subject** When clicking the *Reply* action in a comment in the case history of the **Web Client** and switching to the *Email* tab afterwards, the email subject was incomplete and contained only the case number but not the case subject. This problem has been solved and the email subject is now set correctly if the user switches from replying to a comment to writing an email.
656726	**Line breaks in <pre> tags in incoming emails ignored** When an incoming email contained text in `<pre>` tags, all line breaks inside the tags were ignored. This problem has been solved and line breaks in `<pre>` tags are preserved in incoming emails now.
656823	**Exception when trying to remove a deleted attachment** When deleting an attachment in the *Attachments* section of a case in the **Web Client** and trying to delete the same attachment in the case history afterwards, an exception occurred. This problem has been solved and the attachment can also be removed in the case history now.
656896	**Missing German translation for cancel button** The *Cancel* button which is shown in the dialog to download log files on the *Log files* page of the **Web Admin Suite** was not translated into German, so that the English translation "Cancel" was shown when using a German browser. This problem has been solved and the button is now properly translated into German.
656884	**Unneeded scrollbars for rich text fields** Rich text fields in **CM/Track** had unneeded horizontal and vertical scrollbars when viewing a case. This problem has been solved by removing the scrollbars.
656986	**Script template preview editable** The preview of the script template, which is shown when pressing Alt + t in the script editor on the *Scripts* page of the **Web Admin Suite**, could be edited. This problem has been solved and the template content is now read-only.
657044	**Exception when expanding history entry with deleted attachment** When expanding a case history entry which was collapsed due to lazy loading and contained only one deleted attachment in the **Web Client**, an exception occurred. This problem has been solved and such a history entry can be expanded now.
657084	**Template created with the wrong type** When creating a template by clicking the *Create* option in the template selector on the *Queues*, *Contact models* or *Resource models* page of the **Web Admin Suite**, the template was created with the type *Generic*, instead of *Email*, *Contact* or *Resource*. This problem has been solved and the template is created with the correct type according to its usage now.

Number	Description
657122	**Wrong template type displayed** When switching the language of a template on the *Templates* page of the **Web Admin Suite** to create a localized template version, the header showed the template type *Generic* instead of the template type of the template in the default language. This problem has been solved and the correct template type is now shown when creating localized versions.
657189	**Error when trying to import a scene with integration scripts** When trying to import a scene which contains integration scripts with the system property `config.import.global.transaction.enabled` from the model `cmas-core-server` set to "false", an error occurred. This problem has been solved and integration scripts are now handled correctly when importing a scene without a global transaction.
657200	**Missing notification about *CM/Doc* update** *CM/Doc* was updated in **ConSol CM** version 6.15.3.0, but the users were not notified about the need for updating *CM/Doc* on their clients. This problem has been solved and the users now see the information about the new available version when starting *CM/Doc*.

8.   Version 6.15.5 (20.06.2023)

ConSol CM version 6.15.5 includes the following releases:

Release	Date	Scope	Merged versions
6.15.5	20.06.2023	New version, includes changes and bug fixes	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠️ Please check the Breaking changes and mandatory actions.

8.1   Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.15.5 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

8.1.1   System upgrade from 6.15.4 and earlier versions

This section informs about specific steps when upgrading **ConSol CM** from 6.15.4 or earlier versions to version 6.15.5.

This **ConSol CM** release needs specific planning for an update from earlier releases.

8.1.2   Configuration modification requirements

The changes in this release require several system properties, configuration files or page customizations to be reviewed and possibly adjusted. Please see the following sections for details:

- New URL for authenticating in CM/EBIA (#657127)
- JODConverter disabled by default (#657361)

No further instructions available.

8.2   Changes

This section illustrates all relevant software product changes for version 6.15.5 of *ConSol CM*.

8.2.1   Usability improvements

Workflow name added to full screen view (#650316)

The name of the workflow is now shown in the header of the full screen view on the *Workflows* page of the **Web Admin Suite**.

Display order of scripts changed (#650635)

The display order of scripts and visibility scripts has been changed on the *Workflows* page of the **Web Admin Suite**. Visibility scripts are now displayed before scripts in both the element toolbar and the details panel. Therefore, the display order now matches the execution order.

Toggling behavior of details panel improved (#650636)

When the user decides to collapse the details panel on the *Workflows* page of the **Web Admin Suite**, the panel now remains collapsed when the user clicks a scope. This allows the user to hide the details panel to rearrange the element on the canvas or beautify the workflow. The user can click the *Toggle section* button in the upper right corner to display the details panel again. The details panel is also expanded automatically when adding a new element to the canvas.

Filtering of favorite scripts (#657295)

The search filter above the list of scripts on the *Scripts* page of the **Web Admin Suite** is now applied also to scripts which are marked as favorites. This allows the user to see if the name or content of favorite scripts contains the search term.

Available roles for additional participants filtered (#657369)

The roles, which can be selected when adding an additional participant to a case in the **Web Client**, are now filtered according to the permissions of the user who should become a participant. This avoids error message which would be shown in case the user does not have permissions to view the case where he was added as a participant.

Wording of text class visibility improved (#657409)

The option *Hidden* in the visibility selector of a text class on the *Text classes* page of the **Web Admin Suite** has been changed to *3rd level text hidden*. This wording clarifies that, in the **Web Client**, history entries marked with such a class are not hidden completely, but displayed in the *Details* level without text, so that the user can still select another text class.

Transitions between workflow activity types improved (#657486)

Using the toolbar to remove the scope icon from a manual scope activity on the *Workflows* page of the **Web Admin Suite** now results in a manual activity instead of an automatic one.

8.2.2 Performance improvements

Improved loading time for workflows (#655075)

The performance of loading the workflows on the *Workflows* page of the **Web Admin Suite** has been improved.

8.2.3 Security and third-party library updates

The following third-party libraries have been updated in this **ConSol CM** version:

- **guava (#657646)**: updated from version 31.1 to 32.0.1 in **CM/Track**
- **jackson-datatype (#657992)**: updated from version 2.9.10 to 2.13.2
- **jsch (#656868)**: updated from version 0.1.55 to 0.2.8
- **spring (#657309)**: updated from version 5.2.22 to 5.2.23
- **spring boot (#657381)**: updated from version 2.7.7 to 2.7.12 in **CM/Archive**
- **spring framework (#657316, #657492, #657494)**: updated from 5.2.22 to 5.2.24 in **CM/Track**
- **tomcat-embed (#657316, #657309, #657643)**: updated from version 9.0.71 to 9.0.76 in **CM/Track**
- **webpack (#657281)**: updated from version 5.72.0 to 5.76.3

8.2.4 Saving workflows with missing connections (#650634)

It is now possible to save workflows although there are validation errors due to missing connections between the workflow elements. This allows the users, who decide for example to create all activities first to define the process structure, to save drafts of their work.

This feature is enabled by selecting the checkbox *Allow saving workflows with connection errors* in the *Settings* dialog of the *Workflows* page of the **Web Admin Suite**. It does not apply to decision nodes which always need an incoming connection.

> ⚠️ Before updating the workflow, all validation errors must be solved. It is not possible any-more to deploy workflows with existing manual activities without incoming connections.

8.2.5   New URL for authenticating in *CM/EBIA* (#657127)

The URL of *ConSol CM* which has to be configured when setting up *CM/EBIA* has changed. It now includes the path to the authentication endpoint of the Metabase application, `/analytics?auth=metabase`.

> ⚠️ You need to modify the URL accordingly. Please log in to the Metabase application as admin-istrator and open *Authentication -> JWT*. Modify the value of *JWT Identity Provider URI* by adding the path of the authentication endpoint, e.g.:
>
> ```
> https://localhost:8080/analytics?auth=metabase
> ```

8.2.6   JODConverter disabled by default (#657361)

The JODConverter, which is required to generate PDF documents from DOCX documents using the method `generatePDFDocumentViaOpenOffice` from `ContentFileTemplateService`, is now dis-abled by default. The system property `office.jodconverter.enabled` has been added to the mod-ule `cmas-core-server` for this purpose. The default value is "false".

> ⚠️ You need to set the property to "true" to use JODConverter for PDF generation.

8.3   Bugs fixed

The following defects have been corrected in *ConSol CM* version 6.15.5.0.

Number	Description
633981	**Wrong color for warning message about non-existing contact** When trying to access a non-existing contact via URL in the **Web Client**, the displayed warning message had a red color, which was not consistent with similar messages. This problem has been solved and the warning message has a green color now.
649496	**Overlapping activity form icon** After deploying a workflow on the *Workflows* page of the **Web Admin Suite**, the activity form icon overlapped the name of reopen elements, jump-out nodes and end nodes. This problem has been solved and the activity form icons do not overlap the elements' names anymore.
656033	**Radio button field not part of autocomplete context** The value of boolean fields which are configured as radio buttons could not be retrieved in an autocomplete script which is executed for another field of the same activity form in the **Web Client**. This problem has been solved and the method `pContext.formFields` can now be used to retrieve the values of radio buttons in autocomplete scripts inside activity forms.
656708	**Case list not refreshed** Sometimes the case list in the **Web Client** was not refreshed correctly if a change affecting the displayed cases was made by another user. This problem has been solved and the case list is now refreshed correctly, independently of who is the author of a change which causes a case to be shown or not in the case list.
656812	**Not possible to remove table row in form prefill script in *CM/Track*** Removing a row of a table in a prefill script of an activity form did not work if the related activity was executed using **CM/Track**. The row removed in the code was still shown when opening the activity form. This problem has been solved and table rows can now be removed in activity form prefill scripts in **CM/Track**.
656898	**Error after canceling change of additional participant** When clicking the *Edit* button of a case in the **Web Client**, opening the modal window *Additional participants*, selecting a user in the *Participants* field, clicking the *Add* button, and removing the participant directly afterwards, an error occurred after canceling the modal window and the edit of the case data. This problem has been solved and canceling the addition of an additional participant does not cause errors anymore.
657246	**STARTTLS property ignored in email connection test** The system property `mail.smtp.tls.enabled` from the module `cmas-core-server` was ignored when testing outgoing email connections on the *Email configuration* page of the **Web Admin Suite**. In some situations, this could lead to failed connection tests, although emails were sent correctly. This problem has been solved and the connection tests now consider this property.

Number	Description
657258	**Bcc email addresses exposed** When replying to an email which was also sent to recipients using Bcc, the email addresses from Bcc where visible in the **Web Client** in the *Bcc* field. When forwarding such an email the email addresses from Bcc where visible in the **Web Client** in the quoted email. These problems have been solved and Bcc addresses are completely hidden now.
657261	**Email not imported correctly** When importing an email, which had an email with the mime type `application/octet-stream` attached, to **ConSol CM**, the attachment was rejected although the `.eml` extension was configured in the system property `attachment.allowed.types` of the module `cmas-core-server`. This problem has been solved and EML files can be allowed now, even if they have this mime type.
657266	**Missing line breaks in plain text emails** When displaying emails with the mime type `text/plain` in **CM/Track**, some line breaks were missing. This problem has been solved and all line breaks are now shown correctly in **CM/Track** for plain text emails.
657324	**Workflow connections not merged correctly** If a workflow element had several incoming connections which entered the element's scope at different sides, the connections were not merged. This problem has been solved and connections with the same target element are now correctly merged on the *Workflows* page of the **Web Admin Suite**.
657331	**Webhook could not be removed** Deleting a webhook from the *Webhooks* page of the **Web Admin Suite** was not possible in case there was a mismatch between the name of the webhook and the name of the respective integration script. This problem has been solved and such webhooks can be removed correctly now.
657397	**Error when using field group with contact reference field twice** When using an old company field group, which has a field of the type *Contact reference*, in more than one contact model, an error occurred when trying to create a company with this model in the **Web Client**. The possibility to assign such a field group to more than one contact model in the **Web Admin Suite** has been disabled, because the usage of the *Contact reference* field is deprecated.
657449	**JavaScript error in browser console** The browser console of the **Web Client** sometimes showed JavaScript errors `Uncaught SyntaxError: unexpected token: '-'` due to negative values obtained during heartbeat calculations. This problem has been solved and such errors do not occur anymore.

Number	Description
657452	**Automatic notifications failed for non-RCF-compliant emails** Emails with non-RFC-compliant From headers can be imported into **ConSol CM** if `mailbox.default.session.mail.mime.address.strict` from the module `cmas-nimh` is set to "false". Nevertheless, automatic notifications to the sender, sent when the email had non-allowed attachments, failed. This problem has been solved and these notifications can now be sent even if the From header was non-RFC-compliant.
657486	**Wrong transitions between activity types** When clicking the scope activity icon in the toolbar of a manual scope activity on the *Workflows* page of the **Web Admin Suite**, the activity was converted into an automatic activity instead of a manual one. In addition, when converting a manual activity with customer exposure to a manual scope activity using the toolbar or the details panel, the customer exposure setting was removed. These problems have been solved and the transitions between activity types now work as expected.
657597	**Exception when displaying newly created a case in *CM/Track*** When creating a case in **CM/Track** in a queue which has a prefix containing German umlauts, an exception occurred when trying to display the case right after creation. This problem has been solved and German umlauts in queue prefixes do not cause problems in **CM/Track** anymore.
657601	**Case removed from workspace** A case which was saved to the workspace during its creation in the **Web Client** was removed from the workspace when the user created another case. This problem has been solved and not yet created cases now remain in the workspace if another case is created in the meantime.
657687	**Missing translation for bulk action text** The German translation of the indication of the number of selected entries for a bulk action in the **Web Admin Suite** was missing. This problem has been solved and the respective text is now translated into German.
657702	**Unneeded blank after method name** When using the code autocomplete feature of the script editor in the **Web Admin Suite**, there was a blank between the method name and the method parameters. This problem has been solved by removing this blank.
657650	**Error in the log files when using remember me** When using the *Remember me* option on the login page of the **Web Client**, an error message was written to the log files when the session timed out and a new session was created automatically. This problem has been solved and such errors do not occur anymore.

Number	Description
657654	**Optimistic locking exception when editing labels** When editing the labels of workflow elements on the *Workflows* page of the **Web Admin Suite**, optimistic locking exceptions could be written to the log files when switching between the input fields of the different locales, although the **Web Admin Suite** was working correctly. This problem has been solved and these exceptions occur less frequently now.
657903	**Child fields of lists available for selection in forms** When selecting the fields for an activity or action form in the **Web Admin Suite**, the child fields of fields of the type *List* were shown in the *Available fields* section, although selecting them could lead to errors. This problem has been solved and these fields are now hidden so that only the parent field can be selected.
657950	**Prefill script of activity form disappeared** When working in the developer mode on the *Workflows* page of the **Web Admin Suite**, the prefill script of an activity form disappeared after editing the activity form on the *Activity forms* page. This problem has been solved and prefill scripts do not disappear anymore when editing the related activity form.

9.   Version 6.15.6 (12.07.2023)

ConSol CM version 6.15.6 includes the following releases:

Release	Date	Scope	Merged versions
6.15.6	12.07.2023	New version, includes changes and bug fixes	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠   Please check the Breaking changes and mandatory actions.

9.1   Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.6 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

9.1.1   System upgrade from 6.15.5 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.15.6 or earlier versions to version 6.15.6.

This *ConSol CM* release does not need specific planning for an update from earlier releases.

No further instructions available.

9.2   Changes

This section illustrates all relevant software product changes for version 6.15.6 of *ConSol CM*.

9.2.1   Security and third-party library updates

The following third-party libraries have been updated in this *ConSol CM* version:

- **Guava (#658180)**: updated from version 30.1 to 32.1.1
- **Netty (#658168)**: updated from version 4.1.86 to 4.1.94 in *CM/Doc*

> ⚠ The users must update *CM/Doc* for this changes to become effective.

- **Spring Boot (#658169)**: updated from version 2.7.12 to 2.7.13 in *CM/Archive*
- **Tomcat dbcp (#658180)**: updated from version 9.0.74 to 9.0.75

9.3 Bugs fixed

The following defects have been corrected in **ConSol CM** version 6.15.6.0.

Number	Description
658144	**Error when trying to save integration script** It was not possible to save changes to a script of the type *Integration* in the **Web Admin Suite** if orphaned webhooks without an integration script existed. This problem has been solved and it is now possible to save integration scripts regardless of orphaned webhook configurations.

10.   Version 6.15.7 (08.09.2023)

ConSol CM version 6.15.7 includes the following releases:

Release	Date	Scope	Merged versions
6.15.7	08.09.2023	Hotfix version, includes one bug fix	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠ Please check the Breaking changes and mandatory actions.

10.1   Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.15.7 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

10.1.1   System upgrade from 6.15.6 and earlier versions

This section informs about specific steps when upgrading **ConSol CM** from 6.15.6 or earlier versions to version 6.15.7.

This **ConSol CM** release does not need specific planning for an update from earlier releases.

No further instructions available.

10.2   Changes

This section illustrates all relevant software product changes for version 6.15.7 of *ConSol CM*.

10.2.1   Security and third-party library updates

The following third-party libraries have been updated in this *ConSol CM* version:

- **Froala (#658623)**: updated from version 4.0.12 to 4.0.19 in *CM/Track*

11. Version 6.15.8 (02.10.2023)

ConSol CM version 6.15.8 includes the following releases:

Release	Date	Scope	Merged versions
6.15.8	02.10.2023	Hotfix version, includes one change and one bug fix	

Newer versions and the respective changes are not included in this *ConSol CM* version.

> ⚠️ Please check the Breaking changes and mandatory actions.

11.1 Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.8 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

11.1.1 System upgrade from 6.15.7 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.15.7 or earlier versions to version 6.15.8.

This *ConSol CM* release does not need specific planning for an update from earlier releases.

No further instructions available.

11.2   Changes

This section illustrates all relevant software product changes for version 6.15.8 of *ConSol CM*.

11.2.1   Display of index tasks limited (#658826)

The display of index tasks on the *Index* page of the **Web Admin Suite** has been limited to avoid per-formance problems when there are many current tasks. The table now shows only up to 100 tasks of each type, i.e.

- 100 regular update tasks
- 100 batch update tasks
- 100 administrative tasks

The total number of index tasks is shown in the table footer and the menu item.

11.3   Bugs fixed

The following defects have been corrected in *ConSol CM* version 6.15.8.0.

Number	Description
658837	**Wrong log level for cluster event logs** Event logs, which are generated when operating *ConSol CM* in a cluster, were logged on INFO level instead of DEBUG level. This problem has been solved and such low-level technical entries are now logged on DEBUG level only, in order to avoid filling the log files with unneeded information.

12.   Version 6.15.9 (27.11.2023)

ConSol CM version 6.15.9 includes the following releases:

Release	Date	Scope	Merged versions
6.15.9	27.11.2023	Hotfix version, includes one change and six bug fixes	

Newer versions and the respective changes are not included in this *ConSol CM* version.

⚠️ Please check the Breaking changes and mandatory actions.

12.1 Update and installation instructions

Please read all information on update and installation of *ConSol CM* specific for version 6.15.9 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

12.1.1 System upgrade from 6.15.8 and earlier versions

This section informs about specific steps when upgrading *ConSol CM* from 6.15.8 or earlier versions to version 6.15.9.

This *ConSol CM* release does not need specific planning for an update from earlier releases.

No further instructions available.

12.2   Changes

This section illustrates all relevant software product changes for version 6.15.8 of **ConSol CM**.

12.2.1   Loop detection in workflows modified (#658984)

The mechanism to detect loops in event trigger executions has been modified. Now, the execution is only interrupted if an event trigger fires more than 20 times. This avoids problems which occurred when there is an event trigger for communication which fires several times when a user sends an email with several newly added attachments using the **Web Client**. In addition, it is not needed to use `disableLoopDetection()` for some use cases where the loop detection interrupted the flow unnecessarily.

> (i)   This change only applies to serial trigger executions. Nested trigger executions are still interrupted immediately.

12.3 Bugs fixed

The following defects have been corrected in *ConSol CM* version 6.15.9.0.

Number	Description
658983	**Workflow loop blocks case transfer** If a workflow contained a loop, the case transfer during workflow deployment failed and the affected cases were locked. This problem has been solved and instead of aborting the workflow deployment, information about the workflow elements which cause the loop is now written to the log files. The same applies to loops which are detected in the runtime, i.e. during regular work on cases.
658985	**Exception in log files on DWH mode switch** When switching the DWH mode from *Admin* to *Live* on a *ConSol CM* system where no SMTP connection is configured, an exception was written to the log files although the system worked normally. This problem has been solved and switching the DWH mode does not cause such an exception anymore.
659103	**Misleading error message** When an error due to a response with status *500 (Internal Server Error)* occurred during case creation in *CM/Track*, the error message pointed to a problem with embedded images, which was incorrect in most cases. This problem has been solved and a more generic error message is now shown in this situation.
659114	**DWH error when adding and removing attachment in one transaction** If an attachment is added and removed in the same transaction, the live mode of the data warehouse failed. This problem has been solved and adding and removing attachments in one transaction does not cause DWH errors anymore.
659171	**Cluster node locked after exception** When a cluster node was disconnected due to network issues, it could happen that it did not recover automatically because the monitoring task stopped working. It was required to restart the cluster node to make it available again. This problem has been solved and a cluster node is now recovered automatically after a short period of network issues.
659355	**Exception due to wrongly detected loop** If an action, which was performed for several cases in one transaction, caused trigger executions, it could happen that *ConSol CM* treated the trigger executions as a loop. As a consequence, the action failed although the trigger was executed only once for each case. This problem has been solved and loops are now detected only if a trigger fires several times for the same case.

13.   Web applications expiry

ConSol CM includes several **Java Web Start** tools and **Java applets**. These technologies validate the downloaded programs by validating a certificate. This applies to all recent and supported versions of the Java platform at the time of writing. Any certificate for this purpose includes an expiry date after which it will not validate anymore. After this date a program containing this certificate will not be considered valid anymore as well and an update to a version with a newer certificate is required to have the tool operational.

The **ConSol CM** releases covered in this document include Java Web Start tools and Java applets with the following certificate expiry dates:

Release version(s)	Certificate expiry date
6.15.0 and higher	05.11.2024

The **Java Web Start** tools and **Java applets** of **ConSol CM** affected by this expiry date are these:

- **Admin Tool**
- **Process Designer**

> ⚠ Please make sure you always have a **ConSol CM** version with a valid certificate installed to guarantee uninterrupted usage of the **Java Web Start** tools and **Java applets**!