

ConSol Software GmbH

# Release Notes ConSol CM 6.12.0

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# 1. General update instructions

There are two ways for updating **ConSol CM** from an old version:

- **Distribution installation**

The distribution is installed on the application server. You need to back up the configuration files, as for example `cm6.xml`, before performing the update. Then you need to apply your settings to the new configuration files.

This type of update ensures that every change between the versions is installed. It is recommended for updates of the major or minor version, e.g. for an update from 6.11.2 to 6.12.0.

- **EAR / WAR update**

The EAR (`cm6.ear`, `cmrf.ear`) and WAR (`cm-track.war`) files of the new version are installed on the application server. The configuration files, as for example `cm6.xml`, are not changed during the update process. Therefore, you have to manually apply any changes made to the configuration files between the old and the new versions.

This type of update is only recommended for updates within a minor version, e.g. from 6.11.2.0 to 6.11.2.5.



Please check the *System Requirements* of the new version to ensure that your operating system, application server and database version are still supported.

## 1.1 Required scene changes

Some changes to your **ConSol CM** scene might be required. Please check the *Update and installation instructions* sections of all **ConSol CM** versions between the old version and the new version. For example, for an update from 6.11.2.0 to 6.11.2.5, the instructions of the versions 6.11.2.1, 6.11.2.2, 6.11.2.3, 6.11.2.4 and 6.11.2.5 have to be checked. In addition, you need to check the instructions of older **ConSol CM** versions which were merged between both versions. The merged versions are stated on the introduction page of each version.

For your convenience, the changes which might require adaptations to your scene are listed in [Breaking changes and mandatory actions](#).

## 1.2 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
6.12.0.0	<a href="#">Support for Oracle 10g dropped (#641334)</a>	System requirements
6.12.0.0	<a href="#">Guava library updated (#634494)</a>	Scripting
6.12.0.0	<a href="#">Support for multicast dropped (#634234)</a>	Cluster
6.12.0.0	<a href="#">Deprecated methods removed from TicketPayload (#633196)</a>	Scripting
6.12.0.0	<a href="#">Unused methods removed from UnitCriteria (#631800)</a>	Scripting
6.12.0.0	<a href="#">JMS removed (#631352)</a>	Update
6.12.0.0	<a href="#">Support for Internet Explorer 9 and 10 dropped (#630877, #641333)</a>	System requirements
6.12.0.0	<a href="#">Support for Microsoft SQL Server 2008 dropped (#630861)</a>	System requirements
6.11.2.8	<a href="#">Update events streamlined (#641603, #641631)</a>	Scripting
6.11.2.8	<a href="#">Third party libraries updated (#642058, #642191)</a>	Scripting
6.11.2.5	<a href="#">Apache POI library updated (#641435)</a>	Scripting
6.11.2.3	<a href="#">Default value of csrf.domain.allow.none changed (#634912)</a>	REST API, CM/Track
6.11.2.2	<a href="#">Firefox support changed (#634493)</a>	System requirements
6.11.2.2	<a href="#">Support for Java 7 dropped (#634157)</a>	System requirements
6.11.2.2	<a href="#">Support for CM/Track V1 phased out (#634144)</a>	CM/Track
6.11.2.2	<a href="#">Line breaks in messages added (#633969)</a>	Templates
6.11.2.2	<a href="#">Unique constraint for permissions added (#633968)</a>	Update
6.11.2.2	<a href="#">Changes to the responses returned by the REST API (#633959)</a>	REST API, CM/Track
6.11.2.2	<a href="#">WebLogic support changed (#633958, #634363)</a>	System requirements
6.11.2.2	<a href="#">Cross-Site Request Forgery prevention mechanism introduced for the ConSol CM REST API (#633811)</a>	REST API, CM/Track
6.11.2.2	<a href="#">DWH task creation optimized (#631804)</a>	DWH

Version	Change	Affected area
6.11.2.2	<a href="#">Support for JBoss EAP 6.2 dropped (#630861)</a>	System requirements
6.11.2.0	<a href="#">Support of JDK 6 dropped (#633096)</a>	System requirements
6.11.1.16	<a href="#">DWH adapted to support dates until 01.01.2100 (#641871)</a>	DWH
6.11.1.7	<a href="#">Contact anonymization for GDPR (#633502)</a>	DWH
6.11.1.7	<a href="#">Content of pContext variable after queue change (#633441)</a>	Scripting
6.11.1.7	<a href="#">Content of pContext variable in actions changed (#633475)</a>	Scripting
6.11.1.6	<a href="#">Contact deletion for GDPR (#633392)</a>	DWH
6.11.1.6	<a href="#">Support for secure SMTP introduced (#633298)</a>	DWH
6.11.1.1	<a href="#">Support for HTTP status / error codes for the Webhook (#632695)</a>	Scripting
6.11.1.0	<a href="#">REST API returning FAQ tickets streamlined (#630997)</a>	REST API

## 2. Version 6.12.0.0 (03.07.2019)

Version 6.12.0.0 includes all **ConSol CM** changes and additions of

- 6.11 versions up to 6.11.2.4
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

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



## 2.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.12.0.0 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.


### 2.1.1 System upgrade from 6.11.2 and earlier versions

This section informs about specific steps when upgrading **ConSol CM** from 6.11.2 or earlier versions to version 6.12.0.0.

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

#### 2.1.1.1 Update of REST clients

This release includes breaking changes to the **ConSol CM** REST API. Please see [Changes to the responses returned by the REST API \(#631677\)](#) for detailed information.


 It is necessary to check any custom-built applications and interfaces which use the REST API, including customized **CM/Track V2** applications. Depending on the custom implementation, the changes in this release might impair their correct functioning.

#### 2.1.1.2 Empty JMS queues

Due to the removal of JMS, the JMS queues have to be empty before performing an update to version 6.12.0.0. Please see [JMS removed \(#631352\)](#) for further information.

### 2.1.2 Support for Microsoft SQL Server 2008 dropped (#630861)

The support for Microsoft SQL Server 2008 has been phased out. Starting with **ConSol CM** version 6.12.0.0, Microsoft SQL Server databases have to be updated to version 2012 or higher, or one of the other supported database management systems has to be used.


 You can find detailed information about the supported database management systems in the *System Requirements*.

### 2.1.3 Support for MySQL 5.7 added (#630868)

Support for MySQL 5.7 as a database management system for **ConSol CM** has been added to **ConSol CM** starting with version 6.12.0.0.


### 2.1.4 Support for Internet Explorer 9 and 10 dropped (#630877, #641333)

The support for Internet Explorer 9 and Internet Explorer 10 has been phased out. Starting with **ConSol CM** version 6.12.0.0, Internet Explorer 11, or another supported browser, has to be used to access the **Web Client**.

 You can find detailed information about the supported browser versions in the *System Requirements*.


### 2.1.5 Support for *CM/Track V1* dropped (#633292)

The support for *CM/Track V1* has been phased out. Starting with *ConSol CM* version 6.12.0.0, *CM/Track V2* has to be used. In addition, any customized clients which are based on *CM/Track V1* have to be reimplemented for *CM/Track V2*.

 You can find detailed information about the requirements of *CM/Track V2* in the *System Requirements*.

### 2.1.6 Support for Oracle 10g dropped (#641334)


The support for Oracle 10g as a database system has been phased out. Starting with *ConSol CM* version 6.12.0.0, Oracle 11g or 12c, or another supported database system, has to be used.

 You can find detailed information about the supported database systems in the *System Requirements*.

### 2.1.7 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.

- [News in the Web Client and CM/Track V2 \(#632777\)](#)
- [Changes to the responses returned by the REST API \(#631677\)](#)

 It is necessary to check any custom-built applications and interfaces which use the REST API, including customized *CM/Track V2* applications. Depending on the custom implementation, the changes in this release might impair their correct functioning.

### 2.1.8 Script modification requirements

This release features some interface changes in API methods. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- [Unused methods removed from UnitCriteria \(#631800\)](#)
- [Deprecated methods removed from TicketPayload \(#633196\)](#)
- [Improved handling when creating engineers using scripts \(#633252\)](#)
- [Guava library updated \(#634494\)](#)
- [Method to sort engineers added \(#635609\)](#)



Please be aware that a few classes were removed completely and from multiple other classes methods were removed. Please ensure before an update that the scripts in your installation are not affected by these removals!

## 2.1.9 Configuration modification requirements

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

- [JMS removed \(#631352\)](#)
- [CM/Doc as a standalone application \(#631681\)](#)
- [JBoss default configuration changed \(#632510\)](#)
- [Indexer management in clustered environments improved \(#633889, #633890\)](#)
- [Support for multicast dropped \(#634234\)](#)

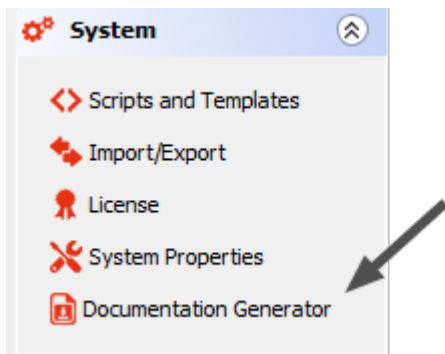
No further instructions available.

## 2.2 New features

The features newly introduced in this **ConSol CM** version 6.12.0.0 are described in detail in this section.

### 2.2.1 System documentation generator (#631602)

The **Admin Tool** has been enhanced with a feature to export the system configuration to a document. The new navigation item *Documentation Generator* has been added to the group *System* for this purpose.

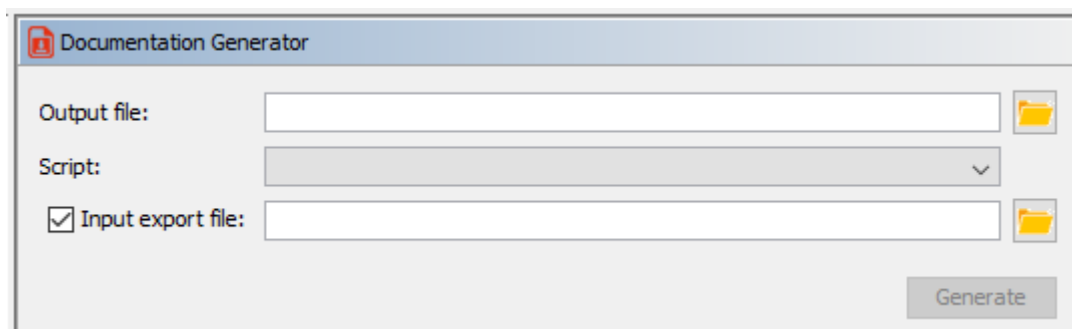


In the *Documentation Generator* section, the user selects the path to the output file and the **Admin Tool** script of the type *System documentation*.

If desired, the user can select the checkbox *Input export file* to display a field where he can provide the path to the scene export for which the system documentation should be generated. If a scene export file is selected, the system documentation is generated for this scene. Otherwise, it is generated for the current scene in the **Admin Tool**.



The scene needs to contain the `systemDocumentation.xml` file which is created when enabling the checkbox *System documentation* in the scene export configuration.



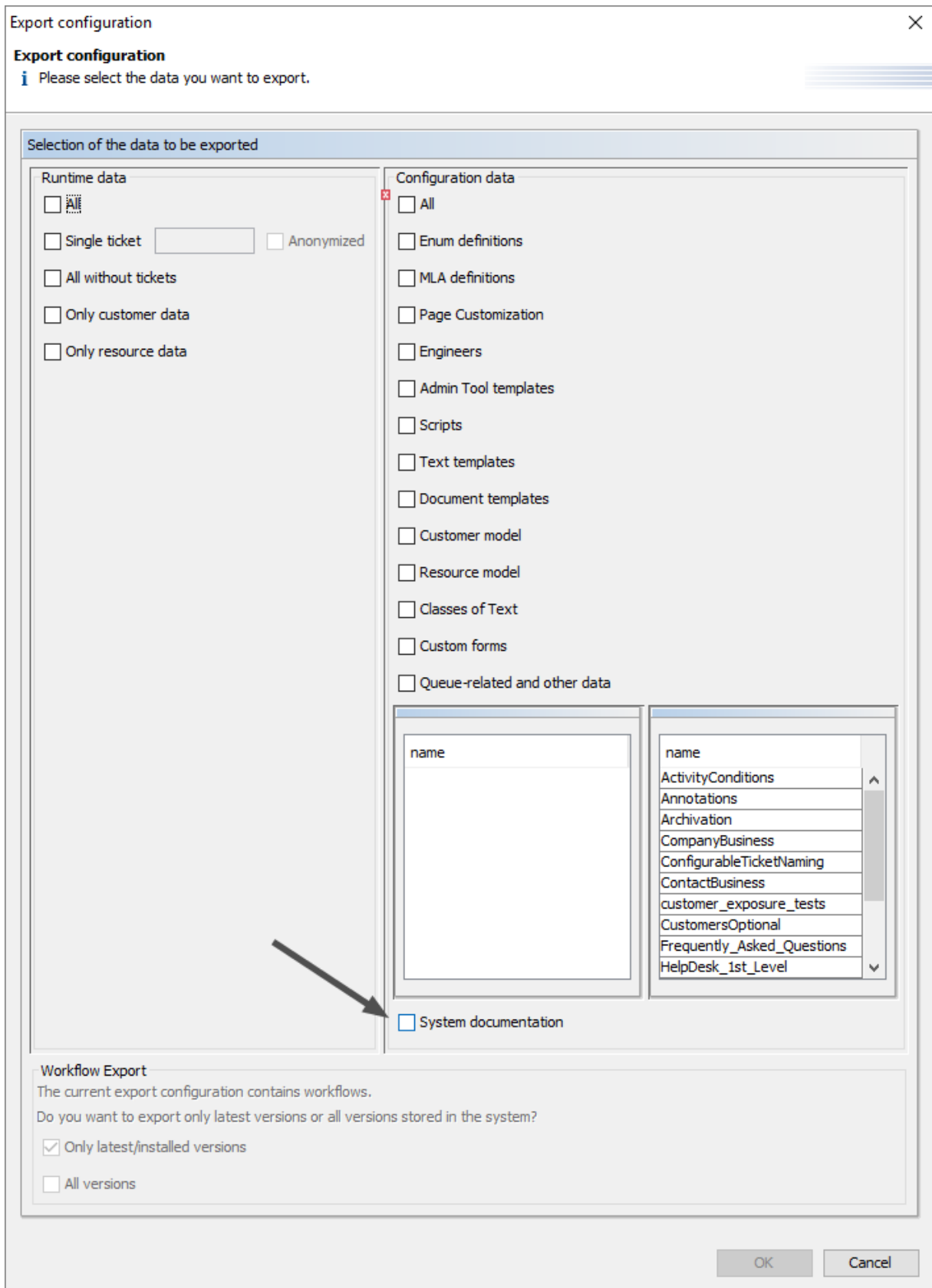
The following items of the system configuration can be included in the system documentation:

- incoming and outgoing email connection
- customer data models: customer objects and customer fields
- customer groups
- workflows: scopes, activities, triggers, image of the workflow (only available after deploying the workflow)

- queues: workflow, assigned ticket field groups with ticket fields, customer groups, projects and classes of text
- resources: resource categories and resource types with resource fields
- roles: queue, customer group, resource type and global permissions, views, engineer functions
- views: queues, scopes, view criteria

The script of the type *System documentation* determines the scope of the documentation, i.e. which information is exported. In addition, it allows to apply some formatting and to add descriptions to the items.

In addition, the *Import/Export* section of the **Admin Tool** has been extended with the option *System documentation* which allows to export the system documentation as an XML file.



The export contains all the information which can be included in the system documentation.


## 2.2.2 CM/Doc as a standalone application (#631681)

The **ConSol CM** add-on **CM/Doc** has been redesigned as a standalone application for Windows operation systems.

The users who work with **CM/Doc** need to download the application from the *Downloads* section of the user profile (see [Downloads section added to the user profile \(#634718\)](#)) and install it on their local machine. The language (English or German) for the installation wizard and the installation path can be selected in the installation wizard. The **CM/Doc** application itself uses German on German operating systems and English otherwise.

After completing the installation, the user can choose to create a script which allows to automate the installation of **CM/Doc** on other machines. The script is stored in XML format.

**CM/Doc** can be used with Microsoft Office, OpenOffice and LibreOffice. If **CM/Doc** is used with OpenOffice or LibreOffice, it is necessary to specify the location of the OpenOffice/LibreOffice executable by clicking the *Preferences* -> *OpenOffice* entry in the menu accessed via the **CM/Doc** icon in the system tray. It is necessary to restart **CM/Doc** after selecting the executable.


 The installation of the local **CM/Doc** application might fail if the file extension “.js” is associated with any executable file in the operating system. In this case, the association needs to be removed. In Windows 10, it may be required to edit the system registry and delete the following keys:

```
HKEY_CURRENT_
  USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\FileExts\.js
HKEY_CURRENT_USER\SOFTWARE\Microsoft\Windows\Roaming\OpenWith\FileExts\.js
HKEY_CLASSES_ROOT\.js
```

 To use **CM/Doc** with **Microsoft Internet Explorer** or **Microsoft Edge** the following additional steps are required:

1. For both browsers: Go to *Internet Options* -> *Security* in **Microsoft Internet Explorer**. Select *Local Intranet*. Click *Sites*. Click *Advanced*. Enter the URL of the **ConSol CM** server and add it to the websites belonging to the local intranet zone.
2. As an administrator, execute the following command:

```
CheckNetIsolation LoopbackExempt -a -n="Microsoft.MicrosoftEdge_
8wekyb3d8bbwe"
```

 **CM/Doc** does not work with **Firefox** and **Internet Explorer** when HTTPS is used for accessing the **Web Client**.

**CM/Doc** is automatically opened when the user selects a template to create an attachment for a ticket or edits an existing **CM/Doc** attachment. If **CM/Doc** was not started yet, a pop-up window to start the application is displayed. If **CM/Doc** is already running in the background, the office application cor-

responding to the file extension of the template is opened. This is Microsoft Word for `.doc` and `.docx` files and OpenOffice/LibreOffice for `.odt` files. The user can edit the file, which is automatically uploaded to the ticket when it is saved in the office application.

If an old version of **CM/Doc** is installed, a warning message that the user should download and install the newest version is displayed.

### 2.2.2.1 Admin Tool changes

The following system property has been introduced:

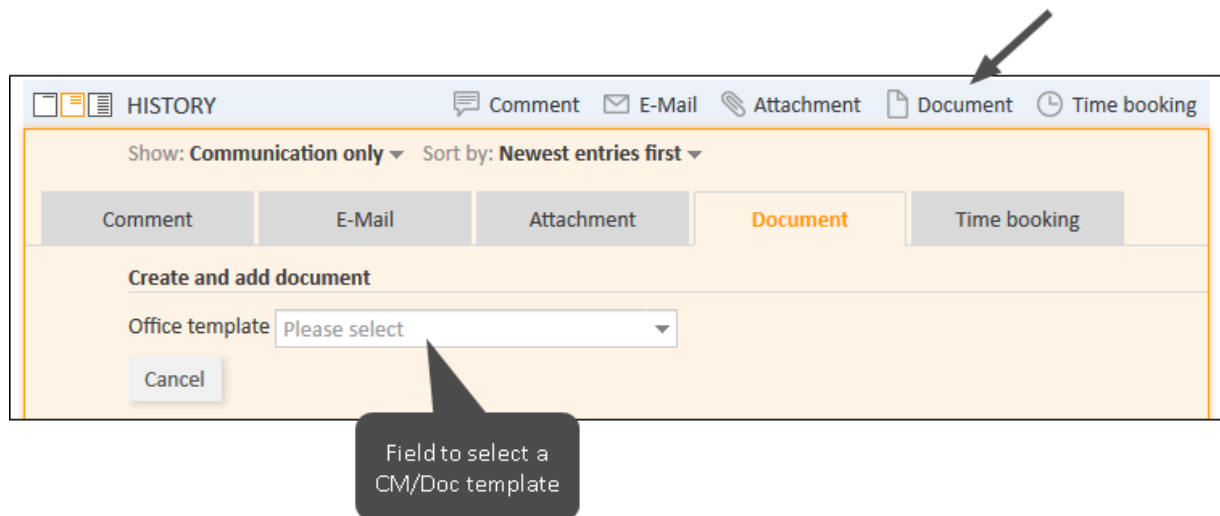
- **cmweb-server-adapter, cmoffice.websocket.port**  
Determines the port on which the **CM/Doc** application should be started and connected to.

The following system properties are not needed anymore and have been removed:

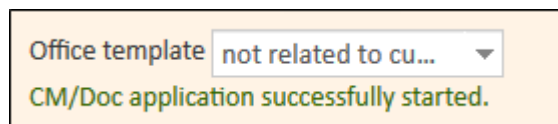
- cmweb-server-adapter, cmoffice.oo.path.0
- cmweb-server-adapter, cmoffice.oo.path.1
- cmweb-server-adapter, cmoffice.oo.path.2
- cmweb-server-adapter, cmoffice.oo.path.3

### 2.2.2.2 Web Client changes

The ticket history section of the **Web Client** has been extended with the new section *Document*, which contains an autocomplete field to select the document template.



When a template has been selected, the status of **CM/Doc** is displayed below the selector.



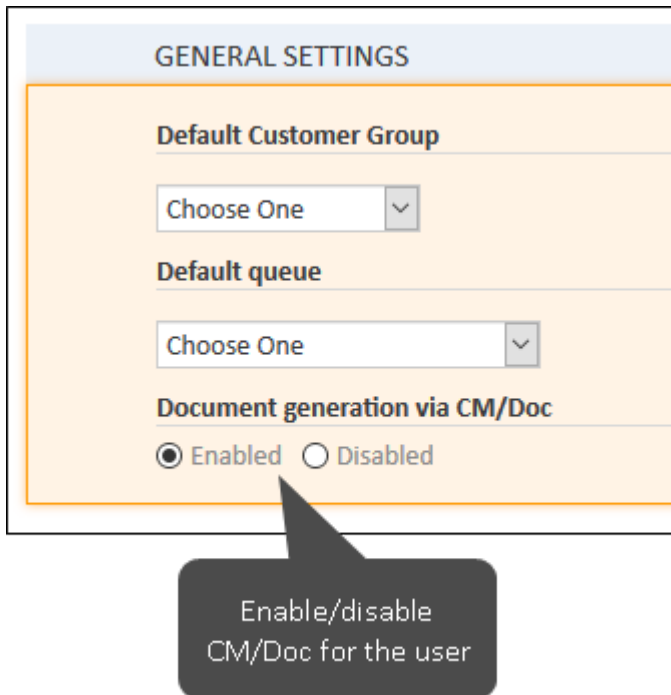
The possible status are:

- Starting CM/Doc application...
- CM/Doc application successfully started.
- Error occurred while starting CM/Doc application. Please try again.

While **CM/Doc** is starting, a spinner icon is displayed next to the *Office template* field.



The user profile page has been enhanced with a selector which allows the user to enable or disable **CM/Doc**. It is located in the *General settings* section and the user can select the checkbox *Enabled* to enable **CM/Doc** or *Disabled* to disable **CM/Doc**. This selector is only available if **CM/Doc** is enabled for the **ConSol CM** system.



### 2.2.3 News in the **Web Client** and **CM/Track V2** (#632777)

The possibility to display news to the users in the **Web Client** and **CM/Track V2** has been introduced. In the **Web Client**, news are displayed in a dashboard widget. In **CM/Track V2**, news are displayed on the welcome page.

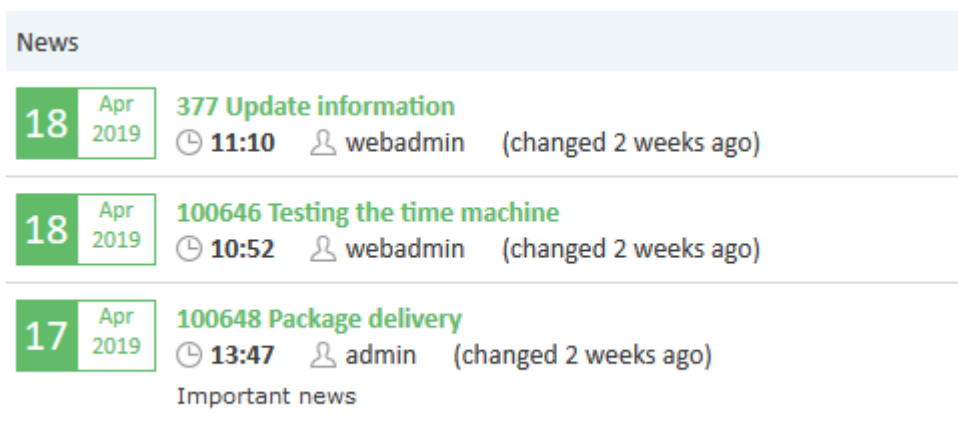


Figure 1: News in the **Web Client**

## News

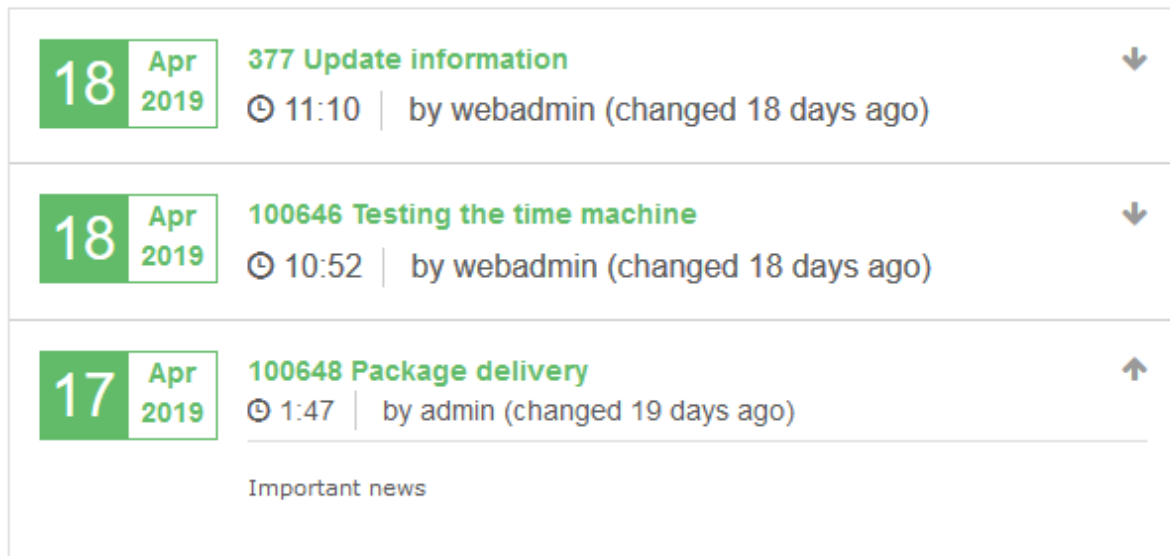


Figure 2: News in **CM/Track V2**

The news text is expanded after clicking the news item. The list of news is ordered by date.

The *Scripts and Templates* section of the **Admin Tool** has been extended with the new script type *News Publisher* which is used to manage news. The news which are returned by the script can be retrieved from several sources, for example, ticket comments or RSS feeds. The news items can also be created directly in the script as objects of the class `NewsItem`.

News items consist of the following information:

- **subject:** the subject of the news item (mandatory)
- **author:** the author of the news item (optional)
- **content:** the text of the news item, can include images (mandatory)
- **creation date:** the date when the news item was created (optional)
- **update date:** the date when the news item was updated (optional)
- **color:** the text color of the news item (optional)

The page customization of the **Web Client** has been extended with a new widget *News*, which needs to be configured to display the news. The following attributes are available for news widgets:

- **author:** Determines whether the author who created the news item should be displayed ("true") or not ("false")
- **color:** Determines the color of the news symbol and headline
- **createDate:** Determines whether the date when a news item was created should be displayed ("true") or not ("false")
- **height:** The height of the widget in px
- **localization:** The localized values used in the widget
- **scriptName:** The name of the **Admin Tool** script (type *News Publisher*) which contains the logic for retrieving news items
- **title:** The title of the news widget

- **updateDate**: Determines whether the date when a news item was updated should be displayed (“true”) or not (“false”)
- **visible**: Determines whether the widget is shown (“true”) or not (“false”)

The **Admin Tool** section *Clients -> Configuration* has been extended with the new item **newsConfiguration**. Add this item to the configuration of the **CM/Track V2** instance in order to display the news on the welcome page of **CM/Track V2**.

Example configuration:

```
"newsConfiguration": {
  "scriptName": "news.groovy",
  "autoscroll": "smooth",
  "title": "News",
  "height": 350,
  "createDate": true,
  "updateDate": true,
  "author": true,
  "color": "#488ca1"
}
```

The localized title of the news section is added to the attribute **newsTitle** of the **localization\_en.json / localization\_de.json** file. If no localized title is specified, the default title “News” is displayed.

The **ConSol CM** REST API has been extended with the new endpoint **/news/{script name}**. It allows to retrieve the news which are provided by a given news script.

### 2.2.3.1 Example: Retrieving news from ticket entries

The method **getNewsFromTicketEntries** of the class **NewsService** can be used to retrieve news directly from ticket comments. It retrieves the complete comment entry as an object of the class **TicketEntryNewsItem**. The news script can extract data from the retrieved entry and modify it as desired.

The news script defines the following:

- Queues which contain the news tickets
- Scopes which the tickets have to be in
- Classes of text which the comments have to be marked with

From each ticket, the latest comment marked with one of the text classes is displayed in the news.

Only history entries of the type “comment” can be used in news scripts. If any other entry, for example an email, is marked with the configured text class, the entry is ignored.

The default values for news items from ticket comments are:

- **subject**: the name and subject of the ticket which the comment belongs to
- **author**: the engineer or customer who added the comment
- **content**: the latest comment of the ticket which has the specified text class, including inline images and formatting
- **creation date**: the date when the comment was added

- **update date:** the date when the comment was updated
- **color:** the background color of the text class

The following example shows a script of the type *News Publisher* used to retrieve news from ticket comments:

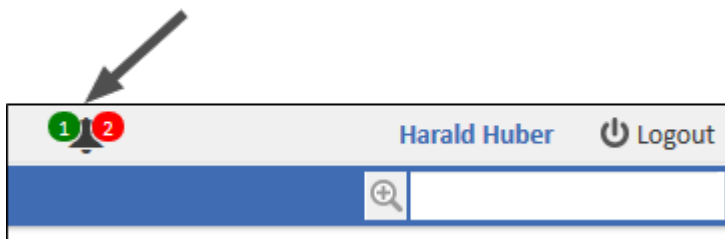
```
Set queues = ["MultiCG","Frequently_Asked_Questions"]
Set scopes = ["defaultScope/ticket_incoming", "defaultScope"]
Set textClasses = ["Solution","News"]

def newsList = newsService.getNewsFromTicketEntries(queues, scopes, textClasses)

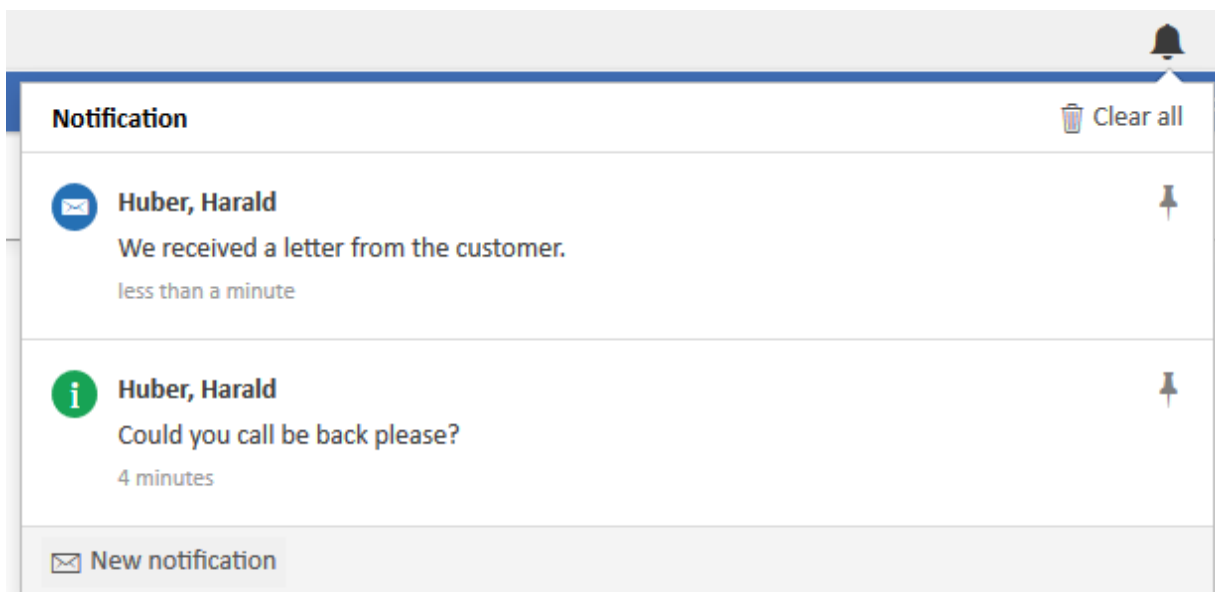
return newsList
```

## 2.2.4 Notifications in the *Web Client* (#633198)

The possibility to send and receive notifications within the *Web Client* has been added to *ConSol CM*. A bell symbol above the menu bar is used to access the notifications. It shows the number of unread (red) and pinned (green) notifications.



Clicking the bell icon, the list of notifications is opened. For each notification, the sender, text, time since the notification was received, and an icon, which shows the type of notification, is displayed. The user can click the pin icon to pin a notification. Unpinned notifications can be removed by clicking the *Clear all* button.



Both the number of notifications and the list with the notifications are updated automatically without having to reload the page.

The user can click the *New notification* button to send a notification. In the popup window, he has to select one or more **Web Client** users as recipients, choose the type of notification (message, info, alert or alarm), enter the text and click the *Send notification* button.

It is possible to add links and apply basic formatting by entering the respective html tags.

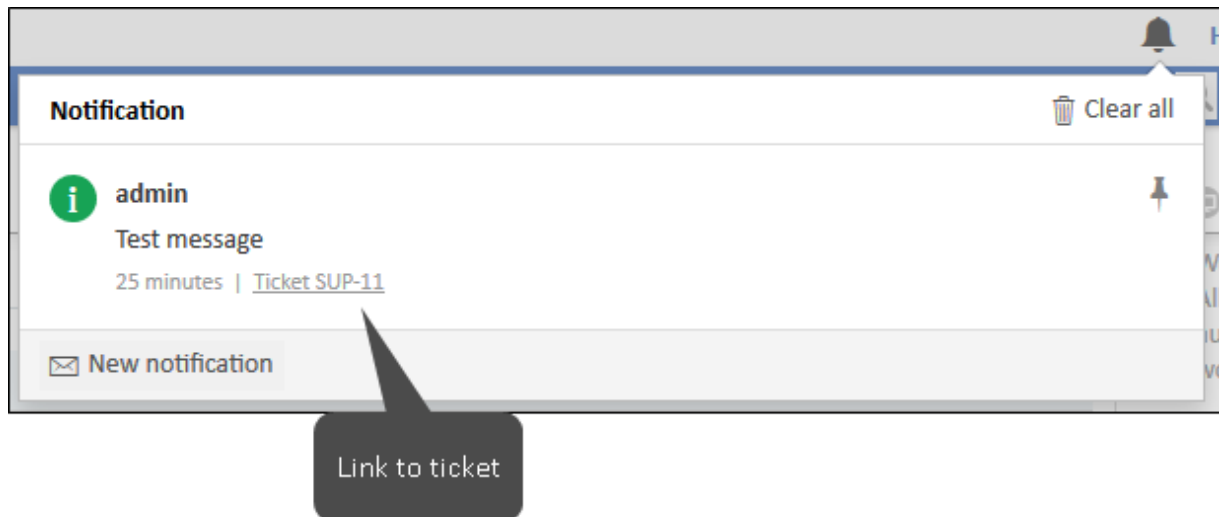
**i** In Firefox and Edge, the received notifications also appear in the Windows system notifications area. This is not supported on Internet Explorer.

**!** Notifications are not supported in **ConSol CM** systems running on a WebLogic application server.

The module `cmas-web-notifications` has been added to the *System Properties* section of the **Admin Tool** to manage notification settings. It includes the following properties:

- **notifications.enabled**  
Determines whether the notifications feature is enabled (“true”) or disabled (“false”). The default value is “true” for **ConSol CM** systems running on JBoss application servers, and “false” for **ConSol CM** systems running on WebLogic application servers.
- **ttl.days**  
Determines the time (in days) after which unpinned notifications are removed.

The **ConSol CM** API has been extended with methods which allow to create notifications using a script, for example to notify the user when a ticket is assigned to him or an escalation occurred. Notifications sent using a script can contain a context, i.e. a link to a ticket, customer or resource which the notification refers to.



The methods to create notifications belong to the class `NotificationBuilder.Builder`. Please see the **ConSol CM** API documentation for a detailed description of the available methods.

The page customization has been extended with the attribute `systemNotificationTitle` in the scope `cmApplicationCustomization`. This attribute is used to set the title of the notification in the Windows system notifications area. The default value is "{de: 'Benachrichtigung von {sender}', en: 'Notification from {sender}'}".

#### 2.2.4.1 Scripting example

The following code example creates a notification of the type "info" for two recipients (logins "webadmin" and "huber"). The notification contains a link to the ticket "SUP-11".

```

broadcasterService.notificationBuilder().
  withSenderName("admin").
  withMessage("Test message").
  withNature("INFO").
  withOrigin("SUP-11").
  withOriginContext("TICKET").
  addRecipientName("webadmin").
  addRecipientName("huber").
  build().
  send();

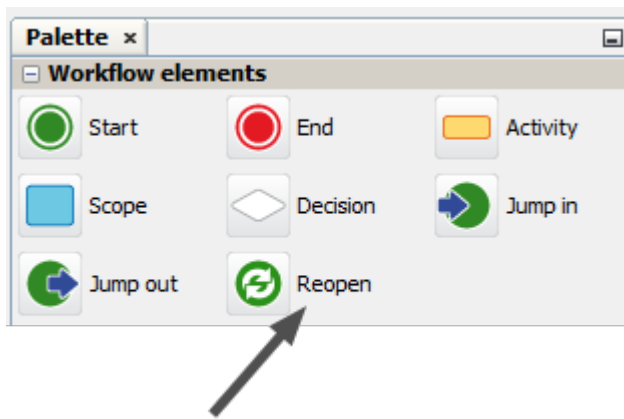
```

The possible values for `withNature()` are "NONE", "MESSAGE", "INFO", "ALERT", and "ALARM". The possible values for `withOriginContext()` are "TICKET", "UNIT", and "RESOURCE". You can provide a ticket name, customer ID or resource ID in the `withOrigin()` method.

#### 2.2.5 Reopening of tickets (#634547)

**ConSol CM** has been enhanced with the functionality to reopen technically closed tickets. This functionality can be used, for example, to reopen closed tickets when an email is received or to allow the customers to reopen a ticket if they are not satisfied with the given solution.

The new workflow element *Reopen* has been added to the **Process Designer**.



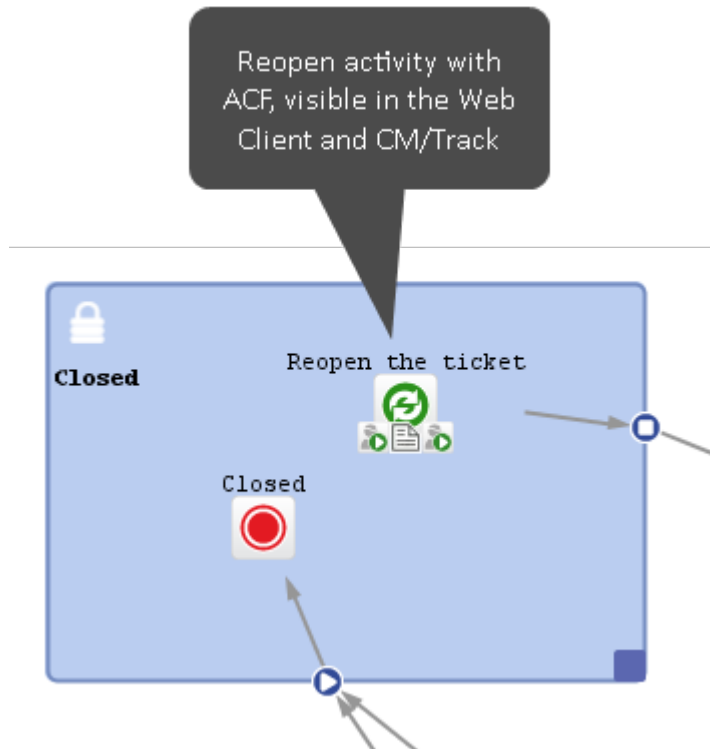
The following properties can be set for a reopen activity:

Properties	
Properties	
name	Reopen
label	Reopen the ticket
description	
sort index	1
precondition	
script	
overlay	
history visibility	default
disable auto update	<input type="checkbox"/>
expose to customers	<input checked="" type="checkbox"/>
expose to users	<input checked="" type="checkbox"/>

The properties are the same as for standard activities, except for:

- The checkbox *expose to users* controls whether the activity is available in the **Web Client**. It works in the same way as the checkbox *expose to customers* which controls the availability in **CM/Track V2** for all types of activities. If none of the checkboxes is selected, tickets can only be reopened by script.
- It is not possible to change the activity type.

Reopen activities work in a similar way as scope activities, i.e. they do not have any incoming connections and they are visible in the scope where they are located and in any subscopes of this scope.



In the **Web Client**, the activity is displayed for a closed ticket:

Ticket		Clone	Print	Workflow activities
	<b>Setup: problem with constraints on setup.</b>			Reopen the ticket
SUP-59	HelpDesk 1st Level    Closed    Unassigned    1/10/08 7:37 PM Priority low    Module AdminTool Reaction time 7/1/11 3:50 PM			<b>Workspace</b> Workspace is empty All your unsaved tasks are...

If the user executes the activity, the ticket is reopened and returned to the process as determined by its outgoing connection.



## 2.3 Changes

This section illustrates all relevant software product changes for version 6.12.0.0 of **ConSol CM**.

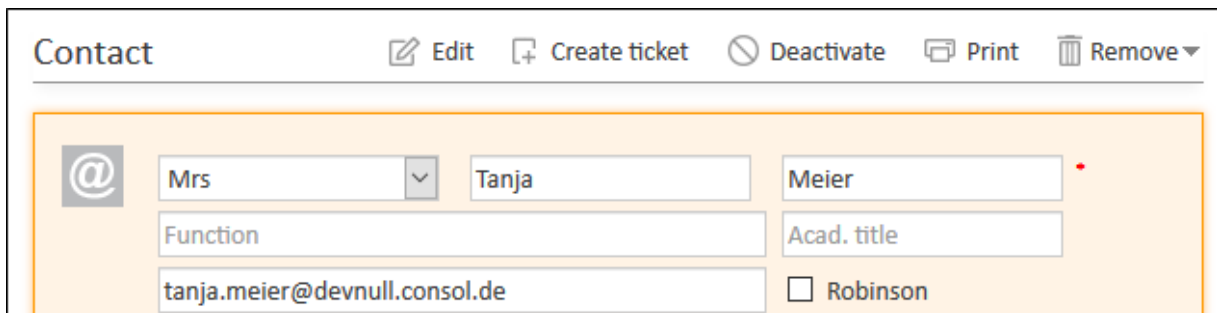
### 2.3.1 Usability improvements

#### Customer preview removed from *Relations* section (#623855)

When clicking a customer relation in the *Relations* section of a customer page, a pop-up window with an almost empty preview of the related customer was displayed. This preview was removed because it did not contain any useful information.

#### Header of contact edit page improved (#631317)

The header of the page to edit a contact in the **Web Client** has been improved. The name of the contact object, *Contact* in the below screenshot, is now displayed only once above the editing panel. Previously, it was displayed also inside the editing panel.

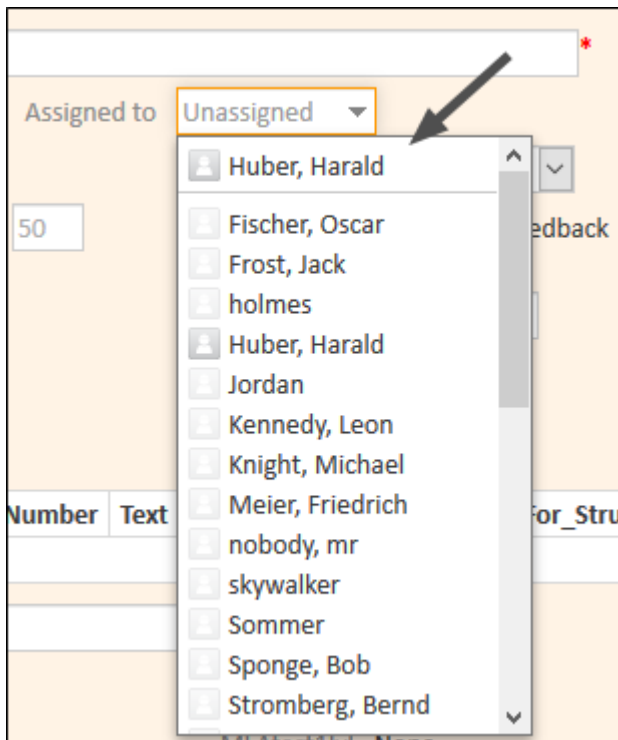


The screenshot shows the header of the contact edit page. It features a title 'Contact' and a toolbar with icons for 'Edit', 'Create ticket', 'Deactivate', 'Print', and 'Remove'. Below the header is a form with the following fields:

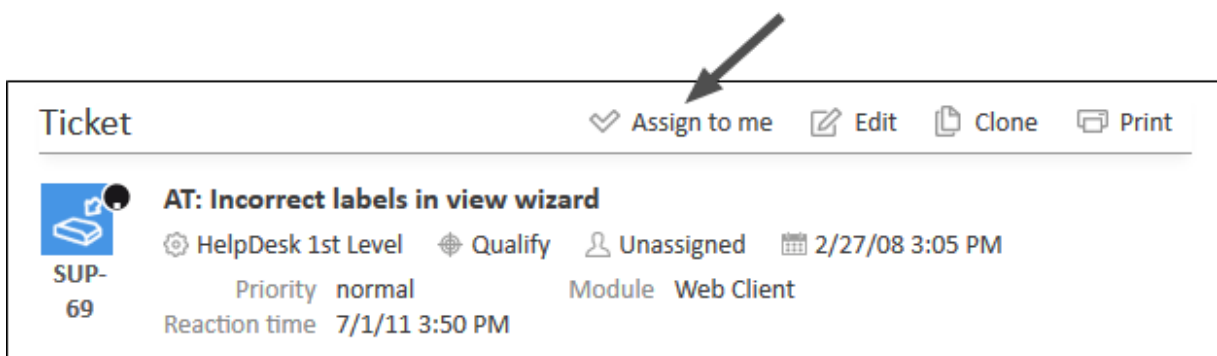
@	Mrs	Tanja	Meier
	Function		Acad. title
	tanja.meier@devnull.consol.de		<input type="checkbox"/> Robinson

#### Assigned engineer selector improved (#634850)

The selector to choose the assigned engineer of a ticket has been improved. The currently logged in engineer is now displayed at the top of the list, so the engineer does not have to scroll the list in order to assign a ticket to himself.



In addition, the wording has been improved for better consistency. The option to assign a ticket to oneself is now called “Assign to me” in English and “Mir zuweisen” in German. This applies both to the button in the ticket header and the mouse-over of the checkmark icon in the ticket list.

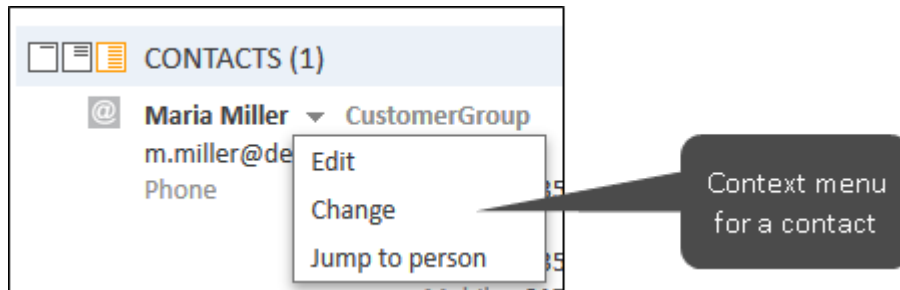
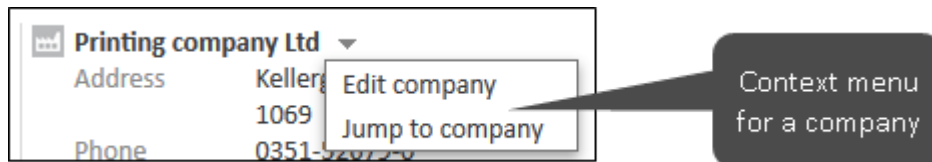


### Menu options for customers within tickets streamlined (#635419, #635438)

The available options for contacts and companies in the *Customers* section of a ticket in the **Web Client** have been streamlined:

- The context menu entry *Deactivate / Activate* of a contact has been removed. Deactivating / activating a contact is now possible on the contact page only.
- The context menu entry *Change* of a company, which could be used to assign the contact to another company, has been removed. Changing the company of a contact is now possible on the contact page only.
- The context menu entry *Edit* of a company has been renamed to *Edit company* to avoid confusions with the *Edit* option of the contact.

The available context menu entries are:

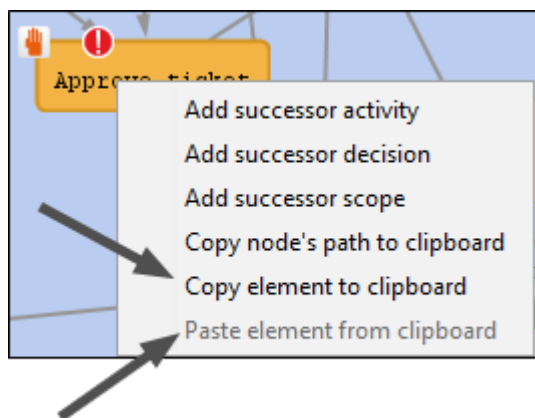


### 2.3.2 Copy & paste of elements in the Process Designer (#629368)

The functionality to copy & paste elements in the *Process Designer* has been added. This feature works for the following elements:

- scopes with all the elements within the scope
- activities and nodes (start, end, jump-in, jump-out, decision) with all their data

It can be used either by clicking the appropriate option in the context menu of the element or by using the keyboard shortcuts CTRL+C and CTRL+V.



Pasted elements are located at the bottom of the workflow.

### 2.3.3 JMS removed (#631352)


JMS as a communication channel for the index and sending of asynchronous emails has been removed. Database queues are used instead.

The system property `cmas-core-index-common`, `database.notification.enabled` has been removed as it is not needed anymore.

The following email-related system properties have been changed:

- **mailSender.retryInterval.seconds**  
New. Period before another attempt to send an email is made.
- **mailSender.maxAttempts**  
New. Maximum number of attempts before an email is removed.

- **mailSender.executionInterval.seconds**  
New. Period before the system checks if there are new messages to be sent.
- **mailSender.lockTimeout.seconds**  
New. Period before a locked email is released for another lock.
- **mailSender.lockingLimit**  
New. Number of emails fetched for sending in a single transaction.
- **mailSender.txTimeout.seconds**  
New. Transaction timeout for sending emails.
- **mailSender.threads.number**  
New. Number of threads for sending emails.
- **mailSender.nodeId**  
New. ID of the node on which the thread for sending emails is started (only in clustered environments).


 All JMS queues need to be empty before performing an update to **ConSol CM** version 6.12.0.0.

To empty the index and DWH queues, you can switch the communication channels to database / direct communication and wait until all JMS messages are processed. There is no way of switching the channel used for asynchronous emails, so unprocessed emails will not be sent if you have to empty the JMS queue for the update.

You can check the status of the JMS queues using a tool like JMSToolBox. Make sure that *queue/cm6-index*, *queue/cm6-mail* and *topic/cm6-event* are empty.

### 2.3.4 Changes to the responses returned by the REST API (#631677)

In **ConSol CM** version 6.11.2.2, the **ConSol CM** REST API has been updated for better compliance with industry standards.

 It is necessary to check any custom-built applications and interfaces which use the REST API, including customized **CM/Track V2** applications. Depending on the custom implementation, the changes might impair their correct functioning.

The following changes have been introduced:

- Boolean values are now returned as **true** or **false**. Previously they were serialized as strings.
- Lists do not use redundant subitems anymore. In addition, the same structure is used for lists containing one item and for lists containing several items. Previously, lists containing only one item were returned as single items instead of lists.
- The XML structure of the list of ticket history entries has changed. It now contains the tag **<entries>** twice.
- The prefix **@** is now used only for attributes for which localization is possible. Previously, it was used for any attribute.

The following sections show examples of the changes by comparing the same output in version 6.11.2.1 and 6.12.0.0. The changes are highlighted in red.

### 2.3.4.1 Boolean values

#### Version 6.11.2.1

```
{ "queue": [ { "@uri": "http://cm.consol.pl:8998/restapi/queues/HelpDesk_1st_Level?v=iZhz8ZPw4DAWJo7hzvhCiA%3D%3D", "@name": "HelpDesk_1st_Level", "enabled": "true", "name": "HelpDesk 1st Level" } ] }
```

#### Version 6.12.0.0

```
[ { "uri": "http://cm.consol.pl:8988/restapi/queues/HelpDesk_1st_Level?v=iZhz8ZPw4DAWJo7hzvhCiA%3D%3D", "@name": "HelpDesk_1st_Level", "name": "HelpDesk 1st Level", "enabled": true } ]
```

### 2.3.4.2 Lists

#### Version 6.11.2.1

```
"tickets": { "ticket": [ { "@uri": "http://cm.consol.pl:8998/restapi/tickets/100412", "@name": "100412", "@id": "100012" }, { "@uri": "http://cm.consol.pl:8998/restapi/tickets/100226", "@name": "100226", "@id": "100195" } ] }
```

#### Version 6.12.0.0

```
"tickets": [ { "name": "100412", "id": 100183, "uri": "http://cm.consol.pl:8988/restapi/tickets/100412" }, { "name": "100213", "id": 100113, "uri": "http://cm.consol.pl:8988/restapi/tickets/100213" } ]
```

### 2.3.4.3 Lists with one item

#### Version 6.11.2.1

```
"tickets": { "ticket": { "@uri": "http://localhost:8888/restapi/tickets/100011", "@name": "100011", "@id": "100011" } }
```

#### Version 6.12.0.0

```
"tickets": [ { "name": "100262", "id": 100042, "uri": "http://localhost:8888/restapi/tickets/100262" } ]
```

### 2.3.4.4 Lists in XML (ticket history entries only)

#### Version 6.11.2.1

```
<entries><entry xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="textEntryElementV2" mime="text/html" id="e1131e5f-ffec-11e6-b247-
cf0d1dc1989c" encoding="UTF-8" creationDate="2017-03-03T09:39:13.487+01:00"
authorDescription="Susan ServiceDesk"><author
uri="http://localhost:8888/restapi/engineers/19"/><contentType>TEXT_
ENTRY</contentType><text>&lt;div class="richContent_
2079874970">&lt;div>Our printer does not work
properly&lt;/div>&lt;/div>&lt;/text></entry></entries>
```

#### Version 6.12.0.0

```
<entries><entries><entry xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="textEntryElementV2" authorDescription="webadmin&#xA;"
creationDate="2018-12-06T13:47:15.533+01:00" encoding="UTF-8" id="0f1460a9-f955-
11e8-a070-2340a3c07d50" mime="text/html"><author
uri="http://localhost:8888/restapi/engineers/37"/><contentType>TEXT_
ENTRY</contentType><text>&lt;div class="richContent_2079874970" style="font-
family:verdana,geneva;font-
size:8pt;">&lt;div>test&lt;/div>&lt;/div>&lt;/text></entry>
</entries></entries>
```

### 2.3.4.5 @ prefixes

#### Version 6.11.2.1

```
{"@uri":"http://cm.consol.pl:8998/restapi/queues/HelpDesk_1st_
Level?v=iZhz8ZPw4DAWJo7hzvhCiA%3D%3D","@name":"HelpDesk_1st_
Level","enabled":"true","name":"HelpDesk 1st Level"}
```

#### Version 6.12.0.0

```
{"uri":"http://cm.consol.pl:8988/restapi/queues/HelpDesk_1st_
Level?v=iZhz8ZPw4DAWJo7hzvhCiA%3D%3D","@name":"HelpDesk_1st_
Level","name":"HelpDesk 1st Level","enabled":true}
```

## 2.3.5 Unused methods removed from [UnitCriteria](#) (#631800)

The methods `isUseInCriterion` and `setUseInCriterion` from the class `UnitCriteria` have been removed from the **ConSol CM** API as they were not used.

## 2.3.6 Different layout settings for the view and edit mode in **CM/Track V2** (#632326)

The **CM/Track V2** configuration which is managed in the **Admin Tool** section *Clients -> Configurations* has been extended with the possibility to specify a different ticket field layout for creating a ticket and for viewing a ticket in **CM/Track V2**.

The configuration JSON features four new settings:

- **editLayout**  
Ticket field layout for the edit mode (ticket creation). The syntax is the same as for the previously available setting `layout`.
- **viewLayout**  
Ticket field layout for the view mode. The syntax is the same as for the previously available setting `layout`.
- **editLayoutOptions**  
Additional layout settings for the edit mode (ticket creation). The syntax and available settings are the same as for the previously available setting `layoutOptions`.
- **viewLayoutOptions**  
Additional layout settings for the view mode. The syntax and available settings are the same as for the previously available setting `layoutOptions`.

The template with the example configuration in the **Admin Tool** has been updated to show these new settings.

The previous settings `layout` and `layoutOptions` remain available and are applied for both the view mode and the edit mode.

Example:

```
{
  "editLayout": {
    "helpdesk_standard": [
      ["qa_list", "country"],
      ["priority", "priority"],
      ["categories", "categories"]
    ]
  },
  "editLayoutOptions": {
    "expandable": true,
    "defaultColumnsNr": 2
  },
  "viewLayout": {
    "helpdesk_standard": [
      ["categories", "priority", "priority"],
      ["qa_list", "country", "module"]
    ],
    "address": [
      ["city", "zip", "street"]
    ]
  },
  "viewLayoutOptions": {
    "expandable": false,
    "defaultColumnsNr": 3
  }
}
```

### 2.3.7 JBoss default configuration changed (#632510)

The default configuration for **ConSol CM** installations under JBoss has been changed for all supported databases in `cm6.xml`, `cm6-cmr-f.xml` and `domain.xml`. The value for `max-post-size` has been set to "10MB".

### 2.3.8 Deprecated methods removed from `TicketPayload` (#633196)

The deprecated methods `setAdditionalContacts` and `getAdditionalContacts` from the class `TicketPayload` have been removed from the **ConSol CM** API. They have been replaced by the methods `setUnitContactTicketRoleMap` and `getUnitContactTicketRoleMap` from the same class.

The following example shows how to use `setUnitContactTicketRoleMap`:

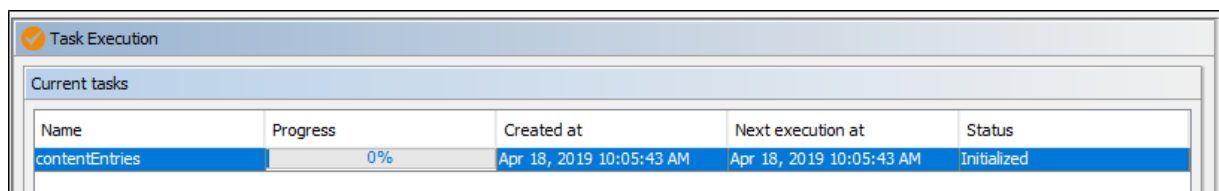
```
TicketPayload ticketOptionalData = new TicketPayload();
Map<Unit, ContactTicketRole> unitContactTicketRoleMap = new HashMap<Unit,
ContactTicketRole>(pAdditionalContacts.size());
for(Unit unit: pAdditionalContacts) {
    unitContactTicketRoleMap.put(unit, ContactTicketRole.DEFAULT_ROLE);
}
ticketOptionalData.setUnitContactTicketRoleMap(unitContactTicketRoleMap);
}
```

### 2.3.9 Improved handling when creating engineers using scripts (#633252)

When creating a new engineer via script, the new engineer has to be saved using `engineerService.create()` before setting a password for the engineer. Otherwise the transaction is rolled back and an error message informing about the correct order is written to the log files.

### 2.3.10 Display of task execution in the *Admin Tool* improved (#633485)

The display of the tasks in the **Admin Tool**, section *Services -> Task Execution*, has been improved. The column *Scheduled date* has been renamed to *Created at* and the column *Execution date* has been renamed to *Next execution at*. The columns now show both the date and the time of the creation / next execution of the task.



Name	Progress	Created at	Next execution at	Status
contentEntries	0%	Apr 18, 2019 10:05:43 AM	Apr 18, 2019 10:05:43 AM	Initialized

### 2.3.11 Indexer management in clustered environments improved (#633889, #633890)

Index management when running **ConSol CM** in a cluster has been improved. It is now possible to switch the node which acts as master indexer by providing the new master node in the system property `cmas-core-index-common, synchronize.master.address`. This node becomes the master indexer and the previous master becomes a slave.

Index updates are archived for a configurable amount of time, so the new master can recover missing data in case it had not been fully synchronized with the previous master indexing server at the moment of switch. The system property `cmas-core-index-common, synchronize.archive.timeout.minutes` has been added to set the time period during which index updates are archived. The default value of this property is "60" (minutes) for clustered environments and "0" for non-clustered environments.



### 2.3.12 Support for multicast dropped (#634234)

The support for multicast communication within a cluster has been dropped. **ConSol CM** clusters have to use unicast starting from version 6.12.0.0.

Therefore, the system property `cmas-core-shared`, `cluster.unicast` is not needed anymore and has been removed.

The application server configuration files `domain.xml` and `host.xml` have been adapted accordingly.

### 2.3.13 Close date available as search criterion (#634340)

The close date of a ticket is now available as a search criterion in the Detailed Search in the **Web Client**. The page customization attribute `closeDateTicketSearchParameterEnabled` has been added to the scope `searchDetailPage` to enable or disable the search by close date. By default, the attribute is set to "true", meaning that the close date is available.



Only tickets whose close date is indexed are found in the search. On updated systems, this means that tickets closed in a **ConSol CM** version prior to 6.11.2.2 are only found if the index was fully synchronized afterwards.

### 2.3.14 Health check extended with license information (#634353)

The health check endpoint available at `<CM URL>/health/report` and `<CM URL>/health/check` has been extended with license information. For each license pool, the number of available licenses and the number of licenses which are currently in use is now shown:

```

▼ cmas-core-server-licence:
  status: "SUCCESS"
  name: "licence system information"
  ▼ attributes:
    ▼ statistics:
      ▼ 0:
        pool name: "PROCESS_DESIGNER"
        consumed licences: 0
        all licences: 5
      ▼ 1:
        pool name: "TRACK_USERS"
        consumed licences: 0
        all licences: 20
      ▼ 2:
        pool name: "REST_USERS"
        consumed licences: 0
        all licences: 100
      ▼ 3:
        pool name: "ADMINTOOL_USERS"
        consumed licences: 0
        all licences: -1
      ▼ 4:
        pool name: "CONCURRENT_USERS"
        consumed licences: 1
        all licences: 100
      ▼ 5:
        pool name: "TRACK"
        consumed licences: 0
        all licences: 100

```

### 2.3.15 Guava library updated (#634494)

The guava library has been updated from version 18.0 to version 27.0.1. This update includes some API changes. Please see <https://github.com/google/guava/wiki/ReleaseHistory> for further information.

### 2.3.16 Loading of Highchart libraries enhanced (#634534)

It is now possible to configure which Highchart libraries should be loaded. The page customization of the **Web Client** has been enhanced for this purpose. For widgets of the type “chart”, the following attributes are now available:

- **highcharts3dEnabled**

Determines whether the 3D display module should be loaded. The default value is “false”. Set this attribute to “true” to load the 3D module.

- **highchartsModulesEnabled**

Determines which additional modules should be loaded. The available modules are:

- accessibility.js
- annotations.js
- boost.js
- broken-axis.js
- bullet.js
- current-date-indicator.js
- cylinder.js
- data.js
- debugger.js
- drilldown.js
- export-data.js
- exporting.js
- full-screen.js
- funnel.js
- networkgraph.js
- no-data-to-display.js
- offline-exporting.js
- pareto.js
- series-label.js
- solid-gauge.js
- sonification.js
- static-scale.js
- sunburst.js
- tilemap.js
- timeline.js
- treemap.js
- variable-pie.js
- variwide.js
- vector.js
- venn.js
- windbarb.js
- wordcloud.js
- xrange.js

The modules to be loaded can be specified by entering the module names, including the file extension “.js”, separated by comma.

### 2.3.17 Downloads section added to the user profile (#634718)

The user profile in the **Web Client** has been enhanced. It now features a new section called **Downloads** which contains **ConSol CM** applications which the user needs to install locally. The currently available applications are **CM/Doc** and **CM/Phone**.

DOWNLOADS	
<i>Before downloading our local application installers, please ensure with your system responsible/administrator that ConSol CM is properly configured for the corresponding addon.</i>	
Download	Description
CM/Doc Installer	Installer for the local CM/Doc application. CM/Doc enables local office document generation with MS Word and Open/Libre Office. (Windows only)
CM/Phone Installer	Installer for the local CM/Phone application. CM/Phone provides basic telephony integration via incoming phone call popups and click to dial. (Windows only)

Links to download  
the application

### 2.3.18 Method to sort engineers added (#635609)

The **ConSol CM** API has been extended with the possibility to retrieve engineers in an ascending or descending sorting. The method `addOrder()` can now be used for objects of the class **EngineerCriteria**. The following example shows how to use this method:

```
engineerCriteria.addOrder(PropertyOrder.desc(EngineerCriteria.NAME));
```

## 2.4 Bugs fixed

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

Number	Description
<b>632893</b>	<b>Additional customer could be removed from a ticket using the REST API</b> It was possible to remove an additional customer of a ticket using the <b>ConSol CM</b> REST API when logged in as the ticket's main customer. This problem has been solved and it is not possible anymore to remove an additional customer in this scenario.

### 3. Version 6.12.0.1 (07.11.2019)

Version 6.12.0.1 includes all **ConSol CM** changes and additions of

- 6.11 versions up to 6.11.2.7
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Changes with respect to the previous minor release (6.12.0.0):

- Merged versions 6.11.2.5, 6.11.2.6 and 6.11.2.7

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

## 3.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.12.0.1 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.

### 3.1.1 System upgrade from 6.11.2 and earlier versions


This **ConSol CM** release needs specific planning for an update from earlier releases. Please check the instructions for release 6.12.0.0 ([System upgrade from 6.11.2 and earlier versions](#)).

### 3.1.2 JDBC driver for Oracle databases updated (#634401)

The JDBC driver for Oracle databases delivered with the **ConSol CM** distribution has been updated to version 12c, and the previously provided driver for Oracle 11g has been removed. The Oracle 12c driver can be used for both Oracle 11g and Oracle 12c databases.

### 3.1.3 Support for AdoptOpenJDK added for **CM/Doc** (#641393)

The support for AdoptOpenJDK (<https://adoptopenjdk.net>) as a Java Runtime Environment for using **CM/Doc** has been introduced. Alternatively, Oracle's Java 8 Runtime Environment can be used.


 You can find detailed information about the supported Java versions in the *System Requirements*.

### 3.1.4 JDBC driver for **Microsoft SQL Server** databases updated (#641597)

The JDBC driver for **Microsoft SQL Server** databases has been updated to version 7.4.1. This driver can be used for all supported versions of **Microsoft SQL Server**.

### 3.1.5 Support for WildFly 11 added (#641732)

Support for WildFly 11 as an application server for **ConSol CM** has been added starting with version 6.12.0.1. The configuration files are the same as for JBoss EAP 7.1.4.

 WildFly is not supported for clustered environments.


No further instructions available.


## 3.2 New features

The features newly introduced in this **ConSol CM** version 6.12.0.1 are described in detail in this section.


### 3.2.1 New **Web Admin Suite** (#634610)

The **Admin Tool** will be replaced by a modern web application called **Web Admin Suite**. The functionality of the **Admin Tool** will be integrated into the **Web Admin Suite** in several steps. The initial release of the **Web Admin Suite** includes the user and role administration and the list administration.

 The **Admin Tool** remains available with all its functionality, i.e. it is now possible to use both the **Admin Tool** or the **Web Admin Suite** to manage users, roles and lists.

 The initial release of the **Web Admin Suite** does not include all functionalities of the **Admin Tool**. Please use the **Admin Tool** for the missing functionality.

The default URL for accessing the **Web Admin Suite** is `/was`.

 The **Web Admin Suite** is only supported on JBoss EAP 7.1.4 application servers.

The new **Web Admin Suite** sections are called *Access & Roles* and *Lists*.

The *Access & Roles* section includes two items:

- **Users**  
Manage users and user profiles (navigation item *Engineers* of the **Admin Tool**)
- **Roles**  
Manage roles (navigation item *Roles* of the **Admin Tool**)

The *Lists* section includes one item:

- **Enumerated lists**  
Manage lists (navigation item *Enums* of the **Admin Tool**)

The functionality is the same as in the **Admin Tool**, but several usability improvements were made. The most important improvements of the **Web Admin Suite** are explained in the following sections.

#### 3.2.1.1 General aspects

The following general improvements were made for the **Web Admin Suite**:

- The **Web Admin Suite** is a modern web application with responsive design. It can be accessed using any supported browser.
- The start page / dashboard of the **Web Admin Suite** shows more detailed information about the system status: memory, CPU, database, workflow engine, Data Warehouse, email processing (incoming and outgoing).
- There is a *Help* icon to open the context-sensitive online help.
- Only users with administrator permissions can log in to the **Web Admin Suite**. Administrators who have only permissions to manage users and roles only see the menu items in *Access & roles*.





Please note that it is not possible to use the **Web Admin Suite** in several browser tabs at once because the data is not synchronized between the tabs. If another user makes changes to the same area, a message to reload the application data is displayed.

### 3.2.1.2 User administration

The following improvements were made to the user administration in the **Web Admin Suite**:

- Portal user profiles for **CM/Track V2** only contain the required data for a user profile, e.g. no name fields.

Create new user

User profile **Portal profile**

Login \*

Email \*

Password \*

Confirm password \*

Select roles to assign

CREATE USER CANCEL

- When creating a user, it is possible to assign roles on the creation screen.
- The usability of bulk operations has been improved. The *Assign roles to users* window provides a clear GUI to assign several roles to several users.

- It is possible to set the main role of a user by simply clicking the role in the user details.

The following functionality is not part of the initial release of the **Web Admin Suite**. Please use the **Admin Tool** for these settings:

- Setting view criteria for a user

### 3.2.1.3 Role administration

The following improvements were made to the role administration in the **Web Admin Suite**:

- The number of assigned users, permissions and views is displayed on the overview screen.

Role name ↑	Users assigned	Queue permissions	Customer group permissions	Resource type permissions	Global permissions	Views assigned
HD_1st_Level_Role	10	22	4	–	1	3
HD_1st_Level_Role_w/o_change_engineer	2	14	1	–	–	2
HD_2nd_Level_Role	6	17	4	–	–	2
HD_2nd_Level_Role_readonly	1	3	4	–	–	2
HD_2nd_no_read	1	26	17	8	–	–
HD_Sales_Role	7	17	12	–	–	8

- It is possible to view the users with a given role and to assign / unassign the role.
- The administrator roles are indicated by tags (ADMIN, CONFIG ADMIN and PERMISSIONS ADMIN) which are visible on the overview screen, so that they can be located easily.
- The labels of the permissions have been improved. The three types of administrator permissions are now called *Global admin*, *Config admin* and *Administrate users and roles*, instead of *Administrate system (full access)*, *Administrate system (configuration only)* and *Administrate access and roles*

The following functionality is not part of the initial release of the **Web Admin Suite**. Please use the **Admin Tool** for these settings:

- Assigning engineer functions to roles

### 3.2.1.4 List administration

The following improvements were made to the list administration in the **Web Admin Suite**:

- The terminology has been improved. The structure of the list administration is now “category -> list -> value” instead of “type” -> “group” -> “value”. The sorting options for lists are now “By localized values” and “By list position” instead of “name” and “user-defined”.
- The localized list values can now be edited directly, without having to open a popup window.

The screenshot displays the 'List values' management interface. On the left, a list of values is shown with a search bar and a '+ NEW LIST VALUE' button. The values are: 'low' (yellow), 'normal' (blue), 'high' (red), and 'critical' (white). The right panel, titled 'Update list value', shows the configuration for the selected 'low' value. It includes an 'Internal name \*' field with the value 'low', a 'LOCALIZATIONS' section with fields for 'English' (Low), 'German' (Niedrig), and 'Polish', and a 'COLOR' section with a 'Color selection' field showing a yellow color swatch. A red 'UPDATE LIST VALUE' button is located at the bottom right of the right panel.

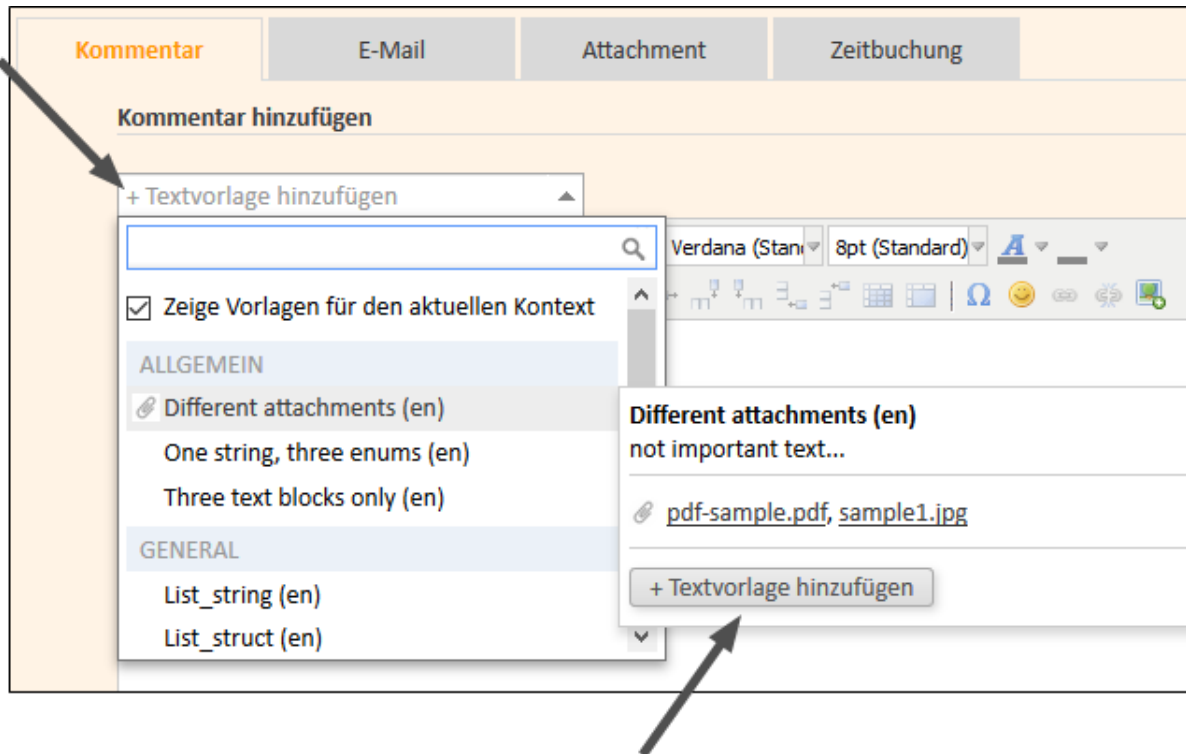
## 3.3 Changes

This section illustrates all relevant software product changes for version 6.12.0.1 of **ConSol CM**.

### 3.3.1 Usability improvements

#### Wording of the text template selector improved (#632398)

The German localization of the text template selector in the comment editor in the **Web Client** has been improved. It is now *Textvorlage hinzufügen* and thus matches the wording used in the email editor.



#### Tooltip for scripted autocomplete fields (#632792)

The value of a scripted autocomplete field is now displayed in a tooltip in the edit mode of the **Web Client**. In this way, the user can see the complete value even if it is cut off in the field itself.



#### Scrolling in the news widget improved (#641381)

It is now possible to display long news entries in the news widget in the **Web Client**. If the entry exceeds the default size, a scrollbar is displayed so the user can scroll to see the whole entry.

### Wording in the notifications window improved (#641855)

The texts used in the notifications window in the **Web Client** have been improved. The heading is now in plural (*Notifications* in English and *Benachrichtigungen* in German). The indication of the time when a notification was received is now displayed according to the locale set in the browser. In addition, its English wording has been improved by adding the word *ago*.

### Wording of the default queue improved (#641900)

The German label for the default queue setting in the user profile of the **Web Client** has been improved. It is now “Standard-Prozess” with a hyphen, where “Prozess” is the label `cmweb.main.queue.base.initcap` set in the *Labels* section of the **Admin Tool**.

### 3.3.2 Logging for **CM/Track V2** improved (#634551)

Log messages which are related to **CM/Track V2** are now written to a separate log file called `track_jersey.log`. The logging sections of the **ConSol CM** configuration files `cm6.xml`, `cm6-cmrf.xml` and `domain.xml` have been modified accordingly.

### 3.3.3 Assignment of administrator permissions enhanced (#635036)

There are three different types of administrator permissions which can be assigned to a role in the *Global Permissions* tab of the *Roles* section in the **Admin Tool** and/or **Web Admin Suite**.

Administrator type	Permission <i>Admin Tool</i>	Permission <i>Web Admin Suite</i>
Global administrator	Administrate system (full access)	Global admin
Configuration administrator	Administrate system (configuration only)	Config admin
Account administrator	Administrate access and roles	Administrate users and roles

Administrators cannot assign roles or permissions of a higher level or manage engineers who have roles with higher level permissions. Therefore, some restrictions regarding role and engineer management apply for the configuration and account administrator. These administrators cannot perform the following actions:

- Add or remove higher level permissions to/from roles
- Assign roles containing higher level permissions to engineers or unassign them from engineers
- Manage roles containing higher level permissions (create, copy, delete)
- Manage users who have roles containing higher level permissions (copy, edit, enable, disable, delete)



This restriction is not yet fully implemented in the **Web Admin Suite**.

These restrictions apply to the following permissions:

#### **Configuration administrator:**

- Administrate system (full access) / Global admin

#### **Account administrator:**

- Administrate system (full access) / Global admin
- Administrate system (configuration only) / Config admin
- Workflow read
- Workflow write
- Workflow deploy

### 3.3.3.1 *Admin Tool* changes

The way how these limitations are implemented in the **Admin Tool** has been changed:

- In the *Roles* section: The *Global permissions* tab is accessible for all administrators. The permissions which the currently logged in administrator is not allowed to assign are grayed out.
- In the *Engineers* section: The buttons to edit, delete, enable or disable an engineer are grayed out for all engineers who have roles with higher permissions assigned than the currently logged in administrator. In the *Roles* tab, it is not possible to assign or unassign any role including higher permissions.

The roles which include the *Administrate access and roles* permission are now displayed in a brown color to make them easier to find. The roles with global or configuration administrator permissions are displayed in red as in earlier versions of **ConSol CM**.

### 3.3.4 Support for **CM/Doc** on Firefox and Internet Explorer using HTTPS introduced (#635617)

**Mozilla Firefox** and **Microsoft Internet Explorer** are now supported as browsers for use with **CM/Doc** when the **Web Client** uses HTTPS. For this purpose, **CM/Doc** generates a self-signed certificate on the user's machine.

In order to import the certificate to the browser where the **Web Client** is used, the page <https://<URL to your CM system>:30333> is opened in the default browser. If the page is not opened automatically when starting **CM/Doc** for the first time, the user can open it from the context menu of **CM/Doc** by clicking the new entry *Preferences -> Web Browser*. If the **Web Client** is used in another browser, he can copy the link from the popup window.

In Internet Explorer, the certificate generated by **CM/Doc** (file `public.crt` in `C:\Users\<your user name>\AppData\Local\cmdoc\security`) also needs to be imported manually to the *Trusted Root Certificate Authorities* certificate store.

In addition, the context menu of **CM/Doc** has been extended with the entry *Open documentation*, which opens the online help about **CM/Doc**.

### 3.3.5 **CMRF** configuration files adapted (#641296)

The **CMRF** configuration files for JBoss EAP application servers and Oracle databases, `cm6-cmr-f.xml`, `cmr-f.xml` and `domain.xml`, have been adapted to support the new JDBC drivers for Oracle. In the non-transactional datasource (`Cmr-fDS-no-tx`), the value of the setting for `oracle.jdbc.implicitStatementCacheSize` has been changed to "0".

### 3.3.6 Security improvements (#641359, #641360)

The security of session management and the authentication of services have been improved.

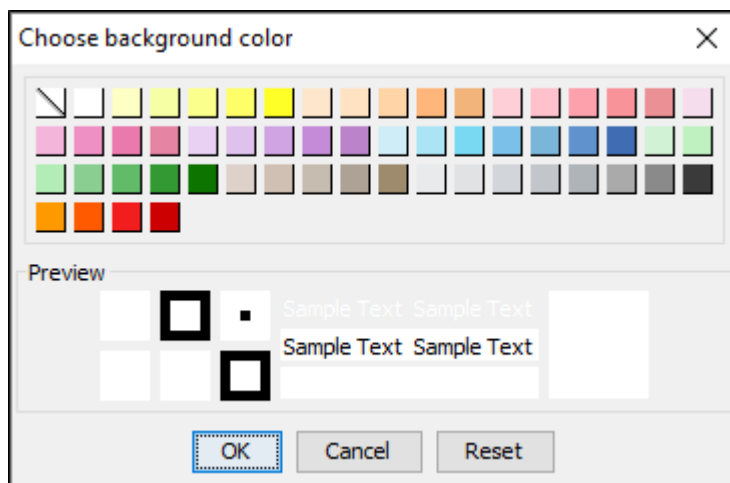
### 3.3.7 System documentation scripts added (#641372)

The default scripts for generating system documentation are now added to the *Scripts* section of the **Admin Tool** when setting up a new **ConSol CM** system or updating to **ConSol CM** version 6.12.0.1. The scripts are called `defaultDocumentationGenerator_V6_12_0_1_EN.groovy` and `defaultDocumentationGenerator_V6_12_0_1_DE.groovy` and have the type *System documentation*.

### 3.3.8 Color selection for classes of text extended (#641399)

The range of colors which can be selected for a class of text in the **Admin Tool** has been extended. Several darker colors, which are optimized for the display of news entries in news widgets, are available now.

The following figure shows the available colors:



### 3.3.9 Sample cluster configuration for unicast mode adapted (#641630)

The sample configuration for running **ConSol CM** in a cluster using unicast communication has been added to the configuration files `host.xml` and `domain.xml`.

### 3.3.10 Logic for sending notifications improved (#642044)

The logic for sending notifications has been improved, so that notifications which are created via script are not sent if the parent transaction fails. This can happen for example when the script is called by an activity whose execution is rolled back. In this case, notifications which are created within the script are not sent.

## 3.4 Bugs fixed

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

Number	Description
635174	<p><b>Element's path could not be copied in the <i>Process Designer</i></b></p> <p>The function to copy the path of a workflow element in the <i>Process Designer</i> did not work. This problem has been solved and the path of a workflow element can now be copied to the clipboard using the respective entry in the element's context menu.</p>
641397	<p><b>Cancel button missing in <i>Document</i> tab of the <i>Web Client</i></b></p> <p>The <i>Cancel</i> button was not displayed in the <i>Document</i> tab of the <i>Web Client</i> if no document template was available for the ticket. This problem has been solved and the <i>Cancel</i> button is now always displayed.</p>
641400	<p><b>Exception when editing document with <i>CM/Doc</i></b></p> <p>When editing documents with <i>CM/Doc</i>, exceptions due to size limits could occur. In this case, the edit button did not work. This problem has been solved by increasing the configured size limits.</p>
641439	<p><b>Scope activities available for closed tickets</b></p> <p>When the scope of the end node or one of its outer scopes contains a scope activity, the scope activity was displayed even if the ticket was closed. This problem has been solved and scope activities are not displayed for closed tickets anymore.</p>
641470	<p><b>Changes to data fields done in customer or resource actions not available in the index</b></p> <p>If the value of a data field of a customer or resource was updated in a script which belongs to a manual customer or resource action, the change was visible in the respective object but not propagated to the index. This problem has been solved and changes to data fields done in customer or resource action scripts are now available in the index.</p>
641602	<p><b>DWH could not be initialized under <i>WebLogic</i></b></p> <p>It was not possible to initialize the DWH on <i>WebLogic</i> application servers. This problem has been solved and the DWH now works as expected under <i>WebLogic</i>.</p>
641614	<p><b>Exception when trying to execute an invalid resource action</b></p> <p>When clicking a resource action which is displayed although it should not be available (either because it was disabled in the <i>Admin Tool</i> after the user opened the page, or because the precondition script which controls its availability accesses old data because the resource data was not updated properly in the preceding resource action), an exception occurred. This problem has been solved and such an exception does not occur anymore.</p>
641970	<p><b>Unsaved changes not saved to the workspace when clicking a link in a notification</b></p> <p>When the user clicked the link to a ticket, customer or resource within a notification in the <i>Web Client</i>, the respective object was opened, but unsaved changes to the object which the user had been editing before clicking the link were not saved to the workspace. This problem has been solved and unsaved changes are now saved to the workspace.</p>



Number	Description
642098	<p><b>Notification could not be sent twice to the same user</b></p> <p>On <i>ConSol CM</i> systems using a <b>Microsoft SQL Server</b> database, it was not possible to send a notification twice to the same user. This problem has been solved and this constraint does not apply anymore.</p>

## 4. Version 6.12.0.2 (10.12.2019)

Version 6.12.0.2 includes all **ConSol CM** changes and additions of

- 6.11 versions up to 6.11.2.8
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Changes with respect to the previous minor release (6.12.0.1):

- Merged version 6.11.2.8

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

## 4.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.12.0.2 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.

### 4.1.1 System upgrade from 6.11.2 and earlier versions

This **ConSol CM** release needs specific planning for an update from earlier releases. Please check the instructions for release 6.12.0.0 ([System upgrade from 6.11.2 and earlier versions](#)).

## 4.2 Changes

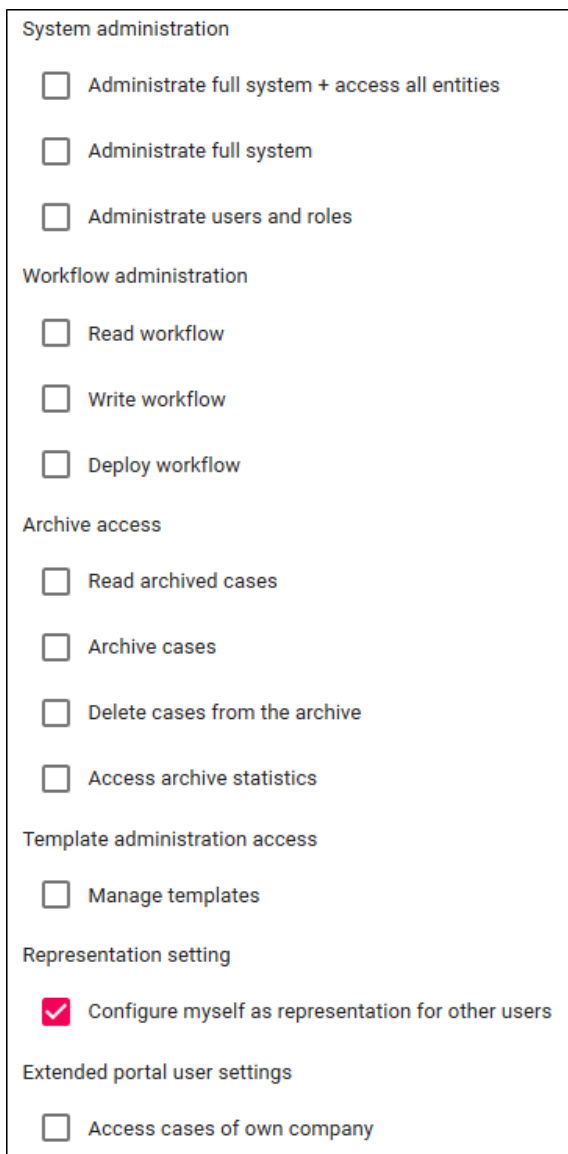
This section illustrates all relevant software product changes for version 6.12.0.2 of **ConSol CM**.

### 4.2.1 Usability improvements

#### Global permissions settings page improved (#635526)

The page to assign global permissions to roles in the **Web Admin Suite** has been improved. The permissions are now displayed as a list which is grouped by area. In addition, the permission names have been adapted to be more self-explanatory and tooltips with detailed descriptions have been added.

The following screenshot shows the new names of the permissions:



The screenshot displays a list of permissions organized into several categories, each with a checkbox:

- System administration**
  - Administrate full system + access all entities
  - Administrate full system
  - Administrate users and roles
- Workflow administration**
  - Read workflow
  - Write workflow
  - Deploy workflow
- Archive access**
  - Read archived cases
  - Archive cases
  - Delete cases from the archive
  - Access archive statistics
- Template administration access**
  - Manage templates
- Representation setting**
  - Configure myself as representation for other users
- Extended portal user settings**
  - Access cases of own company

#### Sorting list values using drag&drop (#642172)

The list values in the *Enumerated lists* section of the **Web Admin Suite** can now be sorted using drag&drop.

## 4.2.2 Script validation enhanced (#642185)

The script validation in the **Admin Tool** has been enhanced with the possibility to enable a strict validation. In this case, the validation which is done on the fly while editing a script also checks if the invoked methods exist for the objects.

To enable the strict script validation, add the following line to the script:

```
//enable-strict-mode
```

It is possible to add type hints to avoid false positives, which might occur for example when calling other scripts and using classes and methods defined in other scripts. Use the following syntax to add type hints:

```
//type-hint[someProperty:someClass]
```



This feature is still in an experimental state. Therefore, the validation might return some false positives.

## 4.2.3 Log level for notification warnings changed (#642241)

When sending a notification to a user which is not logged in to the **Web Client** in that moment, a message with the log level WARN was written to the **server.log**. As this situation occurs frequently and does not constitute a problem, the log level for these messages has been changed to DEBUG to avoid filling the log files with unneeded warnings.

## 4.3 Bugs fixed

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

Number	Description
641944	<p><b>CM/Doc installer downloaded as ZIP</b></p> <p>When using Internet Explorer to download the <b>CM/Doc</b> installer from the user profile of the <b>Web Client</b>, the file was downloaded with the file extension <b>zip</b> instead of <b>jar</b>. This problem has been solved and the installer is now downloaded with the correct extension.</p>
642096	<p><b>Wrong value of the permissions counter in the role overview</b></p> <p>The permission counter on the <i>Roles</i> page of the <b>Web Admin Suite</b> displayed a wrong value for queue and customer group permissions if the permissions were assigned using the <i>Select all permissions</i> button. This problem has been solved and the correct number of permissions is displayed now.</p>
642100	<p><b>Session expiry did not work as expected in the Web Admin Suite</b></p> <p>When a session in the <b>Web Admin Suite</b> expired, the user was not directed to the login page immediately, but when he tried to perform any action. An error message was displayed and upon logging in again, the user was redirected to the dashboard instead of the page where he was working. This problem has been solved and the user is now redirected immediately to the login page when a session timeout occurs. In addition, the page which he was working on before the session timeout occurred is opened after logging in again.</p>
642147	<p><b>Link to ticket in notification did not work correctly if the ticket was being edited</b></p> <p>If the user clicked a link to a ticket in a notification in the <b>Web Client</b> while editing the same ticket, the <b>Web Client</b> did not behave correctly. Either nothing happened, or there was a warning message to try again later, or an error message was displayed. This problem has been solved and the link works as expected now.</p>
642240	<p><b>Link in notification did not work correctly if the Web Client as accessed via proxy</b></p> <p>If a proxy is used for accessing the <b>Web Client</b>, links in notifications did not work properly because the URL was not resolved correctly. This problem has been solved and the links now point to the correct URL when using a proxy.</p>

## 5. Version 6.12.0.3 (19.12.2019)

Version 6.12.0.3 includes all **ConSol CM** changes and additions of

- 6.11 versions up to 6.11.2.8
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Changes with respect to the previous minor release (6.12.0.2):

- None

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

## 5.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.12.0.3 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.

### 5.1.1 System upgrade from 6.11.2 and earlier versions

This **ConSol CM** release needs specific planning for an update from earlier releases. Please check the instructions for release 6.12.0.0 ([System upgrade from 6.11.2 and earlier versions](#)).

No further instructions available.



## 5.2 Bugs fixed

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

Number	Description
642329	<b>Validation errors when the strict validation is enabled for a script without a type</b> When the strict code validation is enabled in a script for which no type / usage is selected, an error is displayed in the validation panel below the source code in the <i>Scripts</i> section of the <b>Admin Tool</b> . This problem has been solved and the strict validation can now be enabled in scripts without a type.

## 6. Version 6.12.0.4 (27.02.2020)

Version 6.12.0.4 includes all **ConSol CM** changes and additions of

- 6.11 versions up to 6.11.2.9
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Changes with respect to the previous minor release (6.12.0.3):

- Merged version 6.11.2.9

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

## 6.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.12.0.4 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.

### 6.1.1 Special instructions for clustered environments

When running **ConSol CM** in a cluster, the `domain.xml` configuration file has to be adapted:

- **JBoss EAP 7:**
  - Remove `<extension module="org.jboss.as.weld"/>` from the `extensions` section.
  - Remove the corresponding reference to the module `<subsystem xmlns="urn:jboss:domain:weld:4.0"/>`
- **JBoss EAP 6:**
  - Remove `<extension module="org.jboss.as.weld"/>` from the `extensions` section.

 This step is mandatory. Otherwise, **ConSol CM** will not start in domain cluster mode.

### 6.1.2 System upgrade from 6.11.2 and earlier versions

This **ConSol CM** release needs specific planning for an update from earlier releases. Please check the instructions for release 6.12.0.0 ([System upgrade from 6.11.2 and earlier versions](#)).

No further instructions available.

## 6.2 Changes

This section illustrates all relevant software product changes for version 6.12.0.4 of **ConSol CM**.

### 6.2.1 Usability improvements

#### Back button support improved (#641674)

The support for using the *Back* button of the web browser in the **Web Admin Suite** has been improved. The *Back* button can now be used to navigate the different screens of the **Web Admin Suite**.

#### Description column truncated (#642070)

The content of the description column on the *Users* and *System properties* screens of the **Web Admin Suite** is now truncated if it exceeds the available space in one line.

#### Messages about disallowed operations improved (#642109)

The messages which are displayed in the **Web Admin Suite** when the user tries to perform an action which is not allowed have been improved to provide clear hints about the problem. This happens for example when trying to delete or disable a user with higher level administrator permissions.

#### Page headers improved (#642330)

The page headers of the different **Web Admin Suite** screens have been improved by adding a short description of the purpose of the screen.

#### Position of the description field changed (#642541)

The *Description* field on the user details screen of the **Web Admin Suite** has been moved to the bottom of the screen. On the *Create user* screen, it is now located below the data fields but above the *Roles* selector.

### 6.2.2 **Web Admin Suite** extended (#641995, #642231, #642343, #642503, #642543)

Five new sections have been added to the **Web Admin Suite**:

- Views, group *Access & roles*
- Hierarchical lists, group *Lists* (previously called MLAs)
- System properties, group *System*
- Scripts, group *System*
- Templates, group *System*

The functionality is the same as in the **Admin Tool** but some usability improvements have been made. In addition, some existing screens have been enhanced.

#### Views

The terminology has been improved:

- static view criteria -> fixed filter properties
- dynamic view criteria -> user-specific filter properties

The wizard to create or edit a view now consists of two screens only: one for the name and localizations and one for the configuration.



Administrator users who only have the permission *Administrate users and roles* do **not** have access to the view administration in the **Web Admin Suite**.

## Users

The *Description* field has been added for the portal users. The user details panel which is opened when editing a user now has two tabs:

- User data and roles
- View filter

The view filter tab allows to set user-specific filter properties for the views which are assigned to the user's roles.

## Enumerated lists

Both the technical and the localized names of list values are now displayed. The browser locale is used to determine the language.

The list values are sorted according to the selected sorting strategy:

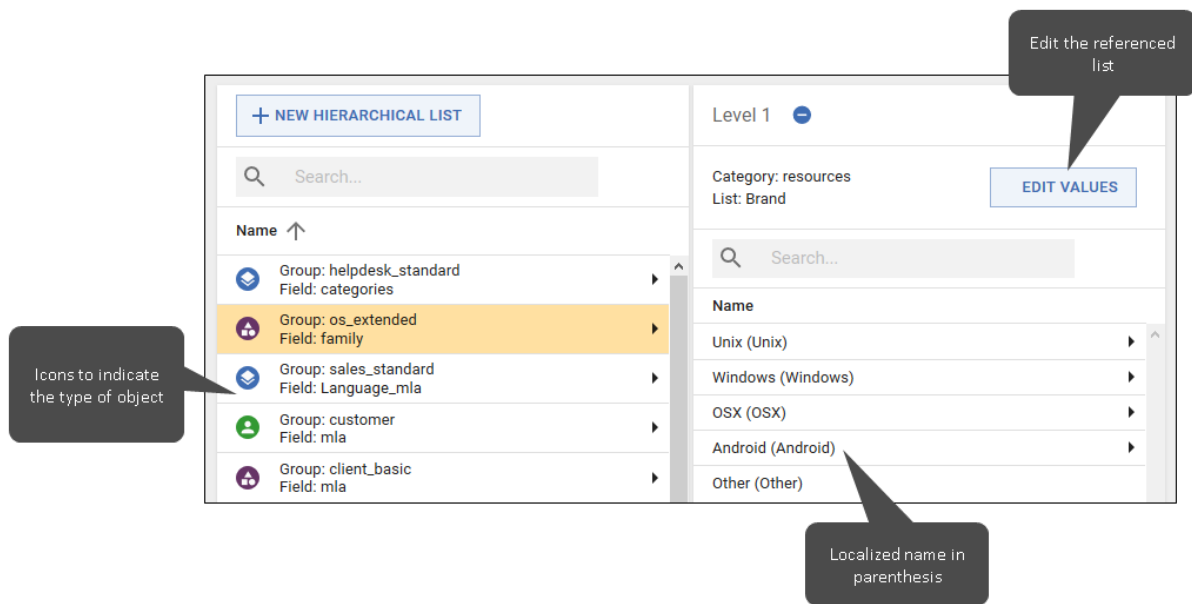
- **By localized value:** The values are sorted according to their localized value in the browser locale. It is not possible to change their position within the list.
- **By list position:** The values are sorted by their position in the list. The position can be changed by using drag-and-drop or clicking the arrow buttons.

## Hierarchical lists

Several usability improvements have been made in the hierarchical list administration:

- The referenced lists can now be edited directly from within the *Hierarchical lists* section. The button *Edit list* has been added for this purpose.
- Both the technical and the localized names of list values are displayed. The browser locale is used to determine the language.
- The labels have been improved. Instead of *MLA*, the terms *hierarchical list / hierarchical list field* are used to better illustrate the meaning.
- The labels in the dialogs have been adapted to the standard terminology used in the **Web Admin Suite**.

The following figure shows the most important improvements:



## System properties

Several usability improvements have been made in the system properties administration:

- The system properties table has been extended by columns for the type and description.
- There is a search field which covers all the columns and allows to locate properties easily.
- A filter to display only the properties of the custom modules has been added as well.
- The checkbox *Restart required* is now only editable for custom properties because it is merely informational.
- Editing a property and duplicating a property are now two separate actions.
- The German labels for boolean properties have been changed. The property type is now "Boolean" with the values "true" and "false".

## Scripts

Several usability improvements have been made in the script administration:

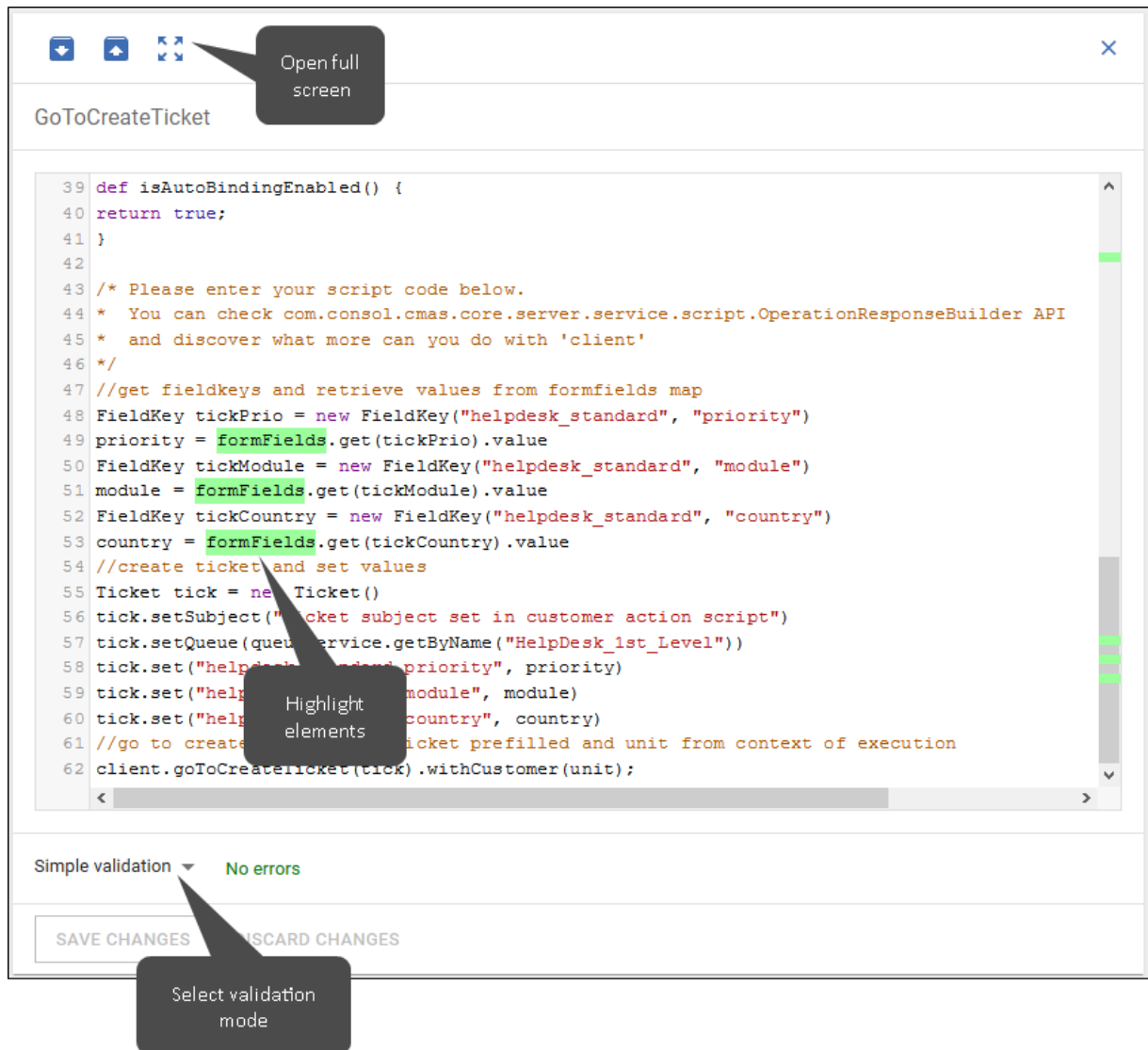
- It is possible to search within the content of all scripts.
- The script table has been extended by a column which contains the last modification date. This allows sorting the scripts by last modification date.
- The new full screen mode provides maximum space for the script content.
- The user can select the script validation mode (options *No validation*, *Simple validation* and *Strict validation*). See [Script validation enhanced \(#642185\)](#).
- When creating a new script, you can use drag-and-drop to upload a file with the new script's content.
- The usability of the script editor has been improved.
  - Code completion now works directly while typing (typing a dot shows the available methods for the object, typing a CTRL + Space shows available classes).
  - It is possible to highlight all occurrences of a word by double-clicking it.

- Hotkeys for several common operations have been added.
- The lines which cause validation errors are indicated by a red exclamation mark.
- You can wrap the script text to avoid having to scroll if a script line exceeds the available space.

The following figures show the most important improvements:

The screenshot shows a web interface for managing scripts. At the top left is a '+ NEW SCRIPT' button. Below it is a search bar with a magnifying glass icon and the text 'Search...'. To the right of the search bar are two dropdown menus: 'In name' and 'All types'. Below these is a table with three columns: 'Name', 'Type', and 'Last modified'. The table contains four rows of script entries. Two callout boxes are present: one pointing to the search bar with the text 'Search in script name or content', and another pointing to the 'Last modified' column header with the text 'Sortable by last modification date'.

Name	Type	Last modified ↑
copyResourceCondition	Action form condition	11.10.2019
copyUnitFormCondition	Action form condition	9.10.2019
renderFormIfScopeOk	Action form condition	9.5.2019
dependentEnumPrefill	Action form prefill	8.17.2019



## Templates

Several usability improvements have been made in the template administration:

- It is possible to search within the content of all templates.
- The template table has been extended by a column which contains the last modification date. This allows sorting the templates by last modification date.
- The new full screen mode provides maximum space for the template content.
- When creating a new template, you can use drag-and-drop to upload a file with the new template's content.
- The usability of the template editor has been improved.
  - You can show and insert example templates by typing CTRL + Space.
  - It is possible to highlight all occurrences of a word by double-clicking it.
  - Hotkeys for several common operations have been added.
  - You can wrap the template text to avoid having to scroll if a template line exceeds the available space.



### 6.2.3 Session handling in the *Web Admin Suite* improved (#642243)

The session handling in the *Web Admin Suite* has been improved to avoid session timeouts. Sessions are now automatically extended when the user interacts with the application. The only exception is while the user fills out a form.

### 6.2.4 Default value for voCacheEnabled changed (#642340)

The default value of the system property `voCacheEnabled` from the module `cmweb-server-adapter` has been changed from “false” to “true”, so that vo caching is enabled by default on newly set up systems. Thus, the behavior matches the behavior in the 6.11.2 versions of *ConSol CM*.

### 6.2.5 Disabled engineers not selectable in notifications window (#642470)

When creating a new notification in the *Web Client*, disabled engineers are not displayed in the list of recipients anymore.



It is still possible to send notifications to disabled engineers when using a script to create the notification. If disabled engineers should be excluded, you need to adapt your script accordingly.

## 6.3 Bugs fixed

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

Number	Description
642042	<p><b>Special characters were not allowed in user, role and list names</b></p> <p>The internal names of users, roles and lists in the <b>Web Admin Suite</b> did not support special characters. An error was displayed if the user tried to create items with special characters. This problem has been solved and special characters are supported now.</p>
642102	<p><b>Page refresh did not work under Edge</b></p> <p><b>Web Admin Suite</b> pages whose URL path consisted of more than one argument, could not be refreshed when using <b>Microsoft Edge</b> as a browser. This problem has been solved and the pages are correctly refreshed now.</p>
642151	<p><b>Possible to remove the last administrator role from oneself</b></p> <p>A user with configuration administrator permissions could remove his last role with these permissions if he had a least one role with account administrator permissions assigned. This problem has been solved and it is not possible anymore to remove one's last role with higher administrator permissions when being logged in with this role.</p>
642171	<p><b>New list values created at the wrong position</b></p> <p>When an existing list value is selected during the creation of a new list value in the <b>Lists</b> section of the <b>Web Admin Suite</b>, the new list value was placed at the end of the list instead of below the selected value. This problem has been solved and the list value is now created at the correct position.</p>
642278	<p><b>Administrator permission checkboxes available</b></p> <p>Some administrator permission checkboxes in the <b>Roles</b> section of the <b>Web Admin Suite</b> were available even though the current user was not allowed to change their setting (administrator permissions of a higher-level administrator role, or lower-level administrator permissions). This problem has been solved and the permission checkboxes are now disabled in this case.</p>
642326	<p><b>Wrong value of cmas-core-cache, statistics.enabled</b></p> <p>The system property <code>statistics.enabled</code> in the module <code>cmas-core-cache</code> could have a wrong value ("0" instead of "false"). This problem has been solved and the property value is set to a correct boolean value when setting up a new <b>ConSol CM</b> system or updating a <b>ConSol CM</b> system.</p>
642349	<p><b>State of the Lists section not reset after switching to another section</b></p> <p>The state of the <b>Lists</b> section in the <b>Web Admin Suite</b> was not reset correctly after switching to another section of the <b>Web Admin Suite</b>. This problem has been solved and the section state is correctly handled now.</p>

Number	Description
<b>642375</b>	<b>Only one <i>Request approval</i> dialog displayed when deleting several users</b> When deleting several users at once in the <b>Web Admin Suite</b> after having canceled the <i>Request approval</i> dialogs in a previous attempt of deleting the users, only one <i>Request approval</i> dialog was displayed. This problem has been solved and now a <i>Request approval</i> dialog is displayed for each user.
<b>642406</b>	<b>Emails with images arrived empty</b> When sending emails with images using the <b>Web Client</b> , it could happen that the email arrived empty although it was displayed correctly in the ticket history. This problem has been solved and empty emails do not occur anymore.
<b>642417</b>	<b>Table navigation using the up and down keys was continuous</b> Table navigation in the <b>Web Admin Suite</b> using the <i>Up</i> and <i>Down</i> keys of the keyboard did not stop at the first / last row of the table but continued at the end / beginning. This problem has been solved and table navigation now stops when the beginning or end of the table has been reached.
<b>642603</b>	<b>Error when generating system documentation for view with invalid scopes</b> An error occurred when generating system documentation for a view which contains invalid scopes. This problem has been solved and invalid scopes are now ignored during the generation of system documentation.
<b>642660</b>	<b>Administrator role not created when there is a server request during setup</b> When setting up a new <b>ConSol CM</b> system, the administrator role was not created if there was a request to the <b>ConSol CM</b> server after clicking the <i>Finish</i> button to finish the setup. This problem has been solved and the administrator role is correctly created now.

## 7. Version 6.12.0.5 (22.04.2020)

Version 6.12.0.5 includes all **ConSol CM** changes and additions of

- 6.11 versions up to 6.11.2.10
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Changes with respect to the previous minor release (6.12.0.4):

- Merged version 6.11.2.10

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

## 7.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.12.0.5 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.

### 7.1.1 System upgrade from 6.11.2 and earlier versions

This **ConSol CM** release needs specific planning for an update from earlier releases. Please check the instructions for release 6.12.0.0 ([System upgrade from 6.11.2 and earlier versions](#)) and 6.12.0.4 ([System upgrade from 6.11.2 and earlier versions](#)).

### 7.1.2 Configuration modification requirements

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

- [Cache logging improved \(#642136\)](#)
- [Session heartbeat \(#643041\)](#)

No further instructions available.

## 7.2 Changes

This section illustrates all relevant software product changes for version 6.12.0.5 of **ConSol CM**.

### 7.2.1 Usability improvements

#### Concurrent editing notifications extended (#642458, #642792, #642796)

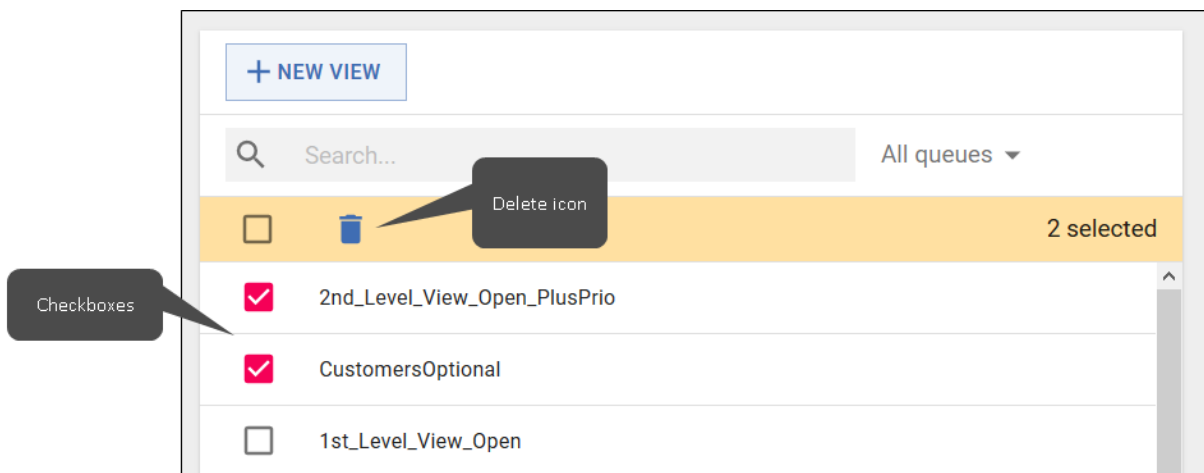
The notifications which are displayed when another user makes changes to the same area where the current user is working, have been extended to the *Scripts*, *Enumerated lists*, *Hierarchical lists*, *Views*, and *Templates* sections of the **Web Admin Suite**.

#### Localized language names in the **Web Admin Suite** (#642667)

The names of the configured languages are now properly localized in the **Web Admin Suite**, so that the English or German names of the languages are displayed in the *Localization* sections of the different screens and in the language selectors.

#### Deleting several views at once (#642690)

Checkboxes have been added to the views in the *Views* section of the **Web Admin Suite**. The user can select several views at once and click the *Delete* icon above the table to delete the selected views. The deleted views are automatically removed from the roles which they are assigned to.



#### Availability of the *Update* button in the user details (#642698)

The *Update* button in the user details panel of the **Web Admin Suite** is now only active if changes to the user details have been made.

#### Search pattern cleared on system properties page (#642743)

The text which is entered in the *Search* field of the *System properties* section of the **Web Admin Suite** is now cleared when opening another **Web Admin Suite** page. Therefore the unfiltered system properties table is displayed when returning to the *System properties* section afterwards.

#### Display of fixed filter properties improved (#642810)

The display of the selected list values of a fixed filter property in the configuration window of a view in the **Web Admin Suite** has been improved. The list values now have gray icons, so it is easier to distinguish them from the scopes.

### Headers of modal windows aligned (#642811, #642869)

The headers of the modal windows to edit or clone an object in the **Web Admin Suite** have been aligned. The headers are now *Edit* <type of object> and *Clone* <type of object> for all types of objects.

### Field selector position changed (#642901)

The position of the list field selector in the *User-specific filter properties* section on the *Configure view* screen of the **Web Admin Suite** has been changed. The suggestions are now displayed above the field to avoid problems due to missing space below the field.

### Busy indicator when changing the sorting of items (#642952)

When changing the sort order of items in the **Web Admin Suite** a busy indicator is now displayed to show that the action is in progress. This applies to list values in the *Enumerated lists* section, to views in the *Views* section and to views in the *Views of role* panel of the *Roles* section of roles which are set as main roles.

### Wording changed in the *Views of role* panel (#642952)

The name of the column *Static discriminators* in the *Views of role* panel of the *Roles* section of the **Web Admin Suite** has been changed to *Fixed filter properties*, so it uses the same wording as used in the *Views* section.

### Description column removed from the *Views of role* panel (#642961)

The *Description* column which was displayed in the *Views of role panel* of the *Roles* section of the **Web Admin Suite** has been removed because there was not enough screen space available to display the view description properly.

### Toolbar added to the script editor in full screen mode (#643016)

The script editor now also has a toolbar when it is displayed in full screen mode in the *Scripts* and *Templates* sections of the **Web Admin Suite**. Therefore, the same features are available in both standard mode and full screen mode.

## 7.2.2 Cache logging improved (#642136)

The logging for **ConSol CM** has been improved. Log messages which refer to the cache have been moved to a new dedicated log file called `infinispan.log` for the standalone mode and `jgroups-infinispan.log` for the cluster mode, where it replaces the previously used file `cluster.log`. This logging is disabled by default. It can be enabled by setting the newly added system property `cache.logging.listener.enabled` of the module `cmas-core-cache` to "true".



Existing configuration files have to be adapted accordingly.

## 7.2.3 Handling of the property `mail.ticketname.pattern` changed (#642401, #642886)

The system property `mail.ticketname.pattern` has been removed from the module `cmas-nimh`. It is now only present in the module `cmas-nimh-extension`. In addition, the property is not displayed in the *System properties* sections of the **Admin Tool** and the **Web Admin Suite** because it should be changed only in the *Email* section of the **Admin Tool**. Changes to the value of the property in the *Email* section of the **Admin Tool** now take effect without having to restart the **ConSol CM** server.

## 7.2.4 API method to delete tickets from *CM/Archive* (#642590)

The **ConSol CM** API has been enhanced by a method which allows to remove archived tickets from the **CM/Archive** application. The method `deleteTicket` has been added to the class `ArchiveService` for this purpose.

The following example shows how to use the method:

```
archiveService.deleteTicket(ticket.getTransferKey())
```

## 7.2.5 Code snippets in the Web Admin Suite (#642923)

The scripts editor of the **Web Admin Suite** has been enhanced with a function to insert code snippets. The modal window *Code snippets* has been added to enable searching for items and inserting them.

There are three ways to open the *Code snippets* window:

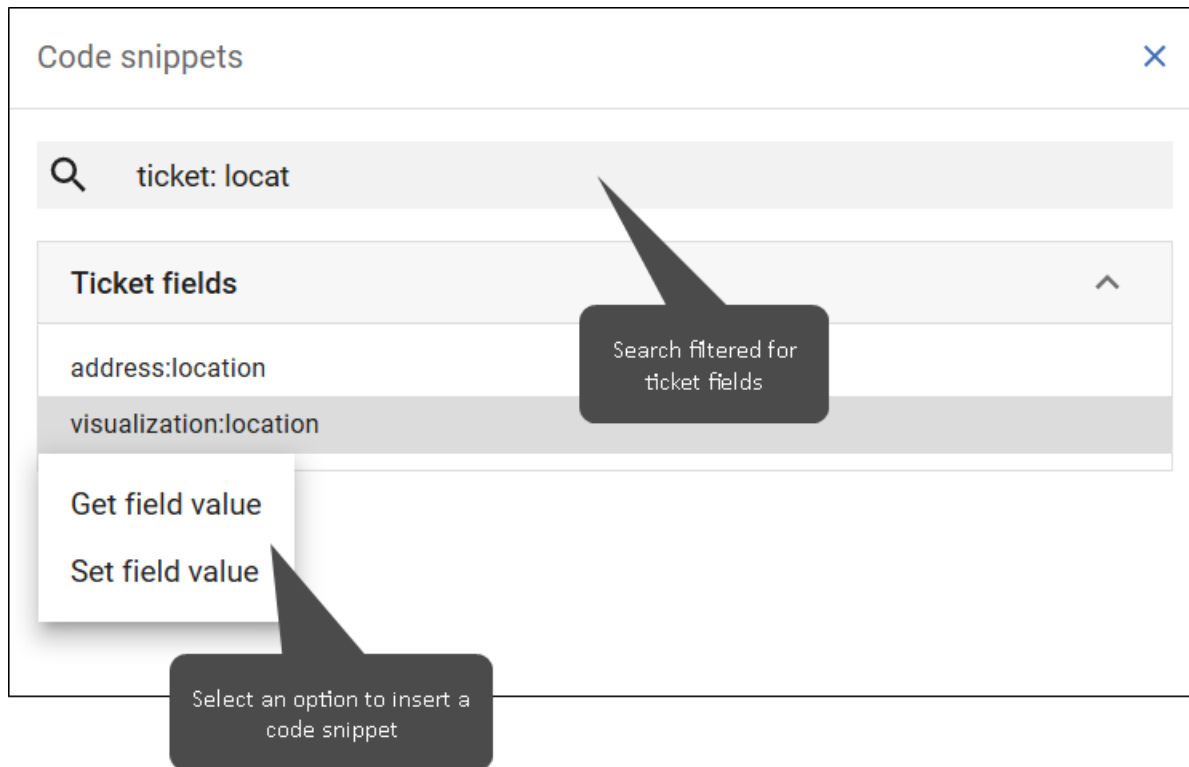
- Option >> *Insert code snippet* within the code autocompletion
- *Insert code snippet* button in the toolbar.
- Keyboard shortcut CTRL + J.

The *Code snippets* window consists of a search field and a result list which is organized in several sections. The user enters a string in the search field and the matching results are displayed. The free text search can be limited to a certain type of object by typing the object type followed by a colon.

- **ticket fields:** ticket:
- **contact fields:** unit:
- **resource fields:** resource:
- **scripts:** script:

The following figure shows a code snippet window with filtered results (only ticket fields are displayed):





Currently, the following code snippets are available:

#### Data fields:

- Get a data field (ticket, contact or resource field)
- Set a data field (ticket, contact or resource field)
- Get the technical name of an enum field
- Get the localized name of an enum field
- Add a row to a list field
- Iterate over a list field
- Get a value of a list field
- Set a value of a list field

#### Scripts:

- Execute a script

### 7.2.6 Session heartbeat (#643041)

A session heartbeat has been introduced for **Web Client** sessions. A heartbeat is sent to the **ConSol CM** server every 60 seconds and with every page reload. If the server does not receive a heartbeat during the interval configured in `server.session.heartbeat.timeout.seconds`, the session is considered orphaned and ended according to the setting in `server.session.heartbeat.mode` (see below).

The following system properties have been added to the module `cmas-core-server` to configure this feature:

- **server.session.heartbeat.enabled.WEB\_CLIENT**  
Determines if the session heartbeat is enabled for the **Web Client**.

- **server.session.heartbeat.mode**

Determines when orphaned sessions are ended. There are two possible values:

- **LAZY:** Orphaned sessions are ended when the same user authenticates again or when there are no more licenses available (default value).
- **EAGER:** Orphaned sessions are ended immediately.

- **server.session.heartbeat.timeout.seconds**

Determines the period after which a session is considered orphaned if no heartbeat is received. The default value is 300, meaning that orphaned sessions are ended after 5 minutes.

## 7.3 Bugs fixed

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

Number	Description
642627	<p><b>Broken footer in the <i>Hierarchical lists</i> section</b></p> <p>When several levels of a hierarchical list were displayed in the <b>Web Admin Suite</b>, the layout of the footers was broken resulting in the number of list values being displayed below the footer. This problem has been solved and the footers are now displayed correctly when several levels are shown.</p>
642694	<p><b>Broken layout in the view filter</b></p> <p>If a user has several views with user-specific filter properties, the display of the settings in the <i>View filter</i> section of the user details in the <b>Web Admin Suite</b> did not work correctly and some of the settings were not shown within the respective panel. Therefore, it was not possible to scroll to the settings at the bottom of the section. This problem has been solved and all the settings are now accessible via scrollbar.</p>
642725	<p><b>Creation of duplicate list possible</b></p> <p>In the <i>Hierarchical lists</i> section of the <b>Web Admin Suite</b>, it was possible to create a new list with the same name as an existing list. This problem has been solved and it is not possible anymore to create duplicate lists when managing hierarchical lists.</p>
642740	<p><b>Tooltip overlapped the calendar of date fields</b></p> <p>If the calendar to select a date for a date field in the <b>Web Client</b> was displayed above the field due to missing space below, the tooltip of the date field overlapped the calendar. This problem has been solved and the tooltip is now hidden under the calendar in this situation.</p>
642742	<p><b>Focus of the search field lost</b></p> <p>When entering a search term in the <i>Templates</i> or <i>Views</i> section of the <b>Web Admin Suite</b>, the focus was lost when the results were loaded. Therefore, the user had to click in the search field again in order to change the search pattern. This problem has been solved and the focus is now maintained when the results are loaded.</p>
642775	<p><b>Corrupted special characters in scripts</b></p> <p>Special characters in scripts were replaced by ? symbols in the script editor of the <b>Web Admin Suite</b>. This problem has been solved and special characters are now handled correctly in scripts in the <b>Web Admin Suite</b>.</p>
642794	<p><b>View could not be edited after renaming a scope</b></p> <p>It was not possible to edit a view in the <i>Views</i> section of the <b>Web Admin Suite</b> after renaming one of the assigned scopes. This problem has been solved and the view is now automatically updated with the new scope name both in the <b>Web Admin Suite</b> and in the <b>Admin Tool</b>.</p>

Number	Description
642808	<p><b>Confirmation window displayed in CM/Track V2 although there were no changes</b></p> <p>When creating a ticket in <i>CM/Track V2</i> in a queue which has a prefill script assigned, the window to confirm that the changes are going to be discarded when the user leaves the screen without saving was displayed even if no changes were made. This problem has been solved and the confirmation window is only displayed if the user modifies the pre-filled values or makes other changes.</p>
642810	<p><b>Enum value color not applied</b></p> <p>The color which can be set for an enum value was not applied correctly if the setting was done in the <i>Web Admin Suite</i>. This problem has been solved and the color of an enum value can now be set using the <i>Web Admin Suite</i>.</p>
642871	<p><b>Invalid scopes and filter properties not removed</b></p> <p>When removing a queue from a view configuration in the <i>Web Admin Suite</i>, the scopes and filter properties which belonged to this queue were not removed and it was possible to save such an invalid view. This problem has been solved and scopes and filter properties are now removed together with their queue.</p>
642880	<p><b>Wrong window page opened when editing a view</b></p> <p>When editing a view in the <i>Web Admin Suite</i> after having saved changes to the view configuration of another view, the <i>Configure view</i> page of the modal window was opened instead of the <i>Edit view</i> page. This problem has been solved and the correct page is now opened.</p>
642921	<p><b>Position of a view could not be changed</b></p> <p>When sorting the views in the <i>Views</i> section of the <i>Web Admin Suite</i>, it was not possible to switch the positions of the third and fourth view. This problem has been solved and view sorting now works correctly for all positions.</p>
643040	<p><b>Deletion of list category or list not possible</b></p> <p>It was not possible to delete a list category or list in the <i>Enumerated lists</i> section of the <i>Web Admin Suite</i> when the panel to edit a list value was open. This problem has been solved and it is now possible to delete a list category or list if the editing panel is open.</p>
643154	<p><b>Corrupted special characters in templates</b></p> <p>Special characters in templates were replaced by ? symbols in the template editor of the <i>Web Admin Suite</i>. This problem has been solved and special characters are now handled correctly in templates in the <i>Web Admin Suite</i>.</p>

## 8. 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
6.12.0.0 and higher	08.03.2022

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**!