

d.veLop

dbS | case manager contract:
Administrator

Table of Contents

1. dbs case manager contract	3
1.1. Introduction	3
1.1.1. About dbs case manager contract	3
1.1.2. Prerequisites	3
1.2. Notes on the update	3
1.2.1. Update from version 1.1.1 to the latest current version	5
1.3. Installation	30
1.3.1. System requirements	31
1.3.2. Installation and configuration	31
1.4. Configuration	33
1.4.1. Preparing the configuration	33
1.4.2. Opening the configuration	33
1.4.3. Configuring the database	34
1.4.4. Configuring the d.3 repository	35
1.4.5. Conversation	37
1.4.6. Terms	38
1.4.7. External applications	39
1.4.8. Executive summaries	39
1.4.9. Common	39
1.5. Authorization	40
1.5.1. Roles	40
1.5.2. Access rights:	41
1.5.3. Case type accesses	42
1.5.4. Responsibility rules	42
1.6. Additional information	42
1.6.1. Creating new users	42
1.6.2. Setting the logging	42
1.6.3. Limiting the results from the DMS app	43
1.6.4. Deleting contracts	43
1.6.5. Document type dependant configuration of the advanced properties in d.3 admin	43
1.6.6. Initial visibility and order of the function areas on the contract page	43
1.6.7. Changing people responsible for terms	44
1.7. Best practice setup and configuration	44
1.7.1. Creating a new Microsoft SQL Server database	44
1.8. Contract management for the d.3 administrator	45
1.8.1. Default functionality provided	45
1.8.2. Granting user rights for the contract management	52
1.9. Additional information sources and imprint	53

1. db | case manager contract

1.1. Introduction

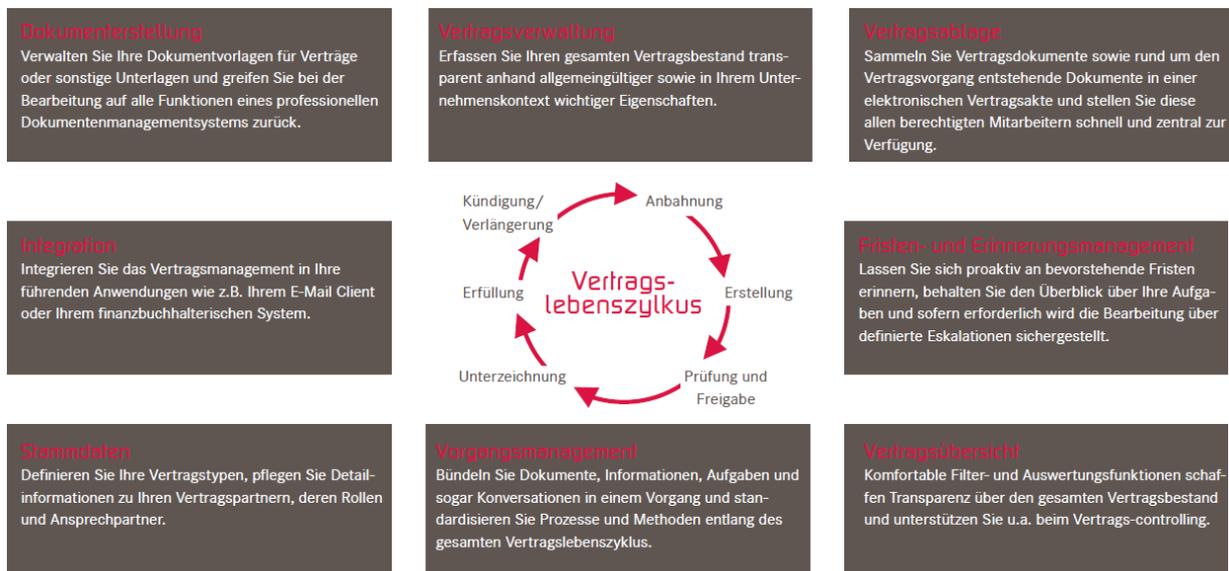
This topic lists general product information and conventions applied in this product documentation.

1.1.1. About db | case manager contract

The management of contracts is a company-critical process and comes with a lot of challenges.

Various departments with different tasks are to be organized along to the total contract life cycle.

All departments have one thing in common - transparency is the essential factor of success.



With db | case manager contract the d.velop AG provides a holistic contract management. The contract process in the d.3ecm system remedies a logical bracket for the organization and control of all contract-related activities in a totally new quality and thus combines all requirements to the management of contracts in one system.

1.1.2. Prerequisites

This documentation describes the installation and configuration of the db | case manager contract; it is thus targeted at administrators.

Basic knowledge of and experience in d.3 and Microsoft Windows are assumed.

1.2. Notes on the update

Note

Please note that the notes are only extended by new notes with each new version.

For example, if you are updating from db | case manager contract version 2.0.0 Rising 4 to the latest version, you no longer need to follow the initial instructions for updating to Rising 4, you must follow all other instructions.

If you are updating from db | case manager contract 2.0.0 Rising 1 or Rising 2 to a higher version, please note the following points:

- An additional API key is required for d.ecs terms. However, an existing API key can also be used here if desired.
- Please run the d.velop Software Manager first and install the infrastructure in version 2.0.
- During the installation of dbs | case manager contract d.ecs terms is installed. Please configure d.ecs terms completely. The database configuration is done in the same way as dbs | case manager contract.
 - Note: No additional JDBC driver file may be required for the database configuration. The corresponding area is then automatically missing.
 - Please then configure all configuration pages of d.ecs terms marked with an exclamation mark.
- After the installation, please go to the case type authorization page to give yourself rights to all contract types.
- Then go to the administration page and save it. All deadlines are then loaded into d.ecs terms.

If you are updating from a previous dbs | case manager contract 2.0.0 Rising version to version 2.0.0 Rising 6, please note the following points:

- The configuration file **envConf.yml** is replaced by the configuration file **application.properties**. You find this file as a template in the directory **templates\config** of the installation directory. If required, create and adjust the file in the **working\config** directory.
- Two new configuration areas have been introduced:
 - The extended repository configuration can no longer be accessed via the administration. You can now access these directly via d.ecs config.
 - A new **Maintenance** section has been introduced for changes that may take a little longer to implement. This area is displayed in d.ecs config after the update to Rising 5. As long as a warning is still displayed there, the tiles are not shown on the start page of d.3one.
 - If you have previously installed Rising 1 or 2, all existing deadlines are transferred to the new application d.ecs terms via this page. You must select a language. This language is saved for each deadline and then used to send reminder messages in this language. If a term is saved by a user later during operation, this term is assigned the language of the logged on user.
 - If you have previously installed Rising 3 or 4, the existing deadlines in d.ecs terms are updated via this page. Among other things, all terms receive a link to the task that dbs | case manager contract created on the day of the term reminder.

If you are updating from an earlier version of dbs | case manager 2.0.0 Rising to version 2.0.0 Rising 7, please note the following points:

- With Rising 7 it is possible to save users with a clear name in d3. This requires several manual steps which are described in detail in the **Maintenance work** section.
- With Rising 7, dbs | case manager contract and d.ecs terms are installed via d.velop software manager. Please note:
 - Before you start the installation via d.velop software manager, stop dbs | case manager contract and d.ecs terms. It is best to check via the Task Manager whether the processes have really been terminated or whether Java processes are still running there via the java.exe from the directory <installation directory of d.velop software manager>\java11\bin\. Terminate them in a hard way if necessary.
 - Remove the existing d.3 process manager entries for dbs | case manager contract and d.ecs terms. These can be found in the file C:\Windows\dserver.ini. This is necessary as these cannot be removed automatically by the update. This is partly due to the way dbs | case manager contract was previously installed.
 - Search for the appropriate entries in the file. These can look like this or something similar:

```
[Process5]
StartupInfo=0
Priority=1
Group=Case Management
Name=dbs | case manager
Command=startCM.bat
```

```

WorkDir=C:\d3\dbsCaseManager\working\
ReadOnly=1
Starttime=00:00:00
Stoptime=00:00:00
Starttime2=00:00:00
Stoptime2=00:00:00
Starttime3=00:00:00
Stoptime3=00:00:00
Failover=0
Delay=0
MinRunTime=0
DayMask=127

```

- Change these entries to:

```

[Process5]
Name=

```

- Alternatively, you can also set the execution of these d.3 process manager entries to **STOP**.
- Then start with the installation again.
 - When running d.velop software manager for the first time, you have the possibility to use the option **Define as cluster node**. This means that not all dependencies need to be installed on the system, such as d.ecs http gateway or d.ecs config.
 - New d.3 process manager entries are created automatically and the processes are started automatically.

1.2.1. Update from version 1.1.1 to the latest current version

When updating from dbs | case manager contract version 1.1.1 to the latest current version, a data export of version 1.1.1 is performed first and then the exported data is imported into the latest current version. In the following, "Current" is written instead of "latest current version".

Prerequisites

When setting up dbs | case manager contract Current, remember to create a new database or database schema. You must not use the same database connection as for version 1.1.1. In this way, the data of version 1.1.1 remains untouched.

During the subsequent configuration, you must make sure that you only save the necessary settings. If you have saved too much data, an update is no longer possible.

The update from version 1.1.1 to Current is possible if the following points apply to the Current version:

- You have configured the database connection (Attention: Please be sure to set up a new database for version Current and do not use the old database of version 1.1.1!).
- You have completed and saved the administration page.
- The document management has been saved (see the notes on document management below).
- You have configured the roles (see the notes on roles below).
- You have not yet created any contract or case types (not even the default types).
- You have not yet saved any data (such as runtime data, terms, tasks, conversations).

If all this is given, after saving the role configuration, the maintenance work page is displayed with an exclamation mark. If you do not need an update from a version 1.1.1, then you can skip this step by clicking **Do not update**.

Make sure that d.3 LogViewer version 5 or higher is installed on all systems involved so that it can display the logging data.

Notes on the document management

Here you have to adjust and save the configuration twice. While you are exporting data from version 1.1.1, all datasets/properties/categories must first be mapped to the items used by version 1.1.1. Do not just click **Save** here, but note a few manual assignments beforehand:

- All categories must be mapped to the version 1.1.1 categories.
- All properties must be mapped to the version 1.1.1 properties. Except for the following:
 - Organizational unit name (Internal ID 40): For this, the easiest way is to copy the property "Organizational unit" in d.3 admin and name it "Organizational unit name". Select a database position that is still free in the document type "Organizational unit". Now select this property in the document management of dbs | case manager contract Current. The document type "Organizational unit" will now transitionally contain both properties. At the end of the update, remove the old organizational unit property from the organizational unit document type and change the database location of the new organizational unit name property to the database location that the old organizational unit property had previously. The name of the organizational unit was stored in the database position. Do this only after the update, otherwise dbs | case manager 1.1.1 will not work fully. After this adjustment, open the document management of dbs | case manager contract Current and save it again to apply the database position change.
- Map all datasets to the version 1.1.1 datasets.
- Save the assignments in the DM app via the button **Save assignment in the DMS App**.

If the data has been exported successfully and the next step is to import the data via the maintenance work page, you must first adjust the document management:

- Responsible (Internal ID 41): Copy the property "Responsible" into d.3 admin and give it a meaningful name, e.g. "New person in charge". Set the database position to a 60 position that is free in the document types individual contract, blanket agreement and case. Select this property in the document management of dbs | case manager contract Current. You should add the dataset hook "cm_user_translation" only at the end of the update.
- Cancelled by (Internal ID 9): Copy the property "Cancelled by" into d.3 admin and give it a meaningful name, e.g. "Cancelled by new". Select a database item that is free in the document types individual contract and blanket agreement. Select this property in the document management of dbs | case manager contract Current. The update will update the dossiers and specifically the data in "Cancelled by". In version 1.1.1 the dossier contained a user name. This user name will be changed into an IDP-ID when updating. If the update fails and has to be performed a second time, this would otherwise fail because the "Cancelled by" field would contain invalid data. Very specifically, a second export would fail. This is because it assumes that d.3 user names are included there. You should add the dataset hook "cm_user_translation" only at the end of the update.
- Save the assignments in the DM app via the button **Save assignment in the DMS App**.

Notes on the topic roles

In version 1.1.1, no distinction was made between content administrators and users. In the Current version, this is distinguished. If you want your existing users and groups to be subject administrators as well, make sure to add the groups not only to the role "Contract management user with advanced functionalities", but also to the role "Process administrator for contracts". If certain users or groups had administrative rights in version 1.1.1, e.g. to access the administration, then you must also specify the groups with the role "Administrator". However, for this you should use dedicated user groups so that the simple users do not get access.

In the Current version, new configuration pages (e.g. Roles, Detail Rider Configuration) have been added, for which you need to assign new access rights so that your users can see them. You should assign these access rights manually after the update. All other access rights from version 1.1.1 are automatically taken over.

All users and groups that appear in the data of dbs | case manager contract 1.1.1 must be authorized via the roles on dbs | case manager contract Current so that the import of the data can be carried out

successfully. Otherwise, a corresponding error will be displayed during import. You then have the option to customize the roles, re-upload the export file and start the update again.

Notes on the data to be imported

The write permission terms has been adjusted in the Current version. As a result, the person in charge for a term has become a mandatory property. All terms from version 1.1.1, which have not set a reminder and therefore no responsible person, automatically receive the contract responsible person(s) as person in charge.

In version 1.1.1, it was possible to configure a reminder for cancellation "at any time" if a minimum contract term date was specified. This option does not exist in the Current version. Therefore, a separate user task is created for the notice period during import.

The history data for tasks, conversations and additional explanations are also transferred. However, this data is not yet displayed in the interface. Only history data from the time of the update is displayed in the interface. The presentation of the data from version 1.1.1 will follow in a future version.

To avoid flooding users with hundreds of messages, we do not send reminder/escalation messages if they have already been sent in version 1.1.1. However, it is also the case that acknowledging the inbox messages sent in version 1.1.1 no longer has any effect in version Current. Acknowledging now no longer completes the task. The Current version does not know mailbox messages anymore. There, everything runs via d.ecs task. So, if you have uncompleted inbox messages, users should be able to view the corresponding tasks in d.ecs task and edit them there. The only exception are tasks related to terms. If mailbox messages for term tasks have already been sent in version 1.1.1, no new task will be created in version Current and thus also not in d.ecs task for this term in order to avoid unnecessary multiple reminders at this point. You have the possibility to get an overview of all upcoming terms via the contract overview.

By default, notifications about new tasks created in d.ecs task are sent automatically. As part of the update, this could mean for users that you will receive a message for every task from version 1.1.1 that was not already completed. If you want to prevent this, you can disable the sending of messages in the configuration of d.ecs task for a short time. As long as this is disabled, no notifications will be sent, not even reminder messages. Go to **Configuration > Tasks d.ecs task > Notifications**. You should undo this setting as soon as possible so that the reminder messages are sent again. However, the tasks in d.ecs task are created asynchronously during the update. When the update is complete, not all d.ecs task tasks must have been created already. To check this, you can look in the database table `dbsCase_resil_task` to see if there are still entries there. If the table is empty, all d.ecs task tasks have been created. Then you should enable the sending of messages in d.ecs task again.

Maintenance work page

If you have done the above configuration steps for dbs | case manager contract Current, the maintenance work page should display an exclamation mark and provide the update from version 1.1.1. Note that you make the adjustments for the document management that affect the Responsible and Cancelled By properties beforehand.

On this maintenance work page, you confirm that the delegate rules and the filters saved in the contract/case overview per user are not applied. Users will have to create these again after the update, if necessary.

Then select a language. This language is used for the creation of terms in d.ecs terms. All messages related to an accepted term are sent in the specified language.

You can decide whether the case type accesses from version 1.1.1 should be transferred or not. In version 1.1.1 the permissions per user were maintained. In version Current you have the possibility to maintain the permissions per group. If you do not transfer the permissions from version 1.1.1, you can then configure the permissions at the group level without having to remove user permissions again.

Lastly, upload an export file. Once you have successfully uploaded the file, you can start the update via the **Update** button. Note that you make the adjustments for the document management that affect the Responsible and Cancelled By properties beforehand.

Creating the user mapping via d3toldp tool

Before the data from version 1.1.1 can be exported, it is necessary that you provide a mapping from d.3 users/groups to IDP users/groups. This is necessary because in dbs | case manager contract version 1.1.1 d.3 user/group names were saved and in version Current IDP IDs are now saved.

To do this, navigate to the subdirectory <installation directory dbs | case manager>\update-FromV1\d3toldp. There you will find the **readme.md** file, which provides all the necessary information for the d3toldp tool. The easiest way to start the tool is to use a batch file, in which you must specify the EXE call and the necessary parameters in the following order:

1. The host name of the HGA.
2. An API key.
3. The host name of the d.3 server.
4. The ID (server abbreviation) of the d.3 server.
5. The file name of the output file. For our call, this should always be **output.json**.

The call in the batch file then looks like this, for example:

```
d32idp.exe system.base.hostname "ThisIsAVeryLongAndSecretAPIKey"  
d3server.hostname P output.json
```

In case of errors look into the LogViewer. A file (**output.json**) is then created that contains all d.3 users and groups and assigns them to d.ecs identity provider users and groups.

Two main problems can occur here, which makes it necessary to manually adjust the **output.json** file:

1. The mappings that the tool generates have a certain probability of being correct. If the mapping is not 100% certain, the user/group must be checked manually, edited if necessary and the probability (Probability) set to 100.
2. No mapping to an IDP user could be created at all. No mapping to an IDP user could be created at all.

Place the **output.json** file created here in the same directory as the **createStartScript.ps1** file used to run the export tool.

Creating the export file via export tool

For the update you need an export file. This contains all data from version 1.1.1.

The Current version delivers several files for the creation of the export file. After installation, these are located in the <installation directory dbs | case manager>\updateFromV1\directory.

If d.ecs forms Instanceviewer has been installed on a different system than dbs | case manager contract Current, copy the <installation directory>\updateFromV1 folder to the system running d.ecs forms Instanceviewer, since the d.ecs forms instance data can only be retrieved via localhost. In addition, you must have a Java 8 or 11 runtime environment. You can also copy these from the <installation directory>\java11 if needed. Depending on the d.3 presentation server version, a Java 8 runtime environment is located under its installation directory. Depending on the system environment, it may be necessary to adjust the path to the **java.exe** in the batch file described below (**runCaseMngmntUpdateTool.bat**).

After you have created the user mapping, first run the **createStartScript.ps1** file. With the help of this script you can create the start command for the export tool execution. The script asks for various parameters, all of which you must specify. The only exception is the query of the document type ID. If

you use only `dbs | case manager contract` or only `dbs | case manager` (and not both together), then you can of course omit the corresponding document type ID(s) that you do not have. If, for example, you have only configured `dbs | case manager contract`, do not enter anything for the document type ID for the document type `case`.

Once you have made all the entries, the `runCaseMngmntUpdateTool.bat` file should have been created. In this file it may now be necessary to adjust the path to `java.exe`. Start a command line program and execute the BAT file. Errors are displayed in d.3 logviewer. Under certain circumstances, further details about an error may appear in the command line program.

Warning

You must run the BAT on the system where you can reach d.ecs forms instance viewer via localhost, http and the port you specify. If access is only possible via https, you must first adjust this and enable http. Furthermore, the system base URI must be reachable from this system so that the tool can talk to the DMS app and d.ecs identityprovider. In addition, the version 1.1.1 database, whose access data you previously specified when creating the BAT file, must be accessible from here.

If the mapping created with the `d32ldp` tool contains problems, the creation of the export file aborts with corresponding error messages. Then you should look in d.3 logviewer to see what kind of error there was. In this case, you will see, for example, the reference to a d.3 user/group that has not received a 100% mapping. So now you have to manually adjust the `output.json` file. Only when all users/groups (that appear in the data of `dbs | case manager contract 1.1.1`) are 100% mapped, the export tool can continue to run.

Possible issues:

- Error message "No d.3 user or group ID found in the user mapping file (output.json from `ldp2d3` tool) for: d.3 user/group: <User/group>. Please check the JSON file, add a new mapping for this user or group and set the probability to 100." in the log. This may have three causes:
 - The user or group really does not exist in the mapping file.
 - Either the user or the group is disabled. Then you can temporarily enable it again and run the `ldp2d3` tool again.
 - Or the user/group is deleted in d.3 (or you want to keep it disabled and not apply it). Then now you have two options:
 - Either run the `createStartScript.ps1` script again and answer "yes" ("y") to the question for a default user/group to use if the tool cannot find a user or group. Then you can specify a user or group for these cases. The d.3 login name and the matching IDP ID are required. Then you execute the `runCaseMngmntUpdateTool.bat` file again. These default users/groups are now used for all missing users/groups. Corresponding log messages are displayed in d.3 logviewer so that one can understand for which d.3 users/groups the default user/group was used.
 - You can create the mapping manually. To do this, simply copy an mapping in the file and add it again. Adjust the names and IDs and set the probability to "100".
 - The user or group is in the mapping file. However, the dataset contains a "Probability" property that describes the probability of d.3 user/group and IDP user/group matching. This value must be set to 100. If this is not the case, check if the mapping is ok and adjust the probability value, save the file and start the BAT file again.
 - The user or group is in the mapping file and the "Probability" property contains the value "100". The name contains umlauts or special characters. Solution: The expected encoding does not match. Check the file `output.json` to see if the encoding there is set to UTF-8. Furthermore, the data from d.ecs forms instance viewer or d.3one cannot be encoded in UTF-8. Check which encoding is used there in each case and then you can set the parameters `DdmsCharset=<Charset>` and/or `-DformsCharset=<Charset>` to the appropriate encoding in the `runCaseMngmntUpdateTool.bat` file if necessary. By default the parameters are empty and "UTF-8" is used.

At the end, the export file **cm_1_1_1_export.json** is created. This can become very large, as it contains all the data from version 1.1.1. You can now subsequently upload this file to the maintenance work page in the Current version.

Importing the export file into the latest Current version

Before uploading the export file and performing the update, you should check in d.3 admin that all properties with specified dataset are configured as default dataset for the document type Case and that no mandatory properties are set. This reduces the risk that older case dossiers cannot be updated. Note that you also make the adjustments for the document management that affect the Responsible and Cancelled By properties. Only the new properties must be mapped in the document management.

You will now be redirected back to the maintenance work page. Upload the export file here and click **Update**. Each step of the update process will be shown to you on the page. The latest news is always at the top. If an error occurred or the export file was imported completely, a final message appears. Check this and also the previous messages. If everything is okay for you, you can complete the update by clicking the new button that appears.

Now that you have finished all maintenance work, you should be able to use dbs | case manager contract Current.

Possible issues:

- An error message from the http service appears in the log:

```
"pass request body failed to [::1]:8085 (<Basisaddress>)"
```

Please specify the following line in the **application.properties** file:

```
quarkus.http.limits.max-body-size=10240K
```

Make sure that **cm_1_1_1_export.json** is smaller than the value at **quarkus.http.limits.max-body-size**.

Make a few final adjustments:

In version 1.1.1 all date properties (in d.3) have the data type "Date". For the Current version, these properties should have the data type "date and time". Now adjust that. This is the only way to set, for example, the end of the contract to the end of the day in the time zone of the logged-in user. For dbs | case manager contract this applies to the properties "Contract start date", "Contract end date", "Renewal until", "Cancelled on" and "Signature". If you also use dbs | case manager, you should also adjust "Reminder" and "Term (key date)".

This is how it works

1. Always select one of the above properties. Go through the following steps one property at a time.
 - a. Document type dependant configuration of the advanced properties in d.3 admin.
 - b. Select the title e.g. "Contract start with time" so you know which property you are duplicating.
 - c. Change the data type "date and time".
 - d. Select the same database position as in the old property from dbs | case manager contract 1.1.1.
2. When you have duplicated all properties, edit the document types individual contract and blanket agreement (and possibly case)
3. Remove the old properties and add the new properties to the document type.
4. Open the document management of dbs | case manager contract Current.
5. Click on **Synchronize d.3 configuration**.
6. Afterwards click on **Reset current configuration and reload**.
7. After that you should see errors for all date properties. You must now manually map these to the new properties. This should make the errors disappear. When no more errors are visible, click **Save**.

In addition, you can now drag the configurations you made at the beginning (Notes on document management). This means, You can now remove the advanced property "Organizational Unit" from the document type "Organizational Unit" and move the property "Organizational Unit Name" to the database position from the old property "Organizational Unit".

You can rename the advanced property "Cancelled by New" to "Cancelled by" in d.3 admin. To do this, you must first give the old "Cancelled by" property a different name. The same applies to the "Responsible-New" property. You also need to store the dataset hook "cm_user_translation" with the two new properties.

1. Open the document management of dbs | case manager contract Current.
2. Click on **Synchronize d.3 configuration**.
3. Check the two properties to see if they are mapped correctly. If this is not the case, select the two correct properties and save the page again.
4. Save the assignments in the DM app via the button **Save assignment in the DMS App**.

Note

We recommend not to delete the database and other configuration files of dbs | case manager contract 1.1.1. Likewise, you should not delete the database or instance data of d.ecs forms. You can copy the file **case-mngmnt-core.war** and the unzipped folder of the same name to a backup directory and delete it from d.3 presentation server so that the application is disabled.

If you have made an update with the export tool of dbs | case manager contract version Current 2021.Q3 Patch 01 or older and there are more than 1000 contract dossiers (individual contract + blanket agreement) in your system, it is mandatory to check the update again due to an error in the older version. Create another export file with the export tool from the latest version. Validate the export for any differences compared to the original export file. In case of a difference, contact the d.velop support for the next steps.

Possible values for the time zone queried by the script createStartScript.ps1

Here is the list of possible time zones. In the **createStartScript.ps1** script please enter only e.g. Europe/London. You should select the time zone that is set on the system where dbs | case manager contract 1.1.1 is installed.

Europe/London (UTC+00:00)

GMT (UTC+00:00)

Etc/GMT-0 (UTC+00:00)

Europe/Jersey (UTC+00:00)

Atlantic/St_Helena (UTC+00:00)

Europe/Guernsey (UTC+00:00)

Europe/Isle_of_Man (UTC+00:00)

Etc/GMT+0 (UTC+00:00)

Africa/Banjul (UTC+00:00)

Etc/GMT (UTC+00:00)

Africa/Freetown (UTC+00:00)

GB-Eire (UTC+00:00)
Africa/Bamako (UTC+00:00)
GB (UTC+00:00)
Africa/Conakry (UTC+00:00)
Portugal (UTC+00:00)
Universal (UTC+00:00)
Africa/Nouakchott (UTC+00:00)
Antarctica/Troll (UTC+00:00)
UTC (UTC+00:00)
Etc/Universal (UTC+00:00)
Atlantic/Faeroe (UTC+00:00)
Africa/Abidjan (UTC+00:00)
Eire (UTC+00:00)
Africa/Accra (UTC+00:00)
Atlantic/Faroe (UTC+00:00)
Etc/UCT (UTC+00:00)
GMT0 (UTC+00:00)
Europe/Dublin (UTC+00:00)
Zulu (UTC+00:00)
Africa/Ouagadougou (UTC+00:00)
Atlantic/Reykjavik (UTC+00:00)
Atlantic/Madeira (UTC+00:00)
Etc/Zulu (UTC+00:00)
Iceland (UTC+00:00)
Europe/Lisbon (UTC+00:00)
Atlantic/Canary (UTC+00:00)
Africa/Lome (UTC+00:00)
Greenwich (UTC+00:00)
Europe/Belfast (UTC+00:00)
Etc/GMT0 (UTC+00:00)
America/Danmarkshavn (UTC+00:00)

Africa/Dakar (UTC+00:00)
Africa/Bissau (UTC+00:00)
WET (UTC+00:00)
Etc/Greenwich (UTC+00:00)
Africa/Timbuktu (UTC+00:00)
UCT (UTC+00:00)
Africa/Monrovia (UTC+00:00)
Etc/UTC (UTC+00:00)
Europe/Brussels (UTC+01:00)
Europe/Warsaw (UTC+01:00)
CET (UTC+01:00)
Etc/GMT-1 (UTC+01:00)
Europe/Luxembourg (UTC+01:00)
Africa/Tunis (UTC+01:00)
Europe/Malta (UTC+01:00)
Europe/Busingen (UTC+01:00)
Africa/Malabo (UTC+01:00)
Europe/Skopje (UTC+01:00)
Europe/Sarajevo (UTC+01:00)
Africa/Lagos (UTC+01:00)
Europe/Rome (UTC+01:00)
Africa/Algiers (UTC+01:00)
Europe/Zurich (UTC+01:00)
Europe/Gibraltar (UTC+01:00)
Europe/Vaduz (UTC+01:00)
Europe/Ljubljana (UTC+01:00)
Europe/Berlin (UTC+01:00)
Europe/Stockholm (UTC+01:00)
Europe/Budapest (UTC+01:00)
Europe/Zagreb (UTC+01:00)
Africa/Sao_Tome (UTC+01:00)

Europe/Paris (UTC+01:00)
Africa/Ndjamena (UTC+01:00)
Africa/Ceuta (UTC+01:00)
Europe/Prague (UTC+01:00)
Europe/Copenhagen (UTC+01:00)
Europe/Vienna (UTC+01:00)
Europe/Tirane (UTC+01:00)
MET (UTC+01:00)
Europe/Amsterdam (UTC+01:00)
Africa/Libreville (UTC+01:00)
Africa/El_Aaiun (UTC+01:00)
Europe/San_Marino (UTC+01:00)
Africa/Douala (UTC+01:00)
Africa/Brazzaville (UTC+01:00)
Africa/Porto-Novo (UTC+01:00)
Poland (UTC+01:00)
Europe/Andorra (UTC+01:00)
Europe/Oslo (UTC+01:00)
Europe/Podgorica (UTC+01:00)
Africa/Casablanca (UTC+01:00)
Africa/Luanda (UTC+01:00)
Atlantic/Jan_Mayen (UTC+01:00)
Africa/Kinshasa (UTC+01:00)
Europe/Madrid (UTC+01:00)
Africa/Bangui (UTC+01:00)
Europe/Belgrade (UTC+01:00)
Africa/Niamey (UTC+01:00)
Europe/Bratislava (UTC+01:00)
Arctic/Longyearbyen (UTC+01:00)
Europe/Vatican (UTC+01:00)
Europe/Monaco (UTC+01:00)

Africa/Cairo (UTC+02:00)
Africa/Mbabane (UTC+02:00)
Etc/GMT-2 (UTC+02:00)
Europe/Zaporozhye (UTC+02:00)
Libya (UTC+02:00)
Africa/Kigali (UTC+02:00)
Africa/Tripoli (UTC+02:00)
Israel (UTC+02:00)
Europe/Kaliningrad (UTC+02:00)
Africa/Windhoek (UTC+02:00)
Europe/Bucharest (UTC+02:00)
Europe/Mariehamn (UTC+02:00)
Africa/Lubumbashi (UTC+02:00)
Europe/Tiraspol (UTC+02:00)
Europe/Chisinau (UTC+02:00)
Europe/Helsinki (UTC+02:00)
Asia/Beirut (UTC+02:00)
Asia/Tel_Aviv (UTC+02:00)
Europe/Sofia (UTC+02:00)
Africa/Gaborone (UTC+02:00)
Asia/Gaza (UTC+02:00)
Europe/Riga (UTC+02:00)
Africa/Maputo (UTC+02:00)
Asia/Damascus (UTC+02:00)
Europe/Uzhgorod (UTC+02:00)
Asia/Jerusalem (UTC+02:00)
Africa/Bujumbura (UTC+02:00)
Europe/Kiev (UTC+02:00)
Europe/Vilnius (UTC+02:00)
Africa/Maseru (UTC+02:00)
Africa/Blantyre (UTC+02:00)

Africa/Lusaka (UTC+02:00)
Africa/Harare (UTC+02:00)
Europe/Tallinn (UTC+02:00)
Africa/Khartoum (UTC+02:00)
Africa/Johannesburg (UTC+02:00)
Asia/Nicosia (UTC+02:00)
Asia/Famagusta (UTC+02:00)
EET (UTC+02:00)
Asia/Hebron (UTC+02:00)
Egypt (UTC+02:00)
Asia/Amman (UTC+02:00)
Europe/Nicosia (UTC+02:00)
Europe/Athens (UTC+02:00)
Asia/Aden (UTC+03:00)
Africa/Nairobi (UTC+03:00)
Europe/Istanbul (UTC+03:00)
Etc/GMT-3 (UTC+03:00)
Indian/Comoro (UTC+03:00)
Antarctica/Syowa (UTC+03:00)
Africa/Mogadishu (UTC+03:00)
Africa/Asmera (UTC+03:00)
Asia/Istanbul (UTC+03:00)
Europe/Moscow (UTC+03:00)
Africa/Djibouti (UTC+03:00)
Europe/Simferopol (UTC+03:00)
Africa/Asmara (UTC+03:00)
Asia/Baghdad (UTC+03:00)
Africa/Dar_es_Salaam (UTC+03:00)
Africa/Addis_Ababa (UTC+03:00)
Asia/Riyadh (UTC+03:00)
Asia/Kuwait (UTC+03:00)

Europe/Kirov (UTC+03:00)
Africa/Kampala (UTC+03:00)
Europe/Minsk (UTC+03:00)
Asia/Qatar (UTC+03:00)
Asia/Bahrain (UTC+03:00)
Indian/Antananarivo (UTC+03:00)
Indian/Mayotte (UTC+03:00)
Turkey (UTC+03:00)
Africa/Juba (UTC+03:00)
W-SU (UTC+03:00)
Iran (UTC+03:30)
Asia/Tehran (UTC+03:30)
Asia/Yerevan (UTC+04:00)
Etc/GMT-4 (UTC+04:00)
Asia/Dubai (UTC+04:00)
Indian/Reunion (UTC+04:00)
Indian/Mauritius (UTC+04:00)
Europe/Saratov (UTC+04:00)
Europe/Samara (UTC+04:00)
Indian/Mahe (UTC+04:00)
Asia/Baku (UTC+04:00)
Asia/Muscat (UTC+04:00)
Europe/Volgograd (UTC+04:00)
Europe/Astrakhan (UTC+04:00)
Asia/Tbilisi (UTC+04:00)
Europe/Ulyanovsk (UTC+04:00)
Asia/Kabul (UTC+04:30)
Asia/Aqtau (UTC+05:00)
Etc/GMT-5 (UTC+05:00)
Asia/Samarkand (UTC+05:00)
Asia/Karachi (UTC+05:00)

Asia/Yekaterinburg (UTC+05:00)
Asia/Dushanbe (UTC+05:00)
Indian/Maldives (UTC+05:00)
Asia/Oral (UTC+05:00)
Asia/Tashkent (UTC+05:00)
Antarctica/Mawson (UTC+05:00)
Asia/Aqtobe (UTC+05:00)
Asia/Ashkhabad (UTC+05:00)
Asia/Ashgabat (UTC+05:00)
Asia/Atyrau (UTC+05:00)
Indian/Kerguelen (UTC+05:00)
Asia/Kolkata (UTC+05:30)
Asia/Colombo (UTC+05:30)
Asia/Calcutta (UTC+05:30)
Asia/Kathmandu (UTC+05:45)
Asia/Katmandu (UTC+05:45)
Asia/Kashgar (UTC+06:00)
Etc/GMT-6 (UTC+06:00)
Asia/Almaty (UTC+06:00)
Asia/Dacca (UTC+06:00)
Asia/Omsk (UTC+06:00)
Asia/Dhaka (UTC+06:00)
Indian/Chagos (UTC+06:00)
Asia/Qyzylorda (UTC+06:00)
Asia/Bishkek (UTC+06:00)
Antarctica/Vostok (UTC+06:00)
Asia/Urumqi (UTC+06:00)
Asia/Thimbu (UTC+06:00)
Asia/Thimphu (UTC+06:00)
Asia/Yangon (UTC+06:30)
Asia/Rangoon (UTC+06:30)

Indian/Cocos (UTC+06:30)
Asia/Pontianak (UTC+07:00)
Etc/GMT-7 (UTC+07:00)
Asia/Phnom_Penh (UTC+07:00)
Asia/Novosibirsk (UTC+07:00)
Antarctica/Davis (UTC+07:00)
Asia/Tomsk (UTC+07:00)
Asia/Jakarta (UTC+07:00)
Asia/Barnaul (UTC+07:00)
Indian/Christmas (UTC+07:00)
Asia/Ho_Chi_Minh (UTC+07:00)
Asia/Hovd (UTC+07:00)
Asia/Bangkok (UTC+07:00)
Asia/Vientiane (UTC+07:00)
Asia/Novokuznetsk (UTC+07:00)
Asia/Krasnoyarsk (UTC+07:00)
Asia/Saigon (UTC+07:00)
Asia/Kuching (UTC+08:00)
Asia/Chungking (UTC+08:00)
Etc/GMT-8 (UTC+08:00)
Australia/Perth (UTC+08:00)
Asia/Macao (UTC+08:00)
Asia/Macau (UTC+08:00)
Asia/Choibalsan (UTC+08:00)
Asia/Shanghai (UTC+08:00)
Antarctica/Casey (UTC+08:00)
Asia/Ulan_Bator (UTC+08:00)
Asia/Chongqing (UTC+08:00)
Asia/Ulaanbaatar (UTC+08:00)
Asia/Taipei (UTC+08:00)
Asia/Manila (UTC+08:00)

PRC (UTC+08:00)
Asia/Ujung_Pandang (UTC+08:00)
Asia/Harbin (UTC+08:00)
Singapore (UTC+08:00)
Asia/Brunei (UTC+08:00)
Australia/West (UTC+08:00)
Asia/Hong_Kong (UTC+08:00)
Asia/Makassar (UTC+08:00)
Hongkong (UTC+08:00)
Asia/Kuala_Lumpur (UTC+08:00)
Asia/Irkutsk (UTC+08:00)
Asia/Singapore (UTC+08:00)
Australia/Eucla (UTC+08:45)
Etc/GMT-9 (UTC+09:00)
Pacific/Palau (UTC+09:00)
Asia/Chita (UTC+09:00)
Asia/Dili (UTC+09:00)
Asia/Jayapura (UTC+09:00)
Asia/Yakutsk (UTC+09:00)
Asia/Pyongyang (UTC+09:00)
ROK (UTC+09:00)
Asia/Seoul (UTC+09:00)
Asia/Khandyga (UTC+09:00)
Japan (UTC+09:00)
Asia/Tokyo (UTC+09:00)
Australia/North (UTC+09:30)
Australia/Darwin (UTC+09:30)
Pacific/Yap (UTC+10:00)
Pacific/Port_Moresby (UTC+10:00)
Pacific/Chuuk (UTC+10:00)
Australia/Queensland (UTC+10:00)

Pacific/Guam (UTC+10:00)
Pacific/Truk (UTC+10:00)
Asia/Vladivostok (UTC+10:00)
Pacific/Saipan (UTC+10:00)
Antarctica/DumontDUrville (UTC+10:00)
Australia/Brisbane (UTC+10:00)
Etc/GMT-10 (UTC+10:00)
Asia/Ust-Nera (UTC+10:00)
Australia/Lindeman (UTC+10:00)
Australia/Yancowinna (UTC+10:30)
Australia/Adelaide (UTC+10:30)
Australia/Broken_Hill (UTC+10:30)
Australia/South (UTC+10:30)
Australia/Hobart (UTC+11:00)
Australia/Tasmania (UTC+11:00)
Australia/ACT (UTC+11:00)
Pacific/Ponape (UTC+11:00)
Pacific/Bougainville (UTC+11:00)
Australia/Victoria (UTC+11:00)
Antarctica/Macquarie (UTC+11:00)
Australia/Canberra (UTC+11:00)
Australia/Currie (UTC+11:00)
Australia/Lord_Howe (UTC+11:00)
Australia/NSW (UTC+11:00)
Pacific/Pohnpei (UTC+11:00)
Pacific/Efate (UTC+11:00)
Pacific/Norfolk (UTC+11:00)
Asia/Magadan (UTC+11:00)
Pacific/Kosrae (UTC+11:00)
Australia/Sydney (UTC+11:00)
Australia/LHI (UTC+11:00)

Asia/Sakhalin (UTC+11:00)
Pacific/Noumea (UTC+11:00)
Etc/GMT-11 (UTC+11:00)
Asia/Srednekolymsk (UTC+11:00)
Australia/Melbourne (UTC+11:00)
Pacific/Guadalcanal (UTC+11:00)
Pacific/Kwajalein (UTC+12:00)
Pacific/Wallis (UTC+12:00)
Pacific/Funafuti (UTC+12:00)
Pacific/Nauru (UTC+12:00)
Kwajalein (UTC+12:00)
Pacific/Wake (UTC+12:00)
Pacific/Tarawa (UTC+12:00)
Asia/Kamchatka (UTC+12:00)
Etc/GMT-12 (UTC+12:00)
Asia/Anadyr (UTC+12:00)
Pacific/Majuro (UTC+12:00)
Pacific/Fakaofu (UTC+13:00)
Antarctica/McMurdo (UTC+13:00)
Pacific/Fiji (UTC+13:00)
Pacific/Enderbury (UTC+13:00)
NZ (UTC+13:00)
Antarctica/South_Pole (UTC+13:00)
Pacific/Auckland (UTC+13:00)
Pacific/Tongatapu (UTC+13:00)
Etc/GMT-13 (UTC+13:00)
NZ-CHAT (UTC+13:45)
Pacific/Chatham (UTC+13:45)
Pacific/Apia (UTC+14:00)
Pacific/Kiritimati (UTC+14:00)
Etc/GMT-14 (UTC+14:00)

Etc/GMT+1 (UTC-01:00)
Atlantic/Cape_Verde (UTC-01:00)
Atlantic/Azores (UTC-01:00)
America/Scoresbysund (UTC-01:00)
Etc/GMT+2 (UTC-02:00)
Brazil/East (UTC-02:00)
America/Sao_Paulo (UTC-02:00)
America/Noronha (UTC-02:00)
Brazil/DeNoronha (UTC-02:00)
Atlantic/South_Georgia (UTC-02:00)
America/Cuiaba (UTC-03:00)
Chile/Continental (UTC-03:00)
America/Miquelon (UTC-03:00)
America/Argentina/Catamarca (UTC-03:00)
America/Argentina/Cordoba (UTC-03:00)
America/Araguaina (UTC-03:00)
America/Argentina/Salta (UTC-03:00)
Etc/GMT+3 (UTC-03:00)
America/Montevideo (UTC-03:00)
America/Argentina/Mendoza (UTC-03:00)
America/Argentina/Rio_Gallegos (UTC-03:00)
America/Catamarca (UTC-03:00)
America/Godthab (UTC-03:00)
America/Cordoba (UTC-03:00)
America/Argentina/Jujuy (UTC-03:00)
America/Cayenne (UTC-03:00)
America/Recife (UTC-03:00)
America/Buenos_Aires (UTC-03:00)
America/Paramaribo (UTC-03:00)
America/Mendoza (UTC-03:00)
America/Santarem (UTC-03:00)

America/Asuncion (UTC-03:00)
America/Maceio (UTC-03:00)
Atlantic/Stanley (UTC-03:00)
Antarctica/Rothera (UTC-03:00)
America/Argentina/San_Luis (UTC-03:00)
America/Santiago (UTC-03:00)
America/Argentina/Ushuaia (UTC-03:00)
Antarctica/Palmer (UTC-03:00)
America/Punta_Arenas (UTC-03:00)
America/Fortaleza (UTC-03:00)
America/Argentina/La_Rioja (UTC-03:00)
America/Campo_Grande (UTC-03:00)
America/Belem (UTC-03:00)
America/Jujuy (UTC-03:00)
America/Bahia (UTC-03:00)
America/Argentina/San_Juan (UTC-03:00)
America/Argentina/ComodRivadavia (UTC-03:00)
America/Argentina/Tucuman (UTC-03:00)
America/Rosario (UTC-03:00)
America/Argentina/Buenos_Aires (UTC-03:00)
America/St_Johns (UTC-03:30)
Canada/Newfoundland (UTC-03:30)
America/Marigot (UTC-04:00)
Canada/Atlantic (UTC-04:00)
Etc/GMT+4 (UTC-04:00)
America/Manaus (UTC-04:00)
America/St_Thomas (UTC-04:00)
America/Anguilla (UTC-04:00)
America/Barbados (UTC-04:00)
America/Curacao (UTC-04:00)
America/Guyana (UTC-04:00)

America/Martinique (UTC-04:00)
America/Puerto_Rico (UTC-04:00)
America/Port_of_Spain (UTC-04:00)
SystemV/AST4 (UTC-04:00)
America/Kralendijk (UTC-04:00)
America/Antigua (UTC-04:00)
America/Moncton (UTC-04:00)
America/St_Vincent (UTC-04:00)
America/Dominica (UTC-04:00)
Atlantic/Bermuda (UTC-04:00)
Brazil/West (UTC-04:00)
America/Aruba (UTC-04:00)
America/Halifax (UTC-04:00)
America/La_Paz (UTC-04:00)
America/Blanc-Sablon (UTC-04:00)
America/Santo_Domingo (UTC-04:00)
America/Glace_Bay (UTC-04:00)
America/St_Barthelemy (UTC-04:00)
America/St_Lucia (UTC-04:00)
America/Montserrat (UTC-04:00)
America/Lower_Princes (UTC-04:00)
America/Thule (UTC-04:00)
America/Tortola (UTC-04:00)
America/Porto_Velho (UTC-04:00)
America/Goose_Bay (UTC-04:00)
America/Virgin (UTC-04:00)
America/Boa_Vista (UTC-04:00)
America/Grenada (UTC-04:00)
America/St_Kitts (UTC-04:00)
America/Caracas (UTC-04:00)
America/Guadeloupe (UTC-04:00)

SystemV/AST4ADT (UTC-04:00)
America/Panama (UTC-05:00)
America/Indiana/Petersburg (UTC-05:00)
America/Eirunepe (UTC-05:00)
America/Grand_Turk (UTC-05:00)
Cuba (UTC-05:00)
Etc/GMT+5 (UTC-05:00)
Pacific/Easter (UTC-05:00)
America/Fort_Wayne (UTC-05:00)
America/Havana (UTC-05:00)
America/Porto_Acre (UTC-05:00)
US/Michigan (UTC-05:00)
America/Louisville (UTC-05:00)
America/Guayaquil (UTC-05:00)
America/Indiana/Vevay (UTC-05:00)
America/Indiana/Vincennes (UTC-05:00)
America/Indianapolis (UTC-05:00)
America/Iqaluit (UTC-05:00)
America/Kentucky/Louisville (UTC-05:00)
EST5EDT (UTC-05:00)
America/Nassau (UTC-05:00)
America/Jamaica (UTC-05:00)
America/Atikokan (UTC-05:00)
America/Kentucky/Monticello (UTC-05:00)
America/Coral_Harbour (UTC-05:00)
America/Cayman (UTC-05:00)
Chile/EasterIsland (UTC-05:00)
America/Indiana/Indianapolis (UTC-05:00)
America/Thunder_Bay (UTC-05:00)
America/Indiana/Marengo (UTC-05:00)
America/Bogota (UTC-05:00)

SystemV/EST5 (UTC-05:00)
US/Eastern (UTC-05:00)
Canada/Eastern (UTC-05:00)
America/Port-au-Prince (UTC-05:00)
America/Nipigon (UTC-05:00)
Brazil/Acre (UTC-05:00)
US/East-Indiana (UTC-05:00)
America/Cancun (UTC-05:00)
America/Lima (UTC-05:00)
America/Rio_Branco (UTC-05:00)
America/Detroit (UTC-05:00)
Jamaica (UTC-05:00)
America/Pangnirtung (UTC-05:00)
America/Montreal (UTC-05:00)
America/Indiana/Winamac (UTC-05:00)
America/New_York (UTC-05:00)
America/Toronto (UTC-05:00)
SystemV/EST5EDT (UTC-05:00)
America/El_Salvador (UTC-06:00)
America/Guatemala (UTC-06:00)
America/Belize (UTC-06:00)
America/Managua (UTC-06:00)
America/Chicago (UTC-06:00)
America/Tegucigalpa (UTC-06:00)
Etc/GMT+6 (UTC-06:00)
America/Regina (UTC-06:00)
Mexico/General (UTC-06:00)
America/Rankin_Inlet (UTC-06:00)
US/Central (UTC-06:00)
Pacific/Galapagos (UTC-06:00)
America/Rainy_River (UTC-06:00)

America/Swift_Current (UTC-06:00)
America/Costa_Rica (UTC-06:00)
America/Indiana/Knox (UTC-06:00)
America/North_Dakota/Beulah (UTC-06:00)
America/Monterrey (UTC-06:00)
SystemV/CST6 (UTC-06:00)
America/North_Dakota/Center (UTC-06:00)
America/Indiana/Tell_City (UTC-06:00)
America/Mexico_City (UTC-06:00)
America/Matamoros (UTC-06:00)
CST6CDT (UTC-06:00)
America/Knox_IN (UTC-06:00)
America/Menominee (UTC-06:00)
America/Resolute (UTC-06:00)
Canada/Central (UTC-06:00)
America/Bahia_Banderas (UTC-06:00)
US/Indiana-Starke (UTC-06:00)
SystemV/CST6CDT (UTC-06:00)
America/Merida (UTC-06:00)
Canada/Saskatchewan (UTC-06:00)
America/North_Dakota/New_Salem (UTC-06:00)
America/Winnipeg (UTC-06:00)
Etc/GMT+7 (UTC-07:00)
US/Arizona (UTC-07:00)
Mexico/BajaSur (UTC-07:00)
America/Dawson_Creek (UTC-07:00)
America/Denver (UTC-07:00)
America/Yellowknife (UTC-07:00)
America/Inuvik (UTC-07:00)
America/Mazatlan (UTC-07:00)
SystemV/MST7 (UTC-07:00)

America/Boise (UTC-07:00)
MST7MDT (UTC-07:00)
America/Chihuahua (UTC-07:00)
America/Ojinaga (UTC-07:00)
US/Mountain (UTC-07:00)
America/Creston (UTC-07:00)
America/Edmonton (UTC-07:00)
America/Hermosillo (UTC-07:00)
Canada/Mountain (UTC-07:00)
America/Cambridge_Bay (UTC-07:00)
Navajo (UTC-07:00)
America/Phoenix (UTC-07:00)
SystemV/MST7MDT (UTC-07:00)
America/Fort_Nelson (UTC-07:00)
America/Shiprock (UTC-07:00)
Etc/GMT+8 (UTC-08:00)
Canada/Yukon (UTC-08:00)
US/Pacific-New (UTC-08:00)
Canada/Pacific (UTC-08:00)
PST8PDT (UTC-08:00)
Pacific/Pitcairn (UTC-08:00)
America/Dawson (UTC-08:00)
Mexico/BajaNorte (UTC-08:00)
America/Tijuana (UTC-08:00)
SystemV/PST8 (UTC-08:00)
America/Santa_Isabel (UTC-08:00)
America/Vancouver (UTC-08:00)
America/Ensenada (UTC-08:00)
America/Whitehorse (UTC-08:00)
SystemV/PST8PDT (UTC-08:00)
America/Los_Angeles (UTC-08:00)

US/Pacific (UTC-08:00)
Etc/GMT+9 (UTC-09:00)
US/Alaska (UTC-09:00)
America/Juneau (UTC-09:00)
America/Metlakatla (UTC-09:00)
Pacific/Gambier (UTC-09:00)
America/Yakutat (UTC-09:00)
America/Sitka (UTC-09:00)
SystemV/YST9 (UTC-09:00)
America/Anchorage (UTC-09:00)
America/Nome (UTC-09:00)
SystemV/YST9YDT (UTC-09:00)
Pacific/Marquesas (UTC-09:30)
Pacific/Honolulu (UTC-10:00)
Pacific/Rarotonga (UTC-10:00)
Pacific/Tahiti (UTC-10:00)
Pacific/Johnston (UTC-10:00)
America/Atka (UTC-10:00)
US/Hawaii (UTC-10:00)
SystemV/HST10 (UTC-10:00)
America/Adak (UTC-10:00)
US/Aleutian (UTC-10:00)
Etc/GMT+10 (UTC-10:00)
Pacific/Pago_Pago (UTC-11:00)
Pacific/Samoa (UTC-11:00)
Pacific/Niue (UTC-11:00)
US/Samoa (UTC-11:00)
Etc/GMT+11 (UTC-11:00)
Pacific/Midway (UTC-11:00)
Etc/GMT+12 (UTC-12:00)

1.3. Installation

In this topic you will find information about the installation of db | case manager contract.

1.3.1. System requirements

Please refer to the central [system requirements for d.velop products \(on-premises\)](#). You can find deviating or more extensive system requirements in the documentation.

The sections "Operating systems for d.velop server applications", "Database Management Systems (DBMS)" and "Web browser" are especially relevant.

d.velop contracts is a product which provides contract management functionalities as an integration for d.velop documents. The installation requires the following components as dependency in the versions valid for the respective release:

- d.ecs infrastructure
- d.3 server
- d.3one
- d.ecs task

1.3.2. Installation and configuration

In this topic you will find information about the installation of dbs | case manager.

Preparation

Warning

Before starting the installation, make sure that the [System requirements](#) are met!

If you execute an update of dbs | case manager then the configuration of the previous installation must be finished! A hotfix/update is always deployed as full-setup and can also be used for a reinstallation without installing other versions before.

Creating a new database

Please set up a new database in your respective database management system (DBMS). Create your own user for access to the database. This user must have the rights to create, read, update and remove the database contents and must also be able to carry out all database configuration and maintenance activities.

As the deadlines from dbs | case manager contract have been outsourced to a separate application, you have the option of creating an additional database in the same way and thus separating the data pools. However, you can also use the same database for both.

If you are using a Microsoft SQL Server, see the **Creating a new Microsoft SQL Server database** section in the **Best Practice Setup and Configuration** section for instructions on creating a new database with a user.

Please note the following points for the respective database management systems:

Note

If you are using an Oracle database, make sure that the database user also has the right to create new sequences.

When using an MS SQL database, the "dbo" schema is used as standard. We recommend naming the scheme in the same way.

Please note the following points:

Note

Please create the database for dbs | case manager contract in the same DBMS where the databases of d.3 core components are located.

Under circumstances you have to adjust the configuration for using unicode. The database of d.3 components and that of dbs | case manager should be configured in the same way. A mixed operation is not allowed.

Note

Make sure that the user accessing the database does not have umlauts in the password. Umlauts in the password of the database user are currently not supported.

Setup

You install the software exclusively using d.velop software manager. If an application is required for different products, the corresponding software packages are also installed automatically.

For further information on installing the software, see the d.velop software manager manual.

Note

Please stop the processes of dbs | case manager contract and d.ecs terms in d.3 process manager in advance. When updating a previous Rising version ≤ 6 , new processes may be created for dbs | case manager contract and d.ecs terms. If changes have been made to the start parameters, these must be adopted.

Starting dbs | case manager contract

During the installation, an entry is automatically created in d.3 process manager. This allows you to start and stop dbs | case manager contract.

With rising 3, the terms were outsourced to a separate application that is delivered as part of the dbs | case manager contract setup. You must also start this. For this purpose, too, an entry is automatically created in d.3 process manager during the installation of dbs | case manager contract

Setting up the hooks

The Groovy Hooks were placed in the installation directory after the installation was completed. These hook files must be specified in d.3 admin. Please make sure that Java/Groovy support has been activated. Further information on the hooks supplied can be found in the [Hook](#) chapter. Further information on the integration of Groovy Hooks can be found in the d.3 admin documentation.

Note

Please note that the file **dbsCase_contract_functions.ini** is created in the configuration step repository configuration, will be stored additionally to the Groovy hook files.

For each update installation, the hook files must be replaced with those in the installation directory. Please note any project-specific adjustments.

If you only use dbs | case manager contract and not dbs | case manager, do not copy the files **dbsCase.groovy**, **dbsCaseHooks_prefixGen.groovy** and **dbsCaseHooks.classpath**.

Configuring SSL with a self-signed certificate

For the hooks of the dbs | case manager to work via SSL with a self-signed certificate of the gateway app, the certificate of the gateway app must be added to the Windows certificate store. This can be done manually or rolled out automatically per domain. We recommend delivery by domain.

Warning

To ensure that the d.3 server also trusts these certificates, an adjustment must be made in d.3 config in d.3 admin. To do this, switch to edit mode in d.3 admin and open System settings | d.3 config.

Expand the Java/Groovy item from the logical groups and click on the JVM Options area.

Set or add the following entry to the current value (if not already present):

```
-Djavax.net.ssl.trustStoreType=Windows-ROOT
```

Update

Warning

If you execute an update of dbs | case manager contract then the configuration of a previous installation must be finished. A hotfix/update is always deployed as full-setup and can also be used for a reinstallation without installing other versions before.

An update is carried out in the same way as the initial [Installation](#).

1.4. Configuration

In this topic you will find information about the configuration of dbs | case manager contract.

1.4.1. Preparing the configuration

After the initial installation only one user has access to the configuration pages of dbs | case manager contract, who is root administrator. Root administrators are the users who are members of the group that is stored in d.ecs identity provider under **administrative group**. As part of the configuration, this user can configure the roles and authorize users for contract management through them.

When a user logs in for the first time, he or she takes the required licenses. A release of not used licenses applies as soon as a user has not used the contract management for 28 days.

Warning

The application dbs | case manager contract is only ready for use when all warnings in the configuration have been resolved. A warning also appears on the process area in the configuration if no contract type has been created yet. Note that you will see this area only if you have the "Process administrator" role.

1.4.2. Opening the configuration

The configuration of dbs | case manager contract takes place exclusively via d.ecs config.

This is how it works

1. Open d.3one in a browser.
2. Log in as a technical administrator.
3. Select the tile **Configuration**.
4. In the **Administration** area, select **Administrative options**.

Note

All incomplete configurations are marked with a warning sign in the overview. If administration is successful, the warning sign is no longer displayed.

Only after successful configuration of the repository data, further items of the configuration are made visible.

You can access to d.ecs config via the tile **Configuration**. Depending on the role, there are different areas within d.ecs config that you can see and configure.

Note

All incomplete configurations are displayed in a banner on the respective pages. If no tile rights have been assigned yet, all users can see the tiles on the Home app and may also see an information banner here, which draws attention to missing rights and configurations that have not yet been made. If configuration is successful, the banner is no longer displayed. The banner can be hidden by clicking on **Ignore**. All accessible web pages try to provide full functionality at all times, this is also the case when a banner is a problem. Depending on the problem, it may then be possible, for example, that individual sections of a page are usable and functional, but other areas have only limited functionality. Example: The configuration for the external applications is invalid. It may then not be possible to create a task in the Task app, but the master data of the contract will still be functional.

1.4.3. Configuring the database

The first area that needs to be configured after successful installation is the connection to the respective database management system. Only the successful data base configuration fades in the further configuration possibilities and the database configuration out. If connection problems to the database are detected, this area is shown again.

Note

Use the database created in advance. Make sure that the TCP port of your system has been opened and your database user has no umlauts in the password.

This is how it works

1. Open the configuration of the database.
2. Enter the database configuration parameters (you assigned a lot of the data when setting up the dbs | case manager contract database).
3. Save the data by clicking on **Save**.

Note

Before the data is saved, a connection is established with this data against the database. If an error is generated, you can find further information in the log viewer.

For a new installation of dbs | case manager contract a new database scheme within the prepared database will be created.

Configuration of a Microsoft SQL Server with instance name

In the field Host name, append \

1.4.4. Configuring the d.3 repository

In the area **d.3 repository**, the basic connection and configuration data for the used d.3 system are specified.

This is how it works

1. Open the area **d.3 repository**.
2. Select the relevant repository.
3. Transfer the API keys of an administrative user and a service user. You have direct access to the configuration interface of the API keys of d.ecs identity provider via a corresponding context action.
4. The administrative user needs the permission "administrator authorization" in the d.3 system so that, among other things, datasets can be synchronized. The service user requires the permission "Service user" for background tasks. In addition, both users must be given all access rights to the document types and categories created by dbs | case manager contract via an authorization profile once they have been created.
5. Fill in the prefix for the internal individual contract and blanket agreement number.
6. Select whether date validations are to be carried out in connection with individual contracts to blanket agreements. This option checks the contract term of a blanket agreement with that of the individual contracts. If the term of an individual contract exceeds the term of a blanket agreement contract, an error is generated.
7. Apply your configuration with a click on **Save**.

Note

The configuration can be temporarily adopted by clicking on **Live**. After a restart of dbs | case manager contract all settings since the last save time are discarded.

If you start several dbs | case manager contract instances and both work with the same d.ecs terms instance, you have to define different prefixes, because the terms are only linked to the contract via the contract number and therefore this number has to be unique.

Preparing the d.3 repository configuration

In the configuration of the d.3 repository, the API keys of an administrative and a service user are required. A context action offers the option of jumping directly to d.ecs identity provider and configuring the API keys. If you require further information, please refer to the d.ecs identity provider documentation.

Preparing the d.3 database for search queries

When searching in the d.3 system, some searches may be case-sensitive. This occurs, among other things, when searching for organizational units and manifests itself, for example, when using an Oracle database in that the search is always case-sensitive.

Advanced repository configuration

After you have configured the access to the d.3 repository, you can use the document management to create the categories, datasets and advanced properties in d.3. If necessary, you can configure extended properties for other database fields.

This is how it works

1. Open d.3one and log in as a technical administrator.
2. Select the tile **Configuration**.
3. In the **Administration** area, select **Document management**.
4. Create the respective value sets, extended properties and categories.

5. If you already have existing datasets, advanced properties or categories in your d.3 system, assign the respective entry to an existing d.3 entry To do this, select the item **Existing <Type>** and then select the respective entry in the selection. Please note the information below.
6. Exit edit mode in d.3 admin or close d.3 admin.
7. Apply your configuration by clicking on **Save**. The current processing status is displayed in the respective areas. If you continue to see entries, you must configure them correctly and save them again.
8. You can now continue with the configuration of authorization profiles in d.3 admin.

Note

As an administrator, you can perform the following actions in the document management:

 Use this action to display hidden content. In the document management, successfully linked properties are hidden and only configuration items with errors or warnings are displayed.

 A click on this symbol offers you the current configuration as XML document for download.

 A click on this icon downloads the INI file you need for the hooks. Put this file in the folder where the hooks of dbs | case manager contract are stored.

 If you click this icon, all unsaved changes are discarded.

 A click on this icon reloads the d.3 configuration If, for example, a new extended property has been created in d.3 admin, this property only appears after this button has been clicked.

 You use this to create the default dossier scheme.

 In order for the contract overview to display the list of contracts, the assignments must first be transferred to the DMS app. Click on this symbol to create the assignments automatically.

Note

If you use existing extended properties, you should ensure that you only use properties that are of the "date and time" data type, especially for date properties. It is possible to select properties of the "Date" data type. In this case, however, no time is saved and 00:00:00 is always assumed instead. Especially with the advanced property "end of contract" this plays a bigger role. Normally, when the end of contract is selected, dbs | case manager contract would set the time to 23:59:59 in the logged in user's time zone or the system time zone and save this. This information would be reset to 00:00:00 for a "Date" data type.

Warning

All extended properties must be assigned to different d.3 properties so that the assignments can be created successfully. The DMS app does not allow different source properties to point to the same target property. The logged-in user also requires the appropriate rights to be able to save these assignments.

If you have added further properties to the document type contract, in order to be able to use them via the area advanced master data, you must first reload the d.3 configuration and then save it. Then transfer the configuration to the DMS app.

1.4.5. Conversation

For **conversations**, you can add the case number to the subject of the message in the standard system. You can also set maximum number of results of the elements that will be displayed in the **Add attachment** selection.

External conversations

By default, sending e-mails to external conversation participants is disabled. It is enabled as soon as an e-mail address for the central mailbox has been deposited at **SMTP e-mail address for external conversations**. This e-mail address is used as the sender of e-mails sent from a conversation. In order for reply e-mails to be automatically returned to the conversation as well, d.ecs content crawler and d.ecs groupware must be configured to process e-mails from the inbox (@@INBOX) of this e-mail mailbox.

This is how it works:

- Under **Configuration > E-mail Management > General Settings > Sources** add a source. Assign the name "CM", for example.
- Under **Configuration > E-mail Management > General Settings > Categories** add a category. Assign the name "CM", for example.
- Under **Configuration > E-mail Management > E-mail Archiving > General Settings** the **Rule-based processing** must be enabled.
- Under **Configuration > E-mail Management > E-mail Archiving > Sources** a new source collection with the respective e-mail mailbox has to be created. Assign the name "CM", for example.
- Under **Configuration > E-mail Management > E-mail Archiving > Rules** a new rule set has to be created with the rules "Not archived documents" and "Inclusion folder '@@INBOX'". Assign the name "CM", for example.
- Under **Configuration > E-mail Management > E-mail Archiving > Processing steps** a new processing step collection has to be created. Assign the name "CM", for example. Add a processing step "Archive document" and select the corresponding repository for which dbs | case manager contract has been configured. For Source and Category, select the previously created source "CM" and category "CM". For post-processing action, select "None". Enable the option "Process dbs | case manager data".
- Under **Configuration > E-mail Management > E-mail Archiving > Profile** a new profile has to be created. Enable this profile and assign the name "CM", for example. For Source, Rule and Processing Step Collections, select the previously created collections named "CM".

In addition, an assignment must be created in d.3one. This is how it works:

- Create a new assignment under d.3one > Assignments.
- Assign the name "CM", for example.
- For Source select the previously created source "CM".
- Assign the category by selecting the document type "Contract document" for the destination category, which is used in dbs | case manager contract. If you also use dbs | case manager, you are free to select the document type "Case document" or "Contract document". The assignment to the correct document type happens downstream in the hook `dbsCase_contentCrawler.groovy`.
- You do not have to make an assignment for the properties.

You need to provide the necessary files for the layout of the e-mail. This is how it works:

- There are sample files in the installation directory under `\templates\mail`.
- Copy these three files to `\working\config\mail`.
- You can also use other images. However, the naming of the images must remain the same.
- Sie können das Layout anpassen. However, it is important that the placeholders `${subject}`, `${content}` and `${token}` are not removed. Likewise, the `img` tags with `src="cid:$head"` and `src="cid:$foot"` must not be removed. These are processed internally:
 - `${subject}`: Will be replaced by the e-mail subject.
 - `${content}`: Will be replaced by the message.
 - `${token}`: Will be replaced by a token that allows the reply e-mail to be associated with the correct conversation.
 - ``: Here the image with name `mail_head.png` will be inserted.
 - ``: Here the image with name `mail_foot.png` will be inserted.

Note

Note that the latest hook files from `dbs | case manager` must be used. For the external conversations, the files `dbsCase_contentCrawler.groovy` and `dbsCase_contentCrawler.classpath` are also required in particular. Make sure that the hook entry point `hook_insert_entry_10` is not occupied by any JPL hook or `d.3` server has been configured to allow JPL and Groovy hooks to be configured on the same entry point.

Furthermore, you have to configure the SMTP hostname of the server to be used in `d.3` admin at SMTP Gateway. More detailed steps can be found in the `d.3` admin documentation. The SMTP port is currently set to 25 and cannot be customized.

1.4.6. Terms

The deadlines are now managed in a separate application.

Configuring the database for the terms

There are additional configuration pages for the deadlines, which can be accessed via `d.ecs` config.

This is how it works

1. Open `d.3one` in a browser.
2. Log in as a technical administrator.
3. Select the tile **Configuration**.
4. Open in **Terms** the option **Database**.
5. You have the option of saving the terms in the same database that is used by `dbs | case manager contract`. Enter the same access data. Alternatively, enter the access data for another database.
6. Save the data by clicking on **Save**.

Configuring terms

After you have saved the database configuration for the terms, another configuration tile **Settings** appears under **Terms**.

This is how it works

1. Select **Settings**.
2. Specify a user's API key with which the Terms app can address other applications, such as `dbs | case manager contract`. We recommend the API key of the service user of `dbs | case manager contract`.
3. For the calculation of working days for terms, enter the country and optionally the region/state.
4. Set who should get **write permissions on terms**.

- a. Only the person in charge: Anyone can create a term to a contract if they have the right to edit the contract. Subsequently, however, only such users can edit or delete the term if they have been deposited as the person in charge directly or via one of their groups.
 - b. Everyone: Anyone can create a term to a contract if they have the right to edit the contract. Likewise, anyone can edit all the terms of these contracts.
5. Save the data by clicking on **Save**.

The calculation of working days applies with the help of the Open Source component Jollyday. A specific holiday calendar can be selected via the definition of country code as well as region/state code. You can find it on the Jollyday SourceForge website.

Note

Example North Rhine-Westphalia:

country.description.de.nw

Country = GERMANY

State/Region = NW

This is not case-sensitive.

1.4.7. External applications

As an administrator, you can make the following settings in this area.

- **API key of a service user in the Task app**
Enter the API key of a user assigned to the "Service user" role of the Task app here. This is the only way to ensure that when a task is completed in the dbs | case manager contract form, the corresponding Task app task is also completed.
- **API key of the Terms app system user**
Enter the same API key here that you entered when configuring the Terms app.

1.4.8. Executive summaries

In the **Overviews**, the administrator can configure that an additional column with the dossier link is displayed in all overviews.

1.4.9. Common

As an administrator, you can make the following settings in this area:

- **Show Activities**
Enable the display of the activity stream in the contract form.
- **Dataset for partners**
If you activate the checkbox, the selection of partners is determined from a value set (statically or via hook function). To use partner management via the **Partner** tile of dbs | case manager contract, you must disable this checkbox.
- **Redirection to contract dossier after creation** After creating a new contract, you are redirected to the contract dossier. This means that the context menu for the dossier is immediately available.
- **Preassignment of the property Responsible for a contract or case with the creator** When a contract is created, the current user is entered as the person responsible for the case or contract in the **Responsible** field. You also have the option of editing the persons or groups in the **Responsible** field before creating the contract or case.
- **Add the title of the case dossier to the subject of tasks and conversation messages**

For notifications for conversation messages and for escalation messages for tasks as well as for the task title in the Task app (but not in dbs | case manager contract), the title of the contract dossier is prefixed to the subject.

- **Reminder service delay**
Set the time in milliseconds until the next reminder service run. Enter a number greater than or equal to 10,000.
- **d.3 repository**
Select the default repository.
- **Visibility and order of functional areas can be configured by the user** Specify whether users are allowed to reconfigure the visibility and order of the functional areas on the contract page. You can also specify an initial configuration. Further information can be found [here](#).

1.5. Authorization

In this chapter you will find more detailed information about the authorization concept of dbs | case manager contract.

1.5.1. Roles

The contract management uses a role concept to give available groups responsibilities for certain activities in the contract management. Only users who are members of the selected groups get access to the contract management. The following roles are to be filled:

- **Administrator**
The administrator has access to all technical and administrative settings, in particular the database configuration and the connection to the document management system. The administrator requires basic knowledge of the administration of d.3ecm.
- **Contract management user with basic functionalities**
The user has access to the tiles and entry points of the contract management that are contained in the basic license.
- **Contract management user with advanced functionalities**
The user has access to all tiles and entry points of the contract management that are contained in the advanced license. The selected groups will be automatically added to the role "Contract management user with basic functionalities".
- **Process administrator for contracts**
The process administrator can model processes, manage organizational units and configure the visible facets for the contract overview. The selected groups will be automatically added to the role "Contract management user with basic functionalities".

Note

Only groups with the corresponding roles can be linked. It is not possible to select individual users. This must be taken into account in the respective system linked to the d.ecs identity provider as a provider. Licenses from contract management are measured based on the number of respective users assigned to the roles "Contract management user with basic functionalities" and "Contract management user with advanced functionalities".

When selecting the role owners, only the groups of d.ecs identity provider are provided.

Note

The synchronization of users in the groups with d.ecs identity provider takes place hourly. Saving the roles triggers synchronization directly. You can configure the time span in the `application.properties` using `casemanagement.tasks.delay.idp=60m`.

Delimitation basic and advanced edition

dbs | case manager contract differentiates between a basic and an advanced edition.

The basic edition is for users with basic requirements to the contract management, while the advanced edition is for the professional use in the contract management.

The following shows you the difference of the functions:

Function range	basic edition	advanced edition
Management of common contract core data	✓	✓
Creation and visibility of a detail tab for the maintenance of customer-individual contract core data (e.g. in dependence of the contract type)	–	✓
Capturing of periods as well as term management	✓	✓
Creation of a contract cover page	✓	✓
Creation of Ad-hoc-tasks	✓	✓
Definition of task templates as well as process definitions	–	✓
Conversations	–	✓
Activity history	–	✓
Web-based contract- and task overviews	✓	✓
Predefined contract- and task overviews	✓	✓
<ul style="list-style-type: none"> • My contracts • My tasks • My favorites 		
Separate deputy administration for the contract management	–	✓
Core data maintenance for contractual partners	–	✓

Restrictions of the user selection

Users with only the role "Contract management user with basic functionalities" can only use a reduced range of functions and may therefore not be selected as the responsible person on all tabs. The relevant restrictions are described below:

Only users or groups that have been authorized for the selected contract type can be selected as contract owner. These users and groups must have the role "Contract management user with basic functionalities".

In the case of contract terms, also only users or groups that have been authorized for the selected contract type can be selected as responsible persons. These users and groups must have the role "Contract management user with basic functionalities".

Only users and groups of the role "Contract management user with basic functionalities" can be selected as responsible for a contract task.

Only users or groups that have the role "Contract management user with advanced functionalities" can be entered as internal participants of a conversation on a contract.

1.5.2. Access rights:

Here you can control tile access for individual user groups. Only the tiles of the dbs | case manager contract can be managed in this area. All groups that have been assigned to a role are available.

This is how it works

1. First select a user group from the **Groups** field.
2. Below **Visibility**, use the switch to control whether a user group should have access to the corresponding tile.
3. Adopt your changes with a click on **Save**.

If a user is a member of several groups, the access rights of these groups are added together.

1.5.3. Case type accesses

Users of the role "Process administrator for contracts" can authorize users or groups to certain contract types in the contract type accesses.

Only after the authorization has been set can the selected users or groups see these contract types or create contracts of this type.

Besides you get an overview over your case management licenses. In a contract management-only installation, these numbers are hidden.

1.5.4. Responsibility rules

In order for the created tasks to be displayed in the **contract overview** according to the filtered contract list, the tasks must first be assigned to the corresponding persons or groups using **responsibility rules**. Responsibility rules are used to authorize individuals or groups to perform tasks based on selected metadata. The exact description and definition of the responsibility rules is already covered by d.ecs task.

To create a new responsibility rule, the user must first navigate via the **Configuration** in the **Tasks and processes** section and open the **Responsibility rules** menu option. Among other things, metadata is required for the definition of a rule. Contract and case management offers five metadata for this purpose:

1. Internal contract number (metadata: **internalContractNumber**)
2. Internal case number (metadata: **internalCaseNumber**)
3. Contract type (metadata: **contractType**)
4. Case type (metadata: **caseType**)
5. Created on (metaadata: **createdAt**)

In addition to the listed metadata, the **Context** property exists. The property can be selected directly and has fixed values that are also available for selection. By means of the property, a differentiation of the tasks for contract and case management takes place. For a new rule, the **Context** property can be selected or a metadatum can be entered, such as **internalContractNumber**. Compared to the context, the value must be entered for a metadatum.

1.6. Additional information

In this chapter you will find more detailed information about the administration of dbs | case manager contract.

1.6.1. Creating new users

The user synchronization between d.ecs identity provider and dbs | case manager contract takes place hourly. If you want to use a new user directly, e.g. from the Active Directory, you can save the roles again. This rebuilds the user cache. Please note that the user must already be listed in the d.ecs identity provider.

1.6.2. Setting the logging

To influence the log level of the dbs | case manager contract logging, you must adjust the file **application.properties**. This file can be found as a template in the **templates\config** directory of the installation directory. Create and customize the file in the **working\config** directory.

To do this, adjust the setting `quarkus.log.category:"com.dvelop.casemanagement".level`. You can select the following log levels:

- DEBUG
- INFO
- WARN
- ERROR
- FATAL
- TRACE:

Replace the existing log level and restart dbs | case manager contract.

1.6.3. Limiting the results from the DMS app

The maximum number of results can be configured for the **DMS app**. If a value less than 1000 is configured there, it is also necessary to configure this value in the `application.properties`. This file can be found as a template in the `templates\config` directory of the installation directory. Create and customize the file in the `working\config` directory.

To do this, the value must be set as follows:

```
casemanagement.dms.app.pageSize=<VALUE>
```

By default, this value is 1000. This value must be greater than or equal to ten and may not be larger than the `SearchResult.MaxPageSize` setting in the DMS app configuration file. We recommend leaving this configuration setting at 1000 or, if an adjustment is necessary, setting it to the same value as in the DMS app.

1.6.4. Deleting contracts

Deleting a contract folder in d.3ecm also automatically deletes all tasks, conversations and terms.

1.6.5. Document type dependant configuration of the advanced properties in d.3 admin

In d.3 admin, you have the option of making further settings for the extended properties - both the master data and the extended master data. In the settings of the properties of the document type you have the following setting options, which are transferred to dbs | case manager contract:

- **Modifiable: "No"**: This setting causes the input field of the property to be grayed out and cannot be changed.
- **Mandatory: "Yes"**: This setting means that the input field must be filled before the contract can be saved. The field is marked with an *.
- **Visible in - Filing mask**: If this option is deactivated, this name resolution no longer takes place.

In order for the settings from d.3 admin to be transferred to dbs | case manager contract, you must save them on the configuration page **Repository**.

The visibility of the advanced properties can be additionally restricted per contract type. If a property is to be hidden only for a certain contract type, the visibility must be enabled in d.3. Subsequently, the property can be hidden via the configuration of the contract type. This would continue to display the property for all other contract types. For more information on how to configure the advanced properties per contract type, see the user manual in the user administration section on the topic contract type-dependent configuration of the advanced properties.

1.6.6. Initial visibility and order of the function areas on the contract page

To specify the visibility and order of the function areas on the contract page, you must adjust the file `application.properties`.

This is how it works

1. Copy the **application.properties** file from the **templates\config** directory to the **working\config** directory.
2. Open the file.
3. Adjust the **casemanagement.menuOrder.contract** setting. You can specify the following areas separated by commas:
 - **masterData**
 - **additionalExplanations**
 - **activities**
 - **periodAndTerms**
 - **conversations**
 - **tasks**
 - **folderStructure**
 - **advancedMasterData**
 - **tab_%ID%**

Example:

```
casemanagement.menuOrder.contract=masterData,additionalExplanations,activities,periodAndTerms,conversations,tasks,folderStructure,advancedMasterData
```

4. Save the file and restart the application.

Note

So that you can configure the visibility and sequence of detail tabs, you must specify them with **tab_%ID%** in the configuration.

Functional areas are not visible if they are not configured in the list or are marked with a "!" in front of the ID. Detail tabs can only be hidden by placing a "!" in front of the ID, e.g. **!tab_6** , as these are always displayed by default.

1.6.7. Changing people responsible for terms

You can replace a responsible group or a responsible user for all terms with another user or another group.

This is how it works:

1. Open d.3one in a browser.
2. Log in as a technical administrator.
3. Go to **Configuration**.
4. Open **Terms > Change the person in charge**.
5. Select a user under **Current person in charge**.
6. Select a different user as the new person in charge.
7. Click **Replace**. The confirmation dialog displays how many terms are changed.
8. Confirm the change with **Replace**.

1.7. Best practice setup and configuration

This section lists examples and possible scenarios for individual installation or configuration points.

1.7.1. Creating a new Microsoft SQL Server database

This is how it works

1. Open the MSSQL Management Console.
2. Select **Create new database** on the top node.
3. Enter a database name (recommendation: **dbsCaseMngr**).

4. Click on the ... button to make further adjustments if required.
5. Create your own user for accessing the database in the **Security/Logins** area (recommendation: db | CaseMngr_dba).
6. Switch to the **User assignment** area and select the **db_owner** option under **Membership** in database role .

1.8. Contract management for the d.3 administrator

In this chapter you will find more detailed information about db | case manager contract for d.3 administrators.

1.8.1. Default functionality provided

The following functions are included in the standard scope of delivery.

Repository configuration and dossier scheme

Standard db case manager und db case manager contract						d.velop								
Internal ID	InternalName	Titel	Beschreibung	Übersetzung	DB Postic	Datentyp	contract		contract		case / contract		case / contract	
							XEVER Akte	XRVER Akte	XEVDO Dokument	XEVUN Dokument	XPRTN Akte	XORGA Akte		
							Einzelvertrag	Rahmenvertrag	Vertragsdokumente	Vertragsunterlagen	Partner	Organisationseinheit		
1	internal_contract_number	Vertragsnummer (intern)	Vertragsnummer (intern)	internal contract number	1	CHAR	c	c	c	x				
2	external_contract_number	Vertragsnummer (extern)	Vertragsnummer (extern)	external contract number	2	CHAR	x	x						
3	contract_description	Vertragsbezeichnung	Vertragsbezeichnung	contract description	3	CHAR	c	c						
4	contract_status	Vertragsstatus	Vertragsstatus	contract status	4	CHAR	x	x						
5	contract_type	Vertragstyp	Vertragstyp	contract type	5	CHAR	x	x						
6	place_of_filing	Ablageort	Ablageort	place of filing	6	CHAR	x	x						
7	person_responsible	Verantwortlich	Verantwortlich	person responsible	64	CHAR	x	x						
8	automatic_renewal	Automatische Verlängerung	Automatische Verlängerung	automatic renewal	9	CHAR	x	x						
9	noticed_by	Gekündigt durch	Gekündigt durch	noticed by	10	CHAR	x	x						
10	partner_noticed_by	Gekündigt durch Partner	Gekündigt durch Partner	partner noticed by	11	CHAR	x	x						
11	frame_contract_number	Rahmenvertragsnummer	Rahmenvertragsnummer	frame contract number	13	CHAR	x							
12	unit_of_organisation	Organisationseinheit	Organisationseinheit	unit of organisation	15	CHAR	x	x				x		
13	date_of_underwriting	Unterzeichnung	Unterzeichnung	date of underwriting	51	DATE	x	x						
14	contract_start_date	Vertragsbeginn	Vertragsbeginn	contract start date	52	DATE	x	x						
15	contract_end_date	Vertragsende	Vertragsende	contract end date	53	DATE	x	x						
16	renewal_to	Verlängerung bis	Verlängerung bis	renewal to	54	DATE	x	x						
17	date_of_notice	Gekündigt am	Gekündigt am	date of notice	55	DATE	x	x						
18	business_partner_id	Geschäftspartner ID	Geschäftspartner ID	business partner id	60	CHAR	x	x						
19	role	Rolle	Rolle	role	61	CHAR	x	x						
20	external_contact	Externer Ansprechpartner	Externer Ansprechpartner	external contact	62	CHAR	x	x						
21	name_of_business_partner	Geschäftspartnername	Geschäftspartnername	name of business partner	63	CHAR	x	x						
22	contract_value	Vertragswert	Vertragswert	contract value	70	MONEY	x	x						
23	last_change	Letzte Änderung	Letzte Änderung	last change	47	CHAR	x	x						
24	type_of_contract_paper	Typ Vertragsunterlage	Typ Vertragsunterlage	type of contract paper	16	CHAR			c					
25	internal_case_number	Vorgangnummer (intern)	Vorgangnummer (intern)	internal case number	1	CHAR								
26	external_case_number	Vorgangnummer (extern)	Vorgangnummer (extern)	external case number	2	CHAR								
27	case_description	Vorgangsbezeichnung	Vorgangsbezeichnung	case description	3	CHAR								
28	case_status	Vorgangstatus	Vorgangstatus	case status	4	CHAR								
29	case_type	Vorgangstyp	Vorgangstyp	case type	5	CHAR								
30	reminder	Erinnerung	Erinnerung	reminder	52	DATE								
31	term	Frist	Frist	term	53	DATE								
32	type_of_case_paper	Typ Vorgangunterlage	Typ Vorgangunterlage	type of case paper	16	CHAR								
33	partner_id	Partner ID	Partner ID	partner_id	1	CHAR							c	
34	partner_name	Partnername	Partnername	partner name	2	CHAR							x	
35	list_of_contact_persons	Ansprechpartnerliste	Ansprechpartnerliste	list of contact persons	60	CHAR							x	
36	list_of_case_types	Vorgangstyp des Partners	Vorgangstyp des Partners	case types of partner	64	CHAR							x	
37	list_of_email_addresses	E-Mail Adressliste	E-Mail Adressliste	list of e-mail addresses	65	CHAR							x	
38	post_address	Postanschrift	Postanschrift	post address	66	CHAR							x	
39	list_of_phone_numbers	Telefonnummerliste	Telefonnummerliste	list of phone numbers	67	CHAR							x	

Advanced properties

When installing db | case manager contract, the following advanced properties are provided:

InternalID	internalName	Name	Position	Data type
1	internal_contract_number	Internal contract number	1	Alphanumeric
2	external_contract_number	Contract Number (external)	2	Alphanumeric
3	contract_description	Description of the contract	3	Alphanumeric
4	contract_status	Contract Status	4	Alphanumeric
5	contract_type	Contract type	5	Alphanumeric
6	place_of_filing	Storage location	6	Alphanumeric
7	person_responsible	Person in charge	64	Alphanumeric
8	automatic_renewal	Automatic renewal	9	Alphanumeric
9	noticed_by	Cancelled by	10	Alphanumeric
10	partner_noticed_by	Terminated by partner	11	Alphanumeric
11	frame_contract_number	Blanket agreement number	13	Alphanumeric
12	unit_of_organisation	Organizational unit	15	Alphanumeric
13	date_of_underwriting	Underwriting	51	Date
14	contract_start_date	Commencement Date	52	Date
15	contract_end_date	Expiration Date	53	Date
16	renewal_to	Renewal until	54	Date

InternalID	internalName	Name	Position	Data type
17	date_of_notice	Cancelled on	55	Date
18	business_partner_id	Business partner ID	60	Alphanumeric
19	role	Role	61	Alphanumeric
20	external_contact	External contact person	62	Alphanumeric
21	name_of_business_partner	Business partner name	63	Alphanumeric
22	person_responsible	Person in charge	64	Alphanumeric
22	contract_value	Contract value	70	Money
23	last_change	Last change	47	Alphanumeric
24	type_of_contract_paper	Type of contract paper	16	Alphanumeric
33	partner_id	Partner ID	1	Alphanumeric
34	partner_name	Partner name	2	Alphanumeric
35	list_of_contact_persons	List of contacts	60	Alphanumeric
36	list_of_case_types	Case type of the partner	64	Alphanumeric
37	list_of_email_addresses	E-mail address list	65	Alphanumeric
38	post_address	Mail address	66	Alphanumeric
39	list_of_phone_numbers	List of phone numbers	67	Alphanumeric

InternalID: Internal ID within db3 | case manager contract

InternalName: Internal name within db3 | case manager contract

Name: Name and label of the advanced property

Position: Position of the advanced property in the d.3 database

Data type: Data type of the advanced property

Categories (dossier and document types)

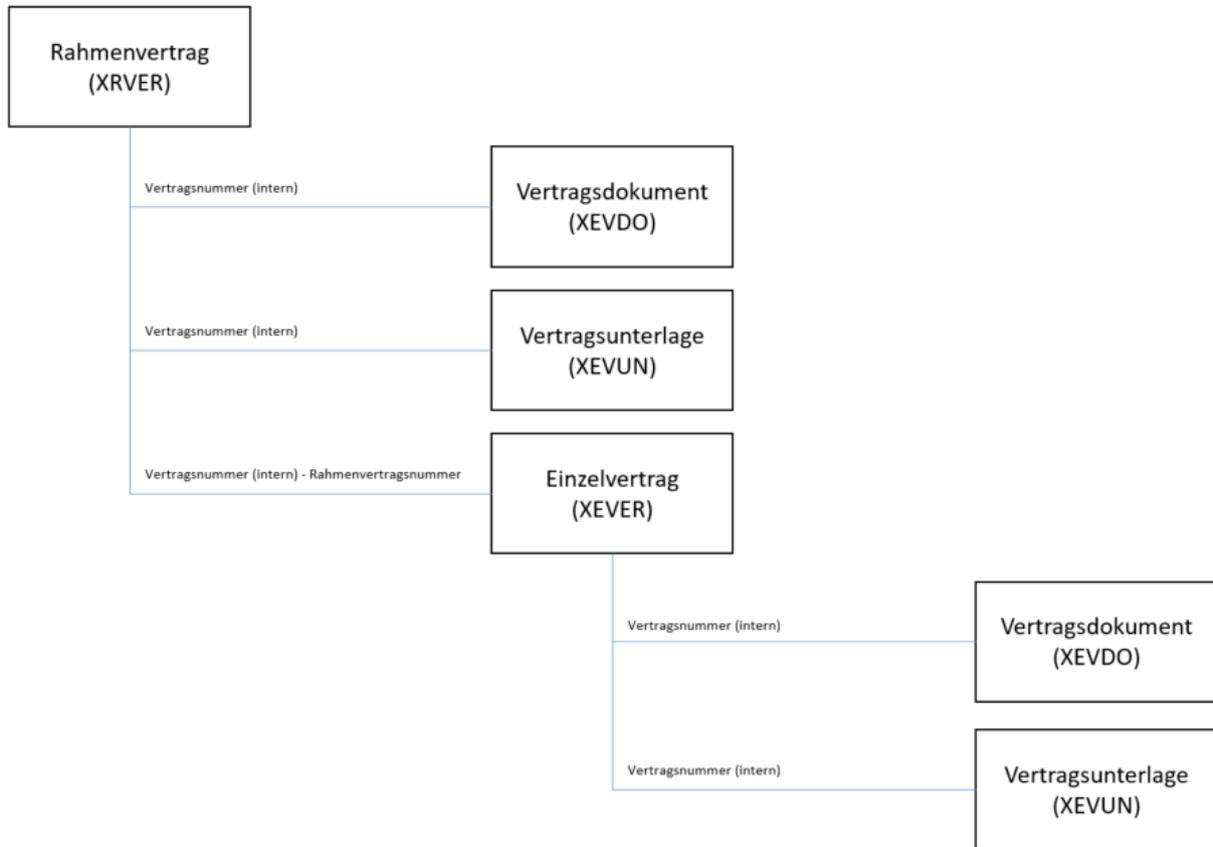
The categories (dossier and document types) and the assignment of the advanced property according to the default installation are shown in tabular form below:

Name	Position	Data type	Single contract (XE-VER)	Frame contract (XRVER)	Contract document (XE-DO)	Contract paper (XE-VUN)	Partner (XPRTN)	Organizational unit (XORG)
Internal contract number	1	Alphanumeric	x	x	x	x		
Contract Number (external)	2	Alphanumeric	x	x				
Description of the contract	3	Alphanumeric	x	x				
Contract Status	4	Alphanumeric	x	x				
Contract type	5	Alphanumeric	x	x				
Storage location	6	Alphanumeric	x	x				
Person in charge	64	Alphanumeric	x					
Automatic renewal	9	Alphanumeric	x	x				
Cancelled by	10	Alphanumeric	x	x				
Terminated by partner	11	Alphanumeric	x	x				
Blanket agreement number	13	Alphanumeric	x					
Organizational unit	15	Alphanumeric	x	x				x

Name	Position	Data type	Single contract (XE-VER)	Frame contract (XRVER)	Contract document (XE-DO)	Contract paper (XE-VUN)	Partner (XPRTN)	Organizational unit (XORG)
Underwriting	51	Date	x	x				
Commencement Date	52	Date	x	x				
Expiration Date	53	Date	x	x				
Renewal until	54	Date	x	x				
Cancelled on	55	Date	x	x				
Business partner ID	60	Alphanumeric	x	x				
Role	61	Alphanumeric	x	x				
External contact person	62	Alphanumeric	x	x				
Business partner name	63	Alphanumeric	x	x				
Contract value	70	Money	x	x				
Last change	47	Alphanumeric	x	x				
Type of contract paper	16	Alphanumeric				x		
Partner ID	1	Alphanumeric					x	
Partner name	2	Alphanumeric					x	
List of contacts	60	Alphanumeric					x	
Case type of the partner	64	Alphanumeric					x	
E-mail address list	65	Alphanumeric					x	
Mail address	66	Alphanumeric					x	
List of phone numbers	67	Alphanumeric					x	

Folder scheme

With the installation of db | case manager contract a standardized dossier scheme can be implemented. This looks like this:



Hook

These hooks may only be customized in the context of the following functions:

- Generating the contract number
- Generation of the partner ID

In the context of the functional scopes, the hooks provided in the default are templates not entitled to any support by the d.velop AG.

Overall, the following hook-files are provided:

File	Description	Adjustment
dbSCaseContract-Hooks.groovy	<p>This file contains the four functions for the following entry points:</p> <ul style="list-style-type: none"> • 32 hook_insert_exit_20 • 62 hook_upd_attrib_entry_20 • 65 hook_upd_attrib_exit_20 • 78 hook_validate_import_entry_10 <p>You will also find various help functions here.</p>	This file must not be customized as it is overwritten in case of an update.
dbSCaseContract-Hooks_prefix-Gen.groovy	This file separates the generateContractNumberPrefix function for generating the contract number.	This file or this function can be customized to map individual number ranges or systems. This function thus has to be seen as a template and should not be overwritten by an update.
dbSCaseContract-Hooks.classpath	This file contains the path to the JAR file that is used for the Groovy hook file of the same name.	You do not need to adjust anything here if you copy all groovy, CLASSPATH and JAR files to the same directory.

File	Description	Adjustment
dbsCasePartnerHooks.groovy	This file contains a function for the entry point 78 hook_validate_import_entry_10. The function generates the partner ID if no partner ID was specified when a partner file was created.	This file or this function may be customized to generate the partner ID differently. This function must be understood as a template and does not need to be overwritten during an update.
dbsCasePartnerHooks.classpath	This file contains the path to the JAR file that is used for the Groovy hook file of the same name.	You do not need to adjust anything here if you copy all groovy, CLASSPATH and JAR files to the same directory.
dbs_contract_functions.ini	The mappings required for the hooks with regard to the specific repository configuration are stored in this file.	This file must not be customized. This file is generated during the installation when saving on the Repository configuration page and must be replaced each time the configuration is changed.
dbsCase_ip_value-set.groovy	This file contains a dataset hook for d.ecs identity users and groups. If you store this dataset hook "cm_user_translation" in d.3 in the extended property "Responsible", all d.ecs identity provider IDs are displayed in d.3one and d.3 smart explorer with their display names. However, this hook does not suggest any values, e.g. when creating a new entry or editing via d.3one or d.3 smart explorer.	If you disagree with the behavior of this hook, you do not need to use this dataset hook and can still not use a translation hook or write your own hook instead.
dbsCase_ip_value-set.classpath	This file contains the path to the JAR file that is used for the Groovy hook file of the same name.	You do not need to adjust anything here if you copy all groovy, CLASSPATH and JAR files to the same directory.
MovePersonResponsible.groovy	You only need this hook if the extended property "Responsible" in d.3 is not a multiple property. You can use this hook to move the responsibilities from a single property to a multi-value property.	You must edit this file before execution and specify, for example, document type abbreviations and database positions of the extended properties. Follow the instructions in the file.

Generating the prefix for the contract number

By default, the prefix for the contract number is generated according to the schema <Prefix>-<yyyy>-.

Then a five-digit consecutive number is appended.

Example:

Prefix for the frame contract = RV

Prefix for the single contract = EV

Single contract nr. 110 in 2016 = contract number (internal) EV-2016-00110

Frame contract nr. 12 in 2016 = contract number (internal) RV-2016-00012

The prefix for the single contract and frame contract can already be specifically defined by the customer via the administration page during the installation.

The prefixes defined here are adopted as global variables in the file **dbs_contract_functions.ini**.

```
dbsCase_prefix_id = "EV"
dbsCase_prefix_rahmen = "RV"
```

In the default scope of delivery the function generateContractNumberPrefix is delivered as a template in the file **dbs_contractMngr_prefixGen.jpl** for JPL hooks and in **dbsCaseContractHooks_prefixGen.groovy** for Groovy hooks.

This function is called in the entry point vali_import_entry_10. The document type is passed as a parameter (p_DokuArt). This is either the document type or the dossier type frame contract or contract in this case. Firstly, the current year is determined via the current date and then the prefix is added. The consecutive number to be appended is automatically generated by the dbs | case manager contract and is appended. Updates to the generation of the prefix are allowed as part of the hook development in the

function `generateContractNumberPrefix`. It is recommended to attend a hook training for this effect or to have the d.velop AG or partners do the hook development for you.

Warning

The hook function `generateContractNumberPrefix` is a template. Changes as part of hook development are not liable to support and maintenance by the d.velop AG.

Note

By assigning a 5-digit number, the number of contracts that can be created is limited to 99,999 per year. If more than 99,999 contracts per year are expected, it is recommended to set the number of months before the year in the hook `dbsCaseContractHooks_prefix-Gen.groovy`.

Dataset for partners

The list of business partner names is located in the contract management in the area **Master Data** in the auto-complete list for the column **partner** .

The content of the auto-complete function, i.e. the list of all allowed contract partners can generally be provided by the partner management of the contract management or from the master data of leading systems such as the ERP or CRM system. Here, the auto-complete function always lists the partner name in combination with the business partner ID (in brackets). When you save, the business partner ID is extracted to the advanced property of the blanket agreement or individual contract. The formatting "`<business partner name> (<business partner ID>)`" controls the correct separation, i.e. the round brackets are used as delimiters for the contract management.

If you want to determine the contents of the search help from an external system or database, you can do this using a so-called dataset hook. In most cases, such hooks are already available for existing customers. Define the dataset hook for the extended property Business partner name.

As the name of the partner can change, we recommend using a Groovy dataset hook including translation and validation hooks. The dataset hook should provide a list of business partner IDs. The translation hook should return the business partner name incl. ID in brackets for each ID. You also need a validation hook that accepts both the IDs and the display names. By using a translation hook, the current name of the business partner is displayed in both the interfaces of `dbs | case manager contract` and `d.3one`. However, there is still the option of not using a translation hook. However, if the name is changed, it may not be possible to save and the business partner would have to be selected again. To avoid this, you can also define the dataset as a default dataset.

Warning

When implementing your own functions for determination, please pay close attention to the formatting described here "`<Business partner name> (<Business partner ID>)`". The space after the business partner name must be present.

Note

If a dataset hook is used for partners, then this is the exclusive source for the partner master data. Please note that it is in this case no longer possible to access partner master data maintenance via dbs | case manager contract. Thus, within dbs | case manager contract also supplement master data as e.g. contacts and their contact data can no longer be maintained, unless you perform the advanced configuration listed below. The business card icon in each row of the partner table in the area **Master data** is not enabled in this case.

To use a dataset hook, the configuration on the [Administration page](#) must also be adjusted.

Advanced configuration

If you use a dataset hook and want to activate master data maintenance for partners of dbs | case manager at the same time, you must carry out the following steps or observe the following points:

- The dataset hook must be written in such a way that it also reads the results from the partner category and returns them in the correct format. The results are therefore not enriched by dbs | case manager with the partners from the categories.
- An application.properties file must be created in the <installation folder>\working\config, in which the following parameter is defined: casemanagement.partner.hook.enablecategoryedit=true
- Editing of partners by clicking on the business card icon when creating a contract creation is no longer possible.

Creation of the dossier scheme

A dossier scheme is configured to link contract documents to the blanket agreement and individual contract dossiers. The dossier scheme only serves as a template and may be adapted to customer-specific requirements.

Configuring the detail tabs

You have the option of displaying your own detail tabs in the contract/case form in order to display further information to the user or to maintain additional data.

Assuming that you want to manage mobile phone contracts, they certainly require more data than the master data available in dbs | case manager contract. You could simply add these as additional extended properties to the master agreement, then these properties would appear in the **Extended master data** section of the contract form. Or you can create a detail tab that saves data in a separate database or in the extended properties of the master agreement.

In order for a detail tab to appear in the contract form, you must enter the detail tab accordingly in the configuration. The logic for when a detail tab should be displayed, for example, only in the contract context or only when selecting a certain contract type, etc., is not configured here. You must program the logic yourself in the detail tab.

If no detail tabs are listed in the detail tab configuration, you can do this directly.

This is how it works

1. Click on the button +.
2. Enter the following data:
3. **Name:** This name is displayed in the contract form as the area heading.
4. **URL:** Enter the URL via which the detail tab can be accessed. Please note that the detail tab must be accessible via d.ecs http gateway. Therefore, the URL must begin with a /.
5. **Height** Specify how much space in height the detail tab should take up. Only use values that are valid for the CSS property **height** to set the height of an HTML element.

6. **Icon:** Specify an icon by entering the name of an icon from Material Design. Possible values can be found at <https://material.io/tools/icons/>.
7. **Initially visible:** If you activate this option, the detail tab is initially visible. The visibility can be changed by the detail tab itself via an API function. If the detail tab does not use this function, the detail tab is always displayed when **Initial visible** is switched on. Otherwise the detail tab is never displayed.
8. Click **Create**.

You also have the option of creating additional tabs by enabling the option **Create another detail tab** before clicking **Create**.

Adding advanced master data

Additionally to the advanced properties included in the default scope of delivery, you can add further advanced properties to the contract dossier in d.3 admin, which are then also displayed and editable in the contract form. These are being displayed in the section **Advanced master data** accordingly to the selected contract type.

You can add single as well as multi-value property fields to the dossiers. Numeric, money-, date- and text-related properties with and without dataset are supported.

1.8.2. Granting user rights for the contract management

In this chapter you will find more detailed information about the authorization concept of dbs | case manager contract.

Setting up permissions for categories

The following categories are provided as part of the contract management by default:

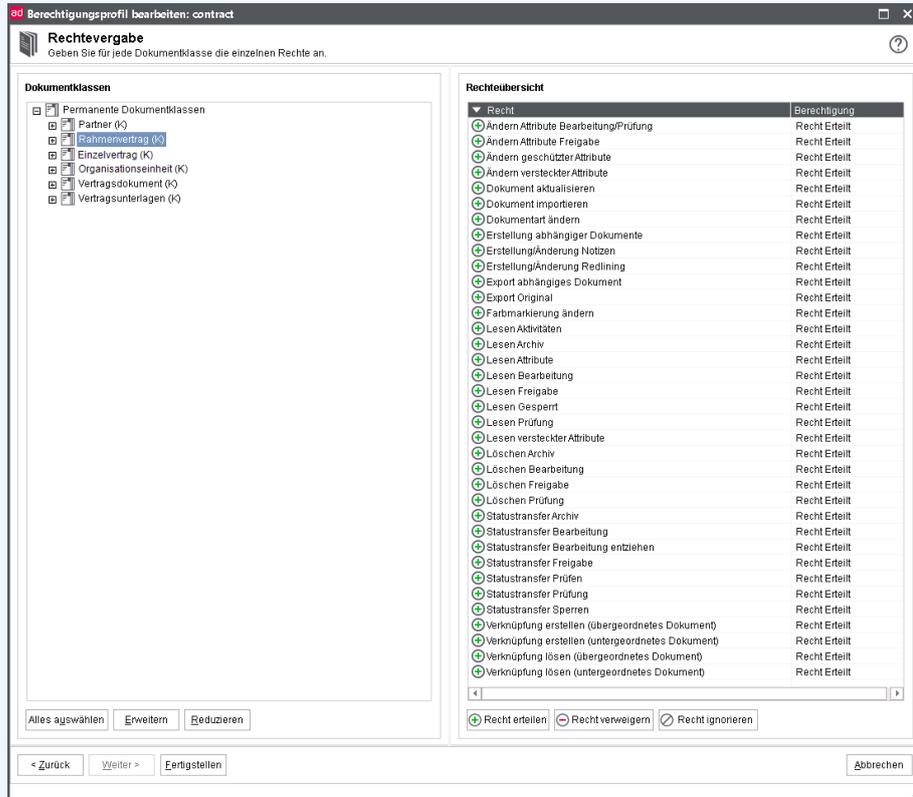
- Individual contract (dossier type, short name: XEVER)
- Blanket agreement contract (dossier type, short name: XRVER)
- Contract document (document type, short name: XEVDO)
- Contract paper (document type, short name: XEVUN)
- Partner (dossier type, short name: XPRTN)
- Organizational unit (dossier type, short name: XORGA)

The rights for this categories are managed as usual in d.3 admin, thus providing all the known means to restrict access rights. But you should consider the following for granting the rights:

- Each user who wants to create or edit a contract must have reading and writing access to the respective contract dossiers contract and frame contract. Additionally, the user must be allowed to change the properties in status release.
- Each user who is to store and edit contract documents or contract papers requires reading and writing access to both document types.
- Each user who is allowed to maintain the partners via the tile **Partner administration** requires reading and writing access to the dossier type partner. This also applies for changes to the properties in release.
- Each user who is allowed to maintain the organizational unit requires reading and writing access to the dossier type organizational unit. This also applies for changes to the properties in release.

Note

We recommend to configure full rights based on the described roles here:



1.9. Additional information sources and imprint

If you want to deepen your knowledge of d.velop software, visit the d.velop academy digital learning platform at <https://dvelopacademy.keelearning.de/>.

Our E-learning modules let you develop a more in-depth knowledge and specialist expertise at your own speed. A huge number of E-learning modules are free for you to access without registering beforehand.

Visit our Knowledge Base on the d.velop service portal. In the Knowledge Base, you can find all our latest solutions, answers to frequently asked questions and how-to topics for specific tasks. You can find the Knowledge Base at the following address: <https://kb.d-velop.de/>

Find the central imprint at <https://www.d-velop.com/imprint>.