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1 Altova RecordsManager

Altova RecordsManager™ (also written as Altova RecordsManager or, in short as, RecordsManager) makes it possible to build business database solutions in record time using a powerful visual design interface. You can switch between admin mode (for designing the database) and user mode (for entering and using the records of the database). RecordsManager accelerates the creation of database driven apps by removing the need for backend development and manual coding. Its visual design paradigm lets you focus on the business objects you need to model so you can get your app in users’ hands quickly. The flexibility of RecordsManager thus enables you to create a wide range of databases, from simple book collections to more complex contract management systems.

Altova RecordsManager provides the following broad features:

- Centralized data management
- Unlimited, secure data storage
- Links between related data containers
- Granular role and group-based permissions to control access to confidential information
- Automatic reminders for important dates and deadlines
- Search tools to find documents and details instantly
- Printable reports
- Full audit log and change tracking
- Options to customize the app as little or as much as required
- Customize the database, forms, fields, reports, and more
- Select from different themes to configure your display colors and fonts
- Database restore checkpoints

This documentation

This documentation is divided into the following parts:

- General Information, which provides an overview of how RecordsManager works.
- System Administration, which describes how you can design databases and define other administrative features of your RecordsManager app.
- System Use, which describes how to use RecordsManager databases.

Last updated: 14 June 2022
2 General Information

This section contains general information about Altova RecordsManager, as listed below. We recommend that you read through it before you start your RecordsManager work. It will help you to get a broad understanding of how the RecordsManager system works.

- **RecordsManager and MobileTogether** explains how RecordsManager works together with Altova MobileTogether.
- **Getting Started** provides a broad practical outline of how to get started with system configuration and system use.
- **Roles in RecordsManager** describes the different kinds of roles that are used in the system.
- **How the App's Data Is Structured** describes how the RecordsManager data is structured and how relationships between data components are built.
- **How Data Is Stored** explains how a network of data relationships is built up in the system from separate individual records.
- **Color Themes** provides an overview of how a default color theme can be set by the system administrator and a new theme selected by a user.
- **Audits and Change Tracking** summarizes the change tracking system.
2.1 RecordsManager and MobileTogether

Altova RecordsManager can be accessed in one of the following ways:

In MobileTogether Designer
A RecordsManager package (.mtp file) is installed with Altova MobileTogether Designer (available free of cost). You can start MobileTogether Designer, open the RecordsManager package, simulate it, and start working with RecordsManager as described in this documentation. This means that you can configure the RecordsManager system as an administrator and enter data as a user. After you have completed the configuration, you can either deploy RecordsManager as a solution to a MobileTogether Server (license required) so that other users can access it, or you can generate it as an AppStore App that users can download to their devices and use there. The RecordsManager AppStore App will connect to your RecordsManager solution on a MobileTogether Server.

As a solution via MobileTogether Server
If RecordsManager has been deployed as a solution to a MobileTogether Server, administrators and users can connect to RecordsManager and work with it as described in this documentation. Modifications to the configuration or the data are saved directly to the RecordsManager database. So the solution does not need to be redeployed after a change to the configuration.

As an AppStore App
If RecordsManager has been created as an AppStore App, then administrators and users can download the RecordsManager app and work with it as described in this documentation. The app connects to the corresponding RecordsManager solution on a MobileTogether Server, so configuration or data changes are saved directly to the RecordsManager database.
2.2 Getting Started with RecordsManager

On logging in to RecordsManager with your user name and password, you are presented with the Start Page of Altova RecordsManager (Screenshot below).

- If you have been granted the Admin role, then the button Configure RecordsManager will be available. You can click this button to go to the Configuration Page, from where you can access various system administration tasks.
- If you have not been granted the Admin role, then the Configure RecordsManager button will not be available and you will not be able design databases or configure RecordsManager. The Start Page will display only the databases to which you have been granted viewing or editing access.
Getting started with system administration

When you start Altova RecordsManager for the first time, it will contain starter contract data that is organized in a simple structure. The starter data enables you explore how RecordsManager's data is organized and how the data can be used. You can use the starter data to become familiar with the system. Once you are ready, you can delete the sample data and modify the data hierarchy to suit your requirements. While trying out RecordsManager, any changes that you make will be implemented immediately and be available to users immediately. As a result, you can start your records management work (both administration and data entry) as soon as you want.
For information about getting started with system administration, go to the topic Quick Start: System Administration.

**Getting started with system use**
For information about getting started with system use, go to the topic Quick Start: System Use.

**System administration can be concurrent with system use**
You can reconfigure the database, add new forms, change settings, and carry out other administration tasks even after users have started working with the system. Any admin changes you make will be reflected on the user side as soon as the user interacts with the system.
2.3 Roles in RecordsManager

Each RecordsManager user is given one or more roles. These roles define what a user is allowed and not allowed to do. For example, custom roles such as Legal or Personnel can be created that correspond to specific functions (such as access by the Personnel role to personnel-related contracts but not to client or IT contracts). A user can be associated with one or more roles, and would then be authorized to carry out the functions corresponding to those roles.

The roles that are available in RecordsManager fall into three categories: the Admin role, the All Users role, and custom roles.

Admin

This role is predefined. It provides a user with all available RecordsManager functionality. Users that have this role can:

- modify the RecordsManager system’s users and roles
- configure RecordsManager databases and their components
- modify RecordsManager settings
- configure reminder mails
- enter and edit data in all databases

All Users

This role is predefined.

- Users with this role can enter and edit data in RecordsManager databases. They do not have access to admin functions (see above). If you need to perform an admin task, contact your RecordsManager system administrator and request an Admin role.
- The All Users role is given to all users by default. As a result, any user that can access RecordsManager will be given this role and can enter data (unless otherwise restricted by custom roles).

Custom roles

RecordsManager administrators can define custom roles that can be assigned to users, for example, Legal or Personnel roles.

- A custom role can provide additional access or can restrict access to different containers of the database
- A custom role can provide access to different functionality within containers (for example, reading rights and writing rights)
2.4 How the App's Data Is Structured

RecordsManager's data structure is described below in terms of hierarchy and the relationships between data components.

Hierarchy
You can customize RecordsManager's data structure within the following framework:

- At the root level of the app, you can create as many repositories as you like. For example, in the structure shown in the screenshot below, there are two repositories: (i) Contract Database, (ii) Company Database.
- Within each repository, you can add as many top-level containers as you like. In our example database, Contract Database has one top-level container (Contract), whereas Company Database has two top-level containers (Company Group and Company).
- Within a top-level container (as well as lower level containers), you can add multiple child containers. You can continue adding child containers down multiple levels. For example, the Company container has a child container named Department, which in turn has a child container named Person.
The containers are linked together in relationships, which are described below.

**Relationships**

When defining the database structure, you will be building relationships between containers. These relationships will be of importance to the hierarchy and organization of your data, and should therefore be planned well.

There are two types of relationships that can be built between containers:

- Parent–child relationships
- Loose links
Parent–child relationships
These links between containers are considered to be strong links since a child is created from a parent and cannot be created without the parent. A parent container can have multiple child containers. A child, however, can have only one parent container. The following consequences of the parent–child relationship should be noted:

- When a parent record is deleted, all child records are also deleted
- When designing forms, the fields of all ancestor containers will be available for inclusion
- Interdependencies of fields within a hierarchy of strong links are managed automatically
- Child records can be edited within parent forms

Loose links
A second type of relationship is a link that is created between two independent containers. These loose links enable records to be created independently and without reference to each other. The links are manually created during configuration. A single record can thus have multiple loose links to other records. If one record of a loosely linked pair is deleted, the other record is not affected.

Loose links can be set in the following ways:

- Define the field of a container to be of type Link To. This field provides the anchor of the link to the other container.
- Child containers can have the strong relationship to their respective parents converted to a loose link.

Also see the next topic, How Data Is Stored.
2.5 How Data Is Stored

Data is stored in multiple containers, each of which represents one component of information. These containers can be organized in a hierarchy. For example, your RecordsManager app might have a simple hierarchy that contains two databases named *Contract Database* and *Company Database*, as shown below:

```
Contract Database
|---Contract

Company Database
|---Company
|   |--Department
|       |--Person
```

Records and fields

In each container, you will enter records. Each record is defined by a number of fields (which are specific to that container). When you enter a record, what you will be doing is entering values for these fields. You can visualize a container as follows:

<table>
<thead>
<tr>
<th>Container-A</th>
<th>Field-1</th>
<th>Field-2</th>
<th>Field-3</th>
<th>Field-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record-1</td>
<td>Field-1-Value</td>
<td>Field-2-Value</td>
<td>Field-3-Value</td>
<td>Field-4-Value</td>
</tr>
<tr>
<td>Record-2</td>
<td>Field-1-Value</td>
<td>Field-2-Value</td>
<td>Field-3-Value</td>
<td>Field-4-Value</td>
</tr>
<tr>
<td>Record-3</td>
<td>Field-1-Value</td>
<td>Field-2-Value</td>
<td>Field-3-Value</td>
<td>Field-4-Value</td>
</tr>
</tbody>
</table>

So when you enter data in the RecordsManager app, you will be entering records for the different containers of the app. For example, you could add new company records, or department records, or person records, or contract records. In this way you build up the data in the RecordsManager database.

Identity fields

In each container, one or more fields will have been configured (by your system administrator) to be *Identity Fields*. These fields will uniquely identify records. For example, employees would typically have unique ID numbers, so the ID number field can be used to identify records in the *Person* container. In the case of some containers, more than one field might be necessary to come closer to uniqueness (for example, a person's *Name* and *Date of Birth* fields).

Linking records across containers

During database configuration, your system administrator/s will have built links across the containers. For example, a parent–child link might have been created between company and department, and another parent–child link between department and person. In this case, when you enter a new record for a child container, one
of the field values you would need to add would be for the parent of this (child) record. For example, when adding a new department record (say for a *Legal* department), you will be prompted for this department's company parent (where you could enter, say, a company named *Altova*). By selecting the parent *Altova*, you have established a link between this *Legal* department and the company *Altova*. In this record, then, you are effectively describing the legal department of *Altova*.

In a similar way, your system administrator/s could have built links between containers that are not directly linked in a vertical hierarchy. For example, a link could have been created between a contract and the contracted company. There is no direct hierarchical connection between the *Contract* container and the *Company* container. But if an explicit link is configured between the two, then, while entering, say, the contract data, you will be asked to enter the name of the contracted company. Doing so links the current contract not only with the selected company, but also to that company's (hierarchically descendant) departments and persons.

So, although you are entering data record-by-record for different containers, the RecordsManager app is building a network of connections across records in different containers. This networked nature of the data enables you to generate reports and charts about your contracts, contract dates, and the companies and people involved.
2.6 Color Themes

The RecordsManager user interface can be set to one of the themes shown below. Themes can be set at the following levels:

- A default theme for RecordsManager can be set by the system administrator. This theme is applied to the entire RecordsManager app and is set via the Settings tab of the Configuration Page.
- Individual users can override the default theme of the app with their own selection at any time. This can be done via the Color Theme setting on the Home Page or any Container Page.
- Additionally, for each repository, users can set variations of the selected theme. Variations are set on Container Pages and apply to the repository in which that container is located. A system administrator can set default variations in the Coloring setting of individual repositories.

Default theme

The default theme of RecordsManager is set via the Settings tab of the Configuration Page.

Theme samples

The screenshots below show samples of the available themes.

*Camouflage*
**Clouds**

Select overall appearance of the whole app

Color theme: Clouds

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings

**Desert**

Select overall appearance of the whole app

Color theme: Desert

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings
**Forest**

Select overall appearance of the whole app

Color theme: Forest

Preview

<table>
<thead>
<tr>
<th>Star</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td></td>
</tr>
<tr>
<td>Planet</td>
<td>Distance million km</td>
</tr>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel | Save Settings

**Full Moon**

Select overall appearance of the whole app

Color theme: Full Moon

Preview

<table>
<thead>
<tr>
<th>Star</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td></td>
</tr>
<tr>
<td>Planet</td>
<td>Distance million km</td>
</tr>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel | Save Settings
**Halloween**

Select overall appearance of the whole app

Color theme [Halloween]

Preview

<table>
<thead>
<tr>
<th>Star</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planet</td>
<td>Distance million km</td>
</tr>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

[Cancel] [Save Settings]

**Ocean**

Select overall appearance of the whole app

Color theme [Ocean]

Preview

<table>
<thead>
<tr>
<th>Star</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planet</td>
<td>Distance million km</td>
</tr>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

[Cancel] [Save Settings]
**Polar Night**

Select overall appearance of the whole app

Color theme: Polar Night

Preview

Star
- Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Buttons: Cancel, Save Settings
2.7 Audits and Change Tracking

When users edit the data of a container, they can audit previous changes (see what changes have been made and by whom), track changes, and see a historical view of changes. How to do this is described in the section System Use | Audits and Change Tracking.

This feature is automatically implemented, and system administrators do not need to explicitly switch it on. A system administrator can, however, add images and files to the change tracking system. The setting for this is in the Image Settings of the app.
3 System Administration

The starting point for system administration is the **Configuration Page** *(screenshot below)*. This page is accessed by clicking **Configure RecordsManager** on the **Home Page**.

The Configuration Page has three tabs:

- **Database Structure**, which displays the RecordsManager data structure and enables you to edit this structure.
- **Manage Users** for configuring the users and roles of the system.
- **Settings** for a wide range of system settings.
System administration documentation

The System Administration part of the documentation describes how an admin can design the database and configure the RecordsManager system. It is separate from the System Use part, which describes how to use the database after it has been set up.

The System Administration part has been organized into the following parts:

- **Admin Overview**, which provides an outline of how to build and configure your system.
- A description of RecordsManager features, organized on the basis of the tabs of the Configuration Page: Database Structure, Manage Users, and Settings.
- A detailed description of Reminder Emails.
- A description of the Database Restore Checkpoints feature, which enables you to restore the database to a previous state.

We recommend that you read the Admin Overview section in order to understand how the system is to be built and then start your work, while using the rest of the documentation in this part as a reference.
3.1 Admin Overview

This topic lists the main procedures needed to set up a RecordsManager system. The order in which these procedures are listed serve as a rough sequential guideline of how to configure your RecordsManager system. Very often, however, you will need to move back and forth among different procedures.

System administration can be concurrent with system use

You can reconfigure the database, add new forms, change settings, and carry out other administration tasks even after users have started working with the system. Any admin changes you make will be reflected on the user side as soon as the user interacts with the system.

Configure the RecordsManager database and the Home Page

You can start building a database from scratch or you can use RecordsManager's sample database as a starting point. The sample database is available when you first open RecordsManager. You could modify the data structure as little or as much as you like, and change the formatting to suit your preference.

The main procedures for configuring the database structure are:

- Create repositories and containers, and set up a hierarchy
  The app's data structure is composed of one or more repositories. Each repository will have a hierarchy of containers. It is within a container that records relating to that container are stored. For example, a Department container will contain department records, whereas a Company container and a Person container will contain the records of, respectively, companies and persons. In the container hierarchy, the Department container could be a child of the Company container and the parent of the Person container. When entering data for Department records, for example, the user of the app can choose the company (from all the available companies) to which this department belongs.

When you create containers and configure the app's data structure, it will be these kinds of relationships and linkages between database components that you will be setting up. As a result, the data structure will provide a network of relationships that enables related data to be listed and reported. For more information about containers and data structure, see the following sections: How the App's Data Is Structured, How Data Is Stored, Repositories, and Containers.

- Configure fields
  Since each container will contain records of a single type (say, of a Department), you must configure the fields of container so that these suitably define the records of the container. For example, a Person container (in which Person records are stored) can be defined to have fields such as: FirstName, LastName, Email. You can specify various aspects of each field, such as datatype or an entry list from which the user can choose a value (useful, for example, when selecting a US state). You can also configure validation rules for individual fields and for records as a whole; this would warn users about possible errors in data entry. See the section Fields for details.

- Configure data entry forms and other forms
  Data entry forms are the forms in which users will enter the record data. So you must design these for each container so that record data can be entered into the respective containers. Each time
a user clicks the button to enter a new record for a container, the appropriate data entry form will be displayed. That what the user will interact with. Other types of forms also server important purposes: list forms (to display record data in a custom format), report forms (to show reports with tables and/or charts generated from the data), export forms (to generate XML and CSV outputs from the available data), and email forms (for email reminders). Each container has its own set of different forms. One major advantage of using container-based forms is that access to each type of form can be set separately. As a result, you can design some forms to show data that only some users are authorized to see and/or edit. You can also design other forms that do not show certain data. Reports of the data in a container are presented by using a report form of that container. Similarly, other types of forms are used for other types of presentations. The various types of forms are described in the section Forms.

Configure filters

One or more filters can be defined on each container. A filter restricts the display of records in a container on the basis of some criterion (or criteria) relevant to that container. For example, for a Contracts container, you could create a filter that shows only contracts that expire in the current year. Such a filter would be built, for example, by checking the ExpiryDate field of records in the container. After a filter has been created, it can be used during configuration as well as data entry, for example, to restrict lists. See the section Filters for information.

Design the Home Page of the user interface

When users log in to the system to either enter data or retrieve information, they see a Home Page, which is their entry point into the system. Essentially, the Home Page provides access to the various containers of the system. The Home Page Form is what an administrator uses to design the Home Page. See the section Home Page Form for information about designing the Home Page.

Set up system users and their roles

These procedures determine who will use the RecordsManager system and in what capacity. You should check whether the roles that are defined in the sample dataset suit your requirements. For the beginning, it might be best to use just the two predefined roles, Admin and All Users. After you become familiar with your data and its structure, the system, and your users, you can develop roles to suit your requirements.

Set up the users of the system

Besides specifying which users can log in to the RecordsManager app and their respective login credentials, you must also define what access rights each user has and the role/s each will play. For example, does a user in the IT Department have access to only technology contracts—or legal contracts as well; or, is a certain user allowed to have an administrator role, which entails access to the app's configuration settings? These access rights are determined by the roles (see next step) given to each user. See the sections Users and Roles for details.

Define roles and assign them to users

Create different roles according to your organization's needs. For each role, define (i) the containers to which access is allowed, and (ii) the forms to which access is allowed and, where necessary, the type of access allowed (for example, read/write or read only), (iii) the reports to which access is allowed, (iv) whether export of data is allowed. After roles have been created, give one or more of
these roles to each user (see previous step). See the sections Users and Roles for detailed information.

Global settings and reminder mails

At an early stage in the development process, you should have a look at what global settings for the app are available and consider how you can best use them. Reminder emails are probably best left to the end of the configuration process, but it would be useful to at least quickly look through the documentation about reminders in order to see what is involved.

▼ Define global settings for the app

The Settings page provides a number of styling, content-formatting, print formatting, and other settings that can be set for the entire app. We recommend that you go to this page and see what settings are available and how you can use them. The Image Library setting and Reminder Email settings should be noted. Also note that, when you configure certain items, such as forms, you can specify local settings and override the global settings that are defined on the Settings page. You can define global settings at any time: before database configuration, after database configuration, and even after system use has started.

▼ Reminder emails

In systems like a contract management system, it is important to take certain actions before specific dates (say, a contract renewal action before the contract expiry date). The system can automatically send reminder emails to the appropriate person or persons a given number of days before such key dates. See the section Reminder Mails for information about how to set this up.

Restoring the database to a previous state

You can restore your database to a state it was in at some time in the past. To do this, you must create copies of the database at suitable intervals. Each of these is a checkpoint. You can select any checkpoint to restore the database to the state it was in at the time the checkpoint was created. See Database Restore Checkpoints for information.

RecordsManager documentation on the Altova website

After you have set up the database and the users of the database, administrators and users of the system can be directed to the Altova RecordsManager documentation, available at the following Altova website locations:

- Documentation for administrators (includes information about DB configuration, data entry, and system use): https://www.altova.com/manual/AltovaRecordsManager/altovarmadmin/index.html
- Documentation for users (includes information about data entry and system use): https://www.altova.com/manual/AltovaRecordsManager/altovarmuser/index.html
3.2 Database Structure

The app’s repositories
The app can contain one or more repositories at the root level, each of which will contain the data containers of RecordsManager. In our sample app (see screenshot below), there are two repositories: Contract Database and Company Database. Within each repository you can build a hierarchical structure of containers, and you can link containers across repositories via loose links.

Containers and hierarchy
A hierarchical structure within a repository is constructed by creating containers and then defining parent–child relationships between containers. You can add any number of top-level containers. Within each container, you can define one or more child containers. You can use loose links to link containers across the different hierarchies of a container.
For example, in the screenshot above, there are three top-level containers: *Contract* (in the *Contract Database* repository), and *Company Group* and *Company* (in the *Company Database* repository) Of these three containers, only the *Company* container has a child container (the *Department* container), which itself has a child container (the *Person* container). Note that, while a parent can have multiple child containers, a child can have only one parent.

Each container has a set of definitions (shown below for the *Person* container). The most important of these are: the container's fields, the forms designed for the container, and the filters to restrict data selection. These definitions are described in their respective topics: Containers, Fields, Filters, and Forms.
When data is entered, it is entered as a record of a container. For example, records of all persons are entered as records of the Person container. These records are entered in a (data) entry form of the Person container, which is designed to contain data entry options for fields of the Person container (such as Name, ID, and Email). The Person entry form would also contain an option to link the Person record to a field value of another container (for example, to the Legal department, where Legal is the value of the Department container’s Name field). In this way, a relationship is built between Person records and another container, say the Department container. It is through these relationships that records in different containers are linked and the data is available for structuring. For example, it would now be possible to list, say, all the persons in a company’s different departments, or all the software contracts that expire in the next quarter.

Also see How the App’s Data Is Structured.

### 3.2.1 Repositories

The app comprises one or more repositories. In the screenshot below there are two repositories: the Contract Database repository and the Company Database repository. To add a new repository to the app, click **New Repository**. To each repository, you can add containers by clicking the repository’s **New Data Container** button.
Edit repository properties

To access the editing controls of a repository, click its name. This expands the repository entry to show its editing controls. In the screenshot above, for example, the Company Database repository is shown expanded. Note that only one repository at a time can be expanded.

The following properties of a repository can be edited:

- Click Rename to rename the repository.
- Click Coloring to set the default variation of the repository. Remember that these are variations of the app’s default theme, which is defined in the Settings tab of the Configuration Page. Individual users can change the variation of individual repositories.
- Click Move Up/Down to move the repository up or down in the displayed list of repositories.
- Click Delete to delete the selected repository. Note that a repository can be deleted only after all its containers have been deleted.

3.2.2 Containers

Containers are the units with which you build the structure of your database. Each container will contain the records corresponding to that container. For example, a Company container will contain the records of different companies, while a Person container will contain the records of persons. The records that are entered in a container are defined by a set of fields, which, you, as system administrator, will configure for the container.

You can start building a container hierarchy in a database, by first creating a top-level container in that database. You can then add a child container to the top-level container, and add further descendants. The screenshot below shows the containers of the two databases of a sample RecordsManager app's starting database.
Two types of container: top-level and descendant level

There are two types of containers: top-level and descendant level.

Containers can be added to the database structure in the following ways:

- Top-level containers are added by clicking the New Data Container button of a repository (see screenshot above).
- For any container, a parent or child container can be added via the container's More Operations button.

The section Create/Edit Containers describes how to create new containers (both types). The section Container Actions describes other container actions.
3.2.2.1 Create/Edit Containers

Add a container

Add a container as follows:

- Top-level containers are added by clicking New Data Container (see screenshot below) and then defining the container’s fields and other properties.  

For any container, a parent or child container can be added: (i) Click the container, (ii) Select More (see screenshot below), (iii) Click Add parent data container to add a parent container or Add child data container to add a child container. The addition of a parent or child leads to the creation of a hierarchy of containers. See More Operations for details.
Note: A top-level container can also be added by adding a parent container to an existing top-level container. Also see the Parent/Child operation, which enables you to move a container to a new hierarchy.

Define/edit a container's fields
When you add a container (top-level, parent, or child) you are prompted for the container's name and the plural form of the name. (The plural is needed for use in text strings of the interface and reports. It provides a method to handle irregular plural forms (such as children instead of childs). On clicking Continue, the Edit Fields form appears. This form enables you to create new fields for the container, and is described in the section Fields.

The same Edit Fields form appears when you click a container and then its Fields button (see screenshot below). You can then click an existing field to edit it. See the section Fields for a description of how fields are edited.

After you create and save a new field, it is added to the existing fields of the container. For example, you can see that the Person container in the screenshot above has eight fields. (You can click Fields to add a new field or to edit an existing field.) Once a field has been defined for a new container and saved, the container is displayed in the Database Structure tab of the Configuration Page.

3.2.2.2 Container Properties and Actions
The most essential property of a container is its set of fields. These can be defined at the time the container is created, but can also be edited at any later time. The fields of a container represent the attributes of that container and its records. For example, a Person container might have a Name field, an Email field, and a Responsibility field. These fields would then represent the attributes of Person records of the Person container. See Fields for a complete description.

In addition to configuring its fields, you can also configure a container in the following ways:

- Create filters for the display of the container's records and use of the container's fields. See Filters.
Create forms that will be used for the entry of container data, for the generation of reports, and for exporting data to other formats. See [Forms](#).

- Validate individual fields and/or entire records. See [Validation of Fields and Records](#).
- Rename the container. See [Container Operations](#).
- Add a parent container and/or children containers. See [Container Operations](#).
- Duplicate the container. See [Container Operations](#).
- Remove the container. See [Container Operations](#).
- Change the type of link to the parent container (between a parent–child link and a loose link). See [Container Operations](#).
- Import data from external XML files. See [Container Operations](#).

Define the components of a container as described in the subsections of this section.

**Container icons**

All containers have the following icons.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Icon" /></td>
<td>Container Settings</td>
</tr>
<tr>
<td><img src="#" alt="Icon" /></td>
<td>Move Up/Down</td>
</tr>
</tbody>
</table>

**Container Settings**

The container settings form enables you to specify whether the container should contain one record only or multiple records. By default the option is set to multiple records. The record of a single-record container must be explicitly added by a system user. Once added, this record can be edited, but not deleted.

**Move Up/Down: Changing the order of sibling containers**

If a container has sibling containers (that is, there are other containers at the same level), then the Move Up/Down icon on the right is enabled. Click it to change the order of the current container relative to its siblings.

**Validation rules for records of the container**

You can specify one or more validation rules for records of the container. This will ensure that every record must fulfill certain requirements. For example, the record of a person or company can be validated to ensure that at least a telephone number or an email address is entered in the record before it is saved. If validation fails, then either an error or a warning—according to what you decide—is triggered with an appropriate message. In the case of an error, the record is not saved till the error is fixed and validation is successful.

See [Validation of Fields and Records](#) for information about validation.

### 3.2.3 Fields

The fields of a container represent the attributes of that container and its records. For example, a *Person* container might have a *Name* field, an *Email* field, and a *Responsibility* field. These fields represent the attributes of *Person* records of the *Person* container. Within each container, you can define the fields of that container. The screenshot below, for example, shows the Edit Fields form of a *Person* container, which displays all the fields of that container.
The *Edit Fields* form *(screenshot below)* appears after you start the process to create a new container or when you click a container's *Fields* button. See the *Containers* topic for more information about how to access this form. The *Edit Fields* form provides (i) an overview of the container's existing fields, (ii) a list of the container's identity fields, and (iii) validation rules for records of the container.

In this form, you can manage and configure the container's fields as follows:

- **Add a new field** by clicking *New Field*. The *Edit Field* form appears and you can edit the new field's properties.
- **Edit the properties of existing fields**. Click a field's name to edit its properties.
- **You can copy one or more existing fields** from any other container. Click *Copy*, and, in the form that appears, select the fields you want to copy from some other container. On clicking *OK*, these fields will be copied into the list of the current container's fields. Click the new field's name to edit its properties.
- **Show the field's properties** in more detail by checking *Show Details* at top right.
- Change a field's position in the list by moving it to a position above any selected field. To do this, click the **Up/Down Arrows** icon on the right-hand side of the field's listing.
- Remove a field by clicking the **Delete Field** icon on the right-hand side of the field's listing.
- Set one or more fields to uniquely identify records. See [Identity fields of container records](#).
- Set validation rules for records of the container. Such rules validate the entire record; they are different than validation rules for individual fields and additional to them. See [Validation rules for fields and records](#) for details.

**Icons of the Edit Fields page**
The *Edit Fields* page has the following icons.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Delete Field" /></td>
<td><strong>Delete Field</strong></td>
</tr>
<tr>
<td><img src="#" alt="Move Up/Down" /></td>
<td><strong>Move Up/Down</strong></td>
</tr>
<tr>
<td><img src="#" alt="Edit" /></td>
<td><strong>Edit</strong></td>
</tr>
</tbody>
</table>

*Move Up/Down: Changing the order of field*
Moves the current field to a position above the field that you select.

### 3.2.3.1 Field Properties
In the *Edit Fields form*, if you click **New Field** or an existing field, the form for editing the properties of that field are shown (*screenshot below*). This form is the same for both new fields and existing fields. Field properties are described below the screenshot.

![Edit Company field](#)
Name, Hint
Enter the name of the field and, optionally, a hint. The name of the field is a text string that identifies the field. The hint is a text string that will provide users with a hint about what the field is about and/or what kind of value can be entered for the field. For example, the State field shown in the screenshot above takes the abbreviation of a US state as its value. The hint could indicate this as follows, for example: Enter the state abbreviation (NY, AL, etc).

Type
Select the data type of the field (text, number, date, image, etc). For some fields, such as number and date, you must also additionally select a format. The Auto-increment number type is a number field that automatically increments the number (by a value you choose) for every new record. A Files type enables users to select a file for the field. An Images type enables users to select an image for the field. The following types have special system-related uses:

- **Files**: Enables one or more files to be attached to the field. For each file, the following actions are available: (i) view the file in the default file-type editor; (ii) save the file to any file location; (iii) reload the file to the field; (iv) delete the file from the field.

- **Images**: Enables one or more image files to be attached to the field. For each image file, the following actions are available: (i) view the image in the default image editor; (ii) save the image file to any file location; (iii) reload the image file to the field; (iv) delete the image file from the field.

- **Reminders**: Specifies that the field is a reminder field. If a container contains no reminder field, reminders cannot be set for that container. See Reminder Emails for details of how reminders are used.

- **Link to**: Creates a loose link to another container in the system. For more information, see How the App’s Data Is Structured, How Data Is Stored, and Database Structure.

Related features: Summary values, Grouping records on a date-type field, Reminder Emails.

Editing
Select whether the field is editable or read-only, and whether the value must be unique. If editing is required, then the field must not be empty: if empty, the record will not be saved. If the field is specified here as read-only, then it is read-only in all forms. To set the field as read-only in some forms only (not in all forms), leave Read-only unchecked here and select Read-only in individual forms.

Note the following: (i) multiple editing options are allowed; (ii) if Unique is selected, then Required is automatically also set.

Entry
Specify whether any entry is allowed for the field or whether the user must select from a list of entries. You can provide a list of entries and, optionally, allow users to enter their own values.

To allow users to enter values freely, choose the Any option. To specify a predefined list of entry choices, choose the Select option and then click the Edit icon. A form similar to that shown below appears. Enter the items of the entry list by adding a new row for each item (by inserting a row above an existing row or appending a row to the last row). In the screenshot below, for example, there are three items (Distributor, Reseller, and vendor). Click Import to import values for the list of predefined items from a CSV or XML file, or from the database of values already entered for this field. The imported values can replace or be appended to the values you added manually (in the rows).
From the list of options with check boxes, select any options you want:

- The multiple-values option enables the user to select more than one value.
- You can also allow users to enter their own values.
- If you have predefined a list of entry choices (and have not allowed users to enter their own values), then, for each filter of the container, you can define a subset of the predefined list.

Alternately, you can import the values of the entry list via a CSV file or XML file by clicking Import (see screenshot above). The CSV file must have a single column (with or without a header), which contains the items of the entry list. The XML file must have a root element and one repeating child element (where each child element contains an item of the entry list):

**Auto-fill**  
Configure one of the following options:

- The value is not filled automatically; users must supply the values
- Values are entered automatically when a record is created or when a record is saved. You can enter a fixed value or you can enter an XPath expression to dynamically calculate the value to enter. To edit the XPath expression, click the option's **Edit** icon (see note immediately below).
- Dynamically calculate the value via an XPath expression. This is useful if you wish to calculate the value based on other fields of the record. For example, you could calculate the value of a customer ID field by concatenating the values of the ZIP field and VAT-ID field: `ZIP || VAT`. To edit the XPath expression, click the option's **Edit** icon (see note immediately below).

**Note about editing XPath expressions:** The form for editing XPath expressions has three tabs: (i) **Samples** provides a random example of an XPath expression, such as: (a) the concatenation of three values (two values from other fields and a comma separator); or (b) an **exists** function to test whether a field contains some content; (ii) **Fields** lists the names of all the record's fields in alphabetical order so that they can be correctly entered in the XPath expression; (iii) **Copy** lists a selection of XPath expressions that contain various useful functions, which you can copy into your expression and modify.
See Altova's XPath 3.0 and 3.1 Training for information and examples of how to use XPath expressions and functions.

**Validate**

You can enter one or more predefined or self-defined validation rules. These enable the field value entered by the user to be validated before the record is saved. Note that you can enter multiple validation rules for each field. Additionally, you can set validation rules for the entire record. See Validation of Fields and Records for details.

### 3.2.3.2 Identity Fields

Each record must be uniquely identifiable on the basis of one or more fields. If the values of a particular field are unique (such as an email address or company tax number), then a single field suffices as the identity field of that container. In some cases, such as a last name, the value of a single field does not by itself ensure uniqueness. In this case, more than one field will be required to achieve a reliable degree of uniqueness (for example: first name + last name + birth date). The certainty of uniqueness does not need to be 100 per cent; a reasonable assurance of uniqueness will suffice. Select as many fields as you think are required to achieve such an assurance. It is up to you determine what will suffice.

To edit the identity fields of a container, click the **Edit** icon of the Identity Fields section of the Edit Fields form or click one of the existing identity fields. The **Identity Fields** form (screenshot below) appears. It displays the currently selected identity fields as well as a list of the current container's fields. Add fields individually as identity fields. You can also optionally enforce the uniqueness of all selected fields, either across the entire database or only within the parent container of the current container. This would ensure that no two records have the same identity (either within the whole database or the parent container) by displaying warnings to the user.
3.2.3.3 Validation of Fields and Records

You can create validation rules at two levels: that of the individual field, as well as that of the entire record. The Validation Rule form shown in the screenshot below is displayed when you click New Rule of the Edit Fields form. The same form is shown for both field validation and record validation.

In the form, enter an XPath expression that returns Boolean true() or false(). If the expression is invalid XPath, then the invalidity is flagged with an error message in red. If the expression is valid XPath but returns some other value than Boolean true() or false(), then the rule is considered to be an error but no XPath error is flagged. It is up to you to ensure that the expression returns a Boolean result. See (i) the screenshot below for an example of such an expression, and (ii) the note below about editing XPath expressions.

Click OK when you have finished.
The validation rule shown in the screenshot above could be used to validate a record to ensure that at least an email address or a telephone number has been entered for the record. You could add further validation rules at the level of the telephone number field and/or email address fields: for example, to ensure the correct telephone number format and/or email address pattern. Note that a predefined rule to validate email addresses for correct pattern is built-in for field validation.

For each rule, you can specify whether a failed validation is to be considered an error or a warning. In the case of an error, the record will not be saved. You can also enter the text of a suitable error/warning message; this will be displayed if validation fails.

Note about editing XPath expressions: The form for editing XPath expressions has three tabs: (i) Samples provides a random example of an XPath expression, such as: (a) the concatenation of three values (two values from other fields and a comma separator); or (b) an exists function to test whether a field contains some content; (ii) Fields lists the names of all the record's fields in alphabetical order so that they can be correctly entered in the XPath expression; (iii) Copy lists a selection of XPath expressions that contain various useful functions, which you can copy into your expression and modify.

See Altova's XPath 3.0 and 3.1 Training for information and examples of how to use XPath expressions and functions.

### 3.2.4 Filters

A set of filters can be defined for each container. These filters can then be used for one or more of the following purposes:

- To filter data displayed in list forms and report forms
- To limit user access to data
- By users, for detailed searches
Working with filters
The procedure for working with filters is as follows:

1. Plan and create a set of filters for each container as required.
2. Use filters for the purposes listed above.

Edit Filters page
The Edit Filters page (screenshot below) appears when you click a container's Filters button.

It provides an overview of the container's existing filters. You can click an existing filter to edit it, and you can add a new filter by clicking New Filter.

Actions of the Edit Filters page
The Edit Filter page has the following icons.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Copy Filter" /></td>
<td>Copy Filter</td>
</tr>
<tr>
<td><img src="image" alt="Delete Filter" /></td>
<td>Delete Filter</td>
</tr>
</tbody>
</table>

You can carry out the following actions for individual filters:
Hide filters (from users)
Filters are mostly used by administrators for configuring the system. However, there is one use of filters that involves the user. This is when filters are used by users for searches. If you plan to use a filter for configuration only and not to make it available for user searches, then the filter should be hidden from users. To hide a filter, check the filter's Hide check box (see screenshot above).

Copy filters
This Copy Filter feature is useful if you want to create a new filter by modifying an existing filter. To copy a filter, click its Copy icon (see screenshot above). The copied filter will open in a new Edit Individual Filter form. You can give the new filter a new name and edit the conditions of the copied filter.

Delete filters
To delete a filter, click its Bin icon (see screenshot above).

3.2.4.1 Create Filters
The Edit Filters page (screenshot below) provides an overview of the container's existing filters. Create a new filter by clicking New Filter.

In the Edit <Container> Filter form that appears (screenshot below), give the filter a name. Since filters are presented to users by name (without showing the conditions you have defined for the filter), you should select a name that is descriptive enough to indicate what the filter selects. After a filter has been created, it will be displayed on the Edit Filters page (screenshot above) along with the other filters of the container. To edit a filter, click its name on the Edit Filters page. On doing this, the filter's Edit <Container> Filter form appears
Structure and broad functionality of the form

The *Edit <Container> Filter* form has two broad parts:

- A top part, which contains the filter's name and its main controls (the *Review* check box and buttons to add the conditions of the filter). These controls are described immediately below this list.
- A bottom part comprising the conditions of the filter, which are framed in green in the screenshot above. How to create and edit conditions is described further below.

*Review check box*

To see the filter's conditions in a compact form, select the *Review* check box. The conditions of the filter will then be displayed in a non-editable summarized form with the logical operators that bind them. The compact
presentation is achieved due to the absence of editing controls. Compare the screenshot below (of the Review format) with the screenshot above (of the Editing format).

To go back to the editing format, uncheck the Review check box.

**Button controls**
The button controls enable you to add conditions and filters at the top level of the filter. They are located to the right of the Review check box (see screenshot below), and will be available in Editing format, that is, when the Review check box is not selected.

The buttons, from left to right, are as follows:

- **Add Condition** adds a condition (*see below for details*). If the added condition is not the first top-level item, then it is joined to the previous top-level item with a logical **AND** operator. Click the **AND** operator to change it to a logical **OR** operator. Next, select the field on which you wish to place a condition and specify the condition as described below.

- **Add Filter** adds an existing filter (*see below for details*) as a condition. The ability to add existing filters as conditions enables you to avoid duplicating filters and provides for the modular composability of filters. If the added filter is not the first top-level item, then the new filter is joined to the previous top-level item with a logical **AND** operator. Click the **AND** operator to change it to a logical **OR** operator. Next, select the existing filter that you want to use as an additional condition.

- **Add Search in Other Container** (or **Add Condition on Other Container**) adds a set of conditions for another container. This top-level item provides the ability to set conditions for other containers. If it is not the first top-level item, then it is joined to the previous top-level item with a logical **AND** operator. Click the **AND** operator to change it to a logical **OR** operator. Next, select the container on which you wish to place conditions and specify the conditions in the usual way as described below. If no ancestor or link-to containers have been defined, then this button does not appear.

- **Add [** or **Add Bracket** adds a bracket item that enables you to define set of conditions within a bracket. This enables you to more easily structure a hierarchy of conditions. If the bracket item is not the first top-level item, then it is joined to the previous top-level item with a logical **AND** operator. Click the **AND** operator to change it to a logical **OR** operator. You can now add a condition, filter, or sub-bracket and define conditions as described below.
Add the conditions of the filter

Create the conditions of the filter in one of the following ways:

- Add a new condition by clicking **Add Condition**, then selecting (i) the **field** you want to filter (for example, *Status* in the first condition of the screenshot above), (ii) the **selector** (such as *equal* or *one of* in the screenshot above; see list of selectors below), and (iii) the **field value/s** on which to filter (such as *Active* in the screenshot above). The first condition in the screenshot above selects only those records of the container that have a *Status* field with a value equal to *Active*.

- Add multiple conditions so that the filter is a combination of conditions that are all connected by either the logical **AND** operator or the logical **OR** operator. The filter can be composed entirely of new conditions or can be a combination of existing (previously created) filters and new conditions. In the screenshot above, the filter is a combination of two new conditions joined by a logical **AND** operator. The operators become available once a second item (new condition or existing filter) is added to the filter. Note that you cannot combine the **AND** and **OR** operators in a single filter (that is, you cannot create X **AND** Y **OR** Z). If you want to combine operators, do the following: (i) Create a filter with one logical operator, and save it; (ii) Create a new filter which uses the first (existing) filter and combine it with the other operator and the new condition/s. Such a filter—(*FILTER-2*) in the following—would have a structure something like this: [ *FILTER-2* = (FILTER-1 = C1 AND C2 AND C3) OR (C4) OR (C5) ]

**Note:** Only those records are displayed for which the overall condition returns Boolean *true()*. So, for example: (i) *true()* **AND** *false()* returns *false()*; (ii) [[*true()* **AND** *false()*] **OR** [*true()*]] returns *true()*.

After you have completed editing filters, click **Save Changes** in the *Edit Filters* form (see first screenshot above).

**Selectors**

The kinds of selectors that are available depends on the data type of the field that is chosen for filtering. The selectors for the different data types are listed below.

- **Selectors for Text, Multiline Text, and Link-To fields**

The table below lists and describes selectors for Text, Multiline Text, and Link-To fields. In the case of the Link-To field, the name of the Linked container is considered to be text and tested in the same way as text.

<table>
<thead>
<tr>
<th>selector</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>contains</td>
<td>Contains the specified text</td>
</tr>
<tr>
<td>doesn't contain</td>
<td>Doesn't contain the specified text</td>
</tr>
<tr>
<td>equal</td>
<td>Equal to the chosen field value</td>
</tr>
<tr>
<td>not equal</td>
<td>Not equal to the chosen field value</td>
</tr>
<tr>
<td>one of</td>
<td>One of a set of chosen field values; add a new row for each value</td>
</tr>
<tr>
<td>not one of</td>
<td>Not one of a set of chosen field values; add a new row for each value</td>
</tr>
<tr>
<td>begins with</td>
<td>Begins with the specified text</td>
</tr>
<tr>
<td>begins not</td>
<td>Does not begin with the specified text</td>
</tr>
<tr>
<td><strong>ends with</strong></td>
<td>Ends with the specified text</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>ends not with</strong></td>
<td>Does not end with the specified text</td>
</tr>
<tr>
<td><strong>is entered</strong></td>
<td>A value has been entered for the field</td>
</tr>
<tr>
<td><strong>is missing</strong></td>
<td>No value has been entered for the field</td>
</tr>
</tbody>
</table>

**Selectors for Date fields**

The table below lists and describes selectors for Date fields.

<table>
<thead>
<tr>
<th><strong>in range</strong></th>
<th>The field's date value lies within the specified range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>not in range</strong></td>
<td>The field's date value does not lie within the specified range</td>
</tr>
<tr>
<td><strong>past</strong></td>
<td>The field's date value lies in the past. Optionally test whether the date occurred less than or more than a specified number of days ago</td>
</tr>
<tr>
<td><strong>future</strong></td>
<td>The field's date value lies in the future. Optionally test whether the date occurs less than or more than a specified number of days into the future</td>
</tr>
<tr>
<td><strong>equal</strong></td>
<td>The field's date value is the same as the specified date</td>
</tr>
<tr>
<td><strong>not equal</strong></td>
<td>The field's date value is not the same as the specified date</td>
</tr>
<tr>
<td><strong>is entered</strong></td>
<td>A value has been entered for the field</td>
</tr>
<tr>
<td><strong>is missing</strong></td>
<td>No value has been entered for the field</td>
</tr>
</tbody>
</table>

**Selectors for Time, Number, and Auto-Increment Number fields**

The table below lists and describes selectors for the Time, Number, and Auto-Increment Number fields.

<table>
<thead>
<tr>
<th><strong>in range</strong></th>
<th>The field's time value lies within the specified range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>not in range</strong></td>
<td>The field's time value does not lie within the specified range</td>
</tr>
<tr>
<td><strong>equal</strong></td>
<td>The field's time value is the same as the specified time</td>
</tr>
<tr>
<td><strong>not equal</strong></td>
<td>The field's time value is not the same as the specified time</td>
</tr>
<tr>
<td><strong>is entered</strong></td>
<td>A value has been entered for the field</td>
</tr>
<tr>
<td><strong>is missing</strong></td>
<td>No value has been entered for the field</td>
</tr>
</tbody>
</table>

**Selectors for Files, Images, and Reminder fields**

The Files, Images, and Reminder fields take the **Contains** selector, which tests whether the field contains the respective item.
3.2.4.2 Use of Filters

Filters can be used for one or more of the following:

- To filter the records displayed in list forms and report forms
- To limit user access to data
- To choose user groups for email notifications
- By users, for detailed searches

Filter records in list forms and report forms

One major use of filters is to restrict the records that are shown in list forms and report forms. The restriction is done on the basis of the field values of records. For example, a filter named Active Contracts could be defined to show only those records where the value of a record's Expiry Date field lies in the future.

Limit user access to data

By combining the filters and user access properties of list forms and report forms, different users can be configured to have different access to data. For example, you could do the following:

- Set up two filters: (i) one named Software Contracts to display only those contracts that have a Category field equal to the value Software, and (ii) another named Partner Contracts to display only those contracts that have a Category field equal to the value Business Partners.
- For a list form named Software Contracts: (i) use the filter named Software Contracts; (ii) set access to this form for the IT, Legal, and Accounts roles.
- For a list form named Partner Contracts: (i) use the filter named Partner Contracts; (ii) set access to this form for the Legal and Accounts roles.

In the example above, users that have been given either the Legal role or Accounts role can view both types of contracts (software and partner). However, users that have been given the IT role can view software contracts but not partner contracts.

Searches by app users

In addition to the configuration uses of filters that are listed above, users of the system can also use filters for searches.

If one or more filters have been defined for a container, then the Predefined button will be available when the records of a container are displayed using any of the container's list forms. To return records selected by a filter, the user: (i) clicks Predefined (see screenshot below), (ii) selects one of the filters in the combo box that appears, (iii) click the Search icon at right. All records selected by the filter will be listed.
3.2.5 Forms

The Edit Forms page (screenshot below) appears when you click a container's Forms button (see the Containers topic).
The *Edit Forms* page provides an overview of a container's currently defined forms and enables you to create new forms.

**Types of forms, and their uses**

Administrators define forms for various purposes, such as for data entry, reports, and emails. For each container a separate set of forms is defined that use elements specific to that container. A container's forms can then be reused at multiple points in the RecordsManager app.

The following types of forms are available:
• **List Forms**: Enables the construction of a list of records. The list can be grouped on a field and it can be filtered. List forms can be used in entry forms and report forms.

• **Entry Forms**: These are the forms that are used to enter the data of a container. They can be used wherever data for that container can be entered.

• **Report Forms**: Enables the design of reports that can be shown on screen and printed.

• **Export Forms**: Design the structure of XML and CSV documents to export to.

• **Homepage Reminders Forms**: Design the display of reminders on the homepage.

**Working with forms: create new, edit, copy, delete, hide/use, create templates**

Create the forms you want by clicking the respective **New Form** button. After a form has been created, it will appear in the **Edit Forms** list (screenshot above). You can click a form to edit it. You can also: (i) copy a form (by clicking the **Copy** icon on the right-hand-side of the form) to create a new editable form; (ii) delete a form by clicking its **Bin** icon.

Note the following points:

• For all types of forms, you can set which users can access the form. In this way, you can restrict the viewing and editing of specific records, as well as the ability to view reports and export data.

• Forms have a **Hide or Use** option on the **Edit Forms** page (see screenshot above). If you hide a form, it will be visible only when the form is used in another form. In all other cases, it will not be available. So the **Hide** option enables you to disable the use of the form without deleting it. For example, if a list form is used in an entry form and is marked as hidden, then it will be visible only in the entry form but will not be available as a list form.

• You can create **template forms** from any entry form. A template is a data entry form with some starting data filled in. The user can modify this starting data in the entry form. See **Entry Forms** for more information.

After you have finished editing a form, make sure to not only save the form (with **Save Form**) but also to click **Save Changes** on the **Edit Forms** page.

### 3.2.5.1 List Forms

A list form displays the records of a container in a particular layout. You can define multiple list forms for a single container. When a user clicks on a container, the records of the container are presented in a list form, and the user can choose which one of the available list forms to use.

The screenshot below shows a list form’s configuration page. The top part of the page enables you to set properties for the list form, while the bottom part contains the layout of the form. Configuring a list form consists of (i) designing the layout of the form, (ii) defining its content and styles, and (iii) defining the properties of the form.
You can configure list forms using the following design features and settings:

- The layout of each list form is defined within a table, which you can structure according to how you want to display the records.
- Select the fields to show in the columns of the table (or add alternative content).
- Separately style the table’s header text and its body text.
- If you want, you can group and sub-group records on the basis of fields.
- Filter the records to display by using predefined filters.
- Specify different kinds of access for different users.

After completing your edits, click Save Form to finish. See the topics of this section for configuration details.

### 3.2.5.1.1 Create/Edit a List Form

When you create a new list form (by clicking New List Form on the Edit Forms page), you are prompted to select the fields (of the current container) that you want to display in the list form. Subsequently, give the form a suitable name (see screenshot below) and edit the form as described in the following topics.
After a form has been saved, it can be edited at any time by clicking its name on the Edit Forms page. The list form will be displayed (screenshot above) and can be edited.

After completing your edits (for new forms or existing forms), click Save Form to finish. This will take you back to the Edit Forms page, where you must click Save Changes for all changes to be saved to the database.

3.2.5.1.2 List Form Layout and Structure

When the form is open for editing, click the Table editing icon (inside the red ellipse in the screenshot below). The table will be displayed with its editing entry helpers (screenshot below). The table in the list form will contain a header row and multiple body rows for the records of the container. The only part of the table that you can edit is the table header. The header structure represents both the header and the record. So, for example, if the header is configured to have two rows, then each record will also have two rows. This means that when you design a list form, you simply design the header. (The block of sample rows in the design is a placeholder: the number of rows in this block does not change; the number of columns, however, does.)
You can edit the form's table structure as follows:

- Insert/append columns to left/right of the selected column, and insert/append rows above/below the selected row. Use the respective icons for these operations (see screenshot above). New columns can be inserted to the left of the selected column, and new rows can be inserted above the selected row. Note that there is only one Append Column icon: to the right of the rightmost column. Similarly, there is only one Append Row icon: below the last row.
- Delete rows/columns by using the respective icons.
- Edit the content in a column by using that column's Edit icon/s. You can add one of several components to a column. See List Form Content for details.
- When you add a row (to the header), the two-row (or x-row) structure will be applied not only to the header but to every record.

Note: After you complete making changes to the table structure and want to exit the table editing mode, click the Table editing icon.

Column properties
You can set the following layout properties on individual columns:

- Column width options: (i) Default column width, where all columns are equally sized; (ii) Fixed width as percent; (iii) Auto-size the column width based on content, with an optional maximum width. Auto-sized columns are indicated by an A (see screenshot above). For columns with fixed widths as percent, and for auto-sized columns with a maximum percent width, the percent width is indicated in the column header (see screenshot above).
- Column padding (left and right): Set these with the respective sliders.

3.2.5.1.3 List Form Content
Table content is added column by column. If the table has multiple rows, then, you can add content for each row of each column. The structure that you create for the list form's header is applied to the header and to each record. For example, if the header has three columns, then each record has three columns. The header and records can each be styled separately—as Labels and Values, respectively (see screenshot below).
To select what content goes into each column, click that column's **Edit** icon (*see screenshot in previous topic*). The content selection form shown below appears. You can select any of the items listed in the tabs as content. Note that the content does not have to be a field.

![Content Selection Form](image)

To select a content type, click its tab and enter the selection properties as described below.

Note the following, which is common across a number of content types: The label is the text that appears in the header of the table. The values are the values of fields in the records. You can style the labels of a column separately from its values, and you can see a preview in real time at the bottom (*see screenshot above*). Note that the styles set here are for the selected column. Styles that you specify for a column will override **styles set for the table**.

- **Field**: Select the field to display in this column. Fields that have already been selected as content in any column are shown with a tick mark (*see screenshot above*). In the case of fields of certain datatypes, such as dates, you can additionally format the type and set other properties. For images, you can specify alignment and whether to display all images added to the field or the first image only. You can edit the label (header) of the column, or hide it. A column can also be sorted, and in this case an arrow will appear next to the column's label. Note that sorting can only be set on one column of the form. Select **Edit styles** to override the default styles defined in the **Global Styles** form.
- **Calc**: Specify an XPath expression to calculate dynamic values for records of the column.
- **Text**: Specify the text to enter. This will be static text that is entered for all records of the column.
- **Image**: Select either an image from the image library, or choose a new image from a file location.
- **Child Rows**: Available if the container has a child. Select the records of child containers to display in this column, and select which list form of the respective child container to use. You can also select which filters of the respective child container to apply. Child containers, their lists, and their filters are all automatically made available depending on the selections you make.
- **Linked Rows**: Select the records of linked containers to display and select which list form of the respective container to use. You can also select which filters of the respective linked container to apply. Linked containers, their lists, and their filters are all automatically made available depending on the selections you make.

### 3.2.5.1.4 List Form Styles

You can set styles for the table and for group headers separately. You can also set styles for different columns separately (see previous section). To set styles for the table, click the table's **Styles** icon (inside the red ellipse in the screenshot below). To set styles for group headers, click the group header's **Styles** icon (inside the green ellipse in the screenshot below).
Table styles
The Styles form for the table looks something like in the screenshot below.

Note the following points:

- The label is the text that appears in the header of the table. The values are the values of fields in the records. You can set the text properties of each separately, including text placement.
- If you select the Use styles defined globally check box at the top of the table, then the global styles specified in the app's settings will be used.
- The Apply Globally button applies the current styles to the global settings for all forms and for properties that are specific to list forms. All forms that do not have their own table or field styles will receive the current styles.

Styles of group headers
Click the group header’s Styles icon to bring up the relevant styling form. Here, you can set the following:

- Text properties of the group header
- Whether the group of records should be shown collapsed or expanded when the list is displayed.

Note: After you have finished making style changes, click Save Form and then Save Changes.
3.2.5.1.5 List Form Properties

In the Edit List Form dialog, the properties of the list form are defined via the settings above the layout part of the design (see screenshot below), and are described below.

Set access to list forms
The Form Access setting enables you to specify which roles—and, therefore, users—may access the form. Note that the Admin role has full access to all forms.

Preview
Provides a preview of the form.

Grouping
The records of a list can be grouped on the values of one or more fields, up to a maximum of three. For example, records may be grouped on, say, the Region field into US and EU groups. On a second level, they could be grouped into countries, and, on a third (and final) level, into cities.
To set up grouping, check the *Group By* option and select the fields you want to use as grouping criteria. The fields can be text fields, number fields, date fields, and parent links. Multiline fields cannot be used. After grouping has been set up, a new header for groups appears in the layout. Click its *Style* icon to specify its formatting (*see previous topic*).

**Filtering**
A list can be filtered to show only records that meet certain conditions. The filtering is set up by assigning a single filter to the list. To set up a filter, check the *Filter* option and select the filter you want to use from the combo box. Only filters of the current container will be available. For information about creating and using filters, see the section *Filters*.

**Show Jump-To**
If the *Show Jump-To* option is selected, then a *Jump To* button will be displayed in the list form. On clicking, *Jump To*, the end user can enter a string in the *Jump To* field, following which the display will jump to the first record that matches the string according to the criteria you chose when defining the *Show Jump-To* option of the list form.

On selecting the option, you can select the criteria to be fulfilled by the target records to jump to:

- If the user's text string is the starting string of (i) any field, or (ii) a selected field
- If the user's text string is contained in (i) any field, or (ii) a selected field.

Select the appropriate radio buttons to select the setting you want. To finish, click **OK**.

**Preview-on-Click**
If the *Preview-on-Click* option has been switched on and the user clicks a record in the list, then the clicked record will be displayed below the list (which is scrollable). If you select this option, then you are prompted to select the entry form that will be used to display the record, which the user can edit directly.

**Print Layout**
Select whether the list form, when it is printed by the user, will have a portrait or landscape format.

### 3.2.5.2 Entry Forms
You can design one or more entry forms for a container (*see screenshot below*) and specify which users have access to each entry form. When users open a container for data entry, they can choose one of the forms to which they have access and enter the required data. By creating different forms, each with a different set of users, you can control which users get to enter which items of data or which users may only read data in the different forms.
Design your entry forms using the following broad steps:

1. Decide what fields you want to include in the form, how the fields will be laid out (in a table structure), which users will have access to the form for viewing only and/or data entry. Alternatively, the entire form can be read-only.
2. Decide whether the form should be divided into sections for a better overview, and whether sections should appear one section at a time or all together.
3. Add sections as required. Alternatively, you can also create a form that has no explicitly demarcated section.
4. If you want to modify the fields of the form when a field is edited, select Script on any edit and enter the XPath expression that will modify the fields.
5. Modify the structure of the table by adding/deleting rows and columns. Note that you can also add an entire table within a table cell.
6. Within table cells, add content items (such as fields and text) or structural items (such as tables and child-container rows).
7. Style individual table contents.
8. Create templates from an entry form. Templates are entry forms that are partially filled with data when a new record is created using this template. The user can subsequently modify the data. For each entry form, multiple templates can be created, enabling the user to create a new record using any of these templates.

After a form has been saved, it can be edited at any time by clicking its name on the Edit Forms page. The entry form will be displayed (as in the screenshot above) and can be edited.

After completing your edits (for new forms or existing forms), click Save Form to finish. This will take you back to the Edit Forms page, where you must click Save Changes for all changes to be saved to the database.

3.2.5.2.1 Create/Edit an Entry Form

When you create a new entry form (by clicking New Entry Form on the Edit Forms page). You will be prompted to select the fields you want to include for data entry. Each selected field will be created in a row of a table (see screenshot above). By default, each field will have a label and a data entry device (such as a data-entry box or combo box). Subsequently, you must give the form a name. Subsequently, you can also edit the design of the form—by changing the structure of the table and modifying what goes into the cells of the table. These operations are described in the following topics.
After a form has been saved, it can be edited at any time by clicking its name on the Edit Forms page. The entry form will be displayed (screenshot above) and can be edited.

After completing your edits (for new forms or existing forms), click Save Form to finish. This will take you back to the Edit Forms page, where you must click Save Changes for all changes to be saved to the database.

3.2.5.2.2 Sections of an Entry Form

To create sections, first check the Sections option (see screenshot below). This creates a new section, named Unnamed Section, above the first row of the table. If you want to show each section one-by-one (instead of all together on one page), check the Show One by One option.
To add new sections, first click the **Table editing** icon *(circled in red in the screenshot below)*. The table editing icons appear. To insert a new section above the current row, long-click the **Add Row** icon of either the current section or the current row *(see screenshot below)*. To append a new section at the bottom of the table, long-click the **Add Row** icon of the last row of the table. Note that a simple click adds a row. You need a **long-click to add a section**; so keep the click depressed till a new section appears.

You can delete a section in one of two ways: (i) Click the section’s **Delete** icon; but note that the first section cannot be deleted in this way; (ii) Uncheck the **Sections** option *(see screenshot below, top left)*.

**Section properties**

To access section properties, click the name of the section.
The screenshot below shows the Section Properties form of a section in an entry form where all sections are shown together (that is, not one-by-one). The following options can be set separately for each section:

- To show the section name or to hide it (and, in the latter case, also optionally hide the section line).
- Whether to show the section initially open or closed. If a section is closed, the user must open it (by clicking the section's Expand icon).
- Access to the section for individual roles. Whether a role has: (i) full (read and write) access; (ii) read-only access; or (iii) no access.

In entry forms where sections are shown one-by-one, a restricted set of properties may be set: (i) the name of the section; and (ii) access rights of different roles.

### 3.2.5.2.3 Entry Form Layout and Structure

When the form is open for editing, click the **Table editing** icon (inside the red ellipse in the screenshot below). The table will be displayed with its editing entry helpers (see screenshot). The table contains multiple body rows, each of which contains either a data entry field for one of the container's fields, or a display item such as text, an image, or a table.
You can edit the form's table structure as follows:

- Insert/append columns to left/right of the selected column, and insert/append rows above/below the selected row. Use the respective icons for these operations (see screenshot above). Note that there is only one Append Column icon: to the right of the rightmost column. Similarly, there is only one Append Row icon: below the last row.
- Delete rows/columns by using the respective icons.
- Edit the content in a cell by using that column's Edit icon. See the topic Entry Form Content for details about adding content.
- Set a condition to determine whether a row should be visible (Conditional display for row in screenshot above). For example, you might want to make a row that holds a contract's date visible only if the contract's ID field contains some value. These conditions are defined in an XPath expression that returns either Boolean true() or false().

Note about editing XPath expressions: The form for editing XPath expressions has three tabs: (i) Samples provides a random example of an XPath expression, such as: (a) the concatenation of three values (two values from other fields and a comma separator); or (b) an exists function to test whether a field contains some content; (ii) Fields lists the names of all the record's fields in alphabetical order so that they can be correctly entered in the XPath expression; (iii) Copy lists a selection of XPath expressions that contain various useful functions, which you can copy into your expression and modify.

See Altova's XPath 3.0 and 3.1 Training for information and examples of how to use XPath expressions and functions.

Note: After you complete making changes to the table structure and want to exit the table editing mode, click the Table editing icon.

Column properties
You can set the following properties on individual columns:
- Column width options: (i) Default column width, where all columns are equally sized; (ii) Fixed width as percent; (iii) Auto-size the column width based on content, with an optional maximum width. Auto-sized columns are indicated by an A. For columns with fixed widths as percent, and for auto-sized columns with a maximum percent width, the percent width is indicated in the column header.
- Column padding (left and right): Set these with the respective sliders.

### 3.2.5.2.4 Entry Form Content

To add or edit the content of a table cell, click the cell's Edit icon *(see screenshot above).* A content selection form like that shown below appears. Select the respective tab to add the appropriate type of content *(see screenshot).* Content is either a data entry device (for a field of the container), or a display item (such as text, an image, or a list of child records). The different content types are described below.

To select a content type, click its tab and enter the selection properties as described below.

Note the following points, which are common across a number of content types:

- A label is the text that describes a field. A value is the value of a field.
- When you style the labels and values of a cell, only that cell is styled and the cell styles override the styles of the table. You can see a preview of the cell's styles at the bottom of the tab *(see screenshot below).*

After you finish editing the content of a table cell, click Change Field and then Save Form.
Field
Select the field for which data will be entered. Depending on the field selected, additional settings may be available (see the top half of the screenshot above). The name of the selected field will appear as the label of the cell. Settings that are common to all selections are: (i) edit the label; (ii) option to hide the label; (iii) option to make the field read-only (it cannot be edited); (iv) edit styles of the cell; these styles will override the default table styles that are applied to the cell.

The values that you enter are fixed. If you want to enter dynamically determined values for other fields as a consequence of the current entry, check the Script option. In the form that appears, click Add Command,
select the field you want to update, and enter an XPath expression that calculates the value to enter. For each value you want to calculate, add a new command (via Add Command). Once the current value has been entered, the scripts are run and the fields specified in the script's commands are updated.

Other settings are options for the following:

- To let the user search for the field to enter instead of offering the user a selection of fields from which to choose
- To add a button that lets the user view a record once it has been selected
- To add a button that lets the user edit a record once it has been selected
- To allow users to add records for the selected field. If enabled, the entry form to use must be specified.

**Calc**
Specify an XPath expression to generate a value that will be displayed as the value of the cell. Optionally, you can also specify a label for the cell.

**Text**
Specify the text string that you want to display in the cell. This text will be displayed as a label and with the formatting assigned to labels.

**Table**
Inserts a table with the column and row dimensions that you specify. This table can be structured and styled just like the top-level table, and its cells can each have their own content.

**Image**
Select either an image from the image library, or choose a new image from a file location. The image will be added to the cell.

**Button**
Adds a geolocation button to the cell. When users click this button, the geolocation data will be entered in the field/s that you set up via this tab. Geolocation data consists of multiple items, such as Address, City, or Geolocation. Each of these can be stored to different fields of the record.

**Child Rows**
Available if the container has a child. Select which child containers to display and which list form of the respective container to use. You can also apply one or more filters of the selected container. Optionally, child records may also be edited. If the editing option is selected, then you must select one of the container's entry forms. Child containers, their list forms, filters, and entry forms are all made available automatically according to context.

**Linked Rows**
Select which of the current container's linked containers to display—and which list form of the selected container to use to display the data of that linked container. This feature is useful because you can use data from other linked containers and even edit the data of those linked containers from the current entry form.

You can also:

- Apply one or more filters of the linked container to the list.
- Specify that the data in the list is editable. In this case, a combo box will appear, in which you must select one of the linked container's entry forms to use for editing.

Linked containers, their list and entry forms, and their filters are made available automatically according to context.
3.2.5.2.5 Entry Form Styles

You can set styles for each table in the form separately. To set styles for a table, click its Styles icon (inside the red ellipse in the screenshot below).

The Styles form for the table looks something like in the screenshot below.
Note the following points:

- A label is the text that describes a field. A value is the value of a field. You can set text properties for the label and the value separately, including the text placement.
- If you select the `Use global styles` check box at the top of the table, then the [global styles specified in the app's settings](#) will be used.
- The `Apply Globally` button applies the current styles to the global settings for all forms and for properties that are specific to entry forms. As a result, all forms that do not have their own table or field styles will receive the current styles.

**Note:** After you have finished making style changes, click `Save Form` and then `Save Changes`.

### 3.2.5.2.6 Templates for Entry Forms

Templates are entry forms in which some data is pre-filled. When users create a new record in a container, they are offered the possibility of using one of the templates that have been defined for that container. Templates can therefore help to save time for users if records have repeating data. To take a simple example, in `Department` entry forms, we could fill in a company's name so that the user could skip the `Company` field and continue with the other fields of the `Department` container.

To create a template, go to the [Edit Forms](#) page and click the `Add Template` icon (see screenshot below).
In the *Edit Template* form that appears, name the template suitably and enter data for the fields you want to fill (see screenshot below).
The values that you enter are fixed. If you want to enter dynamically determined values for other fields as a consequence of the current entry, check the Script option. In the form that appears, click Add Command, select the field you want to update, and enter an XPath expression that calculates the value to enter. For each value you want to calculate, add a new command (via Add Command). Once the current value has been entered, the scripts are run and the fields specified in the script's commands are updated.

Click Save Template when done. The template will be displayed in the Edit Forms page, under the listing of the entry form that was used as the base form for the template (see the first screenshot of this topic).

### 3.2.5.2.7 Entry Form Properties

In the Edit Entry Form dialog, the properties of the entry form are defined via the settings above the layout part of the design (see screenshot below), and are described below.
Set access to entry forms
The Form Access setting enables you to specify which roles (and thereby users) have full access to the form (read and write access) and which users have read-only access. Note that the Admin role has full access to all forms.

Preview
Provides a preview of the form.

Read-only entry forms
A form can be defined as read-only by checking this option near the top of the form. No template can be defined for a read-only form.

Sections
Select the Sections check box to create sections. If the check box is unselected, then the form is displayed as a single page and without sections. See the topic Sections of an Entry Form for a description of the Sections feature.

Script on any edit in this form
Select this option to if you want to modify the fields of the form when a field is edited. You can then enter the XPath expression that will modify the fields.

Print layout
Select whether the entry form, when it is printed by the user, will have a portrait or landscape format.

3.2.5.3 Report Forms
A report form is designed to present a report of records in a specific container. A report consists of one or both of the following:

- A table, where the columns represent the container fields and/or loose links that were selected for inclusion. Each row of the table holds a record of the container.
- One or more charts. Each chart plots the values of fields assigned to the Y-Axis against a field assigned to the X-Axis.

You can create multiple report forms for a container. The report forms of a container will be available when a user is editing the records of a container and clicks the Reports button. At this point, if multiple report forms are available for the container, the user can choose the report form to use. For example, you can create forms with different filters to show different datasets. Or different reports could group records on different criteria. This would enable the user to quickly switch report forms to see, for example, reports of different and specific datasets (such as US companies only, or contracts that will expire in the next three months, or contracts valued above a certain amount).
Edit Contract report form

Form name: Contract Dollar Amount Report
Form access: Admin, Executive, Legal, Sales

- Check: Group by Categories
- Note: groups in reports are displayed in the first column
  - Option: Hide records, show only groups
- Check: Filter
  - Input: Active Contracts other than IP
- Check: Charts
  - Amounts by Category, Contract Amounts
  - Option: Hide the whole table, show only charts

Print layout: Portrait, Landscape

---

<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Type</th>
<th>Expiry</th>
<th>Description</th>
<th>Category</th>
<th>$ Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>Sample</td>
<td>Sample</td>
<td>Sep 22, 2023</td>
<td>Sample</td>
<td>Sample</td>
<td>$1,235</td>
</tr>
<tr>
<td>Sample</td>
<td>Sample</td>
<td>Sample</td>
<td>Sep 22, 2023</td>
<td>Sample</td>
<td>Sample</td>
<td>$1,235</td>
</tr>
<tr>
<td>Sample</td>
<td>Sample</td>
<td>Sample</td>
<td>Sep 22, 2023</td>
<td>Sample</td>
<td>Sample</td>
<td>$1,235</td>
</tr>
</tbody>
</table>

**Sample group 1**

- **Minimum**
- **Sum**

---

**Amounts by Category**

**Contract Amounts**

- ID 1
- ID 2
- ID 3

- Categories 1
- Categories 2
- Categories 3

- $ Amount
The screenshot above shows the design page of a report form. The design page has two parts:

- In the upper part, you specify the properties of the report form.
- In the lower part, you design the layout of the report form: (i) the report table, and (ii) the report charts.

How to configure a report form is described in the topics of this section.

3.2.5.3.1 Create/Edit a Report Form

To create a new report form, click New Report Form on the Edit Forms page. You will be prompted to select the fields (of the current container as well as ancestor containers) or loose links that you want to display in the report.

Additionally, if a field of the current container is of a Link To type and links to another container, then the fields of the linked-to container will also be available for selection. Note, however, that the fields of the linked-to container will not be available for XPath calculations.

Subsequently, give the form a suitable name (see screenshot below) and edit the form as described in the topics that follow.

If the container has ancestor containers, then the option Use this form on other pages will be available (see screenshot below), and you can choose, in the combo box, one or more ancestor containers for which this report form can be used.
After a form has been saved, it can be edited at any time by clicking its name on the Edit Forms page. The report form will be displayed (screenshot above) and can be edited.

After completing your edits (for new forms or existing forms), click Save Form to finish. This will take you back to the Edit Forms page, where you must click Save Changes for all changes to be saved to the database.

3.2.5.3.2 Report Properties

Important properties of the report are set in the top part of the report form's design page (see screenshot below). These properties are described below.
Set access to report forms
The Form Access setting (see screenshot) enables you to specify which roles—and, therefore, users—may access the form. Note that the Admin role has full access to all forms.

Grouping of records
The records of the container can be grouped on a maximum of three fields. For example, you could group a set of contracts on the basis of their status or you could group companies by country.

To group records, click the Group by option's Edit button (see screenshot) and then select the fields on which to group (up to a maximum of three fields). The first field you select becomes the first grouping criterion, and so on. In the report, the values of the selected grouping criterion will be shown in the first column of the table. If you have multiple criteria, then the values will be grouped first on the first criterion. Then, within each value of the first criterion, grouping will take place on the second criterion. Next, within each value of the second criterion, grouping will take place on the third criterion. So, it is important to select the grouping criteria (fields) in the order you want them.

For example, the screenshot below shows a report in which grouping is based on the expiry date of contracts, and on two criteria: Year is the first criterion, and Month is the second criterion. The first value of the first (Year) criterion is 2020. Within the set of records for 2020, records are grouped by month. In our case, there are four months (June, August, September, and December), with one record in each month. Records are then grouped by month for the next Year value, which is 2021: there are six records for the month of August (and no other month in 2021). Note also the summary values on the right hand side, where the count of records is given for each month and each year. Summary values are created on fields, and are described in the next topic, The Report Table.
Note about grouping of Date-type records: If a field is created that has a type of Date (format: Month Day, Year; for example, Dec 31, 2020), then this field will automatically be available for grouping on three criteria: (i) the month part only; (ii) the year part only; (iii) the entire date filed (month, day, and year). This enables you to split the date field into two additional grouping criteria and thus to separately group records on months and years.

If you select the option to hide records, only the summary lines of groups will be shown. The actual records will be hidden. In the screenshot above, for example, the actual records are shown. The summary lines on the right provide a count of the records.

Filtering records
To filter records, select the Filter option and then select any one of the filters that have been defined for the current container (see screenshot above).
3.2.5.3.3  The Report Table

The first part of the report consists of the report table. The columns of this table (see screenshot below) represent the container fields and/or loose links that were selected for inclusion in the table. Table rows each hold a record of the container. To edit the structure and content of the table, click the Table editing icon (circled in red in the screenshot below)

![Table Editing Icon](image)

You can edit table structure and content as follows:

- Insert columns to the left of the selected column. To append a new column to the right of the rightmost column, click the Append Column icon (which is situated to the right of the rightmost column).
- To delete a column, click its Delete icon.
- To change the field or loose link represented in a column, click the column's Edit icon and select the new field or loose link. There is one important property named Summary, which is described in the subsection named Summary values immediately below.
- To set a column's display properties, click its Width icon. Column width options are: (i) Default column width, where all columns are equally sized; (ii) Fixed width as percent; (iii) Auto-size the column width based on content, with an optional maximum width. Auto-sized columns are indicated by an A. For columns with fixed widths as percent, and for auto-sized columns with a maximum percent width, the percent width is indicated in the column header. Column padding (left and right) is set with the respective sliders.
- To exit the table editing mode, click the Table editing icon.

Summary values

It is sometimes useful to have a summary value at the bottom of a column. A summary value applies a calculation to the values of a column and shows the result. For example: the values of a column that is of a number type can be summed up, averaged, scanned for a minimum and/or maximum value; or the values of a column that is of a text datatype can be counted. Summary values are shown: (i) for groups, and (ii) for all records (at the end of the report).

To set up the summary values of a column, click the column's Edit icon, and select the kind of summary value (listed below). The available options depend on the datatype of the respective field (defined in the field's Type property).
**System Administration Database Structure**

**Count:** For all datatypes. Counts the number of values in the column.

**Sum:** For the number datatype. Sums the values in the column or group.

**Average:** For the number datatype. Averages the values in the column or group.

**Minimum:** For the number datatype. Scans the values in the column or group for the minimum value.

**Maximum:** For the number datatype. Scans the values in the column or group for the maximum value.

**Note:** Summary values can be defined for any and all columns. You can set up more than one summary value for a column—if multiple summary values are available, as is the case with numbers. For example, you could show the sum of all values, or the average.

**Styles in the report table**

To set styles for the table, click its **Styles** icon *(inside the red ellipse in the screenshot above)*. The Styles form for the table looks something like in the screenshot below.

![Styles form screenshot](image)

**Note the following points:**

- A label is the column header. Values are the values of the fields of records. You can set text properties for the label and the value separately, including the text placement.
- If you select the **Use global styles** check box at the top of the table, then the *global styles specified in the app's settings* will be used.
- The **Apply Globally** button applies the current styles to the global setting for all forms. All forms that do not have their own table styles will receive the current styles.
- To exit the styles editing mode, click the **Styles** icon.

**Note:** After you have finished making structure and style changes to the table, click **Save Form** and then **Save Changes**.

**Note:** If one or more charts have been created, you can choose to show only charts in the report (and hide the table). See the *Charts topic* for information about this.
3.2.5.3.4 Report Charts

You can generate charts in reports to graphically present data held in the records. The Y-Axis of the chart must be a number. This will be the case if, for the Y-Axis, either of the following is available and chosen: (i) a field having a number value, or (ii) a *summary value* of a grouping value (for example, the count of individual years in the data set: say, 3 instances of the year 2020).

**Note:** Charts can be created only on the basis of fields that have been included in the report form (that is, on the basis of the columns of the table).

The screenshots below show, at left, a report form in which two charts have been defined, and, at right, the actual report with the charts.
### System Administration Database Structure

#### Group by Categories
- Note: groups in reports are displayed in the first column
- Hide records, show only groups

#### Filter
- Active Contracts other than IP

#### Charts
- Amounts by Category
  - Hide the whole table, show only charts

#### Print layout
- Portrait

### Table: Contract Amounts

<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Type</th>
<th>Expiry</th>
<th>Description</th>
<th>Categ</th>
<th>$ Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>Sample</td>
<td>Sample</td>
<td>Sep 22, 2i</td>
<td>Sample</td>
<td>Sample</td>
<td>$1,235</td>
</tr>
<tr>
<td>Sample</td>
<td>Sample</td>
<td>Sample</td>
<td>Sep 22, 2i</td>
<td>Sample</td>
<td>Sample</td>
<td>$1,235</td>
</tr>
<tr>
<td>Sample</td>
<td>Sample</td>
<td>Sample</td>
<td>Sep 22, 2i</td>
<td>Sample</td>
<td>Sample</td>
<td>$1,235</td>
</tr>
</tbody>
</table>

**Sample group 1**

<table>
<thead>
<tr>
<th># Count</th>
<th>Minimum</th>
<th>Σ Sum</th>
</tr>
</thead>
</table>

#### Amounts by Category

- Categories 1
- Categories 2
- Categories 3

#### Contract Amounts

- ID 1
- ID 2
- ID 3

- $ Amount
Note: After a chart has been created, you will have the option to hide the table and show only the charts. Select the corresponding option to do so (see screenshot above left). (You should not delete the table because its columns provide the dataset from which the charts will be created.)

Creating charts
To create a chart, do the following:

1. In the report form, select the Charts option.
2. In the Edit Charts form that appears (screenshot below), select the chart type you want (bar chart, line chart, area chart, or pie chart) and give the chart a name. Select the Y-Axis field/s and X-Axis field. For all chart types, except pie charts, you can select multiple fields for the Y-Axis (the Y-Axes combo boxes are outlined in red below). For pie charts you can select only one field for the Y-Axis. Notice, in the screenshot below, that you are not allowed to add new fields for the Y-Axis of the pie chart. You can also specify that the percentage value of pie slices be shown. The fields that are available for Y-Axis selection are number fields and summary values of grouping criteria. For both X and Y axes, the fields available for selection are determined automatically on the basis of the datatypes of fields and grouping criteria, if any.
3. If you want to present more than one chart, add new charts by clicking **New Chart** and defining each chart as described in **Step 2** above.

4. If you want, you can replace any missing value in the datasets with a value of your choice.

5. Specify how many charts should be displayed in a single row of the report. For example, in the report shown in the screenshots above, we have specified that two charts are to be shown per row.

6. After you have finished defining your chart, click **OK** and then **Save Form**.
3.2.5.4 Export Forms

An export form *(screenshot below)* specifies what container-related data (container fields, linked containers, and child containers) to export to XML or CSV. For example, the screenshot below shows an export form of the Person container. The First, Last, Title, Phone, and Email fields of the Person container have been selected for export, together with the Person container's parent container, Department. After the form has been saved (with Save Form) and changes to all forms have been saved (with Save Changes), the export form is available during data entry of records of this container (in this case, the Person container). All users who have been authorized to access this form *(see screenshot)* will be able to export the data specified in this form.

![Export Form](image)

**XML format**

The exported XML file will have a root element named \texttt{<Root>}, and \texttt{<Root>} will have a child element that has the same name as the current container (in our example, this is the container named Person). This element will have the child elements that you selected as the fields to export. For example, the export form for a Person container (as shown in the screenshot above) might generate an XML file that looks like this:

```xml
<Root>
  <Person>
    <First>Sample</First>
    <Middle>Sample</Middle>
    <Last>Sample</Last>
    <Title>Sample</Title>
    <Phone>Sample</Phone>
    <Email>Sample</Email>
  </Person>
</Root>
```
CSV format

The first line of the CSV file will contain the headers of fields. Each subsequent line contains one record, with the values of fields being in the same sequence as the headers. The separator in records is a comma. Note that each record is a flat listing of the rows of the export form. Child records cannot be displayed because of the flat structure of CSV files. Compare with the XML structure above.

"Department","First","Last","Title","Phone","Email"
"Sales","Jim","Gridely","Executive","123456789","legal.01@redmaple.com"
...  
"Accounts","Jane","Locke","Manager","123789777","accounts.04@altova.com"

Note: Among the exported fields in the XML and CSV files, the Department parent of the current container (Person) is included. Even though Department is not a field of Person, it is available to be added as a field in the export form because of its parent link to Person. Higher-level ancestors are also available and can be added to the form. Although ancestor information is not direct field-level information of a container, it could be important, and, as a result, is made available as parent links.

Create an export form

Create a new export form as follows:

1. On the container’s Edit Forms page, click New Export Form.
2. Add the fields you want to export from this container, including any parent links, and click Continue. (Note that the term parent links includes ancestors at a higher level than the direct parent.)
3. Give the export form a suitable name.
4. Specify which roles can access this form. Only users who have been given at least one of the selected roles will be able to export data using this form.
5. Check the ISO option if you want data in fields of certain datatypes (date, time, number) to be exported in ISO format.
6. To add a field, click an Insert button to insert a row above the current row, or the Append button (last button) to add a last row to the table. To delete a field, click the respective row’s Delete button.
7. To change a field, click the field’s Edit icon, and make the changes you want.
8. To add child records (for example the Person children of Department), click the field's Edit icon, and (i) select the child containers to export, and (ii) for each child container, select which of that child's export forms to use. The child form will be created as a table within the row to which it was added. Note that child containers cannot be exported to CSV. This is because CSV has a flat structure and cannot reproduce multilevel hierarchies.

9. Click Save Form.

10. Click Save Changes (on the container's Edit Forms page).

Points to note

- An export form exports data related to the current container (for example, a Person container).
- XML export: The fields of the container that are selected for export will be exported as XML elements that are children of an element that has the name of the current container (so, for example, an element named Person). See the XML listing above.
- CSV export: The fields of the container that are selected for export will be exported as the columns of a CSV row, where each CSV row corresponds to a record from the database (for example, one Person record). See the CSV listing above.
- In export forms, it is not only the container's fields that can be added; parents and higher-level ancestors can also be added. As a result, an exported record can also contain the current container's parents and higher-level ancestors. See the listings above.
- While data from child containers can be exported to XML files, they cannot be exported to CSV files. This is because of the flat structure of CSV files.

3.2.5.5 Reminder Email Forms

A reminder email form (screenshot below) automatically generates the body of an email based on the design of the form. The form contains a table within which the design is structured. You can add columns and rows to the table, as well as tables within individual cells of tables. Content is provided by adding, within individual cells, text or one of the container's fields or loose links. Each field value can be set, via the Email link option, to be a hyperlink in the email. The link opens the record for viewing. You can also specify that individual rows are created only when certain conditions are met. Additionally, each table can be styled separately and access to the form can be restricted to selected roles.
After the form has been saved (with **Save Form**) and changes to all forms have been saved (with **Save Changes**), the reminder email form is available for use. All users who have been authorized (via the roles selected for the form) will get reminder emails sent using this form.

**Create a reminder email form**

Create a new reminder email form as follows:

1. On the container's **Edit Forms** page, click **New Reminder Email Form**.
2. Add the fields you want to appear in the reminder email, and click **Continue**. Parent links and loose links are also available for inclusion.
3. Give the reminder email form a suitable name.
4. Specify which roles can access this form. Only users who have at least one of the selected roles will get reminder emails sent using this form.
5. Click the **Table Editing** icon to modify the table structure and content. Click an **Insert** button to insert a row above the current row, or the **Append** button (last button) to add a last row to the table. To delete a row, click the respective row's **Delete** button.
6. Within each cell, you can add one of the following: a field, a calculation to obtain a dynamic result, static text, or a table. You can edit the styles of labels and values of individual cells separately.
7. Select the **Email link** option of at least one field or calculation. The email link will be used to open the record directly from the email. You can switch on email links on multiple fields/calculations. In this case, the values of these fields/calculations will all be links to the record.
8. For date fields, you can also (i) edit date formats, and (ii) select the Show Due option to display the number of days till a contract expires.

9. To change a field, click the field's Edit icon, and make the changes you want.

10. Click the Conditional Display for Row icon (the R icon that is displayed when table-editing icons are switched on) to set an XPath condition that must be met in order for the row to be displayed. The default setting is to always display the row. See note about XPath editing below.

11. Click Save Form.

12. Click Save Changes (on the container's Edit Forms page).

13. Remember to select, on the container's Edit Forms page, the Use option of the Email form you want to currently use.

**Note about editing XPath expressions:** The form for editing XPath expressions has three tabs: (i) Samples provides a random example of an XPath expression, such as: (a) the concatenation of three values (two values from other fields and a comma separator); or (b) an exists function to test whether a field contains some content; (ii) Fields lists the names of all the record's fields in alphabetical order so that they can be correctly entered in the XPath expression; (iii) Copy lists a selection of XPath expressions that contain various useful functions, which you can copy into your expression and modify.

See Altova's XPath 3.0 and 3.1 Training for information and examples of how to use XPath expressions and functions.

**Using reminder email forms**

You can define more than one email form for a container, and these will be displayed on the container's Edit Forms page. On this page, choose which Reminder Email form you want to use by checking its Use option. You can change your selection at any time. See the section Reminder Mails for a detailed description.

**3.2.5.6 Homepage Reminders Forms**

Reminders are displayed at the bottom of your app's homepage (highlighted green in the screenshot below). Homepage reminders forms enable you to design the display of these reminders on the homepage. You can design any number of such forms and select the one you want to use. If no custom form is designed or used, reminders will be displayed in a default RecordsManager form.
Create a homepage reminders form

Create a new homepage reminders form as follows:

1. On the container's Edit Forms page, click New Homepage Reminders Form.
2. Add the fields you want to appear in the form, and click Continue.
3. Give the homepage reminders form a suitable name.
4. Specify which roles can view and access the reminders displayed via this form on the Home Page (also see above). Only users who have at least one of the selected roles will be able to access this form.
5. Click the Table Editing icon to modify the table structure and content. Click an Insert button to insert a column before the current column, or the Append button (last button) to add a last column to the table. To delete a column, click the respective column's Delete button. You can also set the widths of individual columns by clicking the respective Change Width button.
6. You can edit a column by clicking its Edit button. The following edits are possible: (i) change the field associated with the column; (ii) edit and/or hide the label of the column (its header); (iii) whether to allow sorting of the column's entries.
7. Click Save Form.
8. Click Save Changes (on the container's Edit Forms page).
9. Remember to select, on the container's Edit Forms page, the Use option of the Homepage reminders form you want to currently use.

Using reminder email forms

You can define more than one homepage reminders form for a container, and these will be displayed on the container's Edit Forms page. On this page, choose which homepage reminders form you want to use by checking its Use option. You can change your selection at any time.

3.2.6 Container Operations

When you expand a container in the Database Structure tab of the Configuration Page (by clicking its name), a number of operations besides configuring the container's fields, filters, and forms becomes available (see screenshot below). These operations are available via the Rename and More buttons, and they are described in the topics of this section: Rename and More Operations.

3.2.6.1 Rename

To rename a container, do the following:

1. In the Database Structure tab of the Configuration Page, expand the container by clicking its name (see screenshot below).
2. Click Rename.
3. In the form that appears, enter the new name. Remember to check the plural form for correctness. The plural form appears in text strings of the interface and in reports.
4. Click Save Changes, to finish.

3.2.6.2 More Operations

To access the container operations described in this topic, do the following: In the Database Structure tab of the Configuration Page, expand the container by clicking its name (see screenshot below).

Then click More.
Add (parent/child container to current container)
Click More (see first screenshot of this topic). Depending on the current container, you can add a parent container (with the Extend Hierarchy button) and/or a child container (with the Add Child Data Container button); see screenshot below.

The procedure to create the parent or child container is the same as that for any new container.

Duplicate (current container)
Click More (see first screenshot of this topic). The Duplicate operation creates a duplicate of the current container with all fields, filters, and forms. The duplicate is created as a sibling of the current container. However, record data will not be copied.
Give the duplicate container a new name and click **Continue**. You can subsequently edit the newly created container in the usual way.

**Remove (current container)**

Click **More (see first screenshot of this topic)**. The **Remove** operation removes the current container and all its records (see screenshot below). If the container contains child containers, these will not be removed, but will be connected to the parent of the current container.

**Loose Link**

Click **More (see first screenshot of this topic)**. The **Loose Link** operation is available for all containers except top-level containers. In these cases, the **Loose Link** operation enables the link to the parent container to be
converted to a loose link (see screenshot below). If the relationship is a loose link, records of this container will be created independently of the former parent, and will be linked to the former parent via forms when required.

For more information about hierarchies and links between containers, see the topic Database Structure.

Parent/Child

Click More (see first screenshot of this topic). The Parent/Child operation is available for top-level containers only (see screenshot below). A top-level container can be converted to a child container of another top-level container and moved to the corresponding position in the hierarchy.
For more information about hierarchies and links between containers, see the topic Database Structure.

**Change Repository**

Click More (see first screenshot of this topic). The **Change Repository** operation is available for top-level containers only (see screenshot below). A top-level container and its descendant containers can be organized into another existing repository. It will be a sibling of the top-level container/s of the repository to which it is moved.
For more information about hierarchies and links between containers, see the topic [Database Structure](#).

**Import Records**

Click [More](#) ([see first screenshot of this topic](#)). The **Import Data** operation enables you to import data from an XML file that has a structure corresponding to that of the current container's hierarchy. Two types of import are possible:

- Import the records of a top-level container, including records of its descendant containers. Click **Import <Container> and child records** to do this.
- Update selected fields of the records of any container. The records to update are selected on the basis of the field's you select as the key field's. Click **Update <Container> records with imported data** to do this.
Import records of top-level container

After you create a container, you can import its records and the records of descendant containers from an XML file. The XML file must have a structure that matches the structure of the container and its descendants. After you click Import <Container> and child records, generate an XML Schema that defines the structure of the XML file by clicking Save XML Schema. The schema file will be downloaded to the Downloads folder of your client device.

Note the following points about the import:

- If a field has been defined as a required field of a container, then the element corresponding to this field must be present in the XML file. Otherwise, the import will fail.
- If a field has been defined as a optional field of the container, then the element corresponding to it is optional in the XML file as well.
- Child elements are optional. This means that you can import a top-level container only, or the top-level container plus descendant containers down to any desired depth.
- Date, time, and number fields must be in ISO format (respectively: 2020-12-31, 18:25:26, and 1234.56).
- File fields are imported from an element named <Files FileName="" />, and element content must be base64-encoded. The FileName attribute is optional.
- Image fields are imported from an element named <Images FileName="" />, and element content must be base64-encoded. The FileName attribute is optional.
- Reminder fields cannot be imported.
- Link-to fields are imported from an element named <Link-to />. It must contain the identity value of the referenced record. For example, if the record of a certain contract links to a department's Name field, then the XML file could have: <Link-to>Accounts</Link-to> in order to link this contract to the Accounts department.
Update records of a container with imported data
The records of a container can be updated with data from an XML file. The XML file must have a root element named Root that has child elements corresponding to the records of the container. For example, a container named Person would have multiple Person records. The data in these records can be updated with data in an XML file that has a structure something like this. The child elements of the Person element in the XML file must correspond to the fields of the Person container.

```xml
<Root>
  <Person>
    <Department>Sales</Department>
    <First>Jim</First>
    <Last>Gridely</Last>
    <Title>Executive</Title>
    <Phone>123456789</Phone>
    <Email>legal.01@redmaple.com</Email>
  </Person>
  ...
  <Person>
    <Department>Accounts</Department>
    <First>Jane</First>
    <Last>Locke</Last>
    <Title>Manager</Title>
    <Phone>123789777</Phone>
    <Email>accounts.04@altova.com</Email>
  </Person>
</Root>
```

The data from the XML file that will be used for the update is selected in two steps:

1. Select the field/s of the record that will be used to uniquely identify the record in the XML file. You can choose any number of fields (from one field to all fields).
2. Select the fields of the record that you want to update. The field/s that were selected as the identifier field/s will not be changed. The data in fields that have not been selected for update can be either (i) kept unchanged, or (ii) removed.

Update Records
Click More (see first screenshot of this topic). The Update Records option (screenshot below left) enables you to update a field of all or selected records. Click Update <Container> Records to open the Update Records Settings form (screenshot below right).
The Update settings are as follows:

- Select what records to update: either all the records of the container, or a subset of records selected by one of the container's filters.
- Select the field to be updated.
- Enter the new value to write into the selected field of the records to be updated. The value is calculated via an XPath expression. In the screenshot above, we are updating the Email field of each record with...
an email address that will have the pattern: FirstName.LastName@altova.com., where FirstName and LastName are taken from the First and Last fields of the respective records.

You can click Preview to confirm that the XPath expression returns what you expect for each record. When you are sure that you want to implement the change, click Update Now.

### 3.2.7 Home Page Form

On the Database Structure page (screenshot below), click the Home Page button to go to the Home Page Form, where you can design the Home Page of your app.
The Home Page Form

The page that you design in the Home Page Form will be the page that users of the app will see when they start the app (its Home Page). This page must provide a well-designed entry point for viewing, editing, and otherwise processing records. Typically it would provide access to the app's containers. Due reminders will be added automatically to the Home Page below the table that makes up the Home Page Form (compare the design form and the final form in the two screenshots below). So you do not have to include a template for due reminders in the Home Page Form.

The Home Page Form is essentially one table, which we call the Home Page Form Table. You can add/delete rows or columns to this table. Inside each table cell, you can add a container, text, an image, or another table. It is in this way that the design of the Home Page is built up inside the Home Page Form Table. In the screenshot below left, the table contains two rows, each of which contains a table. All three tables are indicated by table icons, which are located at the top right of each table.
Home page is the first page which users get. It shows them all data containers which they may access along with the information how many records they contain.

- **Use auto-generated Home Page**
- **Manual design**

**Contract Database**
- Contracts
- sample count

**Company Database**
- Company Groups
  - sample count
- Departments
  - sample count
- Companies
  - sample count
- Persons
  - sample count
You can choose to auto-generate the Home Page by selecting the *Auto-generate* radio button near the top of the form. In that case, the Home Page is automatically generated on the basis of the database structure. To design a custom page, select the *Manual design* radio button.

To manually design the Home Page, do the following:

1. Click the *Table-editing entry helpers* icon at top right of the table you want to edit (*see screenshot below*). This causes the table editing icons to appear. In the screenshot below, the table-editing icons of the table inside the first row have been switched on. This is done by clicking the table icon of that table. To switch off the table-editing icons, click the table icon again. Callouts in the screenshot below indicate the functions of the table-editing icons.
2. Structure the table as you want. You can insert and append columns and rows, as well as delete individual columns and rows. You can also insert sub-tables inside a cell by clicking the cell’s *Edit content* icon, then going to the Table tab and defining the table to insert.

3. Set styles for each table as you want. Note that images can also be added to cells.

4. When you have finished, click *Save*. 
3.3 Manage Users

The Manage Users tab of the Configuration Page (screenshot below) is the entry point for defining users, roles, and User Groups.

To access these settings, click Edit Users, Roles, Groups near the bottom of the Manage Users page.

This section is organized into the following topics:

- Users, which describes creation of users and how to give them roles
- Roles, which describes how roles are created and assigned
- User Groups, which describes how to specify members of User Groups (for reminder mails)
3.3.1 Users

A user of the system is defined with the following properties:

- **Login**: A login name, which is used for login and to identify a user within the system.
- **Name**: The user name, which will appear in the system; for example, in lists that show the access rights of a form
- **Email**: The email address at which a user may be contacted and receive information; for example, for reminder emails about action to be taken.
- **Password**: A password is required for a user to log in to the system. A password is assigned to a user by a system administrator when they create the user. The user may change the password on first login. An administrator can change a user's password at any later time (and can let the user again change the password on first logging in with the changed password).
- **Disable user**: A switch to deactivate/activate the user. Deactivated users will be shown in the list of Deactivated Users (see second screenshot of this topic). To activate a user again, deselect this option.
A user can be given one or more roles and added to a user group. You can edit a user's properties at any time.

User roles

The roles that are available in RecordsManager fall into three categories:

- **Admin**: Users with this role can: (i) modify the RecordsManager system's users and roles; (ii) configure the RecordsManager database and its components; (iii) modify settings; (iv) configure reminder mails; (v) enter and edit data in the system's database. In short, this role provides a user with all available RecordsManager functionality.

- **All Users**: Users with this role can only enter and edit data in the RecordsManager database. They do not have access to admin tasks. This role is given to all users by default.

- **Custom Roles**: RecordsManager administrators can define custom roles that can be assigned to users. These roles provide additional access or can restrict access to different containers and different functions within containers. A user can be associated with one or more roles, and would then be authorized to carry out the functions corresponding to those roles.

Log in as an admin via a server variable

You can skip the RecordsManager login step to log in directly as a RecordsManager administrator who has the username/password credentials of root/root.

To do this, you must add/modify the MobileTogether Server configuration file named mobiletogetherserver.cfg to include the following setting:

```
[ServerVariables]
records_manager_server_authentication = 1
```

In this case, on starting RecordsManager, you will be logged in automatically as root/root.

How to create users and edit their properties is described below. Roles are described in the next topic.

The Users tab

The Users tab (accessed via the Manage Users tab of the Configuration Page) shows a list of active users and deactivated users (screenshot below). Note that users cannot be deleted; they can only be deactivated.
To create a new user, click **New User**. To view or edit user information (of active users or deactivated users), click that user's name.

After creating a new user or editing an existing user, click **Save All** to save the modifications (or click **Cancel** to discard the modifications and return to the Configuration Page).

---

**Creating, editing user properties is enabled only for on-site installations, not for cloud users**

If you are configuring RecordsManager on the Altova Cloud Portal, then you must create users for the Altova Cloud Portal there. In the Altova Cloud Portal, you can define their properties as well as give them access to your RecordsManager app in the cloud.

Although you are not allowed to edit cloud user properties in the **Edit User** form, you can modify their roles.

---

Create a new user

New users can be created only for RecordsManager installations on your own network.
In the *Users* tab (for on-site installations), click **New User**. In the *Edit User* form that appears, enter the user's properties (login, name, email, and password), and give it one or more roles.

Note the following points:

- The property fields are mandatory, and their names stay red till the field has a valid entry.
- After you have defined a new user, you can send the user their login details, including the password for logging in. If you want the user to change their password on first login, check this option in the form.
- You can specify what roles the user has by checking the relevant roles from the list of available roles. For information about creating and managing roles in the *Roles* tab, see the next topic.
- Click **Access Overview** to see a list of all the forms and records to which the user has access and the type of access that is allowed in each case. The access is determined automatically according to the roles assigned to the user.
- After you have entered user properties and assigned roles for the user, click **OK** to finish. This takes you back to the *Users* tab. Go to the bottom of the tab, and click **Save All** to save the user information to the database.

**Edit user information, and deactivate/activate users**

To edit the properties of a user (including deactivating/activating that user), click the user name in the *Users* tab. This brings up the *Edit User* form. Make the changes you want. To deactivate/activate the user, check/uncheck the *Disable user* option. Note that you can change a user's password at any time (and, if wanted, let the user change the password on first login).

When you have completed your changes, click **OK**. On returning to the *Users* tab, click **Save All** to save the changes to the database.

**Note:** For RecordsManager apps on the cloud, user properties must be defined and modified in the Altova Cloud Portal.

### 3.3.2 Roles

A role defines a set of access and editing rights that can be assigned to a user. Typically, a role will have the access rights associated with a particular function. For example, a finance role would be granted access to all finance-related forms and data. A user who is given such a finance role would have all the access rights granted to the role. A user can be assigned any number of roles, and would have the access rights of all the assigned roles.

Working with the roles mechanism would involve the following:

- Create the roles you want
- Assign users to each role. This can be done: (i) via each role's *Users* tab *see below*, or (ii) via a user's *Edit User* tab.
- Assign access rights to each role for forms and data. This can be done (i) via each role's *Forms* and *Data Access* tabs *see below*, or (ii) via the respective *form configurations*.

Two roles are predefined:
This topic describes how to create and edit a role, how to assign roles to users, and how to define the access rights of a role.

The Roles tab

The Roles tab (accessed via the Manage Users tab of the Configuration Page) shows a list of the current roles (screenshot below).

<table>
<thead>
<tr>
<th>Admin</th>
<th>Admin has access to the entire system. It can both configure the system as well as enter data. This role cannot be deleted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Users</td>
<td>All Users is assigned to all users automatically. You can edit the role's access rights. A user would receive additional rights if the user were given an additional role and this role had more rights than the All Users role. This role cannot be deleted.</td>
</tr>
</tbody>
</table>

To create a new role, click New Role. To view or edit an existing role, click that role. To delete a role, click its Bin icon. Note that the predefined Admin and All Users roles cannot be deleted (see screenshot).

After creating a new role or editing an existing role, click Save All to save the modifications (or Cancel to discard the modifications and return to the Configuration Page).
Create and edit a role, and assign a role to users
In the Roles tab (screenshot above), click **New Role**. In the form that appears (screenshot below), enter a name for the new role, assign the role to any of the current users (see screenshot), define the role's access rights, and then click **OK** to finish. Access rights are defined in the Forms tab and Data Access tab.

Note the following points:

- The same form is displayed if you click an existing role in the Roles tab. This enables you to edit the role (its name, users, forms, and data access) at any later time.
- To assign a role to any of the current users, check the respective user/s. You can use the Clear All and Select All buttons for faster selection of users. Note that you can also assign roles to individual users via each user's properties.
- After you have edited a role's properties, click **OK** to finish. This takes you back to the Roles tab. Go to the bottom of the tab, and click Save All to save the user information to the database.

Define the access rights of a role
The access rights to forms and data of a role are defined in the role's Forms tab (screenshot below left) and Data Access tab (screenshot below right).
In each of these tabs, forms and data containers, respectively are ordered by the containers of the app. In the case of forms, you can select the items to access. In the case of data access to containers, data access for the role is granted via filters, so you must previously have defined filters on the containers.

Note that a role's access to a form can also be specified in the properties of individual forms; changes that are made there and saved in the form will be reflected in the Forms tab (screenshot below left).
3.3.3 User Groups

A user group defines a group of users. Any number of User Groups can be defined. Reminder emails concerning a particular contract can then be sent to all members of one or more User Groups.

This topic describes how to create User Groups. For information about how to send reminder email notifications, see the section "Reminder Mails".

The User Groups tab

The User Groups tab (accessed via the Manage Users tab of the Configuration Page) shows a list of the current User Groups (screenshot below).

To create a new User Group, click New User Group. To view or edit an existing User Group (see screenshot below), click that User Group. To delete a user group, click its Bin icon. After creating a new User Group or editing an existing User Group, click Save All to save the modifications (or click Cancel to discard the modifications and return to the Configuration Page).
User Group: Accounts

Users:
- morpheus (Morpheus)
- neo (Neo)
- root (System Administrator)
- trinity (Trinity)

Buttons: Cancel, OK
3.4 Settings

The **Settings** tab of the Configuration Page *(screenshot below)* is the entry point for defining various system settings. Click the relevant button to access the respective settings.

The available settings are organized into the following groups:

- [Color Theme](#)
- [Global Styles](#)
- [Formats](#)
- [Image Settings](#)
- [Name and Logo](#)
- [Other Settings](#)
3.4.1 Color Theme

In the Settings tab of the Configuration Page, click Color Theme. In the form that appears (see screenshots in the Theme Samples section below), select the theme you want to set as the default color theme of RecordsManager. A preview of the selected theme will be shown in the Preview pane, thus enabling you to browse for a theme that you like. Individual users can override the default theme with their own selection at any time.

Theme samples
The screenshots below show the available color themes.

Camouflage

![Camouflage Theme Screenshot]

Select overall appearance of the whole app

Color theme  Camouflage

Preview

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

[Select over app]  [Camouflage Theme]  [Save Settings]  [Cancel]
Clouds

Select overall appearance of the whole app

Color theme

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings

Desert

Select overall appearance of the whole app

Color theme

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings
**Forest**

Select overall appearance of the whole app

- **Color theme**: Forest

**Preview**

- **Star**: Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

- **Cancel**
- **Save Settings**

**Full Moon**

Select overall appearance of the whole app

- **Color theme**: Full Moon

**Preview**

- **Star**: Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

- **Cancel**
- **Save Settings**
**Halloween**

Select overall appearance of the whole app

Color theme: ![Halloween]

Preview

**Star**

- **Sun**

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

[Cancel]  [Save Settings]

**Ocean**

Select overall appearance of the whole app

Color theme: ![Ocean]

Preview

**Star**

- **Sun**

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

[Cancel]  [Save Settings]
Polar Night

Global Styles

Global Styles (*screenshot below*) provide a base set of styles for data entry forms. This set of styles can be modified locally on individual forms, either for the whole form or for individual tables within the form.
The following global styles can be set for **Entry Forms**, **List Forms**, and **Report Forms**. The styles for labels and values apply to all three types of forms.

- **Label**: Properties apply to the text formatting and position of label text within a table cell of the form. After editing a style, you can check the effect in the preview at the bottom of the form.
- **Values**: Properties apply to the text values of fields within a table cell of the form. Changes are reflected in the preview at the bottom of the form.

The preview changes as you edit. It shows the styles of the currently selected tab (entry form or list form).

The **Flatten Entry Forms** option, if selected, will simplify multi-column entry forms on narrow devices to display them as a single column.

You can go back to the default settings by clicking **Reset to Default**.

Click **Save Settings** to finalize your changes.
3.4.3 Formats

Formats Settings *(screenshot below)* enable you to set the default or available formats of specific field types to use in *forms*.

Formats can be set for:

- **Date:** Set the default date format for all forms. You can specify exceptions on individual forms. You can also specify what editing buttons to include for date fields; this global default selection can be overridden on individual date fields.
- **Time:** Set the default format for time fields. This format can be overridden in individual forms.
- **Number:** Select from among various predefined formats for number fields. You can also set a format when *creating a number field*.

Click *Save Settings* when done.

3.4.4 Image Settings

Image Settings *(screenshot below)* enable you to organize your images and to set the properties of images that you use in *forms*.
The available image settings are:

- **Image Library**: Click **Edit Image Library** to go to the library of images that are used for designing forms. Here you can add new images to the library and edit design-related properties of the image, such as image size and alignment. The properties you set for an image will apply to all usages of that image. Each image is given a name, by which it will be referenced in the design; so you should use good descriptive names, for example: **Company Logo**.

- **Image Size**: Sets the maximum size of images when these are imported into the library. The size limit applies to new imports only.

- **Change Tracking**: This setting applies not only to images but to files as well. If the tracking of changes is enabled, then the effect is as follows. For images, those images used in the past will be tracked and will be available for use. For files, not only will past files be available, but previous states of edited files will also be available.

Click **Save Settings** when done.

### 3.4.5 Name and Logo

Name and Logo Settings *(screenshot below)* specify the application name and logo to use, as well as the company logo.

**Application Name**: The default application name is **RecordsManager**. If you want to give your app another name, then enter it here.

**Application Logo**: The application logo appears on the Login Page. The image you want to use as the application logo **must have been added to the Image Library**, from where it will now be available for selection.

**Company Logo**: The company logo will appear on all pages of your app. The image you want to use as your company logo **must have been added to the Image Library**, from where it will now be available for selection.

Click **Save Settings** when done.
3.4.6 Other Settings

The Other Settings tab (screenshot below) provides access to a number of miscellaneous settings, which are described below.

- **Search**: Select whether searches are performed on the fields currently in memory (of the client device) or on all fields in the database. Memory searches are faster but are limited to the fields currently loaded in memory. Database searches are more extensive but slower (the slowness is because the look-up is done on the database; the search itself is limited to the fields being used currently in forms).
- **Data Entry**: If a filter restricts a user's access to data the user has entered, then this setting determines whether to prevent the saving of this data or to allow saving after warning the user.
- **Browser Width**: Sets the maximum width of forms when these are shown in browsers. This serves to stop the width expanding to the entire width of very wide browser windows.
- **Printing**: Enables you to set the size of text in the printed reports of the solution. Screen text size is not affected.
- **Reminder Emails**: Specifies (i) the URL of the RecordsManager app as a link in reminder emails, and (ii) the email address that will appear in the email's Sender field.

To change one of these settings, click its tab (see screenshot above).

Click **Save Settings** for your changes to take effect. The button is enabled after any of the settings above is edited. A single save applies to edits across all settings.
3.5 Reminder Emails

Reminder emails are an important feature of RecordsManager. They can be sent automatically to the concerned people when certain database-related events occur, such as an upcoming renewal of a subscription or the cancellation of a contract.

The mechanism for setting up reminder emails is as follows:

1. In the User Groups form of user settings, set up user groups. Members of a user group will be the recipients of reminder mails sent to the group. See the topic User Groups for information about this.
2. When defining the fields of containers where reminders are required, set up one or more Reminder fields. A Reminder field (i) enables reminders to be created for these containers, and (ii) specifies the container's reminder settings. See the next topic, Configuration (Admin), for information about configuring Reminder fields.
3. An administrator can specify that one or more reminders are automatically set for every new record created in that container. A user can subsequently modify the automatically added reminders. See the topic Reminder Settings (Admin, User) for information about how to set reminders.
4. Within a container, create a reminder email form for the design of the reminder mails that will be sent. If you create more than one email form, go to the Edit Forms page to choose which one you want to use at any given time.
5. In a reminder's settings, set the recipients (user groups) of that specific reminder.
6. Set the app's URL and the email sender's email address. This will enable the recipient of the reminder email to recognize the sender and directly go to the app if a link to the app is included in the reminder email.
7. During data entry, a user can modify reminder settings and manage reminders. See User Actions (User).

3.5.1 Configuration (Admin)

To set up reminder emails, the administrator must configure the database and system as follows:

1. In the User Groups tab of Manage Users, set up user groups. Members of a user group will be the recipients of reminder mails sent to the group. See the topic User Groups for information about this.
2. In the containers where reminder mails are required, set up one or more reminder fields. Two important properties of reminder fields are the Categories and Auto-fill properties. See Reminder fields below.
3. Within a container, create a reminder email form for the design of the reminder mails that will be sent. If you create more than one email form, go to the Edit Forms page to choose which one to use at any given time. You can change your selection at any time.
4. In a reminder's settings, set the recipients of that specific reminder. To access a reminder's settings, click the reminder's Edit button (see Reminder fields below).
5. Set the app's URL and the email sender's email address.

Reminder fields

When defining the fields of a container, you can add a reminder field to enable reminders and reminder emails. If no reminder field has been created for a container, then it is not possible to set up reminders for that container.
Note the following points about reminder fields:

- To add a reminder field, add a new field and set its type to Reminders. The Reminder field's properties form will look something like in the screenshot below.

```
Edit Contract field

Name: Contract Reminders
Type: reminders
Categories: "Renewal", "Cancellation", "Verification"
Editing: Not required or read-only
Hint
Auto-fill

Cancellation
on Dec 31, 2020

Renewal
6 weeks before Expiry Date
only when Has Expiry Date

Validate: no rules defined yet
```

- A reminder field must have at least one Categories value (see screenshot below). The category specifies what kind of reminder this field will be. For example, a reminder could be for a contract verification, contract renewal, or contract cancellation. Reminders can then be sent for each of these events separately (contract verification, renewal, or cancellation). To add a category, insert or append a new row and enter a name for the category. Alternatively, import categories from a CSV or XML file.
An administrator can specify that one or more reminders be added automatically to every new record created in that container. To do this, in the Auto-fill property of the reminder field (see first screenshot above), click New Reminder for each reminder. The settings of a reminder are specified in the Reminder settings form (which is described in the next topic). The user can, during data entry, modify or delete any of the automatically added reminders.

After you have completed defining the reminder field, click OK and then Save Changes to save the reminder field to the database.

Reminder fields can also be used as the content of columns in the forms of a container, where they will display a record's reminders (together with a summary value that is the count of the record's reminders).

Set the app URL and sender's email address
Go to Settings | Other Settings | Reminder Emails to set:

- The URL of the RecordsManager app so that the email recipient can click the URL and go to the app
- The email address of the sender of the reminder email.

Debugging reminder email errors
If reminder emails are not being correctly sent, check the following:

- Check whether emails have been set to be sent to the intended user group/s. If yes, then check (with your system administrator) that users belong to the correct user groups. Note that user groups are selected in directly in the reminder's settings. If there is a problem, contact your system administrator.
- Check that the reminder settings are correct.
- Check that the reminder is a due reminder; if the reminder has any other status, no email will be sent.
3.5.2 Reminder Settings (Admin, User)

Reminder settings can be set in the following situations:

- When an administrator configures a reminder field, they can define, via the Auto-fill property, that one or more reminders are automatically added to every new record. When an automatic reminder is added, the administrator can specify its settings (see screenshot below).
- When a user enters the data of a record, they can add a new reminder for that record or modify an existing reminder. The reminder's settings are specified in its Reminder Settings form (screenshot below).

In both cases, the reminder is defined via its settings (see screenshot below). The last setting shown in the screenshot below (highlighted in a green frame) appears only in the cases where an administrator is configuring a reminder field. It is not available to users when they are entering records.
Define the reminder with the following settings:

- **Category**: Select the category of the reminder. Reminder categories were defined when the reminder field was configured.
- **Description**: Provide a description to help users to understand how this reminder will apply.
- **Recurring**: Select this option to define the reminder as a recurring reminder. A recurrence is defined in terms of a period that follows a selected date. For example, a reminder can recur monthly after the selected date. *Also see Status of Reminders below.*
- **Reminder start time**: There are two alternatives: (i) Select a specific date; or (ii) Calculate a date relative to one of the record's date fields (such as an expiry date). In the screenshot above, for example, the start time has been set to one week before the date in the *Expiry Date* field.
- **Notification frequency**: Send reminder email notifications every day till the reminder is processed or
snoozed by the user, or send reminder email notifications once only. Also see Status of Reminders below.

- **Notification recipients**: Specify the user groups to which notifications about this reminder will be sent. If no group is specified, then no recipient is selected.
- **Add to new records**: This setting is available only when an administrator is configuring a reminder field. You can choose whether to add the current reminder to all new records or only to records to which the selected filter applies. For example, in the case of the screenshot above, the reminder will be added only for those records where an *Expiry Date* field value exists (which is what is defined in the *Has Expiry Date* filter). Note that if this filter has user groups defined for it, then notifications will be sent to users of these user groups.

**Status of reminders**

The status of reminders is defined in the following terms (also see screenshot below, which assumes a current date of 16 September 2020):

- **Start date**: The date from which the reminder becomes active. If the start date is in the past, then the reminder stays active if: (i) it is not processed, or (ii) it recurs. If the start date is in the future, then the reminder is an active reminder.
- A *processed reminder* is one for which the reminded event has been carried out and because of which the reminder has been stopped.
- **Action date**: (i) For one-time reminders, the same as the start date; (ii) For recurring reminders, the next recurring date after a reminder is processed. An action date can lie in the past or in the future.
- **Active reminder**: (i) A one-time reminder that has a start date in the past and which has not been processed; (ii) A recurring reminder that has a start date in the past (and may have been processed); (iii) (i) A reminder (one-time or recurring) that has a start date in the future. (Note: If the action date of an active reminder is in the past and the reminder has not been processed, then the reminder is a due reminder.)
- **Due reminder**: An active reminder with a start date in the past. Due reminders are a subset of active reminders. Once a reminder becomes due, the possibility to snooze the reminder becomes available.
- A *snoozed reminder* applies to due reminders only. Snoozing a reminder cancels the current action date and selects an action date in the future. The snooze period is specified from the current date.
- **Inactive reminder**: A non-recurring reminder which has a start date in the past and which has been processed.
### Reminders

<table>
<thead>
<tr>
<th>CONTRACT REMINDERS</th>
<th>NEW REMINDER...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancellation on Dec 31, 2020</td>
<td>Active: one-time, start date in future</td>
</tr>
<tr>
<td>Cancellation on Sep 01, 2020</td>
<td>Due: one-time, start date in past, not yet processed</td>
</tr>
<tr>
<td>Renewal recurring weekly starting on Aug 01, 2020</td>
<td>Due: recurring, start date in past, not yet processed</td>
</tr>
<tr>
<td>Renewal recurring weekly starting on Sep 26, 2020 (next on Sep 26, 2020)</td>
<td>Active: recurring, start date in future</td>
</tr>
<tr>
<td>Verification on Jun 20, 2020 (snooze until Dec 24, 2020)</td>
<td>Active: one-time, start date in past, was due but now snoozed</td>
</tr>
<tr>
<td>Verification recurring yearly starting on Jul 10, 2020 (next on Jul 10, 2021)</td>
<td>Active: recurring, start date in past, processed</td>
</tr>
<tr>
<td>Verification on Jul 27, 2020</td>
<td>Inactive: one-time, start date in past, processed</td>
</tr>
</tbody>
</table>

*The example uses a current date of 16 September 2020.*

**Color codes indicate reminder status**

During data entry, the text color of reminders indicate their status to the user:

- **Blue**: Active reminders that are not due reminders
- **Red**: Due reminders
- **Gray**: Inactive reminders

**Debugging reminder email errors**

If reminder emails are not being correctly sent, check the following:

- Check whether emails have been set to be sent to the intended user group/s. If yes, then check (with your system administrator) that users belong to the correct user groups. Note that user groups are selected in directly in the reminder's settings. If there is a problem, contact your system administrator.
- Check that the reminder settings are correct.
- Check that the reminder is a due reminder; if the reminder has any other status, no email will be sent.
3.5.3 User Actions (User)

Reminders and reminder emails are configured by system administrators. However, users have the final decision about what reminders are sent, when, and to whom.

A user can access a reminder's settings in the following ways:

- By clicking a record to go to that record's data entry form/s. A reminder's settings is best located in one or more of a container's entry forms.
- By clicking a reminder on the Home Page, which would typically take you to an entry form containing the reminder's settings.

The screenshot below shows the reminder settings of a contract record's data entry form.

A user can do the following:

- Add a new reminder or edit an existing reminder. Clicking either of these commands takes the user to the Reminder Settings form, where the reminder can be configured (see below).
- The user can snooze an existing due reminder. See Status of Reminders below.
- The user can stop a reminder (which is equivalent to marking the reminder as processed). See Status of Reminders below.
- The user can delete a reminder.

Icons for reminder management

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>edit</td>
<td>Edit Reminder</td>
</tr>
<tr>
<td>alarm</td>
<td>Snooze Reminder</td>
</tr>
<tr>
<td>stop</td>
<td>Stop Reminder</td>
</tr>
<tr>
<td>trash</td>
<td>Delete Reminder</td>
</tr>
</tbody>
</table>

Reminder settings

The Reminder Settings form is shown below.
Define the reminder with the following settings:

- **Category:** Select the category of the reminder. Reminder categories were defined when the reminder field was configured.
- **Description:** Provide a description to help users to understand how this reminder will apply.
- **Recurring:** Select this option to define the reminder as a recurring reminder. A recurrence is defined in terms of a period that follows a selected date. For example, a reminder can recur monthly after the selected date. Also see Status of Reminders below.
- **Reminder start time:** There are two alternatives: (i) Select a specific date; or (ii) Calculate a date relative to one of the record's date fields (such as an expiry date). In the screenshot above, for example, the start time has been set to one week before the date in the Expiry Date field.
- **Notification frequency:** Send reminder email notifications every day till the reminder is processed or snoozed by the user, or send reminder email notifications once only. Also see Status of Reminders below.
- **Notification recipients:** Specify the user groups to which notifications about this reminder will be sent. If no group is specified, then no recipient is selected.
- **Add to new records:** This setting is available only when an administrator is configuring a reminder field.
You can choose whether to add the current reminder to all new records or only to records to which the selected filter applies. For example, in the case of the screenshot above, the reminder will be added only for those records where an Expiry Date field value exists (which is what is defined in the Has Expiry Date filter). Note that if this filter has user groups defined for it, then notifications will be sent to users of these user groups.

Status of reminders
The status of reminders is defined in the following terms (also see screenshot below, which assumes a current date of 16 September 2020):

- **Start date**: The date from which the reminder becomes active. If the start date is in the past, then the reminder stays active if: (i) it is not processed, or (ii) it recurs. If the start date is in the future, then the reminder is an active reminder.
- A **processed reminder** is one for which the reminded event has been carried out and because of which the reminder has been stopped.
- **Action date**: (i) For one-time reminders, the same as the start date; (ii) For recurring reminders, the next recurring date after a reminder is processed. An action date can lie in the past or in the future.
- **Active reminder**: (i) A one-time reminder that has a start date in the past and which has not been processed; (ii) A recurring reminder that has a start date in the past (and may have been processed); (iii) A reminder (one-time or recurring) that has a start date in the future. (Note: If the action date of an active reminder is in the past and the reminder has not been processed, then the reminder is a due reminder.)
- **Due reminder**: An active reminder with a start date in the past. Due reminders are a subset of active reminders. Once a reminder becomes due, the possibility to snooze the reminder becomes available.
- A **snoozed reminder** applies to due reminders only. Snoozing a reminder cancels the current action date and selects an action date in the future. The snooze period is specified from the current date.
- **Inactive reminder**: A non-recurring reminder which has a start date in the past and which has been processed.
The example uses a current date of 16 September 2020.

**Color codes indicate reminder status**
During data entry, the text color of reminders indicate their status to the user:

- **Blue**: Active reminders that are not due reminders
- **Red**: Due reminders
- **Gray**: Inactive reminders

**Debugging reminder email errors**
If reminder emails are not being correctly sent, check the following:

- Check whether [emails have been set to be sent to the intended user group/s](#). If yes, then check (with your system administrator) that users belong to the correct user groups. Note that user groups are selected in directly in the [reminder's settings](#). If there is a problem, contact your system administrator.
- Check that the [reminder settings](#) are correct.
- Check that the reminder is a [due reminder](#); if the reminder has any other status, no email will be sent

<table>
<thead>
<tr>
<th>Reminder</th>
<th>Status Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancellation on Dec 31, 2020</td>
<td>Active: one-time, start date in future</td>
</tr>
<tr>
<td>Cancellation on Sep 01, 2020</td>
<td>Due: one-time, start date in past, not yet processed</td>
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<td>Verification on Jul 27, 2020</td>
<td>Inactive: one-time, start date in past, processed</td>
</tr>
</tbody>
</table>
3.6 Database Restore Checkpoints

Database Restore Checkpoints enable you to restore your database to the state it was in at the selected checkpoint. The entire database will be restored: the database structure, the users, the settings, and all records. To use Database Restore Checkpoints, you will first need to create checkpoints at suitable intervals. Subsequently, you can restore your database to any of the checkpoints that have been created. You can delete individual checkpoints at any time.

To access the Database Restore Checkpoints functionality, go to the Configuration Page (screenshot below) and click Manage at the bottom of the page starting point for system administration is the Configuration Page (screenshot below). The date and time of the last database restore checkpoint is listed to the left of the Manage button.
On clicking **Manage**, the Manage Database Restore Checkpoints form *(screenshot below)* appears. It lists the currently available checkpoints, each with the date and time the checkpoint was created.
You can now do the following:

- Add a new checkpoint by clicking Add New Checkpoint.
- Restore the database to one of the available checkpoints by clicking its Restore button.
- Delete a checkpoint by clicking its Remove button.

After you have finished creating, restoring to, and/or deleting a checkpoint, click Close to return to the Configuration Page.
4 System Use

When you open Altova RecordsManager, it will have been configured by a system administrator for use in your organization. Typically, the system administrator will be a person in your organization who has set up the app on your network for use among multiple users. If you have questions about how the app has been configured or how it works, contact your system administrator.

The app provides you with the following functionality:

- Enter and edit data about your organization's contracts. You might have the responsibility for maintaining records of all contracts or of only a subset of contracts. Typically, multiple users would be entering and editing data about the contracts. How to enter and edit records is described in the topics Container Page and Record Page.
- You can audit changes and track changes made to records.
- Create and edit reminders when significant contract dates come due (for example, a contract renewal). A reminder is used to send notifications to the appropriate persons in your organization. See the topic Reminders.
- Export a container's contents (that is, its records) to XML and/or CSV files. This is described in the topic Export Records to XML, CSV.
- Generate charts and reports about a container's records. For example, in a Contracts container, you could generate charts and reports showing the cost of contracts by contract categories, and how these have changed over a period of time.
- Print charts, reports, and record listings.

The subsections of this section describe the RecordsManager functionality that is available to you.
4.1 **Quick Start: System Use**

Before you read this section and get started, we recommend that you read the General Information section, especially the section How Data Is Stored, which explains how the RecordsManager database is structured into the containers in which your data records will be stored. As a user of the RecordsManager app, a large part of your work will involve working with these containers. You will be adding new records and editing existing records.

The Home Page of the app serves as your navigational base. It provides access to the individual containers, within each of which you can edit the records of that container. The due reminders on the Home Page also take you to the record of a particular reminder.

How to use the app

**Data entry**

- From the Home Page select a container (i) to which you want to add records or (ii) in which you want to edit records
- On a Container Page, you can view records according to the different listing possibilities available for that container
- On a Container Page, you can search for specific records
- On the data entry form of a record (its Record Page), edit the record
- On a Record Page, you can track changes made to the record and audit the record (that is, see who made changes to the record)
- On a Record Page, you can copy the current record to a new record
- On a Record Page, if reminders have been enabled for that container, you can set new reminders and edit existing reminders
Data processing
- From a Container Page, you can export the records of that container to XML and CSV data formats
- From a Container Page, you can generate reports about the records of that container and print those reports
- From a Record Page, you can print the details of a record

Note: You can also work offline. Your changes will be synchronized automatically when you come back online.

Help
The Help button is available on Container Pages and Record Pages. Click Help on any of these pages to open the online user manual of Altova RecordsManager in a new browser tab.
4.2 Home Page

The Home Page *(screenshot below)* has two parts:

- The upper part contains an overview of the system's databases and their respective containers. Each container displays a count of the container's records. Click a container to see its record listings and to edit records.
- The lower part shows due reminders. Each list item is the reminder of a specific record. Click *Snooze* or *Stop* (located at the left of each reminder) to, respectively, snooze or stop the reminder.

Navigating the app

There are two types of editing page:
• **Container Page**. You get to this page by clicking a container on the Home Page (*shown in the screenshot above*). From the Container Page, you can edit existing records, add new records, generate reports and charts, and print record listings. See the respective topics for information about these features.

• **Record Page**. This page displays the data (the fields) of a record, enabling you to edit that record's data. You get to this page by clicking a record on the Container Page.

The pages are arranged in the following hierarchy, and you can navigate with the help of the navigation links at the top left of the page and your browser's Back button.

**Home Page > Container Page > Record Page**

For more information about editing and viewing records, see the respective topics of the System Use part of the documentation.

**Help**

The Help button is available on Container Pages and Record Pages. Click Help on any of these pages to open the online user manual of Altova RecordsManager in a new browser tab.
4.3 Container Page

A Container Page (*screenshot below*) is accessed by clicking click that container on the [Home Page](#). The Container Page displays a listing of the container's records and the functionality available for the container.

**Container records**

The central feature of the Container Page is its listing of the container's records. If your system administrator has created multiple listing options for this container, then you will be able to select which one to use. The listings will have descriptive names to enable you to choose. For example, in the screenshot above, the selected listing option is *Contracts by Status*. Lists will be different from each other in one or more of the following ways: (i) they have different layouts; (ii) they show different record fields; (ii) they restrict the number of records shown (for example, show only US companies).

**Container functionality**

The Container Page provides the following functionality: most of which are available via the icons at top right:
In the View combo box, select a list from the available viewing lists. You can switch between lists at any time.

- To add a new record, click **New <Container>**. For information about data entry, see the topic [Record Page](#).
- To edit an existing record, click that container's **Edit** icon. For a description of how to edit records, see the topic [Record Page](#).
- To delete a record, click its **Bin** icon.
- If alphabetic sorting on a column is possible, such columns are indicated with a vertical arrow *(circled in red above)*. The arrow direction indicates the current sorting order (up = ascending; down = descending). Click the arrow to sort in the opposite order.
- To search for specific records, select the **Search** check box. See [ Searches](#) for details.
- To jump to a specific record. See [Jump To](#) for details.
- Export the records of the container in CSV and XML formats. See [Export to XML, CSV](#) for details.
- Generate reports about the container's records and print these reports.
- Print the currently selected listing. See the section [Print to PDF](#) for details.

### Icons of the Container Page

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Offline Mode" /></td>
<td>Offline Mode</td>
</tr>
<tr>
<td><img src="#" alt="Customize Appearance" /></td>
<td>Customize Appearance</td>
</tr>
<tr>
<td><img src="#" alt="Refresh" /></td>
<td>Refresh</td>
</tr>
<tr>
<td><img src="#" alt="Export Records to XML/CSV" /></td>
<td>Export Records to XML/CSV</td>
</tr>
<tr>
<td><img src="#" alt="Show Report" /></td>
<td>Show Report</td>
</tr>
<tr>
<td><img src="#" alt="Print to PDF" /></td>
<td>Print to PDF</td>
</tr>
<tr>
<td><img src="#" alt="Help" /></td>
<td>Help</td>
</tr>
</tbody>
</table>

### Help

The **Help** button is available on [Container Pages](#) and [Record Pages](#). Click **Help** on any of these pages to open the online user manual of Altova RecordsManager in a new browser tab.
4.4  Customize Appearance

The default appearance of the user interface is determined by the color theme and variation settings that your system administrator has chosen. You, as the user, can change the appearance of the app by clicking the Customize Appearance button on the Home Page or any Container Page.

Icons of the Container Page

- Offline Mode
- Customize Appearance
- Refresh
- Export Records to XML/CSV
- Show Report
- Print to PDF
- Help

On clicking Customize Appearance, the settings shown in the screenshot below appear.

- In the Theme combo box, select the theme that you want. This theme will apply to the entire app and all repositories.
- The Variation combo box is displayed only on Container Pages (and not on the Home Page). It displays the variations of the currently selected app-wide theme and enables you to select a different variation for each repository. When a variation is selected for a container, it will be applied to the repository that holds the container—which means to all the containers in that repository, but not to containers in other repositories. Note that, if you change the theme on a Container Page, then the theme change will apply across all repositories.
- The text size of labels and values will, by default, be displayed in the sizes defined by your system administrator. You can change both sizes at once in the **Text Size** combo box (see screenshot above), with available choices being sizes relative to the admin-defined sizes.

Changes made here will be applied immediately. They will apply till either (i) you make another change, or (ii) your administrator changes a default selection. Note that the theme applies to the entire app, whereas variations can be set separately for each repository.

Click here for samples of available themes

*Camouflage*
**Clouds**

Select overall appearance of the whole app

Color theme: Clouds

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings

**Desert**

Select overall appearance of the whole app

Color theme: Desert

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings
**Forest**

Select overall appearance of the whole app

Color theme: Forest

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings

**Full Moon**

Select overall appearance of the whole app

Color theme: Full Moon

Preview

Star

Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings
**Halloween**

Select overall appearance of the whole app

Color theme: Halloween

Preview

Star: Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings

**Ocean**

Select overall appearance of the whole app

Color theme: Ocean

Preview

Star: Sun

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

Cancel  Save Settings
**Polar Night**

Select overall appearance of the whole app

Color theme: Polar Night

Preview

<table>
<thead>
<tr>
<th>Star</th>
<th>Distance million km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>0</td>
</tr>
<tr>
<td>Mercury</td>
<td>58</td>
</tr>
<tr>
<td>Venus</td>
<td>108</td>
</tr>
<tr>
<td>Earth</td>
<td>149</td>
</tr>
</tbody>
</table>

[Cancel]  [Save Settings]
4.5 Record Page

The Record Page (screenshot below) displays the data of a single record of a container. You can select different data entry forms to view and edit the record's data in different layouts. Note that different data entry forms not only have different layouts, but could also show or hide different fields.
The following points describe the main features of record pages:

- A new record can be created for a container by going to the Container Page and clicking New <ContainerName>. This brings up the Record Page.
If templates have been defined for the container, you will be given the option of selecting a template instead of starting with a blank record.

A Record Page essentially displays a data-entry form. If multiple data-entry forms have been defined for the container, then you can switch data-entry forms at any time during editing of the record.

Your system administrator might have divided long data-entry forms into sections for ease of navigation.

Every record can be viewed in Changes Mode, where changes can be tracked and audited.

The sub-sections of this section describe these features in detail.

Help
The Help button is available on Container Pages and Record Pages. Click Help on any of these pages to open the online user manual of Altova RecordsManager in a new browser tab.

4.5.1 New Records and Templates

Creating new records
To create a new record in a container, do the following:

1. Go to the Container Page of the relevant container. The existing records of the container will be displayed (screenshot below).

2. To create a new record, click New <Container> (red rectangle above). The container's data-entry form appears, and you can enter data for the record.
**Note:** To edit an existing record, click the record's **Edit** icon (*red circle above*). The record's data will be displayed in a data-entry form and can be edited.

### Templates

Some containers might have templates defined for them. A template is a new record in which some fields are pre-filled with data to save you work. When you create a new record in a container that has one or more templates defined, you can choose to use one of these templates or to start with a blank record. If you use a template, you can edit any of the pre-filled fields at any time.

On a **Container Page**, when you click **New <ContainerName>** to create a new record in that container, you are presented, if templates have been defined for this container, with a form to select a template. For example, in the screenshot below, the user is creating a new record in the **Contracts** container, and is presented with five entry form options: four templates and a blank record. If you are given such a choice of templates, select the option you want, and click **OK**. The data-entry form appears.

![Screenshot of the New Contract... form](image)

**Note:** If no template has been defined for a container, then the choice described above is not given to you and the data-entry form appears directly after you click **New <ContainerName>**.

### 4.5.2 Data-Entry Forms

A container's data-entry form appears when you either create a new record or edit an existing record.

If multiple data-entry forms have been defined for a container, then these will be available in the **View** combo box (*see screenshot below*). Select the form you want to work with. Each form provides a different layout for data entry, so you can change forms at any time. But be sure to save your data before changing forms. In the screenshot below, for example, **Legal Entry Form** might provide a layout that displays basic legal information; whereas **Paralegal Entry Form** might show specific fields related to auxiliary legal matters.
Note: If only one data-entry form has been defined for a container, then that form is displayed directly and the Select View combo box does not appear.

For information about editing a record, see the next topic, Editing Data.

4.5.3 Sections

Your data-entry form might be designed as a single page or might be divided into sections (see screenshots below). The following possibilities exist:

- Single page
- Single page divided into sections (each of which may initially be open or closed, independent of each other)
- Sections (open or closed) that appear one after another (not on a single page)

The screenshot below shows the first three sections of a data-entry form, where all sections are on the same page. The first three section names are: (i) Contract Header, (ii) Contracting Party, (iii) Type, Status, Categories, Signee. When the form is initially displayed, the first and third sections are open, while the second is closed. To open/close a section, click the arrow to the left of its name.
In the screenshot below, the data-entry form has nine sections, of which the second is shown. Each section appears one after the other; they are not on the same page. The section number and the total number of sections are given next to the section's name. To navigate between sections, click the Previous/Next arrows on either side of the section's header. Note that when sections are shown one after another, they are always shown open and cannot be closed.
4.5.4 Editing Data

Data for each field of the record is entered via a data-entry device such as a text field, combo box, or date picker, and data entry is straightforward. Click Save when you finish editing a record.

Note the following points:

- If your system administrator has set validation rules for a field value, then the field name stays red till a valid value is entered.
- If your system administrator has set validation rules for the record, errors/warnings will be displayed when you click Save.
- When you are entering data for a new record, the Save++ button is available (in addition to the Save button). Click Save++ to save the record and create a new record.
- The arrow buttons (see screenshot below) enable you to navigate to the previous and next records.

- When you edit data of an existing record, the Changes button (see screenshot above) is available. Click it to see past and current changes that have been made to the record being edited. This enables you to review changes before saving. When you are in Changes Mode, you cannot edit the record. To leave Changes Mode, click Hide Changes. Changes Mode is described in the next topic, Audits and Change Tracking.


4.5.5 Audits and Change Tracking

Changes Mode (switched on when you click the Changes button; see screenshot below) enables you to audit changes (see who has made what changes), to track changes, and to see a historical view of changes.

Changes Mode has three tabs:

- **Current**: Shows changes made during the current editing session, before saving. All your changes of the current editing session are shown. Select Before or After to switch between the pre-change and post-change versions of the record. Click Replicate if you want the changes you made to the current record to be applied to other records of the container. In this case, you will be cycled through the records of the listing, and you can decide whether to replicate the change in individual records. The Save button will be enabled when the changes can be applied. To move to the next record, click the Next navigation arrow button (see first screenshot above).

- **Historical**: Shows past changes of any field by any user. Cycle through the change events of the past by clicking the Previous Event and Next Event icons. For each change event, you can see the field values before and after the change by selecting Before or After, respectively.

- **Audit**: Shows the last change made to any field by any user. Next to each changed field, the last user to have made the change is listed as a link. You can click a link to see details of the change, including the date and time of the change.
To leave Changes Mode, click **Hide Changes**.

**Collision detection**

If another user has modified a record after you have started editing it, then, when you save, you will be warned about the modification and advised to review changes to the record. You can click the **Your Edits** button to see what you have changed and the **Previous** button to see the edits of the other user. If you want to keep the changes of the other user, then click the **Keep Changes** icon near the respective field titles (*circled in red in the screenshot below*).
The situation shown in the screenshots above is that you have changed the Street1 and ZIP fields (screenshot left), while another user has added two values to the Category field (screenshot right). You can keep the
Category field changes of the other user by clicking the **Keep Changes** icon near the title of the **Category** field (*circled red in screenshot above right*). Then click, sequentially, **Hide Changes** and **Save** to save your changes as well as the other user's changes. Note that you can also undo your changes by pressing the relevant **Keep Changes** icon (*see screenshot above right*). After you click **Hide Changes**, you can review the final edit before saving the record.

**Undo/Redo changes**

You can undo and redo edits you make to a record by clicking, respectively, the **Undo** and **Redo** buttons (*circled green in the screenshots above*).
4.6 Reminders

Reminders on the Home Page

Due reminders are displayed at the bottom of the Home Page (see screenshot below). (See Status of Reminders below for the meaning of due reminders.)

---

<table>
<thead>
<tr>
<th>Contract reminders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Due (4)</td>
</tr>
<tr>
<td>🕒 Reminder Renewal “C2020/3119 Chestnut Telecom License Agreement”</td>
</tr>
<tr>
<td>🕒 Reminder Renewal “C2020/3122 Office Cleaning Contract”</td>
</tr>
<tr>
<td>🕒 Reminder Renewal “C2020/3121 Doodle Online Advertising”</td>
</tr>
</tbody>
</table>

There are 1 alert group(s) available.
You are currently member of 1 alert group(s)

---

You can carry out the following reminder-related actions on this page:

- Snooze or stop a reminder. (See Status of Reminders for information.)
- Click a reminder to go to the relevant record's data entry form, where you can edit the reminder and/or add new reminders.

Reminders in data entry forms

Reminders and reminder emails are configured by system administrators. However, users have the final decision about what reminders are sent, when, and to whom.

A user can access a reminder's settings in the following ways:

- By clicking a record to go to that record's data entry form/s. A reminder's settings is best located in one or more of a container's entry forms.
- By clicking a reminder on the Home Page, which would typically take you to an entry form containing the reminder's settings.

The screenshot below shows the reminder settings of a contract record's data entry form.
A user can do the following:

- Add a new reminder or edit an existing reminder. Clicking either of these commands takes the user to the Reminder Settings form, where the reminder can be configured (see below).
- The user can snooze an existing due reminder. See Status of Reminders below.
- The user can stop a reminder (which is equivalent to marking the reminder as processed). See Status of Reminders below.
- The user can delete a reminder.

**Icons for reminder management**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✍️</td>
<td>Edit Reminder</td>
</tr>
<tr>
<td>⏳</td>
<td>Snooze Reminder</td>
</tr>
<tr>
<td>⏯</td>
<td>Stop Reminder</td>
</tr>
<tr>
<td>⚠️</td>
<td>Delete Reminder</td>
</tr>
</tbody>
</table>

**Reminder settings**

The Reminder Settings form is shown below.
Define the reminder with the following settings:

- **Category**: Select the category of the reminder. Reminder categories were defined when the reminder field was configured.
- **Description**: Provide a description to help users to understand how this reminder will apply.
- **Recurring**: Select this option to define the reminder as a recurring reminder. A recurrence is defined in terms of a period that follows a selected date. For example, a reminder can recur monthly after the selected date. Also see Status of Reminders below.
- **Reminder start time**: There are two alternatives: (i) Select a specific date; or (ii) Calculate a date relative to one of the record's date fields (such as an expiry date). In the screenshot above, for example, the start time has been set to one week before the date in the Expiry Date field.
- **Notification frequency**: Send reminder email notifications every day till the reminder is processed or snoozed by the user, or send reminder email notifications once only. Also see Status of Reminders below.
- **Notification recipients**: Specify the user groups to which notifications about this reminder will be sent. If no group is specified, then no recipient is selected.
- **Add to new records**: This setting is available only when an administrator is configuring a reminder field.
You can choose whether to add the current reminder to all new records or only to records to which the selected filter applies. For example, in the case of the screenshot above, the reminder will be added only for those records where an *Expiry Date* field value exists (which is what is defined in the *Has Expiry Date* filter). Note that if this filter has user groups defined for it, then notifications will be sent to users of these user groups.

**Status of reminders**
The status of reminders is defined in the following terms (also see screenshot below, which assumes a current date of 16 September 2020):

- **Start date**: The date from which the reminder becomes *active*. If the start date is in the past, then the reminder stays active if: (i) it is not processed, or (ii) it recurs. If the start date is in the future, then the reminder is an active reminder.
- A **processed reminder** is one for which the reminded event has been carried out and because of which the reminder has been **stopped**.
- **Action date**: (i) For one-time reminders, the same as the start date; (ii) For recurring reminders, the next recurring date after a reminder is processed. An action date can lie in the past or in the future.
- **Active reminder**: (i) A one-time reminder that has a start date in the past and which has not been processed; (ii) A recurring reminder that has a start date in the past (and may have been processed); (iii) A reminder (one-time or recurring) that has a start date in the future. (Note: If the action date of an active reminder is in the past and the reminder has not been processed, then the reminder is a due reminder.)
- **Due reminder**: An active reminder with a start date in the past. Due reminders are a subset of active reminders. Once a reminder becomes due, the possibility to snooze the reminder becomes available.
- A **snoozed reminder** applies to due reminders only. Snoozing a reminder cancels the current action date and selects an action date in the future. The snooze period is specified from the current date.
- **Inactive reminder**: A non-recurring reminder which has a start date in the past and which has been processed.
## Reminders

<table>
<thead>
<tr>
<th>CONTRACT REMINDERS</th>
<th>NEW REMINDER...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancellation</strong></td>
<td></td>
</tr>
<tr>
<td>on Dec 31, 2020</td>
<td>Active: one-time, start date in future</td>
</tr>
<tr>
<td><strong>Cancellation</strong></td>
<td></td>
</tr>
<tr>
<td>on Sep 01, 2020</td>
<td>Due: one-time, start date in past, not yet processed</td>
</tr>
<tr>
<td><strong>Renewal</strong></td>
<td></td>
</tr>
<tr>
<td>recurring weekly starting on Aug 01, 2020</td>
<td>Due: recurring, start date in past, not yet processed</td>
</tr>
<tr>
<td><strong>Renewal</strong></td>
<td></td>
</tr>
<tr>
<td>recurring weekly starting on Sep 26, 2020 (next on Sep 26, 2020)</td>
<td>Active: recurring, start date in future</td>
</tr>
<tr>
<td><strong>Verification</strong></td>
<td></td>
</tr>
<tr>
<td>on Jun 20, 2020 (snooze until Dec 24, 2020)</td>
<td>Active: one-time, start date in past, was due but now snoozed</td>
</tr>
<tr>
<td><strong>Verification</strong></td>
<td></td>
</tr>
<tr>
<td>recurring yearly starting on Jul 10, 2020 (next on Jul 10, 2021)</td>
<td>Active: recurring, start date in past, processed</td>
</tr>
<tr>
<td><strong>Verification</strong></td>
<td></td>
</tr>
<tr>
<td>on Jul 27, 2020</td>
<td>Inactive: one-time, start date in past, processed</td>
</tr>
</tbody>
</table>

The example uses a current date of 16 September 2020.

**Color codes indicate reminder status**

During data entry, the text color of reminders indicate their status to the user:

- **Blue**: Active reminders that are not due reminders
- **Red**: Due reminders
- **Gray**: Inactive reminders

**Debugging reminder emails**

If reminder emails are not being correctly sent, contact your RecordsManager system administrator to verify that the system has been correctly set up.
4.7 Searches

The Search functionality is enabled at the container level. It enables you to search a container's records. You can search for:

- a term within all fields of the container's record (select Search), or
- a selected field of the current container, an ancestor container, or a linked-to container (select Detailed), or
- records returned by a filter (select Predefined).

To run a search, do the following:

1. In the View combo box of a container, choose a record listing form for displaying the records of the container. For example, the screenshot below shows the records of a Departments container, with the records being listed in a listing form named Standard list form.
2. To search for a term across all fields of all the container's records: (i) click **Search** *(see screenshot below)*, (ii) enter the search term (searches are case-insensitive), (iii) click the **Search** icon at right. All records will be listed that contain the search term in any of their fields.
3. To search for a term across a single field of all the container's records: (i) click **Detailed** (see screenshot below), (ii) enter the search term (searches are case-insensitive), (iii) select the field you want to search (in the screenshot below this is the **Description** field), (iv) click the **Search** icon at right. All records will be listed that contain the search term in the selected field. Note that the available fields will be the fields of the current container, an ancestor container, or a linked-to container.
4. If one or more filters have been defined for a container, then the **Predefined** button will be available. To return records selected by a filter: (i) click **Predefined** *(see screenshot below)*, (ii) select one of the filters in the combo box that appears, (iii) click the **Search** icon at right. All records will be listed that match the conditions of the filter.
System Use Searches

Icons of the Container Page

- Offline Mode
- Customize Appearance
- Refresh
- Export Records to XML/CSV
- Show Report
- Print to PDF
- Help
4.8  Jump To

The Jump To functionality enables you to jump to a record that begins with or contains the text string you enter. The look-up for the text string is carried out in either one field of the container's records or all fields. What fields are being looked up and whether the text string occurs at the beginning of the field or is contained anywhere in the field would ideally be indicated by the name of the list form (or should be made clear to you in some other way by your administrator).

For example, in the screenshot below, when the list form named Contracts by Status & Company is selected, the Jump To button becomes available, thereby indicating that the Jump To feature is available for this list form. Since the list form is based on status and company, it is reasonable to assume that a jump-to would look up status and/or company. On typing Amer, the first company name that begins with Amer moves to the top of the list.

To use the Jump To feature: click Jump To, and then enter the text string you want to look up. The record that you want will move to the top of the list.

**Note:** If the Jump To button is not available, it means that your system administrator has not activated the Jump To setting for the current list form.
<table>
<thead>
<tr>
<th>Icon</th>
<th>Feature</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>🛠️</td>
<td>Customize Appearance</td>
<td>150</td>
</tr>
<tr>
<td>⌚️</td>
<td>Refresh</td>
<td>176</td>
</tr>
<tr>
<td>📄</td>
<td>Export Records to XML/CSV</td>
<td>183</td>
</tr>
<tr>
<td>📊</td>
<td>Show Report</td>
<td>184</td>
</tr>
<tr>
<td>📡</td>
<td>Print to PDF</td>
<td>186</td>
</tr>
<tr>
<td>🎉</td>
<td>Help</td>
<td>185</td>
</tr>
</tbody>
</table>
4.9 Refresh

When a container is opened and its records are listed (as in the screenshot below, which shows a list of Company records), you can refresh the data by clicking the Refresh button.

This is useful since the RecordsManager app is a distributed system that can be updated by multiple users. Clicking Refresh ensures that you are viewing the latest data in the database.

Icons of the Container Page

- **Offline Mode**
- **Customize Appearance**
- **Refresh**
- **Export Records to XML/CSV**
- **Show Report**
- **Print to PDF**
- **Help**
4.10 Export Records to XML, CSV

When a container is opened and its records are listed (as in the screenshot below, which shows a list of Person records), you can export the data of these records to an XML and/or CSV file. Your system administrator will have defined one or more export forms for each container. Each export form defines a separate set of data fields (of that container) to export. An export form could include not only the fields of the container, but also the name of the parent container and higher-level ancestor containers. In the case of XML exports, child containers and a selection of their fields could also be included. The different export forms will typically have suggestive names, and the multiple options will give you a choice of datasets to export. If you need another dataset for a container, contact your system administrator.

@ | Home | Persons

Company Database

Persons
7 records

View | Standard list form

All | Search | Detailed

<table>
<thead>
<tr>
<th>Last</th>
<th>First</th>
<th>M Company</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gridley</td>
<td>Jim</td>
<td>Red Maple and Sons</td>
<td>Red Maple Legal</td>
</tr>
</tbody>
</table>

- Offline Mode
- Customize Appearance
- Refresh
- Export Records to XML/CSV
- Show Report
- Print to PDF
- Help
XML and CSV formats

XML format

The exported XML file will have a root element named `<Root>`, and `<Root>` will have a child element that has the same name as the current container (in our example, this is the container named `Person`). This element will have the child elements that were selected (in the export form) as the fields to export. For example, the export form for a `Person` container (as shown in the screenshot above) might generate an XML file that looks like this:

```
<Root>
  <Person>
    <Department>Sales</Department>
    <First>Jim</First>
    <Last>Gridely</Last>
    <Title>Executive</Title>
    <Phone>123456789</Phone>
    <Email>legal.01@redmaple.com</Email>
  </Person>
  ...
  <Person>
    <Department>Accounts</Department>
    <First>Jane</First>
    <Last>Locke</Last>
    <Title>Manager</Title>
    <Phone>123789777</Phone>
    <Email>accounts.04@altova.com</Email>
  </Person>
</Root>
```

CSV format

The first line of the CSV file will contain the headers of fields. Each subsequent line contains one record, with the values of fields being in the same sequence as the headers. The separator in records is a comma. Note that each record is a flat listing of the rows of the export form. Child records cannot be displayed because of the flat structure of CSV files. Compare with the XML structure above.

```
"Department","First","Last","Title","Phone","Email"
"Sales","Jim","Gridely","Executive","123456789","legal.01@redmaple.com"
...
"Accounts","Jane","Locke","Manager","123789777","accounts.04@altova.com"
```

Export data

To export to an XML file or a CSV file, do the following:

1. Click **Export to XML/CSV** (see screenshots above).
2. The form that appears (screenshot below) has two parts: (i) the top part lists the export forms that are available for the current container; these will have been defined by your system administrator; select the form you want to use; (ii) in the bottom part, select the export format you want (XML or CSV).
Points to note

- An export form exports data related to the current container (for example, a Person container).
- XML export: The fields of the container that are selected for export will be exported as XML elements that are children of an element that has the name of the current container (so, for example, an element named Person). See the XML listing above.
- CSV export: The fields of the container that are selected for export will be exported as the columns of a CSV row, where each CSV row corresponds to a record from the database (for example, one Person record). See the CSV listing above.
- In export forms, it is not only the container's fields that can be added; parents and higher-level ancestors can also be added. As a result, an exported record can also contain the current container's parents and higher-level ancestors. See the listings above.
- While data from child containers can be exported to XML files, they cannot be exported to CSV files. This is because of the flat structure of CSV files.
4.11 Reports

Reports can be generated for the records of a container, separately for each container. The content and layout of reports is defined by your system administrator in a report form. If a report form exists for a container, then the Reports button on the container's Record Listings page is enabled (see screenshot below).

Icons of the Container Page

1. Offline Mode
2. Customize Appearance
3. Refresh
4. Export Records to XML/CSV
5. Show Report
6. Print to PDF
7. Help
Report options
On clicking the Reports button, the Report Options form appears (screenshot below).

You can set the following options:

- If multiple report forms have been defined for the container, then set the Show report option to the report form you want to use. If only one report form is available, then this option is not displayed.
- Select whether the report should be generated for all records in the container or only the records in the current record listing (for example, the record listing Standard list form that is shown in the first screenshot of this topic, has four records, which may not be the full record count of this container.

The generated report
After the report has been generated, you are once again given the report options (see above), but this time within the generated report (see screenshot below).

Additionally, you can print the report by clicking the Print icon (see screenshot above). The report will be created as a PDF, which you can save to file.
## 4.12 Print to PDF

On a Container Page, click the **Print** icon (at top right) to print the current record listing of the current container. The report will be created as a PDF, which you can save to file.

### Icons of the Container Page

- **Offline Mode**
- **Customize Appearance**
- **Refresh**
- **Export Records to XML/CSV**
- **Show Report**
- **Print to PDF**
- **Help**
4.13 Offline Mode

Offline Mode enables you to save the records of selected containers to your device, edit these records offline, and save your edits back to the server when you exit Offline Mode. The Offline Mode button (circled green in the screenshot below) is available on the Home Page and any Container Page. For example, the screenshot below shows the Offline Mode button of the Companies container.

To go offline, edit records offline, and return online, do the following:

1. Click the Offline Mode button (circled green in the screenshot below) at any level. It does not matter in which container you are; all containers will be available for selection.
2. In the Enable Offline Mode form that appears (screenshot below), all containers are displayed and you can select the container/s that you want to edit offline.
3. Click **Load data and go offline**.
4. Records of the container/s that you selected will be available for editing offline. Edit these and save your changes.
5. That you are in Offline Mode will be indicated by a button named **OFFLINE** at top right. To go back online and save your changes to the server database, click **OFFLINE**. When you are back online, your changes will be saved automatically to the RecordsManager database.

**Icons of the Container Page**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Offline Mode" /></td>
<td><strong>Offline Mode</strong></td>
</tr>
<tr>
<td><img src="image" alt="Customize Appearance" /></td>
<td><strong>Customize Appearance</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><img src="image" alt="Refresh" /></td>
<td><strong>Refresh</strong> 179</td>
</tr>
<tr>
<td><img src="image" alt="Export Records to XML/CSV" /></td>
<td><strong>Export Records to XML/CSV</strong> 189</td>
</tr>
<tr>
<td><img src="image" alt="Show Report" /></td>
<td><strong>Show Report</strong> 184</td>
</tr>
<tr>
<td><img src="image" alt="Print to PDF" /></td>
<td><strong>Print to PDF</strong> 186</td>
</tr>
<tr>
<td><img src="image" alt="Help" /></td>
<td><strong>Help</strong> 185</td>
</tr>
</tbody>
</table>
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