ELO Teamroom

Installation and operation

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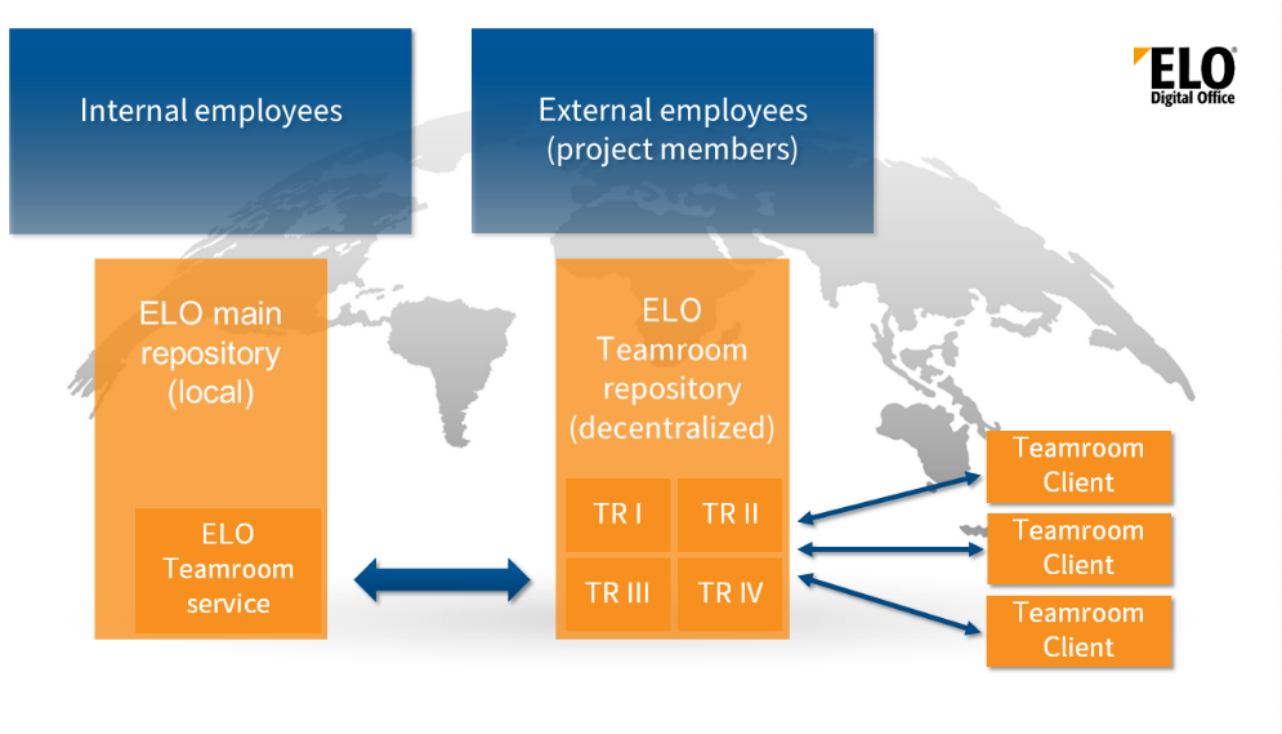
How it works and architecture

Overview

There are situations where participants need to be able to view and edit documents in an ELO repository, without giving them direct access to the ELO repository. This could be different companies, such as associations in the construction sector, but it can also be relevant within the company if different departments have their own repositories. The ELO Teamroom service was developed for these applications.

If a user wants to share contents for a project in a folder, the user can create a teamroom. This new folder is marked in the main repository as a Teamroom folder and a teamroom with the same name is created on the ELO Teamroom server. The folder contents are then synchronized as follows.



Essentially, the ELO Teamroom server is a normal ELO installation. However, it can be located in the cloud, DMZ, or on the local network as needed.

> **Please note**
>
> The ELO Teamroom server requires a separate license. The license for the main repository cannot be duplicated. Request an ELO Teamroom server license before installation.

Installation

Introduction and requirements

This documentation describes a scenario for the complete installation of all components of an environment with ELO Teamroom on Microsoft Windows. Some steps may differ from the installation described here depending on your system.

> **Please note**
>
> Some ELO Teamroom components use the same packages as with ELO 20. For this reason, this documentation sometimes refers to downloads for ELO 20.

Requirements

The following requirements must be met before the installation:

- This documentation assumes that an ELO system has already been installed. This is referred to here as the main repository.
  - For more information on installing an ELO server, refer to the ELO server documentation.
- An installed ELO Java Client.
  - You can find more information on the installation in the ELO Java Client administration documentation.
- You need a second host system with an installed database server.
  - For more information on installing the database for an ELO system, refer to the ELO server documentation.
- You need an ELO server license that allows installation of the ELO Teamroom servlet in your main repository.
- You require an additional ELO server license for an ELO Teamroom server.

> **Information**
>
> You need to request ELO Teamroom licenses from the ELO order center. You should receive two license files, one license file without any specific name, and one license file with the suffix "Teamroom".

- Every user that should have access to an ELO Teamroom needs to have a valid e-mail address. In the case of internal users, the e-mail address must be stored in the ELO user account.
- Download the newest ELO 21 Server Setup version.
  -

You will find the download on the ELO SupportWeb under ELO ECM Suite 21 > ELO Master & Server Setup.

- Download the ELO Teamroom application (Teamroom.war) for ELO 20.

> **Information**
>
> Always use the latest version of the package. The version number schema of the packages is as follows:
>
> `<Package>_<x>.<yy>.<zzz>`
>
> - Package = In this case common or teamroom
> - x = Main release number
> - yy = Minor release number
> - zzz = Build number
>
> Example: common_1.14.001

- You will find the download on the ELO SupportWeb under ELO ECM Suite 20 > Modules > ELO Teamroom > ELO Teamroom 20yy.zzz.
- Download the latest version of the ELO Teamroom packages for ELO 20.
- You will find the download on the ELO SupportWeb under ELO ECM Suite 20 > Modules > ELO Teamroom > ELO Teamroom Pakete 1.yy.zzz
- Download the latest version of Business Solution ELO Common.
- You will find the download on the ELO SupportWeb under Business Solutions > Common > Downloads ELO Common > Common 1.yy.zzz (You need to scroll further down the page)

> **Please note**
>
> You need to download the ZIP package. Do not install the package from the website.

Install application in the main repository

The following steps describe the installation of the ELO Teamroom application (*Teamroom.war*) in the main repository. The application establishes the connection to the ELO Teamroom server and synchronizes the two systems.

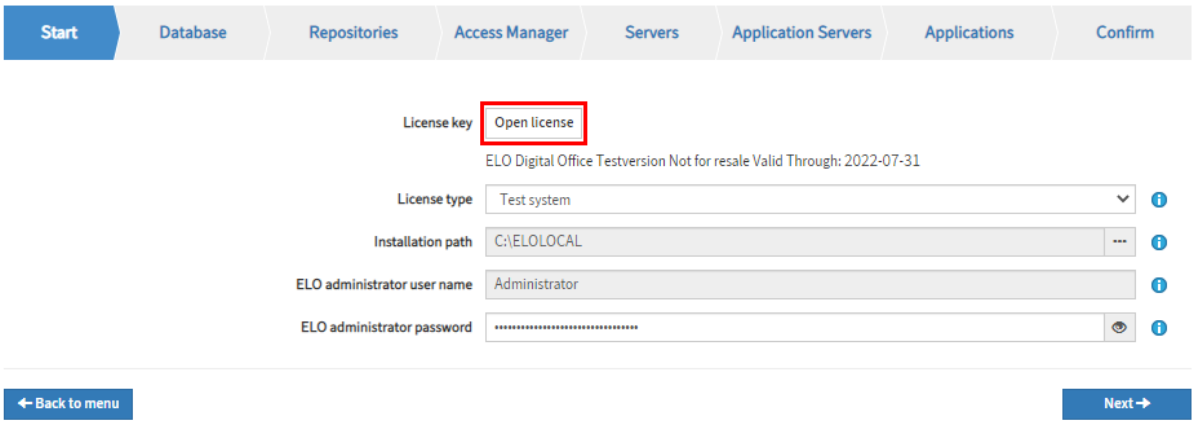
1. Copy the file *Teamroom.war* from the package *ELOTeamroom*Service*20.yy.zzz.zip*.
2. Open the following path in the ELO installation directory (referred to as <ELO):

   <ELO>\prog\serversetup2\repository

   - Optional: If there is already a WAR file for ELO Teamroom, delete it. The file naming schema is as follows:
     - `trm-20.00.<version number>.<build number>.war`
     - Example: trm-20.00.007.000.war
3. Paste the copied file.
4. Rename the file so that it corresponds to the following schema:
   - `trm-20.00.<version number>.<build number>.war`
   - Example: trm-20.00.008.000.war
5. Navigate up one level in the directory:
   - *<ELO>\prog\serversetup2*
6. Run the *Setup.bat* file.

   The ELO Server Setup will start automatically.
7. Click *Advanced configuration*.

   The *Start* tab appears.



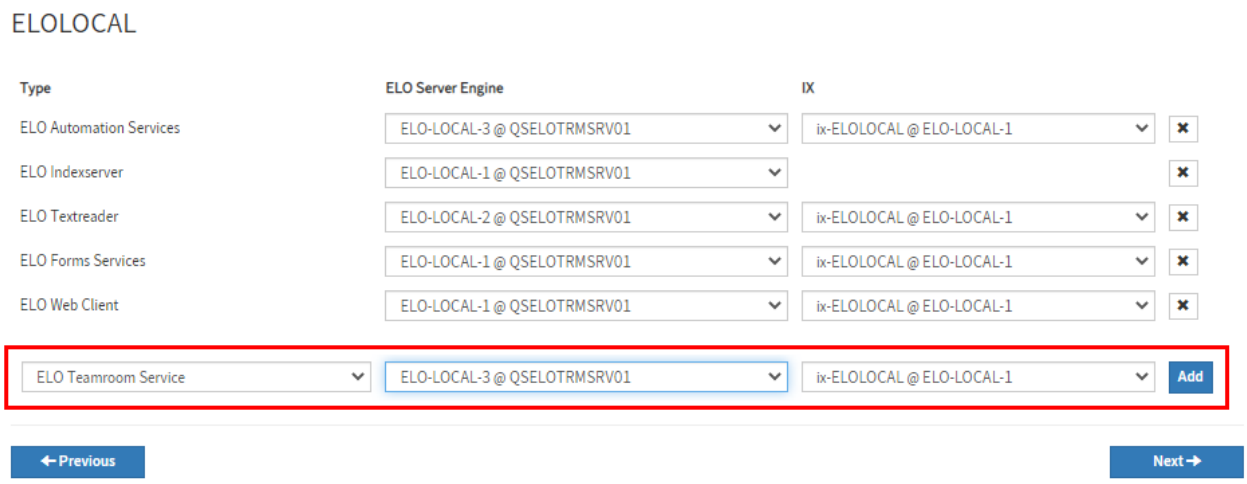
8. Click *Open license*.

9. Select a license file that allows the use of ELO Teamroom in the main repository.

> **Information**
>
> At this point, you need the license file without the suffix "Teamroom".

1. Click *Applications*.

The *Applications* tab opens.



1. In the *Type* drop-down menu, select the entry *ELO Teamroom Service*.

2. In the drop-down menu *ELO Server Engine*, select the third ELO Application Server.

> **Information**

You could also select a different ELO Application Server. The third ELO Application Server was selected here to improve load balancing.

1. Click *Add*.
2. Click *Next*.

This takes you to the *Confirm* tab. The ELO Server Setup checks whether the settings are valid.

1. Review the settings shown here and make sure they are correct before proceeding.
2. Click *Install*.

The installation process starts.

1. When the process is completed, click *Quit*.

The license has been renewed and the ELO Teamroom application has been installed.

Please note

If you are using a self-signed certificate and the root certificate is different from that of the ELO Teamroom server, you must load the root certificate of the ELO Teamroom server into the truststore of the main repository.

To do so, run the ELO Server Setup again. Select the menu item *Import trusted certificate* and import the root certificate of the ELO Teamroom server.

Install ELO Teamroom server

The following steps describe the installation of an additional ELO server that will be used as the ELO Teamroom server. It provides the functionalities for using ELO Teamroom.

Please note

The ELO Teamroom server should be installed on a separate host.

If ELO Teamroom is also going to be used by people outside your company network, the ELO Tearoom server must be accessible in a browser.

Make sure that the ELO Teamroom server is adequately protected. One measure you could take is to place the server in a DMZ.

For the sake of simplicity, we have not described how to implement such measures in this documentation. You may therefore need to change the path specifications accordingly.

1. Run the ELO Server Setup.
2. Click *Advanced configuration*.

   The *Start* tab appears.
3. Click *Open License*.
4. Select a license file that has the suffix "Teamroom".

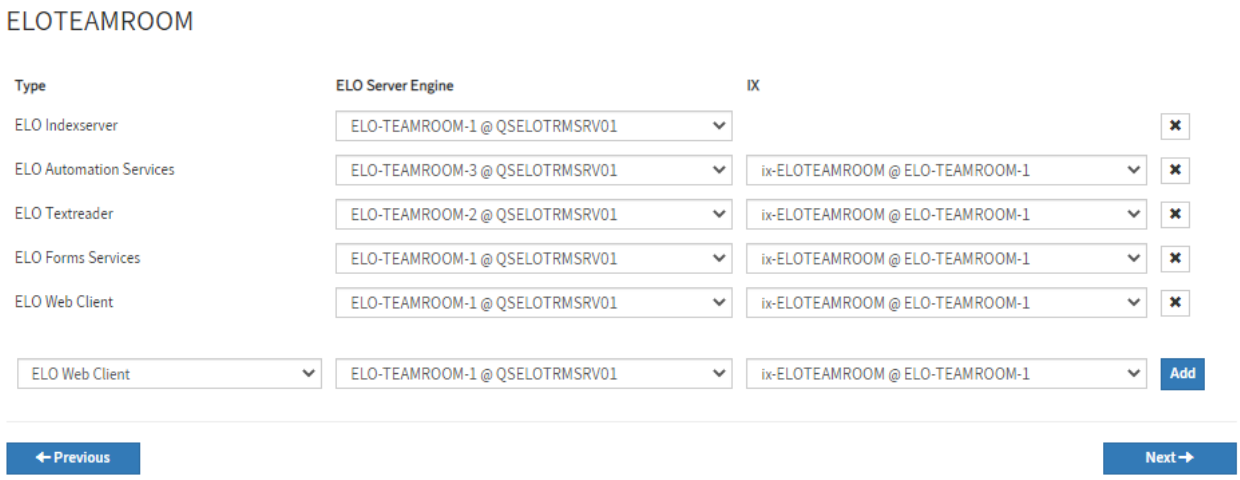
   Optional: If you are using SSL, enter the appropriate certificates and certificate chain and enable SSL for each ELO Application Server.

Please note

If you are using a self-signed certificate and the root certificate is different from that of the main repository, you must load the root certificate of the ELO Teamroom server into the truststore of the ELO Teamroom server.

After you have installed the server, you need to run the ELO Server Setup again. Select the menu item *Import trusted certificate* and import the root certificate of the main repository.

1. Continue with the settings in the ELO Server Setup until you get to the *Applications* tab.



1. Install at least the following applications:
   - ELO Indexserver
   - ELO Forms Services (ELOwf)
   - ELO Automation Services (ELOas)

   Please note

   The *ELO Teamroom* application is not required on this server.

2. Click *Next*.

   This takes you to the *Confirm* tab. The ELO Server Setup checks whether the settings are valid.

3. Review the settings shown here and make sure they are correct before proceeding.

4. Click *Install*.

The installation process starts.

1. When the process is completed, click *Quit*.

   The ELO Teamroom server was installed.

Install scripts on the ELO Teamroom server

In the next step, the ELO Teamroom server requires several scripts. These are provided as .ELOINST packages that can be installed.

To start with, ELO Teamroom requires functions of the *ELO Common package (common*1-yy.zzz.zip*). You also need scripts specifically designed for ELO Teamroom from the ELO Teamroom packages ZIP file (teamroom1.yy.zzz.zip)*.

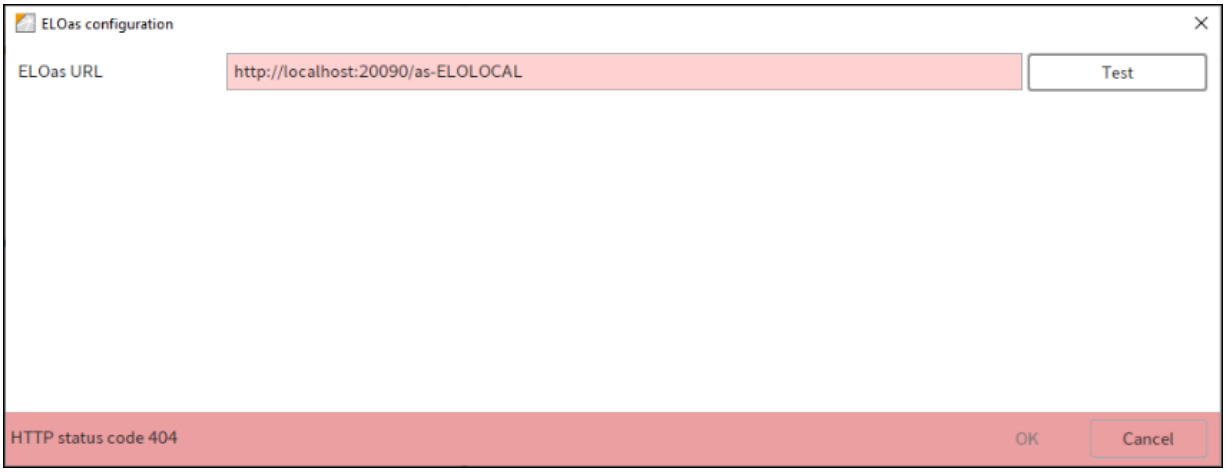
Installation of the packages

1. Extract the ZIP file.
2. Open the *installation* folder.
3. Open the ELO Java Client.
4. Connect to the ELO Indexserver of the ELO Teamroom server and log on as administrator.
5. Drag the *00*sol.common*1.yy.zzz.eloinst* file to the ELO Java Client.

   The *Installation* dialog box appears.
6. Click *Allow installation*.

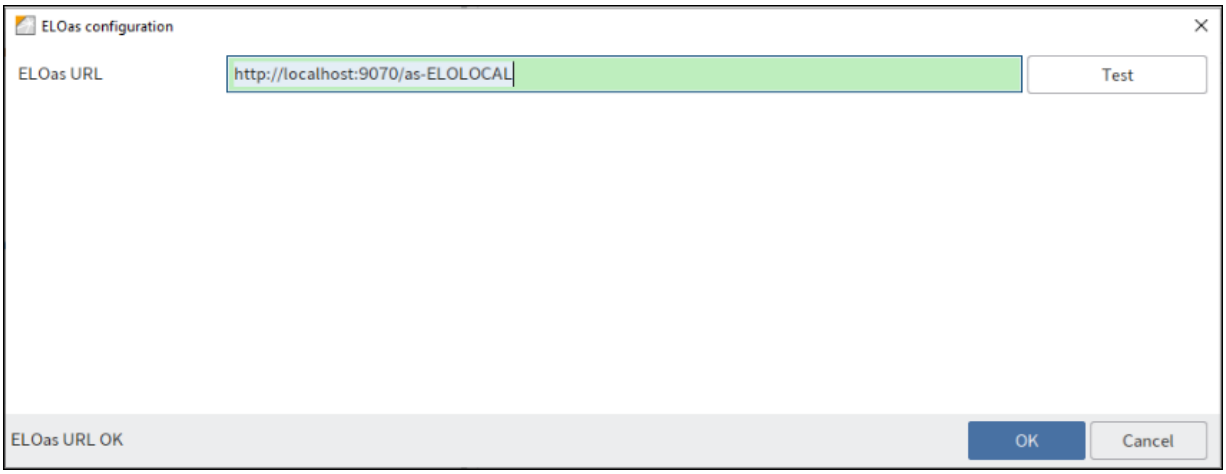
   The installation starts.

> **Please note**
>
> The installation process mainly takes place in the background. Once the installation is completed, you will see a corresponding message. Wait until the installation has finished before you start any other installations. In the status bar of the ELO Java Client, you can see whether the process is still running.



The *ELOas configuration* dialog box opens. The *ELOas URL* field is red. An error message appears.

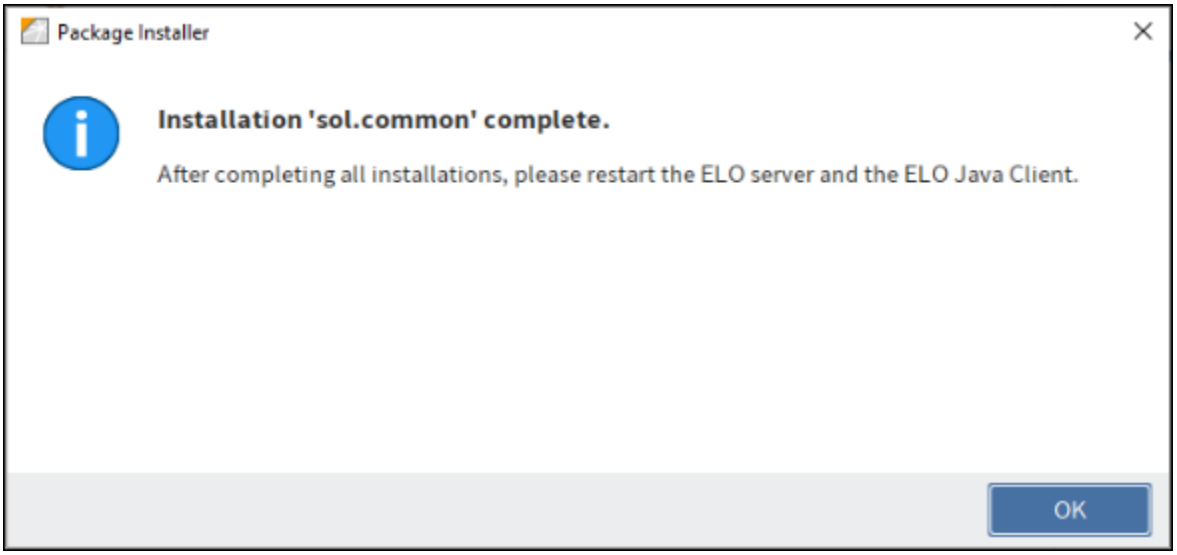
7. Enter the URL to ELOas on the ELO Teamroom server.
8. Click *Test*.



The *ELOas URL* field should now be green. The error message will disappear.

9. Click *OK*.

The installation continues.



When the installation process is completed, the *Package Installer* dialog box appears.

10. Click *OK*.

The installation is completed.

1. Repeat steps 5, 6, and 10 with the following files:

- custom*sol.common*1.yy.zzz.eloinst
-

50*elo.teamroom*1.yy.zzz.eloinst
- 52*elo.teamroom.Remote*1.yy.zzz.eloinst
- custom*elo.teamroom.Remote*1.yy.zzz.eloinst
- custom*elo.teamroom*1.yy.zzz.eloinst

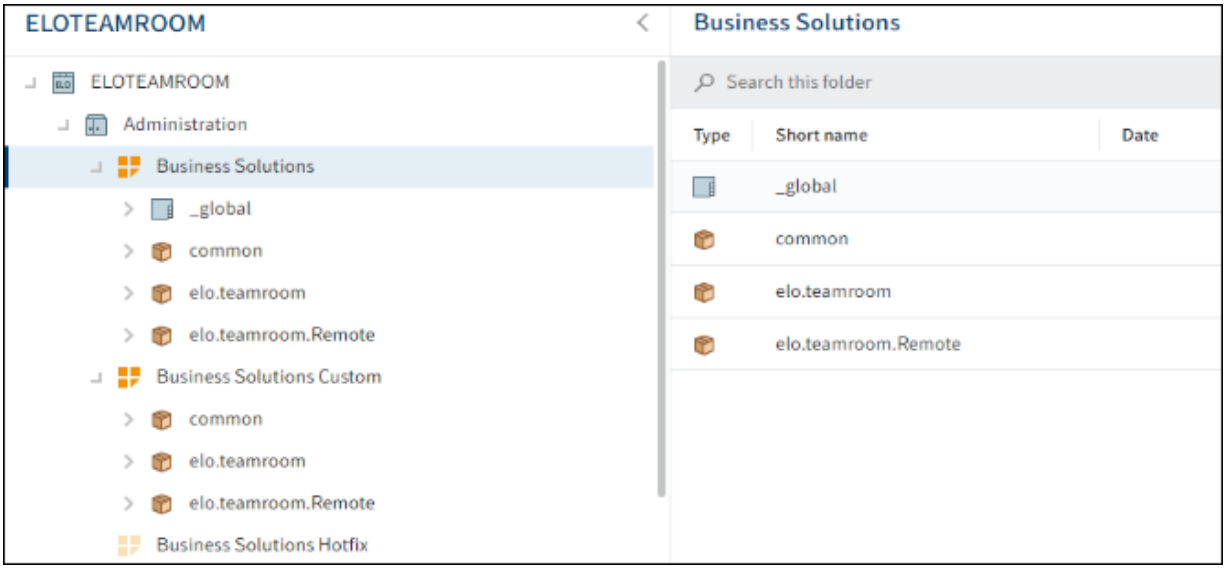
1. Once the installations are completed, close the ELO Java Client.

Restart and test

To complete the installation process, you need to restart the ELO server services and the ELO client.

1. Restart the ELO Teamroom server services.

2. Open the ELO Java Client.



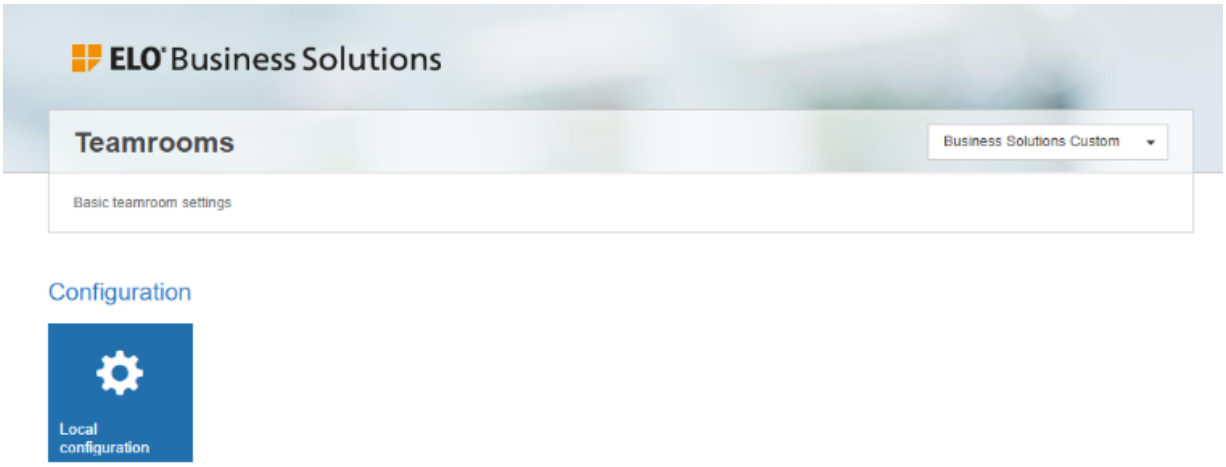
The packages for ELO Common and ELO Teamroom should now be fully installed. After restarting, you will recognize them by the package icons.

Configuration on the ELO Teamroom server

Once the basic installation is completed, you need to configure a few things on the ELO Teamroom server.

Teamroom configuration

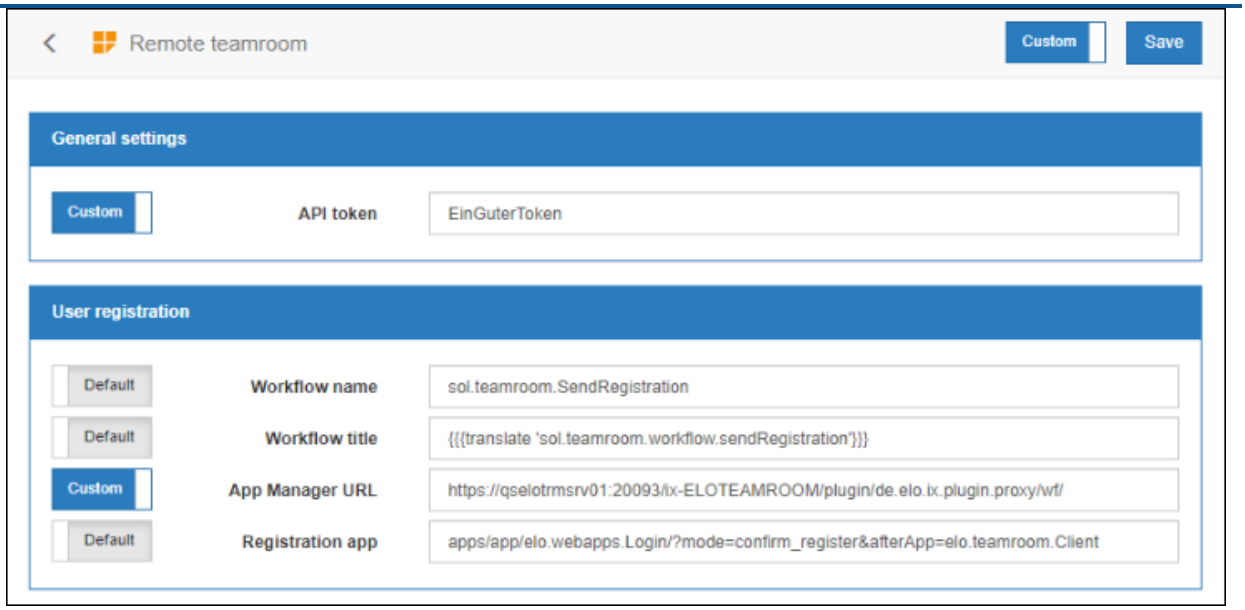
1. Log on to the ELO Administration Console of the ELO Teamroom server as administrator.
2. Go to the *Solutions* tab.
3. Click *Teamroom*.



The ELO Business Solutions page opens.

> **Information**
>
> Make sure that you only make changes in the folder "Business Solutions Custom".

4. Click *Remote configuration*.



The *Remote Teamroom* page opens.

> **Information**
>
> All fields containing the keyword "translate" can be addressed with a translation file (PROPERTIES file). The translation file is not created automatically. If required, you need to create it manually.

5. Enter a token in the *API Token* field.

> **Please note**
>
> The token is required to ensure secure communication between the two servers.
>
> You should make sure that the token is sufficiently complex and not easy to guess.
>
> Do not use a token that appears in this documentation.

6. Store the token in a secure location. You will need it later on.
7. Enter the URL to the ELOwf of the ELO Teamroom server in the *App Manager URL* field. This URL is used for sending invitation links to a teamroom, for example.

> **Please note**
>
> The URL must end in wf/.
>
> If this URL needs to be externally accessible and you are using a proxy server, enter the proxy URL.

8.

Under *E-mail*, enter a valid e-mail address in the *From* field. The e-mail address is used for sending invitation links to a teamroom, for example.

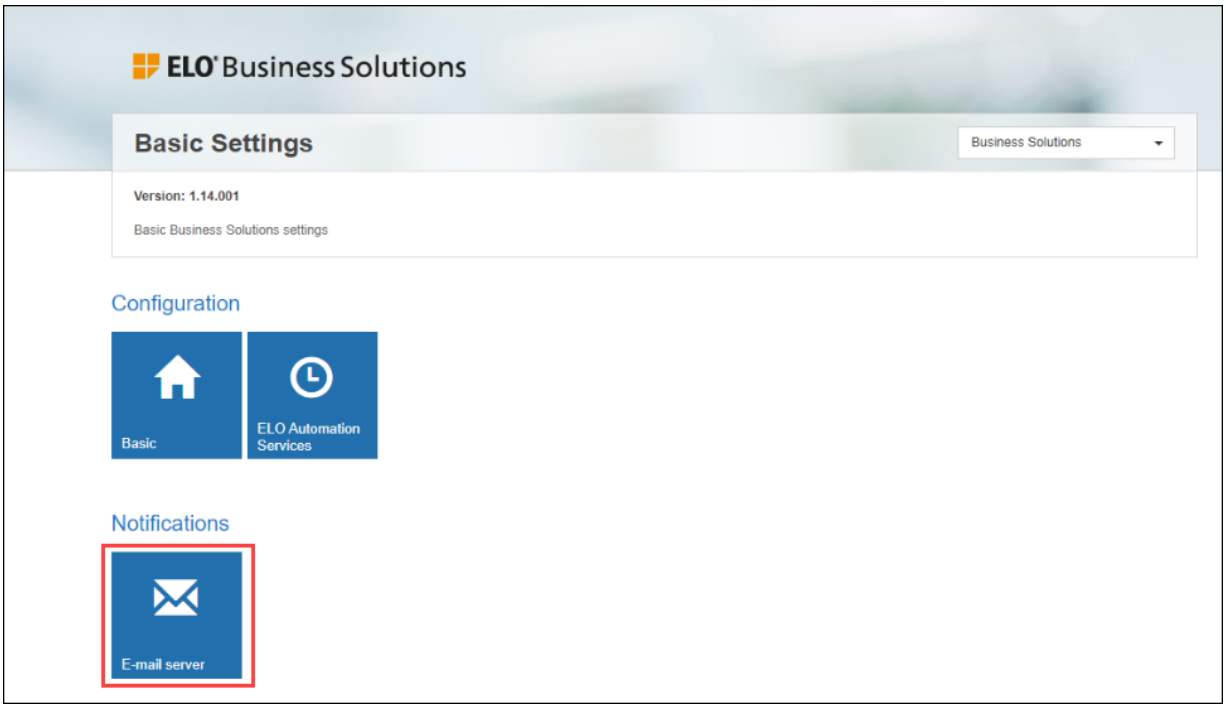
> **Information**
>
> The content of the e-mail is defined using a template. You can customize this template. Refer to the section Customize the e-mail template for more information.

9. Click *Save*.

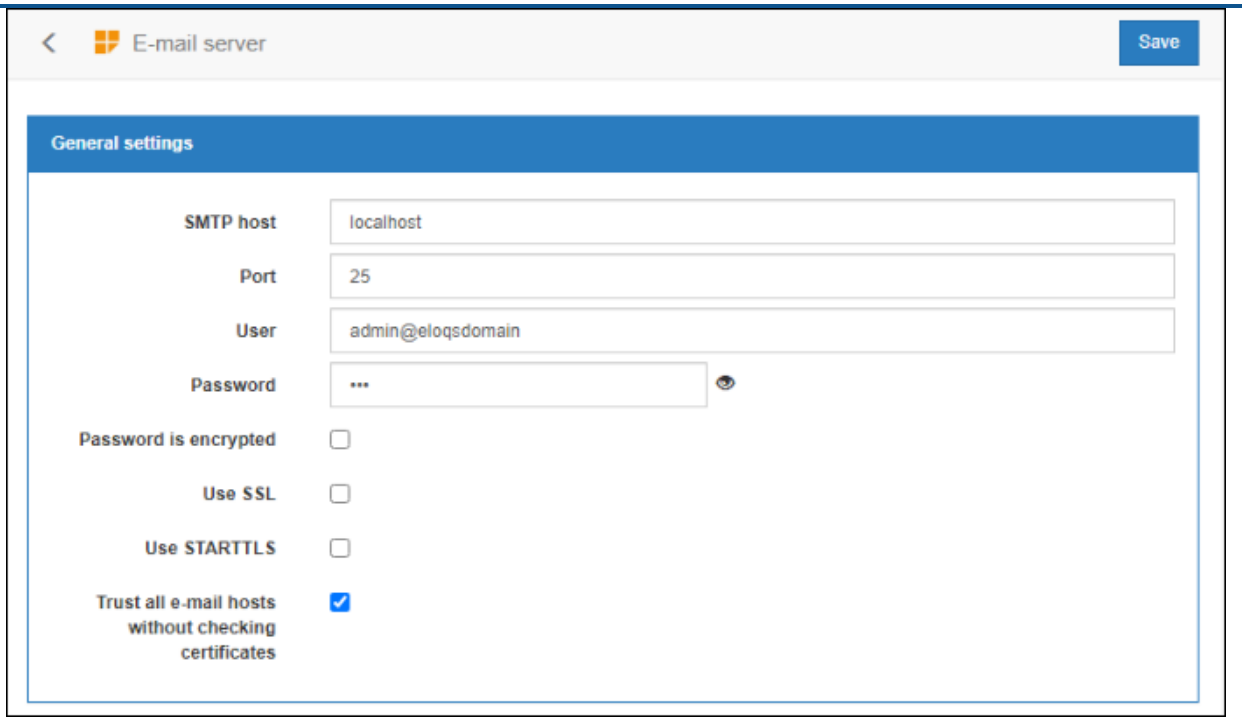
E-mail server configuration

In order for ELO to be able to send e-mails, the settings in the *Mail Server* are of ELO Common must be configured accordingly.

1. Open the *Basic settings* menu item under *Solutions* in the ELO Administration Console.



2. Click *Mail Server*.



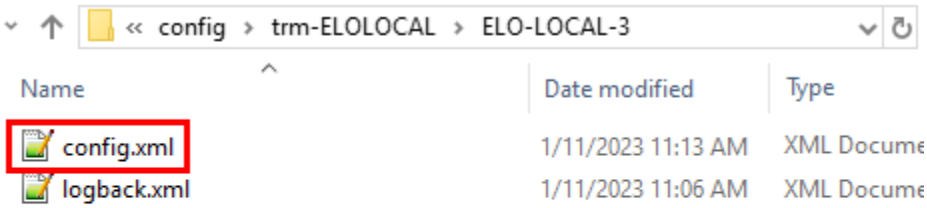
3. Enter the settings of the e-mail server you are using.

4. Click *Save*.

Edit config file in the main repository

To enable communication between the main repository and the ELO Teamroom server, you need to make some settings in the config file of the ELO Teamroom application in the main repository.

1. Stop the main repository servers.



2. Open the following directory:

   *<ELO>\config\trm-<name des="" repositorys="">\<server name></name>

   ◦

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE properties SYSTEM "http://java.sun.com/dtd/properties.dtd">
<properties>
<comment>Webapp properties</comment>
<entry key="r.user">ELO Service</entry>
<entry key="api.token">EinGutesToken</entry>
<entry key="l.ixurl">https://QSELOTRMSRV01:9093/ix-ELOLOCAL/ix</entry>
<entry key="r.ixurl">https://qselotrmsrv01:20093/ix-ELOTEAMROOM/ix</entry>
<entry key="l.pwd">52-247-139-10-8-11-59-34</entry>
<entry key="l.user">ELO Service</entry>
<entry key="r.root">ARCPATH:/Teamroom</entry>
<entry key="r.pwd">52-247-139-10-8-11-59-34</entry>
<entry key="l.root">ARCPATH:/Administration/Teamroom</entry>
</properties>
```

3. Open the *config.xml* file in an editor with administrator rights.

4. Enter the following settings:

- r.user: Service account of the ELO Teamroom server.
- api.token: API token that you used in the ELO Teamroom server configuration.
- r.ixurl: ELO Indexserver URL of the ELO Teamroom server.
- r.pwd: Encrypted password of the ELO Teamroom server service account.

Information

You can use version 21.00.009 of the ELO Teamroom application in an ELO 20 system. In this case, add the following entry to the file:

```
<entry key="newdelete">true</entry>
```

1. Restart the main repository servers.

Install scripts in the main repository

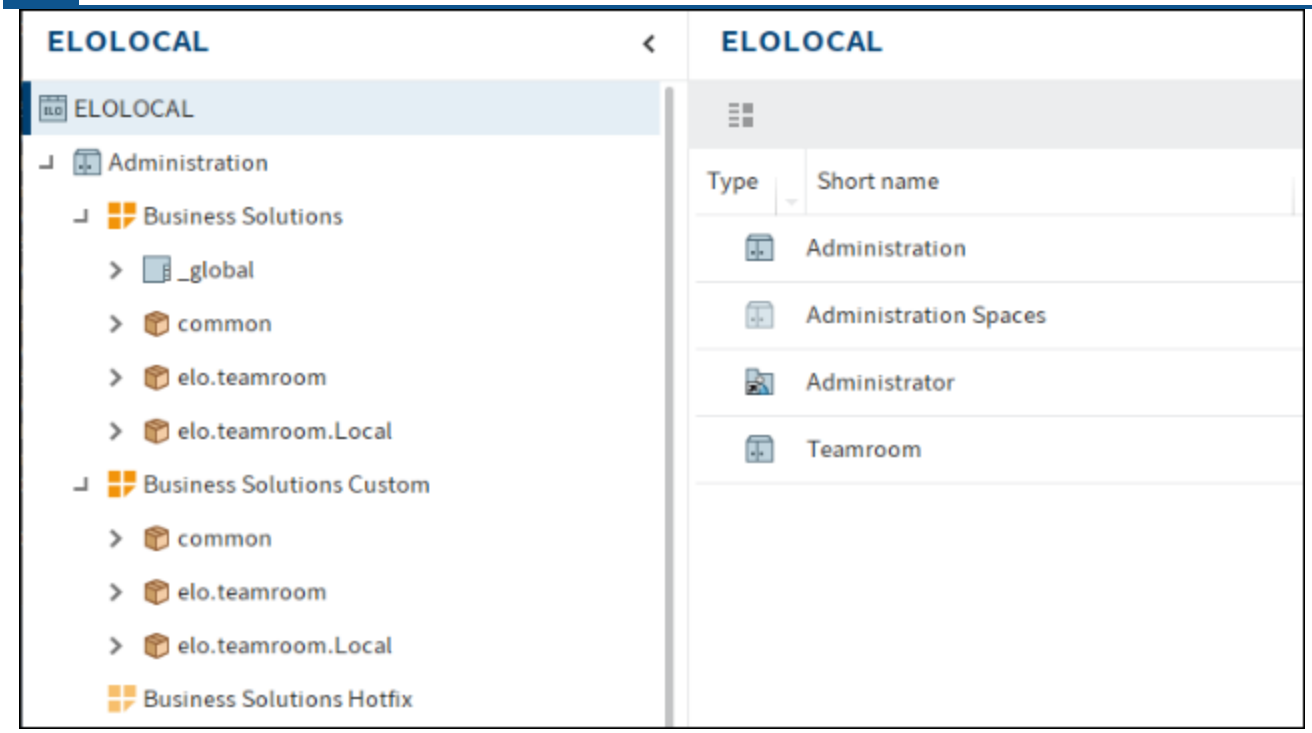
Several scripts also need to be installed in the main repository.

1. Start the ELO Java Client
2. Connect to the ELO Indexserver of the main repository and log on as administrator.
3. If ELO Common is not already installed, install the following files as described in section Install scripts on the ELO Teamroom server:
   - 00*sol.common*1.yy.zzz.eloinst
     - Enter the ELOas URL of the main repository in the *ELOas configuration* dialog box.
   - custom_sol.common_1.yy.zzz.eloinst
4. Now install the following files according to the same principle:
   - 50*elo.teamroom*1.yy.zzz.eloinst
   - 51*elo.teamroom.Local*1.yy.zzz.eloinst
   - custom*elo.teamroom.Local*1.yy.zzz.eloinst
   - custom*elo.teamroom*1.yy.zzz.eloinst
5. Close the ELO Java Client.

Restart and test

To complete the installation process, you need to restart the ELO server services and the ELO client.

1. Restart the main repository services.
2. Open the ELO Java Client.



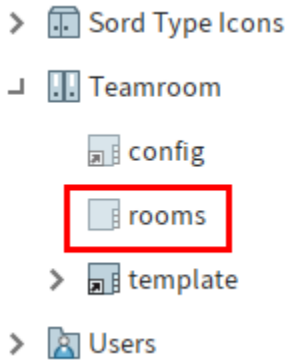
The packages for ELO Common and ELO Teamroom should now be fully installed. After restarting, you will recognize them by the package icons.

Configuration in the main repository

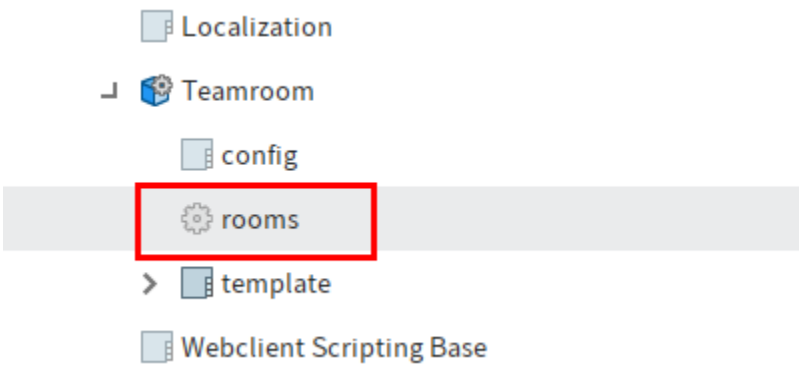
After installing the script packages, you need to perform the following configuration steps.

Create reference

A necessary folder reference is not created automatically under *Administration//Teamroom*. Create this reference manually.



1. Open the *Teamroom* folder in the ELO Java Client.
2. Delete the *rooms* folder.

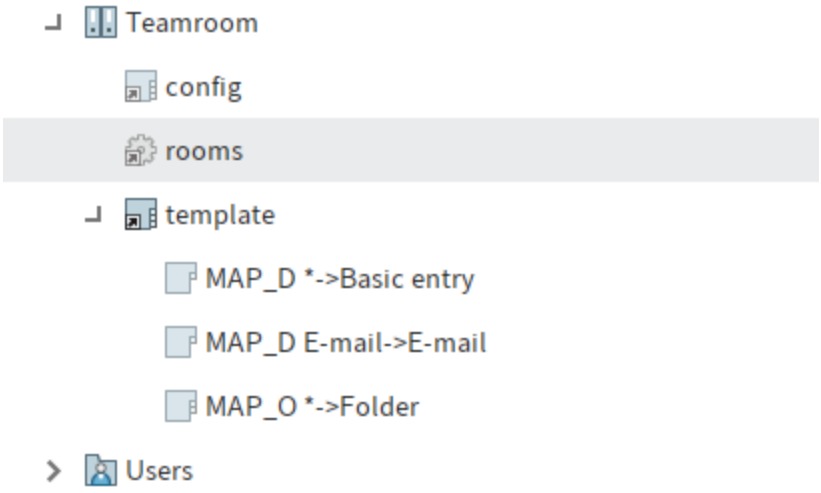


3. Open the path *Administration//Business Solutions Custom//elo.teamroom.Local//Teamroom*.
4. Create a reference to the *rooms* folder under *Administration//Teamroom*.

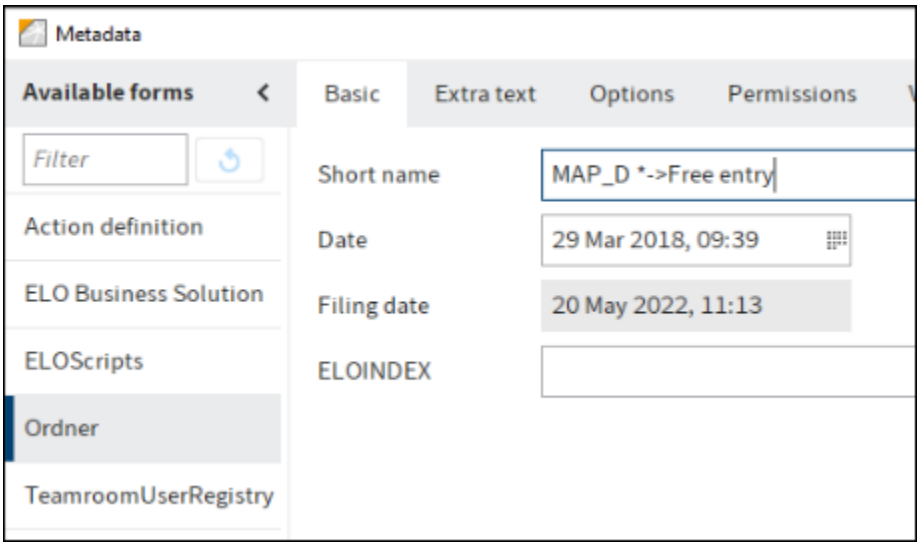
   The reference was created.

Modify metadata form assignment

Depending on your system settings (language and metadata forms used), you need to modify the assignments of the metadata forms for ELO Teamroom.



1. Open the path *Administration//Teamroom//template* in the ELO Java Client.



2. Change the short names of the child folders so that they match the metadata forms of the respective system.

- `MAP_D * -><Default form for documents>`
    - Example: `MAP_D * ->Basic entry`
- `MAP_D E-Mail -><Default form for e-mails>`
    - Example: `MAP_D E-Mail ->E-mail`
- `MAP_O * -><Default form for folders>`
    - Example: `MAP_O * ->Folder`

Configuration of connection data

To establish a connection to the ELO Teamroom server, perform the following configuration steps:

1.

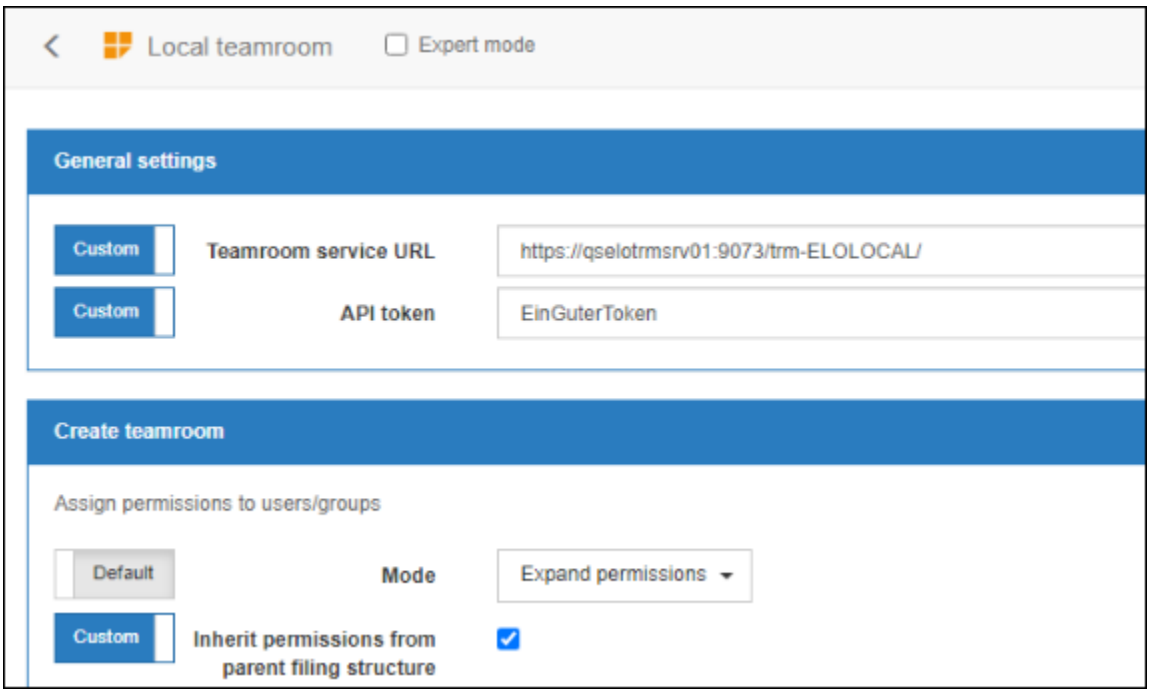
Log on to the ELO Administration Console of the main repository as the administrator.

2. Go to *Solutions* > *Teamroom*.

> **Information**
>
> Make sure that you only make changes in the folder "Business Solutions Custom".

3. Click *Local configuration*.

The *Local Teamroom* page opens.



1. Edit the following fields:

- Teamroom Service URL: Enter the URL to the ELO Teamroom application on the main repository.
    - The URL schema is as follows:

```
http(s)://<server>:<port>/trm-<name of repository>/
```

> **Please note**
>
> The URL must end in a slash (/).

- API Token: Enter the token that you used for the ELO Teamroom server.

1. Click *Save*.

2. Restart the server services of the main repository.

User assignment

Finally, you need to assign some groups at least the *Administrator* user to provide basic ELO Teamroom functionalities.

1. Log on to the ELO Administration Console of the main repository as the administrator.
2. Navigate to *System settings > User manager*.
3. Add the user *Administrator* to the following groups:
    - sol.teamroom.roles.Administrator
    - sol.teamroom.roles.Approver
    - sol.teamroom.roles.Creator
    - Teamroom Creators
    - Teamroom Users
4. Assign additional users to the respective groups as required.
5. Click *Save.*

You have now completed the basic installation of ELO Teamroom.

Users and groups

Introduction

ELO Teamroom requires some groups and users in order to work.

The following groups must exist:

- Teamroom Creators
- Teamroom Users
- ELO Users
- Teamroom Members

Additional groups are also created per teamroom.

Several things have to be considered when registering users as well.

Refer to the following sections for more information.

Groups

The following provides more information on the groups in an ELO Teamroom environment.

Teamroom Creators

The *Teamroom Creators* group is only created in the main repository.

Add all ELO users who should be allowed to create new teamrooms to the *Teamroom Creators* group.

As deleting and closing a teamroom is performed by a technical user, you also have to add the *ELO Service* user to the *Teamroom Creators* group. Normally, the *ELO Service* user is automatically added during the installation.

Teamroom Users

The *Teamroom Users* group is only created in the main repository.

Add all ELO users from the main repository with permission to work in the Teamroom repository to the *Teamroom Users* group. They are automatically synchronized to the Teamroom repository.

> **Please note**
>
> All teamroom users must have a valid e-mail address.
>
> In the case of internal users (= users created directly in the main repository), you must store the e-mail address in the respective ELO user account.
>
> You will find the corresponding field in the *ELO Administration Console > User manager > [Users] > E-mail*.

The *ELO Service* user must also be a member of the *Teamroom Users* group. Normally, the *ELO Service* user is automatically added during the installation.

ELO Users

The *ELO Users* group is only created on the ELO Teamroom server.

All members of the *Teamroom Users* group from the main repository are automatically transferred to the *ELO Users* group.

The group is created automatically at startup if it does not exist. Change the permissions if required.

Teamroom Members

The *Teamroom Members* group is only created on the ELO Teamroom server.

Each external user is automatically added to the *Teamroom Members* group. External users only exist in the repository on the ELO Teamroom server and are not transferred to the main repository.

The group is created automatically at startup if it does not exist. Change the permissions if required.

Groups per teamroom

The following additional groups are created for each teamroom on the ELO Teamroom server:

- TR_<name of teamroom>_Admin: For the administrators of the respective teamroom.
- TR_<name of teamroom>_Guest: For external participants in a teamroom.
- TR_<name of teamroom>_Member: For internal members of a teamroom.

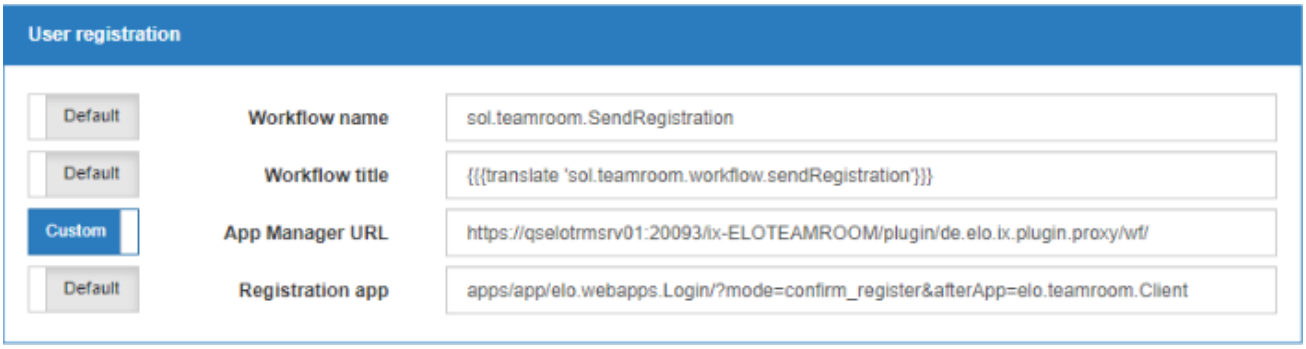
User registration

> **Please note**
>
> Teamroom users need at least the *Moderator* role and the *Start workflows* right in order to able to invite external users to join a teamroom.
>
> It is a good idea to assign the Start workflows right through groups. For example, the *Teamroom Members* and *ELO Users* groups.

When a new user is registered, the system calls the *sol.teamroom.ix.functions.RegisterUser* function. This function creates a new user if the user name does not yet exist in the system. A random password is generated and a registration e-mail is sent to the user.

> **Information**
>
> User registration is also necessary for ELO users from the main repository, as the ELO Teamroom service is not able to read passwords of existing users and transfer them to the Teamroom repository.

By default, the e-mail is sent via the workflow *sol.teamroom.SendRegistration*.



New users need to be registered on the ELO Teamroom server. You will find the corresponding configuration options in the *ELO Administration Console > Solutions > Teamroom > Remote configuration > User registration*.

The following configuration options are available:

- Workflow name: The workflow to start after the user is created (default: *sol.teamroom.SendRegistration*).
- Workflow title: Name of the workflow that appears in the workflow overview, for example. You can use Handlebars syntax here.
    - Default setting:

```
{{{translate "sol.teamroom.workflow.sendRegistration"}}}
```

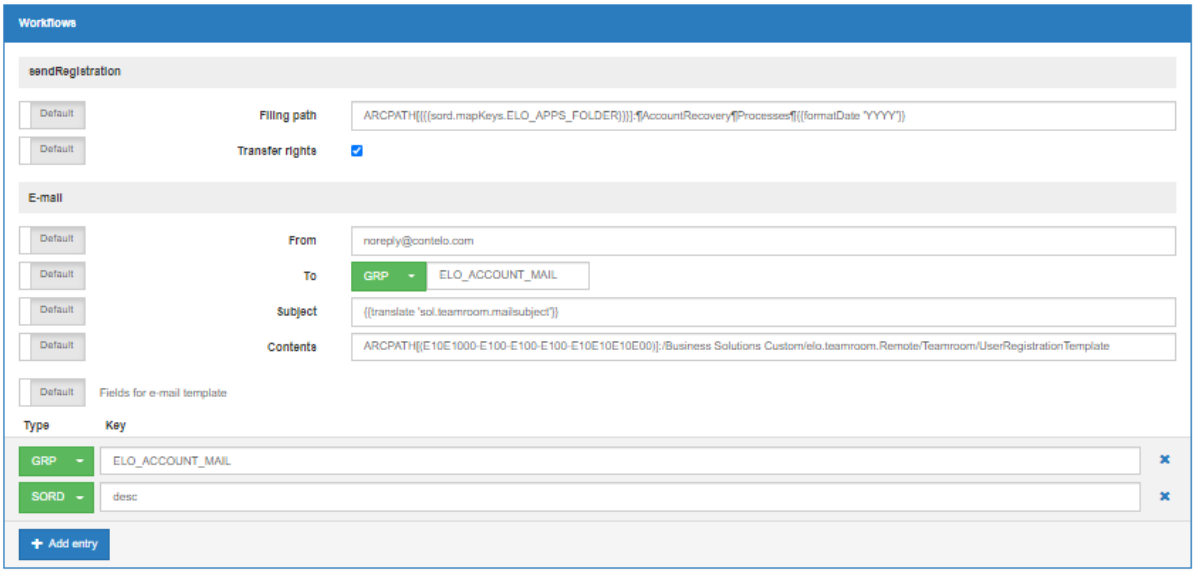
  - Allows you to edit and/or translate the name using a translation file (properties file).

- App Manager URL: The registration e-mail sent to the user also includes a link to the teamroom. The URL defined here is used to generate the link.

  Defining a URL is important, as the URL has to be able to be reached externally and the URL may differ from the internal server URL (for example when using a proxy).

- Registration app: The URL path that processes registration confirmation. The workflow confirmation function is used as standard and then forwarded to the ELO Teamroom Client. This can be changed if needed.

  The workflow confirmation function is used as standard and then forwarded to the ELO Teamroom Client. This can be changed if needed. For example, you could forward it to a confirmation page you developed separately.



You can make the following additional settings in the *Workflows* area:

- Filing path: To prepare delivery of the registration e-mail, a container object is generated in the chaos folder and the registration workflow is started on this object.

  The template for the container object is located in *Administration//Business Solutions//elo.teamroom.Remote//Configuration//Registration template*.

  After sending, these container objects are moved to the filing path defined here.

- Transfer rights: If the *Transfer rights* option is enabled, the rights for the target folder will be applied when the container objects are moved.

- From: The sender address of the registration e-mail.

-

To: The field where the e-mail address of the recipient is located on the container object.

- Subject: The subject of the registration e-mail. You can use Handlebars syntax here.
  - Default setting:

```
{{translate "sol.teamroom.mailsubject"}}
```

  - Allows you to edit and/or translate the name using a translation file (properties file).
- Content: The filing path where the template for the e-mail is located.

  By default, the template is supplied with only following content:

```
{{{sord.desc}}}
```

  This refers to the extra text generated by the workflow in the container object before the e-mail is sent.

- Fields for e-mail template: The fields to be used when preparing the e-mail content via the *sol.common.ix.function.RenderTemplate* function.

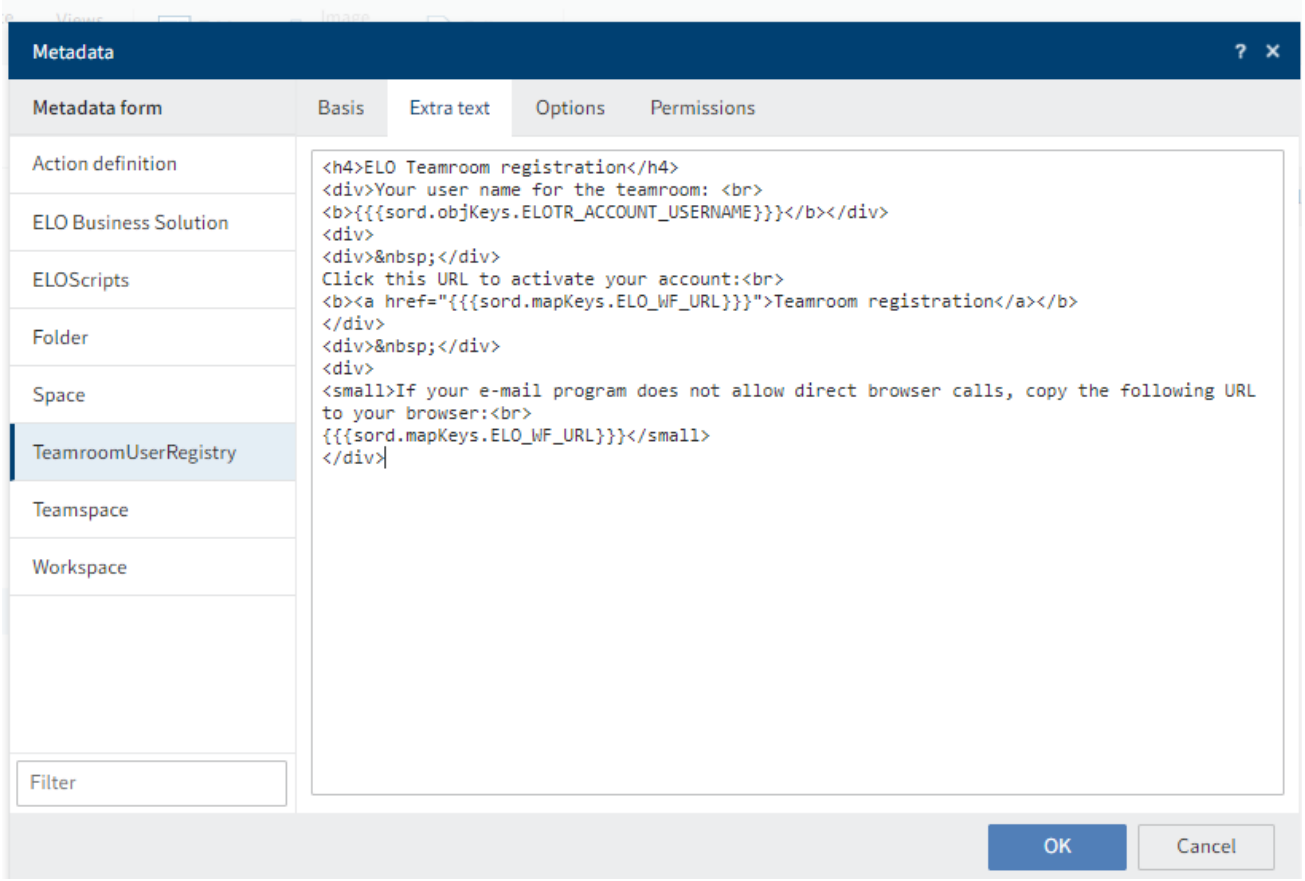
  The named fields can contain text with Handlebars syntax that is processed with the function.

Customizing the e-mail template

In the default *sol.teamroom.SendRegistration* workflow, first the contents of the e-mail are prepared and then the e-mail is sent via ELO Common function *sol.common.ix.functions.Notify*.

You will find the content of the e-mail in the ELO Teamroom server repository in the extra text of the template for the container object at the following path:

Administration // Business Solutions // elo.teamroom.Remote // Configuration // Registration template



Default content:

```
<h4>Invitation to register for ELO Teamroom</h4>
<div>
  Your login name for the teamroom is: <br />

  <b>{{{sord.objKeys.ELOTR_ACCOUNT_USERNAME}}}</b>
</div>
<div>
  <div> </div>
  To activate your account, click this URL:<br />
  <b><a href="{{{sord.mapKeys.ELO_WF_URL}}}">Teamroom registration</a></b>
</div>
<div> </div>
<div>
  <small
    >If your e-mail program does not allow direct browser calls, copy<br />

    the following URL and paste it into your browser:<br />
    {{{sord.mapKeys.ELO_WF_URL}}}</small
  >
</div>
```

If a registration e-mail is created for a specific user, the system copies this template, including the extra text. Just before the e-mail is delivered, the extra text of the specific container is processed.

Advanced configuration

Introduction

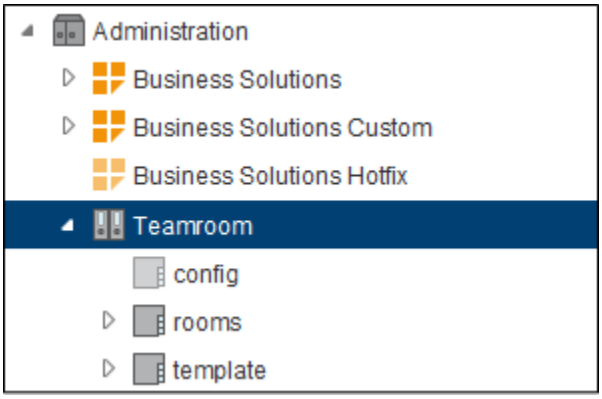
The following sections provide information on additional configuration options for ELO Teamroom:

- 'Teamroom' folder
- Configuration file of the ELO Teamroom application
- Teamroom configuration

'Teamroom' folder

The Teamroom service uses the child folders under the path *Administration//Teamroom* for teamroom administration and configuration. Normally, you don't have to work in this folder, as the configuration application from the *elo.teamroom* solution package configures this folder.

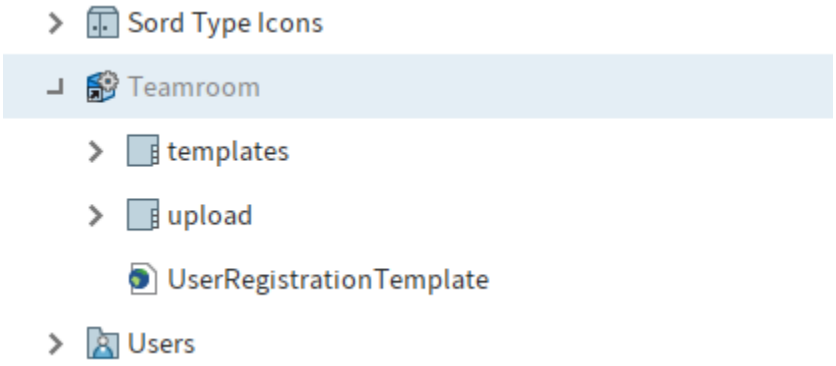
Folder structure in the main repository



Here is some information about the content of the *Teamroom* folder in the main repository:

- rooms: The ELO Teamroom service manages the list of available teamrooms in the *rooms* folder.
- template: The mapping for metadata forms between the main repository and the Teamroom repository is configured in the *template* folder.

Folder structure in the ELO Teamroom server repository



Here is some information about the content of the *Teamroom* folder in the ELO Teamroom server repository:

- templates: In the *templates* folder, you can store documents and folders as templates for the ELO Teamroom Client.
-

upload: The *upload* folder contains templates that provides only the form definition, and no file content. These templates are intended for pictures or PDFs, that is, files that are normally edited after creation.

Configuration file of the ELO Teamroom application

You will find the *config.xml* configuration file of the ELO Teamroom application (abbreviation: trm) under the following path on the server of the main repository:

<ELO>\config\trm-<name of repository>\<Server>

Here is an overview of the file with notes on where to customize during installation:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE properties SYSTEM "http://java.sun.com/dtd/properties.dtd">
<properties>
<entry key="l.ixurl">http://{Main repository server}:
                     {Port}/ix-{Main repository name}/ix</entry>
<entry key="l.user">{Main repository service user}</entry>
<entry key="l.pwd">{Service user password}</entry>
<entry key="l.root">ARCPATH:/Administration/Teamroom</entry>
<entry key="r.ixurl">http://{ELO Teamroom server}:{Port}/ix-Teamroom/ix</entry>
<entry key="r.user">{ELO Teamroom repository service user}</entry>
<entry key="r.pwd">{Service user password}</entry>
<entry key="r.root">ARCPATH:/Teamroom</entry>
<entry key="
```

The "l." entries contain information on the main repository ("local") and are completed by the ELO Server Setup. You need the ELO Indexserver URL as well as an account with access rights to the documents to be synchronized.

The *l.root* entry specifies the path to the teamroom configuration.

The r entries belong to the ELO Teamroom server repository ("remote"). You also need to specify the ELO Indexserver URL and a service account here. The service account must also have the right to create users and groups.

> **Please note**
>
> Do not make any changes to `r.root`.

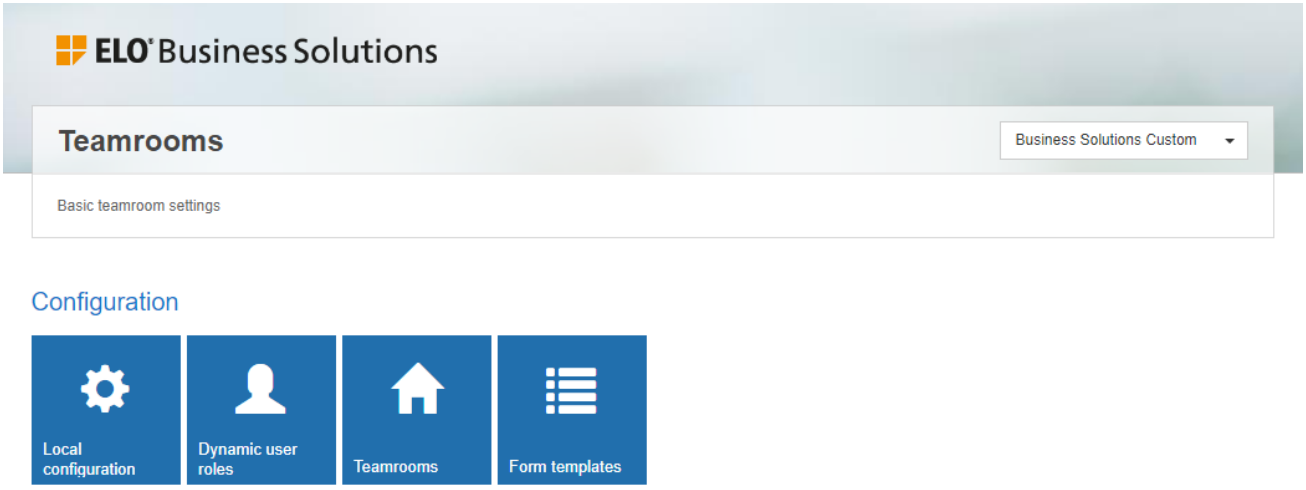
The entry *api.token* secures access to the *registered function* calls. It is a kind of password that the ELO Teamroom service uses to authenticate with the ELO Indexserver script.

To change the token, you need to modify it in the *config.xml* configuration file and in the ELO Administration Console configuration interface for both repositories.

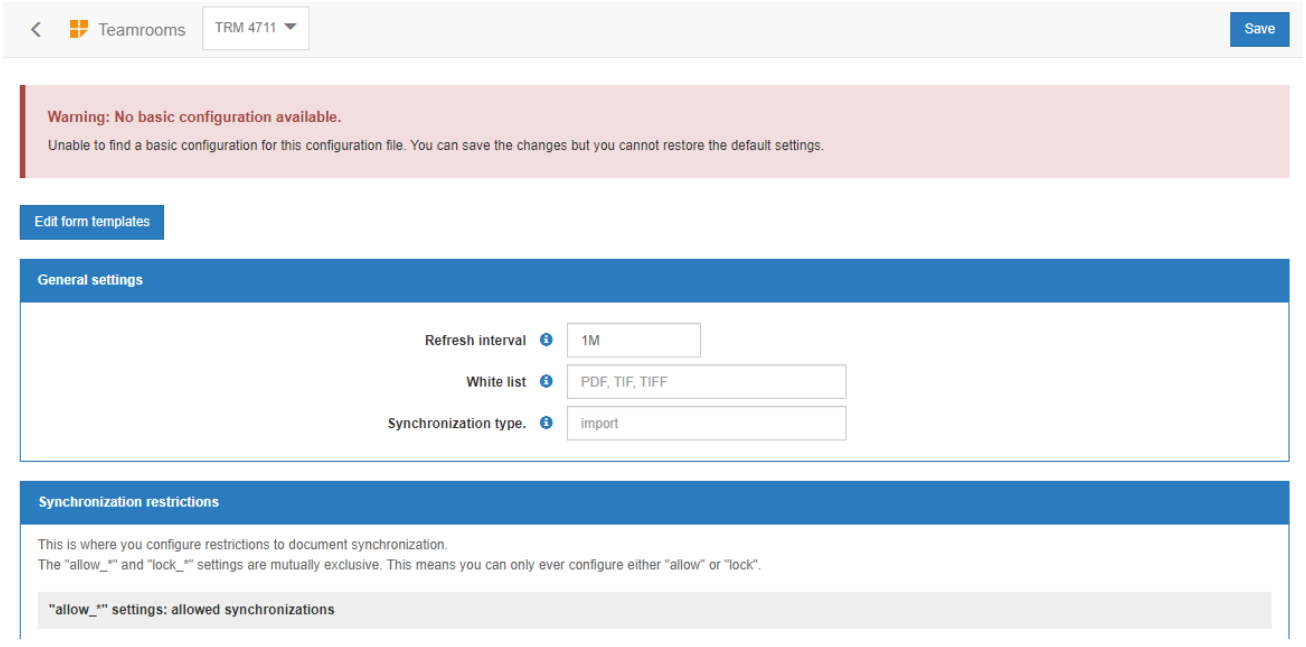
Teamroom configuration

You can configure the settings required for running a teamroom in the ELO Administration Console of the main repository.

You will find the configuration of the individual teamrooms under *Solutions* > *Teamrooms*.



You will find the configuration of the individual teamrooms under *Solutions* > *Teamrooms*.



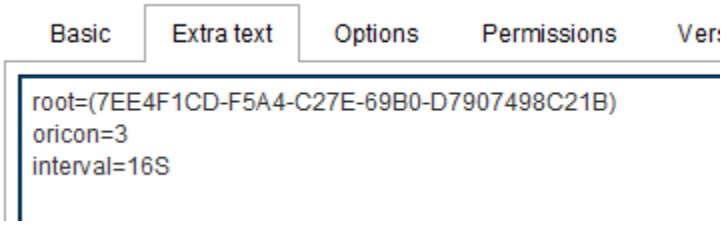
In the drop-down menu at the top, you can choose between different teamrooms in the system.

There are info boxes describing the respective setting in more detail for each of the individual configuration settings.

Information

The refresh interval is set to 10 min. by default. The configuration still shows "2M" as an example value.

Change the value as needed.



On saving, the configuration settings are entered into the extra text of the teamroom (*Administration // Teamroom//rooms*).

Please note

The extra text can be changed directly. However, ELO does not recommend this procedure. Ideally, you should use the configuration interface in the ELO Administration Console.

To make it easier to do analyses, here is a list of the individual configuration settings are listed below:

- root: GUID of the start folder in the main repository. The start folder can be located at any position, but it must be available for users on the Teamroom server.
- Example: `root=(0E9A8D2E-B982-67CE-5FDA-C33B1F90F767)`

Please note

This entry is created by the ELO Teamroom service and must not be changed manually.

- interval: Synchronization refresh rate. We recommend as short an interval as possible. With larger databases, this can cause an excessive load on the server. Select a suitable value somewhere in between.

  The interval can be entered in seconds (30S – every 30 seconds), minutes (10M – every 10 minutes), or hours (1H – every hour). You can also enter absolute times if you want to synchronize the teamroom once a day at a specific time: 2330A – every night at 11:30 p.m. (values range from 0100 to 2459).

- Example: `interval=2M`

  Information

> The default interval is set to 10 minutes. This interval will be used unless you set a different value.

- whitelist: A list of file extensions permitted for synchronization to the main repository. The ELO Teamroom Client only files documents with these endings. The extensions are indicated without a period, separated by a comma.
    - Example: `whitelist=pdf,tif,tiff`
- direction : Synchronization type. If this parameter is missing or is set to `both`, normal bi-directional synchronization is performed.

  If `import` is set, only data from the ELO Teamroom server repository is imported to the local main repository.

  If `export` is set, only data from the main repository is exported to the ELO Teamroom server repository.
    - Example: `direction=import`
- allow_local: Enter the number of a `sord.info` value here. This value indicates that the document may be synchronized from the local main repository to the ELO Teamroom server repository.

  Once this value is set, not all documents are automatically exported by default. Instead, only selected documents are synchronized.
- Example: `allow_local=1`

> **Please note**
>
> The `allow_*` and `lock_*` settings are mutually exclusive. This means you can only ever configure either settings with `allow_*` or settings with `lock_*`.

- allow_remote: Enter the number of a `sord.info` value here. This value indicates that the document may be synchronized from the ELO Teamroom server repository to the main repository.
    - Example: `allow_remote=2`
- lock_local: Enter the number of a `sord.info` value that triggers an export lock from the local main repository here. Documents with this info value are not exported when changes are made in the main repository.
    - Example: `lock_local=3`
- lock_remote: Enter the number of a `sord.info` value here. This value triggers an export lock from the ELO Teamroom server repository. Documents with this info value are not exported when changes are made in the ELO Teamroom server repository.

By configuring this option and setting an info value, not every interim version is transferred to the main repository when edited in the Teamroom. The marker is then reset once the final version is complete. This version is then synchronized.

    - Example: `lock_remote=4`

- oricon: If a folder is registered as a teamroom, you can automatically change the folder icon to another (teamroom) icon. The service saves the ID of the original icon in this field. This information is used to be able to configure the original icon when the teamroom is deleted.

- Example: `oricon=3`

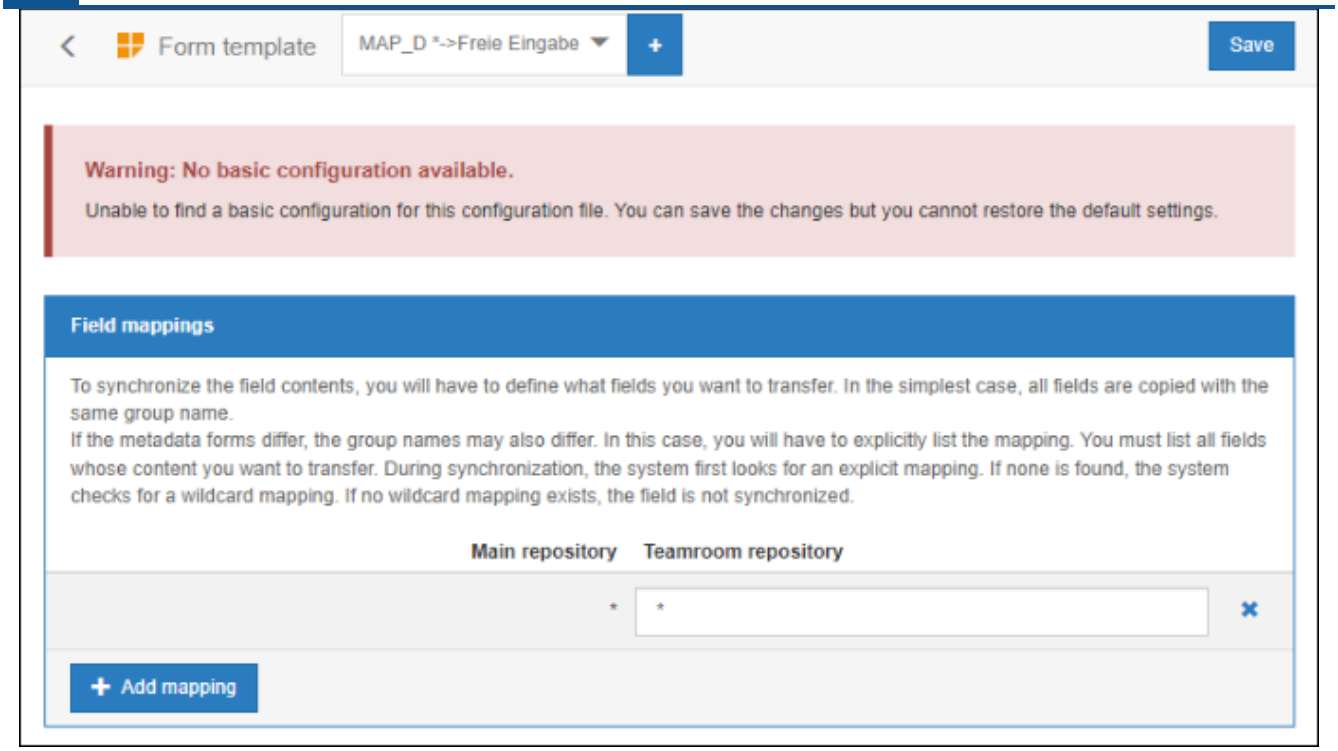
Metadata form configuration

In the simplest case, only documents without any metadata are managed in the teamroom. In this case, the default mapping that covers all documents with the *Basic Entry* metadata form and all folders with the *Folder* metadata form suffices. In practice, however, you will likely need additional metadata in the Teamroom.

Creating metadata forms in the teamroom

If you want the metadata form in the teamroom to be identical to the metadata form in the main repository, the easiest option is to export a document/folder with this form from the main repository and import it into the Teamroom repository. During import, any metadata forms that do not yet exist are created automatically. If you want to make changes to the metadata form later on, you will have to do so in both the teamroom and the main repository. Automatic synchronization is not available in ELO Teamroom.

You may not want to see the entire metadata from the main repository, for example, if multiple fields are confidential. In this case, create the metadata form in the teamroom with just some of the metadata fields. The fields have the same group names, which simplifies configuration significantly.



You have to enter the metadata form definition globally in the ELO Administration Console of the main repository under *Solutions > Teamroom > Form templates*.

> **Information**
>
> Alternatively, you can also change the metadata form configuration in the individual teamrooms under *Solutions > Teamroom > Teamrooms > Edit form templates button*.

- Add new metadata form: Click the *Add new metadata form* button (plus icon) to add metadata forms to the default ones. You need to map the names of metadata form in the main repository to the ones in the Teamroom repository.
- Add mapping: Click the *Add mapping* button to map fields from the main repository to fields in the Teamroom repository. To do so, use the group names of the respective fields.

When creating a new teamroom, the global configuration is automatically copied to the teamroom configuration folder and can then be customized there.

From a technical standpoint, the form templates are saved in folders and extra texts. In practice, this is irrelevant thanks to the configuration application.

Technical background

To simplify troubleshooting, the following explains the logic behind this.

You can either store the metadata form definitions for all teamrooms under *// Administration // Teamroom // template*, or separately for each teamroom at *Administration // Teamroom // rooms // <Teamroom Name>*.

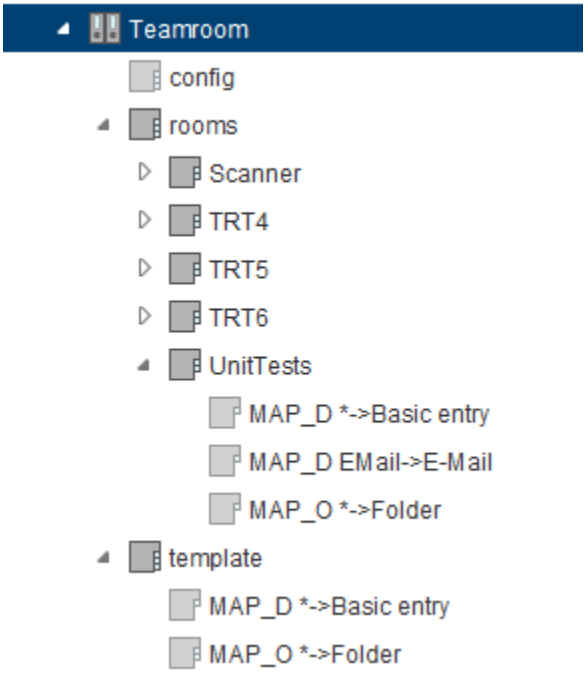
To map metadata forms, a child folder with a formatted name is created in the Teamroom folder. The following applies:

- Document forms: `MAP_D [form in main repository]->[form in Teamroom repository]`
- Folder forms: `MAP_O [form in main repository]->[form in Teamroom repository]`

> **Please note**
>
> The name of the metadata form in the Teamroom repository must not be a wildcard.

When synchronizing a document, the server first checks whether there is a 1:1 mapping with the metadata form name. If this is not the case, next it checks whether a wildcard mapping is available. If this mapping also does not exist, the document is excluded from synchronization.

Examples



In this example, the documents with the *E-mail* metadata form will be synchronized. In the main repository, this form is called *Email* and in the Teamroom repository it is *E-mail*. These different spellings do not prevent synchronization. The mapping must look like this:

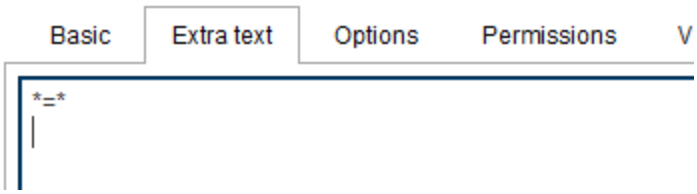
```
MAP_D EMail->E-mail
```

You can also set the configuration to map all (other) folders from the main repository to the *Folders* metadata form in the Teamroom repository:

```
MAP_0*->Folders
```

If you do not configure it like this, you will have to list all metadata forms whose documents/folders you want to synchronize. You can also use this method to exclude specific confidential information that have an own metadata form from being synchronized.

To synchronize the field contents, you will have to define what fields you want to transfer in the extra text of the metadata form.



In the simplest case, all fields are copied with the same group name. Use the following configuration:

=

If the metadata forms differ, the group names may also differ. In this case, you will have to explicitly list the mapping. List all fields whose content you want to transfer in the following way:

```
<field in the main repository>=<field in the Teamroom repository>
```

During synchronization, the system first looks for an explicit mapping. If none is found, the system checks for a wildcard mapping. If no wildcard mapping exists, the field is not synchronized.

Operation

Introduction

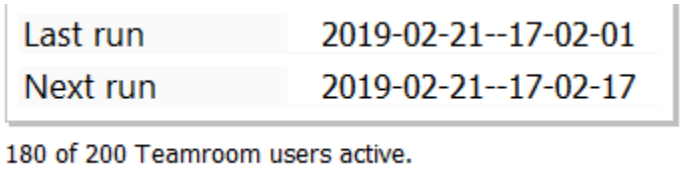
You will find information on operating ELO Teamroom in the following sections:

- License management
- Teamroom life cycle
- Events
- Conditions and limitations

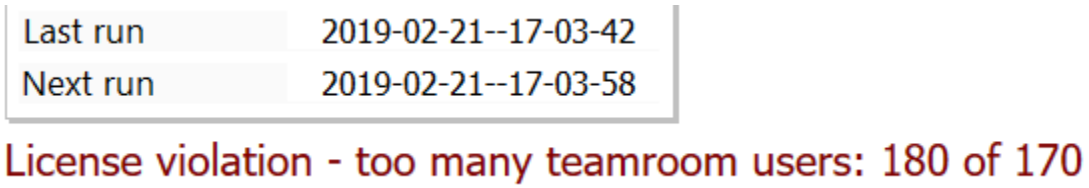
License management

External teamroom users are licensed differently from internal ELO users. Internal ELO users are covered by the main repository's license. On the main repository end, users become teamroom participants by adding them to the *Teamroom Users* group. As teamroom participants directly or indirectly perform a number of write operations, they are automatically "write users". This means there are no read-only teamroom users.

The license for the Teamroom repository contains information about the number of permitted external users. This number is checked and logged by the ELO Teamroom service. Provided the system is licensed correctly, the number of active users is logged in the status.



If the number of licensed users is only exceeded slightly, a warning appears on the status page, but the system continues running normally.

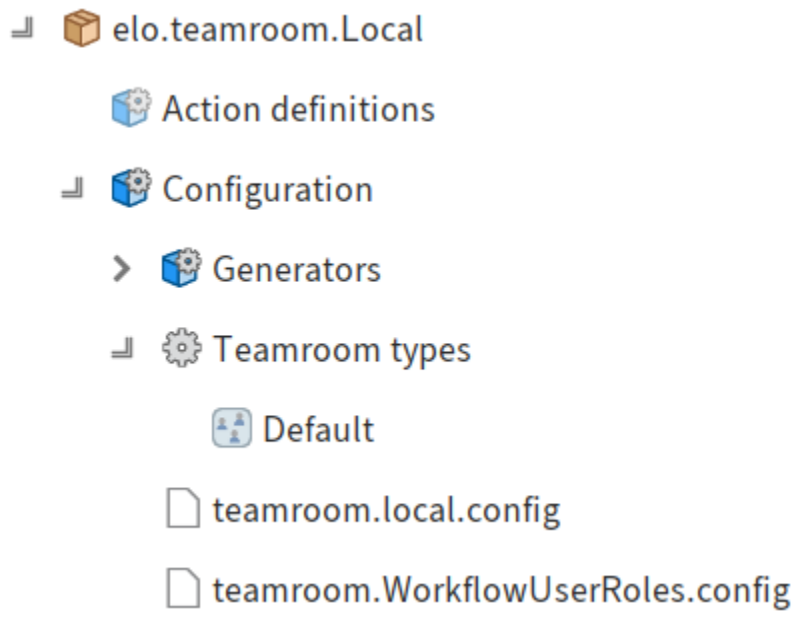


In case of a major license violation, synchronization is stopped. Teamroom users can continue working normally, but no more data is transferred to or from the main repository.

Locked users or users without interactive logon are not counted if the last time they logged on was more than 14 days in the past. Former teamroom users should therefore be locked in the ELO Administration Console for security and licensing reasons.

Teamroom life cycle

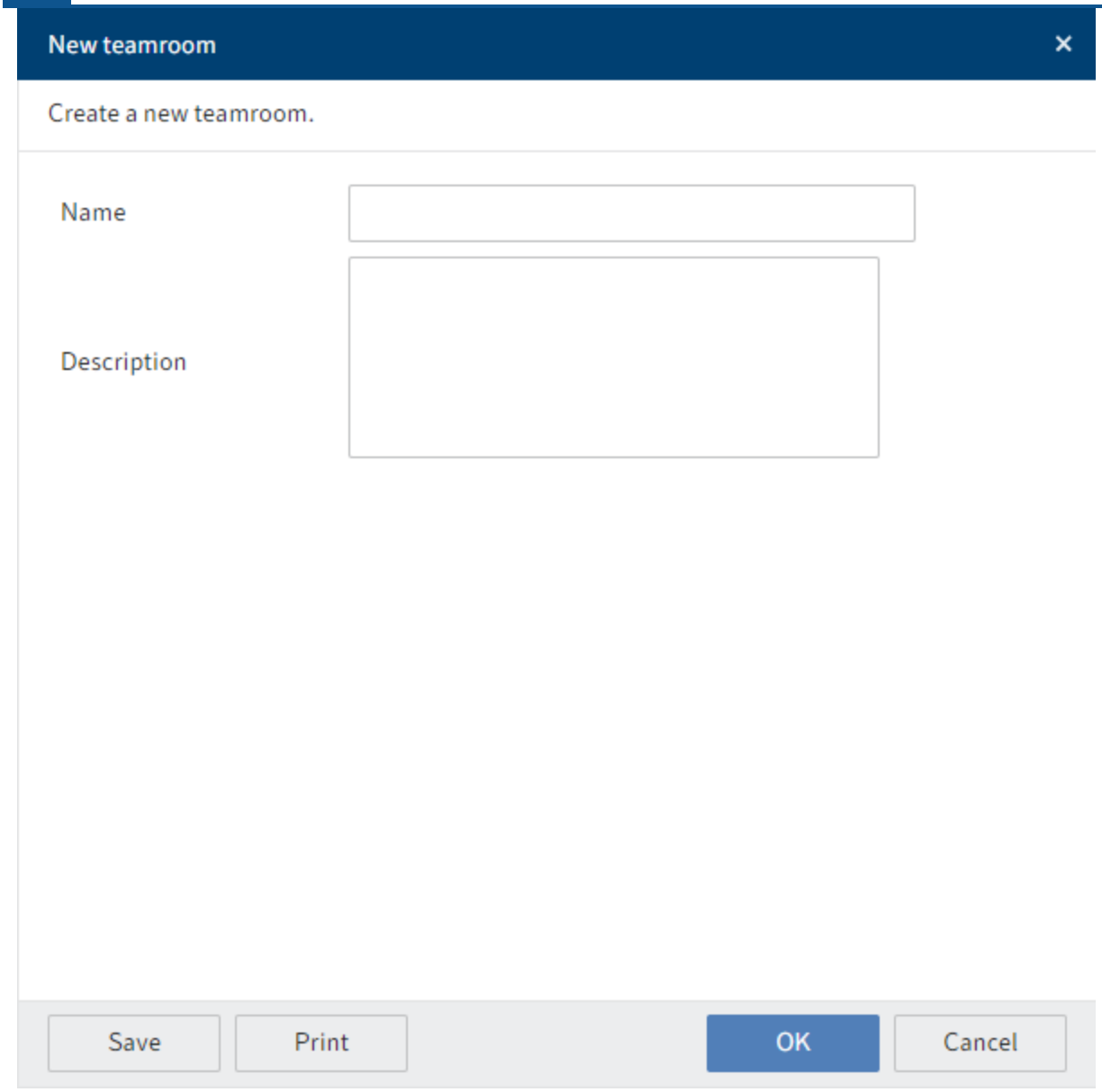
All ELO users in the *sol.teamroom.roles.Creator* group can request teamrooms. This is done using the *New teamroom* button on the ribbon (ELO 12: *Teamroom -> New teamroom*, ELO 20 and higher: *New -> Self-service -> New teamroom*) or by clicking the *New teamroom* tile. The ELO user needs the right *Start workflows* to be able to do this.



The system uses the ELO Business Solutions template concept. The templates for new teamrooms are located under *Administration//Business Solutions Custom//elo.teamroom.Local//Configuration//Teamroom types*.

Create new teamroom

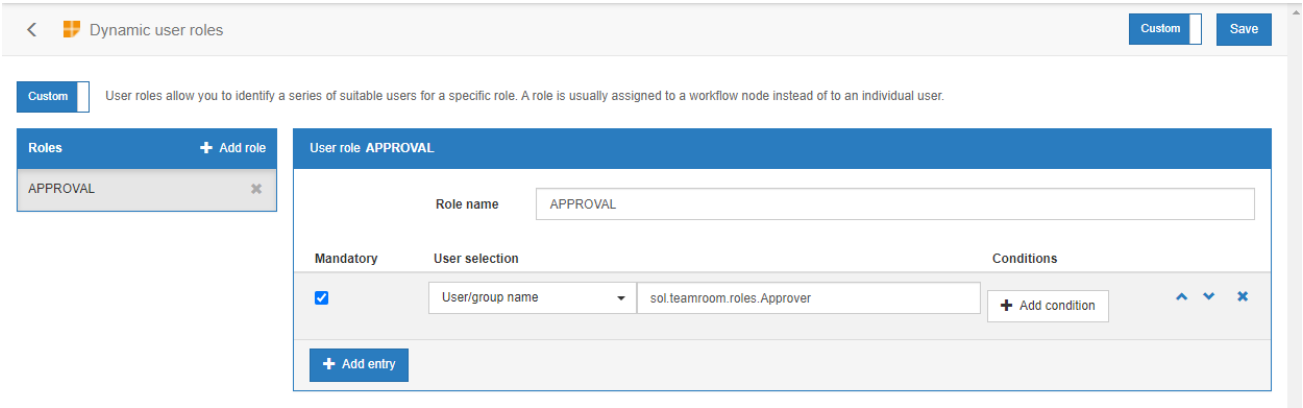
If there are multiple templates, clicking *New teamroom* opens a dialog box to select a type.



If there is only one template, the *sol.teamroom.teamroom.create* workflow starts immediately and the dialog box for the first user node opens.

In the dialog box, enter a name and optionally a description for the teamroom. Clicking *OK* initiates the (optional) approval process for the teamroom.

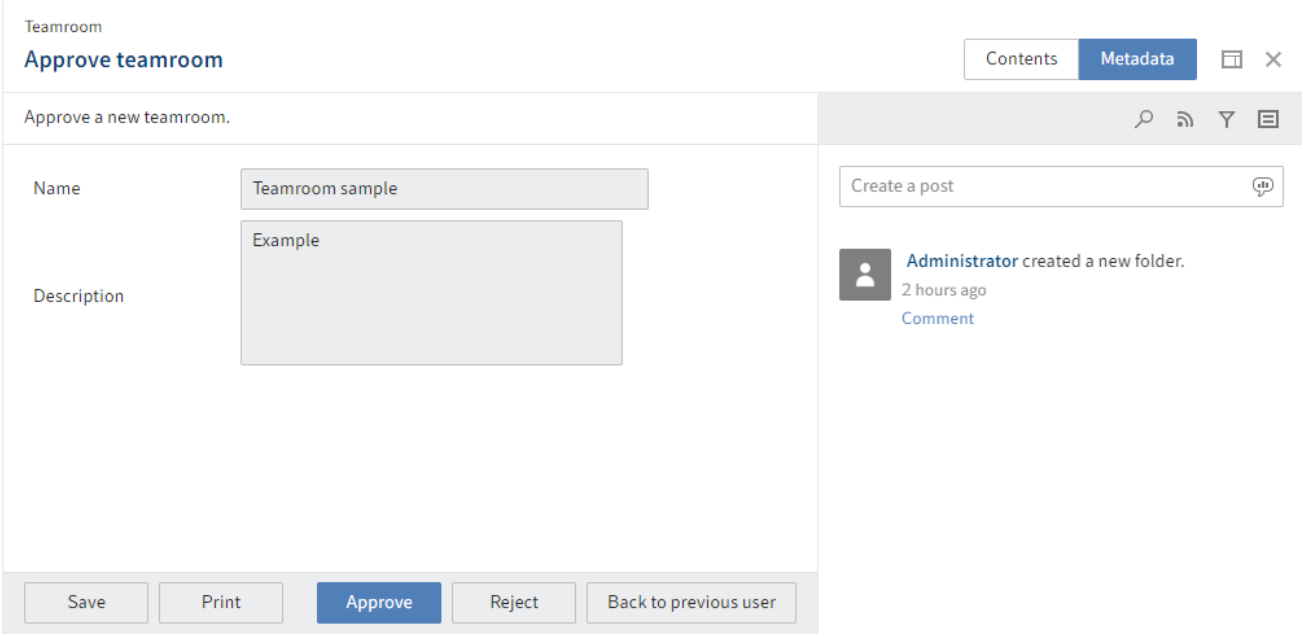
Approval process



You can configure the approval process for the teamroom in the configuration interface of the ELO Administration Console under *Dynamic user roles*.

The decision of who the teamroom is sent to for approval is made based on the *APPROVAL* role. The mechanism is the same as with Business Solution ELO Invoice. By default, the user group *sol.teamroom.roles.Approver* is configured here. In the simplest case, all you have to do is add users to this role.

You can also leave the *APPROVAL* role empty; the approval process is then skipped.



The approving user has the option to approve or reject the teamroom, or to return the workflow back to the previous user.

After approval has been granted, the ELO Teamroom service creates the teamroom folder and synchronization begins.

A technical folder for the configuration data of the new teamroom is created under *Administration//Teamroom//rooms* and the data folder is created under *Teamroom*. The service creates a new Teamroom repository using the default configuration from the main repository. After this, the teamroom is available.

Before the teamroom folder in the main repository is filled with data for synchronization, you can customize the configuration. This includes:

- Configuring mapping of metadata forms for synchronization.
- Assigning permissions to other users in the main repository to the Teamroom folder. This folder inherits permissions of the selected folder where the reference to the Teamroom folder is created.
- In the Teamroom repository, you can configure templates for creating and filing entries for the new teamroom if you want to deviate from the default.

Initial documents and entries can be moved to or created in the Teamroom folder and users invited to the teamroom via the ELO Teamroom Client.

ELO Teamroom Client

The teamroom can be accessed in the Teamroom repository via the ELO Teamroom Client. This is delivered via ELOwf and called from the URL:

```
<server>/ix-<repository>/plugin/de.elo.ix.plugin.proxy/wf/apps/app/elo.teamroom.Client/
```

The ELO Teamroom Client contains all entries from the main repository according to the configuration (e.g. form mapping).

Permissions

The permissions are not applied, as the users in the Teamroom repository are different from those in the main repository. Instead, each teamroom is based on three groups created dynamically:

- Moderator
- Member
- Guest

These groups are created for each teamroom. All entries in the teamroom have the following permissions:

Moderator: R,W,E,D,L,P

Member: R,W,E,L

Guest: R

The creator of the teamroom is automatically added to the *Moderator* group. As moderator, they can add existing users to their teamroom in the ELO Teamroom Client or invite external users. In both cases, they assign a role (moderator, member, guest) for the new users in this teamroom.

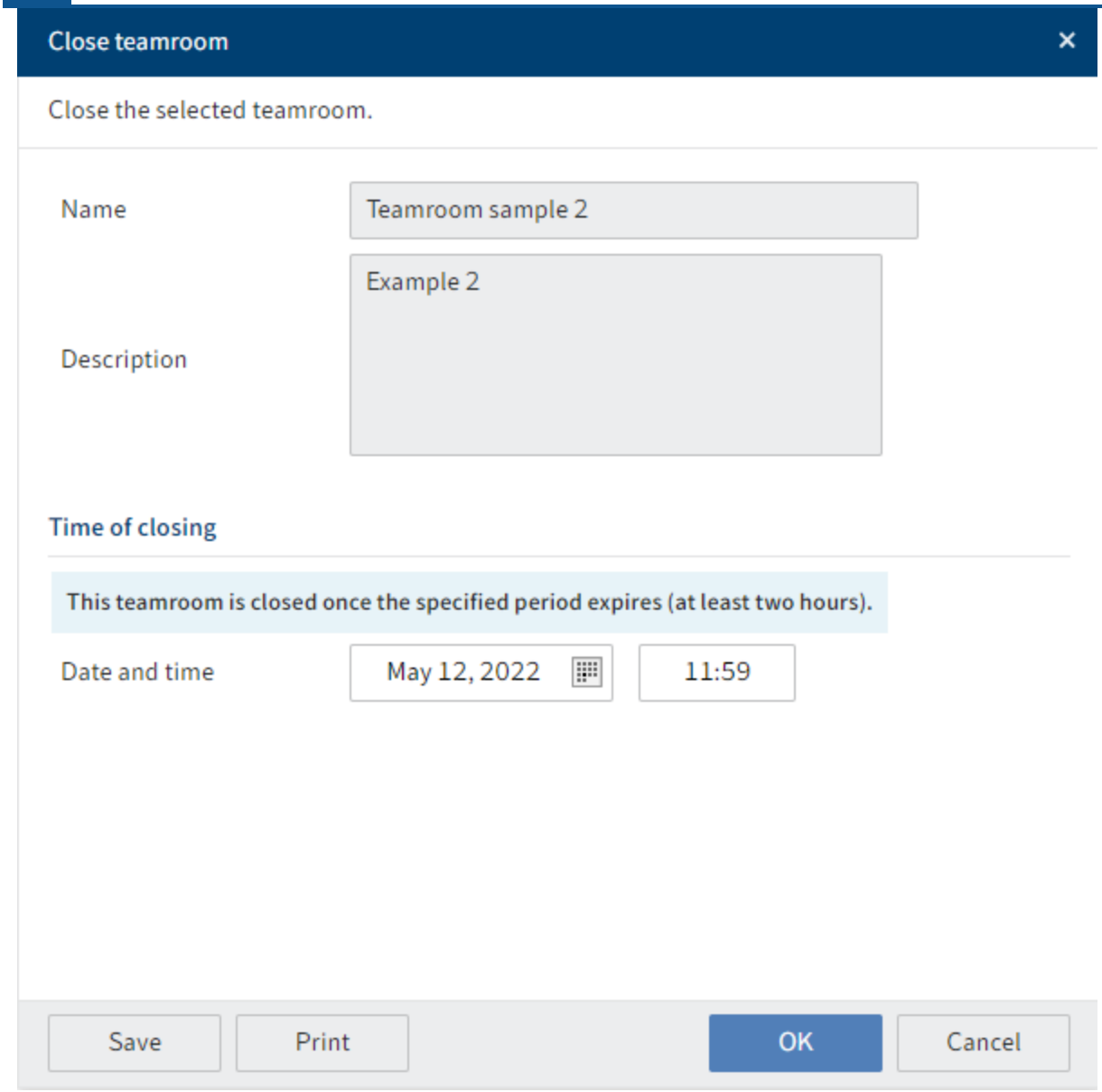
Existing users are all users existing in the Teamroom repository. Either they are automatically created from the *Teamroom Users* group in the main repository (and are now in the *ELO Users* group in the Teamroom repository) or these are external users that have already been invited to other teamrooms.

To create an external user that does not yet exist, you have to enter a role, e-mail address, and user name. The user is then created, added to the group corresponding to their role in the teamroom, then the *sol.teamroom.SendRegistration* workflow is started. The user receives an e-mail notification at the specified address requesting to set a password. Users created externally are also added to the *Teamroom Members* group.

While a teamroom is running, exclusive groups determine who can edit what entries. Changes are synchronized back to the main repository via the ELO Teamroom Service according to the configuration. Changes to the entries in the main repository are also synchronized to the Teamroom repository.

Close teamroom

Ending a teamroom is currently equivalent to stopping synchronization. Members with the *sol.teamroom.roles.Creator* and *sol.teamroom.roles.Administrator* roles can perform this on the teamroom entry by clicking *Close teamroom*.



The user can set the closing time in a dialog box.

The process of closing is performed by a technical user (ELO Service). The ELO Teamroom service marks the corresponding teamroom and synchronizes it for the last time after a specified time period. After that, the synchronization is complete. The period is used to notify any active users that the teamroom has been closed and to allow them to save their data.

The data for a closed teamroom still exists in both repositories, but it is no longer synchronized. You can no longer view this data using the ELO Teamroom Client. Existing entries may still appear in the user's *My ELO* work area.

Delete teamroom

With the *Delete teamroom* button, users with the role *sol.teamroom.roles.Administrator* can remove a teamroom that has already been closed from the Teamroom repository. This deletes all

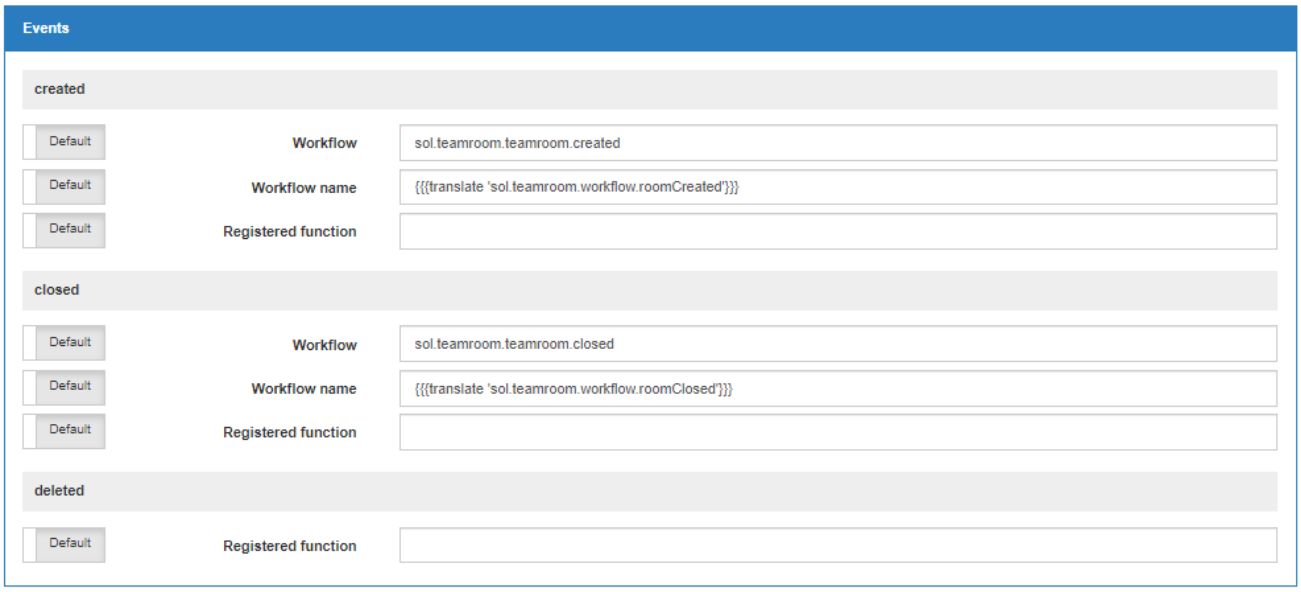
data from the Teamroom repository but it remains in the main repository. The process of deletion is performed by a technical user (ELO Service).

Events

The system offers various mechanisms for configuring events in terms of the life cycle of a teamroom.

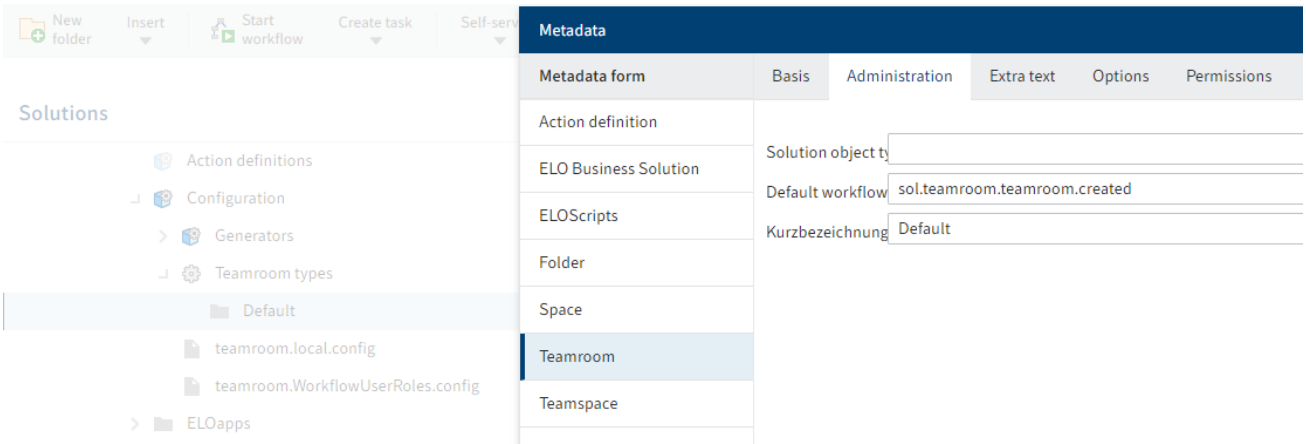
Main repository

In the configuration interface of the ELO Administration Console, various post-processing processes can be configured for different events.

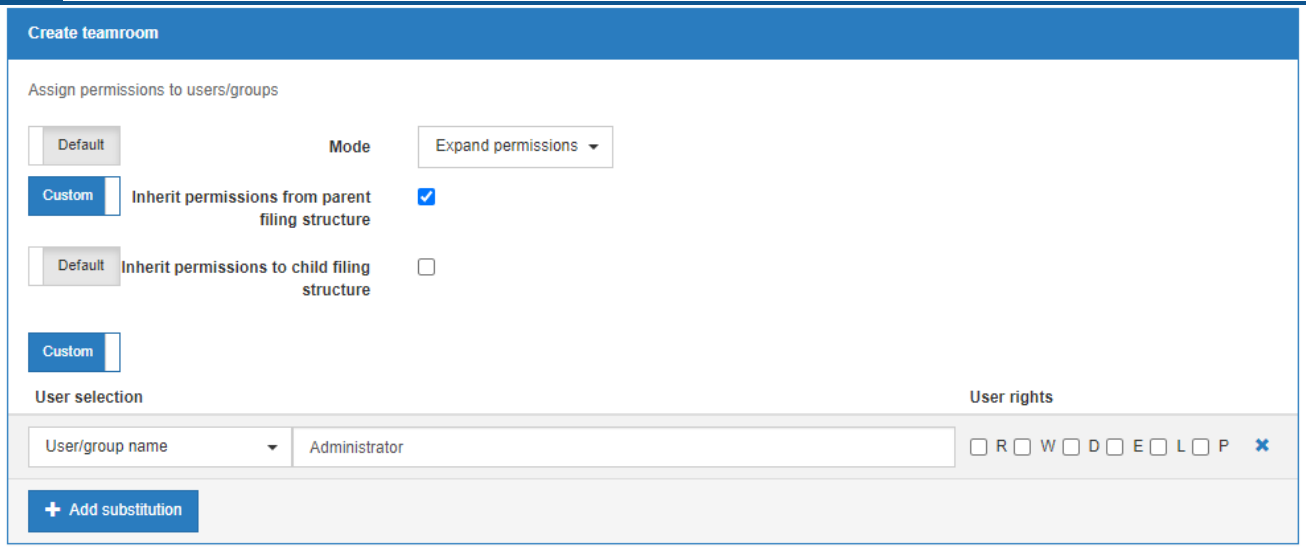


Both workflows and registered ELO Indexserver functions can be started once the events occur. However, if a teamroom has been deleted, only registered functions can be started, as the teamroom folder (which a workflow would be started on) no longer exists.

You can also configure a default workflow in the metadata form in the respective teamroom template. This workflow is run on creation AFTER starting the "normal" create event.

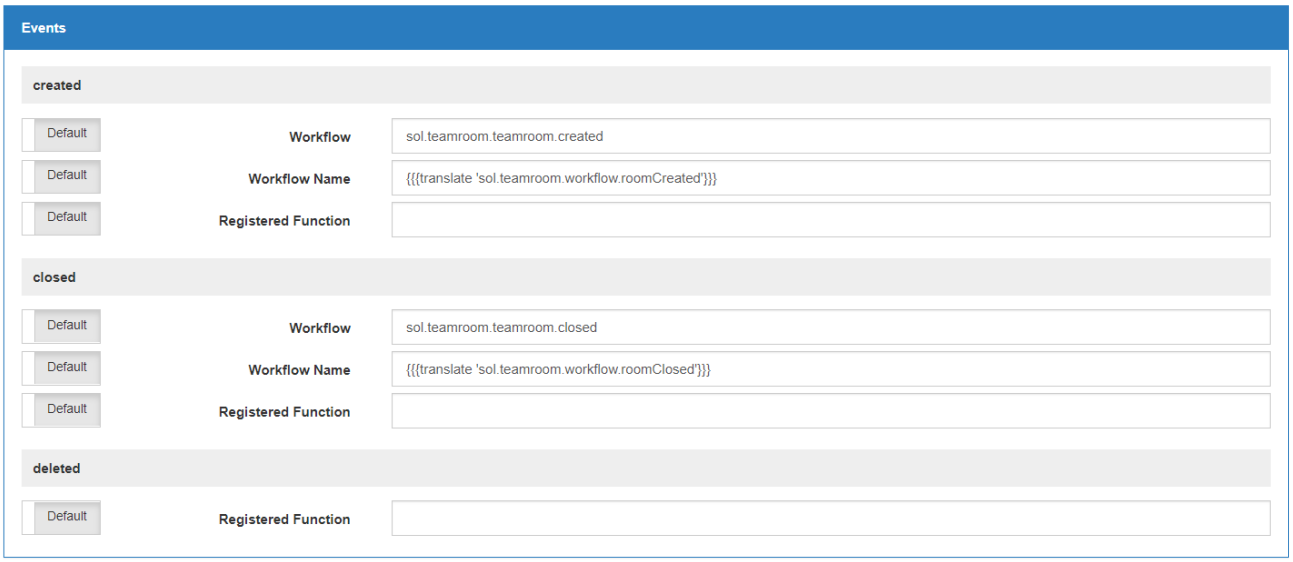


The solution comes with a default template with the workflow *sol.teamroom.teamroom.created*.



By default, this workflow creates a feed post and sets the target permissions, which you can configure in the configuration interface.

Teamroom repository



In the Teamroom repository, you can configure the events as in the main repository.

Conditions and limitations

As the documents and folders are linked based on their GUID, it is not yet possible to show a document in different Teamrooms. This means you cannot create part of a teamroom as a separate additional teamroom.

Only main references can be synchronized. Additional references and links are ignored.

As synchronization is the process of comparing the two repositories, make sure that the Teamroom is large enough to accommodate the synchronization interval. Synchronizing large Teamrooms at short intervals can cause an excessively high load on the server.

The following metadata fields are synchronized:

- All mapped fields
- Short name
- Extra text
- Markers
- Version number
- Type
- Document date
- Document status
- Full text marker
- Sort order

The permissions (which are always taken from the parent directory of the target page) and owner are not synchronized.

All other metadata forms are undefined in terms of synchronization. This means that the status can change from version to version depending on changes from live operation.

For new document versions, the document file, the version number, and the version comments are taken over.

If there are multiple changes to the metadata or document files between syncs, only the current status is synchronized. Not all interim states are created on the other end.

If an object has undergone multiple complex changes (i.e. metadata changed, moved, deleted, new version) and this is detected upon synchronization, not all changes may be transferred in one single sync. In some cases, you may have to run a second sync.

On the Teamroom repository side, documents or folders must not be moved from one teamroom to another, as this teamroom may be located on an entirely different server. On the main repository side, this is permitted – in this case, the entry is deleted from the teamroom.

As fields are mapped via the group name, no metadata forms are permitted that use the same group name multiple times.

To register users, the ELOwf service user for the Teamroom repository requires the *Change password* right.

As soon as a feed entry has an ACL, nothing is transferred because the permissions on the other side cannot be emulated. The user names of feed entries are inserted in plain text in the synchronized repository. The service is entered as the user.

The order of the feed items is not guaranteed to be the same on both sides of the main and Teamroom repositories.

The date of a synchronized feed item is the date at the time of synchronization and not the date the feed item was originally created.