

# **ArchiREPO - User Manual II.**

SECTION FOR ADVANCED USERS, ADMINISTRATION

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## 11. Principles of secure model content sharing

This chapter deals with a basic principles of the ArchiREPO platform content sharing.

The breadth of information managed by a quality EA model is huge (from a strategy through processes, project plan up to technical information of individual systems and infrastructure). In many cases, sharing of all content across the organization (all employees) is more than desirable (it's even mandatory for quality according to the ISO standards). In many cases, it's even suitable to disclose some of the content to other administration and public bodies (life situations, product/service catalogs, part of agent information).

On the other hand, even partial information about the application layer, technologies and infrastructure may cause a security risk if it's disclosed inappropriately. This is true especially in case the documentation of objects includes info about the sites, IP addresses, administrators, data structures, etc.

The ArchiREPO core repository controls access to content at the level of specific objects. The permission rights may be divided into enabling/disabling data reading, attribute editing, model changing, model components importing/exporting, etc.

In order to maintain an adequate security of the EA model/control frame information, you must adhere to the following 5 basic rules:

- It is not suitable to publish the content of the repository EA model directly on the Internet. The necessary public information (product/service catalogs, life situations, etc.) can be transferred via a web service to publish it through the web pages (CMS system).
- Accessing the EA model through a repository must be enabled only to users on the basis of valid access permissions (roles, levels, names, and passwords) assigned by the system Administrator as part of the intranet.
- The access to a model should be implemented using an encrypted protocol (https). When an Internet access is needed, it's suitable to use a trusted VPN (tunnel) for the implementation as well.
- More attention to the restriction of roles and levels of access rights should be given to the objects of the application and technology/infrastructure layer of the EA model. The cyber security officer should play a key role in the system definition – access setting.
- The **system logs** of accesses and editing form an important part of the repository. It's recommended to integrate these logs with the SIEM system.

## 12. Access Permission Matrix

By this chapter, You'll get to know the basic content elements, the way of controlling the application and the access permission control options in the ArchiREPO.



The options for all roles and group permissions are shown in the following tables.



## **Table 1 Simplified Model**

| Access Right                                |                       | Administrator | Operator |
|---|-----------------------|---------------|----------|
| Navigation Bar and Model Hierarchy Section  | <b>✓</b>              | ×             |          |
| Service Tasks - Refreshing a Cache          |                       | <b>~</b>      | ×        |
| User Administration                         |                       | <b>~</b>      | ×        |
| Group Administration                        |                       | ✓             | ×        |
| Batch Jobs                                  |                       | <b>✓</b>      | ×        |
| Adding an Element                           |                       | <b>✓</b>      | ×        |
| Adding/Changing a Relationship              |                       | <b>✓</b>      | ×        |
| Deleting an Element (by Importing a Model / | a Repository)         | <b>✓</b>      | ×        |
| Reading an Element                          |                       | <b>✓</b>      | <b>✓</b> |
| Editing an Element                          | Date From, Date<br>To | <b>~</b>      | ×        |
|   | Attachments           | <b>✓</b>      | ×        |
|   | Description           | <b>✓</b>      | ×        |
|   | Attributes            | <b>✓</b>      | ×        |
|   | Name                  | <b>✓</b>      | ×        |
|   | State                 | <b>~</b>      | ×        |
|   | Relationships         | <b>✓</b>      | ×        |
|   | Groups                | <b>✓</b>      | ×        |
| Reading a Diagram                           |                       | <b>✓</b>      | ✓        |
| Editing a Diagram (Changing Groups, Name,   | Changing Groups       | <b>✓</b>      | ×        |
| Description)                                | Name                  | <b>✓</b>      | ×        |
|   | Description           | ✓             | ×        |
| Deleting a Diagram                          |                       | ✓             | ×        |
| Exporting a Diagram                         |                       | ✓             | ×        |
| Importing a Diagram                         |                       | ✓             | ×        |
| Labels                                      | Creating              | <b>✓</b>      | X        |
|   | Editing               | <b>✓</b>      | ×        |
|   | Deleting              | <b>✓</b>      | ×        |
|   | Assigning             | ✓             | ×        |
| Comments                                    | Adding                | <b>✓</b>      | ×        |
|   | Editing               | <b>✓</b>      | X        |
|   | Deleting              | ✓             | ×        |
| Bulk Actions                                |                       | ✓             | ×        |



#### **Table 2 Extended Model**

| Access Right  | Administr             | Operator |                  |            |            |
|---|-----------------------|----------|------------------|------------|------------|
|   |                       | ator     | Group<br>Manager | Editor     | Reader     |
| Navigation Bar and Model Hier                             | archy Sections        | <b>~</b> | ×                | ×          | ×          |
| Service Tasks - Refreshing a Ca                           | <b>✓</b>              | ×        | ×                | ×          |            |
| User Administration                                       | <b>✓</b>              | ×        | ×                | ×          |            |
| Group Administration                                      |                       | <b>✓</b> | ×                | ×          | ×          |
| Batch Jobs  |                       | <b>✓</b> | ×                | ×          | ×          |
| Adding an Element   |                       | <b>✓</b> | <b>✓</b>         | <b>~</b>   | ×          |
| Adding/Changing a Relationshi                             | р                     | <b>✓</b> | <b>✓</b>         | ×          | ×          |
| Deleting an Element (by Impor<br>Repository)              | ting a Model / a      | ~        | ✓/X              | ×          | ×          |
| Reading an Element  |                       | <b>~</b> | <b>✓</b>         | <b>✓</b>   | <b>√</b>   |
| Editing an Element  | Date From,<br>Date To | <b>~</b> | ~                | <b>~</b>   | ×          |
|   | Attachments           | <b>✓</b> | <b>✓</b>         | <b>✓</b>   | ×          |
|   | Description           | <b>✓</b> | <b>✓</b>         | <b>✓</b>   | ×          |
|   | Attributes            | <b>✓</b> | <b>✓</b>         | <b>✓</b>   | ×          |
|   | Name                  | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | State                 | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | Relationships         | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | Groups                | <b>✓</b> | <b>✓</b>         | ×          | ×          |
| Reading a Diagram   |                       | <b>~</b> | <b>✓</b>         | <b>✓</b>   | <b>✓</b>   |
| Editing a Diagram (Changing<br>Groups, Name, Description) | Changing<br>Groups    | <b>~</b> | <b>~</b>         | ×          | ×          |
|   | Name                  | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | Description           | <b>✓</b> | <b>✓</b>         | ×          | ×          |
| Deleting a Diagram  |                       | <b>✓</b> | <b>✓</b>         | ×          | ×          |
| Exporting a Diagram                                       | <b>✓</b>              | <b>✓</b> | ×                | ×          |            |
| Importing a Diagram                                       | <b>✓</b>              | <b>✓</b> | ×                | ×          |            |
| Labels  | Creating              | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | Editing               | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | Deleting              | <b>✓</b> | <b>✓</b>         | ×          | ×          |
|   | Assigning             | <b>✓</b> | <b>✓</b>         | <b>✓</b>   | ×          |
| Comments  | Adding                | <b>✓</b> | <b>✓</b>         | <b>~</b>   | ×          |
|   | Editing               | <b>✓</b> | <b>✓</b>         | <b>✓</b>   | ×          |
|   | Deleting              | <b>✓</b> | <b>✓</b>         | <b>✓</b>   | ×          |
| Bulk Actions  |                       | <b>✓</b> | <b>√</b> *       | <b>√</b> * | <b>√</b> * |



- \* In the extended model of rights, **some bulk actions can** be performed even by Operators with the *Group Manager*, *Editor* and *Reader* permissions but **only within their group**, where:
  - The Group Manager can do the following bulk actions on the elements in his/her group:
  - o To Add / Remove Labels
  - To Add / Remove Groups
  - To Change Attributes of selected group of elements (Date from-to and State)
  - To Add a Relationship between 2 groups of elements (M:N)
  - To Dele selected set of elements
  - To Change group of selected elements of 1 Archimate type to different Archimate type
  - o To merge group of selected elements (of 1 type) to single element
    - The Editor and the Reader can bulk add / remove private labels to/from the elements in a group and view graph representation of selected set of elements (if optional "Advanced Analytics" module is installed).

## 12.1. Simplified Permission Control System

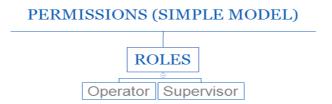
The object-level rights control may be too complicated for simpler models or implementations in organizations with a small number of users. In these cases, it's possible to manage permissions within the system using only user roles and groups, i.e. simply by not using the group rights. This will result in a state when:

- User accounts with the *Operator* role can read and view information about any objects in the model. However, they cannot change or edit them.
- Users with the *Administrator* role can then make any changes to elements, diagrams, and other objects.

## 12.2. Groups and Roles

There are 2 basic systems of rights control within the control of user access to the objects:

• **Simplified** – It's applicable to organizations with a simple structure, for example when only a few users can edit the objects and the rest of users can only view all the objects.



• **Extended** is applicable in cases when it's necessary to separate the reading and editing rights to specific objects. In these cases, it's necessary to use the assignment of users to groups and to define their permissions within a group.



# PERMISSIONS (EXTENDED MODEL) ROLES GROUPS PERMISSION LEVEL Reader Editor Group manager

ArchiREPO primarily uses a simplified model (all users can see all the objects). The extended model of rights control is applied to ArchiREPO if at least one Group is set. Operator role users who have assigned permissions to a given group can view objects belonging to this group. If the Operator doesn't have any (reader/editor/group manager) permissions assigned to a given group, then the objects belonging to this group are not available to him/her. The objects not belonging to groups can be viewed by all users but edited only by the Administrator.

#### 12.2.1. Roles

The roles primarily define the role of a user in the system. That means, e.g., which parts of the system has he/she available and what administrative tasks can be done by him/her.

There are 2 basic roles in ArchiREPO:

#### • Operator (with More Detailed Rights Settings of this Role)

- The basic role for using the system. It's got the standard application functions available;
   it can work with each element in a model (reading, editing, etc.) and with diagrams
   according to the access rights (a combination of groups and group rights).
- o Typically, most users of the system appear in this role.

#### Administrator

- This role manages the system from a customer perspective. It changes the basic configurable settings and the system behavior (e.g. it changes the hierarchy views, adds users, sets permissions, etc.).
- o The access rights don't apply to it, unlike the operator. That means it can read and edit any elements, diagrams, their rights, etc. This more or less corresponds to a behavior, like it were automatically the manager of all groups (see Groups and Group Rights).
- o Typically, it is only used for a limited group of the customer's administrators.

#### 12.2.2. Groups and Group Rights

While roles define the range of functions available to a user within the system, **groups and group rights control the access to a content**, that means to the individual objects (elements, relationships, diagrams, etc.). All objects can be divided into any number of groups (they may even overlap as needed). Access control to groups for each user is then done using the group rights. The rights levels are assigned to users as needed within each group.

Currently, there are 3 levels of group rights defined:



#### 1. Reader, 2. Editor, 3. Group Manager

Groups are currently hierarchical only, i.e. the higher level always contains the exact superset of rights as opposed to a lower group (i.e. the rights of the lower group plus another set of rights).

As indicated previously in the role chapter, the group rights are evaluated **only for user accounts with the Operator role**.

The users can see objects in groups assigned to user profile. If the objects have no assigned group, then a user in the given group cannot see those objects.

**Group rights do not apply to users with the** *Administrator* **role.** When evaluating the rights, the system behaves as if the account had all the groups with the Group Manager permission level added.

With respect to evaluating the rights, the objects (elements, diagrams, etc.) not belonging to any group allow all the users to read them. Therefore (as follows from the previous paragraph), only users with the Administrator role can carry out their changes and other edits. However, it's preferable not to have such objects in the model. An exception to this may occur when you count on the simplified rights control within the system using only the roles (see its own paragraph below).

#### 12.2.3. Permission Levels

As mentioned above, the permission levels only apply to the extended model of access rights. The permission levels define the permissions of users **to a given group**.

There are 3 levels of group rights defined within the groups:

#### 1. Reader

- It can see the objects assigned to a group, which it has the defined permissions for.
- It can see the objects not assigned to any group.

#### 2. Editor

- It can see the objects in a group/groups, which it has the defined permissions for.
- It can see all the objects not assigned to any group.
- It can modify (one-by-one or in bulk) the attributes of objects in a group/groups, which it has the defined permissions for.

#### 3. **Group Manager**

- It can see the objects in a group/groups, which it has the defined permissions for.
- It can see all the objects not assigned to any group.
- It can modify (one by one or in bulk) the attributes of objects in a group/groups, which it has the defined permissions for.
- It can add or remove labels to the objects in a group (one by one or in bulk).



- It can add relationships to the objects in a group.
- It can add or remove the objects to/from a group.

## 12.3. Assigning permission after Adding an Element into a Model

After adding the element to a model (in a list of elements, while adding a relationship to a new element, by importing), the new element acquires a group of the active user who performed this operation.

## 13. Reader role

The ArchiREPO features available to "Reader" role are described in detail in the first part of this documentation - see Part One of the User Guide.

## 14. Editor role (Specific Functions)

This chapter describes processes for users with the Operator role and assigned the Editor permissions. Thus it's an application of the extended rights model. Essentially, the above processes only apply to objects assigned to the group, which the assigned user has his/her Editor permissions for. The Content Editor can't edit objects that are not assigned to the group; only a user with the Administrator role can do it.

For objects assigned to a group, the content editor can:

- Edit attribute values of individual objects
- Bulk edit selected attributes of selected objects
- Insert new single Element
- Export Elements in XLS, modify XLS (including new Elements definition) and import XLS
- Export Comments report
- Export diagrams for printing in an external tool

Note. Listing is not including reader functionality described in Basic guide e.g. exporting element report grids to Excel.

## 14.1. Specific Attributes

Attributes are other specific features of elements that are represented as short text, number, or date. Typically, attribute types are defined by ArchiREPO, in which case the administrator defines the Value Name and Value Identifier in advance. The user then selects the attribute type and only sets the value. ArchiREPO allows you to pre-define a total of 24 different attributes, including a maximum of 16 text, 4 date, and 4 number. Definition is used as a parameter in element grids.

There may also be free attributes (in unlimited number) in the model (undefined by the administrator, usually taken by import from another model/tool), where it is also possible to change values. When using these free / undefined attributes, caution is required because



external tools can change attribute identifiers when importing and exporting models, which can subsequently duplicate this information / values in the model.

In addition, ArchiREPO uses three specific attributes, namely "Status", "Valid from" and "Valid until". These attributes are outside the ArchiMate exchange format, so they are not exported to Exchange format files, but exported to spreadsheet (Excel) output. The "Status" attribute is a simple selection from a list of several colors and its meaning in a given ArchiREPO instance should be defined by the methodology. See fig:

The "Valid from" and "Valid until" attributes are used for **time-dependent model visualization**. Using them and filtering the "Valid to date" field in the element grid or diagram view, it is possible to filter the sets of elements valid at a given date. In the diagram view, elements are dynamically framed in red or green - based on given date setup, date from and date to values of all diagram elements.

Among the pre-defined attributes, these two are of special importance:

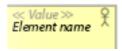
#### cz.dain.archirepo.url

The value of the attribute is understood by the system as a regular Internet link (URL) and is interpreted by it. In the diagram view of an element with this attribute, the following icon appears on the diagram:

Can be clicked (left click) and when set correctly, opens a new browser tab with the object. Any internal or external object should be linked (other diagram, web page, etc)

#### cz.dain.archirepo.stereotype

This attribute defines a subclass of that type of ArchiMate element, indicated by the attribute value. At the graphical representation of the element, the attribute value is displayed in angle brackets:



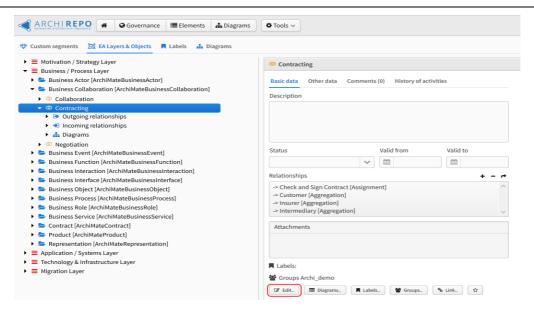
## 14.2. Editing Attribute Values, Attachments

The Content Editor can edit objects, but only those objects that are assigned to the group, for which the user has his/her Content Editor permissions assigned. The *Content Editor* can't edit objects that are not assigned to the group. Similarly, this rule applies to the *Group Manager* as well. Only the *Administrator* can modify all the objects in a repository.

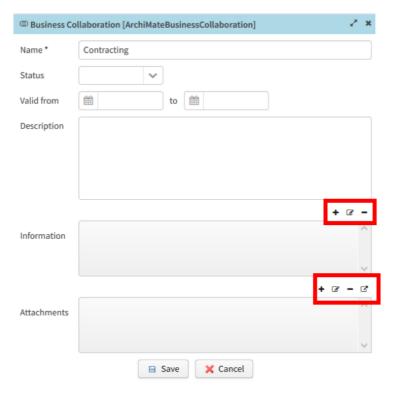


1. Locate an object in the expanding navigation tree (or in the list of elements) and view its detail:





- 2. Press the "Edit" button in the object detail.
- 3. Select and Edit the object attributes ("+" for adding new, "-" for deleting, for modification) and click the "Save" button to confirm your edits. Adding/deleting attachments (files) works same way in "Attachments" section:



4. Your edits are displayed in the object detail.

## 14.3. Bulk Editing Attributes of an Element Group

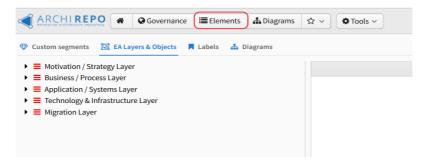
The Content Editor can bulk edit selected attributes of elements assigned to a group, in which the Operator role user has the Editor permissions assigned.



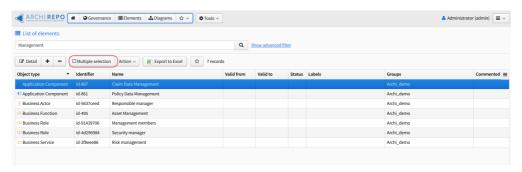
The Operator role users with the Content Editor or Manager permissions assigned can only bulk edit attributes of objects in a group. Only a user with the Administrator role can do bulk editing of objects that are not assigned to a group.

To Bulk Edit Attributes of Objects in a Group

1. Display the list of elements:

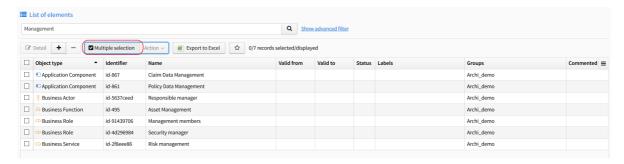


2. Click the *Multiple selection* button to activate bulk selection:



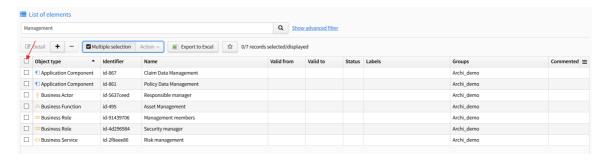
The list switches to the bulk selection mode:

• The Multiple selection button is checked:

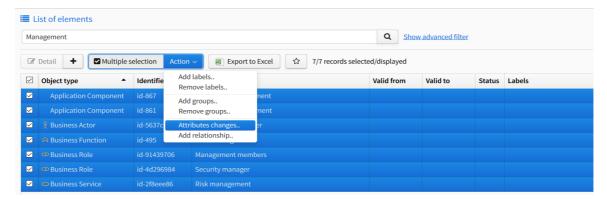


- A check box (to check/uncheck) is added in front of the records.
- 3. Check the records, which you want to do the bulk action for.
- You can filter the records by Object type, Name, Valid from/to, Labels or Groups in the list.
- Check the box in the header row to select all the objects displayed:

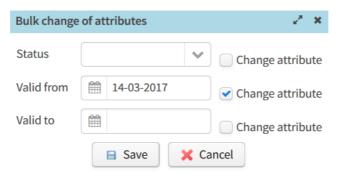




4. Select the "Attributes changes" bulk action:

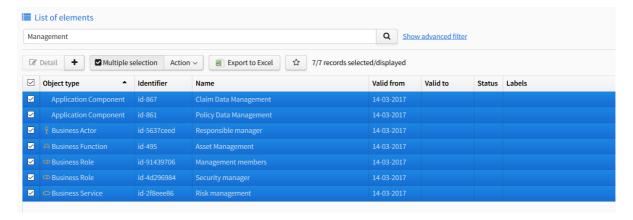


5. Change the attribute value(s) and check the "*Change attribute*" box for the appropriate attribute(s):



Click the "Save" button to confirm the action.

6. The selected attributes are changed for the selected objects:

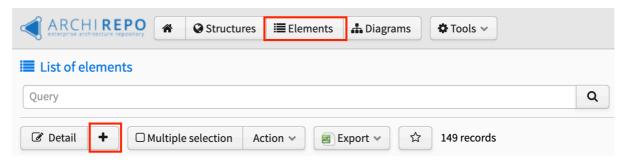




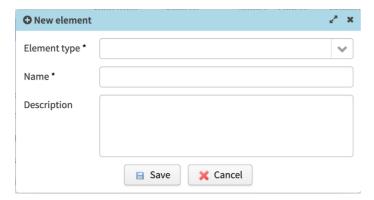
## 14.4. Inserting new single Element



1. Select **Elements** menu and press (+):



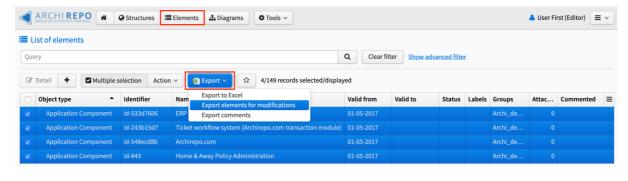
- 2. Select Element Type, fill the Element Name (mandatory), and optionally the Description:
- 3. Press "Save" to store new Element:



## 14.5. Export, change and Import Elements & Attributes



- 1. Select **Elements** in system tab:
- 2. Export grid in XLS (use "Export elements for modification" option), export file is stored locally. If "Multiple selection" is selected, only pre-selected elements will being exported:

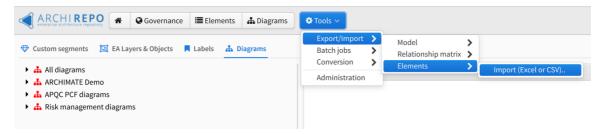




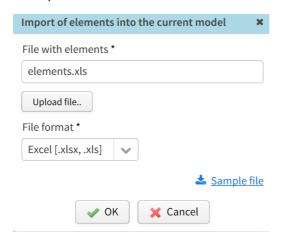
3. Modify Element attribute values in XLS. It is possible to add new Elements (as new rows without value in first column - identifier). After importing, these new Elements (rows without identifier) will be created automatically. **Note: Do not modify predefined column headers in XLS!** 



4. Select **Tools > Export/Import > Import (Excel or CSV)** in the menu.



2. Upload the file for import and click the "OK" button to confirm importing:



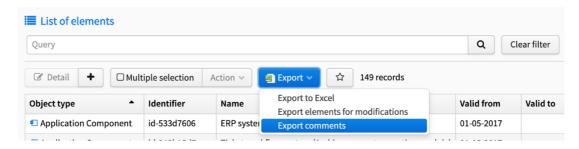
3. The system displays a successful element import message:

Editor can also export the relationship matrix of objects (that are available to him/her) into the XLS or CSV format.

## 14.6. Exporting Comments

Function "Exporting comments" is available for Editor role. Diagrams and Elements includes comments - discussion trees, but it should be difficult to find them in Element detail. This function is giving overview of all Element comments in single report stored in XLS file:





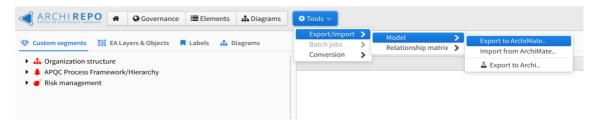
Note: Exporting comments in diagrams works same way in "Diagram" grid.

## 14.7. Exporting the Model

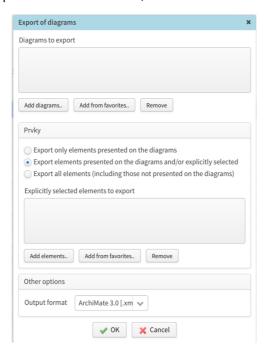
The goal is to export/import a selection of diagrams (elements, relationships) from ArchiREPO - to be used in external tools. For editor role, export is used only for diagram printing. For managers and administrators, modification in external tool and import of changed model back to Archirepo is supported (without model consistency loss).



1. Select **Tools > Export/Import > Model > Export to ArchiMate** in the menu.

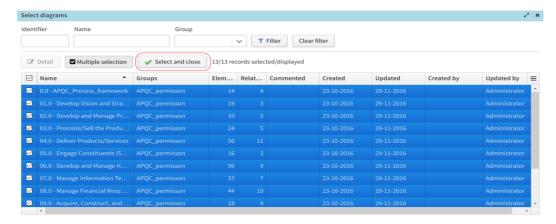


2. Create a **"sub-model" selection** in the dialog for exporting a model (of diagrams and elements). You can choose 3 combinations – a list of diagrams (including their elements), a list of diagrams plus a specific set of elements, or all the model elements (without diagrams):





 Click the "Add diagrams" button to add a diagram into the list. Click the "Add elements" button to add a selection of elements into the list.



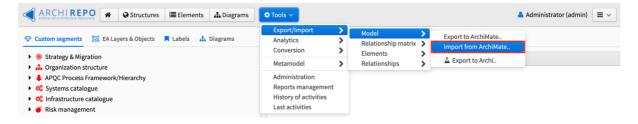
- Click the "Remove" button to remove a diagram.
- 3. Select a combination of the diagram(s) and elements for export (and Other options if needed) and click the "*OK*" button to confirm your selection.
- 4. The selected content is exported into the Archimate Exchange File XML format.

## **15. Group Manager (Specific Functions)**

## 15.1. Importing the Model

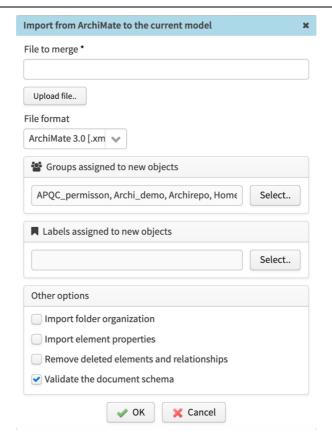


1. Select **Tools > Export/Import > Model > Import from ArchiMate** in the menu.



- 2. Upload the Archimate Open Exchenge File (XML) for import:
  - 2.1. Select XML file for import and select Archimate version of the file.
  - 2.2. Define groups or Labels applicable to new elements/diagrams
  - 2.3. Check import parameters if applicable (Import folder organization, Import element properties, Remove deleted elements and relationships from the model), or un-check validation of document schema (admin only).
  - 2.4. Click the "OK" button to confirm importing:





3. The model is then imported into ArchiREPO and the ArchiREPO data is modified based on this import.

#### 15.1.1. Permission Definition at Diagram Level



## Uiewing and Exporting a Diagram

Only users with the rights to read at least one group, which a diagram is assigned under, can view and export this diagram. I.e. even if the user had the reading rights to all the elements included in the diagram, he/she couldn't view or export the diagram itself.

If the user doesn't have the reading rights to some elements in a diagram, to which he/she does have the group reading rights then these elements are displayed / exported only as so-called shadows or shadow objects. Such elements are created in their original shape and size but with a partially translucent gray color, and they have no names or any other information. For exporting, this means that only a meaningless element identifier and its visualization in a diagram are exported as described in the previous sentence. Thus, neither the name nor any other information or attributes (i.e. the property in ArchiMate notation) is exported.

An exception to the previous behavior is a situation where the user has the rights of a Group Manager, which the diagram falls under. All the elements are shown and exported without any limitation in this case. I.e. as if the user had the group rights to read all the elements in the diagram. The reason for this exception is a specific behavior when importing a diagram (see the next section on importing diagrams).



#### 15.1.2. Importing Model and Diagrams – Dialog

Only users with the assigned rights of the *Group Manager*, which a diagram falls under, can import the diagram. The whole diagram is imported including all the changes (i.e. even the changes to elements, which the user normally doesn't have the rights to).

In the case of importing an ArchiMate model with more diagrams at once, this import is allowed only if the user has the Group Manager rights assigned to all the imported diagrams. Otherwise the user is not allowed to import it.

#### 15.2. Bulk Actions

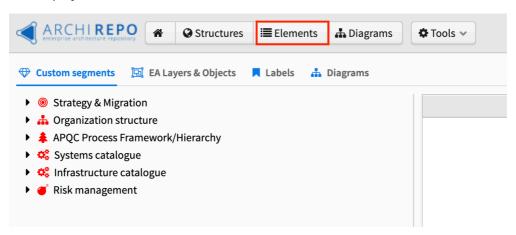
The Group Manager is able to perform bulk actions on objects that he/she has assigned in the group. Action in "bold" are available only for group manager role.

#### **Bulk actions:**

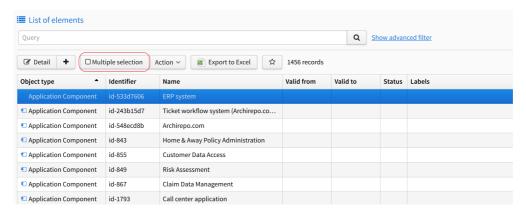
- Bulk adding labels (available also for reader and editor)
- Bulk removing labels (available also for reader and editor)
- · Bulk adding groups
- Bulk removing groups
- Bulk changing attributes See the Content Editor processes for details
- · Diagram creation from selected set of elements



1. Display the list of elements:



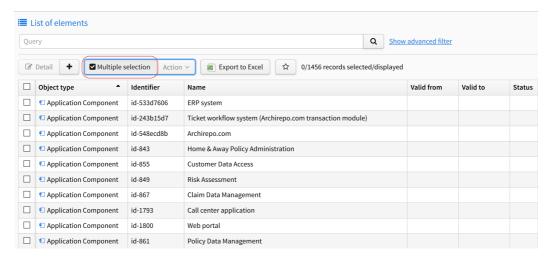
2. Click the *Multiple selection* button to activate bulk selection:



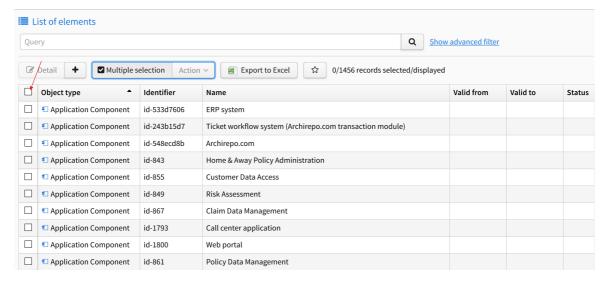


The list switches to the bulk selection mode:

• The *Multiple selection* button is checked:



- A check box (to check/uncheck) is added in front of the records.
- 3. Check the records, which you want to do the bulk action for.
- You can filter the records by Object type, Name, Valid from/to, Labels or Groups in the list.
- Check the box in the header row to select all the elements displayed:



4. Select an appropriate action – see the next sub-chapters.

#### 15.2.1. Bulk Assigning Rights to an Element Group

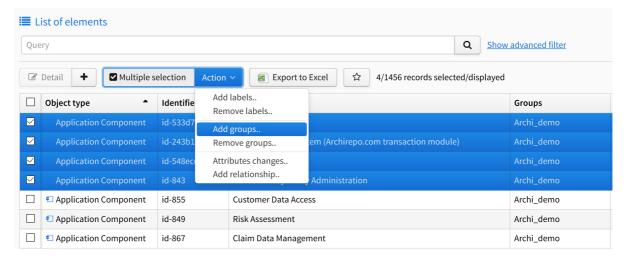
*i* The goal is to let the Group Manager assign more elements to a group.

There is a condition that the elements are assigned to a group, which the logged user with the Group Manager rights has the permissions assigned to. The Administrator must do the initial assignment of elements to groups. If elements are not assigned to a group, then only the Administrator has the rights to edit them.

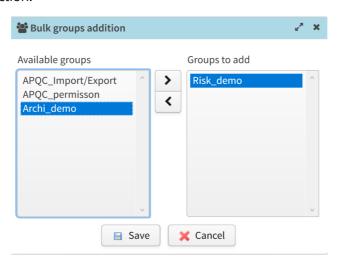


# To Add Elements into a Group

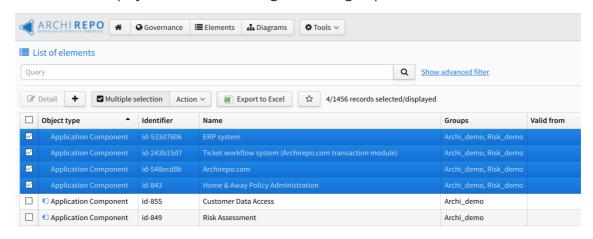
- 1. Select the bulk actions and mark the elements see the process above.
- 2. Select the "Add groups" bulk action:



3. Select a group in the *Available groups* section and move it to the *Groups to add* section using a right arrow button in the displayed dialog. Click the *Save* button to confirm the action.



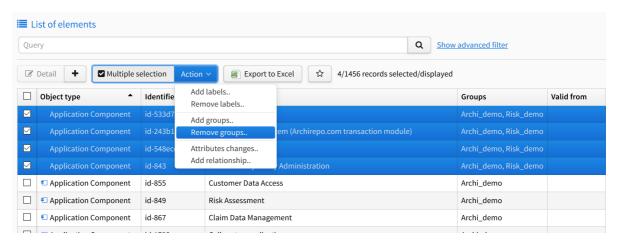
4. The displayed elements are assigned to the group selected.



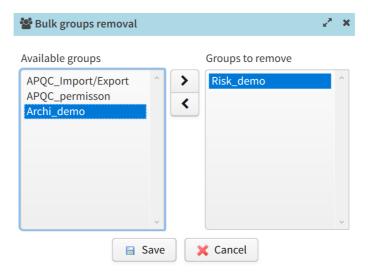


# To Remove Elements from a Group

- 1. Select the bulk actions and mark the elements see the process above.
- 2. Select the "Remove groups" bulk action:



3. Select a group in the *Available groups* section and move it to the *Groups to remove* section using a right arrow button in the displayed dialog. Click the *Save* button to confirm the action.



4. The displayed objects are removed from the group selected.

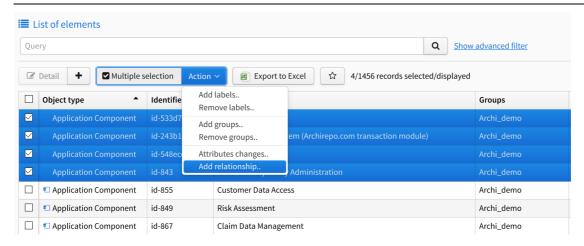
#### 15.2.2. Bulk Change of a Relationship

The Group Manager can bulk assign a relationship to other elements.

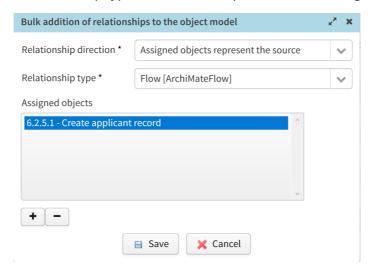
# To Bulk Add a Relationship to an Element Model

- 1. Select the bulk actions and mark the elements see the process above.
- 2. Select the "Add relationship" bulk action:





Select the Relationship type, the Relationship direction and assign the elements:



4. The relationship is added between the elements after saving it.

## 15.3. Relationships

The group manager can add a new element or a relationship to an existing element into the repository, or to remove a relationship to other model elements in the element detail. An ArchiREPO user can view the related elements from the element detail. See the next subchapters for the processes.

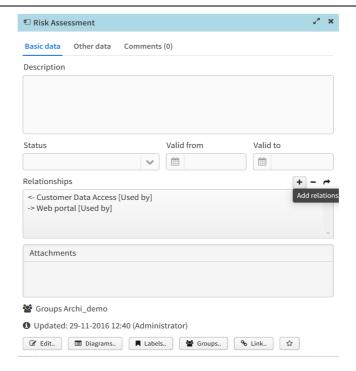
#### 15.3.1. Adding Relationship



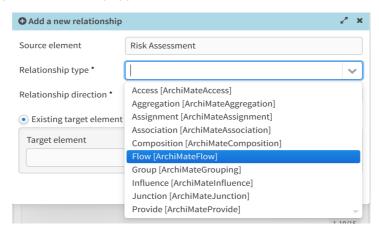
#### 🚽 To Add a Relationship to an Element (and to Add a New Element if Needed):

- 1. Select an element (in the list of elements, the expanding navigation tree) and view its detail.
- 2. Select the "**Add relations**" option in the *Basic data* above the displayed relationships in the element detail:



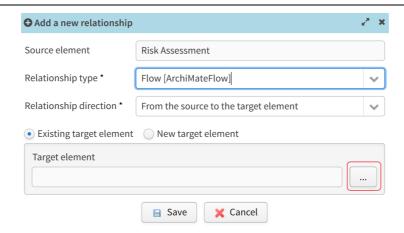


3. Specify the relationship type:

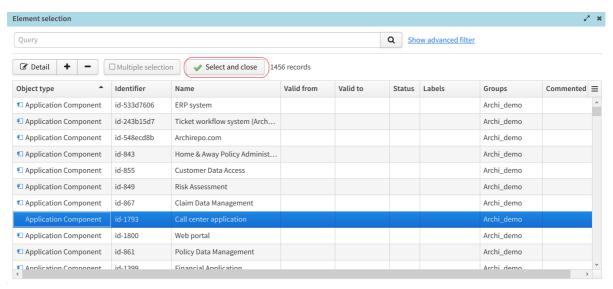


- 4. Specify the relationship direction
- 5. Select an existing target element or create a new target element:
- a. An existing target element:
  - i. Click on a button to select the target:

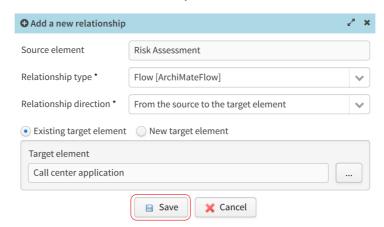




ii. Select a target element (even using a filter) in the list and click the "**Select and close**" button to confirm your selection:

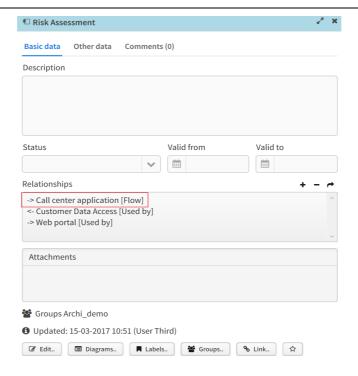


iii. Click Save to add a new relationship to the element:

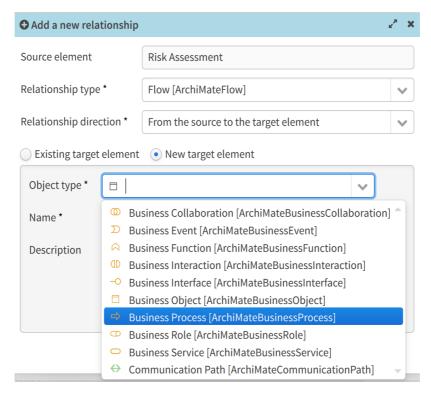


iv. The added relationship to an existing model element is shown in the element detail:



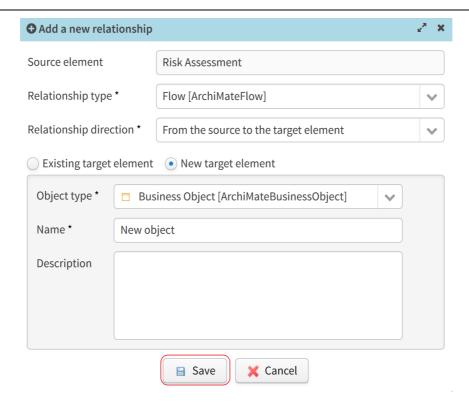


- b. A new target element:
  - i. Select the Object type of a target element:

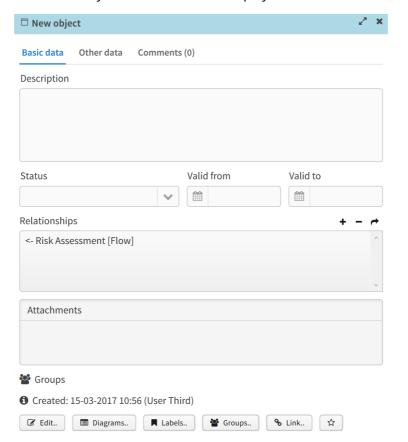


ii. Enter the Name and/or the Description of the new object and click the "Save" button:





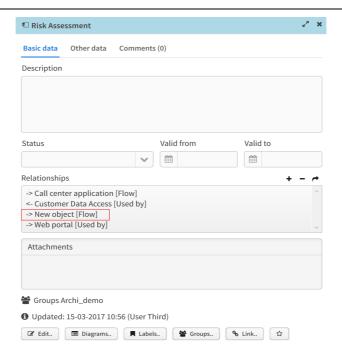
iii. The detail of a newly created element is displayed:



The Relationships section shows the relationship created to the source element.

iv. The source element detail is displayed with the relationship created to the target element after closing the target object detail:



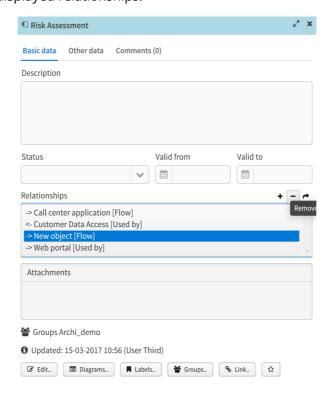


The same process applies for adding a relationship from the source diagram. The only difference is that a relationship from the source diagram is being added only to an existing diagram.

#### 15.3.2. Removing a Relationship



- 1. Select an element (in the list of elements, the expanding navigation tree) and view its detail.
- 2. In the element detail, select a relationship to remove and click the "**Remove relations**" button above the displayed relationships:



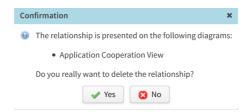


3. Click Yes to confirm the deletion of a relationship. The confirmation dialog also shows presence of the relationship on a diagram, if any.

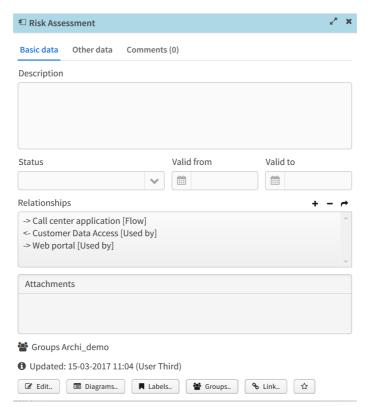
If the relationship is not present on any diagrams, the confirmation dialog shows the "The relationship is not presented on any diagrams" message:



If the relationship is present on at least one diagram the confirmation dialog shows where the relationship is used:



4. The relationship is then deleted:



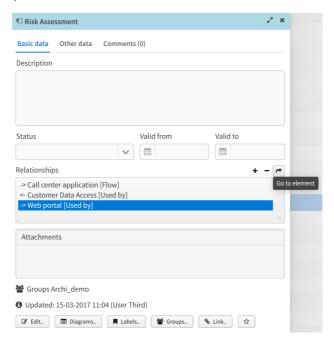
hinspace The same process applies to removing a relationship from the diagram displayed.



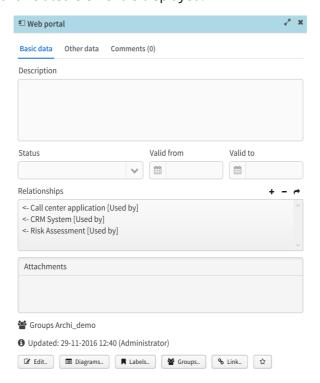
#### 15.3.3. Going to a Related Object



- 1. Select an element (in the list of elements, the expanding navigation tree) and view its detail.
- 2. Select a relationship and then the "Go to element" option in the Basic data above the displayed relationships in the element detail:



The detail of a related element is displayed:





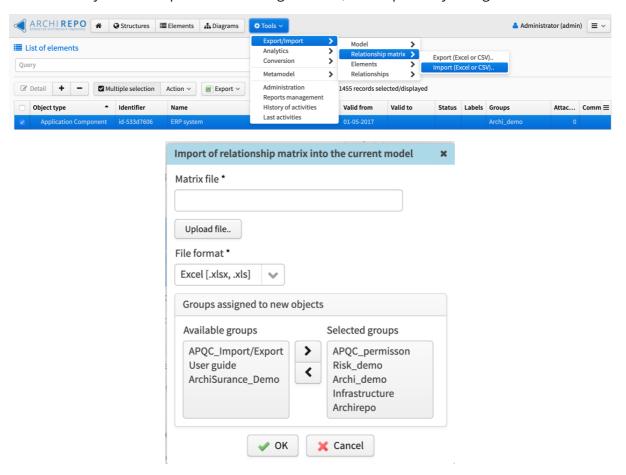
The same process applies to going a related diagram from the diagram displayed.



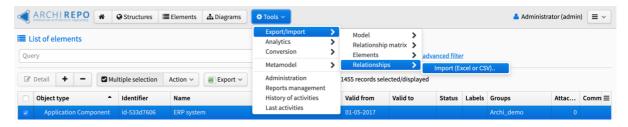
## 15.4. Importing Relationships in a Model

Group Manager and Administrator roles can update relationships also 2 ways by specific import files in XLS/CSV:

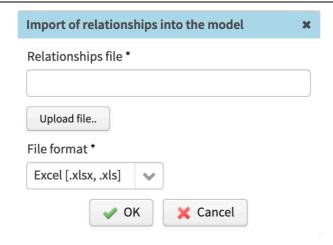
1. Group Manager - Using exported "Relationship Matrix" file (see documentation part 1), modify relationships in this file using MS Excel, and import it by dialogue:



2. Administrator - By creation specific "Relationship update" file of specific structure and importing it by dialogue:







Format of the Relationships file is following:

| Column name     | Mandatory | Meaning   |
|-----------------|-----------|---|
| Relationship ID | No        | ID of relationship. If specified, then it is used to search for an existing relationship. If it is founf, then it is updated, otherwise a new one with the appropriate ID is created. |
| Туре            | Yes       | Relationship type as defined in Archimate - e.g. ArchiMateServing   |
| Source ID       | Yes       | ID of source Element  |
| Target ID       | Yes       | ID of target Element  |

## 15.5. Diagram creation and On-line editor

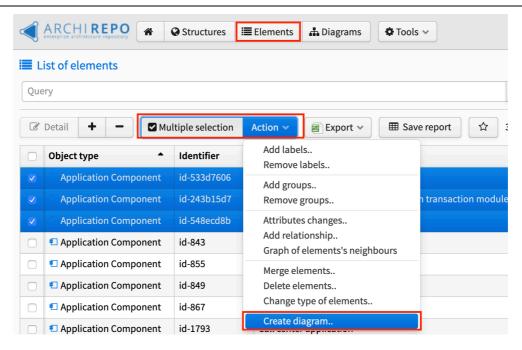
ArchiREPO is primarily designed to share content and manage the model in a repository, not to edit diagrams (a "heavy" client - a specialized tool is more appropriate for this). For practical reasons (manager's usage), however, basic functions for creating and modifying diagrams have been added to ArchiREPO platform.

#### 15.5.1. Diagram creation

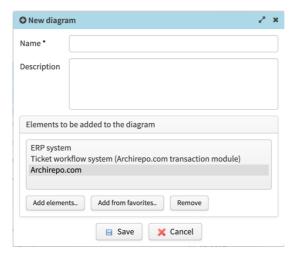
Creating a diagram takes place as other bulk operations:

- 1. Select an "Elements" overview/grid in top system bar.
- 2. Press the "Multiple selection" button and mark the elements to be placed on the diagram.
- 3. Select the "Create Diagram" bulk action:





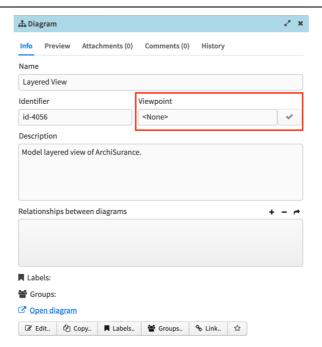
4. Fill in the name or diagram description. Additional elements can be added by selecting "Add elements" (all elements) or "Add from favorites". You can also remove selected elements from the selection by selecting "Remove". Then create a diagram by clicking "Save" to create the diagram:



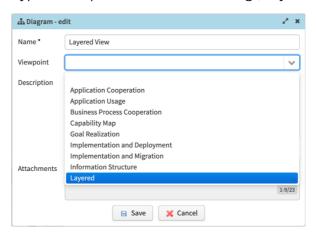
15.5.2. Diagram "Viewpoints"

ArchiREPO supports "Viewpoint" diagram-view typology according to Archimate standard:





- 1. To edit or change the viewpoint definition, select diagram detail and the edit mode.
- 2. Select a standard type of viewpoint from the numbering ("Layered" in this case):



3. Use the button to check the content of the diagram:



The system validates the Diagram against the definition in the Archimate standard, and in case of a mismatch, displays the elements that the selected viewpoint definition does not contain:



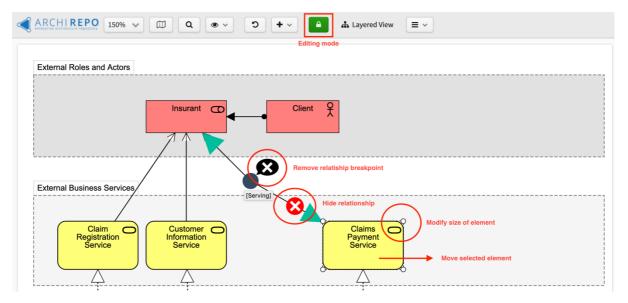


#### 15.5.3. Diagram modification in On-line editor

- 1. Display the selected diagram to which you have the "Group Manager" permission select "Open diagram".
- 2. Switch to edit mode by clicking the edit button:
- 3. A green icon for graphical editing will appear in the diagram header:



4. Now you can drag and drop elements on the diagram with the mouse by clicking on the element and dragging the mouse. It is also possible to change the shape of the constraints on the diagram and to make the invisible links visible:



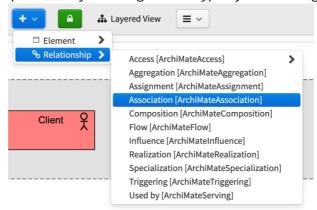
5. Click the "Plus" button to expand a small menu with the option to add an element or link:



- 6. In the case of an element, there are again two options, namely adding an existing element (from the content of the repository) or creating a new element.
- 7. The "Existing element" button opens a list of element elements from which you can select a set of elements. Confirm the selection with the button to add all selected elements to the diagram.
- 8. The "New element" button opens the standard new element window.
- 9. It is necessary to fill in at least the "Type of element" and "Name" fields and by clicking on the "Save" button the new element will be added to the diagram and of course to the repository.



10. Adding Relationship is done by selecting the link type by first clicking on it from menu:



- 11. ...and then click on the first (source) element and drag the link (while still holding the left mouse button) to the second (target) element.
- 12. The result is an added relationship in the diagram and, of course, the repository.
- 13. Finally, it is necessary to confirm the saving of the graphical changes of the diagram by the button, and the system asks for confirmation of the operation:
- 14. Press the "Yes" button to save the changes, click "No" to cancel the changes ("discard") and click "Cancel" to return to the edit mode.

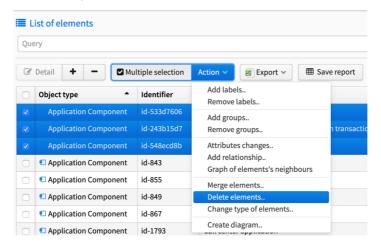
Note. Changes to the graphics layout can be undone by pressing the "Undo" button:



# 16. Supervisor & Administrator specific functions

# 16.1. Bulk deleting (Elements, diagrams)

- · Bulk Element deleting
  - Select elements to be deleted same way as previously
  - Select "Delete elements" option:



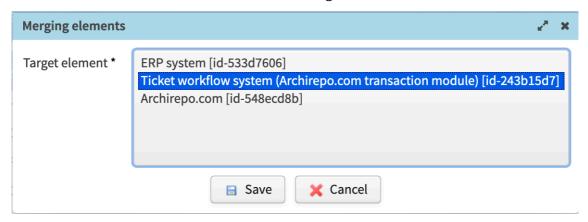


Warning will appears, commit if You are sure, operation is irreversible:



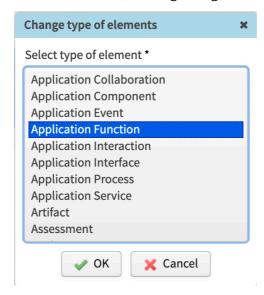
# 16.2. Merging Elements

- · Elements merging function (duplication elements elimination)
  - Select elements to be merged, only same type of elements should be selected
  - Apply "Merge elements" from Action menu (see previous pics)
  - Select one of selected elements as "target". Target element will remain including attributes.
  - · All relations of all selected elements will be merged, not lost.



## 16.3. Changing Archimate Element type

- Changing element type of selected elements to different Archimate type
  - Select elements to be changed to different Archimate type same way as previously
  - Note only same type of elements should be selected
  - Apply "Change type of element.." from Action menu (see previous pics)
  - Select new type of Archimate element.
  - Type of element (for all Elements selected) is being changed.





## 16.4. Other tools menu functions

In overview, tools menu for administrators include:

- Export/Import submenu (model/table exports and imports)
- Analytics (batch jobs)
- Metamodel generation function
- User administration
- Reports management
- History & Last activities reports

### 16.4.1. Analytics ("batch jobs")



Batch jobs are covering various advanced functions over all ArchiREPO data.

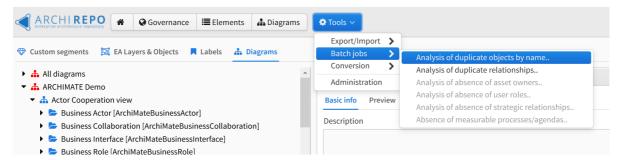
There are four "batch jobs" in ArchiREPO:

- Metamodel generation
- An analysis of duplicate objects
- An analysis of duplicate relationships
- · An analysis of Elements not used in any Diagram

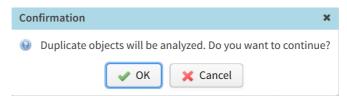


### To Execute a analysis Batch Job

Three out of four batch jobs works same way. Click the Batch jobs option in the menu and then select one of "Analysis.." batch job in the sub-menu shown:

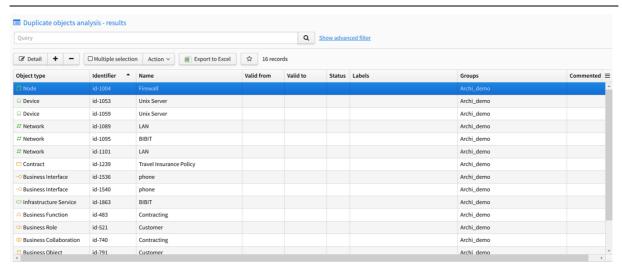


Click the OK button to confirm the batch job run:



The batch job results are displayed in a list. You can export the results to MS Excel.

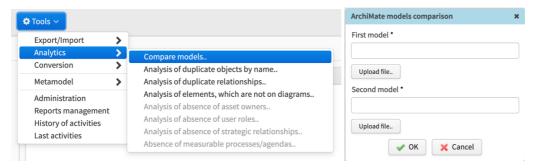






## To Execute "Compare Models" bach job

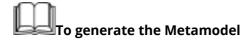
1. Select "Compare models" from "Tools menu – Analytics":



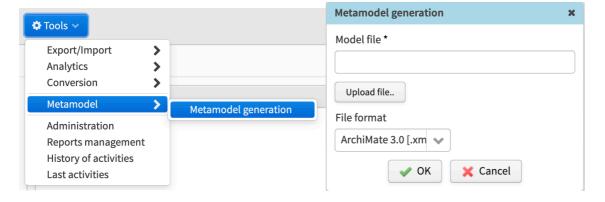
2. Specify 2 model XML files to be compared,

Output report is stored as external XLS file. File includes 3 sheets, each representing difference between Elements, Relationships and Diagrams in both models.

### 16.4.2. Metamodel generation



You have to specify XML model file as the input (and Archimate version):





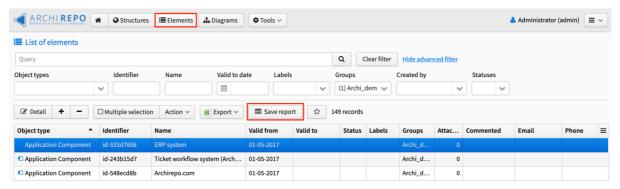
Output is the XML file of single diagram including all Archimate elements and relationships founded in input.

### 16.4.3. Reports management

Reports are specific grids of elements stored for later shared use. These are dynamic structures whose content is always currently generated from the repository content, but the form and structure are configurable by the administrator and reusable.

# To create the Report

1. In the element overview, select a specific group of elements by filtering, sorting, setting the displayed columns, etc.



- 2. Then click the button in the title bar in the middle "Save report":
- 3. The naming and report description window opens:

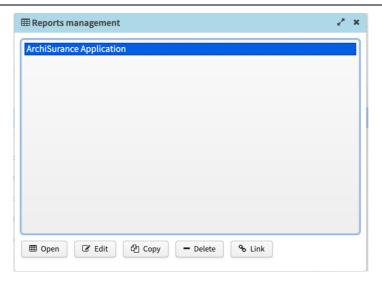


4. Fill in the Name and Description and click on "Save".



- 1. In the menu, select Tools -> Manage Reports.
- 2. The Saved Reports List window and several function buttons at the bottom are displayed:

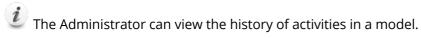




- 3. The selected report can be edited (ie displayed), edited (Name and Description only), copied, deleted or retrieved by its link (URL).
- 4. Using link in the browser, this link displays the detail of the relevant report object

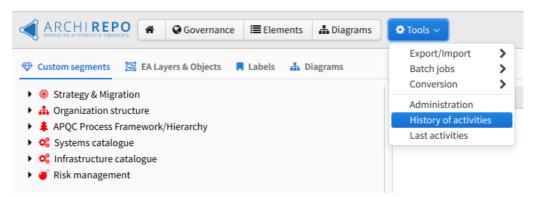
Note: Reports should be displayed for users as navigation component (see below).

### 16.4.4. History of Activities



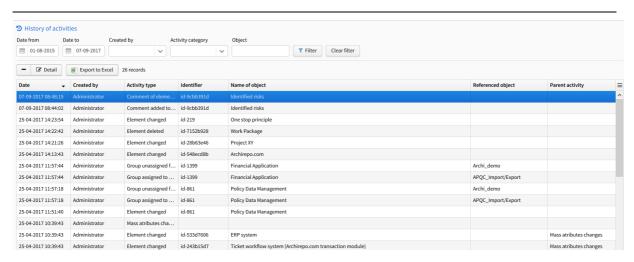
To view the history of activities:

1. Select **Tools > History of activities** in the menu:



2. You will see the history of activities, which is an overview of activities sorted by date:

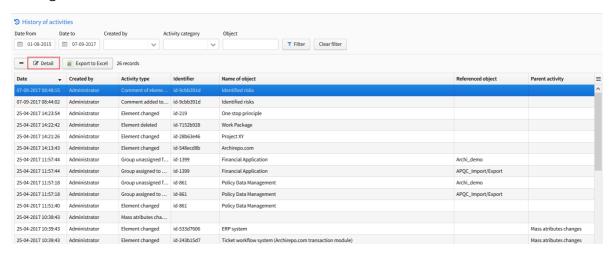


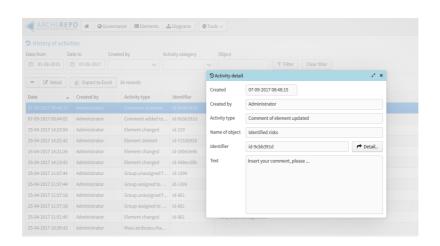


In the history of activities, you can search for records using the *Date from, Date to, Created by, Activity category* and *Object* fields.

You can export records displayed in this overview into MS Excel – by clicking on the "Export to Excel" button.

After you select an activity in the overview you can view detailed information of this activity by clicking on the Detail.. button:







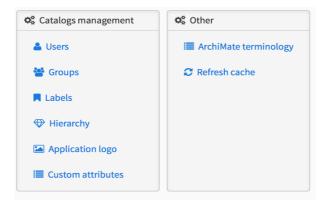
## 16.5. Administration menu

#### 16.5.1. User administration

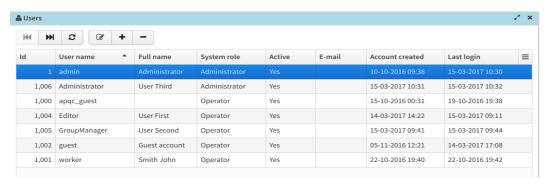
*i* The goal is to add, edit, or delete ArchiREPO users.

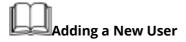
To View a List of Users

1. Select **Tools > Administration** in the main menu, then click the "*Users*" option in the Administration menu displayed:



2. The list of users is displayed:



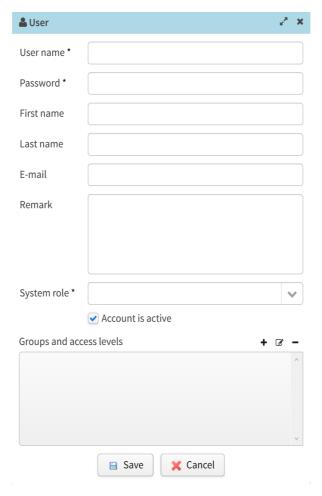


1. Click the Add option in the list of ArchiREPO users:





2. Enter all data needed to create a user in ArchiREPO.



You must enter the *User name*, *Password* and the *System role* (Administrator/Operator) of each user. The data required is indicated by \*.

The *Account is active* option defines the activity (i.e. the accessibility) in ArchiREPO. In other words, if this option is checked the user has access to ArchiREPO. If not then he/she can't log in.

If the extended rights model is used in ArchiREPO then you can assign groups to the user.

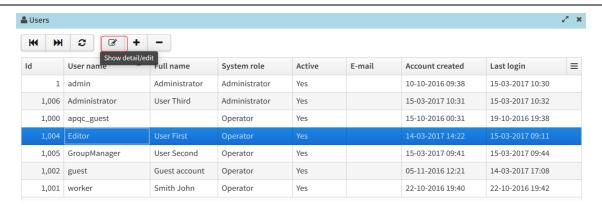


3. A new user is then displayed in the list of users.

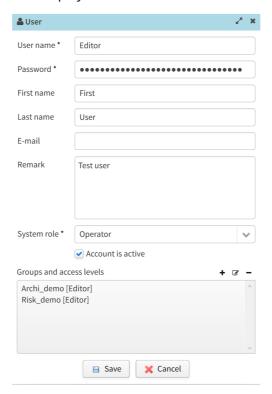


1. Select a user in the list of ArchiREPO users and click the Show detail/edit option:





2. Edit data of the user displayed and click the "Save" button to confirm your change:



While editing a user account, you can edit all user data including the assignment to a group.

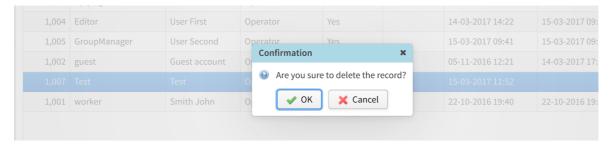


1. Select a user in the list of ArchiREPO users and click the Delete option:

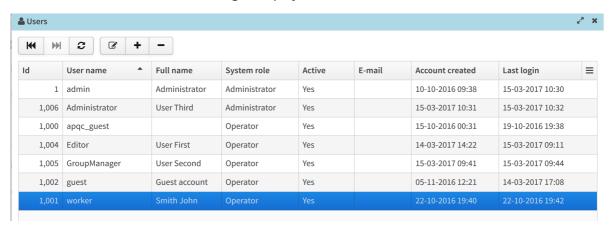




2. Click OK to confirm user deletion:



3. A deleted user is no longer displayed in the list of users:





1. Click the "+" sign above the *Groups and access levels* box in a dialog for adding or editing users.





2. Select the Group and the Access level in the dialog shown. Click the "*OK*" button to confirm assigning to a group:

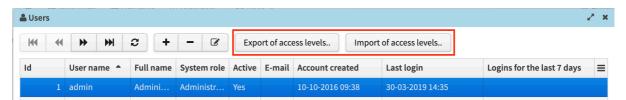


3. Click the "*Save*" button to confirm your entry of all the necessary user information. Assigning a user to a group is displayed in the dialog for adding a user.

Assigning a user to a group is only used with the extended system of permission control. Only users with the assigned system role of User can be assigned to groups according to the methodology. An existing group is a prerequisite for assigning a user to the group and choosing the rights within this group.

# Exporting, Modifying and Importing Group Permission

With large number of Users and Groups, individual assigning groups permissions to users should be a nightmare. For such case Administrator is permitted to **export, modify and import** permissions in the form of permission matrix – access level matrix in XLS format:



Matrix is stored in simple structure of rows (Users) and columns (Groups). Values represents:

- R Reader permission
- E Editor permission
- M Manager permission

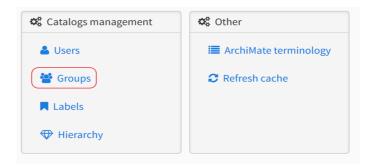
### 16.5.2. Groups Administration

The goal is to add, edit, or delete a group. Groups are used for the **extended system of rights control**, as was already mentioned in the chapter on access rights.

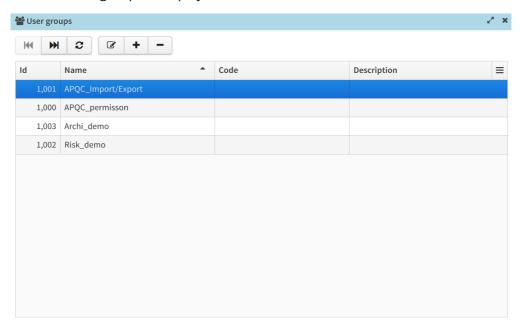


1. Select **Tools > Administration** in the main menu, then click the "*Groups*" option in the Administration menu displayed:



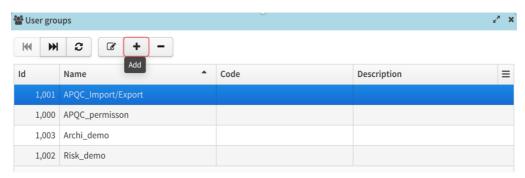


2. The list of groups is displayed:



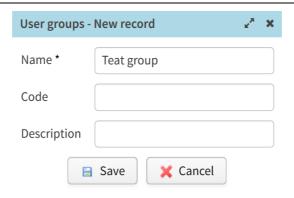
# Adding a Group

1. To add a group, click the Add option above the list of groups:



2. Enter the group data in the displayed dialog and click the "Save" button to confirm:

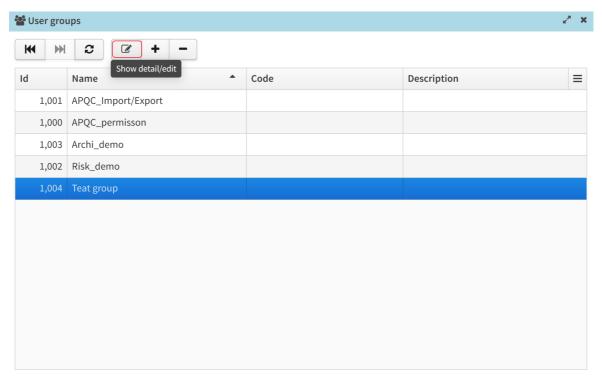




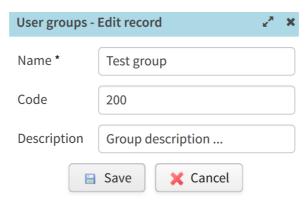
3. A new group is displayed in the list of groups.



1. Select a group in the list of groups and click the Show detail/edit option:

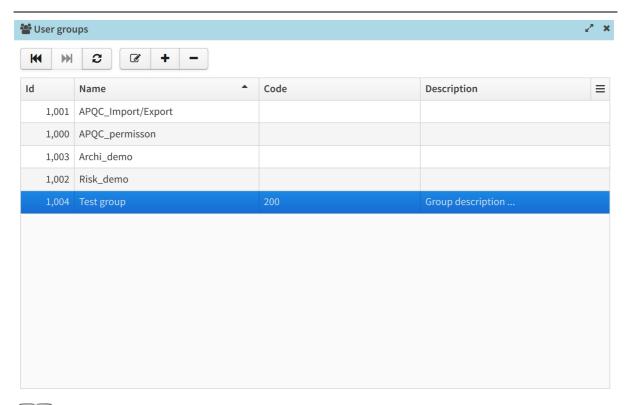


2. Edit the record and click the "Save" button to confirm:



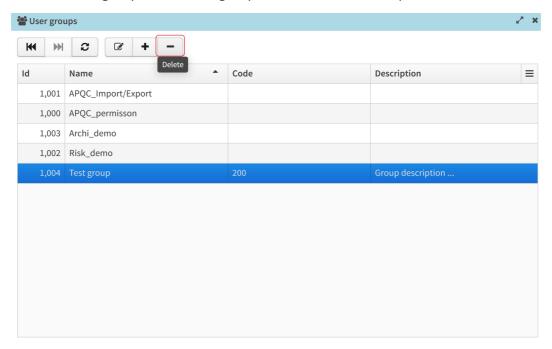
3. Your change of a group is shown in the list of groups:





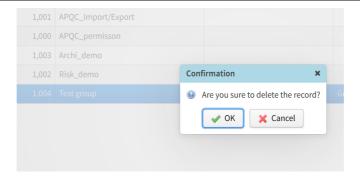
# Deleting a Group

1. Select a group in the list of groups and click the Delete option:



2. Click the OK button to confirm your group deletion.





3. A deleted group is no longer displayed in the list of groups.

### 16.5.3. Label Management

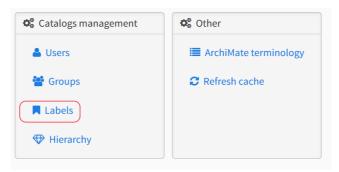
The goal is to manage (add, edit, or delete) labels in ArchiREPO.

There are two types of labels: public and private.



Label management is a part of ArchiREPO administration.

1. Select **Tools > Administration** in the main menu, then click the "*Labels*" option in the Administration menu displayed:



2. The list of labels is displayed:



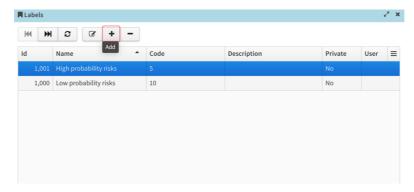
In the list of labels, you can:

- Move to the beginning/end
- Add a new label
- Edit a label
- Delete a label
- Update the list of labels





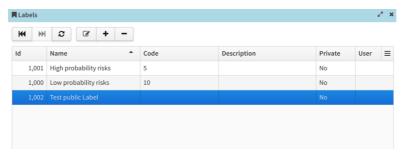
1. Click the Add option in the list of labels:



2. Enter the new label data and click the "Save" button to confirm the new label:

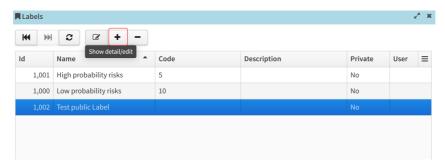


3. The new label is saved and displayed in the list of labels:





1. Select a label in the list of labels and click the Show detail/edit option:





2. Edit the label and click the "Save" button to confirm your change:



3. Your label change is reflected in the list of labels:

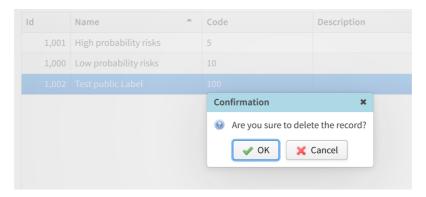


# To Delete a Label

1. Select a label in the list of labels and click the Delete option:



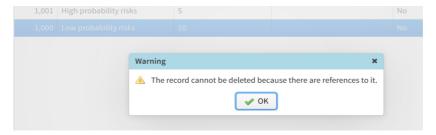
2. Click the "OK" button to confirm your label deletion:



3. A deleted label is not longer displayed in the list of labels.



If a label is assigned to any object(s) then the label can't be deleted. A warning is displayed when deleting the label in this case:



If you really want to delete the label then delete any references to objects first.

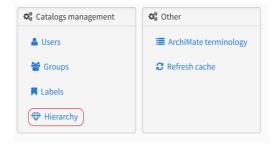
### 16.5.4. Constructing a Navigation and Navigation Content

The goal is to define the content of a navigation bar and the structure of navigation trees in ArchiREPO. The Administrator can define the navigation structure of folders and their location in a navigation tree.

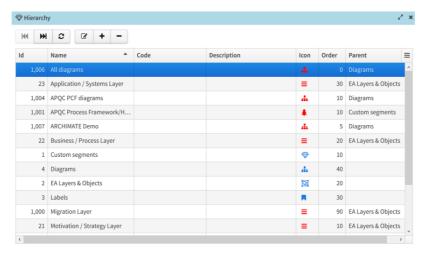
You can place selected listings and expanding trees of elements (a hierarchy based on the relationships from the model), a listing or a content of labels, a listing or a navigation tree of diagrams, and/or a listing of reports/lists/catalogs into the navigation bar (hierarchy) folders.



Select **Tools > Administration** to administer the hierarchy items:



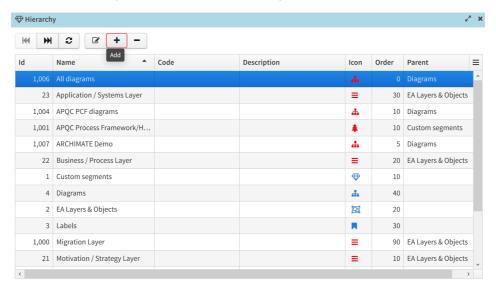
The list displayed shows all ArchiREPO hierarchy items:



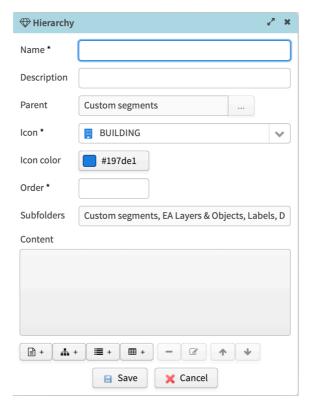


# To Add a Hierarchy Item

1. Click the Add option in the list of hierarchy items:



2. Enter the hierarchy item data and click the "Save" button in the dialog for adding a hierarchy item:



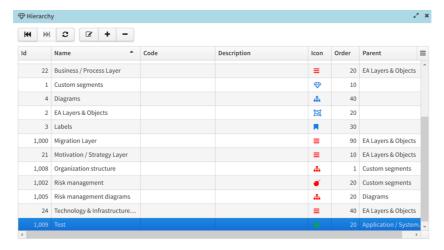
Entering the *Name*, *Icon*, and *Order* is mandatory.

If a parent isn't selected then the new item is added to a navigation bar.

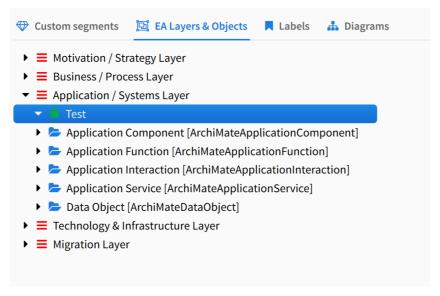
You can also add any related items (an element, a diagram, a structure) when adding a hierarchy item.



3. The newly added item is displayed in the list of hierarchy elements:



4. View the *Control Frame*, the new hierarchy item is displayed here:

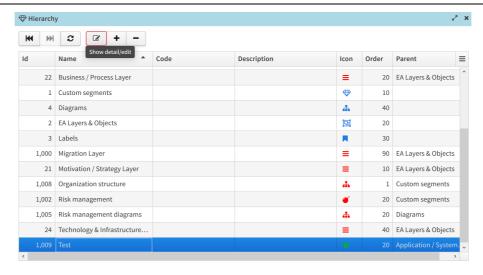




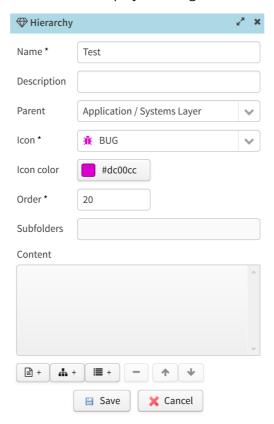
Editing a hierarchy item is done within the *Administration* from the list of hierarchy elements. The list of hierarchy elements is described above in this chapter.

1. Select an element and click the Show detail/edit icon in the list of hierarchy elements:





2. Change the appropriate data in the displayed dialog and click the "Save" button to confirm:



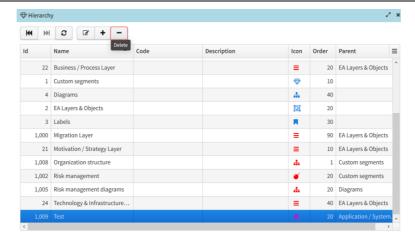
3. The edited hierarchy item is displayed in the list.



Editing a hierarchy item is done within the *Administration* from the list of hierarchy elements. The list of hierarchy elements is described above in this chapter.

1. Select an element and click the Delete icon in the list of hierarchy elements:

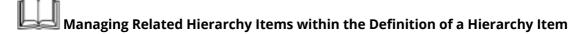




2. Click the *OK* button to confirm your deletion.



3. Then the hierarchy item is deleted. The deleted item is no longer displayed in the ArchiREPO structure.

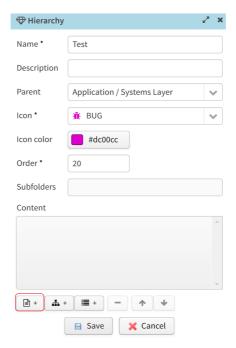


You can also add any related items (elements, diagrams, reports, a structure of elements) when adding or editing a hierarchy item.

#### • To Add a Related Item

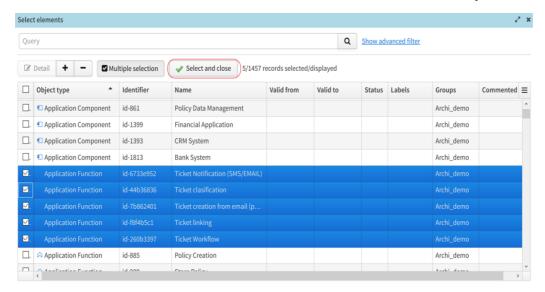
#### 1. The Element(s)

a. Click on the icon to add elements:





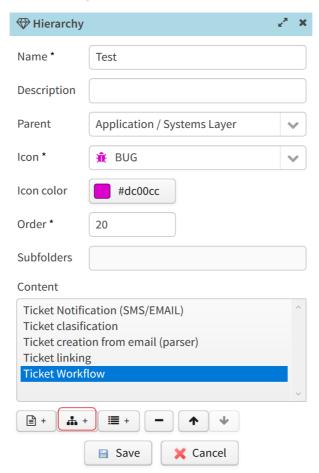
b. Select the elements and click the "Select and close" button to confirm your selection:



c. The elements are added to the hierarchy item being added/edited.

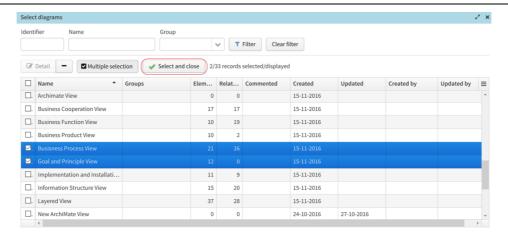
#### 2. The Diagram(s)

a. Click on the icon to add diagrams:



b. Select the diagram and click the "Select and close" button to confirm your selection:

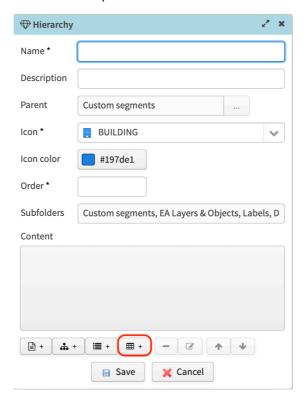




c. The selected diagram is added to the definition of a hierarchy item.

### 3. Adding The Report(s)

a. Click on the icon to add reports:

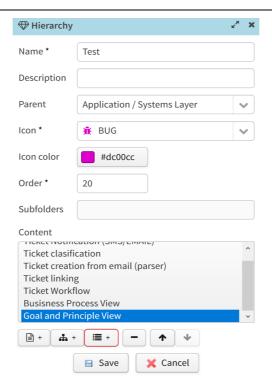


- b. Select the report/catalog from a list and click the "*OK*" button to confirm your selection:
- c. The selected report is added to a folder.

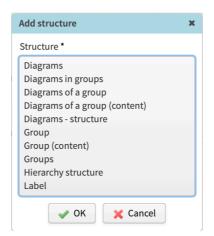
#### 4. A Structure

a. Click on the icon to add a structure:





b. Select the structure and click the "OK" button to confirm your selection:

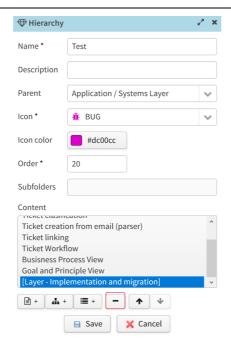


c. The selected structure is added to the definition of a hierarchy item.

• To Remove a Related Item (an element, a diagram or a structure)

a. Select the related item in the detail of a hierarchy item and click on the option to remove the item:





b. The item is removed from the definition of a hierarchy item.

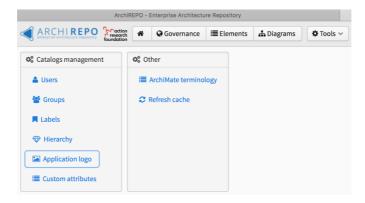
The construction of a navigation bar consists of adding, editing or deleting the hierarchy elements (only empty folders can be deleted).

## 16.5.5. Application Logo

The Administrator can add an image as the logo (e.g. a picture of the system owner). The maximum size is 320x200 pixels.



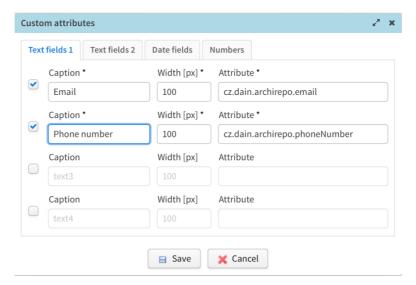
This logo appears to the right of the ArchiREPO logo:



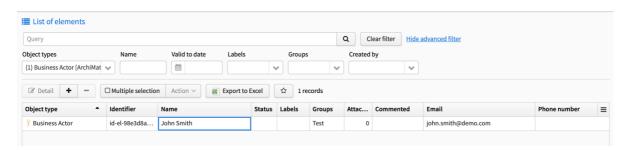


#### 16.5.6. Predefined Attributes

The Administrator can specify up to 16 other attributes from a predefined set (Types: 8xText, 4xNumber, 4xDate):



These attributes can be displayed as columns in a catalog or in reports/lists, respectively. This definition is common to all types of elements:



Note: You may enter another attributes without any limits but you can't display them in columns of standard reports as opposed to these 16 predefined ones.

## 16.5.7. ArchiMate Terminology

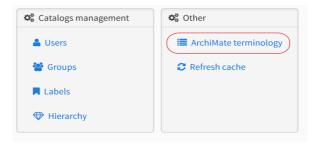


The Administrator can edit the terminology in ArchiREPO.

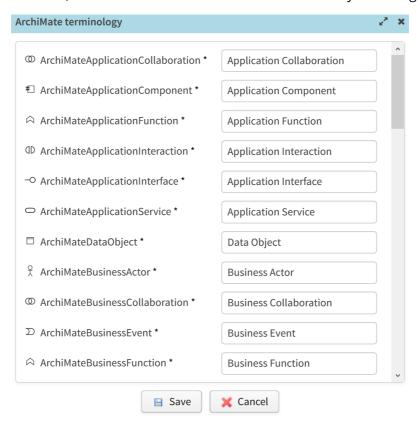


1. Select **Tools > Administration** in the menu and then choose "*ArchiMate terminology*" in the admin menu:





2. Select a term, edit it and click the "Save" button to confirm your change:



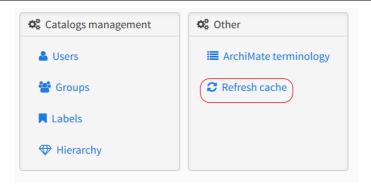
## 16.5.8. Refreshing a Cache

The cache is an auxiliary computer memory, which speeds up loading of your web pages. Refreshing a cache in ArchiREPO represents a clean-up of the temporary server-side memory (dials and users).

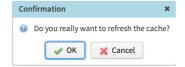


1. Select **Tools > Administration** in the menu and then choose "*Refresh cache*" in the admin menu:





2. Please confirm your intention to refresh the cache:



3. The system displays information about refreshing the cache of users and dials:

