ARIS CONNECT
ADMINISTRATOR USER MANUAL

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This manual contains the online help that is provided for ARIS Connect users using ARIS Connect with Administrator privileges.

This document applies to ARIS Version 10.0 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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1 ARIS Connect

This manual contains the descriptions of the online help, which refers to the administration of ARIS Connect. Users with **Administrator** function privileges can perform the described procedures.

ARIS Connect is an integrated environment in which you can create, display, and change processes, as well as discuss and improve them jointly with other ARIS Connect users. When you open ARIS Connect in your Web browser, you obtain role-based access to the process descriptions that are relevant to you.

As a process expert, you receive access to the corresponding views and options for analyzing and improving processes.

In ARIS Connect projects participants can directly enter comments pertaining to modeled processes and discuss improvement potential with others. With dashboards KPIs can be visualized and controlled and relevant documents can be entered and distributed. The seamless integration with existing ARIS installations is ensured, which also allows users to cooperate with regard to existing processes using the integrated social media.

The functional scope of ARIS Connect depends on the license being used.

Here's what you can do:

- Manage licenses (page 4)
- Manage users (page 13)
- Manage user groups (page 29)
- Manage documents (page 59)
- Administrate automated processes (page 95)
- Use charts (page 129)
- Configure ARIS Connect (page 130)
- Set up user management (page 231)
- Set up ARIS document storage (page 325)
- Set up Process Governance (page 352)
- Set up Collaboration (page 367)
- Administrate Collaboration (page 692)
- Manage server tasks (page 373)
- Administrate dashboards (page 377)
- Manage SAP Solutions (page 706)
- Configure Tenant Management (page 713)

News on ARIS is available in ARIS Community. (https://www.ariscommunity.com/system/files/files/ARIS_10_SR10_Features_Overview.pdf)

Note: You can watch videos for some procedures in the help. If your browser is unable to open the quick videos within the help, please use a different browser. The videos are also available in ARIS Community (http://www.ariscommunity.com/help/quick-videos).

2 Text conventions

Menu items, file names, etc. are indicated in texts as follows:

- Menu items, key combinations, dialogs, file names, entries, etc. are displayed in **bold**.
- User-defined entries are shown as **<bold text in angle brackets>**.
- Example texts that are too long to fit on a single line, such as a long directory path, are wrapped to the next line by using ↵ at the end of the line.
- File extracts are shown in this font format:

  `This paragraph contains a file extract.`
- Warnings have a colored background:

Warning

This paragraph contains a warning.

3 Manage ARIS Connect

Depending on which administrator privileges you have, you will have access to the areas described here where you can make the appropriate settings. For example, you can only see the user administration if you have the **User administrator** function privileges.

4 Open ARIS Administration

Centrally manage users, user groups, privileges, licenses, documents, and configurations for all ARIS products. This ensures single sign-on for various ARIS products. Users can also be created using an LDAP system.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click the link that was provided to you by e-mail or that you have saved as a bookmark in your browser. The **Login** dialog opens.
2. Enter your user name and your password.
3. Click **Log in**.
4. Click **<user name> > Administration**.

ARIS Administration opens.

ARIS video tutorial

ARIS Architect 'Administration' tab versus ARIS Administration (https://www.ariscommunity.com/videos/aris-architect-administration-tab-versus-aris-administration-0) (approx. 1 minute)

5 Manage licenses

Centrally manage licenses for all ARIS products to grant users the privileges required for the programs they use.

5.1 Import and display license file

Import a license file to give users the required privileges for the programs.

Prerequisite

You have the **License administrator** function privilege.

Procedure

1. Click **Licenses > Product**.
2. Click **Import license file**. The corresponding dialog opens.
3. Select the relevant license file.
4. Click **Upload**.

The license file is transferred. It is shown how many licenses were imported, as well as which licenses could not be installed and why.

You can now assign users the required license privileges. If you need additional licenses later, simply import the new license file as described above. To display imported license files, click the relevant license, and select **Open license file**.

5.2 Delete licenses

You can delete license files when they have expired. Before deleting licenses, back up user data, if required, in order to be able to reuse (page 45) them when new license are available. In the configuration, you can specify that administrators are notified before a license expires. Expired licenses are marked in the license overview: . Users or groups can no longer be assigned. Login is impossible with an expired license.

Prerequisite

You have the **License administrator** function privilege.

Procedure

1. Click **Licenses > Product**.
2. Click the relevant product or a subgroup.
3. Move the mouse pointer over the relevant license. The buttons of the available functions are displayed.
4. Click **Delete license file**.

The license file is deleted.

5.3 Display information about licenses/license file

You can display information about licenses, such as the expiration date, number of licenses, etc. You can also open the imported license files.

Prerequisite

You have the **License administrator** function privilege.

Procedure

1. Click **Licenses > Product**.
2. Click the relevant product or a subgroup.
3. Move the mouse pointer over the relevant license. The buttons of the available functions are displayed.
4. Click **Open license file**.

The imported license file is displayed as an XML file.

If license exhaustion notification is activated in **Configuration** (**User management > User-defined notifications > Licenses > Notify about license exhaustion**), license administrators receive a notification once the specified number of licenses is reached.

5.4 Enable or disable license monitoring

You can customize the license monitoring as required.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Click **Licenses > Monitoring > Configuration**.
2. Click **Edit**.
3. Enable (☑) or disable (☐) license monitoring. License monitoring is disabled by default.
4. The license monitoring interval is indicated in minutes. By default, it is set to 5 minutes and should not be changed because this value guarantees an optimum outcome for the report evaluation (page 8).
5. Click **Save**.

Your settings are saved. If you enabled license monitoring, you can now generate the License usage rule validation report (page 8).

5.5 Create and activate a license rule

Create license rules for the **License usage rule validation** report. You can have multiple license rules, but only one can be activated.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Click **Licenses > Monitoring > Rules**.
2. Click **Create**. The corresponding dialog opens.
3. Enter a name and select the rule type (page 10).
4. Click **Create**. The license rule is created.
5. In the row of the newly created license rule, click **Edit license rule**. The fact sheet is displayed.
6. Under **License rule properties**, click **Edit**. The corresponding dialog opens.
7. If required, also enter the license rule name in other languages.
8. For **Aggregated weighting** rule types, enter a **Threshold**.
9. Click **Save**. The license rule properties are saved.
10. Create a license group for the license rule. To do so, click **Add** under **License groups**. The corresponding dialog opens.
11. Enter a license group name. If required, also enter the name in other languages.
12. For **Aggregated weighting** license rule types, click **Add**, select the relevant product codes, for example, **ARIS Connect Viewer(YCSCC)** and **ARIS Connect Designer(YCSDC)**, and enter a weighting for each.

    For **Base & Peak** license rule types, click **Add**, select the relevant product codes, and enter a limit for each.

    For **DBP** license rule types, enter a **Threshold** and select the relevant product codes.
13. Click **Save**.

    The license group for the license rule is created.
14. Click **Back**.
15. In the row of the newly created license rule, click **Activate license rule**.

The license rule is created and activated. From now on, you can generate the License usage rule validation report (page 8).

To delete a license rule, click **Delete** in the row of the relevant license rule.

5.6 Download and upload license rules

You can download and upload license rules as JSON file. The license rules are also included in the backup of user management data (page 44).

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Click **Licenses > Monitoring > Rules**.
2. In the row of the license rule you want to download, click **Download license** rule. The corresponding dialog opens.
3. Select **Save File** and click **Ok**.

   The license rule file is saved as JSON file in the selected folder.
4. To upload a license rule file, click **Upload** above the list of license rules. The corresponding dialog opens.
5. Click **Select file**. The corresponding dialog opens.
6. Navigate to the JSON file you want to upload as a license rule.
7. Select the relevant file, then click **Open**.
8. Click **Upload**.

The license rule is displayed in the list of license rules.

Before you use it as the active license rule for the **License usage rule validation** report, check whether the license rule properties and the license groups are still valid. Example: If you uploaded a license rule from an older ARIS Connect version, check whether the product codes used for the license group exist in the system.

5.7 Generate License audit (password-protected) report

If your contract with Software AG contains a term under which you must regularly provide the usage data of the purchased licenses, generate the **License audit (password-protected)** report. This report is applicable to **Concurrent** and **Named user** licenses. For detailed information, contact your local Software AG sales organization (https://empower.softwareag.com/public_directory.asp).

Prerequisite

- You have the **User administrator**, **Configuration administrator**, and **License administrator** function privileges.
- **License monitoring** is enabled in **Licenses > Monitoring > Configuration**.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Generate report**. The corresponding dialog opens.
4. Select **License audit (password-protected)** report.
5. Click **Run**.

The report is output as a password-protected ZIP file containing an Excel file and a JSON file. Send this password-protected report to Software AG for evaluation.

5.8 Generate License usage rule validation report

Generate a report that lists the license usage based on the license rule. This report is applicable to **Concurrent** and **Named user** licenses.

Prerequisite

- You have the **User administrator**, **Configuration administrator**, and **License administrator** function privileges.
- License monitoring is activated (page 5) (**Licenses > Monitoring > Configuration**).
- An active license rule is available (page 6) (**Licenses > Monitoring > Rules)**.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Generate report**. The corresponding dialog opens.
4. Select **License usage rule validation** report.
5. Click **Run**.

The report is output as an Excel file.

5.9 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

5.9.1 What license types exist?

You can use only one license type for each product. Exceptions are the **Named user** and **Cross-client** license types.

LICENSE TYPES FOR CLIENT PRODUCTS

The license types for client products must be assigned manually to users or user groups. You can increase the number of licenses by installing additional licenses.

NAMED USER

Users assigned to this license type have guaranteed login as the license is registered in their name. The number of licenses that can be assigned is specified in the license file.

CONCURRENT USER

For this license type, the number of users who can log in at the same time is specified. The assigned users share the available licenses. If the number of users logged in is the same as the number of available licenses, no other users can log in. The user must wait until another user logs off. However, the administrator can end (page 26) the sessions of users.

CROSS-CLIENT

This license type corresponds to a license of the **Named user** type. However, it can be imported and used for various tenants. It is intended for administrators who manage several tenants. The assigned users can log in with all tenants.

SERVER LICENSES

The license types for server products are activated automatically after the import.

5.9.2 What license rule types exist?

You can select the following license rule types when you create a license rule (page 6).

AGGREGATED WEIGHTING

A threshold is specified for the license rule and a weighting is assigned to each product contained in the license rule. The number of unique users who are consuming licenses from the license group is multiplied by the respective weighting of the license. If the calculated total value exceeds the threshold, the license usage exceeds the purchased license volume.

Example

The license group contains ARIS Connect Designer licenses (weighting = 10) and ARIS Connect Viewer licenses (weighting = 5). The specified threshold is 100. At a given point in time, nine users are logged in with ARIS Connect Designer licenses and two with ARIS Connect Viewer licenses. The calculated value of the consumed licenses is 100 (= 9 x 10 + 2 x 5) and therefore the license usage is not exceeded. As soon as an additional unique user logs in, the threshold is exceeded.

BASE & PEAK

A limit is specified for each product contained in the license rule. If the number of unique users who are consuming licenses from the license group exceeds the specified limit of the respective product, the license usage exceeds the purchased license volume.

Example

The license group contains ARIS Connect Designer licenses (limit = 10) and ARIS Connect Viewer licenses (limit = 5). At a given point in time, ten users are logged in with ARIS Connect Designer licenses and four with ARIS Connect Viewer licenses. Therefore, no limit is exceeded (base). As soon as an additional user logs in with ARIS Connect Designer license, the limit specified for this product is exceeded (peak).

DBP (DIGITAL BUSINESS PLATFORM)

The maximum number of products (threshold) and the products that can be concurrently used within a license group are specified (license bundle). Furthermore, a user should not use more than one license of a product concurrently. If the number of unique users who are consuming licenses from the license group exceeds the specified threshold, or if a user logs in with both products, the license usage exceeds the purchased license volume.

Example

The license bundle of the license group contains ARIS Connect Designer licenses and ARIS Connect Viewer licenses. The specified threshold is 10. At a given point in time, nine users are logged in with ARIS Connect Designer licenses and an additional user is logged in with ARIS Connect Viewer license. As soon as the user who is logged in with ARIS Connect Viewer license logs in with ARIS Connect Designer license, the threshold is exceeded.

5.9.3 When is a license consumed?

A license is consumed as soon as a user logs in and a session is created. Please note that a license is not only consumed when a user starts working, like creating models in ARIS Connect or administrating processes. If various licenses are assigned to a user, the license with the higher value is consumed first.

Example

User A is assigned to the licenses **ARIS Connect Viewer** and **ARIS Connect Designer** (both **Concurrent user** license type). As soon he logs in, the **ARIS Connect Designer** license is consumed.

5.9.4 What happens when a license expires?

Expired licenses are marked in the license overview: . Users or groups can no longer be assigned. Login is impossible with an expired license.

Before deleting licenses, back up user data, if required, in order to be able to reuse (page 45) them when new license are available. In the configuration, you can specify that administrators are notified before a license expires.

5.9.5 What is the difference between the license types?

	Concurrent user	**Named user**
Assignment	Via user or user group	Via user or user group
License volume	Unlimited	Limited number
Guaranteed login	No	Yes
Term of guaranteed login	Current session	Unlimited

5.9.6 What dependencies exist within the privileges?

There are certain license privileges that you cannot assign to a user in combination with others. For example, you cannot assign ARIS Architect and ARIS Designer to a user at the same time.

You can only activate the subgroups of a license privilege if the superior license privilege is activated. If you remove a superior license privilege of a user, the user also automatically loses the assignment to the subgroups.

5.9.7 What License monitoring settings are available?

You can edit the license monitoring settings.

GENERAL

Description	Valid input	Default
License monitoring Enables or disables the license monitoring. If this is enabled, the license usage is monitored. Together with this option, the audit logs must also be enabled.	true, false	false
License monitoring interval This interval specifies the monitoring window in minutes. By default, it is set to 5 minutes and should not be changed because this value guarantees an optimum outcome for the report evaluation (page 8). Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	5	5

6 Manage users

Users and privileges are managed centrally in ARIS Administration for all ARIS products. The role-dependent data access is controlled by privileges and filters that are assigned per database in ARIS Architect on the **Administration** tab.

6.1 Use case - Manage users

This use case provides a comprehensive description of all procedures that administrators must carry out for a tenant so that all authorized employees can work with ARIS Architect.

We recommend that you use ARIS Administration to manage users, user groups, privileges, licenses, documents, configurations, and processes in ARIS Connect. This is what the use case is based on. Using User Management is advisable only for users of ARIS Risk & Compliance Manager, ARIS Publisher, PPM, and MashZone.

Scenario

After installation, the following system users exist: 'superuser' and 'system'. They are responsible for the user management of an activated tenant. The server was started, the password for the system user **superuser** has not been changed yet.

USER MANAGEMENT IN ARIS ADMINISTRATION

Procedure

1. Open ARIS Administration and log in as 'superuser'.
   a. Click the link that was provided to you by e-mail or that you have saved as a bookmark in your browser. The **Login** dialog opens.
   b. Enter your user name and your password.
   c. Click **Log in**.
   d. Click **<user name> > Administration**.
      ARIS Administration opens.
2. Change the passwords for the users 'superuser' and 'system'.
   a. Change the passwords of the users **superuser** and **system** to prevent unauthorized access to the system. These users are created automatically after installation and have comprehensive function privileges and authorizations.
   b. Click the user whose password you want to change.
   c. Click **Edit**.
   d. Enable the **Change password** check box. The **Old password**, **New password**, and **Confirm password** fields are displayed.
   e. Enter a new password, and reenter it. If you want to use the webMethods integration, passwords must not contain a colon.

f. Click **Save**.

The password is changed. The user receives a notification by e-mail.

3. Import the license purchased.

a. Click **Licenses > Product**.

b. Click **Import license file**. The corresponding dialog opens.

c. Select the relevant license file.

d. Click **Upload**.

The license file is transferred. It is shown how many licenses were imported, as well as which licenses could not be installed and why.

4. Create users.

a. Click **Add user**. The **Create user** form opens.

b. Enter the user name, first and last name, e-mail address, if applicable, and password. If a user that already exists in the LDAP system is created, the user name must match. The e-mail address is transferred automatically. For the other specifications you can enter any characters you wish because this information will automatically be transferred from the LDAP system after the user is created.

The user name does not necessarily have to correspond to a person's first or last name. In order to comply with the GDPR, a randomly selected character string is used, or an abbreviation of the first and/or last name.

c. Click **Save**. The detail view of the user is displayed.

The user is created.

5. Alternatively, import LDAP users.

a. Click **Additional functions**.

b. Click **Start LDAP import**. The button is active only if an LDAP system is configured on the server.

c. Select whether you want to import only users or user groups and associated users.

d. Select if you want to use the default filter or create a custom one.

e. Click **Preview** to check how many users or user groups are imported. The number is displayed, as well as up to 100 elements to be imported in alphabetical order.

f. Click **Start import**.

The users or user groups and associated users are transferred from the LDAP system according to the selected options.

1. Create user groups.

a. Click **User management**, and select **User groups**. The list of user groups opens.

b. Click **Add user group**.

c. Enter the name of the user group and an optional description.

d. Click **Save**.

The user group is created.

2. Alternatively, import LDAP user groups.
   a. Click **Additional functions**.
   b. Click **Start LDAP import**. The button is active only if an LDAP system is configured on the server.
   c. Select whether you want to import only users or user groups and associated users.
   d. Select if you want to use the default filter or create a custom one.
   e. Click **Preview** to check how many users or user groups are imported. The number is displayed, as well as up to 100 elements to be imported in alphabetical order.
   f. Click **Start import**.

   The users or user groups and associated users are transferred from the LDAP system according to the selected options.

1. Assign a user group to the user.
   a. Click the user whose user group association you want to change.
   b. Click **Associated user groups**.
   c. Click **Edit assignment**. The **Associate user groups** dialog opens.
   d. Enable the check boxes of the relevant items in the **Available user groups** box, and click **Add**. The user groups are transferred to the **Associated user groups** box.
   e. Click **OK**.

   The user group is assigned to the user.
2. Assign function privileges to the user, if required.
   a. Click the user you wish to assign function privileges to. The user data (details) is displayed.
   b. Click **Privileges**. The list of function privileges is displayed.
   c. Enable/disable the check boxes of the privileges whose assignment you want to add/remove.

   The user is assigned the selected privileges. This provides the user with privileges for functions (for example, the **Database administrator** function privilege).
3. Assign license privileges to the user.
   a. Click the user you wish to assign license privileges to. The user data (details) is displayed.
   b. Click **Privileges**. The list of function privileges is displayed.
   c. Click **License privileges**.
   d. Enable/disable the check boxes of the privileges whose assignment you want to add/remove.

The user is assigned the selected privileges. This provides the user with access to the ARIS products relevant to him.

Users can now log in with their assigned privileges. Product-specific privileges are assigned in each ARIS product.

USER MANAGEMENT IN ARIS ARCHITECT

Procedure

These actions can also be carried out by users with the **Database administrator** and **User administrator** function privileges.

1. Start ARIS Architect.
2. Log in as **system** user and connect to the **default** tenant.

   Please use the new password that you just changed in ARIS Administration. ARIS Architect starts.
3. Create databases. All users with the **Database administrator** function privilege can do so.
4. Click **ARIS >** **Administration** or **ARIS >** **Explorer**.
5. Click **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
6. In the Explorer tree, right-click your connection to the ARIS Server and select **New >** **Database**.
7. Enter a name. Do not use any special characters.
8. Enable the **Versionable** check box if you want the content of the new database to be versioned.
9. Click **OK**. The database is created and displayed in the **Navigation** bar, either as a non-versionable or versionable database.

   All users and user groups are automatically transferred from ARIS Administration.
10. Change the password of the system user **system**.
11. Assign access privileges.
12. Assign function privileges to users and user groups.
13. Assign filters to users and user groups. The database is available to authorized users
14. Assign access privileges for database groups. These actions can be carried out by all users with the **User administrator** function privilege.
15. Click **ARIS >** **Explorer**.
16. Log in to the database.
17. Click **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
18. Right-click the group for which you want to edit the access privileges, and select **Properties**.
19. Click **Access privileges (users)** or **Access privileges (user groups)** on the **Selection** tab.

20. Select the users/user groups for which you want to assign privileges.
21. Select the required access privileges. You can assign **Read (r)**, **Write (w)**, and **Delete (d)** access privileges. The **Version (v)** access privilege is available for versionable databases only. The selection is displayed in the **Privileges** column.
22. If you click the **Pass on privileges** button, the selected access privileges are applied to all subgroups. This also applies to all new subgroups created below this group in the future.
23. Click **OK**.

After the user logs in to the database again the changed access privileges will be in effect.

1. Assign database-specific function privileges to users and user groups.
2. Click **ARIS >** **Administration**.
3. Click **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
4. Log in to the database.
5. In the **Navigation** bar, click **Users** or **User groups**.
6. In the table, right-click the user or user group, and select **Properties**.
7. Click **Function privileges** on the **Selection** tab.
8. In the **Assign** column, click the relevant function privileges. You can assign only function privileges that are assigned to you, too.

   You cannot change function privileges for system users.

   If you selected **User** in the **Navigation** bar and are logged on as system user, you can enable the **System user** check box. This user receives all function and access privileges.
9. Click **OK**.

The function privileges are now assigned for this database.

For users to be able to view specific content of the database, you assign access privileges to them.

1. Assign filters to users and user groups.
2. Click **ARIS >** **Administration**.
3. Click **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
4. Log in to the database.
5. In the **Navigation** bar, click **Users** or **User groups**.
6. In the table, right-click the user or user group, and select **Properties**.
7. Click **Method filter** on the **Selection** tab.
8. In the **Assign** column, enable the checkboxes of the relevant filters.
9. Click **OK**.

The selected filters are assigned. Users can now log in using these filters.

You can select a default filter for each database. This filter is automatically assigned when you create users and user groups.

All users with the corresponding privileges can work with ARIS Architect.

For new databases, these privileges must be assigned by authorized users.

ARIS video tutorial

ARIS Architect 'Administration' tab versus ARIS Administration (https://www.ariscommunity.com/videos/aris-architect-administration-tab-versus-aris-administration-0) (approx. 1 minute)

6.2 Create user

Create a user for authorized employees. The default users system (page 48), superuser (page 49), arisservice (page 49), and guest (page 49) are created automatically. You can create additional system users (page 21).

Prerequisite

You have the **User administrator** function privilege.

Warning

If this user is also modeled in an organizational chart, all differing data and assignments are overwritten when the executable process is subsequently generated or the organizational chart is updated. This does not apply to LDAP users.

To prevent this, enable the attribute **Consider user group association from user management**.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Add user**. The **Create user** form opens.
3. Enter the user name, first and last name, e-mail address, if applicable, and password. If a user that already exists in the LDAP system is created, the user name must match. The e-mail address is transferred automatically. For the other specifications you can enter any characters you wish because this information will automatically be transferred from the LDAP system after the user is created.

   The user name does not necessarily have to correspond to a person's first or last name. In order to comply with the GDPR, a randomly selected character string is used, or an abbreviation of the first and/or last name.
4. Click **Save**. The detail view of the user is displayed.
5. Assign a user group to the user, if required.
6. Click **Associated user groups**.
7. Click **Edit assignment**. The **Associate user groups** dialog opens.
8. Enable the check boxes of the relevant items in the box of the available items, then click **Add**. The items are transferred to the box of the associated items. To remove items from the associated items box, enable the check boxes of the relevant items in this box, and click **Remove**.
9. Click **Save**.
10. Enable (page 36) the required function and license privileges for the user under **Privileges**.

    In order to make a user a system user, enable all function privileges.

The user is created with the corresponding user group and privilege assignments. The user cannot be created if a mandatory field was not filled out or a user name was entered that is already in use by another user in the system. LDAP users are indicated by a different symbol ( ) than the other users ( ).

Additional information about the user is displayed under Attributes.

Tip

- To associate all available items, click **Add all**, and click **Remove all** to remove all associations.
- To transfer a user's group and privilege assignments to a new user, go to the overview of users and click **Copy user** in the row of the relevant user. Enable the check box of assignments to be transferred and add the remaining data, such as user name, first and last name, etc. of the new user.

6.3 Edit user

Edit user accounts. You cannot change the user name. If you are using an LDAP system, you cannot change the password either.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user whose data you want to change. The user data (details) is displayed.
3. Click **Edit**.
4. Change the relevant information, such as name, e-mail address, etc.
5. To change a password, enable **Change password**. The **Old password**, **New password**, and **Confirm password** fields are displayed.
6. Enter a new password, and reenter it. If you want to use the webMethods integration, passwords must not contain a colon.
7. Change the user group association (page 25), if necessary.
8. If required, change the profile or the function, license, and database privileges for the user.
9. Click **Save**.

The user's data is changed. After you have changed the password, the user is informed per e-mail about the new password.

Tip

To change or delete a user's picture, click **Change picture**. If a different picture is uploaded in ARIS Administration or in Collaboration, it is automatically transferred to the other application.

6.4 How to make a user a system user

Create additional system (page 48) users. Having more than one system user can avoid problems, if, for example, your single system user has forgotten his password.

Prerequisite

You have the **User administrator** function privilege. If all users including the system users are deleted, use the superuser. The superuser cannot be deleted.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the relevant user. The user data (details) is displayed.
3. Click **Edit**.
4. Click **Privileges**. The list of function privileges is displayed.
5. Enable all check boxes.

Now, the user is a system user. The **system** user has all function privileges. This user can log in to process administration, ARIS Administration, User Management, and My tasks. In ARIS Architect and ARIS Designer, this user has all access privileges for all database groups of all databases.

If your only system user was deleted accidentally, create a new one by using the superuser (page 49).

6.5 Copy a system user

Copy an existing system (page 48) user. Having more than one system user can avoid problems, if, for example, your single system user has forgotten his password.

Prerequisite

You have the **User administrator** function privilege.

Warning

If this user is also modeled in an organizational chart, all differing data and assignments are overwritten when the executable process is subsequently generated or the organizational chart is updated. This does not apply to LDAP users.

To prevent this, enable the attribute **Consider user group association from user management**.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the relevant user. The user data (details) is displayed.
3. Click **Copy**. The **Copy user** form opens.
4. Enable **Transfer function privileges**.
5. Enable **Transfer user group associations** and/or **Transfer license privileges**, if required.
6. Enter the user name, first and last name, e-mail address, if applicable, and password. If a user that already exists in the LDAP system is created, the user name must match. The e-mail address is transferred automatically. For the other specifications you can enter any characters you wish because this information will automatically be transferred from the LDAP system after the user is created.

   The user name does not necessarily have to correspond to a person's first or last name. In order to comply with the GDPR, a randomly selected character string is used, or an abbreviation of the first and/or last name.
7. Click **Save**.

An additional system user is created. The **system** user has all function privileges. This user can log in to process administration, ARIS Administration, User Management, and My tasks. In ARIS Architect and ARIS Designer, this user has all access privileges for all database groups of all databases.

6.6 How to make a user a system user for a specific database in ARIS Architect

You can assign users system user function privileges for a specific database in ARIS Architect.

Prerequisite

- You have the **User administrator** function privilege.
- The user is already created (page 19) in ARIS Administration.

Procedure

1. Start ARIS Architect.
2. Click **ARIS >** **Administration**. The **Administration** tab opens.
3. Log in to the database for which you want to create a system user.
4. Double-click the database name to expand the tree.
5. Click **Users**.
6. In the user list, right-click the user's name you want to assign system user privileges to and click **Properties**. The **Properties** dialog opens.
7. Click **Function privileges**.
8. At the bottom of the dialog, enable the **System user** check box.
9. Click **OK**.

The user receives all function and access privileges for this database in ARIS Architect. This affects the privileges in ARIS only. The user's function privileges in ARIS Connect are not changed.

6.7 Find users/user groups

You can search for users and user groups.

Prerequisite

You have the **User administrator** function privilege.

Procedure

In the Find box, enter the characters contained in the user name, user group name, first or last name, or e-mail address you want to find.

If there are hits for the search query, the first fifty items are displayed. LDAP users are indicated by a different symbol ( ) than the other users ( ).

6.8 Display assignment of users to a privilege

Obtain an overview of what privileges are assigned to which users. License privileges can be assigned through the group or directly to the user. The type of assignment is displayed in the user management.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Privileges**.
3. Click the privileges for which you want to display the assignment.

The associated users are displayed.

Note

To obtain an overview of the privileges assigned, you can also export (page 45) a user statistics.

6.9 Display information on users/user groups

You can retrieve history and information on all users and their active sessions.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user you want to retrieve information about.
3. Click **Active sessions** to obtain information on the time the user was logged in. This is where you can also log out (page 26) the user.
4. Click the relevant user/user group.
5. Click History (page 54) to retrieve information on the events and details of a user/user group, for example, the privilege assigned to a user.

The requested information is displayed.

6.10 Change association of user groups to a user

You can change the association of user groups for a user. License privileges can be assigned through the group or directly to the user. The type of assignment is displayed in the user management. If required, product-specific groups must be created and assigned in each ARIS product.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user whose user group association you want to change.
3. Click **Associated user groups**.
4. Click **Edit assignment**. The **Associate user groups** dialog opens.
5. Enable the check boxes of the relevant user groups in the **Available user groups** box, and click ▶ **Add**. The user groups are transferred to the **Associated user groups** box. To remove user groups from the **Associated user groups** box, enable the check boxes of the relevant user groups in this box, and click ◀ **Remove**.
6. Click **OK**.

The user groups assigned to the user have been changed.

Tip

To associate all available items, click ⏩ **Add all**, and click ⏪ **Remove all** to remove all associations.

6.11 Log out user

You can end the sessions of users. This can be necessary, for example, if all licenses of the **Concurrent user** license type (page 9) are used up because users have forgotten to log out. It can also be useful to end sessions if the assignment of function or license privileges was changed, as these privileges only take effect after users have logged in again.

Prerequisite

You have the **User administrator** function privilege.

LOG OUT SINGLE USER

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user you wish to log out. The user data (details) is displayed.
3. Click **Active sessions**.
4. Click **Log out user**.
5. Click **OK**.

The user is logged out and can log back in again.

LOG OUT MULTIPLE USERS USING A SPECIFIC LICENSE

Procedure

1. Click **Privileges**, and select **License privileges**.
2. Click the license privilege for which you want to log out users.
3. Click **Active sessions**.
4. Enable the check boxes of the users you want to log out.
5. Click **Log out user**.
6. Click **OK**.

The users are logged out.

Note

To obtain an overview of all users currently logged in, export (page 45) a user statistics.

6.12 Delete user

Delete users when they are no longer relevant.

Prerequisite

You have the **User administrator** function privilege.

Warning

Do not delete your system user (page 48). Having more than one system user can avoid problems. If your single system user was deleted accidentally, create a new one by using the superuser (page 49). The superuser cannot be deleted.

Procedure

1. Click **User management**. The list of users is displayed.
2. Move the mouse pointer to the relevant user name. The buttons of the available functions are displayed.
3. Click **Delete**. The **Confirmation** dialog opens.
4. Click **OK**. The user data is deleted. It takes about 30 minutes until the deletion is written to the log files.
5. To comply with GDPR, delete the log files of ARIS Administration/User Management 30 minutes after deletion of the user data. You can find them in this path:

   <Your installation folder>\ARIS<version>\server\bin\work\work_umcadmin_<size>\base\logs
6. Delete the log files.

The user data and the log files are deleted.

To anonymize users according to GDPR, refer to the online help of the respective component (page 50).

Tip

To delete several users at the same time, enable the check boxes for the relevant users, and click **Delete**.

6.13 Delete all users and user groups

If you want to set up user management from scratch, you should delete all users and user groups. This is recommended before you change to or deactivate LDAP, for example. The default users system (page 48), superuser (page 49), arisservice (page 49), and guest (page 49) are retained.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Remove all**. The **Confirmation** dialog opens.
4. Click **OK**.

All users and user groups are deleted except for the default users.

6.14 Refresh items

Refresh items in user management. This can be useful if several users are working in user management simultaneously.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Refresh**.

The users and user groups are refreshed.

6.15 Manage user groups

User groups define the tasks or functions that a person performs in a company. A certain set of function, license and database privileges, as well as profiles, is assigned to different user groups. If a user group is assigned to a user, the user has all privileges and profiles assigned to that user group. You can combine different user groups, that is, a user can belong to several different user groups at the same time, or the user's user groups may change, depending on the context.

6.15.1 Create user group

Create a new user group. If required, product-specific groups must be created and assigned in each ARIS product.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Click **Add user group**.
3. Enter the name of the user group and an optional description. If a user group that already exists in the LDAP system is created, the user group names must match. This is the only way to assign an existing ARIS user group with the LDAP user group.
4. Click **Save**.

The user group is created.

Tip

To transfer user and privilege assignments of a group to a new group, go to the overview of groups and click **Copy group** in the row of the relevant group. Enable the check box of assignments to be transferred and add the remaining data, such as group name, etc. of the new group.

6.15.2 Copy user group

You can copy user groups. If required, product-specific groups must be created and assigned in each ARIS product.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Move the mouse pointer over the user group you want to copy. The buttons of the available functions are displayed.
3. Click **Copy user group**.
4. Click **Transfer user associations** to assign the users of the group copied to the new group.
5. Click **Transfer privilege assignments** to assign the function privileges of the group copied to the new group. License privileges are transferred only with the **Concurrent user** license type. For the other license types, the license privileges must be assigned (page 34) in a separate step.
6. Enter the name of the user group.
7. Click **Save**.

The user group is created based on the group copied.

If applicable, assign the group the required license privileges.

6.15.3 Edit user group

You can change user group data. If required, product-specific groups must be created and assigned in each ARIS product.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Click the user group whose data you want to change.
3. Click **Edit**.
4. Change the description, if necessary.
5. Click **Save**.
6. Change the user association (page 32), if necessary.
7. Change the function privileges for the user group, if necessary.

The user group data is changed.

6.15.4 Find users/user groups

You can search for users and user groups.

Prerequisite

You have the **User administrator** function privilege.

Procedure

In the Find box, enter the characters contained in the user name, user group name, first or last name, or e-mail address you want to find.

If there are hits for the search query, the first fifty items are displayed. LDAP users are indicated by a different symbol ( ) than the other users ( ).

6.15.5 Display information on users/user groups

You can retrieve history and information on all users and their active sessions.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user you want to retrieve information about.
3. Click **Active sessions** to obtain information on the time the user was logged in. This is where you can also log out (page 26) the user.
4. Click the relevant user/user group.
5. Click History (page 54) to retrieve information on the events and details of a user/user group, for example, the privilege assigned to a user.

The requested information is displayed.

6.15.6 Change association of users to a user group

You can change the association of users for a user group. License privileges can be assigned through the group or directly to the user. The type of assignment is displayed in the user management. If required, product-specific groups must be created and assigned in each ARIS product.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Click the user group whose user association you want to change.
3. Click **Associated users**.
4. Click **Edit assignment.** The **Associate users** dialog opens.
5. Add all users you want to assign to the group. Use the **Filter** to limit the list of users, based on specific search criteria.

   Enable the check boxes of the relevant items in the box of the available items, then click **Add**. The items are transferred to the box of the associated items. To remove items from the associated items box, enable the check boxes of the relevant items in this box, and click **Remove**.
6. Click **OK**.

The users associated to the user group have been changed.

Tip

To associate all available items, click **Add all**, and click **Remove all** to remove all associations.

6.15.7 Delete user group

You can delete user groups that are no longer relevant. If required, product-specific groups must be created and assigned in each ARIS product.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Move the mouse pointer over the relevant user group name. The buttons of the available functions are displayed.
3. Click **Delete**. The **Confirmation** dialog opens.
4. Click **OK**.

The user group is deleted.

Tip

To delete several user groups at the same time, enable the check boxes for the relevant groups, and click **Delete**.

6.15.8 Delete all users and user groups

If you want to set up user management from scratch, you should delete all users and user groups. This is recommended before you change to or deactivate LDAP, for example. The default users system (page 48), superuser (page 49), arisservice (page 49), and guest (page 49) are retained.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Remove all**. The **Confirmation** dialog opens.
4. Click **OK**.

All users and user groups are deleted except for the default users.

6.16 Assign privileges and profiles

6.16.1 Assign a license privilege to new users/user groups

Assign license privileges to new users or user groups.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Privileges**.
3. Click the privilege you want to assign to the user or user groups. The current assignment is displayed.
4. Click **Edit assignment**. The **Associate user groups** dialog opens.
5. Click **Edit assignment**. The **Associate users / user groups** dialog opens.
6. Enable the check boxes of the relevant items in the box of the available items, then click **Add**. The items are transferred to the box of the associated items. To remove users/user groups from the **Associated users / user groups** box, enable the check boxes of the relevant users/user groups in this box, and click **Remove**.

The user/user group is assigned the corresponding privileges. If users are assigned a privilege directly and via associated user groups, this is detected automatically so that the user only uses one license.

Tip

To associate all available items, click **Add all**, and click **Remove all** to remove all associations.

6.16.2 Assign a license pool to a user group

Assign a number of licenses (license pool) exclusively to a user group.

Prerequisite

- You have the **User administrator** function privilege.
- License pools at user group level is enabled in ARIS Administration configuration (**Security > Advanced settings**).
- The used license type (page 9) is **Concurrent user**.

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Click the user group whose license limit you want to change.
3. Click **Privileges > License privileges**.
4. Move the mouse pointer over the relevant license. The buttons of the available functions are displayed.
5. Click **Change licenses**. The corresponding dialog opens.
6. Enable the **Granted** check box.
7. Enter the number of licenses you want to assign in the **Assigned licenses** box.
8. Click **Save**.

The licenses are assigned to the user group.

6.16.3 Change function, license, and database privileges for users or user groups

Assign the relevant function, license, and database privileges to allow usage of specific programs and functions. Product-specific privileges are assigned in each ARIS product.

There are certain license privileges that you cannot assign to a user in combination with others. For example, you cannot assign ARIS Architect and ARIS Designer to a user at the same time.

You can only activate the subgroups of a license privilege if the superior license privilege is activated. If you remove a superior license privilege of a user, the user also automatically loses the assignment to the subgroups.

Prerequisite

You have the **User administrator** function privilege.

CHANGE FUNCTION, LICENSE, AND DATABASE PRIVILEGES FOR INDIVIDUAL USERS

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user whose privileges you want to change.
3. Click **Privileges**. The list of function privileges is displayed. A distinction is made between privileges assigned directly and those assigned via a user group.
4. Enable/disable the check boxes of the privileges whose assignment you want to add/remove.

   In order to make a user a system user, enable all function privileges.
5. Click **License privileges**. A distinction is made between privileges assigned directly and those assigned via a user group.
6. Enable/disable the check boxes of the privileges whose assignment you want to add/remove.
7. Click **Database privileges**.
8. Enable/disable the check boxes of the privileges whose assignment you want to add/remove. No database privileges are assigned yet.
9. Click **Edit**. The **Edit database privileges** dialog opens.
10. Assign the relevant privilege.
11. Click **OK**.

The user is assigned the selected privileges. The assignment of these privileges is displayed as **Granted** in the overview of function and license privileges for a user.

CHANGE FUNCTION PRIVILEGES FOR ALL MEMBERS OF A USER GROUP

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Click the user group whose privileges you want to change.
3. Click **Privileges**. The list of function privileges is displayed.
4. Enable/disable the check boxes of the privileges whose assignment you want to add/remove.
5. Click **License privileges**.
6. Enable/disable the check boxes of the privileges whose assignment you want to add/remove.
7. Click **Database privileges**.
8. Enable/disable the check boxes of the privileges whose assignment you want to add/remove. No database privileges are assigned yet.
9. Click **Edit**. The **Edit database privileges** dialog opens.
10. Assign the relevant privilege.
11. Click **OK**.

All members of the user group are assigned the selected privileges. The assignment of these privileges is displayed as **Via user group** in the overview of function and license privileges for a user.

Product-specific privileges are assigned in each ARIS product.

The following special features apply for process automation:

If the **Process Governance administrator** function privilege has been assigned to the user in the model but not in user management, the user is also assigned the **Process Governance administrator** function privilege in user management the next time the executable process is generated. If the user has the **Process Governance administrator** function privilege from user management but not from the model, the **Process Governance administrator** function privilege is removed from the user in user management the next time the executable process is generated.

6.16.4 Assign profiles to users or user groups

Assign the relevant profile (page 57) in order to enable a profile-based view of the portal. Depending on the profile, the information and functionality that users have access to varies. Example: For users to which the **Viewer** profile is assigned, the **Steps** fact sheet is displayed when a model is selected. They are unable to view the **Tasks** fact sheet and the **Contribute** function as they do not have an active role. Profiles are applied in addition to the function (page 51) and license (page 54) privileges.

Prerequisite

- Assignment of profiles is enabled in ARIS Administration configuration.
- You have the **User administrator** function privilege.

ASSIGN PROFILES TO INDIVIDUAL USERS

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user you want to assign a profile to. The user data (details) is displayed.
3. Click **Privileges > Profiles**. The list of profiles is displayed. A distinction is made between profiles assigned directly and those assigned via a user group.
4. Enable/disable the check boxes of the profiles whose assignment you want to add/remove.

The user is assigned the selected profiles.

If more than one profile is assigned, the user can switch between these profiles via **<user name> > Profiles > <profile_xy>**. Only one profile can be active at a time.

ASSIGN PROFILES TO ALL MEMBERS OF A USER GROUP

Procedure

1. Click **User management**, and select **User groups**. The list of user groups opens.
2. Click the user group you want to assign a profile to. The user data (details) is displayed.
3. Click **Privileges > Profiles**. The list of profiles is displayed.
4. Enable/disable the check boxes of the profiles whose assignment you want to add/remove.

All members of the user group are assigned the selected profiles. The assignment of these profiles is displayed in the overview of profiles for a user as **Via user group**.

If more than one profile is assigned, the user can switch between these profiles via **<user name> > Profiles > <profile_xy>**. Only one profile can be active at a time.

6.17 Handle password

Assign a new password to a user or generate it automatically. You can request a new password if you have forgotten your current password.

6.17.1 Change user password

Assign a new password to a user or generate it automatically. Passwords of LDAP users cannot be changed.

Prerequisite

You have the **User administrator** function privilege.

CHANGE PASSWORD MANUALLY

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user whose password you want to change. The user data (details) is displayed.
3. Click **Edit**.
4. Enable the **Change password** check box. The **Old password**, **New password**, and **Confirm password** fields are displayed.
5. Enter a new password, and reenter it. If you want to use the webMethods integration, passwords must not contain a colon.
6. Click **Save**.

The password is changed. The user receives a notification by e-mail.

GENERATE PASSWORD

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user whose password you want to change. The user data (details) is displayed.
3. Click **Generate password**. The button is only displayed for users who are not LDAP users.

The password is changed. The user receives a notification by e-mail.

6.17.2 Request new password

You can request a new password if you have forgotten your current password. If an LDAP system is used for user management, please contact your LDAP administrator to request a new password.

Procedure

1. Click **Reset password** in the **Login** dialog. The corresponding dialog opens.
2. Enter your user name.
3. Click **Reset password**.

Depending on your configuration, you will either receive an e-mail with a new password immediately or you must first confirm your password change using a link.

6.18 Apply LDAP

You can import users from the LDAP system and you can synchronize user and user group data with the data stored in the LDAP system.

6.18.1 Import users and user groups from LDAP

You can import users from the LDAP system.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Start LDAP import**. The button is active only if an LDAP system is configured on the server.
4. Select whether you want to import only users or user groups and associated users.
5. Select if you want to use the default filter or create a custom one.
6. Click **Preview** to check how many users or user groups are imported. The number is displayed, as well as up to 100 elements to be imported in alphabetical order.
7. Click **Start import**.

The users or user groups and associated users are transferred from the LDAP system according to the selected options.

6.18.2 Synchronize users or user groups with the LDAP system

You can synchronize user and user group data with the data stored in the LDAP system. LDAP users are indicated by a different symbol ( ) than the other users ( ).

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click the user or user group you wish to synchronize.
3. Click **Synchronize with LDAP**. The button is active only if an LDAP system is configured on the server.

Data is transferred from the LDAP system for the selected item.

6.19 Use SCIM

ARIS supports SCIM with SAML 2.0.

6.19.1 Generate bearer token

If you suspect that your bearer token is no longer safe, you can generate a new bearer token and hand it over to your SCIM administrator.

We recommend that you use your own local user who has the **Technical configuration administrator** function privilege and the **User administrator** function privilege. This user can generate a bearer token and forward it together with the SCIM end point UR (page 322)L to the SCIM administrator.

Prerequisite

- You have the **User administrator** function privilege.
- SCIM is enabled and correctly configured in **ARIS Administration > Configuration > User management > SCIM**.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **User management**. The list of users is displayed.
5. Click your user. The bearer token is always user-specific. In principle one bearer token is sufficient system-wide.
6. Click **SCIM bearer token**.
7. Click **Generate bearer token**. The dialog opens.
8. Click **OK** to confirm.

The new bearer token is generated.

Click **Copy** to copy the bearer token to the clipboard to hand it over to your SCIM administrator so that it can be imported.

6.19.2 Copy bearer token to clipboard

You can copy the bearer token to the clipboard to hand it over to your SCIM administrator so that he can import it.

Prerequisite

- You have the **User administrator** function privilege.
- SCIM is enabled and correctly configured in **ARIS Administration > Configuration > User management > SCIM**.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **User management**. The list of users is displayed.
5. Click your user. The bearer token is always user-specific. In principle one bearer token is sufficient system-wide.
6. Click **Copy** to copy the bearer token to the clipboard.

You can hand over the bearer token to your SCIM administrator so that he can import it.

6.19.3 Delete bearer token

You can delete a bearer token.

Prerequisite

- You have the **User administrator** function privilege.
- SCIM is enabled and correctly configured in **ARIS Administration > Configuration > User management > SCIM**.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **User management**. The list of users is displayed.
5. Click your user. The bearer token is always user-specific. In principle one bearer token is sufficient system-wide.
6. Click **SCIM bearer token**.
7. Click **Delete**.

The bearer token is deleted.

6.20 Manage user data

You can backup and restore management data, export user statistics and generate reports (page 56) about users, user groups, privileges, licenses, assignments, etc.

6.20.1 Back up user management data

You can create a backup file based on the data in user management. Optionally, you can include the user statistics.

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

Prerequisites

- You have the **User administrator** function privilege.
- If you want to include the user statistics, the property **User statistics in backup** (**com.aris.umc.user.statistics.backup**) must be enabled in the configuration (page 302) (see ARIS help: ARIS Administration > Configuration > User management > Security > Advanced settings). By default, this property is deactivated.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Back up data**. The **Back up user management data** dialog opens.
4. Enter a password and confirm it. The password is required for restoring this file.
5. Optionally, you can include the user's photos in the data backup.
6. Click **Start**.

The user management data is saved in JSON format in a ZIP file. The file is separated into several areas to enable even large data volumes to be saved easily: users, user groups, user settings, licenses, license rules, pictures, privileges, configuration, and charts. Backups from an ARIS installation version 9.7 and older can be restored. Backups from the current ARIS installation cannot be restored in older versions.

6.20.2 Restore user management data

You can restore previously backed up user management data in Administration. Deactivate LDAP before restoring the data to speed up the process. Backups from an ARIS installation version 9.7 and older can be restored. Backups from the current ARIS installation cannot be restored in older versions.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Restore data**. The corresponding dialog opens.
4. Select the backup file.
5. Enter the password to open the file.
6. Click **Start**.

The user management data is restored.

6.20.3 Export user statistics

Export statistics about users. Optionally, you can export usage patterns, assignments, changes to data and database items made by the user, the information used most often or the information used last, etc.

Prerequisites

- You have the **User administrator** function privilege.
- **Generate user statistics** (**com.aris.umc.audit.enabled**) is enabled in the configuration (page 302) (**User management > Security > Advanced settings**). If **License monitoring** (**User management > License monitoring > General**) is enabled, **Generate user statistics** is automatically enabled.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Export user statistics**. The corresponding dialog opens.
4. Select the information that the report should output (event type).
5. Select the output format.
6. Select the time period over which the statistics should be created.
7. Click **OK**.

The user statistics are output in the selected format.

6.20.4 Generate report

Generate reports (page 56) about users, user groups, privileges, licenses, assignments, etc.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Generate report**. The corresponding dialog opens.
4. Select the relevant report.
5. Select the output format.
6. Click **Start**.
7. Click **OK**.

The report is output as an Excel file.

6.20.5 Generate License audit (password-protected) report

If your contract with Software AG contains a term under which you must regularly provide the usage data of the purchased licenses, generate the **License audit (password-protected)** report. This report is applicable to **Concurrent** and **Named user** licenses. For detailed information, contact your local Software AG sales organization (https://empower.softwareag.com/public_directory.asp).

Prerequisite

- You have the **User administrator**, **Configuration administrator**, and **License administrator** function privileges.
- **License monitoring** is enabled in **Licenses > Monitoring > Configuration**.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Generate report**. The corresponding dialog opens.
4. Select **License audit (password-protected)** report.
5. Click **Run**.

The report is output as a password-protected ZIP file containing an Excel file and a JSON file. Send this password-protected report to Software AG for evaluation.

6.20.6 Generate License usage rule validation report

Generate a report that lists the license usage based on the license rule. This report is applicable to **Concurrent** and **Named user** licenses.

Prerequisite

- You have the **User administrator**, **Configuration administrator**, and **License administrator** function privileges.
- License monitoring is activated (page 5) (**Licenses > Monitoring > Configuration**).
- An active license rule is available (page 6) (**Licenses > Monitoring > Rules)**.

Procedure

1. Click **User management**. The list of users is displayed.
2. Click **Additional functions**.
3. Click **Generate report**. The corresponding dialog opens.
4. Select **License usage rule validation** report.
5. Click **Run**.

The report is output as an Excel file.

6.21 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

6.21.1 What is the difference between ARIS Architect 'Administration' tab and ARIS Administration?

Users and privileges are managed centrally for all databases and ARIS products of an activated tenant. The role-dependent data access is controlled by access privileges and filters that are assigned per database in ARIS Architect on the **Administration** tab.

MANAGEMENT IN ARIS ADMINISTRATION

You can use User Management to manage users, user groups, privileges, licenses, and configurations for all ARIS products. This ensures single sign-on for various ARIS products. Users can also be created using an LDAP system.

MANAGEMENT IN ARIS ARCHITECT

When you create a database, all users and user groups from the user management are automatically imported into the database. Administrators assign function and access privileges, as well as filters to users and user groups in each database so that only authorized users can view certain database content or perform specified actions. Use the prefix management to track which user created or changed database items.

If you are using the server LOCAL, you can log in only with the user **system**.

ARIS video tutorial

ARIS Architect 'Administration' tab versus ARIS Administration (https://www.ariscommunity.com/videos/aris-architect-administration-tab-versus-aris-administration-0) (approx. 1 minute)

6.21.2 What is the 'system' user?

The **system** user is created automatically. By default, the system user has all function privileges. This user can log in to process administration, ARIS Administration, User Management, and My tasks. In ARIS Architect and ARIS Designer, this user has all access privileges for all database groups of all databases. This user only uses up a license if a license privilege is activated for this user. The default password is **manager**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name.

Having more than one system user can avoid problems, if, for example, your single system user has forgotten his password. You can create (page 21) additional system users or copy (page 22) the existing system user. If your only system user was deleted accidentally, create a new one by using the superuser (page 49).

6.21.3 What is the user superuser?

The user **superuser** is created automatically. By default, this user is assigned the **User management**, **License management**, and **Configuration administrator** function privileges. This user can also enable this function privilege for other users. Users of the **superuser** type do not use up a license. They manage the system administration, but cannot use ARIS products due to license restrictions. The default password is **superuser**. You should change the default password to prevent unauthorized access. The password of the superuser is very important, as it is the only user who cannot be deleted. You can change all user data except for the user name.

6.21.4 What is the user 'arisservice'?

The user **arisservice** is created automatically. By default, this user is assigned the **Database administrator** and **Process Governance administrator** function privileges. This user only uses up a license if a license privilege is activated for this user. The default password is **arisservice**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name.

6.21.5 What is the user 'guest'?

The user **guest** is created automatically. By default, no function or license privileges are assigned to this user. This user serves technical purposes only. It is not for use by end users. Logging in to ARIS Connect or other Software AG products with this user is not allowed. Further information is available in the Software AG license terms (http://softwareag.com/licenses).

6.21.6 How can user accounts be deleted and anonymized?

Users can only be deleted (page 27) in ARIS Administration. To anonymize users in the different ARIS components according to GDPR, follow the instructions of the respective online help or manual:

- **ARIS Cloud Controller (ACC) Command-line Tool** manual
- **ARIS Server Administrator Command-line Tool** manual
- **ARIS document storage Command-Line Tool** manual
- **ARIS Process Governance Command-Line Tool** manual
- **User Management Command-Line Tool** manual
- **ARIS Risk & Compliance Manager online help > Procedures > Use ARIS Risk & Compliance Manager administration > Anonymize users** and **Specify anonymization patterns**
- **Collaboration > online help > Administrate Collaboration > How can user accounts be deleted and anonymized?**

After anonymization, users and their activities are shown with **Anonymized user** instead of with the user name.

6.21.7 What are user groups used for?

User groups define the tasks or functions that a person performs in a company. A certain set of function, license and database privileges, as well as profiles, is assigned to different user groups. If a user group is assigned to a user, the user has all privileges and profiles assigned to that user group. You can combine different user groups, that is, a user can belong to several different user groups at the same time, or the user's user groups may change, depending on the context.

6.21.8 What function privileges can be assigned?

Function privileges provide users with specific functions and control their privileges. Additionally the user must be assigned to a license privilege. You can assign (page 36) the following function privileges to users or user groups. Additional privileges can be assigned in each ARIS product at the database level.

ARCM ADMINISTRATOR

Manage ARIS Risk & Compliance Manager system settings and run data exports/imports.

ARCM SYNCHRONIZATION ADMINISTRATOR

Synchronize databases, models, or groups from ARIS Connect or ARIS to ARIS Risk & Compliance Manager.

ARIS CONNECT ADMINISTRATOR

Specify which version of which database is to be published in the portal, and manage the corporate design.

ANALYSIS ADMINISTRATOR

Back up, restore, and manage the analysis database of a tenant. Import and export queries and ad hoc analyses.

ANALYSIS PUBLISHER

Publish and delete ad hoc analyses and queries for other users. Back up ad hoc analyses and queries.

ARIS CLOUD CONTROLLER CONFIGURATION ADMINISTRATOR

Edit the ARIS Cloud Controller server configuration including registered nodes and application types.

COLLABORATION ADMINISTRATOR

Manage private groups, flagged posts, announcements and e-mail templates.

COMPONENT ADMINISTRATOR

Add, start, stop, and remove components on the ARIS Cloud Controller server.

CONFIGURATION ADMINISTRATOR

Configure ARIS Design Server or ARIS Connect server, export and import a tenant's configuration files, for example, ARIS filters, templates, and XML structures.

CONFIRMATION ADMINISTRATOR

Manage confirmation processes in ARIS Connect.

DASHBOARD ADMINISTRATOR

Create and manage visual content in ARIS Connect, for example, dashboards.

DATABASE ADMINISTRATOR

Manage tenant databases. System user (page 48) in all databases.

DOCUMENT ADMINISTRATOR

Manage documents, document versions, folders, and access privileges in ARIS document storage.

IMPERSONATION

Manage data in other tenants using impersonated users and their privileges.

LICENSE ADMINISTRATOR

Use ARIS Administration/User Management to import, export, or delete licenses.

PORTAL ADMINISTRATOR

Manage the portal's corporate design.

PPM USER

Use PPM.

PROCESS GOVERNANCE ADMINISTRATOR

Manage Process Governance processes.

PUBLISHER ADMINISTRATOR

Generate, update, and delete ARIS Publisher exports.

PUBLISHING ADMINISTRATOR

Specify which version of which database is to be published in the portal.

SCRIPT ADMINISTRATOR

Manage report scripts and macros of ARIS Design Server or ARIS Connect Server.

SERVER ADMINISTRATOR

Query and terminate sessions on ARIS Design Server or ARIS Connect Server. Back up and update the system database, and display database statistics and all databases.

SERVICE ADMINISTRATOR

Register external systems and services (for example, external database systems, mail servers, or proxy servers) on the ARIS Cloud Controller server.

TECHNICAL CONFIGURATION ADMINISTRATOR

Configure systems, such as LDAP or SMTP, use ARIS Administration/User Management to import or export configuration files, and manage documents.

TENANT ADMINISTRATOR

Create, back up, restore, and delete tenants on the ARIS Cloud Controller server.

UML VIEWER

View UML content in ARIS Connect.

USER ADMINISTRATOR

Manage users, user groups, and privileges in ARIS Administration/User Management.

ARIS video tutorial

ARIS Architect 'Administration' tab versus ARIS Administration (https://www.ariscommunity.com/videos/aris-architect-administration-tab-versus-aris-administration-0) (approx. 1 minute)

6.21.9 What license privileges can be assigned?

License privileges provide users with specific products and components. You can assign (page 36) the license privileges to users or user groups (**ARIS Administration > User management > Users** or **Usergroups > <user name>** or **<usergroup name> > Privileges > License privileges**). Move the mouse pointer over a license privileges name to display the description. Additional privileges can be assigned in each ARIS product at the database level.

6.21.10 What information does the history of users and user groups show?

Various events including their timestamp are shown in the history.

USERS

- User created
- User updated
- Privilege assigned
- User assigned to a group
- Synchronized with LDAP
- Login failed
- Password changed

USER GROUPS

- User group created
- User group updated
- Privilege assigned
- User assigned
- Synchronized with LDAP

6.21.11 How can the password be changed?

There are several possibilities for changing a user's password. Passwords of LDAP users cannot be changed.

PASSWORD IS CHANGED BY THE ADMINISTRATOR

A user with the **User management** function privilege can change the passwords of other users.

CHANGE PASSWORD MANUALLY

A password can be changed (page 39) manually in the user management (**Change password**).

GENERATE PASSWORD

Alternatively, a password can be generated (page 39) automatically in the user management (**Generate password**).

PASSWORD IS CHANGED BY THE USER

The user has two possibilities for changing his password in the login dialog.

CHANGE PASSWORD

If a user's password has expired, he will be asked to change it in the login dialog (**Change password**). The user will receive an e-mail containing the new password.

RESET PASSWORD

If the user has forgotten his password, he can request a new one (**Reset password**). The rest of the procedure depends upon whether a one-stage or two-stage password change is enabled (**Administration > Configuration > User management**). For the one-stage change the user immediately receives an e-mail with the new password. For a two-stage change the user first receives an e-mail asking him to confirm the resetting of his password within a specific period of time. The user receives a new password after he has confirmed.

6.21.12 Which reports exist?

You can generate the following reports as Excel files.

LICENSE AUDIT (PASSWORD-PROTECTED)

Lists the maximum consumption of each license per day.

USER GROUPS WITH ASSIGNED USERS AND PRIVILEGES

Outputs a list of the selected user groups and the users assigned to them, along with the function and license privileges granted to the user via the group.

ACTIVE USER SESSIONS

Outputs a list of all users currently logged in to ARIS, along with the start date and time of the session.

ASSIGNED AND UNUSED ARIS LICENSES

Outputs the total number of products and licenses, along with the number of licenses used and available.

LICENSE USAGE RULE VALIDATION

Based on the license rule specified, this report lists the license violations that occur in the system.

USERS WITH ASSIGNED PRIVILEGES

Outputs a list of the selected users with their assigned function and license privileges.

6.21.13 What profiles include which content?

Profiles provide users a profile based view of the portal. Depending on the profile, the information and functionality that users have access to varies. Example: For users to which the **Viewer** profile is assigned, the **Steps** fact sheet is displayed when a model is selected. They are unable to view the **Tasks** fact sheet and the **Contribute** function as they do not have an active role. Profiles are applied in addition to the function (page 51) and license (page 54) privileges. If more than one profile is assigned, the user can switch between these profiles via **<user name> > Profiles > <profile_xy>**. Only one profile can be active at a time. You can assign (page 38) the following profiles to users or user groups in ARIS Administration.

Profile name	Views and functionalities
CoE member	The **Overview** fact sheet is displayed when a model is selected in the **Portal**.
Contributor	The **Steps** fact sheet is displayed when a model is selected in the **Portal**. If the **Steps** fact sheet is not available, the **Overview** fact sheet is displayed.
Designer	The **Diagram** fact sheet is displayed when a model is selected in the **Portal**.
Manager/Owner	The **Dashboards** fact sheet is displayed when a model is selected in the **Portal**.
Viewer	▪ The **Steps** fact sheet is displayed when a model is selected in the **Portal**. If the **Steps** fact sheet is not available, the **Overview** fact sheet is displayed. ▪ The **Tasks** area is not available. ▪ The **Contribute** function is not available.
Viewer (accessible)	▪ The **Steps** fact sheet is displayed when a model is selected in the **Portal**. If the **Steps** fact sheet is not available, the **Overview** fact sheet is displayed. ▪ The **Tasks** area is not available. ▪ The **Contribute** function is not available. ▪ ARIS document storage and Process Governance are not available.

These profiles are predefined in the XML configuration.

6.21.14 What licenses are available in ARIS Connect?

For working with ARIS Connect, the **Designer** and **Viewer** licenses are available.

DESIGNER

- The **ARIS Connect Designer** license gives users access to the entire repository. They can access models, documents, and dashboards and feeds. In the **Models & Object** area, for example, users can create, edit, and delete models in databases.
- The **ARIS Connect Designer** license can be extended with the **ARIS Aware** license. The **ARIS Aware** license allows users to view configured dashboards for which they have view rights (page 444). The users can view the dashboards, for example, in the Dashboards fact sheet.

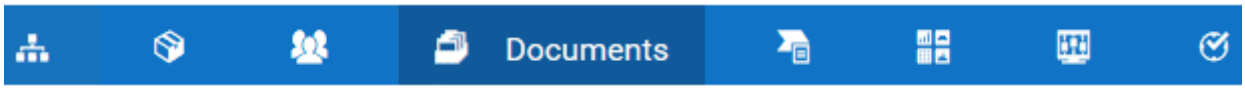
VIEWER

- The **ARIS Connect Viewer** license enables users to view models in databases. This means that these users use databases for review and information purposes.
- The **ARIS Connect Viewer** license can be extended with the **ARIS Aware** license. The **ARIS Aware** license allows users to view configured dashboards for which they have view rights (page 444). The users can view the dashboards, for example, in the Dashboards fact sheet.
- The **Contribution** license is an additional license to users using an **ARIS Connect Viewer** license. If you have both the **ARIS Connect Viewer** and **Contribution** license privilege, you can change values of specific model types and objects, create new or reuse existing items, as well as delete items in the **Portal**.

ARIS API

ARIS API is a programming interface with which you can access ARIS and its data from external applications.

7 Manage documents



ARIS document storage enables you to manage temporarily or permanently saved documents. Access restriction on folder level is possible in ARIS document storage.

ARIS document storage was tested with 40.000 document items. This includes documents, document versions or folders. We recommend monitoring the number and overall size of stored document items and archiving some document items if needed.

7.1 Configure jobs for ARIS document storage

You can configure jobs for ARIS document storage, which are executed regularly at a defined time.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Document storage**.
5. Click **Infrastructure**.
6. In the **Batch job schedule** field, enter the time at which a lock should be removed automatically. The time defined in the string must be a CRON expression (for example, '0 0 2 * * ?' if this is to happen every night at 2:00 a.m.).

You have defined the point in time at which the automatic jobs should be run.

7.2 Display charts for documents

You can display various charts for documents.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Open ARIS Connect and log in with your user name and password.
2. Click **Charts**.
3. Click **Documents**.

The charts for documents are displayed.

7.3 Use ARIS document storage with WebDAV

ARIS document storage supports WebDAV. You can connect only one tenant with a specific repository.

To grant users without the **Document management** role access to ARIS document storage content, ARIS document storage can be used as a WebDAV network drive.

With a Microsoft® Windows 7 operating system you just need to connect the relevant network and access ARIS document storage directly. With older operating systems, you need to use Web folders (select **Tools > Map Network Drive > Sign up for online storage connect to a network server** in Microsoft® Windows Explorer). If this does not work you need to configure your computer as follows.

Procedure

1. Open the Registry Editor.
2. Navigate to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\WebClient\Parameters** and find the DWORD entry **BasicAuthLevel**.
3. Check if the value of this entry is **2**. If the value of this entry differs, please change it to **2**. If the DWORD entry does not exist, create it.
4. With operating systems older than Microsoft® Windows 7 you also need to find the DWORD entry **UseBasicAuth**. If it does not exist, create it.
5. Change the value of this entry to the hexadecimal value **1**. Thus, you enable HTTP Basic Access Authentication for SSL and non-SSL connections.
6. Close the Registry Editor.
7. Restart Microsoft® Windows.

You can now use ARIS document storage as a WebDAV network drive.

7.4 Export statistics

You can export statistics for documents if **Generate usage statistics** is configured (page 332) for ARIS document storage.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Documents**.
5. Click **Administrative actions**.
6. Click **Export statistics**. If you want to export all event types, enable the check box in front of **Event types**.

You can save the document statistics file of ARIS document storage at the relevant location for further use.

7.5 Use metadata

Metadata can be used to classify documents and is displayed in the properties (page 63) of a document.

7.5.1 Define custom metadata for documents

You can define custom metadata for documents saved in ARIS document storage. You can define attributes of type **String** or **Value**. If you define an attribute of type **Value**, you need to specify the allowed value range. For example, this user-defined metadata could be the color (green, blue, yellow) or the company size (small, medium, large). This metadata can be used to classify documents and is displayed in the properties (page 63) of a document.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Documents**.
4. Click the arrow next to ARIS document storage.
5. Click **Open properties**. The details (page 91) of the folder are displayed.
6. Click **Attribute types**.
7. Click **Add new attributes**. The **Add attribute type** dialog opens. Add the relevant attribute type.

You have defined custom metadata.

A user-defined attribute type cannot be changed. You can add or delete values.

7.5.2 Delete custom metadata

You can delete custom metadata.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Documents**.
4. Click the arrow next to ARIS document storage.
5. Click **Open properties**. The details (page 91) of the folder are displayed.
6. Click **Attribute types**.
7. Move the mouse pointer over the attribute type to be deleted.
8. Click **Delete**.

You have deleted custom metadata.

7.5.3 Display document properties

You can view the properties of a document or a folder.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the relevant document. The **Document details** page opens.

The properties of the document are displayed.

7.5.4 Edit document properties

You can edit the properties of a document.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the relevant document. The **Document details** page opens.
5. Edit the document properties, for example, change the description.
6. Click **OK**.

You have edited the properties of the document.

7.5.5 Generate a dashboard link

You can generate a link to a permanent document (page 74) located in ARIS document storage. This link can be used in data feeds or dashboards for ARIS Aware.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) or ARIS Connect Viewer license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the document for which you want to generate a link to the document location in ARIS document storage.
4. Click **Show server location**.
5. Click **Copy to clipboard**.

The link to the document is copied to the clipboard and can be used in data feeds or dashboards for ARIS Aware.

7.5.6 Edit document tags

You can edit the tags of a document. You cannot edit an existing tag, you can only delete it and replace it with a new one.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the relevant document. The **Document details** page opens.
5. Click **Edit**.
6. Enter a new tag. You can separate multiple tags by a comma.
7. Click **Save**.

You have edited the tags of the document.

7.5.7 Delete tags of a document

You can delete the tags of a document.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the relevant document. The **Document details** page opens.
5. Click **Edit**.
6. Click the little cross beside the tag name.
7. Click **Save**.

You have deleted a tag.

7.5.8 Change the document owner

You can change the owner of a document.

Prerequisite

You have the **ARIS Connect Designer** license.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the relevant document. The **Document details** page opens.
5. Click **Edit**.
6. Next to the **Owner** field, click **Edit**. The **Select owner** dialog opens.
7. Enter a character string that is part of the user name of the new owner. The matching users are displayed.
8. Enable the relevant user.

You have changed the owner of a document.

7.6 Use folders

The folder structure of ARIS document storage provides a better overview and the possibility to specify access privileges (page 69).

7.6.1 Create folder in ARIS document storage

You can manage documents in your ARIS document storage. For a better overview, create a folder structure.

Prerequisite

You have the license right **ARIS Connect Designer** and have the corresponding permissions (**Document administrator**, **Local administrator**, or write permission).

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the arrow next to a folder to open the menu.
5. Click **Add folder**.
6. Enter a name for the folder, and click **OK**.

You have created a new folder.

7.6.2 Display folder details

You can view the details of a folder.

Prerequisite

You have the license right **ARIS Connect Designer** and have the corresponding permissions (**Document administrator**, **Local administrator**, or write permission).

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the relevant folder, and click the arrow to open the menu.
4. Click **Open properties**.

The details (page 91) of the folder are displayed.

7.6.3 Edit folder details

You can edit the properties of a folder.

Prerequisite

You have the license right **ARIS Connect Designer** and have the corresponding permissions (**Document administrator**, **Local administrator**, or write permission).

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the relevant folder, and click the arrow to open the menu.
4. Click **Open properties**. The details (page 91) of the folder are displayed.
5. Click **Edit**.

You can edit the properties (page 91) of the folder.

7.6.4 Move folders in ARIS document storage

You can move folders in your ARIS document storage. The subfolders contained are also moved to the target folder.

Prerequisite

- You have the **ARIS Connect Designer** license privilege.
- You have access privileges (page 70) for the source folder and read and write privileges for the target folder.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the arrow next to a folder to open the menu.
5. Click **Move to another folder**.
6. Select the folder and click **OK**.

You have moved a folder and its subfolders.

7.6.5 Manage folder access for user groups

By default, no access privileges are defined in ARIS document storage. All users have access to all folders - including the root folder - and documents. You can limit the access (page 73) to individual folders of ARIS document storage so that not all ARIS document storage users can access all folders and their contents.

Warning

If you edit the access of a user or a user group to a folder for the first time, you also have to adapt the access privileges of the remaining users or user groups accordingly. Otherwise, all the remaining users or user groups will have no access at all.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the relevant folder, and click the arrow to open the menu.
4. Click **Open properties**.
5. Click **Access privileges**.
6. Click **Users groups**.
7. Enable the check boxes of the user groups whose access privileges you want to change.
8. Click **Edit access privileges**. The **Edit access privileges** dialog opens.
9. Enable **Pass access privileges on to all subfolders** if users or user groups should have access to the subfolders below the selected folder. Select the relevant access privilege from the list.
10. Click **OK**.

You have restricted the access to ARIS document storage folders.

Tip

If you want to change the access privileges for a single user group, move the mouse pointer to the row of the relevant user group and click **Edit access privileges**.

7.6.6 Manage folder access for users

By default, no access privileges are defined in ARIS document storage. All users have access to all folders - including the root folder - and documents. You can limit the access (page 73) to individual folders of ARIS document storage so that not all ARIS document storage users can access all folders and their contents.

Warning

If you edit the access of a user or a user group to a folder for the first time, you also have to adapt the access privileges of the remaining users or user groups accordingly. Otherwise, all the remaining users or user groups will have no access at all.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the relevant folder, and click the arrow to open the menu.
4. Click **Open properties**.
5. Click **Access privileges**.
6. Click **Users**.
7. Enable the check boxes of the users whose access privileges you want to change.
8. Click **Edit access privileges**. The **Edit access privileges** dialog opens.
9. Enable **Pass access privileges on to all subfolders** if users or user groups should have access to the subfolders below the selected folder. Select the relevant access privilege from the list.
10. Click **OK**.

You have restricted the access to ARIS document storage folders.

Tip

If you want to change the access privileges for a single user, move the mouse pointer to the row of the relevant user and click **Edit access privileges**.

7.6.7 Show assigned users or user groups

You can restrict the view to those users or user groups who have access privileges to the selected folder.

Prerequisite

You have the **Document administrator** function privilege.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the relevant folder, and click the arrow to open the menu.
4. Click **Open properties**.
5. Click **Access privileges**.
6. Click **Users** or **User groups**.
7. Enable **Show assigned users**.

Users or user groups who have access privileges to folders in ARIS document storage are displayed.

7.6.8 Exclude folder(s) from search

You can exclude ARIS document storage folders from the search.

Prerequisite

- You have the **ARIS Connect Designer** license privilege.
- You have read and write privilege for the relevant folders.

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click the relevant folder, and click the arrow to open the menu.
4. Click **Open properties**.
5. Click **Edit**.
6. Enable **Exclude from search**.
7. Click **Save**.

You have excluded folders from the search. If you search for documents that are located in the excluded folder, no document is found. Only the folders not excluded are searched through. This has no effect on the subfolders of the excluded folder.

7.6.9 Delete folder in ARIS document storage

You can manage documents in your ARIS document storage. For a better overview, create a folder structure.

Prerequisite

You have the license right **ARIS Connect Designer** and have the corresponding permissions (**Document administrator**, **Local administrator**, or write permission).

Procedure

1. Click **Repository**.
2. Click **Documents**.
3. Click a folder in the navigation.
4. Click the arrow next to a folder to open the menu.
5. Click **Delete**. The **Confirmation** dialog opens.
6. Click **OK**.

You have deleted the folder.

7.7 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

7.7.1 What is ARIS document storage?

ARIS document storage is a repository where documents can be stored temporarily or permanently to use them, for example, to specify objects and models and as a basis for displaying dashboards.

Access restriction on folder level is possible in ARIS document storage.

The documents saved there can be used during runtime of an executable process, for example, attached to an e-mail.

All file formats are allowed for documents.

Temporary documents (page 74) are deleted automatically after the executable process is terminated. Permanent documents (page 74) are kept until they are deleted explicitly.

You can work with documents in the repository or in the portal.

7.7.2 What are the access privileges for folders?

By default, no access privileges are defined in ARIS document storage. All users have access to all folders - including the root folder - and documents. You can limit the access to individual folders of ARIS document storage so that not all ARIS document storage users can access all folders and their contents. The following access privileges exist:

- All access privileges

  The users or user groups with this privilege have full access to the folder and can view, edit, create subfolders and delete the folder but cannot assign privileges to users or user groups. They can upload new documents, new document versions, and delete documents.
- Folder administration access

  The users or user groups members with this privilege are local administrators for the folder and can view, edit, create subfolders, delete the folder, and assign privileges to the users and groups. But they cannot assign the **Folder administration access** privilege to other users or user groups. They can upload new documents, new document versions, and delete documents.

  When the **Folder administration** access privilege of a folder is revoked, the user also loses the **Folder administration** access privilege for all the subfolders that have implicit pass-on behavior. Thus, if no other restrictions apply, all users have access to these folders again.
- Reset access privileges

  The users or user groups with this privilege can revoke the permission on the folder if already assigned.
- 'Read" access privilege

The users or user groups with this privilege can view the folder but are unable to upload new documents and new document versions or delete documents in the folder nor create new subfolders.

- 'Read + Write' Access privilege

  The users or user groups with this privilege can view and edit the properties of the folder and create subfolders. They can upload new documents, new document versions, and delete documents.

7.7.3 What are permanent documents?

Permanent documents remain in the ARIS document storage until they are explicitly deleted.

You can set up (page 69) access restrictions on the folder level for permanent documents.

If you use Process Governance, it is recommended that you specify that documents are to be saved permanently in ARIS document storage when modeling a dialog for an executable process, otherwise the location for these documents within ARIS document storage cannot be specified in the dialog. These documents are called temporary documents (page 74).

You can restrict access privileges on folder level only, not for individual documents. Users having the **Document administrator** function privilege can access all folders. If no roles are defined for access to a folder, all users have access to it.

7.7.4 What are temporary documents?

Temporary documents are documents that were not explicitly uploaded to ARIS document storage, but were added to the process during process instance runtime if you use Process Governance. They can be transformed into permanent documents and added to ARIS document storage, if required.

Temporary documents are also saved in the safe area of ARIS document storage when you use an external document management system. These documents are deleted when the process instance is terminated.

You can transform a temporary document into a permanent document by moving it to ARIS document storage.

7.7.5 Which options are available for models or objects?

There are two options to connect documents with an object or model: The first is using the **ARIS document storage** attribute of an object or model. In the document details, documents connected with an object are preceded by the symbol, and documents connected with a model are preceded by the symbol.

The second option is to assign documents to an object or model in ARIS Connect Designer. The assignment is marked by the link symbol for objects and for models.

In this case, the document details show that this document is connected via attributes with an object ( ) or a model ( ).

The second option includes direct attachment to an object or model in ARIS Connect Designer. This is marked by the or link symbols.

7.7.6 Which external document management systems can you use?

This is where permanent documents (page 74) are managed. The storage for temporary documents (page 74) is not affected by this.

Available is Microsoft® SharePoint 2013.

7.7.7 What is the folder Dashboarding used for?

Data is collected by scheduled reports (page 77) and form the basis for data feeds that are stored in the **Dashboarding** folder in ARIS document storage.

These reports generate XML files.

By default, all users have access to the **Dashboarding** folder. Therefore, it is strongly recommended that you restrict the access (page 69) to the **Dashboarding** folder and all its subfolders to the user that is configured in the URL alias (page 378).

The **United Motor Group** database is supplied with your ARIS installation by default. With this database, you receive a set of default dashboards that can be displayed within ARIS Connect.

By default, at least the following folders are available in the **Dashboarding** folder:

- Collaboration - containing the dashboards for Collaboration
- Governance - containing the dashboards for Process Governance
- Matomo - containing the dashboards collected by Matomo

Under United Motor Group folders

- CoE - containing the dashboards for Center of Excellence
- CXM - containing the dashboards for Customer Experience Management
- EA - containing the dashboards for Enterprise Architecture
- Exported Tables - containing the dashboards for metadata, for example, for the person responsible for a process
- GRC - containing the dashboards for Governance, Risk & Compliance (GRC)
- IoT - containing the dashboards for Internet of Things
- Matomo - containing the dashboards collected by Matomo from the **United Motor Group** database
- PPM - containing the dashboards for ARIS Process Performance Manager
- SAP - containing the dashboards for ARIS for SAP® Solutions
- Strategy - containing the dashboards for Business strategy

7.7.8 What are scheduled reports?

Scheduled reports are reports that start automatically at a defined point in time.

They run in the background and you can view the results later. For example, you can define that a report that strongly affects system performance is to run only at night when no one is working with the system.

You specify the schedule for reports in ARIS Architect. For further information please refer to the **Evaluate data > Use reports > Create schedule for report** chapter of the ARIS Architect online help.

7.7.9 What charts are available for documents?

7.7.9.1 What does the 'Number of documents' chart show?

This chart only displays information.

It shows the total number of all documents per repository in ARIS document storage, if multiple repositories exist. Otherwise, the total number of documents is displayed.

7.7.9.2 What does the 'Used space' chart show?

This chart is a speedometer display.

If memory space (in kilobyte) for ARIS document storage for a tenant is restricted, the memory used is shown in the form of a speedometer. If no maximum memory space has been defined, the memory used is shown in megabytes.

7.7.9.3 What does the 'Most viewed documents' chart show?

This chart is a bar chart.

It shows the 15 most viewed or downloaded documents including their file size.

7.7.9.4 What does the 'Most changed documents' chart show?

This chart is a bar chart.

It shows the 15 most changed documents including their file size.

7.7.9.5 What does the 'Largest documents' chart show?

This chart is a bar chart.

It shows the 20 largest documents including their file size.

7.7.9.6 What does the 'Latest documents' chart show?

This chart is a simple list.

This chart shows the 15 latest documents.

7.7.9.7 What does the 'Document status overview' chart show?

This chart is a pie chart.

It shows the distribution and number of documents in the various document statuses. Document statuses are **In progress**, **Under review**, **Reviewed**, **Rejected**, and **Published**.

7.7.9.8 What does the 'Outdated documents' chart show?

This chart is a simple list.

This chart shows the 15 oldest documents.

7.7.10 How can user accounts be deleted and anonymized?

Users can only be deleted (page 27) in ARIS Administration. Then, they must be anonymized according to GDPR. Users are anonymized either with y-admintool.bat for Windows operating systems or y-admintool.sh for Unix operating systems. For detailed information, refer to **ARIS document storage Command-Line Tool**.

After anonymization, activities of ARIS document storage users, such as uploads of documents, downloads of documents, changes to metadata, are shown with **Anonymous** instead of with the user name.

7.8 What pages are available in ARIS document storage?

7.8.1 ARIS document storage attribute types

Enables the definition of custom metadata for documents saved in ARIS document storage. This page is available only for the root folder.

GENERAL BUTTONS

Add new attributes +
Opens the **Add attributes types** dialog in which you can enter new attribute types for documents.

TABLE

Key
Specifies the key of the attribute. This is the name that is displayed in front of the box of allowed values.

Type
Specifies the type of the attribute.

Value range
Specifies the values that a user-defined attribute may have.

Edit
Opens the **Change attribute type** dialog. This is only available for attributes of the **Value** data type.

Delete
Deletes a value from the list of allowed values for an attribute of the **Value** type.

7.8.2 Document details

Displays document details.

GENERAL BUTTONS

Buttons on the top right, whose functionality applies to the entire document including its versions.

Upload new version
Uploads a new version of the current document and creates the versioning information.

Download
Downloads the selected document to the local directory.

Lock
Locks the selected document for editing by other users. This symol is displayed if the document is not locked.

Unlock
Unlocks the selected document and enables editing by other users. This symol is displayed if the document is locked.

Delete
Deletes the current document and all its versions.

A confirmation prompt is shown. The document will be deleted if you click **Delete**. If you decide not to delete the document, click **Cancel**.

Edit
Enables the editing of a document.

TABLE

File name
Displays the name of the document.

Path
Displays the path to the document.

Title
Displays the title of the document.

Current version
Displays the current version of the document. During a new upload of the document the last number is increased. When the document status is changed, the number in the middle is increased. The states **New, Approved**, **Rejected**, **In process**, and **To be approved** exist.

Revision
Shows the number of the revision for the selected document. Each time a document is checked out and changed, a new revision number is assigned.

Status
Shows the status of the document. The states **New, Approved**, **Rejected**, **In process**, and **To be approved** exist.

ID
Displays the ID of the document.

File size
Displays the size of the file.

Owner
Displays the name of this document's owner.

Locked by
Displays who has opened or locked the selected document.

Created by
Displays who created the document in ARIS document storage.

Created on
Displays the creation date of the document.

Description
Displays a detailed description of the document if the description is specified.

List of tags
Displays tags, if they exist. You can add new tags and edit or delete existing ones.

Link
Displays the link to the physical location.

Optional: Custom metadata
Displays the custom metadata, if defined.

7.8.3 Document history

Displays the history of a document.

GENERAL BUTTONS

Buttons on the top right, whose functionality applies to the entire document including its versions.

Upload new version
Uploads a new version of the current document and creates the versioning information.

Download
Downloads the selected document to the local directory.

Lock
Locks the selected document for editing by other users. This symol is displayed if the document is not locked.

Unlock
Unlocks the selected document and enables editing by other users. This symol is displayed if the document is locked.

Delete
Deletes the current document and all its versions.

A confirmation prompt is shown. The document will be deleted if you click **Delete**. If you decide not to delete the document, click **Cancel**.

TABLE

Timestamp
Shows the timestamp of the change to a document to the second, as well as the date of the change.

User name
Shows the user name that the user who performed the change was logged in with.

Event
Shows the change made, for example, an update of the document relationship or a change to a document's metadata.

Details
Shows the event in detail.

7.8.4 Document relations

Displays the relationships of a document.

GENERAL BUTTONS

Buttons on the top right, whose functionality applies to the entire document including its versions.

Upload new version
Uploads a new version of the current document and creates the versioning information.

Download
Downloads the selected document to the local directory.

Lock
Locks the selected document for editing by other users. This symol is displayed if the document is not locked.

Unlock
Unlocks the selected document and enables editing by other users. This symol is displayed if the document is locked.

Delete
Deletes the current document and all its versions.

A confirmation prompt is shown. The document will be deleted if you click **Delete**. If you decide not to delete the document, click **Cancel**.

TABLE

Type
Shows the type of the relationship, for example, **ARIS_Model**, if the document is directly connected to a model. The following relationship types are displayed:

- The document is connected to a model via a link (**ARIS document storage** attribute type group)

- The document is connected to an object via a link (**ARIS document storage** attribute type group)

- The document is connected directly to a model (**ARIS_Model**)

- The document is connected directly to an object (**ARIS_OBJECT**)

Reference
Shows the document's reference to a model or object. The GUID of the model or object is shown, as well.

Delete
Deletes the relation of the document.

If, for example, the document is connected with a model, this relationship is deleted from the model.

A confirmation prompt is shown. Click **OK** to delete the relation. If you decide not to delete the relation, click **Cancel**.

7.8.5 Document versions

Displays the versions of a document.

GENERAL BUTTONS

Buttons on the top right, whose functionality applies to the entire document including its versions.

Upload new version
Uploads a new version of the current document and creates the versioning information.

Download
Downloads the selected document to the local directory.

Lock
Locks the selected document for editing by other users. This symol is displayed if the document is not locked.

Unlock
Unlocks the selected document and enables editing by other users. This symol is displayed if the document is locked.

Delete
Deletes the current document and all its versions.

A confirmation prompt is shown. The document will be deleted if you click **Delete**. If you decide not to delete the document, click **Cancel**.

TABLE

Revision
Shows the number of the revision for the selected document. Each time a document is checked out and changed, a new revision number is assigned.

Size
Displays the size of the file.

Changed on
Shows the date a document version was changed.

Changed by
Shows which user changed a version of a document.

Comment
Shows the comment entered when changing the version of the document.

Status
Shows the status information of the document. The following status information is possible:

- NEW
- ON_APPROVAL
- IN_PROGRESS
- APPROVED
- REJECTED
- PUBLISHED

VERSION-SPECIFIC BUTTONS

If you move the mouse pointer to the row of a version the version-specific buttons are displayed.

Open version
Downloads the version of that row to the local directory.

Delete
Deletes the version of that row.

This button is not available for the current version. This version can be deleted only together with the document itself.

A confirmation prompt is shown. The version will be deleted if you click **Delete**. If you decide not to delete the version, click **Cancel**.

7.8.6 Folder access privileges for user groups

Displays the folder access privileges of the associated user groups.

GENERAL BUTTONS

Delete
Deletes the selected folder, its subfolders and all documents in them.

Enter search term field
Enter the name of the user group or user you want to edit.

Pass on access privileges to all subfolders
Activates the function based on which the restriction of access privileges is extended to all subordinate folders of the selected folder.

TABLE

User group name
Displays the name of the user group.

Access type
Displays the access privilege of a folder for a user group or a user.

Edit
Opens the **Edit access privileges** dialog.

7.8.7 Folder access privileges for users

Displays the folder access privileges assigned to users.

GENERAL BUTTONS

Delete
Deletes the selected folder, its subfolders and all documents in them.

Enter search term field
Enter the name of the user group or user you want to edit.

Pass on access privileges to all subfolders
Activates the function based on which the restriction of access privileges is extended to all subordinate folders of the selected folder.

TABLE

User name
Displays the name of the user.

Full name
Displays the full name of a user.

Access type
Displays the access privilege of a folder for a user group or a user.

Edit
Opens the **Edit access privileges** dialog.

7.8.8 Folder

Displays the content of a folder.

GENERAL BUTTONS

Upload
Opens the dialog to upload a new document.

Refresh
Refreshes the page displayed.

TABLE

Name
Displays the name of the document.

File type
Displays the file type of the document.

Status
Shows the status of the document. The states **New, Approved**, **Rejected**, **In process**, and **To be approved** exist.

Upload new version
Uploads a new version of the current document and creates the versioning information.

Download
Downloads the selected document to the local directory.

Open properties
Opens the properties of the document.

Move to another folder
Opens the **Move document** dialog.

Delete
Deletes the document from ARIS document storage.

7.8.9 Folder details

Displays the details of a folder. (page 67)

GENERAL BUTTONS

Delete
Deletes the selected folder, its subfolders and all documents in them.

Edit
Enables editing mode for the folder details.

TABLE

Folder name
Displays the name of the folder.

Path
Displays the path to the folder.

ID
Displays the ID of the folder.

Created by
Displays who created the folder in ARIS document storage.

Created on
Displays the creation date of the folder.

Exclude from search
Enables that folders are excluded from the search. If you search for documents that are located in the excluded folder, no document is found. Only the folders not excluded are searched through. This has no effect on the subfolders of the excluded folder.

7.8.10 Folder history

Displays the folder history.

GENERAL BUTTONS

Delete
Deletes the selected folder, its subfolders and all documents in them.

Refresh
Refreshes the page displayed.

TABLE

Timestamp
Displays the timestamp of the changes to the folder details.

User name
Displays the user who changed the folder details.

Event
Displays what changes were made to the folder, for example, the creation of a new subfolder.

Details
Displays a detailed comma-separated list of the changes made to the folder.

7.8.11 Select document page

Enables selection of the documents you want to add. Multiple selection is possible. Double-click to add a single document to the selection.

ARIS document storage
Enables you to select a document that is stored in ARIS document storage.

Microsoft® SharePoint 2013
Enables you to select a document that is stored in a third-party document management system.

Properties
Opens the **Document properties** dialog. This dialog displays document properties, such as file name, version, and file type.

Previous version
Opens the **Document versions** dialog, which displays a list of document versions with the corresponding change list numbers, the change date, and the name of the editor.

Add to selection
Adds the selected document to the document selection.

Clear selection
Clears the selection. All documents are removed from the selection.

Remove document
Removes the selected document from the selection. Multiple selection is possible. Select adjacent documents by holding down the Shift key and clicking the first and last document. Select individual objects by holding down the Shift key and clicking the relevant documents.

EXPLORER TAB

Click the small right arrow in order to navigate to further subfolders.

Selected documents
Displays the list of documents already included in the selection.

SEARCH TAB

Find what
Enables you to enter a term that occurs in the title, file name, description, or tags of the document.

Search result
Displays the documents that match the search criteria.

Selected documents
Displays the list of documents already included in the selection.

7.8.12 Select tags page

From the available tags, select those you want to use for marking the document.

Specify tag filter...
Used for entering a search term to restrict the number of the tags displayed existing in the system. When you enter the first letters the display is restricted to the tags that fit your input.

Select tags to be added
Enable the check box in front of the tags you wish to identify the document with.

7.8.13 Upload document page

Enables the upload of the required document.

File
Enter the name of the file. To search your file system, click **Browse**.

Location
Enables you to select the location where files are to be saved in ARIS document storage. Click the small right arrow in order to navigate to further subfolders. To browse, click **Browse** next to the box.

Comment
Enables you to enter a comment that will be displayed in the **Document versions** dialog.

Title
Used to enter the title of the document to be uploaded.

Description
Used to enter the description of the document to be uploaded.

Tags
Displays tags, if they exist. You can add new tags and edit or delete existing ones.

Enter suggestions here
Used to enter new tags. Press Enter to transfer the new tag.

Delete individual tag
Click **Delete** to delete an individual tag or selected tags for this document. Multiple selections are allowed.

Delete all tags
Click **Delete all tags from list** to delete all tags for this document.

Find
Click **Find** to search for corresponding tags for this document in your ARIS document storage.

8 Administrate automated processes

Process administration (page 115) in ARIS Connect provides information and functions pertaining to automated processes.

ARIS video tutorial

8.1 Open process administration

You can perform different actions in process administration (page 115) and retrieve information.

Prerequisite

You have the Process Governance administrator (page 117) function privilege.

Procedure

1. Click **<user name> > Administration**.
2. Click **Process administration**.

The functions and information of process administration are available.

Depending on whether you select **Processes**, an executable process, a version, or a process instance of an executable process, different information and functions are displayed.

ARIS video tutorial

Process administration overview (http://www.ariscommunity.com/videos/process-administration-aris-connect-overview) (approx. 4 minutes)

8.2 Find process instances

Find process instances that have a certain status or property.

Prerequisites

You have the Process Governance administrator (page 117) function privilege.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Instances**. The list of process instances is displayed.
3. Click **Show / Hide filter**. The filter criteria are displayed.
4. Enable (☑) the relevant filter criteria, for example, the **QUEUED** status (page 123).
5. Click **Apply filter**.

The list of queued process instances is displayed.

You can combine different filter criteria.

8.3 Start governance process in process administration

You can start the executable process in process administration for processes or process versions.

Prerequisite

You have the Process Governance administrator (page 117) function privilege.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Navigate to the executable process you want to start, or to the process version.
3. Under **Processes**, click the relevant process or process version.
4. Click **Start governance process**. The **Select context** dialog opens. The items are displayed on which the executable process can be started depending on the specified execution context (page 120).
5. Select the relevant model. To select multiple models, hold down the **Ctrl** key and click the required models one after the other.
6. Click **OK**.

The governance process is started for the selected item.

8.4 Export process administration content as a CSV file

You can export data of **Human tasks** (page 122), **Instances** (page 122), **Variables** (page 123), **Archive** (page 119), or **Console** (page 120), for example, for evaluation purposes.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Human tasks**, **Instances**, **Variables**, or **Console**, or go to **Processes** and click the process instance and then **History**.
3. Click **Export as a CSV file** in the navigation bar. The corresponding dialog opens.
4. Select the output options.
5. Click **Export**.

The content is exported as a CSV file.

8.5 Send reminder about executing human tasks

You can send reminders about human tasks to the relevant executors.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Open the relevant human task.
3. Click **Send reminder**.

The users assigned to the human tasks as executors receive an e-mail with the information that the task is to be edited.

If 75% of the processing time has expired, the executors automatically receive a reminder. If the task is not edited by the due date the escalation manager (page 128) is notified. Statistics data in the form of charts (page 129) for human tasks are available under **ARIS Administration > Charts > Governance > Human tasks**.

ARIS video tutorial

Process administration overview (http://www.ariscommunity.com/videos/process-administration-aris-connect-overview) (approx. 4 minutes)

8.6 Suspend execution of a process instance

You can suspend the execution of a process instance. This can be useful, for example, if a server outage would cause the process execution to fail.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**.
3. Click **Suspend**.

The execution of the process instance is suspended. It has the status **Suspended**. It can be resumed (page 98) again later. Unlike the **Suspend recurrence** function, it is not the creation of recurrences that is suspended for the entire process, but only the execution of this process instance.

Example

The **Save data** process is started at midnight each night. The process comprises the two steps **Copy data** and **Archive data**.

- **Suspend recurrence**

  If **Suspend recurrence** is selected, the process will no longer be started as of the next night and will not not resume until **Resume recurrence** is selected. However, all running process instances are completed.

- **Suspend process instances**

  If **Suspend** is selected at night for a running process instance that has just finished copying data, this specific process instance is suspended, in other words, the data will no longer be archived. Process execution stops at this point. The next night, however, a new instance of the process is started, and the data is backed up and archived. The suspended process instance will not continue to run until **Resume** is selected.

8.7 Resume execution of a process instance

You can resume the execution of a process instance that was previously suspended (page 98).

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**.
3. Click **Resume**.

The execution of the process instance is resumed.

8.8 Terminate execution of a process instance

You can terminate the execution of a process instance permanently if, for example, the executable process is no longer relevant.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**.
3. Click **Terminate**.

The execution of the process instance is terminated permanently.

8.9 Suspend recurrence for the executable process

You can suspend the recurrence of an executable process.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. In the navigation, click the relevant process version under **Processes**. Processes for which a recurrence has been configured are identified in process administration by the symbol .
3. Click **Suspend recurrence**.

The recurrence of the executable process is suspended. You can continue (page 100) later with the existing configuration.

Unlike the **Suspend** function, the creation of recurrences is suspended for the entire process, not just for the execution of a given process instance.

Example

The **Save data** process is started at midnight each night. The process comprises the two steps **Copy data** and **Archive data**.

- **Suspend recurrence**

  If **Suspend recurrence** is selected, the process will no longer be started as of the next night and will not not resume until **Resume recurrence** is selected. However, all running process instances are completed.

- **Suspend process instances**

  If **Suspend** is selected at night for a running process instance that has just finished copying data, this specific process instance is suspended, in other words, the data will no longer be archived. Process execution stops at this point. The next night, however, a new instance of the process is started, and the data is backed up and archived. The suspended process instance will not continue to run until **Resume** is selected.

8.10 Resume recurrence for the executable process

You can resume the recurrence of an executable process that was previously suspended.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. In the navigation, click the relevant process version under **Processes**. Processes for which a recurrence has been configured are identified in process administration by the symbol .
3. Click **Resume recurrence**.

The recurrence of the executable process is resumed with the existing configuration.

8.11 Delete executable process

You can deactivate the executable process if, for example, this process is outdated and should therefore no longer be used.

Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

When a generated executable process is deactivated, the process version and all related information, such as instances, subprocesses, etc., are removed from process administration. The deactivated processes are not exported to ARIS Process Performance Manager.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Under **Processes**, click the process, process version, or process instance.
3. Click **Delete**.

The selected item is deactivated.

8.12 Suspend, resume, or terminate simulation runs

You can suspend and resume active simulation runs or terminate them. This can be useful, for example, if a server outage would cause the process execution to fail.

Prerequisite

You have the Process Governance administrator (page 117) function privilege.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**. Processes versions for which a Process Governance Simulation was performed are marked with , simulation runs and process instances with .
3. To suspend a simulation run, click the relevant process instance and select **Suspend**.
4. Use **Resume** to continue the simulation run at a later time.
5. To stop a simulation run, select **Terminate**. The simulation run is terminated and cannot be restarted.

The simulation run is suspended, resumed, or terminated depending on the selected action.

8.13 Use the process instance archive

Archive completed process instances regularly to avoid a large number of instances that can have a negative effect on runtime and start times in process administration and Process Governance.

Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

Prerequisites

- You have the Process Governance administrator (page 117) function privilege.
- The instances have the **COMPLETED** status (page 126).

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Instances**. The list of process instances is displayed.
3. Click **Show / Hide filter**. The filter criteria are displayed.
4. Enable ( ) the **COMPLETED** status.
5. Click **Apply filter**. The list of completed process instances is displayed.

6. Enable (☑) the instances to be archived. You can archive a maximum of 100 instances in one step.
7. Click **Archive selected instances**. (The function is only available if at least one instance is enabled.)

   The instances are removed from the **Instances** (page 122) list and are displayed in the **Archived instances** (page 119) list.
8. To move instances back from the archive to the **Instances** list, open the **Archived instances** list, move the mouse pointer over the relevant table row, and click **Unarchive archived instances**.
9. To permanently delete archived instances, open the **Archived instances** list, move the mouse pointer over the relevant table row and click **Delete**.
10. To suspend archiving, unarchiving, or deletion, click **Suspend** in the progress dialog. Alternatively, you can use the suspend function in **Archive history**. Please note that operations that have been already completed are not reverted. Example: An operation is running to archive ten instances. You suspend the operation after three instances have already been archived. Only the seven remaining instances are not archived.

    To resume the operation, open **Archive history**, click **Resume** in the row of the previously suspended archiving execution. This is also helpful if an operation was suspended automatically, for example, during a backup.

Your operations were performed.

Alternatively, you can archive all completed instances of a process version. To do so, click the relevant process version under **Processes**, then click **Archive all completed instances**.

Note

The archiving functionality can affect the total runtime and size of the backup.

8.14 Prioritize and deprioritize process instances

For each tenant there is a queue of process instances waiting to be executed. Each newly started process instance is appended to the end of the queue according to the first in, first out principle. However, you can prioritize process instances so that they are preferably executed.

Prerequisite

- You have the Process Governance administrator (page 117) function privilege.
- The instances have the **Running** status (page 126).

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**.
3. Click **Increase priority**. The **Prioritized** status is set and displayed in **Details**. The process instance is executed with a higher priority.
4. Click **Decrease priority** to remove the **Prioritized** status. The **Prioritized** status is removed.
5. To display the process instances with **Prioritized** status, click **Instances**.
6. Click **Show / Hide filter**. The filter criteria are displayed.
7. Enable (☑) the **Priority status** filter.
8. Click **Apply filter**.

The process instances with **Prioritized** status are displayed.

To prioritize/deprioritize multiple instances simultaneously, open **Instances**, enable the relevant instances (☑), and click **Increase priority**/**Decrease priority**. The function is is only available if all selected instances meet the prerequisites for priorization.

8.15 Find and correct problems in processes

To ensure a smooth process flow the Process Governance administrator must be able to query information on processes and intervene, if required. Information and functions are provided in process administration (page 115) in ARIS Connect for this purpose. If problems occur during process execution, for example, if an error occurs during an automated task or the recipient of an e-mail message is not recorded as a user, the Process Governance administrator is informed by e-mail.

8.15.1 List processes and display instance/version in the Explorer tree

You can display a list of process instances in their various statuses (page 126). You can check if process instances failed so that you can correct (page 108) and restart them, if required.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Instances**. The list of process instances is displayed.
3. Click **Filter** to restrict the number of process instances displayed based on various criteria.
4. Select filter criteria.
5. Click **Apply filter**. The list is filtered according to the selected filter criteria. To display the unfiltered list of process instances, click **Reset filter**.
6. To display a specific instance/version, move the mouse pointer over the relevant table row and click **Display process instance** or **Display process version**. The instance/version is selected in the Explorer tree.

The list of process instances in their various statuses is displayed.

Tip

You can also display instances or versions in the Explorer tree by using **Human tasks**.

ARIS video tutorial

Find and correct problems in processes (http://www.ariscommunity.com/videos/learn-how-find-problems-process-and-correct-processes) (approx. 4 minutes)

8.15.2 Review input and output data of an activity

When you receive an e-mail informing you that an activity has failed you can review the input and output data of the activity to find out whether they caused the failure.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Select the process instance of the executable process containing the failed activity. You were informed about the relevant activity in the notification.
3. Click **History**.
4. Click the activity whose execution failed.

Input and output data of the activity are displayed. Review the data.

You can change the output data using the function Skip activity (page 107).

ARIS video tutorial

Find and correct problems in processes (http://www.ariscommunity.com/videos/learn-how-find-problems-process-and-correct-processes) (approx. 4 minutes)

8.15.3 Restart activities with status 'Failed'

You can restart failed activities. You are notified by e-mail if an activity failed.

Prerequisite

Restart failed process instances (**com.idsscheer.retry.failed.instances.on.restart**) is enabled in the configuration (page 263) (**ARIS Administration** > **Configuration** > **Process Governance** > **Infrastructure**). By default, this property is deactivated.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the process instance of the executable process containing the failed activity. You were informed about the relevant activity in the notification.
3. Click **History**.
4. Move the mouse pointer over the activity whose execution failed. The buttons of the available functions are displayed.
5. Click **Retry**.

The activity is restarted with the same data as the failed activity.

If the activity cannot be restarted, you will receive a notification. You can skip (page 107) the activity.

ARIS video tutorial

Find and correct problems in processes (http://www.ariscommunity.com/videos/learn-how-find-problems-process-and-correct-processes) (approx. 4 minutes)

8.15.4 Skip activities with status 'Failed'

If a restart (page 106) is impossible, you can skip failed activities. You are notified by e-mail if an activity failed.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click a process instance of an executable process.
3. Click **Activities**. The process instance activities are listed.
4. Move the mouse pointer over the activity you want to skip. The buttons of the available functions are displayed.
5. Click **Skip activity**. If output data was specified for the activity, a dialog opens for you to correct the data and thus avoid further failure. If no output data was specified for the activity, the activity is skipped immediately.
6. Change the output data.
7. Click **Save**.

The process continues with the next activity.

ARIS video tutorial

Find and correct problems in processes (http://www.ariscommunity.com/videos/learn-how-find-problems-process-and-correct-processes) (approx. 4 minutes)

8.15.5 Correct and restart process instances with status 'Failed'

You can restart failed process instances. You are notified by e-mail if a process instance failed.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Instances**. The list of process instances is displayed.
3. Click **Filter**, select the filter **Status** and the status **FAILED**.
4. Click **Apply filter**. The list of failed process instances is displayed.

   Alternatively, you filter process instances with the filter **ID** by entering the ID of the failed process instance, which you received in the notification.
5. Move the mouse pointer over the process instance you want to correct. The buttons of the available functions are displayed.
6. Select **Display process instance**. The instance is displayed.
7. Click **Console** to obtain further information on why the instance failed.
8. Correct the errors that led to the process instance failing.
9. Click the relevant process instance.
10. Click **History**.
11. Move the mouse pointer over the activity whose execution failed. The buttons of the available functions are displayed.
12. Click **Retry**.

The activity is restarted and the process instance continues.

ARIS video tutorial

Find and correct problems in processes (http://www.ariscommunity.com/videos/learn-how-find-problems-process-and-correct-processes) (approx. 4 minutes)

8.16 Display information

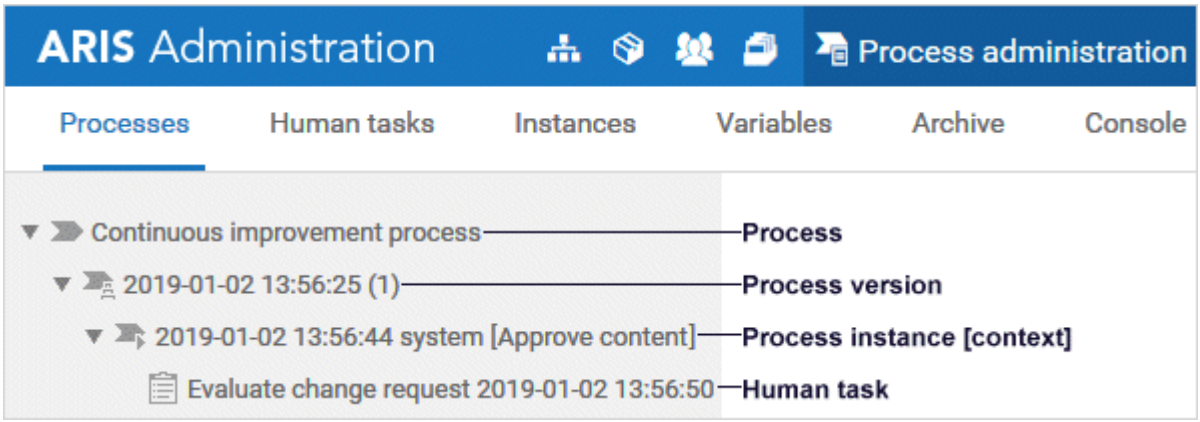
Process administration in ARIS Connect provides functions (page 115) for process automation and information about executable processes.

8.16.1 Display information about executable processes

In process administration, existing executable processes are displayed. You receive detailed information on processes, process versions/instances, and human tasks.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the process, process version, process instance, or human task.



3. Activate the required function in the navigation bar.

The information available for this item is displayed (Activities (page 118), Archive (page 119), Assignments (page 120), Console (page 120), Context (page 120), Details (page 120), Diagram (page 120), History (page 121), Human tasks (page 122), Instances (page 122), Variables (page 123)). Processes versions for which a Process Governance Simulation was performed are marked with , simulation runs and process instances with . Processes for which a recurrence has been configured are identified in process administration by the symbol . Statistics data in the form of charts (page 129) for Governance processes are available under **ARIS Administration > Charts > Governance > Processes**.

ARIS video tutorial

Process administration overview
(http://www.ariscommunity.com/videos/process-administration-aris-connect-overview)
(approx. 4 minutes)

8.16.2 Display information about activities

You can display details of an activity.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**.
3. Click **History**.
4. Click the relevant activity in the table.
5. Click **Input activities**.
6. Click **Show associated activity in the history** to display the corresponding activity in the history table. Then click **Input activities** again.

   Alternatively, you can click **Used by** so that all activities for which the selected activity acts as an input activity are displayed.
7. Click **Input variables** or **Output variables** to show the values read (input) or stored (output) during execution of an activity.
8. Click **Input data** or **Output data** to check the data. Additionally, you can click **Show details** to display the XML data.

The relevant details are displayed.

8.16.3 Display human tasks of a process instance

You can display the human tasks associated with a process instance.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the process instance whose human tasks you want to display.
3. Click **Show tasks**.

The associated human tasks are displayed.

ARIS video tutorial

Process administration overview
(http://www.ariscommunity.com/videos/process-administration-aris-connect-overview)
(approx. 4 minutes)

8.16.4 Display information about variables

You can display detailed information of a variable (page 123), for example, value, value history, XML data.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Variables** to display the variables of all processes. Or click the relevant process version or process instance under **Processes** and then click **Variables**. The variables used with their value, timestamp, type and scope are displayed.
3. To display the XML data of the variable value, click a variable in the table.
4. To show the previous values of a variable including their timestamps, click **History**. Additionally, you can show the values read (input) or stored (output) during execution of an activity.
5. Once you selected a variable in the table, you can use **Show details** to display or hide **Value as XML** and **History**.

The details of the variable selected are displayed.

To export (page 96) the content, click **Export as a CSV file** in the navigation bar.

8.16.5 Display and delegate executors of a human task

You can display the executors of human tasks and delegate tasks.

Prerequisites

- A task must have been selected in the list.
- The task must have been assigned to a user group.
- The status of this task is **New** or **In process**.
- The user to whom the task has been transferred belongs to the allowed group (data flow: **Group of allowed delegates**).

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click **Human tasks**.
3. Move the mouse pointer over the relevant task. The buttons of the available functions are displayed.
4. Click **Show details**. The human task is displayed in **Processes**.
5. Click **Navigate to occurrence in Explorer tree**, to show the location of the human task.
6. Click **Assignments**.
7. Move the mouse pointer over the relevant task. The buttons of the available functions are displayed.
8. Click **Delegate task**. The corresponding dialog opens.
9. Enter the first characters of the group, user name, first name, or last name, and click **Find**. If hits exist for the current search, the results are displayed.
10. To select a group or user, select the relevant element. If you select a group, you also need to select a user.
11. Optionally, enter a comment, such as a reason or notes for the new executor.
12. Click **Delegate**.

The task is passed on to the selected executor and its status (page 127) is displayed as **Delegated**.

Statistics data in the form of charts (page 129) for human tasks are available under **ARIS Administration > Charts > Governance > Human tasks**.

ARIS video tutorial

Process administration overview
(http://www.ariscommunity.com/videos/process-administration-aris-connect-overview)
(approx. 4 minutes)

8.17 Handle simulation

The simulation of executable processes (Process Governance Simulation) enables you to test the modeling of processes before release. The automated execution of all process passes and the possible data combinations is less error-prone and quicker than the manual method.

8.17.1 Display simulation information

In process administration, the processes for which Process Governance Simulation was performed are displayed. Processes versions for which a Process Governance Simulation was performed are marked with , simulation runs and process instances with . You receive further information and tips regarding errors. If the simulation of a process instance fails, the Process Governance administrator receives a notification and a message is displayed in Console (page 120).

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Click the relevant process instance under **Processes**.
3. Click **Details** (page 120), if not already activated, to display information about the status and progress of the simulated process instances.
4. To display simulation data for simulated activities, click **History** (page 121), and activate the relevant activity in the table.
5. If you need an overview of the process instances a simulation was performed for, click Instances (page 122). The simulated activities are marked with in the **Simulated** column.
6. To display messages regarding the process instance, activate the Console (page 120) bar. The various process passes of the instance are displayed under the process instance, for example, when an XOR operator is used in the process.

This information can be used to resolve modeling errors and optimize the process.

8.17.2 Release simulated process

You can release process versions that were created and checked by Process Governance Simulation, that is, transform the simulated process into a normal process. It is not possible to start a governance process for processes generated by the simulation (/). This can be done after the transformation into a released process.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Select the relevant process version.
3. Click **Transform simulated version into a normal process**.

The process version is transformed into a normal process.

8.17.3 Delete simulation runs

You can delete terminated simulation runs to make process administration clearer. Processes versions for which a Process Governance Simulation was performed are marked with , simulation runs and process instances with .

Prerequisite

You have the Process Governance administrator (page 117) function privilege.

Procedure

1. Open (page 95) **Process administration** in ARIS Connect.
2. Under **Processes** click the relevant simulation run.
3. Click **Delete**.
4. Confirm the confirmation prompt by clicking **OK**.

The simulation run is deleted and removed from Process administration.

8.18 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

8.18.1 What does the process administration include?

Process administration provides information about executable processes as well as control and error handling functions (page 117). You need the **Process Governance administrator** function privilege.

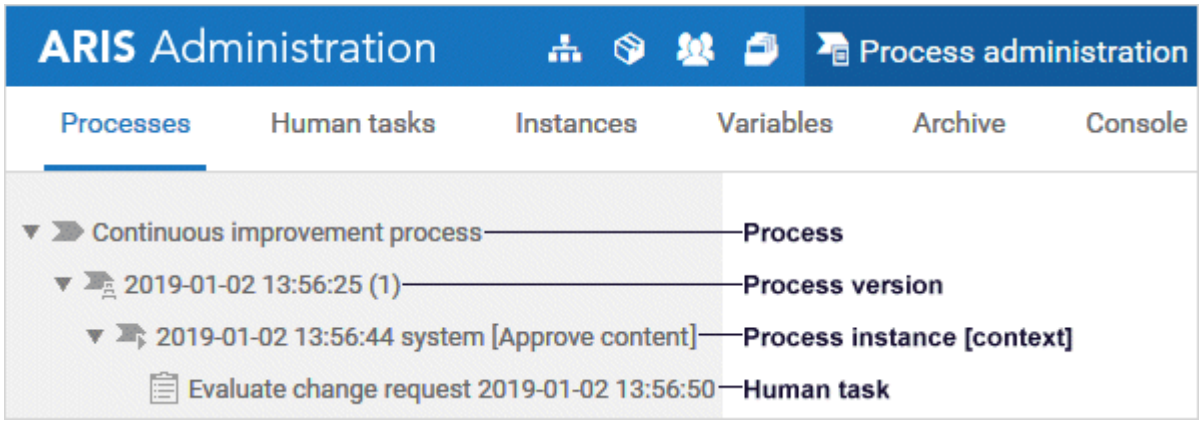
Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

Depending on the selected process level and menu item, various information and functions are available.

Process levels



The superordinate menu items display information for all processes. The menu items in the information area apply only to the selected process. You can select: Activities (page 118), Archive (page 119), Assignments (page 120), Console (page 120), Context (page 120), Details (page 120), Diagram (page 120), History (page 121), Human tasks (page 122), Instances (page 122), and Variables (page 123).

ARIS video tutorial

Process administration overview (http://www.ariscommunity.com/videos/process-administration-aris-connect-overview) (approx. 4 minutes)

Find and correct problems in processes (http://www.ariscommunity.com/videos/learn-how-find-problems-process-and-correct-processes) (approx. 4 minutes)

8.18.2 What tasks does the Process Governance administrator perform?

The Process Governance administrator manages the executable processes. Process administration provides information about executable processes as well as control and error handling functions (page 117). Depending on the selected process level and menu item, various information and functions are available.

- Start (page 96) governance processes in process administration, for example, older versions of the process.
- Deactivate (page 100) executable processes.
- Restart (page 106) activities in the status **FAILED**.
- Suspend (page 98) the execution of process instances.
- Resume (page 98) the execution of process instances that were previously suspended.
- Terminate (page 99) the execution of process instances if, for example, the executable process is no longer relevant.
- Prioritize and deprioritize (page 103) process instances
- Use the process instance archive (page 101) to improve performance.
- Configure recurrences for an executable process.
- Suspend (page 99) the recurrence of an executable process.
- Resume (page 100) the recurrence of an executable process that was previously stopped.
- Suspend the recurrence of an executable process
- Resolve error in process.
- Read privileges for the Console (page 120) bar also at the process level.
- View all tasks of other users in **My tasks**.

Statistics data in the form of charts (page 129) for Governance processes are available under **ARIS Administration >** **Charts > Governance > Processes**.

8.18.3 How to handle large volume data

As an alternative to the features in process administration, you can use the reports of ARIS Script to handle large data volumes. For example:

- Delete process instances
- List archived instances
- Delete archived instances
- Unarchive archived instances

We recommend that you do not run these reports during core time, as this can have a significant negative impact on performance.

For detailed information, refer to **ARIS > Help > ARIS Script > Methods for reports and semantic checks > Global objects > Report component interfaces > Process > Process**.

8.18.4 What functions/information does 'Activities' provide?

Activities are displayed if you have selected a process instance of an executable process. It displays the activities of the executable process of the **BPMN process diagram (BPMN 1.x)** type. To skip (page 107) an activity, move the mouse pointer over the relevant row, and click **Skip activity**.

8.18.5 What functions/information do 'Archive' and 'Archive history' provide?

The archived instances are listed. Use **Show / hide filter** to restrict the number of process instances displayed according to various criteria. You can export the data as a CSV file ().

To unarchive instances, move the mouse pointer over the relevant table row and click **Unarchive selected instances**. To permanently delete archived instances, move the mouse pointer over the relevant table row and click **Delete**.

To suspend archiving, unarchiving, or deletion, click **Suspend** in the progress dialog. Alternatively, you can use the suspend function in **Archive history**. Please note that operations that have been already completed are not reverted. Example: An operation is running to archive ten instances. You suspend the operation after three instances have already been archived. Only the seven remaining instances are not archived.

To resume the operation, open **Archive history**, click **Resume** in the row of the previously suspended archiving execution. This is also helpful if an operation was suspended automatically, for example, during a backup.

Click **Archive history** to display the list of archiving executions (**ARCHIVING, UNARCHIVING, DELETE)**. You can export the data as a CSV file ().

Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

8.18.6 What functions/information do 'Assignments' provide?

Assignments display the assigned users for a human task. To delegate (page 112) a human task, move the mouse pointer over the relevant task, and click **Delegate task**.

8.18.7 What functions/information does 'Console' provide?

The console can be shown for all processes or for a process instance. The following messages are displayed:

- Log messages for process instance execution.
- Messages that were generated by the user interface during execution of process instances (log, server, and user management messages). You can filter the messages by their severity.

You can export the data as a CSV file ( ).

8.18.8 What functions/information does 'Context' provide?

The context and the process settings can be displayed for the process version or the process instance. The execution context determines from which items (database, group, model/object type, document), in which applications (for example, ARIS Connect), and by which users a governance process can be started. The context and the process settings must be defined in ARIS before generating the executable process. The context selected for the process instance is displayed in the navigation tree (page 115) and in Instances (page 122).

8.18.9 What functions/information do 'Details' provide?

Details (page 109) provide different information, such as ID, status, priority, depending on whether you selected a process, a process version, process instance, or a human task.

8.18.10 What functions/information does 'Diagram' provide?

Diagram is displayed if you have selected a version of an executable process or a process instance of an executable process. Use **Toggle between EPC and BPMN diagram** to toggle between the EPC display of the executable process and the BPMN diagram generated by the automatic model transformation.

Activities that are currently running or have failed are selected in both models (EPC and BPMN diagram). Compared to the EPC, the BPMN diagram can contain additional activities as these are required for the technical process. In this case, the last selected activity remains selected in the EPC until the next matching activity is reached.

All processes involved are displayed for executable processes that consist of multiple processes.

- If nothing is active, the start model is displayed.
- If an object is active, the models containing active objects are displayed.

To display the properties of the running activity, click the **Show details** button.

8.18.11 What functions/information does 'History' provide?

History is displayed if you have selected a process instance of an executable process. Activities run by process instances are listed. If an entry contains a process instance with the **Failed** status, the activity can be restarted (page 106) from here.

To display the input/output data or the simulation data for simulated activities, click the activity in the table.

To get additional details of an input activity, you can display the corresponding activity in the history table. In the row of the relevant input activity, click **Show associated activity in the history**. Alternatively, you can click **Used by** so that all activities for which the selected activity acts as an input activity are displayed.

Click **Input variables** or **Output variables** to show the values read (input) or stored (output) during execution of an activity.

Click **Input data** or **Output data** to check the data. Additionally, you can click **Show details** to display the XML data.

8.18.12 What functions/information does 'Human tasks'/'Human task' provide?

The human tasks of all executable processes are displayed. Use **Show / hide filter** to restrict the number of process instances displayed according to various criteria. You can sort the table by different columns, for example, by status. You can export the data as a CSV file ().

To display a specific instance/version, move the mouse pointer over the relevant table row and click **Display process instance** or **Display process version**.

To display (page 112) detailed information about a specific human task, move the mouse pointer over the relevant human task, then select **Show details**. Here, you can send (page 97) a reminder to the executors. To check the assigned users and delegate (page 112) a human task, click **Assignments**.

Statistics data in the form of charts (page 129) for human tasks are available under **ARIS Administration > Charts > Governance > Human tasks**.

8.18.13 What functions/information does 'Instances' provide?

It provides an overview of the process instances and their various statuses (page 126). Use **Show / hide filter** to restrict the number of process instances displayed according to various criteria. You can sort the table by different columns, for example, by status. You can export the data as a CSV file ().

You can check if process instances failed so that you can correct (page 108) and restart them, if required.

To display a specific instance/version, move the mouse pointer over the relevant table row and click **Display process instance** or **Display process version**.

To archive instances that have the status (page 126) **Completed**, enable the relevant instances () and click **Archive selected instances**.

To prioritize/deprioritize multiple instances simultaneously, open **Instances**, enable the relevant instances (), and click **Increase priority**/**Decrease priority**. The function is is only available if all selected instances meet the prerequisites for priorization.

Statistics data in the form of charts (page 129) for Governance processes are available under **ARIS Administration > Charts > Governance > Processes**.

Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

8.18.14 What functions/information does 'Variables' provide?

The variables can be shown for all processes, for a process version, or for a process instance. The variables used and their values are listed. You can export the data as a CSV file ( ).

To display the XML data of the variable value, click a variable in the table. To show the previous values of a variable including their timestamps, click **History**. Additionally, you can show the values read (input) or stored (output) during execution of an activity. Once you selected a variable in the table, you can use **Show details** to display or hide **Value as XML** and **History**.

8.18.15 How many process instances can be started?

The number of process instances that can be processed in parallel by the engine is limited to 1000 by default (**Configuration > Process Governance > Infrastructure > Batch processing size**). However, this number can be lower depending on the workflow design and the use of custom report scripts. The process instances have the **RUNNING** status. If the specified batch processing size is reached, the process instances started additionally have the **QUEUED** status. You can display (page 95) them in **Instances**. This **Cross-tenant** setting applies to all tenants on this server. To change it, use ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool** manual.

Archive completed process instances regularly to avoid a large number of instances that can have a negative effect on runtime and start times in process administration and Process Governance.

8.18.16 What functions/information does a recurrence provide?

The information on recurrences is displayed for process versions for which a recurrence is configured in the model. You can suspend (page 99) and resume (page 100) recurrences in process administration (page 95). Recurrence configuration and cancelation of recurrences is done in ARIS Architect.

8.18.17 What is an executable process?

An executable process is a process that reflects a certain process flow in your company with all the related steps. All information relevant to Process Governance is recorded in EPCs, value-added chain diagrams, organizational charts, dialogs, and data flows (BPM process). The BPM process is automatically transformed into a technical process that can be executed by Process Governance. All relevant information for the BPM process is interpreted, transformed into a BPMN diagram, and all relevant models and objects are archived. The BPMN diagram is the basis for Process Governance. It controls the governance process. The executable process can then be started for a specified context.

Further information is available in the **Modeling conventions for automation** manual on your installation media.

8.18.18 Where can the executable process be started?

The executable process can be started in ARIS Architect, ARIS Designer, ARIS Connect, or in the ARIS Connect process administration. The message displayed after starting the governance process can be specified individually for each process (EPC, VACD).

8.18.19 What is the context for executable processes?

The execution context determines from which items (database, group, model/object type, document), in which applications (for example, ARIS Connect), and by which users a governance process can be started. The context and the process settings must be defined in ARIS before generating the executable process. After this, the context can no longer be changed for the generated process version. If no execution context is defined, the governance process can be started for all items (**Without context** option). The defined execution context is displayed in process administration.

8.18.20 What has to be considered for prioritization of process instances?

For each tenant there is a queue of process instances waiting to be executed. Each newly started process instance is appended to the end of the queue according to the first in, first out principle. However, you can prioritize process instances so that they are preferably executed. You can only archive instances that have the **Running** status (page 126).

The priority queue is limited to 100 process instances by default (**Configuration > Process Governance > Infrastructure > Priority queue size**). If the specified priority queue size is exceeded, so that no further process instances can be prioritized, a message is displayed. This **Cross-tenant** setting applies to all tenants on this server. To change it, use ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool** manual.

8.18.21 What happens when an executable process is deactivated?

When a generated executable process is deactivated, the process version and all related information, such as instances, subprocesses, etc., are removed from process administration. The deactivated processes are not exported to ARIS Process Performance Manager.

8.18.22 What happens when process instances are archived?

Archiving instances gives you the following advantages:

- Process Governance starts faster.
- The process runtime is reduced.
- A better overview of your process instances.

You can only archive instances that have the status (page 126) **Completed**.

During archiving, the data of the corresponding instances is moved from the Process Governance database to an archive entry of ARIS document storage. Each tenant has its own archive. The information about simulation, recurrence, and substitution is not archived.

Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

8.18.23 How to schedule archiving

Warning

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

If you want to automatically archive process instances, for example every night at a certain time, write a report in ARIS Script (../../../../../../../abs/help/en/script/ba/index.htm#scripthelp.html) and schedule it. This is done in ARIS Architect (../../../../../../../abs/help/en/handling/ba/index.htm#72345.htm).

8.18.24 Which status can activities have?

An activity can have any of the following statuses:

- **ACTIVE**

  The activity is just being performed.

- **TERMINATED**

  The Process Governance administrator terminated the activity manually during process execution. This may be called for if, for example, the executable process is no longer relevant.

- **FAILED**

  The activity could not be performed completely due to an error. Failed activities can be restarted after the error is fixed.

- **SUSPENDED**

  The activity has been automatically canceled.

- **COMPLETED**

  The activity was completely performed.

8.18.25 Which status can process instances have?

A process instance can have any of the following statuses:

- **Running**

  The process instance is running the process.

- **Suspended**

  The Process Governance administrator suspended (page 98) the process instance manually during process execution. This can be useful, for example, if a server outage would cause the process execution to fail.

- **Terminated**

  The Process Governance administrator terminated (page 99) the process instance manually during process execution. This may be called for if, for example, the executable process is no longer relevant.

- **Failed**

  The process instance was not able to pass through the process completely due to an error. Failed process instances can be restarted (page 108) after the error is fixed.

- **Idle**

  The process instance is in wait state because something unforeseen has happened while the process was passed through. The Process Governance administrator must check and resolve this.

- **Completed**

  The process instance has completely passed through the process.

8.18.26 What statuses can tasks have?

Tasks can have the following statuses in **My tasks**:

- **New**

  The task has not been edited since it was assigned or it was reset.

- **In process**

  The task was partially edited and the editor then finished editing by selecting **Save** to save the current input and resume editing at a later time.

- **Active**

  Tasks to be edited, that is, tasks in the **New** or **In process** state.

- **Overdue**

  The specified processing time of the task has expired. If the list contains overdue tasks, the number is displayed in the top bar .

- **Suspended**

  The process instance that triggers this human task has been suspended in the process administration.

- **Being edited by another user**

  This status is set automatically as long as a task that was assigned to several possible executors is currently being edited by one of them. Tasks with this status are displayed with a gray background in the list.

- **Failed**

  The task could not be performed because a problem occurred.

- **Completed**

  Editing of the task was completed with **OK**. Further editing is no longer possible. However, you can open the task with a double-click to view details. Tasks with this status are displayed with a gray background and with strikethrough formatting in the list.

- **Passed on**

  Editing of the task was passed on from the executor to another user for a specific period of time.

- **Delegated**

  Editing of the task was passed on permanently from the original assignee to another user. The task remains in the list of the original assignee with this status.

- **Task assignment failed**

  The task was not completed by any executor before its due date. The group of executors contained either no executors or no active executors.

8.18.27 What is the escalation manager?

The escalation manager is the user who is notified when a human task is not completed by any executor by the due date. It is specified in the data flow diagram or in the model using an organizational element and the **is escalated to** connection.

9 Use charts

Charts represent accumulated statistics data graphically.

9.1 Display charts

You can view statistics data for the **Users**, **Documents**, **Modeling**, and **Governance** areas as charts. Charts can be used, for example, to perform real-time checks.

Prerequisite

You have one of the following function privileges:

- **User administrator** (charts on user management)
- **Database administrator** (charts on modeling)
- **Document administrator** (charts on ARIS document storage)
- **Process Governance administrator** (charts on Process Governance)
- **Generate user statistics** (**com.aris.umc.audit.enabled**) is enabled in the configuration (page 302) (**User management > Security > Advanced settings**). If **License monitoring** (**User management > License monitoring > General**) is enabled, **Generate user statistics** is automatically enabled. Only the **Users > License usage** chart is displayed regardless of this activation.

Procedure

1. Click **Charts**.
2. Click the relevant area (**Users, Documents, Modeling, Governance)**.

The charts for the selected area are displayed. The user management charts do not contain any data for technical users by default (system, superuser, arisservice, and guest). Move the mouse pointer over a chart to view an explanation.

You can update the charts to reflect the current state by clicking **Refresh**. You can also export (page 45) statistics on usage patterns, assignments, changes to data and database items made by the user, the information used most often or the information used last, etc.

9.2 What charts exist?

There are charts from the user management, document storage, modeling, and Process Governance (processes and human task) areas. The user management charts do not contain any data for technical users by default (system, superuser, arisservice, and guest). Move the mouse pointer over a chart to view an explanation.

10 Configure ARIS Connect

ARIS Connect can be configured and customized to meet specific requirements that can differ between various customers.

10.1 Configure Portal

By default, ARIS Connect provides the classic configuration set and the default configuration set as examples. Using these as basis, you can define modification sets to customize how data is displayed.

10.1.1 Publish database as a process portal

Select the database to be published as the process portal.

Prerequisite

You have the **Publishing administrator** function privilege.

Procedure

1. Click **<user name>**.
2. Click **Administration**. The **Configuration** tab displays the **Publish databases** area. All available databases are displayed.
3. Enable the check boxes of the databases you want to publish in the portal.
4. For versioned databases, select the relevant version.
5. Click **Apply**.

The content of the databases is published in the portal in the selected configuration or modification set (page 139). As long as the databases are available in the portal they cannot be deleted in ARIS.

10.1.2 Specify a default database

You can specify that versions of models can be compared. This applies to versionable databases that contain at least one version.

Prerequisite

You have the **Publishing administrator** function privilege.

Procedure

1. Click **<user name>**.
2. Click **Administration**. The **Configuration** tab displays the **Publish databases** area. All available databases are displayed. The check boxes of published databases are enabled. If you want to publish (page 130) further databases to be shown in the process portal, enable the check boxes of these databases.
3. Move the mouse pointer over the row of the published database you want to define as the default database. The move symbols are displayed.
4. Click **Move to top** to shift the database to the top of the database list.
5. Click **Apply**.

You have defined the default database.

10.1.3 Allow model comparison

You can enable model comparison of versions of a database or of models between different databases.

IN A DATABASE

You can specify that models can be compared with a version. That is valid for versionable databases that have been published and contain versions.

Prerequisite

- You have the **Publishing administrator** function privilege.
- The database in use is versionable and contains versions.

Procedure

1. Click **<user name>**.
2. Click **Administration**. The **Configuration** tab displays the **Publish databases** area. All available databases are displayed. The check boxes of published databases are enabled.
3. Move the mouse pointer over the row of the published database you want to allow model comparison. The **Enable model comparison** symbol is displayed.
4. Click **Enable model comparison**. The **Select comparison database** is opened.
5. Leave the **Comparison enabled** check box enabled.
6. Click the **Version** field and select the version to be used for model comparison.
7. Click **Save**.

You have defined with which version models current models of the database can be compared. The **Enable model comparison** symbol of the database is colored and users can compare the model versions in the fact sheet **Diagram**.

BETWEEN DATABASES

You can specify that models of different databases can be compared. That is valid for versionable databases that contains at least one version.

Prerequisite

- You have the **Publishing administrator** function privilege.
- The database in use is versionable and contains versions.

Procedure

1. Click **<user name>**.
2. Click **Administration**. The **Configuration** tab displays the **Publish databases** area. All available databases are displayed. The check boxes of published databases are enabled.
3. Move the mouse pointer over the row of the published database you want to allow model comparison. The **Enable model comparison** symbol is displayed.
4. Click **Enable model comparison**. The **Select comparison database** is opened.

5. Click the **Database** field and select the database to be used for model comparison.
6. Click the **Version** field and select the version to be used for model comparison.
7. Click **Save**.

You have defined with which version models of which database current models of the current database can be compared. The **Enable model comparison** symbol of the database is colored and users can compare the model versions in the fact sheet **Diagram**.

10.1.4 Change sort order of published databases

You can sort published databases that are offered by the process portal.

Prerequisite

You have the **Publishing administrator** function privilege.

Procedure

1. Click **<user name>**.
2. Click **Administration**.
3. Click **Portal > Publish** on the **Configuration** tab. All available databases are displayed. The check boxes of published databases are enabled. If you want to publish further databases to be shown in the process portal, enable the check boxes of these databases. (page 130)
4. Position the mouse pointer over the row of the database you want to move. The move symbols are displayed.
5. Click **Move up** to shift the database one row up.
6. Click **Move down** to shift the database one row down.
7. Click **Move to top** to shift the database to the top of the database list.
8. Click **Apply**.

You have changed the sort order of the published databases. The published database at the top of the list is the default database (page 131).

10.1.5 Manage configuration and modification sets

Portal administrators select the configuration set to show portal data. Hierarchies determine the way you are able to navigate through the data.

By default, ARIS Connect provides the classic configuration set and the default configuration set.

You can use the supplied configuration sets to publish databases in the portal. As an administrator, you can also create (page 136) and custom the supplied configuration sets as modification sets.

It is recommended to save the customized modification set once it is finished. After a software update, you can restore the customized modification set to restore the look and feel of the portal.

If you need extended configuration sets with different functions that you cannot configure in ARIS Administration, please contact your local Software AG sales organization (http://www.softwareag.com).

10.1.5.1 Save configuration set

You can save a configuration set. You can restore saved configuration sets at any time or provide them on other tenants.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a configuration set.
6. Click **Backup**.
7. Save the file in any directory.

The **<name of the configuration set>.zip** backup file is downloaded.

10.1.5.2 Duplicate configuration set

You can generate a new modification set by duplicating a configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a configuration set.
6. Click **Create modification set**.

The modification set is created below the selected configuration set. It contains all elements from the selected configuration set.

Change (page 140) the new modification set by adding the required items, properties, and fact sheets, or by adapting existing ones.

10.1.5.3 Restore configuration set

If you require further modification sets, please contact your local Software AG sales organization (http://www.softwareag.com). Restore a saved configuration set.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have access to the backup file.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Click **Restore** in the **Configuration and modification sets** area. The file selection dialog opens.
6. Double-click the ZIP file (syntax: **<name of the configuration set>.zip**).

The configuration set is tested, and is applied if it is an error-free configuration set. Notes are displayed in yellow, errors in red. The configuration set is displayed in the list with the original name. If a configuration set with the same name exists, an error message is displayed. An already existing configuration set cannot be overwritten. The **classic** and **default** configuration sets cannot be overwritten or deleted.

10.1.5.4 Delete configuration set

You can delete a configuration set. The **classic** and **default** configuration sets cannot be overwritten or deleted.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a configuration set.
6. Click **Delete**.
7. Click **Delete** to confirm.

The configuration set is no longer available in ARIS Connect.

10.1.5.5 Create modification set

You can create (page 136) your own modification sets based on the classic configuration set, on the default configuration set or based on a user-defined configuration set. If you require a

user-defined configuration set, please contact your local Software AG sales organization (http://www.softwareag.com).

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Click **Create** in the **Configuration and modification sets** area. The **Create modification set** dialog opens.
6. Enter the name for the new modification set.
7. In the **Template** box, select the configuration set that your new modification set is to be based on.
8. Click **Create**.

The modification set is created. It contains all elements from the selected template.

Change (page 140) the new modification set by adding the required items, properties, and fact sheets, or by adapting existing ones.

10.1.5.6 Duplicate modification set

You can create (page 136) your own modification sets based on the classic configuration set, on the default configuration set or based on a user-defined configuration set. If you require a user-defined configuration set, please contact your local Software AG sales organization (http://www.softwareag.com).

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a user-defined modification set.
6. Click **Duplicate**.

The modification set is created with a technical name. It contains all elements from the selected modification set. You can rename (page 139) the modification set.

Change (page 140) the new modification set by adding the required items, properties, and fact sheets, or by adapting existing ones.

10.1.5.7 Save ARIS Connect modification set

Save user-defined modification sets (page 136) for data migration or before you modify them. You can restore saved modification sets at any time or provide them on other servers.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a user-defined modification set.
6. Click **Backup**.
7. Save the file in any directory.

The **<name of the modification set>.zip** backup file is downloaded.

Based on this backup, you can restore this version of the modification set (page 138).

10.1.5.8 Restore ARIS Connect modification set

Restore saved modification sets (page 138).

Prerequisite

- You have the **Portal administrator** function privilege.
- You have access to the backup file.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Click **Restore** in the **Configuration and modification sets** area. The file selection dialog opens.
6. Double-click the ZIP file (syntax: **<name of the modification set>.zip**).

If a modification set with the same name exists, it is overwritten. If you want to keep the original modification set, you must define another name before the import (page 139).

10.1.5.9 Select modification set

Select the modification set to show the portal data. By default, ARIS Connect provides the classic configuration set and the default configuration set. If required, user-defined modification sets (page 136) and restored modification sets (page 138) are also displayed here.

You can create (page 136) your own modification sets based on the classic configuration set, on the default configuration set or based on a user-defined configuration set. If you require further modification sets, please contact your local Software AG sales organization (http://www.softwareag.com).

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a user-defined modification set.
6. Click **Activate**.

The selected configuration or modification set is marked as **(active)**.

All of the databases selected for the portal are published in the configuration or modification set selected.

10.1.5.10 Rename modification set

Change the names of modification sets.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a user-defined modification set.
6. Click **Rename**. The **Rename modification set** dialog opens.
7. Enter the new name.
8. Click **Rename**.

All of the databases selected for the portal are published in the configuration or modification set selected.

10.1.5.11 Edit modification set

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**.
5. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**. You can edit custom (page 136) modification sets only.
6. Click **Edit**.

The **Define modification set** page opens and you can edit the modification set.

10.1.5.11.1 Edit user interface

As a portal administrator, you customize the user interface.

10.1.5.11.1.1 Customize font and colors

Customize the settings according to the corporate design of your company.

Prerequisite

You have the **Portal administrator** function privilege.

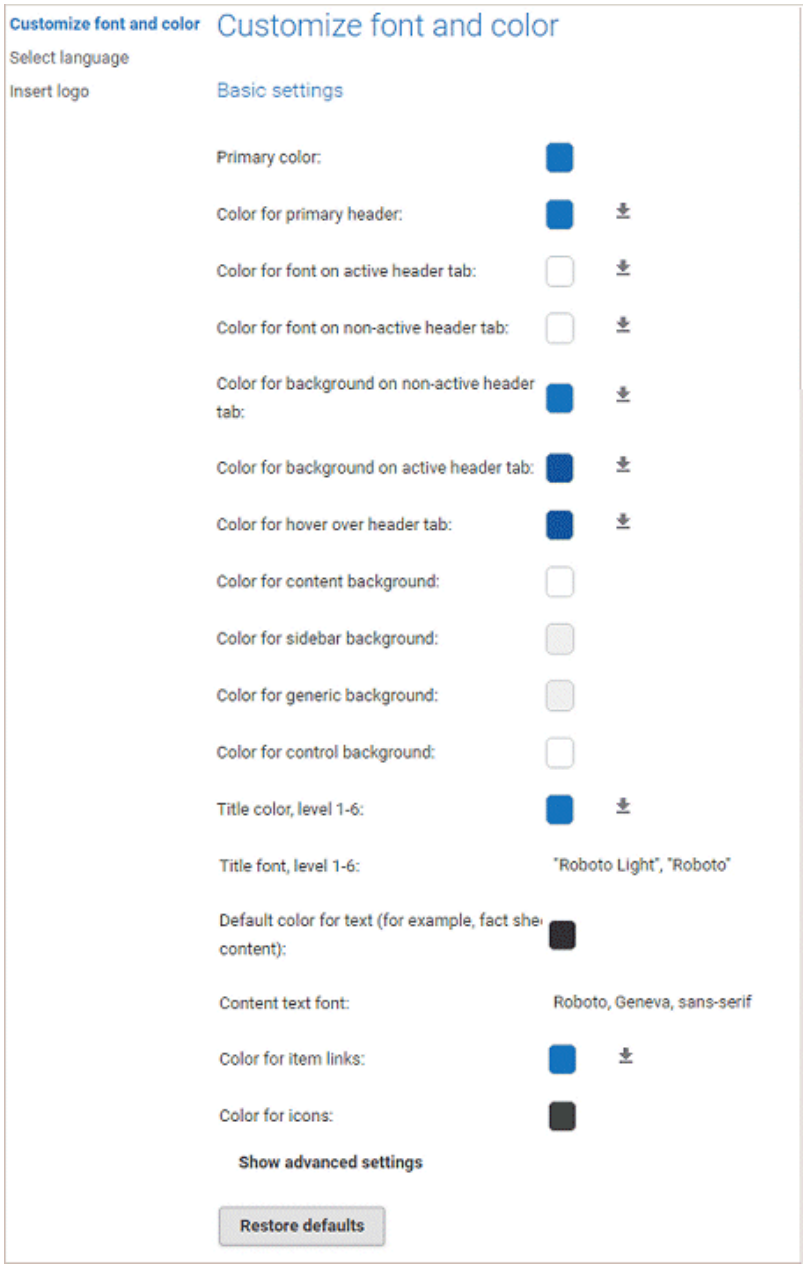
Procedure

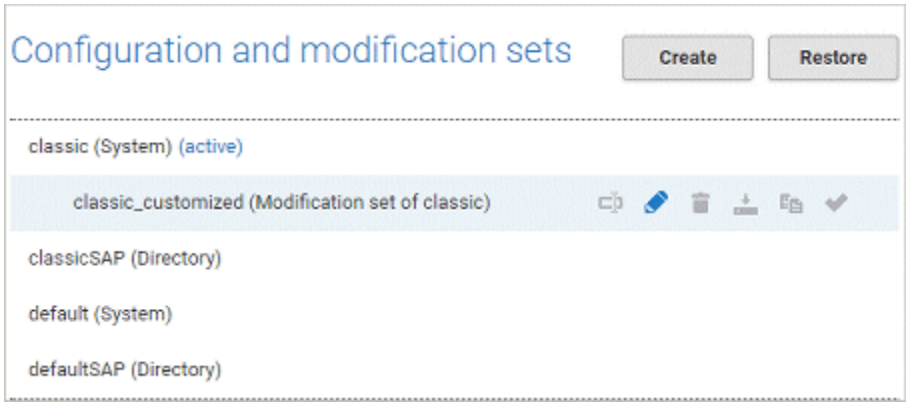
1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Customize font and color**.
4. Scroll to **Basic settings**.
5. Specify the required settings.
6. Click **Back**.

The changes are applied. The page is refreshed if the modification set was specified as **active**.

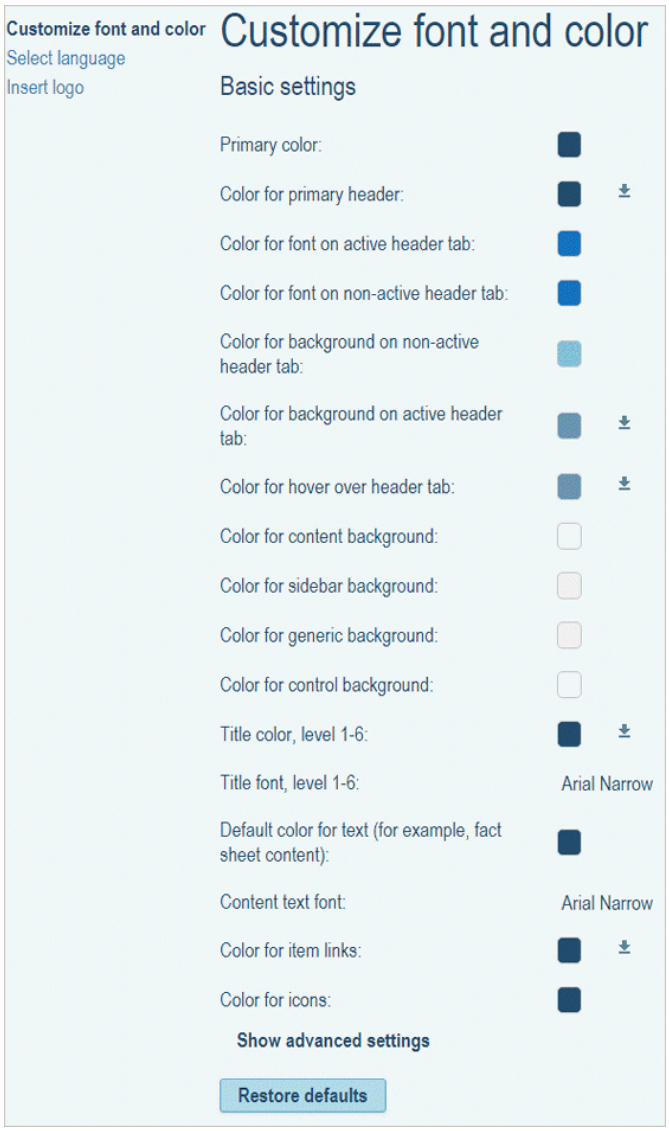
Example

Default font and colors:





Customized font and color:



10.1.5.11.1.2 Restore default font and color

You can undo all font, color, and logo settings you have specified.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Customize font and color**.
4. Scroll to **Basic settings**.
5. Click **Restore defaults**.
6. Click **Back**.

The default settings are loaded. The page is refreshed if the modification set was specified as **active**.

10.1.5.11.1.3 Select languages

Customize the settings according to the requirements of your company.

Prerequisite

You have the **Portal administrator** function privilege.

The selected languages are available as the interface, method, and database language (page 216).

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Select language**.
4. In the **Current language** list, select the languages you do not require, and then click **Deactivate**. The languages are added to the **More languages** list.
5. In the **More languages** list, select the languages you require, and then click **Activate**. The languages are added to the **Current language** list.
6. Click **Apply**.
7. Click **Back**.

The activated languages are available for selection by ARIS Connect users.

10.1.5.11.1.4 Upload logo

Select the graphics file you want to display as the logo.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have access to a graphic file in PNG format.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Insert logo**.

4. Click **Browse** next to the **Logo** field, and navigate to the required PNG file.
5. Click **Open**.

The graphic is uploaded. It is shown in the header of ARIS Connect portal.

10.1.5.11.1.5 Restore default logo

You can undo all font, color, and logo settings you have specified.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Insert logo**.
4. Click **Restore**.

The default logo is loaded and the page is refreshed.

10.1.5.11.1.6 Customize the header

You can customize the header background color, as well as text and highlighting color.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Scroll to **Basic settings**.
4. In the **Basic settings** section, customize the header background color, and text and highlighting color.
5. Click **Back**.

You have changed the header.

Example

Default header:

Header with green background, light yellow highlighting and yellow ochre text:

10.1.5.11.1.7 Customize the sidebars

You can customize the background color of the sidebars.

Prerequisite

You have the **Portal administrator** function privilege.

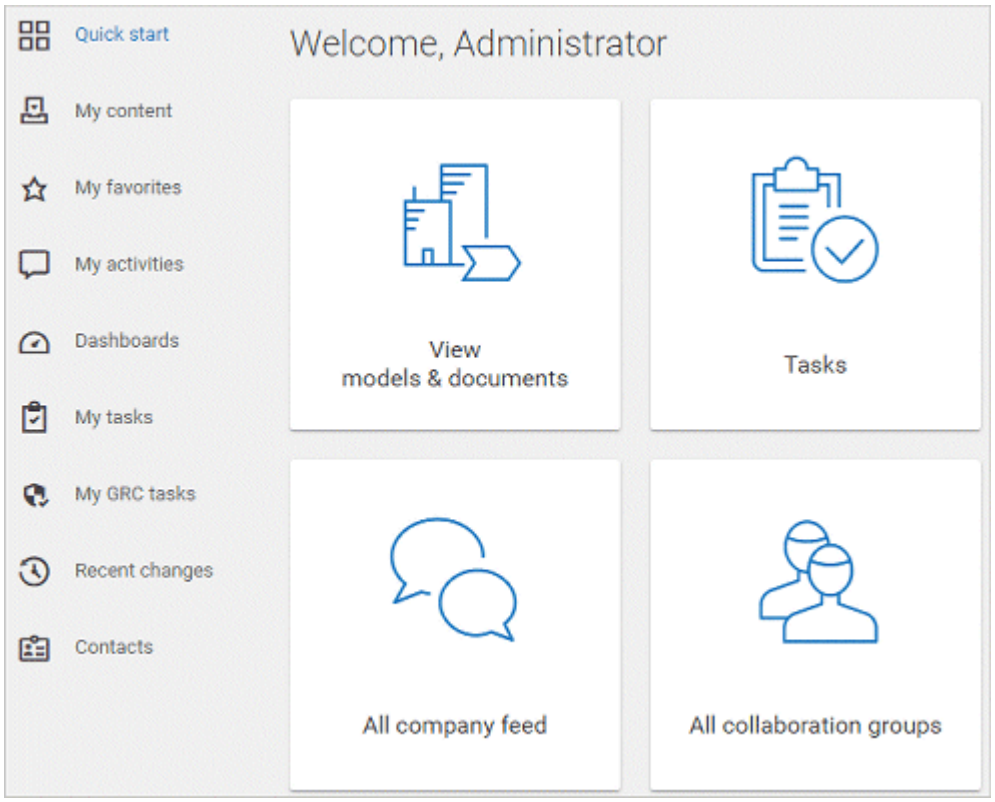
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Scroll to **Basic settings**.
4. Click the color indicated in the **Color for sidebar background** line. Customize the sidebar background color .
5. Click **OK**.
6. Click **Back**.

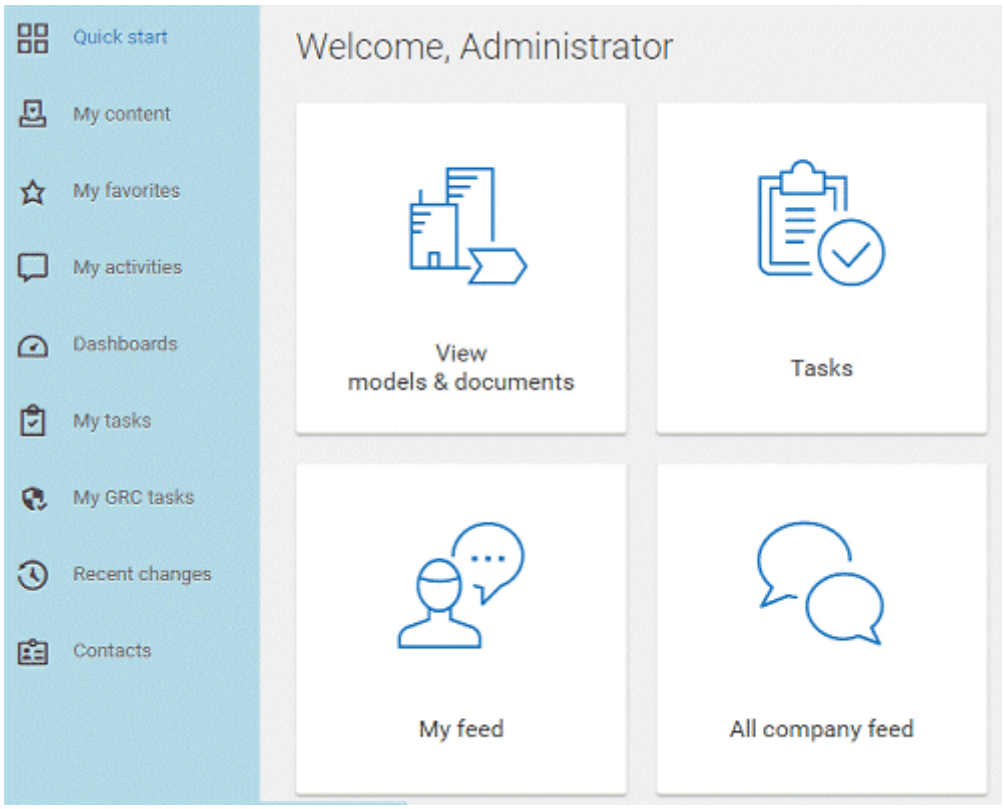
You have changed the left and right sidebar.

Example

Default sidebar:



Sidebar with light blue background:



10.1.5.11.1.8 Advanced customization

10.1.5.11.1.8.1 Customize 'Home' elements

You can customize the elements of the **Home** page.

Prerequisite

You have the **Portal administrator** function privilege.

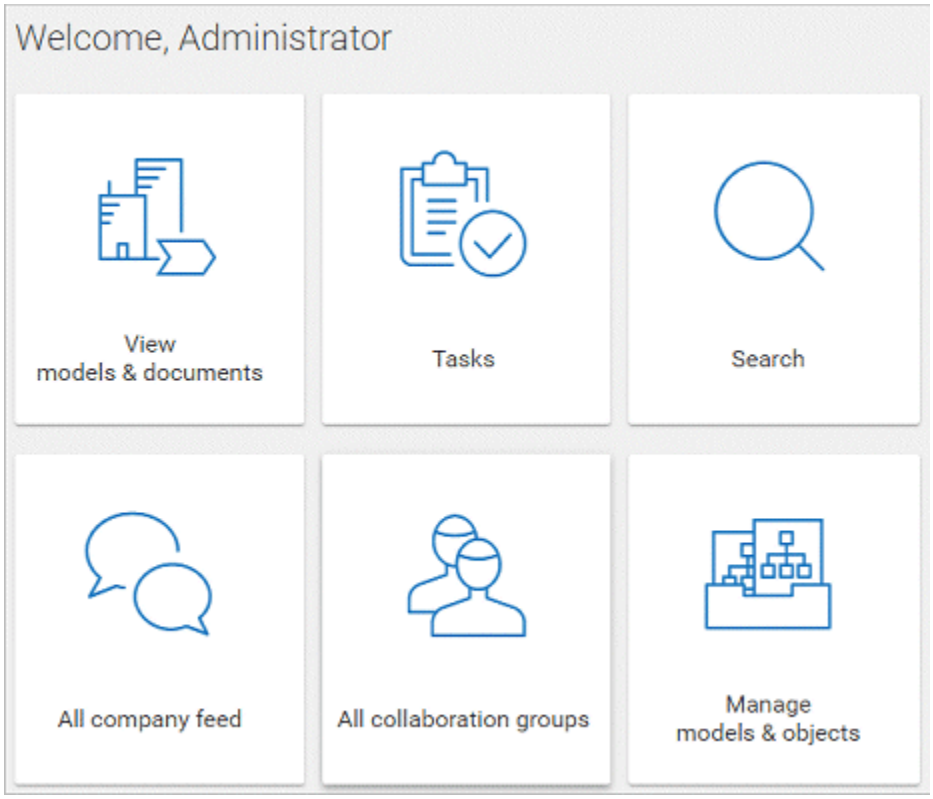
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Home elements (Quick start, Contact)**.
5. Customize the background color and the tile size, color, and font color.
6. Click **Back**.

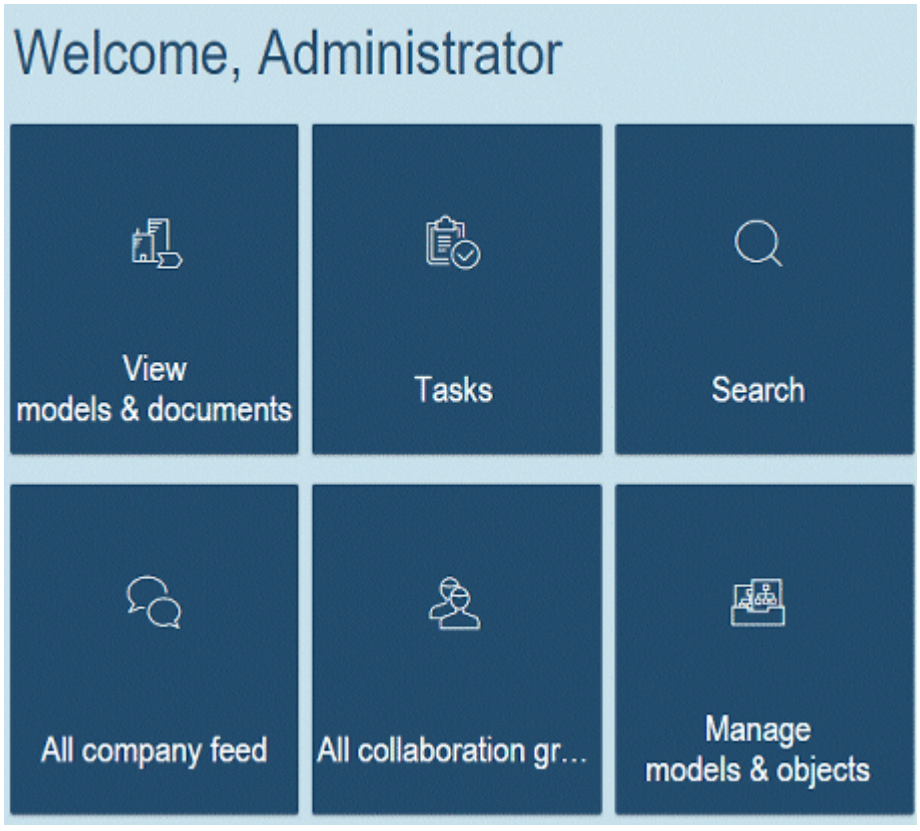
You have customized the **Home** page of ARIS Connect.

Example

Default **Home** page:



Customized **Home** page:



10.1.5.11.1.8.2 Customize Fact sheets (Overview)

You can customize fact sheets, such as **Overview** and **Steps**.

Prerequisite

You have the **Portal administrator** function privilege.

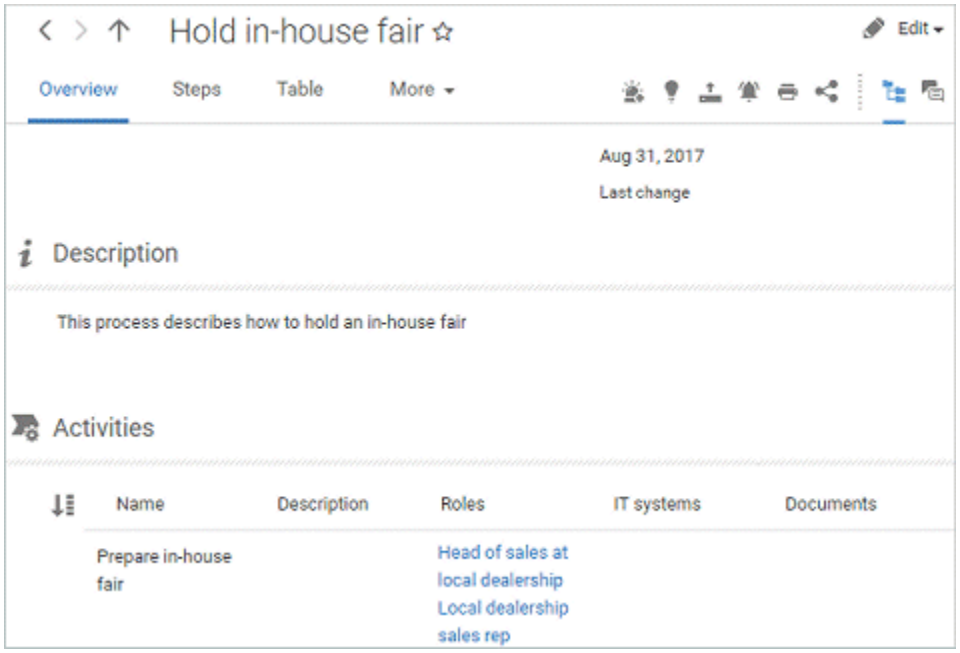
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Fact sheets (Overview, Steps)**.
5. Customize the colors and font sizes.
6. Click **Back**.

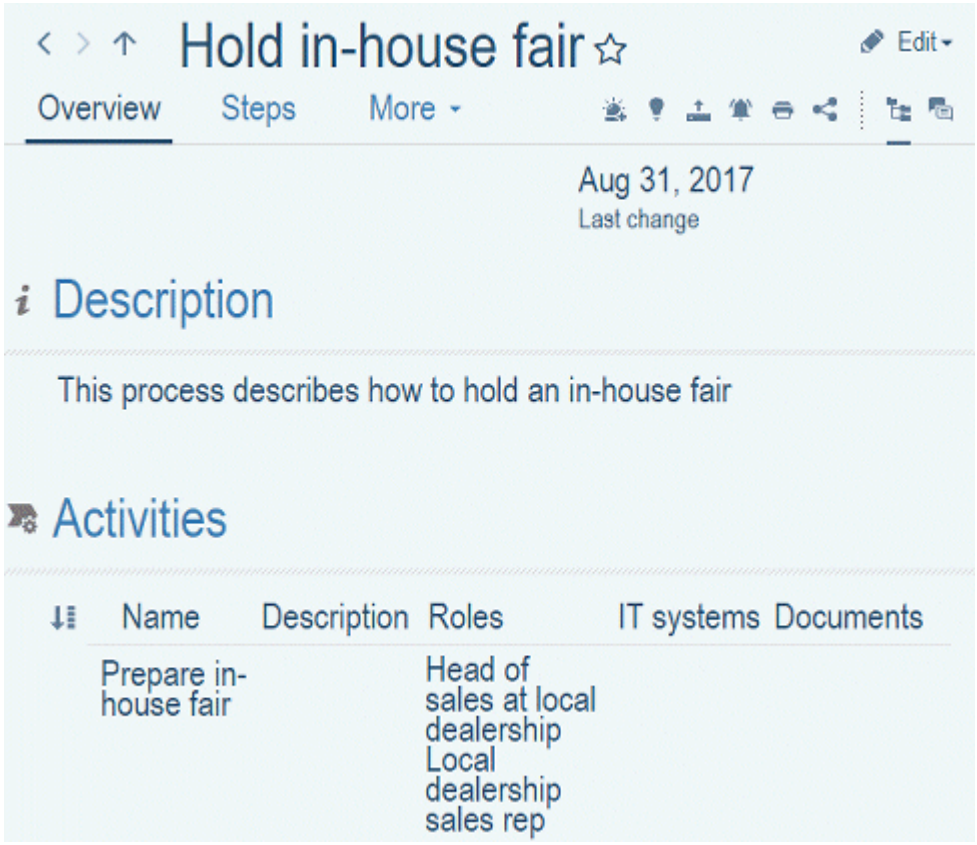
You have customized the fact sheets of ARIS Connect.

Example

Default **Overview** fact sheet:



Custom **Overview** fact sheet:



10.1.5.11.1.8.3 Customize 'Steps'

You can customize the **Steps** fact sheet.

Prerequisite

You have the **Portal administrator** function privilege.

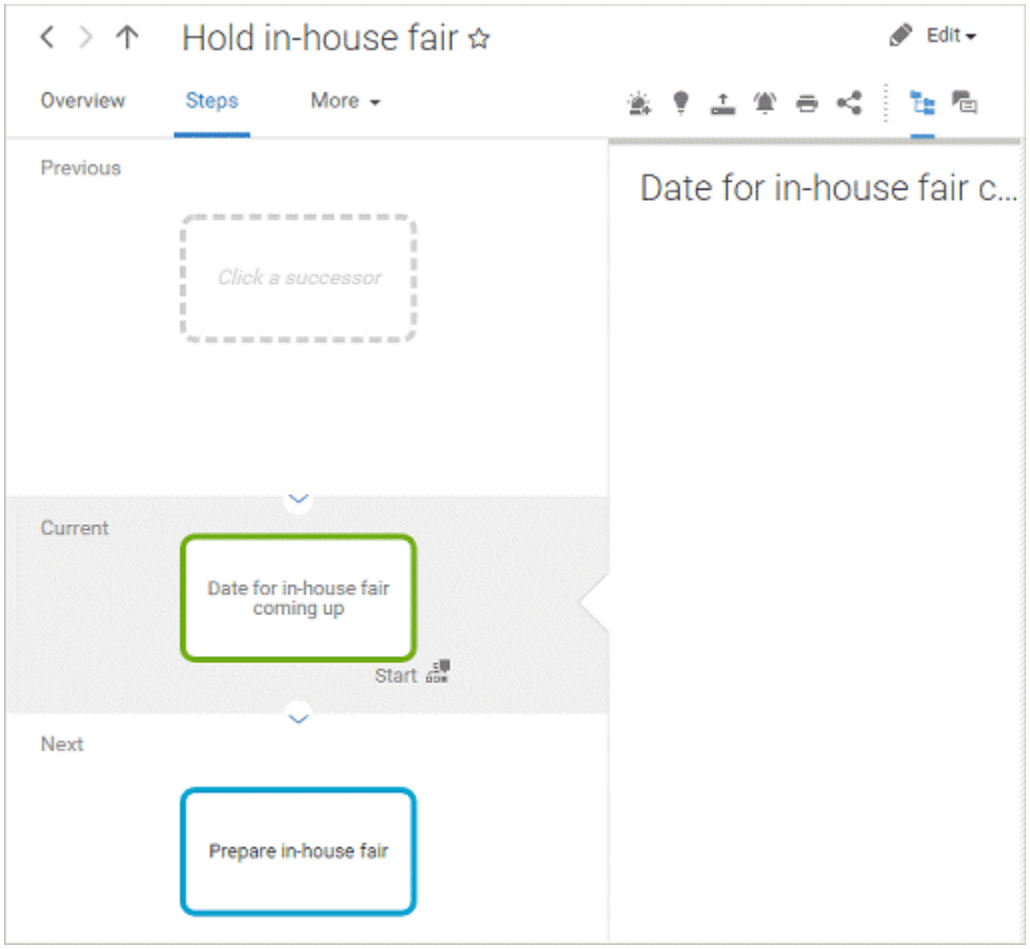
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Steps**.
5. Customize the colors, box sizes, and font sizes.
6. Click **Back**.

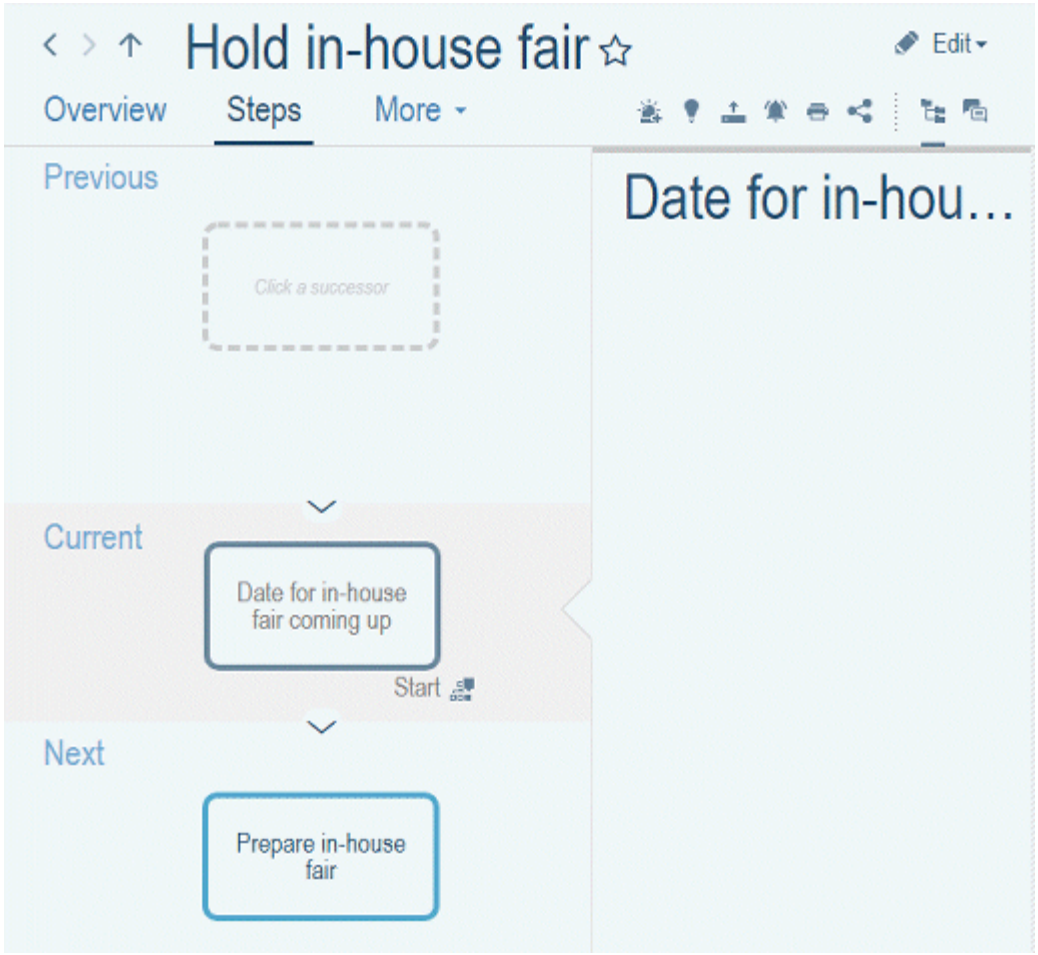
You have customized the **Steps**.

Example

Default **Steps** fact sheet:



Custom **Steps** fact sheet:



10.1.5.11.1.8.4 Customize buttons

You can customize the buttons.

Prerequisite

You have the **Portal administrator** function privilege.

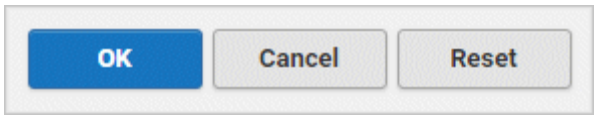
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. In the **Buttons (for example, Save or Cancel)** section, customize the button colors and shapes.

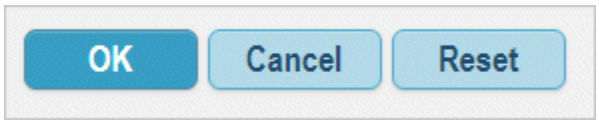
You have changed the button colors and shapes.

Example

Default buttons:



Customized buttons:



10.1.5.11.1.8.5 Customize font sizes in general

You can customize the general font sizes.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Font sizes**.
5. Customize the font sizes for the different text sizes.

You have customized the font sizes in general.

10.1.5.11.1.8.6 Customize My tasks

You can customize the logo, as well as the logo height and width of My tasks.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Copy the new logo to **<installation directory>\server\bin\work\work_apg_s\base\webapps\processboard\tasklist**, for example, **C:\SoftwareAG\ARIS10\server\bin\work\work_apg_s\base\webapps\processboard\tasklist**.
2. Open a user-defined modification set for editing. (page 140)
3. Click **User interface**.
4. Click **Show advanced settings**.
5. Scroll down to **Process Governance**.
6. Enter the file name of the new logo.
7. Enter the height of the new logo in pixels.
8. Enter the width of the new logo in pixels.
9. Click **Save**.

You have changed the logo of My tasks.

10.1.5.11.1.8.7 Customize Legacy settings

You can customize the operation border and the color for highlighting on the header tab for older modification sets. These settings are no longer used in the current ARIS version.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Legacy settings**.
5. Customize the operation borders and the color for highlighting on the header tab.

You have customized the legacy settings.

10.1.5.11.2 Manage items

Edit your own modification sets created based on the classic configuration set or the default configuration set.

10.1.5.11.2.1 Add items

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Items**. All items defined in this modification set for groups, models, and objects are displayed. You can use these items in fact sheets and define which information is displayed where.
3. Click **Create item**. The dialog opens.
4. Enter the technical name of the new item as an identifier, for example, **Risk**.
5. For each language enter the name of the element that it is to be displayed with in the portal. By default, the first three languages defined for the modification set are displayed.
6. In the **Source** box, select the type of ARIS item, for example, **Object** or **Model**.
7. Enter the object or model type names. All types that you can use are displayed during input. Types that have already been assigned to other items are not shown.
8. Click an entry. The type is added.
9. Add further types, if necessary.
10. Optional: If you want to specify the default symbol, click **Show advanced settings**. Add further default symbols, if necessary.
11. Click **Create**. The item is displayed in the list.
12. Click **Back**.
13. To test the changed modification set, activate (page 139) it.

As soon as a fact sheet has been configured (page 160), the changes are available to all users of the portal.

The new item is displayed in the Search area.

10.1.5.11.2.2 Edit items

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Items**. All items defined in this modification set for groups, models, and objects are displayed. You can use these items in fact sheets and thus define which information is displayed where.
3. Move the mouse pointer to the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit item** page opens.

   Identifier, name, type, and ARIS items are shown on the overview page of the **Process** item. In this example these are various model types whose information for the **Process** item is displayed in the portal. They are model types for representing business processes.
5. Click **Edit**. The **Edit item** dialog opens.
6. If required, change the name displayed in the portal in all languages, for example, **Process** to **Business process**.
7. Click **OK**. The changes are applied and the dialog closes.
8. Next to the **ARIS items** box, click **Add**. The **Add ARIS item** dialog opens.
9. Add more items from ARIS. In the **Process** example, you can select model types that have not been used for the **Process** item yet.
10. Click **Add**. The model list is completed and the dialog closes.
11. Click **Delete** to delete entries.
12. Optional: If you want to specify the default symbol, click **Show advanced settings**. Add further default symbols, if necessary.
13. Click **Back**.
14. To test the changed modification set, select (page 139) it for publishing.

The changes are available to users in the portal.

10.1.5.11.2.3 Add item properties

Item properties determine the information available and displayable for the item in the portal. You can edit custom properties.

You cannot edit the **Classic** and the **Default** configuration set.

You can allow users who have both the **ARIS Connect Viewer** and the **Contribution** license privileges to edit certain properties. This is also possible for properties that have already been defined in the selected template of the modification set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)

2. Click **Items**. All items defined in this modification set for groups, models, and objects are displayed. You can use these items in fact sheets and define which information is displayed where.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit item** page opens.
5. Click **Properties**. All properties of the item that can be displayed in the portal are listed.
6. Click **Create property**. The corresponding dialog opens.
7. Enter the technical name of the new property as an identifier.
8. For each language enter the name of the property that it is to be displayed with in the portal. Always specify the name in English as well, because English is used as the alternative language in the event that a language is missing.
9. In the **Data mapping** box, select the type of ARIS item whose information is to be available. This depends on the type of item for which you are defining the property.
10. For models you can select **Attributes**, **Occurrence contained**, or **Related assigned models**, while you can select **Attributes**, **Related objects**, or **Object to object** for objects. If you select **Attribute** and the attribute type, for example, **Description**, the descriptive texts for objects or models are searched and provided. For **Connected objects**, select connection and object type. This finds all objects associated with an object. **Occurrences contained** provides all objects of a model.
11. Specify the settings described depending on the item type.
12. Click **Create**. The new property is displayed in the table.
13. In order to be able to test the changed property, it must first be assigned to an area in a fact sheet. To test the changed modification set, select it for publishing.

The changes are available to users in the portal.

10.1.5.11.2.4 Edit item properties

Item properties determine the information available and displayable for the item in the portal. You can edit the properties.

You cannot edit the **Classic** and the **Default** configuration set.

You can allow users who have both the **ARIS Connect Viewer** and the **Contribution** license privileges to edit certain properties. This is also possible for properties that have already been defined in the selected template of the modification set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Items**. All items defined in this modification set for groups, models, and objects are displayed. You can use these items in fact sheets and define which information is displayed where.

3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit item** page opens.
5. Click **Properties**. All properties of the item that can be displayed in the portal are listed.
6. Move the mouse pointer to the property you want to change, for example, Process.
7. Click **Edit**.
8. For each language enter the name of the property that it is to be displayed with in the portal. Always specify the name in English as well, because English is used as the alternative language in the event that a language is missing.
9. In the **Data mapping** box, select the type of ARIS item whose information is to be available. This depends on the type of item for which you are defining the property.
10. For models you can select **Attributes**, **Occurrence contained**, or **Related assigned models**, while you can select **Attributes**, **Related objects**, or **Object to object** for objects. If you select **Attribute** and the attribute type, for example, **Description**, the descriptive texts for objects or models are searched and provided. For **Connected objects**, select connection and object type. This finds all objects associated with an object. **Occurrences contained** provides all objects of a model.
11. Specify the settings described depending on the item type.
12. Click **OK**.
13. Click **Back**.
14. In order to be able to test the changed property, it must first be assigned to an area in a fact sheet. To test the changed modification set, select it for publishing.

The changes are available to users in the portal.

10.1.5.11.2.5 Allow Connect Viewer users to edit

You can allow users who have both the **ARIS Connect Viewer** and the **Contribution** license privileges along with the corresponding access privileges to edit item properties that represent attribute values in the **Portal**.

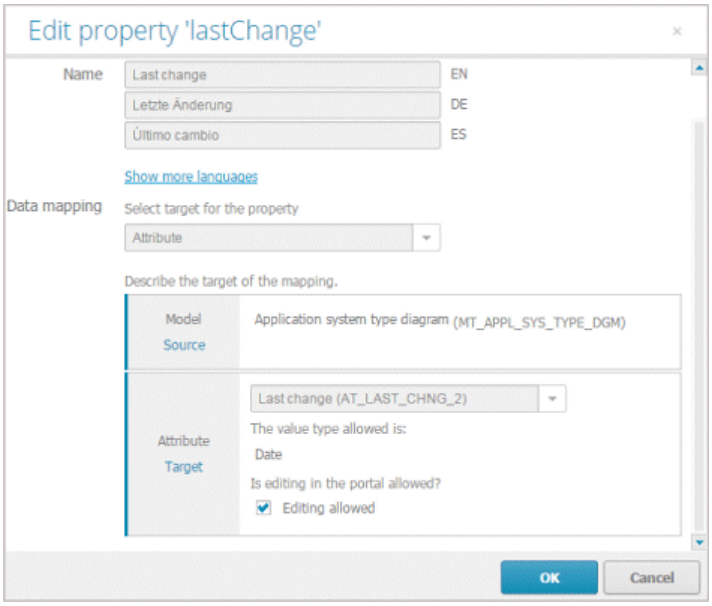
Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Items**. All items defined in this modification set for groups, models, and objects are displayed. You can use these items in fact sheets and define which information is displayed where.
3. Move the mouse pointer to the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit item** page opens.
5. Click **Properties**. All properties of the item that can be displayed in the **Portal** are listed.

6. Move the mouse pointer to the property you want to edit.
7. Click **Edit**. The **Edit property** dialog opens.
8. Enable **Editing allowed**.



9. Click **OK**.
10. Click **Back**.
11. To test the changed modification set, activate (page 139) it.

Users who have both the **ARIS Connect Viewer** and the **Contribution** license privileges can edit the item.

10.1.5.11.3 Manage Fact sheets

Edit your own modification sets created based on the classic configuration set or the default configuration set.

10.1.5.11.3.1 Define layout

For new items (page 155) to be displayed you need to define the position on the overview page where the content is to be shown in the fact sheet.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page. All items available for fact sheets are displayed.
3. Move the mouse pointer over the item you want to change the overview page for, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate sheets are listed.
5. Ensure that an overview page is available. If this is not the case, click **Add** and select **Overview**.
6. Move the mouse pointer over the **Overview** entry.
7. Click **Edit**. The **Edit subordinate sheet** page opens. The items of the different areas are displayed.

   If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is enabled.
8. Select the layout of the page. This enables you to specify how the content of the areas is to be arranged.
9. Click **Add** in the areas and select the property to be displayed in the relevant area.

   If a property of the **ItemList** type is displayed in an area, this property can be edited (page 170).
10. Click **Delete** to delete entries.
11. Click **Back**.

The new modification set is created and adjusted.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.2 Add fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Click + **Add fact sheet**. The **Create fact sheet** dialog opens.
4. In the **Source** box, enter the name of the item for which information is to be displayed on this fact sheet. You can use only items that have not yet been assigned to another fact sheet.
5. Click **Create**. The fact sheet is created. It includes an overview page by default. The selected item is added to the list. As long as no more item properties are assigned to this page, only the name of the item is displayed in the title bar. The overview itself is empty.
6. Click **Back**.

The changes are available to users in the portal. To test the changed modification set, select (page 139) it for publishing.

10.1.5.11.3.3 Add fact sheet for a new item

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have created (page 155) a new item.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Click + **Add fact sheet**. The **Create fact sheet** dialog opens.
4. In the **Source** box, enter the name of new item (page 155) for which information is to be displayed on this fact sheet.
5. Click **Create**. The fact sheet is created. It includes an overview page by default. The selected item is added to the list. As long as no more item properties are assigned to this page, only the name of the item is displayed in the title bar. The overview itself is empty.
6. Click **Back**.

The changes are available to users in the portal. To test the changed modification set, select (page 139) it for publishing.

10.1.5.11.3.4 Change order of fact sheets globally

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Select an item
4. Move the mouse cursor over the fact sheet you want to move.
5. If you want to change the order of a fact sheet, click **Up** or **Down**.

   If you want to move a fact sheet to the top, click **Top**.
6. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display. If you change the order in a specific fact sheet (page 168), this configuration overwrites the globally defined order of the subordinate fact sheets.

10.1.5.11.3.5 Change order of fact sheets for an item

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

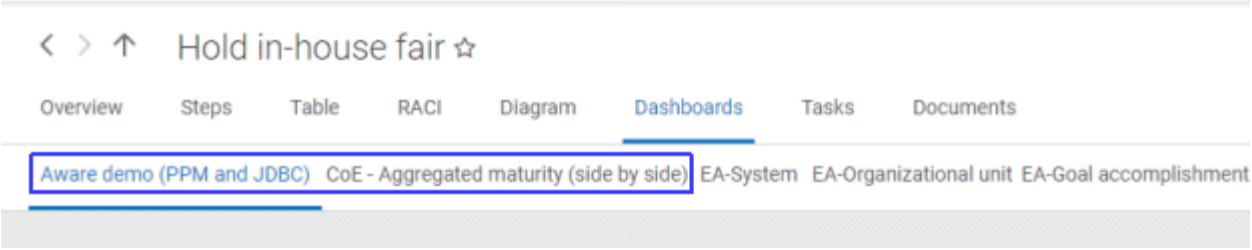
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Edit** in the **Dashboards** row. Move the mouse cursor over **Dashboards** and click **Edit**.
6. Move the mouse cursor over the dashboard you want to move.
7. If you want to change the order of a dashboard, click **Up** or **Down**.

   If you want to move a dashboard to the top, click **Top**.

8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display. If you change the order in a specific dashboard, this configuration overwrites the globally defined order of the dashboards. If dashboards are also specified for a component, they are grouped and displayed in the order specified.



10.1.5.11.3.6 Delete fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Move the mouse cursor over the fact sheet you want to delete.
3. Click **Delete**. A confirmation prompt is displayed.
4. Click **Delete**.

The fact sheet and its overview page is deleted.

The changes are available to users in the portal. To test the changed modification set, select (page 139) it for publishing.

10.1.5.11.3.7 Edit fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer to the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.

5. Click **Add**. The **Add subordinate sheet** dialog opens. All pages you can add are displayed. Typically, the pages **Overview**, **Steps**, **Table**, **RACI**, **Diagram**, **Tasks**, **Documents**, and **Dashboards** of ARIS Aware are offered.
6. Select an entry and click **Add**.
7. Specify the contents to be displayed in the fact sheet.
8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.1 Customize fonts and colors

You can customize fact sheets, such as **Overview** and **Steps**.

Prerequisite

You have the **Portal administrator** function privilege.

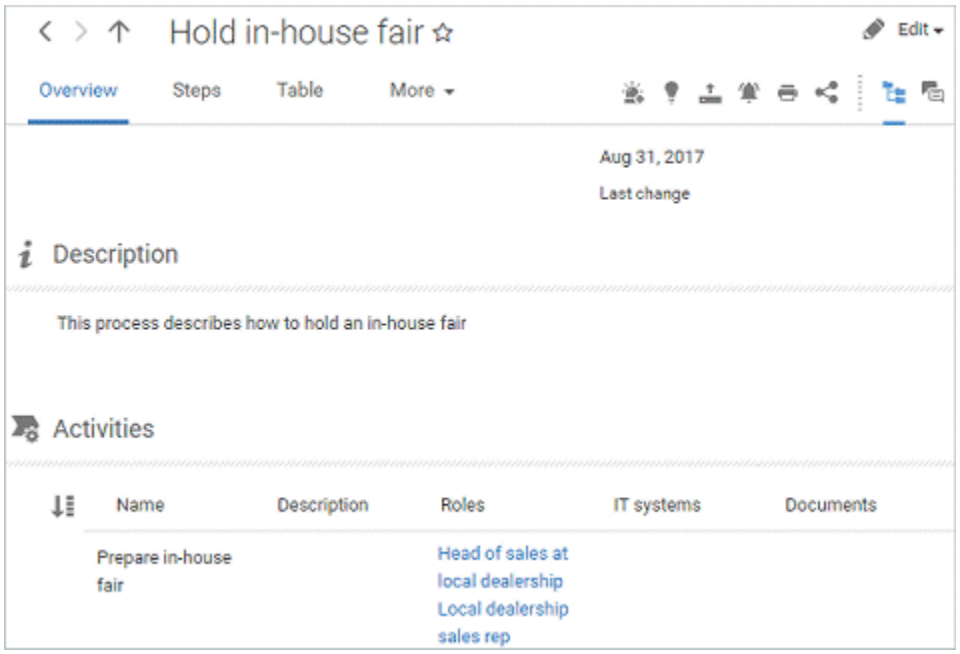
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Fact sheets (Overview, Steps)**.
5. Customize the colors and font sizes.
6. Click **Back**.

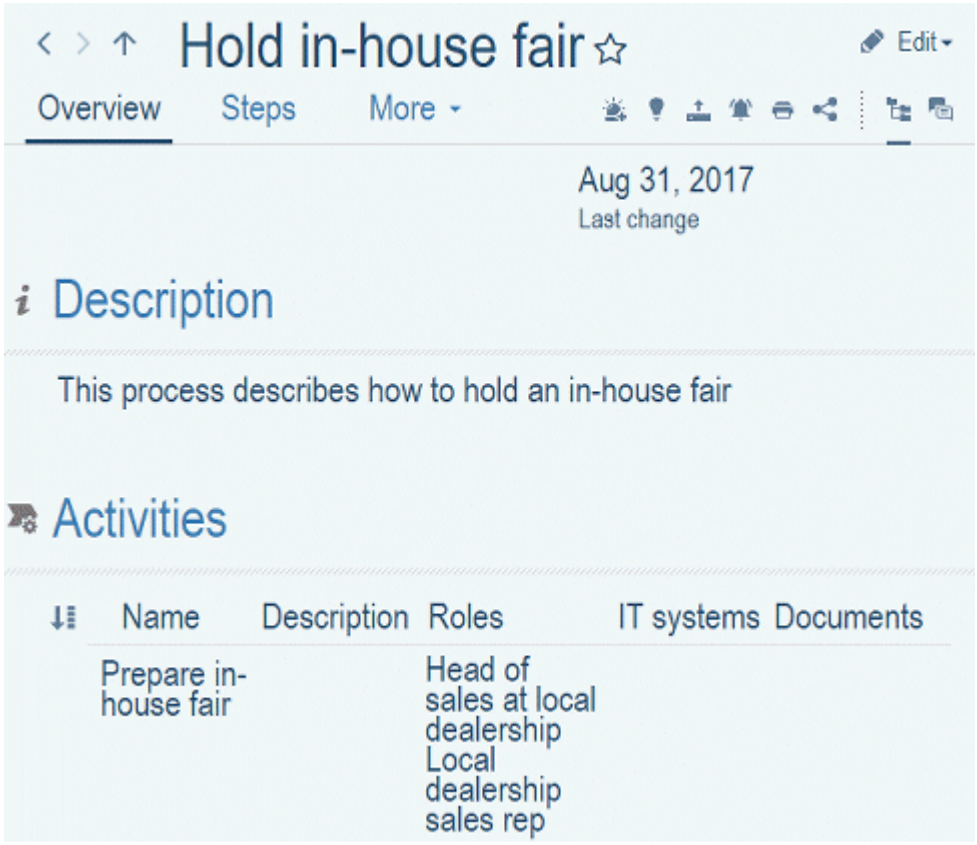
You have customized the fact sheets of ARIS Connect.

Example

Default **Overview** fact sheet:



Custom **Overview** fact sheet:



10.1.5.11.3.7.2 Enable/Disable toolbars for a fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens.
5. Click **Toolbars**.
6. Enable/Disable the toolbars to be displayed on the fact sheet.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.3 Add a subordinate sheet to a fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Add**.
6. Select a subordinate sheet from the list.
7. Click **Add**.
8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.4 Change order of the subordinate sheets

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Move the mouse cursor over a subordinate sheet you want to move.
6. If you want to change the order of a subordinate sheet, click **Up** or **Down**.

   If you want to move a subordinate sheet to the top, click **Top**.
7. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display. This configuration overwrites the globally defined order (page 162) of the subordinate fact sheets.

10.1.5.11.3.7.5 Remove a subordinate sheet from a fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Move the mouse pointer to the subordinate sheet you want to remove, for example, **Overview**.
6. Click **Delete**.
7. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.6 Edit a property of ItemList type of the Overview tab

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the row of an item of the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be changed.
6. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
7. Move the mouse pointer over the relevant item of the **ItemList** type and click **Edit**.
8. Select a custom layout.

   The **Table** option displays the items in a table. The first row in the table displays the item name. You can configure the display of additional properties. These appear as additional rows.

   The **List** option displays the items that were previously shown in a table or an embedded page as a simple list. In the overview, all properties except the item name are hidden. If you have selected the **List** option and activated the modification set, you cannot switch back to the table modification set.
9. Click **Back**.
10. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.7 Edit a property for a single value of the Overview tab

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the row of an item of the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be changed.
6. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
7. Move the mouse pointer over a property that contains a single value and click **Edit**. The **Select property template** page is displayed.
8. Enable the **Custom** layout. If you keep the **System** layout, the properties cannot be changed.
9. Select a template from the **Template** list.
10. Optional: Select the label position from the list.
11. Optional: Click **Browse** to select an icon. The icon is displayed in front of the label.
12. Click **Back**.
13. Click **Back**.

The preview is displayed in the **Preview** area. For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

To remove the icon from the property, click **Remove**.

10.1.5.11.3.7.8 Dashboards

You can specify dashboards for fact sheets.

10.1.5.11.3.7.8.1 Add a dashboard to the 'Overview' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be altered.
6. Scroll to **Dashboards**.
7. Click **Add**. The **Add Dashboard** dialog is displayed.
8. Enter a name. You can enter a name in multiple languages.
9. Select the database in which the dashboard is to be displayed.
10. Select a dashboard.
11. Click **Add**. The dashboard is added to the **Overview** item.
12. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.2 Edit a dashboard of the 'Overview' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be altered.
6. Scroll to **Dashboards**.
7. Move the mouse cursor over the dashboard you want to edit.
8. Click **Edit**. The corresponding dialog opens.
9. Make you changes.
10. Click **Update**.
11. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.3 Remove a dashboard from the 'Overview' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be altered.
6. Scroll to **Dashboards**.
7. Move the mouse pointer over the dashboard you want to delete.
8. Click **Delete**. The dashboard is removed from the **Overview** item.

9. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.4 Add a dashboard to the 'Diagram' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Diagram** item, click **Edit**.
6. Click **Add**.
7. The **Add Dashboard** dialog is displayed.
8. Select a dashboard.
9. Enter a name in the relevant languages.
10. Click **Add**. The dashboard is added to the **Diagram** item.
11. Select the database in which the dashboard is to be displayed.
12. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.5 Edit a dashboard of the 'Diagram' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.

4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Diagram** item, click **Edit**.
6. Move the mouse cursor over the dashboard you want to edit.
7. Click **Edit**. The corresponding dialog opens.
8. Make you changes.
9. Click **Update**.
10. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.6 Remove a dashboard from the 'Diagram' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Diagram** item, click **Edit**.
6. Select a dashboard.
7. Click **Delete**. The dashboard is removed from the **Diagram** item.
8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.7 Add a dashboard to the 'Dashboard' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

You can add dashboards globally for items.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Dashboards** item, click **Edit**.
6. Click **Add**. The **Add Dashboard** dialog is displayed.
7. Select a dashboard.
8. Enter a name in the relevant languages.
9. Click **Add**. The dashboard is added to the **Dashboards** item.
10. Select the database in which the dashboard is to be displayed.
11. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.8 Edit a dashboard of the 'Dashboard' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Dashboards** item, click **Edit**.
6. Move the mouse cursor over the dashboard you want to edit.
7. Click **Edit**. The corresponding dialog opens.
8. Make you changes.
9. Click **Update**.

10. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.8.9 Change dashboard order of 'Dashboard item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Edit** in the **Dashboards** row.
6. Move the mouse cursor over the dashboard you want to move.
7. If you want to change the order of a dashboard, click **Up** or **Down**.

   If you want to move a dashboard to the top, click **Top**.
8. Click **Back**.

You have changed the dashboard order. If dashboards are also specified for components, they are grouped and displayed in the order specified.

10.1.5.11.3.7.8.10 Remove a dashboard from the 'Dashboard' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Dashboards** item, click **Edit**.
6. Select a dashboard.
7. Click **Delete**. The dashboard is removed from the **Dashboards** item.
8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

10.1.5.11.3.7.9 Mini fact sheets

You can specify mini fact sheets globally for fact sheets.

10.1.5.11.3.7.9.1 Enable mini fact sheets

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

You can enable mini fact sheet for an object.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Function**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Mini fact sheet**.
6. Enable **Enable mini fact sheets**.
7. Click **Back**.

You have enabled the mini fact sheet for an item.

10.1.5.11.3.7.9.2 Customize display options and properties

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

You can customize the mini fact sheet for objects.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Mini fact sheet**.
6. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
7. Move the mouse pointer over the relevant property and click **Edit**.
8. Select a custom property template. If you keep the **System** template, the properties cannot be changed.

   To add a new property group, click **Add group**. The **Select group property template** page is displayed. Adjust your settings. Click **Back**.
9. Click **Back**.

You have customized the mini fact sheet of these objects.

10.1.5.11.3.7.9.3 Change property order for mini fact sheets

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

You can change the order of the mini fact sheets for objects.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Mini fact sheet**.
6. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
7. Move the mouse cursor over the property you want to move.
8. If you want to change the order of a property, click **Up** or **Down**.

   If you want to move a property to the top, click **Top**.
9. Click **Back**.

You have changed the order of the mini fact sheets of these objects.

10.1.5.11.3.7.9.4 Delete property from mini fact sheet

Edit your own modification sets created based on the classic configuration set or the default configuration set. You cannot edit the **Classic** and the **Default** configuration set.

You can delete a property from a mini fact sheet of an object.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. Click **Mini fact sheet**.
6. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
7. Move the mouse cursor over the property you want to delete.
8. Click **Delete**.
9. Click **Back**.

You have deleted a property from a mini fact sheets of this object.

10.1.5.11.4 Manage hierarchies

Edit your own modification sets created based on the classic configuration set or the default configuration set.

10.1.5.11.4.1 Create navigation hierarchy

Define your own navigation options for the portal. You can use hierarchies (page 221) to control how portal users can quickly navigate to relevant information. These hierarchies map the relationships between superior and subordinate item types.

You can define your own hierarchies for each user-defined modification set.

Prerequisite

- You have the **Portal administrator** function privilege.
- If you want to use a root element (page 225), the GUID or the item ID of the root element must be available on the clipboard.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Hierarchies** on the **Define modification set** page.

   All hierarchies defined in this modification set for navigation are displayed. By default, these are the hierarchies from the template from which the user-defined modification set was derived, for example, **Processes**, **Organizations**, **IT systems**, or **Groups**. You can activate or deactivate these hierarchies marked with **system**, or change the order in which they are displayed in the portal.

   Unused hierarchies are shown in strikethrough formatting and are not displayed in the portal.
3. Click **Create**. The corresponding dialog opens.
4. Specify the name for the hierarchy to be displayed in the portal in all languages. This name is shown in the portal as another navigation option. If the name is not specified in a language, it is displayed in English in the portal.
5. Click **Next**. The **Create hierarchy – Specify hierarchy structure** page opens.
6. Click **Select item**. All items that are defined in the modification set are displayed.
7. Select the first item. The item is inserted.
8. Move the mouse pointer over the item and click + **Add**.
9. Click **Select item / property** and select an entry. The second item must be of the same type as the first item. If it is not, a hierarchy cannot be created. The selected property or the item is made subordinate without space. The name of the property of the subordinate item is shown in parentheses.
10. Add further items in the same manner. The hierarchy is symbolized by indents.
11. Click **Finish** if you do not want to insert a root element (page 225). Otherwise click **Next** to insert a root element.

a. Click **Add**. The **Specify root element** dialog opens.
b. Paste the GUID or item ID from the clipboard.
c. Click **OK**. The GUID of the item is displayed in the list.
d. Click **Finish**.

12. Activate (page 184) the hierarchy.

The navigation is available to users in the portal. To test the changed modification set, activate (page 139) it.

10.1.5.11.4.2 Edit navigation hierarchy

Use hierarchies to define the navigation in the portal. These hierarchies map the relationships between superior and subordinate items.

You can define your own hierarchies for each user-defined modification set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Hierarchies** on the **Define modification set** page.

   All hierarchies defined in this modification set for navigation are displayed. By default, these are the hierarchies from the template from which the user-defined modification set was derived, for example, **Processes**, **Organizations**, **IT systems**, or **Groups**. You can activate or deactivate these hierarchies marked with **system**, or change the order in which they are displayed in the portal.

   Unused hierarchies are shown in strikethrough formatting and are not displayed in the portal.
3. To edit a hierarchy, move the mouse pointer over the row for a deactivated hierarchy and click **Edit**.
4. Change the hierarchy.
5. Click **Finish**.

The changed navigation is available to users in the portal. To test the changed modification set, activate (page 139) it.

10.1.5.11.4.3 Enable navigation hierarchy

Use hierarchies to define the navigation in the portal. These hierarchies map the relationships between superior and subordinate items.

You can define your own hierarchies for each user-defined modification set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Hierarchies** on the **Define modification set** page.

   All hierarchies defined in this modification set for navigation are displayed. By default, these are the hierarchies from the template from which the user-defined modification set was derived, for example, **Processes**, **Organizations**, **IT systems**, or **Groups**. You can activate or deactivate these hierarchies marked with **system**, or change the order in which they are displayed in the portal.

   Unused hierarchies are shown in strikethrough formatting and are not displayed in the portal.
3. To display a hierarchy, move the mouse pointer over the row for a deactivated hierarchy and click ✔ **Enable**.

   The **Groups** hierarchy from the classic configuration set cannot be combined with any other hierarchy. If the **Groups** hierarchy is activated, all other hierarchies are automatically deactivated. If you activate another hierarchy, the **Groups** hierarchy is automatically hidden.

The changed navigation is available to users in the portal. To test the changed modification set, activate (page 139) it.

10.1.5.11.4.4 Disable navigation hierarchy

Use hierarchies to define the navigation in the portal. These hierarchies map the relationships between superior and subordinate items.

You can define your own hierarchies for each user-defined modification set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Hierarchies** on the **Define modification set** page.

   All hierarchies defined in this modification set for navigation are displayed. By default, these are the hierarchies from the template from which the user-defined modification set was derived, for example, **Processes**, **Organizations**, **IT systems**, or **Groups**. You can activate or deactivate these hierarchies marked with **system**, or change the order in which they are displayed in the portal.

   Unused hierarchies are shown in strikethrough formatting and are not displayed in the portal.
3. To disable a hierarchy, move the mouse pointer over the row for an activated hierarchy and click ✖ **Disable**.

The navigation hierarchy is disabled.

10.1.5.11.4.5 Delete navigation hierarchy

Use hierarchies to define the navigation in the portal. These hierarchies map the relationships between superior and subordinate items.

You can define your own hierarchies for each user-defined modification set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Hierarchies** on the **Define modification set** page.

   All hierarchies defined in this modification set for navigation are displayed. By default, these are the hierarchies from the template from which the user-defined modification set was derived, for example, **Processes**, **Organizations**, **IT systems**, or **Groups**. You can activate or deactivate these hierarchies marked with **system**, or change the order in which they are displayed in the portal.

   Unused hierarchies are shown in strikethrough formatting and are not displayed in the portal.
3. To delete a hierarchy, move the mouse pointer over the row for a deactivated hierarchy and click **Delete**.

The navigation hierarchy is deleted.

10.1.5.11.5 Edit components

You can configure global settings for certain components, for example, diagrams or steps for a specific model.

10.1.5.11.5.1 Customize 'Dashboard' component

You can configure global settings for dashboards.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Dashboards** row. The **Edit component** page is displayed.
4. Click **Edit** to change the name of the **Dashboard** component. The **Edit component property** dialog opens. Edit the name of the Dashboard component in different languages.
5. Click **Back**.

You have configured the name of the **Dashboards** component.

10.1.5.11.5.1.1 Add dashboard to model

You add dashboards to a specific model.

Prerequisite

You have the **Portal administrator** function privilege.

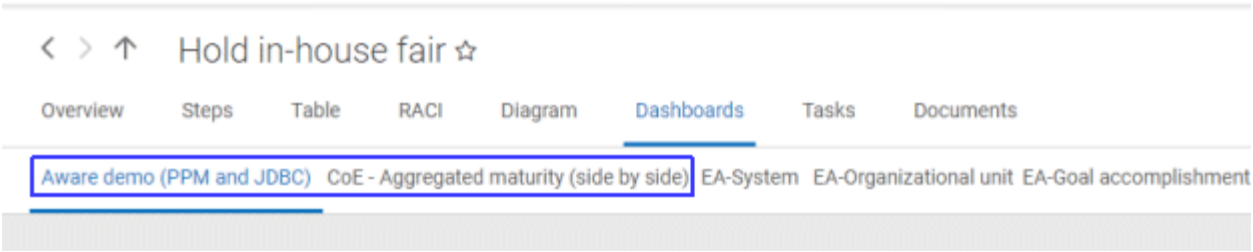
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Dashboards** row. The **Edit component** page is displayed.
4. Click **Add**. The **Add Dashboard** dialog opens. Enter the name of the dashboard in the different languages.
5. Select the database in which the dashboard is to be displayed.
6. Select the location on which the dashboard shall be displayed.

   Enter the identifier of the location. The identifier is the part of the URL of the relevant tab of a model and starts with **c** and ends with **-1**.

7. Click **Add**.
8. Click **Back**.

You have added a dashboard to a specific model. If dashboards are specified globally for this model, they will be displayed as a group and so are the model-specific dashboards.



10.1.5.11.5.1.2 Edit dashboard for model

You can add dashboards to the **Dashboard** component.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Dashboards** row. The **Edit component** page is displayed.
4. Click **Edit** in the dashboard's row. The **Edit Dashboard** dialog opens. Enter the name of the dashboard in the different languages.
5. Select the location on which the dashboard shall be displayed.

   Enter the identifier of the location. The identifier is the part of the URL of the relevant tab of a model and starts with **c** and ends with **-1**.
6.

7. Click **Update**.
8. Click **Back**.

You have edited a dashboard of the **Dashboards** component.

10.1.5.11.5.1.3 Change dashboard order for model

You can add dashboards to the **Dashboard** component.

Prerequisite

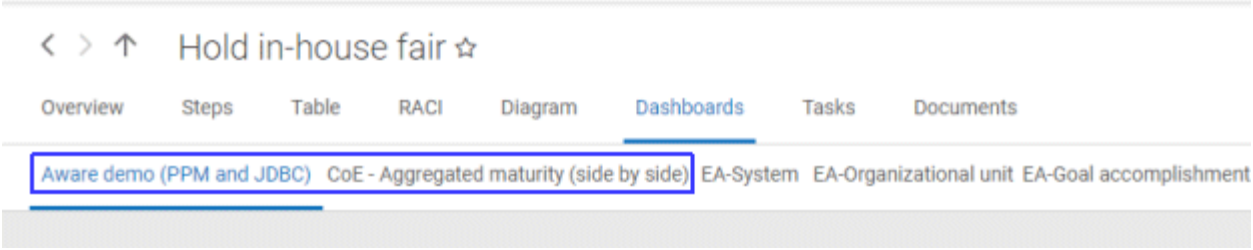
You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Dashboards** row. The **Edit component** page is displayed.
4. Move the mouse cursor over the dashboard you want to move.
5. If you want to change the order of a dashboard, click **Up** or **Down**.

   If you want to move a dashboard to the top, click **Top**.
6. Click **Back**.

You have changed the dashboard order. If dashboards are also specified for fact sheets, they are grouped and displayed in the order specified.



10.1.5.11.5.1.4 Delete a dashboard

You can remove dashboards from the **Dashboard** component.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Delete** in the dashboard's row. The dashboard is deleted from the list of dashboards to be displayed.
4. Click **Back**.

You have deleted a dashboard from the **Dashboards** component.

10.1.5.11.5.2 Customize diagrams

You can configure global settings for diagrams.

10.1.5.11.5.2.1 Customize display options

You can configure global settings for diagrams.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Diagram** row. The **Edit component** dialog opens.
4. If you want to rename the **Diagram** component, click **Edit** in the **Edit component property** area. The dialog opens.
5. Change the name in the required languages and click **OK**.
6. Configure the display of diagrams in the **Display options** area.

   To begin with, the ARIS Connect default settings are used. As soon as you disable these, you can configure the diagram graphic size and the assignment filter.

   Optionally, you can adjust the representation of a model in the portal to the dimensions of the model, or specify any size for it. For example, if you select **Fit to window**, the zoom factor is selected such that the entire model is displayed. Selecting **Fit width** displays the model so that its full width can be seen.

   If you activate the assignment filter, the diagrams show an assignment icon only for objects that have a diagram assigned to them which can also be accessed via the navigation hierarchy. For example, if a user-defined hierarchy includes value-added chains and processes only, the assignment icon is not displayed for functions to which only a model of the Function allocation diagram type is assigned.

   If you enable the **Hide non-configured objects** option, objects that are not contained in the current method filter, or for which users have no privileges, are hidden from users. By default, this option is enabled.

   To reset the changed component properties and display options to their initial state, click **Restore default settings** and confirm **Restore default settings**.
7. Click **Back**.

You have customized the display option of the diagram on the **Component** tab.

10.1.5.11.5.2.2 Customize the assignment filter

You can configure global settings for diagrams.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Diagram** row. The **Edit component** dialog opens.
4. Scroll to the **Display options** area.
5. If you activate the assignment filter, the diagrams show an assignment icon only for objects that have a diagram assigned to them which can also be accessed via the navigation hierarchy. For example, if a user-defined hierarchy includes value-added chains and processes only, the assignment icon is not displayed for functions to which only a model of the Function allocation diagram type is assigned.

   To reset the changed component properties and display options to their initial state, click **Restore default settings** and confirm **Restore default settings**.
6. Click **Back**.

You have customized the assignment filter of the diagram on the **Component** tab.

10.1.5.11.5.2.3 Enable/Disable the change view functionality

You can configure global settings for diagrams.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Diagram** row. The **Edit component** dialog opens.
4. Scroll to the **Display options** area.
5. Configure whether the **Change view** functionality is enabled. To do so enable **Enable view generation**.

   To reset the changed component properties and display options to their initial state, click **Restore default settings** and confirm **Restore default settings**.
6. Click **Back**.

You have enabled/disabled the change view functionality of the diagram on the **Component** tab.

10.1.5.11.5.3 Customize extended search component

You can configure the settings for the extended search.

10.1.5.11.5.3.1 Add items and properties to filter

You can configure the settings for the extended search.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Extended search** row. The **Edit component** page is displayed.
4. In the **Specify item filter** area, click **Edit**. The corresponding dialog opens.
5. Under **Available filters**, enable the items you want to be displayed in the filter list of the search and click **Add**. To enable all items, click **Add all**. You can enter the first characters in the **Enter a search term** field to reduce the number of items displayed.
6. Click **OK**.
7. In the **Specify property filter** area, click **Edit**. The corresponding dialog opens.
8. Under **Available filters**, enable the properties you want to be displayed in the properties list of the search and click **Add**. To enable all properties, click **Add all**. You can enter the first characters in the **Enter a search term** field to reduce the number of properties displayed.
9. Click **OK**.
10. Click **Back**.

You have configured the settings for the extended search.

10.1.5.11.5.3.2 Change order of filter items and properties

You can change the order of items or properties of the filter for the extended search.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Extended search** row. The **Edit component** page is displayed.
4. In the **Specify item filter** or in the **Specify property filter** area, click **Edit**.
5. If you want to change the order of filter items or properties, click **Up** or **Down**. If you want to move a filter item or a property to the top, click **Top**.
6. Click **Back**.

You have changed the order of items or properties of the filter for the extended search.

10.1.5.11.5.3.3 Remove items and properties from filter

You can configure the settings for the extended search.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Extended search** row. The **Edit component** page is displayed.
4. In the **Specify item filter** area, click **Edit**. The corresponding dialog opens.
5. Under **Assigned filters**, enable the items you want to be removed from the filter list of the search and click **Remove**. To disable all items, click **Remove all**.
6. Click **OK**.
7. In the **Specify property filter** area, click **Edit**. The corresponding dialog opens.
8. Under **Assigned filters**, enable the properties you want to be removed from the properties list of the search and click **Remove**. To disable all properties, click **Remove all**.
9. Click **OK**.
10. Click **Back**.

You have configured the settings for the extended search.

10.1.5.11.5.4 Customize mini fact sheets

You can configure mini fact sheets for objects globally. All global settings for mini fact sheets can be overwritten for single types by the fact sheet settings (page 179).

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Mini fact sheets** row. The **Mini fact sheets** page is displayed.
4. Configure the display options and the properties.
5. Click **Back**.

You have configured the mini fact sheets for objects globally.

10.1.5.11.5.4.1 Customize white list for mini fact sheets

You can specify the items for which mini fact sheets should be displayed globally .

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Mini fact sheets** row. The **Mini fact sheets** page is displayed.
4. Click in the field that contains the items for which mini fact sheets should be displayed. Enter the name of the item you want to add and click **Return**.
5. Click **Delete** on the item you want to remove.
6. Click **Back**.

You have customized the white list for mini fact sheets globally .

10.1.5.11.5.4.2 Customize display options and properties

You can specify the default templates and properties of the mini fact sheets globally .

Prerequisite

- You have the **Portal administrator** function privilege.
- You have specified a white list for the mini fact sheet.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Mini fact sheets** row. The **Mini fact sheets** page is displayed.
4. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
5. Move the mouse pointer over the relevant property and click **Edit**.
6. Select a custom property template. If you keep the **System** template, the properties cannot be changed. The properties displayed belong to item type **Default object**.
7. To add a new property, click **Add**.

   To add a new property group, click **Add group**. The **Select group property template** page is displayed.
8. Adjust your settings. Click **Back**.
9. Click **Back**.

You have customized the display options and properties globally .

10.1.5.11.5.4.3 Change property order for mini fact sheets

You can change the order of the mini fact sheets globally.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Mini fact sheets** row. The **Mini fact sheets** page is displayed.
4. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
5. Move the mouse cursor over the property you want to move.
6. If you want to change the order of a property, click **Up** or **Down**.
7. If you want to move a property to the top, click **Top**.
8. Click **Back**.

You have changed the order of the mini fact sheets globally.

10.1.5.11.5.4.4 Delete property from mini fact sheet

You can delete a mini fact sheet.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Mini fact sheets** row. The **Mini fact sheets** page is displayed.
4. Select a custom layout. If you keep the **System** layout, the properties cannot be changed.
5. Move the mouse cursor over the property you want to delete.
6. Click **Delete**.
7. Click **Back**.

You have deleted a mini fact sheet.

10.1.5.11.5.5 Customize steps

You can configure global settings for steps.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Steps** row.
4. Click **Details**. The **Edit component** page is displayed. Add or delete properties for processes, functions, and events and define their hierarchy.
5. Optional: Edit the properties of processes, functions, and events.
   a. Move the mouse pointer over a property that you want to change.
   b. Click **Edit**. The **Select property template** page is displayed.
   c. Enable the **Custom** layout. If you keep the **System** layout, the properties cannot be changed.
   d. Select a template from the **Template** list.
   e. Optional: Select the label position from the list.
   f. Optional: Click **Browse** to select an icon. The icon is displayed in front of the label.
   g. Click **Back**.
6. Click **Back**.

You have configured the steps on the **Component** tab.

10.1.5.11.5.5.1 Exclude symbols

You can exclude symbols from the **Steps** fact sheet.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Steps** row.
4. Click **Overview**. The **Excluded symbols** page opens.
5. Click **Add**. The corresponding dialog opens.
6. Enter the first characters of the symbol name and select the symbol.
7. Press **Enter**.
8. Continue with steps six to remove additional symbols from the **Steps** fact sheet.
9. Click **Add**.
10. Click **Back**.

You have excluded symbols from the **Steps** fact sheet.

10.1.5.11.5.5.2 Include excluded symbols again

You can include excluded symbols in the **Steps** fact sheet.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Steps** row.
4. Click **Overview**. The **Excluded symbols** page opens.
5. Move the mouse pointer to the symbol you want to include in the **Steps** fact sheet again and click **Delete**.
6. Click **Back**.

You have included symbols in the **Steps** fact sheet again.

10.1.5.11.5.5.3 Add group property

You can add a group of independent properties.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Steps** row.
4. Click **Details**. The **Edit component** page is displayed. Add or delete group properties for processes, functions and events, and define their hierarchy.
5. Click **Add group**. The **Edit embedded sheet** page is displayed.
6. Select a template from the **Template** list. You can specify different settings depending on the selected template.
7. Optional: Click **Edit group properties** to specify the group properties. The corresponding dialog opens.
8. Enter a name. You can specify the name in multiple languages.
9. Optional: Select the label position from the list.
10. Optional: Click **Browse** to select an icon. The icon is displayed in front of the label.
11. Click **OK**.
12. Click **Back**.

You have added a group of independent properties to the steps of a component.

10.1.5.11.5.5.4 Change order of the properties

You can change the order of items or properties of the filter for the extended search.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Component** on the **Define modification set** page.
3. Click **Edit** in the **Steps** row.
4. Click **Details**. The **Edit component** page is displayed.
5. If you want to change the order of the properties, click **Up** or **Down**.
6. Click **Back**.

You have changed the order of items or properties of the filter for the extended search.

10.1.5.11.5.5.5 Customize colors for steps

You can customize the text color.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

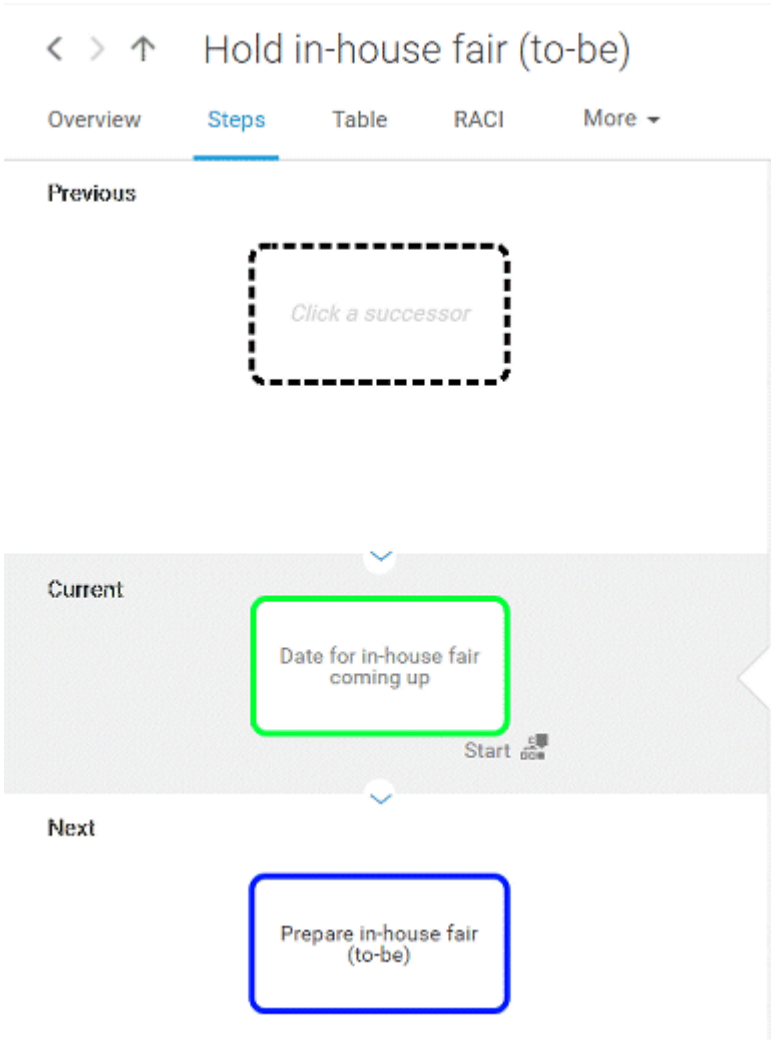
1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. In the Fact sheets (Overview, Steps) customize the text colors.
5. In the **Steps** section, customize the colors.
6. Click **Save**.

You have changed the text color.

Example

Default colors on **Steps** page:

Customized colors on **Steps** page:



10.1.5.11.6 Edit 'Home'

Customize the start page (**Home**) of the portal.

10.1.5.11.6.1 Customize icons and text

You can customize the elements of the **Home** page.

Prerequisite

You have the **Portal administrator** function privilege.

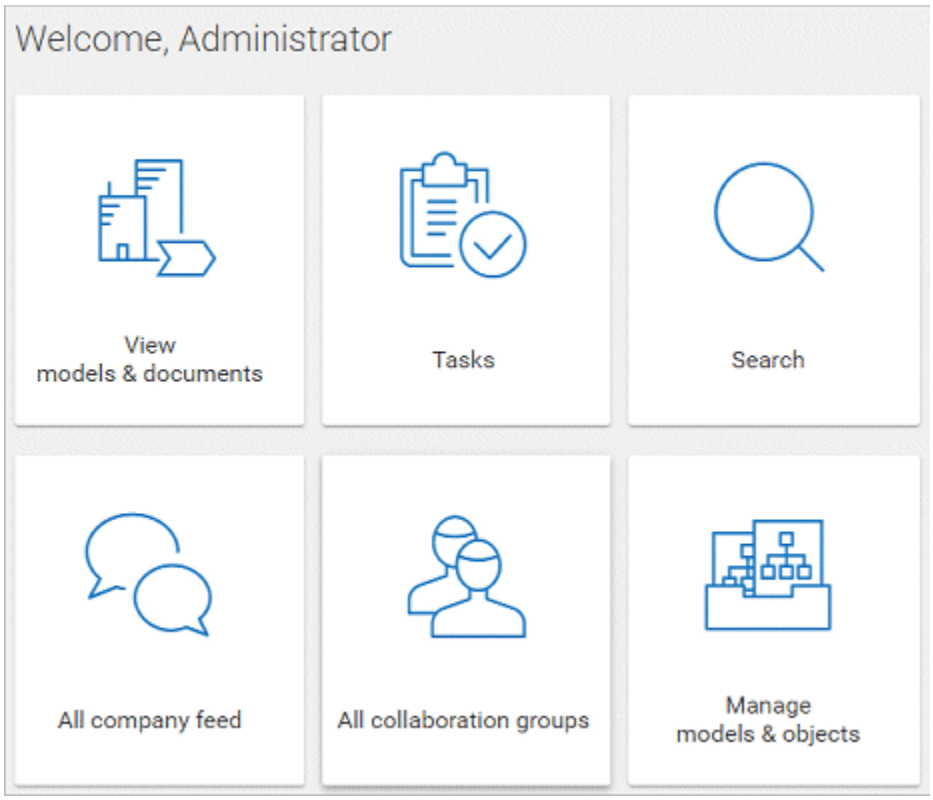
Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **User interface**.
3. Click **Show advanced settings**.
4. Scroll down to **Home elements (Quick start, Contact)**.
5. Customize the background color and the tile size, color, and font color.
6. Click **Back**.

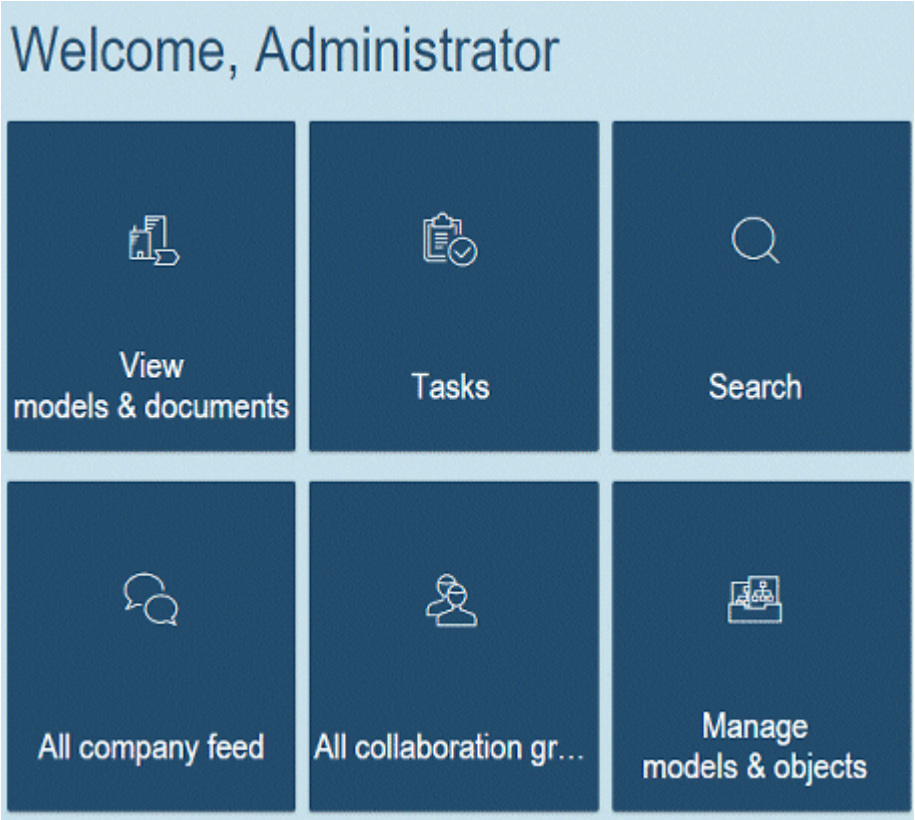
You have customized the **Home** page of ARIS Connect.

Example

Default **Home** page:



Customized **Home** page:



10.1.5.11.6.2 Change layout

Define your own layout for the portal. You can select layouts with one, two, or three columns.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.

   By default, the **System** layout is activated which cannot be altered. The components that are initially displayed in the **Home** view appear below the layout options.
3. Select the relevant layout. You are offered more detailed configuration options depending on the layout you select.
4. Define the size and appearance of the areas. If you specify the size of the areas in percent, all areas of the **Home** view will become smaller when the size of the browser window is reduced. If you specify the size in pixels, only one area may vary. You must explicitly indicate which area this is. The sizes of the other areas can be freely selected.

   To begin with, the areas of a user-defined layout are empty.

   Click **Add** to select components that are to be displayed on the **Home** page.
5. Click the arrow keys to specify the order of the components.

6. Click **Back**.

The new layout is available to users in the portal. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.3 Add 'Contacts' component

Define your own layout for the portal. You can add contacts.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **Contacts**.
5. Click **Add**.

The contacts are now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.4 Add 'Diagram' component

Define your own layout for the portal. You can configure the appearance of diagrams.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have copied the item identifier (page 205) to the clipboard.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **Diagram**.
5. Click **Add**.
6. Click **Edit** in the **Diagram** row. The **Edit diagram** dialog opens.
7. Specify the name of the diagram in the various languages. You can display more languages.
8. Click **Add new start item** to define a model for the **Home** page. The **Add item identifier** dialog opens. Enter an identifier for a model, for example, **c.group.UnitedMotorGroup.SnE94F0CEeMP2v2B6YbX4g**.
9. Double-click **OK**.

The configured diagrams are now displayed on the **Home** page of the database. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.5 Find item identifier

You can find item identifiers for diagrams so that diagrams can be displayed on the ARIS Connect **Home** page.

Procedure

1. Start ARIS Connect.
2. Click **Portal**.
3. Select the database in which the relevant diagram is stored.
4. Click **Groups**.
5. Navigate to the required diagram and click it. The model is displayed.
6. In the address bar of your browser, select the last part of the URL, immediately after the entry **item/**.
7. Copy the selected text to the clipboard by pressing **Ctrl + C**.

You can use the item identifier of this diagram (page 204) to configure the **Home** page.

Tip

If you want to configure multiple diagrams later, it is recommended to copy the various identifiers into a text file, and then copy them into the configuration from there.

Example

10.1.5.11.6.6 Add 'Dashboard' component

Define your own layout for the portal. You can configure the appearance of diagrams.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have copied the item identifier (page 205) to the clipboard.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **Dashboard**.
5. Click **Add**.
6. Click **Edit** in the **Dashboard** row.
7. Click **Add**. The **Add Dashboard** dialog is displayed.
8. Enter a name. You can enter a name in multiple languages.
9. Select a dashboard.
10. Select the database in which the dashboard is to be displayed.

11. Click **Add**.
12. Click **Back**.

The configured dashboards are now displayed on the **Home** page of the database. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.7 Add 'My content' component

Define your own layout for the portal. You can create a **My content** area.

In the **System** default configuration, information is displayed in the **My content** area regarding the processes in which a function that is connected to a role or via a function allocation diagram is modeled. The user currently logged in must have been specified in this role in the **User / User group association** attribute.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **My content**.
5. Click **Add**.

The **My content** item is now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.8 Add 'Recent changes' component

Define your own layout for the portal. You can create a **Recent changes** area. You can also define another name for this area. Moreover, the languages, the number of changes displayed, and a time interval for changes can also be configured.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **Recent changes**.
5. Click **Add**.
6. Click **Edit** in the **Recent changes** row. The **Edit recent changes** dialog opens. Configure the name, the languages, the number of changes displayed, and a time interval for changes.

7. Click **OK**.

The recent changes are now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.9 Add and configure 'Quick start' component

Define your own layout for the portal. You can configure an **App gallery** area, in which you provide references to apps.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **Quick start**.
5. Click **Add**.
6. Click **Edit** in the **Quick start** row. The **Edit 'Quick start'** dialog opens.
7. Enter a name for the gallery in the various languages.
8. Click **Browse** to select a background image for the app gallery. The background image must not be bigger than 256 KB.
9. By default, all preconfigured apps are already in the app gallery and the **Add** button is disabled. Move the mouse pointer to the app you want to delete and click **Delete**. You can make a deleted app accessible in the app gallery again.
10. Click **Add** if you want to display a preconfigured app you had removed before.

    Click **New** to add a new app.
11. Change the order of the apps by clicking the up or down arrow.
12. Click **OK**.

The configured apps are now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.10 Add new app to 'Quick start'

Define your own layout for the portal. You can configure an **App gallery** area, in which you provide references to apps.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.

3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **Quick start**.
5. Click **Add**.
6. Click **Edit** in the **Quick start** row. The **Edit 'Quick start'** dialog opens.
7. Enter a name for the gallery in the various languages.
8. Click **New** to add a new app. The **Add app** dialog opens.
9. Enter the name in the various languages.
10. Enter the URL under which the app can be found. Enter the entire URL in the form **http://<server>:<port>/<app path>**.
11. Enable **In a new tab** if the app is to be displayed on a new tab in the browser.
12. Select a symbol for the app.
13. Double-click **OK**.
14. Change the order of the apps by clicking the arrow keys.

The configured apps are now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.11 Add external web page

Define your own layout for the **Home** page of the portal. You can add an external web page, for example, your company's home page.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **IFrame**.
5. Click **Add**.
6. Click **Edit** in the **IFrame** row. The **Edit IFrame** dialog opens.
7. Enter the name in the various languages.
8. Enter the entire IFrame URL in the form **http://<server>:<port>/<web page>**.
9. Click **OK**.

The configured IFrame item is now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.12 Add 'My activities' component

Define your own layout for the portal. You can add an overview of your activities.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Click **Add** in the relevant area. The **Add component** dialog opens.
4. Click the **Component** box and then click **My activities**.
5. Click **Add**.

The **My activities** component is now displayed on the **Home** page. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.13 Edit a component of the 'Home' tab

Define your own layout for the portal. You can configure the appearance of diagrams.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have copied the item identifier (page 205) to the clipboard.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Move the mouse pointer over the component you want to edit. If a component can be edited, the **Edit** icon is displayed.
4. Click **Edit**. The corresponding dialog opens.
5. Make your changes.
6. Click **OK**.

The changed components are now displayed on the **Home** page of the database. To test the changed modification set, activate (page 139) it.

10.1.5.11.6.14 Edit the dashboard component of the 'Home' tab

Define your own layout for the portal. You can configure the appearance of diagrams.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have copied the item identifier (page 205) to the clipboard.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Home** on the **Define modification set** page.
3. Move the mouse pointer over the dashboard component you want to edit.
4. Click **Edit**.
5. Make your changes.
6. Click **OK**.

The changed dashboard components are now displayed on the **Home** page of the database. To test the changed modification set, activate (page 139) it.

10.1.5.11.7 Manage plugins

As a portal administrator, you customize the plugins. Portal administrators select the configuration set to show portal data. Hierarchies determine the way you are able to navigate through the data.

By default, ARIS Connect provides the classic configuration set and the default configuration set. If you want to use plugins in the portal, you need extended configuration sets with plugins enabled that you cannot configure in ARIS Administration, please contact your local Software AG sales organization (http://www.softwareag.com).

10.1.5.11.7.1 Activate a plugin

You can activate a plugin predefined in a configuration set.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have a customized configuration that allows plugins.
- You have created a customized modification (page 136) set based on the customized configuration set that allows plugins.

Procedure

1. Open a user-defined modification set that allows plugins for editing. (page 140)
2. Click **Plugins** on the **Define modification set** page.
3. Click ✔ **Activate**.

The plugin is active. The configuration set (page 134) defines the view in which the plugin is displayed.

10.1.5.11.7.2 Disable a plugin

You can activate a plugin predefined in a configuration set.

Prerequisite

- You have the **Portal administrator** function privilege.
- You have a customized configuration that allows plugins.
- You have created a customized modification (page 136) set based on the customized configuration set that allows plugins.

Procedure

1. Open a user-defined modification set that allows plugins for editing. (page 140)
2. Click **Plugins** on the **Define modification set** page.
3. Click ✖ **Deactivate**.

The plugin is disabled.

10.1.5.11.8 Delete modification set

Delete modification sets that are no longer needed.

Prerequisite

You have the **Portal administrator** function privilege.

Warning

The configurations of deleted modification sets will be lost.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Portal > Manage views** on the **Configuration** tab. All available configuration and modification sets are displayed. The current configuration or modification set is marked.
4. Move the mouse pointer over the relevant modification set.
5. Click **Delete**.

   The configurations of deleted modification sets will be lost.
6. Click **Delete** to confirm.

The modification set is deleted.

10.1.5.12 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

10.1.5.12.1 What to consider with customized configuration sets?

Configuration sets are based on XML files and allow a comprehensive customization of ARIS Connect.

By default, ARIS Connect provides the classic configuration set and the default configuration set.

Advanced configuration changes require the use of XML configuration. Please contact Software AG (https://empower.softwareag.com/) for a customization request or participate in the **742-xx ARIS Connect Portal Configuration training** (**https://knowledge.softwareag.com/course/view.php?id=16**). Please note that customization and training services are not covered by the standard Software AG software maintenance agreement. Configuration changes can only be performed by Software AG if you request and agree to them. Errors in XML configuration may have serious impact. You may not be able to start ARIS Connect again.

10.1.5.12.2 What are the special features in terms of languages?

You can select all languages (page 144) that ARIS supports. When a user selects a language, they specify which interface, method, and database language is used. Ideally, these are available in the selected language. If a language is not available, the procedure is as follows.

INTERFACE LANGUAGE IS NOT AVAILABLE IN SELECTED LANGUAGE

Available interface languages are installed.

If you have selected the language **Quechua (Bolivia)** and this language is not available as the interface language, the interface items, for example, the links, are displayed in English.

METHOD LANGUAGE IS NOT AVAILABLE IN SELECTED LANGUAGE

The interface language is used.

For example, if you have selected the language **Quechua (Bolivia)** and this language is not available, model, object, and attribute names are displayed in English if you have selected English as the interface language.

DATABASE LANGUAGE IS NOT AVAILABLE IN SELECTED LANGUAGE

The alternative language for the database is used.

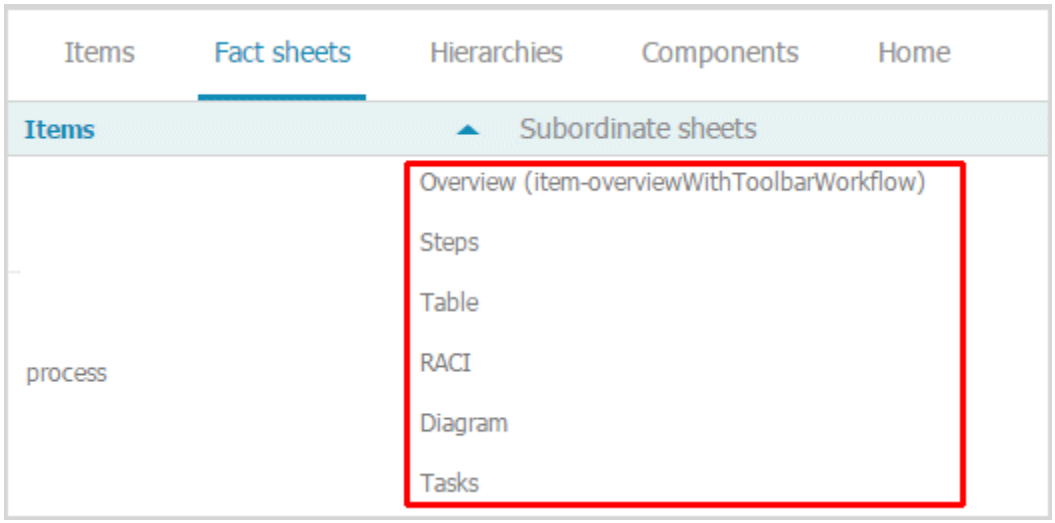
For example, if you have selected the language **Quechua (Bolivia)** and this language is not available, all entries you specify for attributes are added in the English database language if you have selected English as the alternative language. In ARIS Connect Designer, for example, the current database language is displayed after the model name using a language code.

10.1.5.12.3 What can be configured in fact sheets?

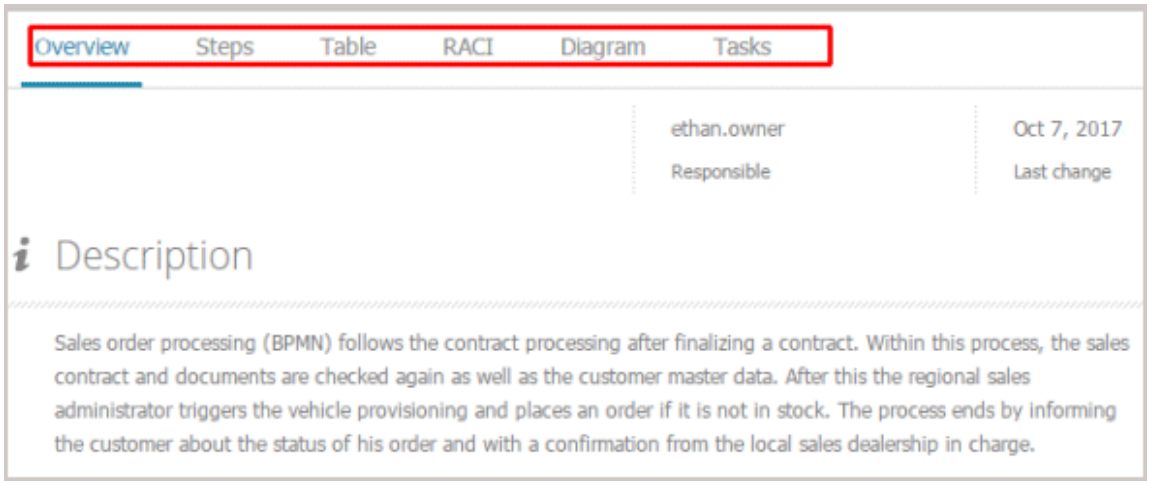
Using fact sheets, you configure how the pages are displayed that open when you click a process in the navigation. The fact sheet for a process includes the subordinate pages you defined in the fact sheet configuration (page 160).

Example

The subordinate pages shown are configured for a process:

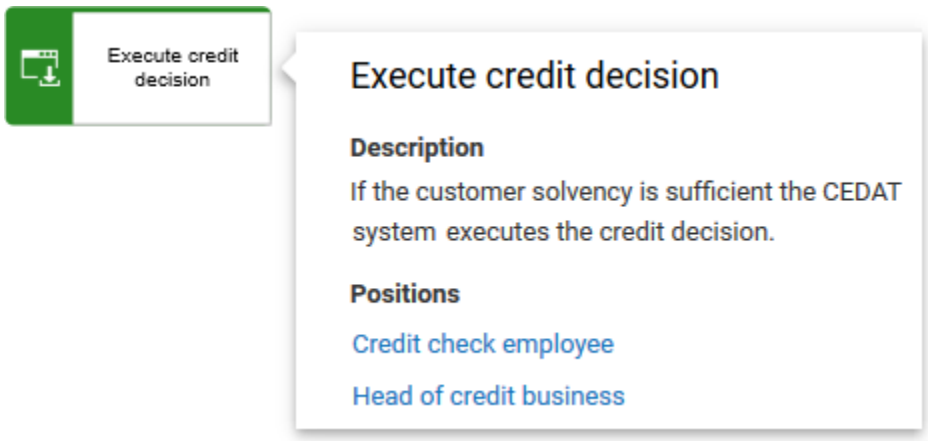


The result of configuring the fact sheet for a process looks like this:



10.1.5.12.4 What are mini fact sheets?

You can enable and customize mini fact sheets for objects. If you hover over an object on the **Diagram** fact sheet, they are displayed.



10.1.5.12.5 What property templates exist?

There are four different templates for properties:

- Text (value_meta_text)

  This template is used for attribute values that consists of text.
- E-Mail (value_meta_email)

  This template is used for attribute values that consists of text.
- Link (value_meta_link)

  This template is used for attribute values that are links.
- Image (value_meta_image)

  This template is used for attribute values that are images or links to images.

You can configure a label and/or an icon for each template can. The icon is displayed in front of the label.

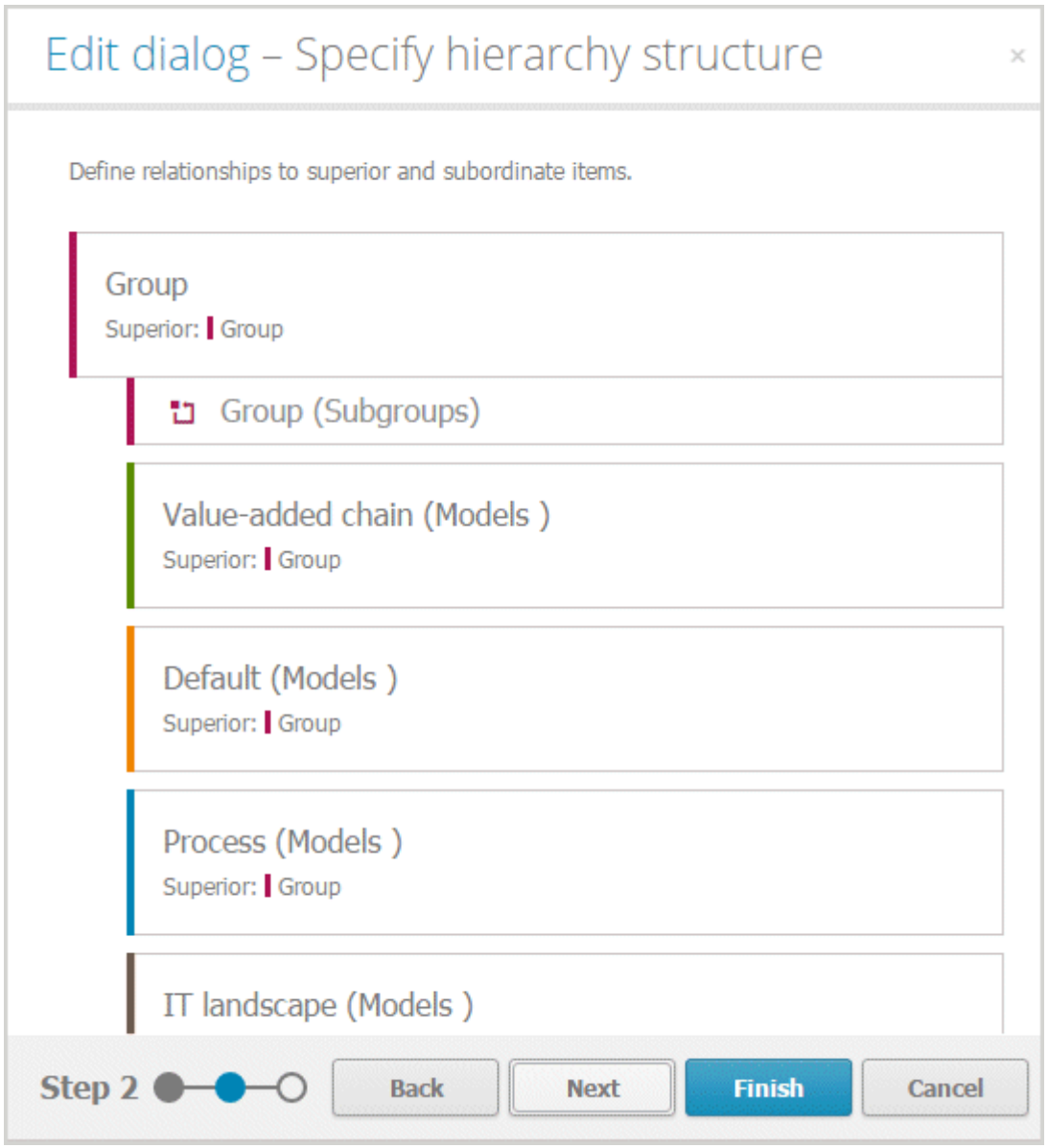
10.1.5.12.6 What does the navigation hierarchy define?

Using the navigation hierarchy, you define the navigation options for the portal. The example shows the configuration of the hierarchy for a group.

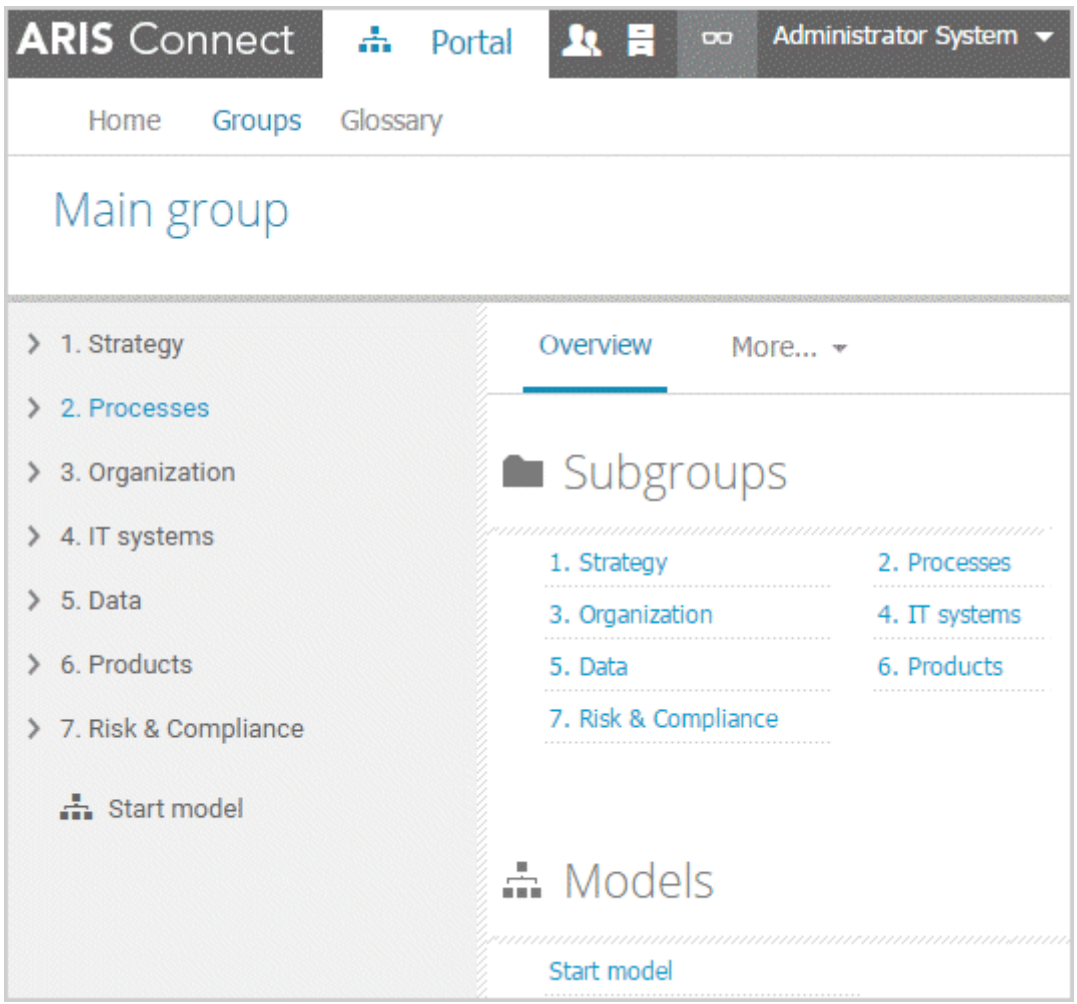
The second item must be of the same type as the first item. If it is not, a hierarchy cannot be created. Items of the same type are arranged without space.

Example

Subgroups and processes are configured for the group:

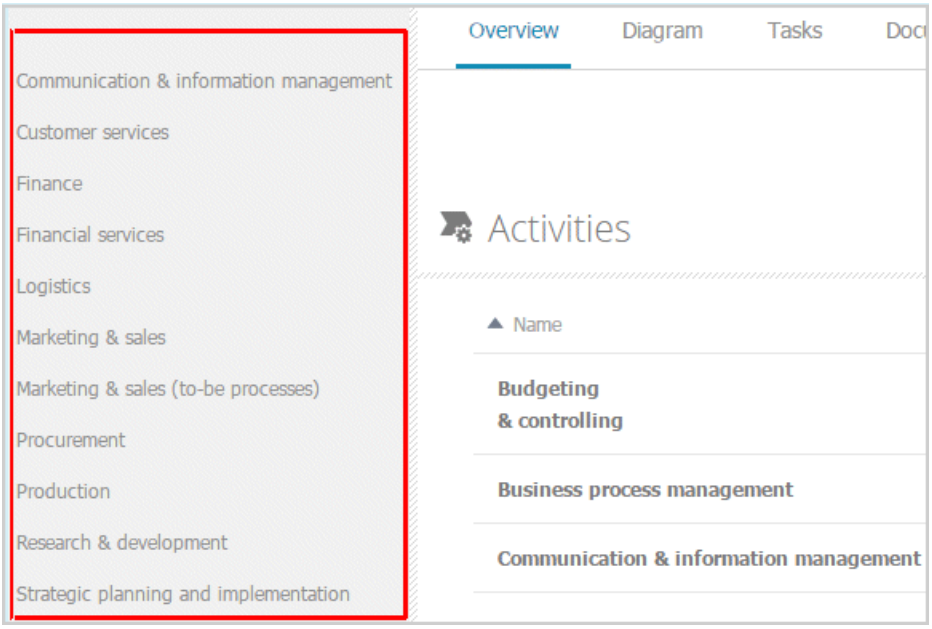


The result looks like this in the portal:

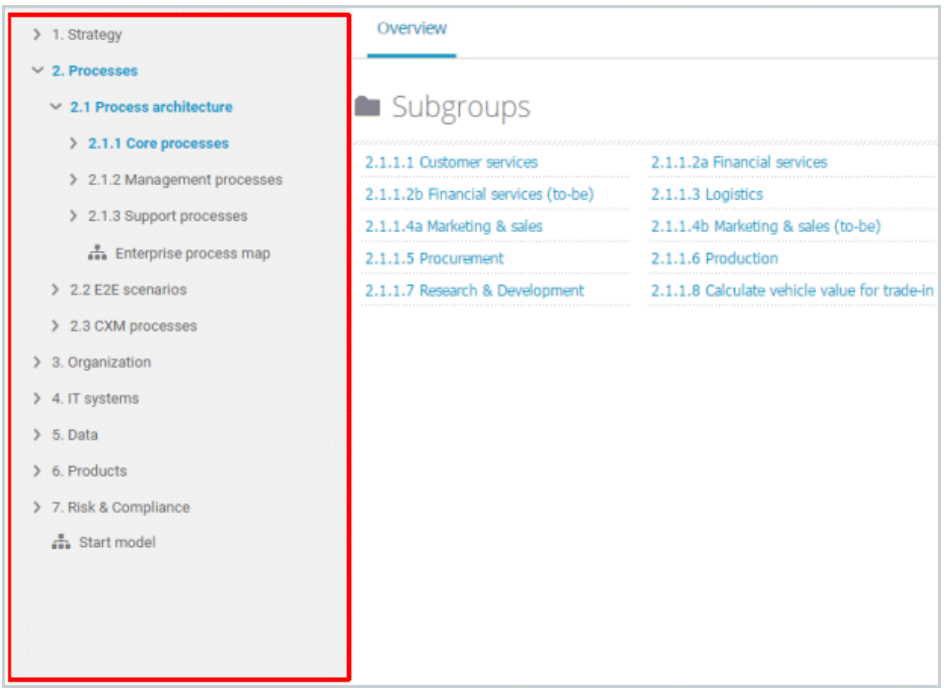


10.1.5.12.7 What to remember regarding hierarchies?

Hierarchies define the way in which portal users receive relevant information. Hierarchies that are based on the **default** template have only one level.



Hierarchies that are based on the **classic** template have multiple levels, and you can expand and collapse groups.



From a technical perspective, a hierarchy always has a tree structure and is level-based. A level can be made up of models, objects, or groups. It may contain a superior item and multiple subordinate items. In contrast, a level can have multiple subordinate items.

You can use multiple hierarchy definitions in a hierarchy configuration. For example, you can specify the following hierarchy definitions in a configuration:

Navigation in process models (value-added chain diagrams, EPCs, and function allocation diagrams), navigation in the organization (organizational charts, organizational units, roles, and groups), and navigation in the IT systems within an organization.

10.1.5.12.8 What is a hierarchy root element?

A root element is the model or object that is used as the top-level element in the hierarchy (page 183) you have defined. This element is displayed when you open the hierarchy in the portal.

If you want to use a specific item from an ARIS database as the top-level hierarchy element, for example, a specific model or object, this must be defined as the root element. You require the GUID, which you can copy from the Properties dialog for the model or object in ARIS Architect, for example.

10.1.5.12.9 What is ARIS Viewer Contribution?

If you have both the **ARIS Connect Viewer** and **Contribution** license privilege, you are able to change items and values for the following predefined items in the **Portal**. 'Predefined' means that these items and their values were configured to be editable in the program by default.

This means that not all items of the following model and object types can be changed. Only those can be changed that were designed to be editable by the underlying concept and were set up accordingly by the configuration.

Please note that this is a sample configuration, which means that other items may have been configured to be editable in your installation.

MODEL TYPES

- Application system type diagram
- BPMN collaboration diagram (BPMN 2.0)
- BPMN process diagram (BPMN 2.0)
- Business controls diagram
- Enterprise BPMN collaboration diagram
- Enterprise BPMN process diagram
- EPC
- EPC (material flow)
- EPC (column display)
- EPC (table display)
- EPC (horizontal table display)
- EPC (row display)
- Function allocation diagram
- Organizational chart
- Process schedule
- Risk diagram
- KPI allocation diagram

OBJECT TYPES

- Application system
- Application system class
- Application system type
- Cluster/Data model
- Entity type
- Event
- Technical term
- Function
- Information carrier
- KPI instance
- Class
- Lane
- List
- Message
- Organizational unit
- Participant
- Person
- Risk
- Risk category
- Role
- Location
- Position
- System organizational unit
- System organizational unit type
- Test definition

ATTRIBUTES

ARIS Viewer Contribution enables you to edit attributes that are based on the following base types:

- Boolean
- Value
- Floating point number domain
- Integer domain
- Floating point number
- Integer
- Date
- One-liner
- Multi-line text
- Link/File

Text formatting is ignored and cannot be assigned. If you are expected to enter numbers, the field is colored red if you do not enter a numerical value.

Please note that combined attributes and Binary Large Object (BLOB) attributes are not supported.

10.1.5.12.10 What are plugins?

A plugin is a software extension or an optional module that adds functionality to ARIS Connect. Plugins cannot run without the main software they are integrated in.

If you want to use plugins in the portal, you need extended configuration sets with plugins enabled that you cannot configure in ARIS Administration, please contact your local Software AG sales organization (http://www.softwareag.com).

Plugins used together with ARIS Connect must be written in Java Script and must have a valid signature. This signature is generated by Software AG and must be copied to the server.

10.1.5.12.11 What states exist for plugins?

A plugin can have the following states:

- Active

  The plugin can be used.

- Disabled

  The plugin was manually disabled.

- Development

  Either the plugin has no signature yet, or an incorrect signature was applied less than two weeks ago and needs to be adjusted.

- Invalid

  Either the plugin has no signature yet, or an incorrect signature was applied more than two weeks ago and can no longer be adjusted.

10.2 Set up user management

You can customize general settings of your system's user management.

10.2.1 Export configuration

You can export configurations in order to import them into any tenant or installation and use them there. Only changed properties will be exported. Also, cross-tenant properties will not be exported as they cannot be changed using the graphical user interface.

Prerequisite

- You have the **Technical configuration administrator** function privilege.
- You have allowed pop-ups for the pages of ARIS Administration.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click **Export current configuration as a file**.

You can save the configuration file at the relevant location for further use.

10.2.2 Import configuration

You can import configurations, which were, for example, exported from a different tenant, into any tenant or installation and use them there.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click **Import configuration file**.

The **Import configuration file** dialog opens. Navigate to the location where the configuration file is stored and import it. The new configuration is active immediately and no system restart is required.

10.2.3 Configure user for impersonation

Impersonation enables a user to assume another user account. The user can then perform operations that are actually only permitted for the other account. This configuration must be set for each tenant.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Log in to User Management.

   Click the link that was provided to you or that you have saved as a bookmark in your browser, for example, **http://myServer:1080/#myTenant/adminUsers**. The **Log in** dialog opens.
2. Enter the name of the infrastructure tenant in the **Tenant** field, for example, **master**.
3. Enter your user name and your password.
4. Click the user for which you want to allow impersonation.
5. Click **Privileges**. The list of function privileges is displayed.
6. Click the user for which you want to allow impersonation.
7. Activate the **Impersonation** function privilege.
8. Log out.
9. Log in (page 3) to ARIS Connect.
10. Click your name or the **User menu** icon.
11. Click **Administration**.
12. Click **Configuration**.
13. Click **User management**.
14. Click the arrow next to **Users**.
15. Click **General**.
16. Click **Edit**.
17. Click in the **Impersonation target users** field.
18. Enter the users for which you want to allow impersonation as a comma-separated list.

    Warning

    If the ARIS server was updated, make sure to reenter the user names for all operational tenants in the **Impersonation target users** field again.
19. Click **Save**.

You have allowed users to use impersonation.

10.2.4 Customize infrastructure

You can customize general settings of your system infrastructure, for example, format of e-mail in HTML.

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click **Infrastructure**. To configure further settings, click a configuration category (page 263).
7. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
8. Adjust your settings.
9. Click **Save**.

You have customized your system configuration.

10.2.5 Customize Kerberos settings

Kerberos is a computer network authentication protocol that works on the basis of tickets to allow nodes communicating over a non-secure network to prove their identity to one another in a secure manner.

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **Kerberos**.
7. Click a configuration category (page 266).
8. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.6 Upload Kerberos configuration files

You can upload the Kerberos configuration file or the key table.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **Kerberos**. The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
7. Activate the **General** configuration category.
8. To upload the key table file, click **Upload** under the **Key table** field. To upload the configuration file, click **Upload** under the **Configuration file** field. You find this file on you installation medium under **Add-ons\Kerberos**. The dialog for uploading a file opens.
9. Select the relevant file.

You have uploaded a configuration file.

CREATING A KEY TABLE FILE

If you have no key table file available, generate a key table file using the JRE tool **ktab.exe**. To do so, enter the following in the console:

ktab -a userPrincipalName@REALM password -n 0 -append -k umc.keytab

DISPLAY EXISTING KEY TABLE FILE

You can display the content of an existing key table file using the JRE tool **ktab.exe**. To do so, enter the following in the console:

ktab -l -e -t -k FILE:C:\<file location of the umc.ktab file>\umc.ktab

10.2.7 Add LDAP server

LDAP enables information from a distributed, location-independent and hierarchical database in a network to be queried and modified.

You can use multiple LDAP servers with ARIS.

The migration to multiple LDAP servers is irreversible. Any existing LDAP data needs to be deleted manually before the migration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **LDAP**.
7. Click **General settings**.
8. Click **Edit**.
9. Enable **Use LDAP**.
10. Optional: Enable **Activate multiple LDAP integration** and confirm the **Property value change confirmation** dialog with **OK**.
11. Click **Save**.
12. Click **Add**. The **Add LDAP server** dialog opens.
13. Enter the following (page 269):
    - ID of the LDAP server
    - Display name of the LDAP server
    - LDAP server URL
    - LDAP server fallback URL
    - User name of the user who has access to the LDAP content
    - Password of this user
    - Specify whether or not SSL should be used and in which mode
    - Specify whether or not host names and certificates should be verified
    - Specify the connection timeout
14. Specify the read timeout
15. Click **Save**.

You have added an LDAP server.

If you want to specify more than one LDAP server, proceed with step 10 of the procedure steps mentioned above.

10.2.8 Test connection to an LDAP server

LDAP enables information from a distributed, location-independent and hierarchical database in a network to be queried and modified.

You can use multiple LDAP servers with ARIS.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **LDAP**.
7. Select the relevant LDAP server.
8. Click **Connection**.
9. Click **Test connection**.

A message is displayed, whether or not the connection to the LDAP server specified is valid.

10.2.9 Edit connection to an LDAP server

LDAP enables information from a distributed, location-independent and hierarchical database in a network to be queried and modified.

You can use multiple LDAP servers with ARIS.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **LDAP**.
7. Select the relevant LDAP server.
8. Click **Connection**.
9. Click **Edit**.
10. Enter the following (page 269):
    - ID of the LDAP server
    - Display name of the LDAP server
    - LDAP server URL
    - LDAP server fallback URL
    - User name of the user who has access to the LDAP content
    - Password of this user
    - Specify whether or not SSL should be used and in which mode
    - Specify whether or not host names and certificates should be verified
    - Specify the connection timeout
    - Specify the read timeout
11. Click **Save**.

You have edited an LDAP server connection.

10.2.10 Upload LDAP truststore file

You can upload the truststore file.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **LDAP**.
7. Click **General settings**.
8. Click **Truststore**.
9. Click **Upload.** The **Truststore** dialog opens.
10. Select the relevant file.

You have uploaded a truststore file

10.2.11 Customize LDAP settings

LDAP enables information from a distributed, location-independent and hierarchical database in a network to be queried and modified.

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **LDAP**.
7. Click a configuration category (page 269).
8. Select the relevant LDAP server.
9. Click a configuration category (page 269).
10. Click **Edit**.

    The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
11. Adjust your settings.
12. Click **Save**.

You have customized your system configuration.

10.2.12 Customize ARIS for LDAP server operations

You can configure ARIS for LDAP server operations.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click the arrow next to **LDAP**.
7. Click **General settings**.
8. Click **Edit**.
9. Enable **Use LDAP**.
10. If you want to upload a configuration, ensure that you have disabled pop-up blockers in the browser.

    Click **Truststore**.
11. Click **Upload.** The **Truststore** dialog opens.
12. Select the relevant LDAP server.
13. Configure the URL for the LDAP system. Click **Connection**.
14. Enter an ID, a name, and the URL in the **Server URL** field, for example: **`ldap://hqgc.mycompany.com:3168`**.
15. Configure the path to the backup system in the **Server URL (fallback)** field. This backup system takes over automatically if the LDAP server cannot be reached via its primary URL.
16. Click **Behavior**.
17. Enter the Path to the user group in the **Group search paths** field.
18. Enter the Path to the users in the **User search paths** field.

    To enable the function of following referrals of users to other directories, enter **follow** in the **Referral** field.

    To disable the above behavior, enter **ignore** in the **Referral** field.

    If you leave this entry blank, referrals are not followed.

    Optional: To ensure that the import of LDAP users is carried out despite any errors that might occur, for example, if names are redundant, click **Global settings > Advanced settings** and enable **Skip errors**.

    Please note that system performance is significantly deteriorated if you enable this option.

You have configured ARIS for LDAP server operations.

10.2.12.1 Configure secure communication

You can encrypt the communication between ARIS and the LDAP server.

To do so, you have two mutually exclusive options:

- **STARTTLS**

  This transforms a connection that was originally untrusted into an encrypted connection without using a specific port.

- **SSL**

  The connection between ARIS and the LDAP server is established using a specific port.

Prerequisite

- The LDAP server has a valid SSL certificate and LDAPS is activated.
- ARIS Administration trusts the LDAP server (the SSL certificate of the LDAP server or the certification authority is stored in the JRE database of trustworthy certificates).

STARTTLS

You can use STARTTLS to configure encrypted communication between ARIS and the LDAP server.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click the arrow next to **LDAP**.
7. Select the relevant LDAP server.
8. Click **Connection**.
9. Click **Edit**.
10. Configure the URL for the LDAP system. To do so, enter the URL as in the **Server URL** field, for example:

    `ldap://hqgc.mycompany.com:3168`.
11. Configure the path to the backup system in the **Server URL (fallback)** field. This backup system takes over automatically if the LDAP server cannot be reached via its primary URL.
12. Enable **Use SSL**.
13. Select **STARTTLS** from the **SSL mode** list.

14. ARIS must trust the LDAP server used. Therefore, we recommend that you use the LDAP server with a certificate signed by a public certification authority. If your certificate is signed by a public certification authority and stored in the list of trustworthy certificates of your JRE, you do not need to configure anything else.
15. Upload LDAP truststore file (page 239).

SSL

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click the arrow next to **LDAP**.
7. Select the relevant LDAP server.
8. Click **Connection**.
9. Click **Edit**.
10. Configure the URL for the LDAP system. To do so, enter the URL as in the **Server URL** field, for example:
    `ldap://hqgc.mycompany.com:3168`.
11. Configure the path to the backup system in the **Server URL (fallback)** field. This backup system takes over automatically if the LDAP server cannot be reached via its primary URL.
12. Enable **Use SSL**.
13. Select **SSL** from the **SSL mod**e list.
14. ARIS must trust the LDAP server used. Therefore, we recommend that you use the LDAP server with a certificate signed by a public certification authority. If your certificate is signed by a public certification authority and stored in the list of trustworthy certificates of your JRE, you do not need to configure anything else.
15. Upload LDAP truststore file (page 239)

10.2.12.2 Allow login for LDAP users only

To allow only LDAP users to log in to ARIS Architect and My tasks, you need to configure the system accordingly.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.

3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click the arrow next to **LDAP**.
7. Click the arrow next to **General settings.**
8. Click **Advanced settings**.
9. Enable **Prevent login of manually created users**.

Only LDAP users and the following users can log in: **system**, **superuser**, **arisservice**, and **guest**.

10.2.12.3 Configure single sign-on

If you are using Microsoft® Active Directory Domain Services, you can configure SSO (single sign-on). This allows users to work with all ARIS components as soon as they are logged in to the domain. Separate login to ARIS components is not required.

Please contact your LDAP administrator before you change any configuration.

Prerequisite

Server

- Users who want to use SSO must have a valid Microsoft® Active Directory Domain Services user login.
- This user is available in ARIS Administration.
- ARIS Administration authenticates against LDAP.
- Microsoft® Active Directory Domain Services supports Kerberos-based authentication (default) and the service principal name of the ARIS Server is entered in the following format: **HTTP/<hostname>**, for example, **HTTP/mypc01.my.domain.com**.

Client

- The client computers and servers are connected to the same Microsoft® Active Directory Domain Services.
- The browser has been configured accordingly.

10.2.12.3.1 Use Kerberos

Kerberos is a network authentication, allowing nodes to communicate using an invisible network and to securely make their identity known to each other. Kerberos is the recommended method for user authentication in Microsoft® Windows networks. In addition, it is widely used with Linux operating systems and is designed for use with all major platforms.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click the arrow next to **Kerberos**.
7. Activate the **General** configuration category.

   If you do not have a Kerberos configuration file, take the **kbr5.conf** from your installation media under **Add-ons\Kerberos**. Name it, for example, **krb5.conf**, add the following lines, and adjust the configuration to meet your requirements.

   ```
   [libdefaults]
   default_tgs_enctypes = des-cbc-md5 des-cbc-crc des3-cbc-sha1 aes128-cts
   aes128-cts-hmac-sha1-96 aes256-cts aes256-cts-hmac-sha1-96 rc4-hmac
   arcfour-hmac arcfour-hmac-md5
   default_tkt_enctypes = des-cbc-md5 des-cbc-crc des3-cbc-sha1 aes128-cts
   aes128-cts-hmac-sha1-96 aes256-cts aes256-cts-hmac-sha1-96 rc4-hmac
   arcfour-hmac arcfour-hmac-md5
   permitted_enctypes = des-cbc-md5 des-cbc-crc des3-cbc-sha1 aes128-cts
   aes128-cts-hmac-sha1-96 aes256-cts aes256-cts-hmac-sha1-96 rc4-hmac
   arcfour-hmac arcfour-hmac-md5
   ```

8. To upload the configuration file, click **Upload** under the **Configuration file** field. You find this file on you installation medium under **Add-ons\Kerberos**.
9. Click **Edit**.
10. Enable **Use Kerberos**.
11. In the **Principal** field, enter the technical user name given by the administrator.

    If the Service Principal Name in the keytab is, for example, **mypc01@MY.DOMAIN.COM**, the values of the property **com.company.aris.umc.kerberos.servicePrincipalName** must contain the Service Principal Name exactly as specified in the keytab file.
12. In the **Realm** field, configure the realm for the Kerberos service. Enter the fully qualified domain name in uppercase letters.

    Example: **MYDOMAIN.COM**.
13. In the **KDC** field, configure the fully qualified name of the KDC to be used.

14. **Optional:**
    a. Click **Advanced settings**.
    b. Enable **Debug output**.

       The debug output of the program that the user wishes to log into is saved in the file **system.out** of the respective program. For user management, for example, this is located in the directory **<ARIS installation directory>/work_umcadmin_m/base/logs**.

You have configured SSO using Kerberos in ARIS Administration.

You can use Kerberos with multiple LDAP systems (page 321).

CLIENT CONFIGURATION

Configure the browser settings to allow SSO. SSO has been tested with the following browsers:

- Microsoft® Internet Explorer® (version 11 or higher)
- Mozilla Firefox®

Prerequisite

- You have the **Technical configuration administrator** function privilege.
- SSO must be configured for the servers.
- The browser used supports a Kerberos-based authentication.

You need to empty the Kerberos ticket cache of each client first, in order to avoid obsolete tickets if Microsoft® Active Directory Domain Services were changed. Delete the Kerberos ticket cache by executing the command **klist.exe purge**. If the purge program is not available on the client computer, you can also simply log off the client computer from the domain and log in again.

MICROSOFT® INTERNET EXPLORER®

Microsoft® Internet Explorer® supports Kerberos authentication only if the ARIS Server is part of your local intranet.

Procedure

1. Start Microsoft® Internet Explorer®.
2. Click **Tools > Internet Options**.
3. Activate the **Security** tab and click **Local Intranet**.
4. Click **Sites**, and select **Advanced**.
5. Add the URL of the ARIS Server that was configured for SSO. Add the DNS host name and the IP address of the ARIS Server.
6. Optional: Disable the **Require server verification (https:) for all sites in this zone** check box.
7. Click **Close**, and select **OK**.
8. Click **Custom level** and make sure that no user-defined settings affect your new settings.
9. Find the **User Authentication** section. Verify whether the **Automatic logon only in Intranet zone** option is enabled.

10. Click **OK**.
11. Close and restart Microsoft® Internet Explorer®.

MOZILLA FIREFOX®

In Mozilla Firefox®, you can define trustworthy sites using the computer name, IP address, or a combination of both. You can use wildcards.

Procedure

1. Start Mozilla Firefox®.
2. Enter **about:config** in the address box and press **Enter**. Confirm a message, if required.
3. Enter **network.negotiate** in the **Search** box and press **Enter**, if required.
4. Double-click **network.negotiate-auth.trusted-uris**.
5. Enter the computer name or the IP address of the ARIS Server that you configured for SSO, and click **OK**.
6. Close and restart Mozilla Firefox®.

If you prefer to use an encryption stronger than AES 128bit and this is allowed in your country, replace the JCE Policy file of the JDK of your ARIS Server with the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files 6 (http://www.oracle.com/technetwork/java/javase/downloads/index.html). This allows unlimited key length.

If you cannot replace the Policy files, but still want to use SSO, you need to apply a procedure allowed by the JDK for encrypting Kerberos tickets, for example, AES 128bit.

10.2.12.3.2 Use SAML

SAML (**S**ecurity **A**ssertion **M**arkup **L**anguage) is an XML framework for exchanging authentication and authorization information. SAML provides functions to describe and transfer security-related information.

Prerequisite

- The SAML identity provider supports the HTTP POST binding as specified by the SAML 2.0 specification.
- You have the **Technical configuration administrator** function privilege.
- If you use multiple LDAP systems, the user names must be unambiguous through all LDAP systems. Otherwise no SSO is possible.
- SSO must be configured for the servers.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **User management**.
6. Click the arrow next to **SAML**.
7. Click **General**.
8. Click **Edit**.
9. Enable **Use SAML**.
10. Enter the ID of the identity provider in the **Identity provider ID** field.
11. Enter the ID of the service provider in the **Service provider ID** field.
12. Enter the end point of the identity provider that is used for single sign-on in the **Single sign-on URL** field.
13. Enter the end point of the identity provider that is used for single log-out in in the **Single logout URL** field.

You have configures SSO using SAML in ARIS Administration. If you use multiple LDAP systems (page 321), the user names must be unambiguous through all LDAP systems. Otherwise no SSO is possible.

You can use SAML with multiple LDAP systems (page 321).

10.2.13 Delete LDAP server

LDAP enables information from a distributed, location-independent and hierarchical database in a network to be queried and modified.

Prerequisite

- You have the **Technical configuration administrator** function privilege.
- Your system is configured to allow multiple LDAP servers.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **LDAP**.
7. Select the relevant LDAP server.
8. Click **Connection**.
9. Click **Delete**.

You have deleted an LDAP server.

10.2.14 Customize user-defined notifications

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Variables (page 291) may be used to personalize the content of a notification of ARIS Administration. Variables can be used in both notification subject and body.

Prerequisite

- You have the **Technical configuration administrator** function privilege.
- You have uploaded (page 250) the relevant templates for user-defined notifications.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **User-defined notifications**.
7. Click a configuration category (page 279).
8. Click **Edit**.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.14.1 Upload templates for notifications

You can upload the templates for user-defined notifications.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **User-defined notifications**.
7. Click a category.
8. Click **Upload**. The dialog for uploading a file opens.

9. Click **Select file**. Select the relevant file.
10. Click **Upload**. A confirmation prompt is displayed.
11. Click **Close**.

You have uploaded a template for notifications.

10.2.14.2 Customize default HTML templates for notifications

You can customize the templates for user-defined notifications. Variables (page 291) may be used to personalize the content of a notification of ARIS Administration. Variables can be used in both notification subject and body.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **User-defined notifications**.
7. Click a category.
8. Click **Upload**. The corresponding dialog opens.
9. Enable **Advanced template configuration**.
10. Select **Default**.
11. Adjust your settings.
12. If you want to preview the HTML template, click **Preview**. An e-mail is sent to your user and you can check the template you are customizing. If you want to exchange the logo, make sure that the logo is saved on the server to grant access whenever e-mails are automatically sent.
13. Click **Save**.

You have customized the default HTML e-mail template.

10.2.14.3 Customize HTML templates for multiple locales

You can customize the templates for user-defined notifications. Variables (page 291) may be used to personalize the content of a notification of ARIS Administration. Variables can be used in both notification subject and body.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **User-defined notifications**.
7. Click a category.
8. Click **Upload**. The corresponding dialog opens.
9. Enable **Advanced template configuration**.
10. Select a locale.
11. Adjust your settings.
12. If you want to preview the HTML template, click **Preview**. An e-mail is sent to your user and you can check the template you are customizing. If you want to exchange the logo, make sure that the logo is saved on the server to grant access whenever e-mails are automatically sent.
13. Click **Save**.

You have customized the HTML e-mail template for a locale. If an e-mail is sent to a user and a notification language is specified for this user, the corresponding HTML template is now used for this language.

10.2.15 Customize password policy

You can customize the password policies such as length or strength of a password depending on the use of special characters, numbers, etc.

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **Password policy**.
7. Click a configuration category (page 292).
8. Click **Edit**.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.16 Customize SAML settings

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration. ARIS supports SAML 2.0.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **SAML**.
7. Click a configuration category (page 294).
8. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.16.1 Upload keystore file

You can upload the keystore file.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **SAML**.
7. Click **Keystore**.
8. Click **Upload**. The dialog for uploading a file opens.
9. Select the relevant file.

You have uploaded a keystore file.

10.2.16.2 Upload truststore file

You can upload the truststore file.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **SAML**.
7. Click **Truststore**.
8. Click **Upload**. The dialog for uploading a file opens.
9. Select the relevant file.

You have uploaded a truststore file

10.2.17 Customize security settings

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **Security**.
7. Click a configuration category (page 302).
8. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
9. Adjust your settings.

10. Click **Save**.

You have customized your system configuration.

10.2.18 Customize SMTP settings

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **SMTP**.
7. Click a configuration category (page 310).
8. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.19 Customize user settings

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **Users**.
7. Click a configuration category (page 314).
8. Click **Edit**.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.20 Customize SCIM settings

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration. ARIS supports SCIM with SAML 2.0.

We recommend that you use your own local user who has the **Technical configuration administrator** function privilege and the **User administrator** function privilege. This user can generate a bearer token and forward it together with the SCIM end point UR (page 322)L to the SCIM administrator.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Activate **User Management**.
6. Click the arrow next to **SCIM**.
7. Click a configuration category (page 322).
8. Click **Edit**.
9. Adjust your settings.
10. Click **Save**.

You have customized your system configuration.

10.2.20.1 Generate bearer token

If you suspect that your bearer token is no longer safe, you can generate a new bearer token and hand it over to your SCIM administrator.

We recommend that you use your own local user who has the **Technical configuration administrator** function privilege and the **User administrator** function privilege. This user can generate a bearer token and forward it together with the SCIM end point UR (page 322)L to the SCIM administrator.

Prerequisite

- You have the **User administrator** function privilege.
- SCIM is enabled and correctly configured in **ARIS Administration > Configuration > User management > SCIM**.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.

3. Click **Administration**.
4. Click **User management**. The list of users is displayed.
5. Click your user. The bearer token is always user-specific. In principle one bearer token is sufficient system-wide.
6. Click **SCIM bearer token**.
7. Click **Generate bearer token**. The dialog opens.
8. Click **OK** to confirm.

The new bearer token is generated.

Click **Copy** to copy the bearer token to the clipboard to hand it over to your SCIM administrator so that it can be imported.

10.2.20.2 Copy bearer token to clipboard

You can copy the bearer token to the clipboard to hand it over to your SCIM administrator so that he can import it.

Prerequisite

- You have the **User administrator** function privilege.
- SCIM is enabled and correctly configured in **ARIS Administration > Configuration > User management > SCIM**.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **User management**. The list of users is displayed.
5. Click your user. The bearer token is always user-specific. In principle one bearer token is sufficient system-wide.
6. Click **Copy** to copy the bearer token to the clipboard.

You can hand over the bearer token to your SCIM administrator so that he can import it.

10.2.20.3 Delete bearer token

You can delete a bearer token.

Prerequisite

- You have the **User administrator** function privilege.
- SCIM is enabled and correctly configured in **ARIS Administration > Configuration > User management > SCIM**.

Procedure

1. Start ARIS Connect.

2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **User management**. The list of users is displayed.
5. Click your user. The bearer token is always user-specific. In principle one bearer token is sufficient system-wide.
6. Click **SCIM bearer token**.
7. Click **Delete**.

The bearer token is deleted.

10.2.21 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

10.2.21.1 What is impersonation?

Users manage tenants on behalf of the user **superuser**. This requires the creation of these users in the user management for the infrastructure tenant, for example, master (page 232). To use impersonation, users require the **Impersonation** function privilege in the infrastructure tenant.

For Tenant Management, they also require the **User administrator**, **Tenant administrator**, and **Technical configuration administrator** function privileges.

In all other operational tenants, for example, **default**, the user **superuser** must be defined as the target for impersonation (page 713). Impersonation enables users to back up tenants in which they do not exist as a user.

To back up and restore the data, the **superuser** user requires the following function privileges in all operational tenants:

- Analysis administrator
- ARCM administrator
- Collaboration administrator
- Database administrator
- Dashboard administrator
- Document administrator
- License administrator
- Portal administrator
- Process Governance administrator
- Server administrator
- Technical configuration administrator
- User administrator

10.2.21.2 What infrastructure properties are available?

You can customize your system infrastructure (page 233) as required.

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings enter the following:

```
reconfigure umcadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure umcadmin_m JAVA-Dcom.aris.umc.loadbalancer.url="https://myserver.com"
```

Key	Description	Valid input	Example
com.aris.umc.version	**Build number** Build number of ARIS Administration. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	String	10.0.4-SNAPSHOT
com.aris.umc.loadbalancer.url	**Load balancer URL** Specifies the URL of the load balancer. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.aris.umc.notification.useHttpLinks	**E-mails with HTTP URLs only** Specifies whether or not the HTTP protocol is used instead of the HTTPS protocol in e-mails.	true, false.	

HTTP CLIENT

Key	Description	Valid input	Example
com.aris.umc.client.connect.timeout	**Connection timeout (in milliseconds)** Specifies the duration after which a client's connection attempt is canceled. This is defined in milliseconds. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	
com.aris.umc.client.idle.timeout	**Idle timeout (in milliseconds)** Specifies the wait time timeout of the ARIS Administration REST client. This is defined in milliseconds.	Integer > 0	
com.aris.umc.client.read.timeout	**Read timeout (in milliseconds)** Specifies the wait time timeout of the REST client for read access. This is defined in milliseconds.	Integer > 0	
com.aris.umc.client.connections.max	**Maximum connections (total)** Specifies the maximum number of connections that may be established simultaneously. If additional connections are to be established, they are refused.	Integer > 0	
com.aris.umc.client.connections.perhost	**Maximum connections (per host)** Specifies the maximum number of connections that may be established simultaneously per host. If additional connections are to be established, they are refused.	Integer > 0	
com.aris.umc.client.retry.max	**Number of retries** Specifies the maximum number of retries.	Integer > 0	

Key	Description	Valid input	Example
com.aris.umc.ssl.host.verification.active	**Host name verification** Specifies whether the verification of the SSL host name is activated. Verification is enabled by default.	true, false	

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.remote.clients	**Allowed remote clients** Comma-separated list of client IPs that uses the remote interface of ARIS Administration.	String	
com.aris.umc.config.cache.ttl	**Configuration cache lifetime** Specifies the lifetime of the configuration cache in seconds. The configuration is reloaded after the time set here. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	
com.aris.umc.config.encrypted	**Encrypted properties** Specifies a comma-separated list of encrypted property keys.	List of strings	com.softwareag.aris.umc.ldap.service.pwd
com.aris.umc.jaas.login.context	**JAAS login context** Specifies the login name for the JAAS context. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	String	UMC-DB

Key	Description	Valid input	Example
com.aris.umc.basicauth.tenant	**Default tenant** Specifies that the default tenant is used for authentication. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	String	
com.aris.umc.infrastructure.tenant	**Infrastructure tenant** Specifies the tenant with special privileges for managing other tenants, components, and the configuration in ARIS Administration. By default, the **master** tenant is the infrastructure tenant. The system users **system** and **superuser** have administrative privileges, that is, they can access ARIS Administration and Tenant Management. Users with the relevant privileges can specify other infrastructure tenants in ARIS Administration. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		

10.2.21.3 What Kerberos properties are available?

You can configure Kerberos (page 234) as required.

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings enter the following:

```
reconfigure umcadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure umcadmin_m JAVA-Dcom.aris.umc.loadbalancer.url="https://myserver.com"
```

GENERAL

Key	Description	Valid input	Example
com.aris.umc.kerberos.active	**Use Kerberos** Specifies whether a Kerberos-based login is allowed.	True, False	
com.aris.umc.kerberos.kdc	**KDC** Specifies the fully qualified name of the central **K**ey **D**istribution **C**enter (**KDC**). This is usually the fully qualified host name of the LDAP server.	String	mykdc.mydomain.com
com.aris.umc.kerberos.realm	**Realm** Specifies the realm of Kerberos tickets. Fully qualified domain name in uppercase letters.	String	MY.CORP.SOFTWAREAG.COM
com.aris.umc.kerberos.servicePrincipalName	**Principal** Specifies the name of the technical user used for verifying Kerberos tickets. If Kerberos is used, each user, computer or service provided by a server must be defined as a principal.	String	MyLogin
com.aris.umc.kerberos.keyTab	**Key table** Specifies the location of the keytab file that is used for Kerberos tickets. The file can be uploaded directly.	String	C:/safePlace/krb-umc.keytab

Key	Description	Valid input	Example
com.aris.umc.kerberos.config	**Configuration file** Storage location of the configuration file for Kerberos. The file can be uploaded directly.	String	./config/Kerberos/krb5.conf

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.kerberos.debug	**Debug output** Specifies whether debug output is allowed for Kerberos operations.	True, False	
com.aris.umc.kerberos.allowLocalUsers	**Allow local users** Specifies whether the LDAP connection is mandatory for Kerberos-based login. If this option is enabled, Kerberos is used for the login of local users also.	True, False	
com.aris.umc.kerberos.validateuser	**Ignore realm from service ticket** Specifies whether or not the realm defined for the user principal name provided in the Kerberos ticket is to be ignored. The default value is **false**.	True, False	
com.aris.umc.kerberos.tenant	**Default tenant** Specifies the default tenant for a Kerberos-based login. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	True, False	

10.2.21.4 What LDAP properties are available?

You can customize LDAP (page 240) as required.

GENERAL SETTINGS

Key	Description	Valid input	Example
com.aris.umc.ldap.active	**Activate LDAP** Specifies whether or not the LDAP integration is enabled.	True, False	
com.aris.umc.ldap.multi.active	**Activate multiple LDAP integration** Specifies whether or not integration of multiple LDAP servers is to be activated. The default value is **false**.	True, False	
com.aris.umc.ldap.connection.count	**Configured LDAP server count** Displays the number of LDAP servers allowed.	Integer	2

TRUSTSTORE

Key	Description	Valid input	Example
com.aris.umc.ldap.ssl.truststore.location	**Truststore** Specifies where to look for the truststore.	String	
com.aris.umc.ldap.ssl.truststore.password	**Password** Specifies the truststore password.	String	
com.aris.umc.ldap.ssl.truststore.type	**Type** Specifies the truststore type to be used.	String	

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.ldap.debug	**Debug output** Specifies whether or not debug information for LDAP operations are output.	True, False	False
com.aris.umc.ldap.group.import.parent.enabled	**Import superior group** Specifies whether the superior group is to be imported automatically when the group is imported.	True, False	False
com.aris.umc.ldap.user.importOnLogin	**Import user at login** Specifies whether an LDAP user is to be imported automatically during the login attempt.	True, False	false
com.aris.umc.ldap.sync.user.importGroups	**Import user groups when synchronizing** Specifies whether additional user groups are to be imported during user synchronization.	True, False	False
com.aris.umc.ldap.attribute.memberof.resolveOnFirstLogin	**Update group associations at login** Specifies whether the **memberOf** attribute is read (**true**) or not (**false**). If the value of the property is **true**, the **memberOf** attribute is read and the referenced groups are automatically imported. The import of the groups occurs when a user from the group logs in for the first time.	True, False	
com.aris.umc.ldap.attributes.paging.enabled	**Use attribute value pagination** Specifies whether a page break is to be inserted if the server-side limit for valid values is exceeded for attributes, for example, if more than 1,500 attribute values exist.	True, False	

Key	Description	Valid input	Example
com.aris.umc.ldap.auth.only	**Prevent login of manually created users** Specifies that only LDAP users may log in. This does not apply to the **arisservice**, **guest**, **superuser**, and **system** users.	True, False	
com.aris.umc.ldap.entity.cache.size	**Cache size** Specifies the maximum number of LDAP entities that are cached during an import.	Integer > 0	3500
com.aris.umc.ldap.connection.concurrent.timeout	**Pool wait time (in milliseconds)** Specifies the maximum amount of time in milliseconds that a connection request may take if the maximum number of connections to the LDAP server was exceeded.	Integer > 0	
com.aris.umc.ldap.connection.pool.size	**Pool size** Specifies the maximum number of connections that are ready for reuse in a pool. The connection that was used last is discarded when the pool is full.	Integer > 0	
com.aris.umc.ldap.connection.pool.timeout	**Pool time (in milliseconds)** Specifies the maximum amount of time that a connection remains in a pool. The connection is removed from the pool at the latest after this period of time. This is defined in milliseconds.	Integer > 0	
com.aris.umc.ldap.sync.skipOnFault	**Skip errors** Specifies whether the LDAP import ignores users or user groups for which errors occurred without showing an error message.	True (without message), False (with error message)	

Key	Description	Valid input	Example
com.aris.umc.ldap.sync.members.searchBottomUp	**Use bottom-up method** Specifies whether the bottom-up method (**memberOf** attribute) or the top-down method (**hasMember** attribute) is applied when associating users to user groups.	True, False	False
com.aris.umc.ldap.sync.useDnAsGuid	**Use DN as GUID** Specifies that the fully qualified name (distinguished name) is used as GUID.	True, False	False

INDIVIDUAL LDAP SERVER

You can specify the properties of each individual LDAP server.

CONNECTION

Key	Description	Valid input	Example
com.aris.umc.ldap.connection.id plus the ID defined.	**ID** Specifies the unique ID of this specific LDAP connection.	String	
com.aris.umc.ldap.connection.name plus the ID defined.	**Name** Specifies the name of this specific LDAP connection.	String	
com.aris.umc.ldap.url	**Server URL** Specifies the URL of the LDAP server.	String	
com.aris.umc.ldap.backup.url	**Server URL (fallback)** Specifies the fallback URL of the LDAP server. This URL is only used if the server cannot be reached via its primary URL.	String	
com.aris.umc.ldap.service.user	**User name** Specifies the user name of the LDAP user.	String	arisldapservice
com.aris.umc.ldap.service.pwd	**Password** Specifies the password of the LDAP user.	String	
com.aris.umc.ldap.ssl	**Use SSL** Specifies if SSL is to be used.	true, false	
com.aris.umc.ldap.ssl.mode	**SSL mode** Specifies the SSL mode (page 242).	String	STARTTTLS

Key	Description	Valid input	Example
com.aris.umc.ldap.ssl.host.verification.active	**Verify host names** Specifies if an SSL host is to be verified.	True, False	
com.aris.umc.ldap.ssl.certificate.verification.active	**Verify certificates** Specifies whether an SSL certificate is to be verified.	True, False	
com.aris.umc.ldap.connection.concurrent	**Simultaneous connections** Specifies the maximum number of simultaneous connections to the same LDAP server. If additional connections are to be established, they are refused.	Integer > 0	
com.aris.umc.ldap.timeout	**Connection timeout (in milliseconds)** Specifies the duration after which the attempt to connect to the LDAP server is canceled. This is defined in milliseconds.	Integer > 0	
com.aris.umc.ldap.read.timeout	**Read timeout (in milliseconds)** Specifies the maximum amount of time that read access may take. This is defined in milliseconds.	Integer > 0	

ATTRIBUTE MAPPINGS

Key	Description	Valid input	Example
com.aris.umc.ldap.attribute.objectclass	**objectClass** Specifies the attribute that contains the object class.	String	objectClass
com.aris.umc.ldap.attribute.distinguishedname	**DN** Specifies the fully qualified name (distinguished name).	String	distinguishedName
com.aris.umc.ldap.attribute.guid	**GUID** Specifies the LDAP GUID.	String	Object GUID

GROUP ATTRIBUTE MAPPINGS

Key	Description	Valid input	Example
com.aris.umc.ldap.attribute.group.name	**Name** Specifies the group name.	String	Group name
com.aris.umc.ldap.attribute.hasmember	**hasMember** Specifies the attribute that references the members of a group.	String	hasMember
com.aris.umc.ldap.group.attributes.userdefined	**User-defined** Specifies a comma-separated list of LDAP attributes that are to be imported as user-defined attributes of a user group.	String	Description, operating system

USER ATTRIBUTE MAPPINGS

Key	Description	Valid input	Example
com.aris.umc.ldap.attribute.user.name	**Name** Specifies the user name of a user.	String	Fragment
com.aris.umc.ldap.attribute.user.firstname	**First name** Specifies the first name of a user.	String	John
com.aris.umc.ldap.attribute.user.lastname	**Last name** Specifies the last name of a user.	String	Smith
com.aris.umc.ldap.attribute.user.email	**E-mail address** Specifies the e-mail address of a user.	String	john.smith@softwareag.com
com.aris.umc.ldap.attribute.user.phone	**Telephone number** Specifies the telephone number of a user.	String	+491234567
com.aris.umc.ldap.attribute.user.picture	**Picture** Specifies the picture of a user.	Location of an image	
com.aris.umc.ldap.attribute.memberof	**memberOf** Specifies the attribute that references the groups of a user.	String	memberOf
com.aris.umc.ldap.user.attributes.userdefined	**User-defined** Specifies a comma-separated list of LDAP attributes that are to be imported as user-defined attributes of a user.	String	Description, operating system

BEHAVIOR

Key	Description	Valid input	Example
com.aris.umc.ldap.group.objectclass	**Group object class** Object class of the LDAP groups.	String	Group
com.aris.umc.ldap.user.objectclass	**User object class** Specifies the object class of the LDAP user.	String	Organizational unit
com.aris.umc.ldap.searchpath	**Search paths** Specifies a semicolon-separated list of all LDAP search paths.	String	OU\=stadt\,OU\=location\, OU\=employees\,DC\=my\,DC\=corp\, DC\=company\,DC\=com
com.aris.umc.ldap.group.searchpath	**Group search paths** Specifies a semicolon-separated list of all LDAP search paths for user groups. Overwrites the list of general search paths.	String	OU\=distribution lists\,DC\=my,DC\=corp\,DC\=company\,DC\=com
com.aris.umc.ldap.user.searchpath	**User search paths** Specifies a semicolon-separated list of LDAP search paths for users. Overwrites the list of general search paths.	String	OU\=employees\,DC\=my\,DC\=corp\, DC\=company\,DC\=com
com.aris.umc.ldap.filter.group	**Group search filter** Specifies the query filter for LDAP groups.	String	(&(objectClass=role)(name=y*))
com.aris.umc.ldap.filter.user	**User search filter** Specifies the query filter for LDAP users.	String	(&(sAMAccountName=*))

Key	Description	Valid input	Example
com.aris.umc.ldap.recursion.depth	**Recursion depth** Specifies the recursion depth that is to be used for nested groups and users.	**1** means one level, **0** means all	1
com.aris.umc.ldap.pagesize	**Page size** Specifies the maximum number of entries that are loaded in a single LDAP query.	Integer > 0	
com.aris.umc.ldap.referral	**Referrals** Defines how referrals to other LDAP systems are processed.	**follow** means that the referral is automatically	ignore

10.2.21.5 What properties are available for user-defined notifications?

You can customize the user-defined notifications (page 250) as required.

Variables (page 291) may be used to personalize the content of a notification of ARIS Administration. Variables can be used in both notification subject and body.

USERS

Key	Description	Valid input	Example
com.aris.umc.notification.userCreated.message	**Notify about creation** Specifies whether users are to be notified after they have been created.	true, False	

Key	Description	Valid input	Example
com.aris.umc.notification.userCreated.subject	**User created - Subject** Subject of the notification that is sent when a user has been created.	String	
com.aris.umc.notification.userCreated.message	**User created - Message** Specifies the text of the notification that is sent when a user has been created.	String	
com.aris.umc.notification.userCreated.template	**User created - HTML template** Specifies the HTML template used for the notification that is sent when users are notified that they have been created. The template must have been uploaded previously.		
com.aris.umc.notification.userDisabled.enabled	**Notify about deactivation** Specifies whether users are to be notified after they have been deactivated. For a notification to be sent, the **Process Governance** license privilege must be revoked from a user.	True, False	
com.aris.umc.notification.userDisabled.subject	**User deactivated - Subject** Specifies the subject of the notification that is sent when a user has been deactivated.	String	
com.aris.umc.notification.userDisabled.message	**User deactivated - Message** Specifies the text of the notification that is sent when a user has been deactivated.	String	

Key	Description	Valid input	Example
com.aris.umc.notification.userDisabled.template	**User deactivated - HTML template** Specifies the HTML template used for the notification that is sent when users are notified that they have been deactivated. The template must have been uploaded previously.		
com.aris.umc.notification.userEnabled.enabled	**Notify about activation** Specifies whether users are to be notified after they have been activated. For a notification to be sent, the **Process Governance** license privilege must be assigned to a user.	True, False	
com.aris.umc.notification.userEnabled.subject	**User activated - Subject** Specifies the subject of the notification that is sent when a user has been activated.	String	
com.aris.umc.notification.userEnabled.message	**User activated - Message** Specifies the text of the notification that is sent when a user has been activated.	String	
com.aris.umc.notification.userEnabled.template	**User activated - HTML template** Specifies the HTML template used for the notification that is sent when users are notified that they have been activated. The template must have been uploaded previously.	String	

PASSWORDS

Key	Description	Valid input	Example
com.aris.umc.notification.passwordChanged.enabled	**Notify about password change** Specifies whether users are to be notified after their password has been changed.	True, False	
com.aris.umc.notification.passwordChanged.subject	**Password change - Subject** Specifies the subject of the notification that is sent when a password has been changed.	String	
com.aris.umc.notification.passwordChanged.message	**Password change - Message** Specifies the text of the notification that is sent when a password has been changed.	String	
com.aris.umc.notification.passwordChanged.template	**Password change - HTML template** Specifies the HTML template used for the notification that is sent when a user is to be notified about a password change. The template must have been uploaded previously.		
com.aris.umc.notification.passwordReset.enabled	**Notify about password reset** Specifies whether users are to be notified after their password has been reset.	True, False	
com.aris.umc.notification.passwordReset.subject	**Password reset - Subject** Specifies the subject of the notification that is sent when a password has been reset.	String	

Key	Description	Valid input	Example
com.aris.umc.notification.passwordReset.message	**Password reset - Message** Specifies the text of the notification that is sent when a password has been reset.	String	
com.aris.umc.notification.passwordReset.template	**Password reset - HTML template** Specifies the HTML template used for the notification that is sent when a user is to be notified about a password reset. The template must have been uploaded previously.		
com.aris.umc.notification.passwordResetRequested.enabled	**Notify about password reset request** Specifies that users are to be notified if they have requested a password reset.	True, False	
com.aris.umc.notification.passwordResetRequested.subject	**Password reset request - Subject** Specifies the subject of the notification that is sent when a user has requested a password reset.	String	
com.aris.umc.notification.passwordResetRequested.message	**Password reset request - Message** Specifies the text of the notification that is sent when a user has requested a password reset.	String	
com.aris.umc.notification.passwordResetRequested.template	**Password reset request - HTML template** Specifies the HTML template used for the notification that is sent when a user has requested a password reset. The template must have been uploaded previously.		

LICENSES

Key	Description	Valid input	Example
com.aris.umc.notification.licenseExpired.enabled	**Notify about license expiration** Specifies whether administrators with the **License management** privilege are to be notified when a license has expired.	True, False	True
com.aris.umc.notification.licenseExpired.subject	**License has expired - Subject** Specifies the subject of the notification that is sent when a license has expired.	String	
com.aris.umc.notification.licenseExpired.message	**License has expired - Message** Specifies the text of the notification that is sent when a license has expired.	String	
com.aris.umc.notification.licenseExpired.template	**License has expired - HTML template** Specifies the HTML template used for the notification that is sent when an administrator is to be notified that a license has expired. The template must have been uploaded previously.		
com.aris.umc.notification.licenseExpiring.enabled	**Notify before license expiration** Specifies whether administrators with the **License management** privilege are to be notified when a license is about to expire.	True, False	True
com.aris.umc.notification.licenseExpiring.threshold	**Days before expiration** Specifies how many days before license expiration a notification is sent.	Integer > 0	14

Key	Description	Valid input	Example
com.aris.umc.notification.licenseExpiring.subject	**License will expire soon - Subject** Specifies the subject of the notification that is sent when a license is about to expire.	String	
com.aris.umc.notification.licenseExpiring.message	**License will expire soon - Message** Specifies the text of the notification that is sent when a license is about to expire.	String	
com.aris.umc.notification.licenseExpiring.template	**License will expire soon - HTML template** Specifies the HTML template used for the notification that is sent when an administrator is to be notified that a license will soon expire. The template must have been uploaded previously.		
com.aris.umc.notification.licenseSeatsConsumed.enabled	**Notify about license exhaustion** Specifies whether administrators with the **License management** privilege are to be notified when the total number of logins allowed for the license is reached.	True, False	True
com.aris.umc.notification.licenseSeatsConsumed.threshold	**Remaining license seats** Defines how many license seats are allowed to be left before a notification is sent to inform users about the upcoming expiration of a license. In the case of named licenses, a notification is sent as soon as only the specified number of licenses are left from the total number of licenses available. In the case of concurrent licenses, a notification is sent as soon as only the specified number of logins are left.	Integer > 0	5

Key	Description	Valid input	Example
com.aris.umc.notification.licenseSeatsConsumed.subject	**License exhaustion - Subject** Specifies the subject of the notification that is sent when the total number of logins allowed for the license is reached.	String	
com.aris.umc.notification.licenseSeatsConsumed.message	**License exhaustion - Message** Specifies the text of the notification that is sent when a license has expired.	String	
com.aris.umc.notification.licenseSeatsConsumed.template	**License exhaustion - HTML template** Specifies the HTML template used for the notification that is sent when an administrator is to be notified that a license will soon expire. The template must have been uploaded previously.		

TENANTS

Key	Description	Valid input	Example
com.aris.umc.notification.tenantDeleted.enabled	**Notify about deletion** Specifies whether a notification is sent if a tenant was deleted.	True, False	True
com.aris.umc.notification.tenantDeleted.sendToAll.enabled	**Notify all users about deletion** Specifies whether a notification is to be sent to all users.	True, False	True
com.aris.umc.notification.tenantDeleted.subject	**Tenant deleted - Subject** Specifies the subject of the notification that is sent if a tenant was deleted.	String	

Key	Description	Valid input	Example
com.aris.umc.notification.tenantDeleted.message	**Tenant deleted - Message** Specifies the text of the notification that is sent if a tenant was deleted.	String	
com.aris.umc.notification.tenantDeleted.template	**Tenant deleted - HTML template** Specifies the HTML template used for the notification that is sent when an administrator is to be notified that a tenant has been deleted. The template must have been uploaded previously.		
com.aris.umc.notification.tenantDisabled.enabled	**Notify about deactivation** Specifies whether a notification is sent if a tenant was deactivated.	True, False	True
com.aris.umc.notification.tenantDisabled.sendToAll.enabled	**Notify all users about deactivation** Specifies whether a notification is sent to all users if a tenant was deactivated.	True, False	True
com.aris.umc.notification.tenantDisabled.subject	**Tenant deactivated - Subject** Specifies the subject of the notification that is sent if a tenant was deactivated.	String	
com.aris.umc.notification.tenantDisabled.enabled	**Tenant deactivated - Message** Specifies the text of the notification that is sent if a tenant was deactivated.	String	
com.aris.umc.notification.tenantDisabled.template	**Tenant deactivated - HTML template** Specifies the HTML template used for the notification that is sent when an administrator is to be notified that a tenant has been deactivated. The template must have been uploaded previously.		

Key	Description	Valid input	Example
com.aris.umc.notification.tenantEnabled.enabled	**Notify about activation** Specifies whether a notification is sent if a tenant was activated.	True, False	True
com.aris.umc.notification.tenantEnabled.sendToAll.enabled	**Notify all users about activation** Specifies whether a notification is sent to all users if a tenant was activated.	True, False	True
com.aris.umc.notification.tenantEnabled.subject	**Tenant activated - Subject** Specifies the subject of the notification that is sent if a tenant was activated.	String	
com.aris.umc.notification.tenantEnabled.message	**Tenant activated - Message** Specifies the text of the notification that is sent if a tenant was activated.	String	
com.aris.umc.notification.tenantEnabled.template	**Tenant activated - HTML template** Specifies the HTML template used for the notification that is sent when an administrator is to be notified that a tenant has been activated. The template must have been uploaded previously.		

MULTI-FACTOR AUTHENTICATION

Key	Description	Valid input	Example
com.aris.umc.notification.otpRequested.enabled	**Notify about one-time password request** Specifies whether users are to be notified if they have requested a one-time password.	True, False	

Key	Description	Valid input	Example
com.aris.umc.notification.otpRequested.subject	**One-time password request - Subject** Subject of the notification that is sent when a user has requested a one-time password.	String	
com.aris.umc.notification.otpRequested.message	**One-time password request - Message** Text of the notification that is sent when a user has requested a one-time password.	String	
com.aris.umc.notification.otpRequested.template	**One-time password request - HTML template** Specifies the HTML template used for the notification that is sent when a user has requested a one-time password. The template must have been uploaded previously.		
com.aris.umc.notification.otpSecretChanged.enabled	**Notify about token secret change** Specifies whether users are to be notified if their token secret has been changed.	True, False	
com.aris.umc.notification.otpSecretChanged.subject	**Token secret change - Subject** Subject of the notification that is sent when the token secret has been changed by a user.	String	
com.aris.umc.notification.otpSecretChanged.message	**Token secret change - Message** Text of the notification that is sent when the token secret has been changed by a user.	String	
com.aris.umc.notification.otpSecretChanged.template	**Token secret change - HTML template** Specifies the HTML template used for the notification that is sent when a user has changed the token secret. The template must have been uploaded previously.		

OAUTH

Key	Description	Valid input	Example
com.aris.umc.notification.signupCompleted.enabled	**Notify about signup** Specifies whether administrators are to be notified if a new user has signed up.	True, False	
com.aris.umc.notification.signupCompleted.subject	**Signup complete - Subject** Subject of the notification that is sent when a new user has signed up.	String	
com.aris.umc.notification.signupCompleted.message	**Signup complete - Message** Text of the notification that is sent when a new user has signed up.	String	
com.aris.umc.notification.signupCompleted.template	**Signup complete - HTML template** Specifies the HTML template used for the notification that is sent when a new user has signed up. The template must have been uploaded previously.		

10.2.21.6 What variables can be used for user-defined notifications?

Variables (page 291) may be used to personalize the content of a notification of ARIS Administration. Variables can be used in both notification subject and body. The following variables are supported:

TEXT NOTIFICATIONS:

- @tenant.name - Name of the tenant the user belongs to
- @user.login - Login of a user receiving notifications
- @user.givenName - First name of a user receiving notifications
- @user.lastName - Last name of a user receiving notifications
- @user.password - (New) password of a user receiving notifications

The following variables are supported for license-related events:

- @license.serial - Serial number of a license
- @license.productName - Name of a licensed product
- @license.expiry - Expiration date of a licensed product in the format YYYY-MM-DD

HTML NOTIFICATION

- ${tenant.name} - Name of the tenant the user belongs to
- ${user.login} - Login of a user receiving notifications
- ${user.givenName} - First name of a user receiving notifications
- ${user.lastName} - Last name of a user receiving notifications
- ${user.password} - (New) password of a user receiving notifications

The following variables are supported for license-related events:

- ${license.serial} - Serial number of a license
- ${license.productName} - Name of a licensed product
- ${license.expiry} - Expiration date of a licensed product in the format YYYY-MM-DD

10.2.21.7 What properties are available for password policies?

You can customize your password policies (page 253) as required.

GENERAL

Key	Description	Valid input	Example
com.aris.umc.password.length.min	**Minimum length** Specifies the minimum length of a password.	Integer > 0	
com.aris.umc.password.length.max	**Maximum length** Specifies the maximum length of a password.	0 < Integer > 47	
com.aris.umc.password.characters.lowercase.min	**Minimum number of lowercase letters** Specifies the minimum number of lowercase letters in a password.	Integer > 0	
com.aris.umc.password.characters.uppercase.allowed	**Allow uppercase letters** Specifies whether uppercase letters are allowed in a password.	true, false	
com.aris.umc.password.characters.uppercase.min	**Minimum number of uppercase letters** Specifies the minimum number of uppercase letters in a password.	Integer > 0	
com.aris.umc.password.characters.numeric.allowed	**Allow numbers** Specifies whether numbers are allowed in a password.	True, False	
com.aris.umc.password.characters.numeric.min	**Minimum number of numbers** Specifies the minimum number of numbers that must be contained in a password.	Integer > 0	

Key	Description	Valid input	Example
com.aris.umc.password.characters.special.allowed	**Allow special characters** Specifies whether special characters are allowed in a password.	True, False	
com.aris.umc.password.characters.special.min	**Minimum number of special characters** Specifies the minimum number of special characters in a password.	Integer > 0	
com.aris.umc.password.characters.special.set	**Special characters** Specifies which characters are special characters.	String	*$-+?&=!%{}/ _

EXPIRING PASSWORDS

Key	Description	Valid input	Example
com.aris.umc.password.expiry.active	**Activate expiring passwords** Specifies whether passwords are set to be valid only for a specific amount of time. This is defined for a single tenant. Once the password has expired, the user is directed to a Web site enabling the password to be changed. Thereafter, the user is redirected to the application.	True, False	
com.aris.umc.password.expiry.days	**Password lifetime** Specifies the period of time in days after which a password expires. This is defined for a single tenant.	Integer > 0	

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.password.change.forceAfterReset	**Force change after reset** Specifies whether a user must change the password if it was reset (and sent via e-mail). This is defined for a single tenant.	True, False	
com.aris.umc.password.change.forceDifference	**Force different password** Specifies whether the new password must differ from the old one. This is defined for a single tenant.	True, False	
com.aris.umc.password.change.forceOnFirstLogin	**Force change before first login** Specifies whether a user must change the password upon first login. login.This is defined for a single tenant.	True, False	
com.aris.umc.password.reset.confirmation.active	**Activate reset confirmation** Specifies whether a user must confirm a password reset.	True, False	
com.aris.umc.password.reset.confirmation.ttl	**Link lifetime** Specifies the time in minutes during which a user can click the link sent by e-mail in order to confirm the password.	Integer > 0	30

10.2.21.8 What SAML properties are available?

You can configure SAML (page 254) as required.

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings enter the following:

```
reconfigure umcadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure umcadmin_m JAVA-Dcom.aris.umc.loadbalancer.url="https://myserver.com"
```

GENERAL

Key	Description	Valid input	Example
com.aris.umc.saml.active	**Use SAML** Specifies whether an SAML-based login is allowed.	true, false	false
com.aris.umc.saml.binding	**Binding** Specifies the binding used for sending authentication requests to the identity provider. Defines how the redirecting of the authentication is performed. The options are **Redirect** or **POST**.		POST
com.aris.umc.saml.identity.provider.id	**Identity provider ID** Specifies the ID of the identity provider.	String	
com.aris.umc.saml.service.provider.id	**Service provider ID** Specifies the ID of the service provider.	String	
com.aris.umc.saml.identity.provider.sso.url	**Single sign-on URL** Specifies the end point of the identity provider that is used for single sign-on.		
com.aris.umc.saml.identity.provider.logout.url	**Single logout URL** Specifies the end point of the identity provider that is used for single log-out.		

SIGNATURE

Key	Description	Valid input	Example
com.aris.umc.saml.signature.assertion.active	**Enforce signing of assertions** Enforces that SAML assertions must be signed. If set, all assertions received by the application must be signed. Assertions sent by the application are signed.	true, false	false
com.aris.umc.saml.signature.request.active	**Enforce signing of requests** Enforces that the SAML authentication requests must be signed. If set, all requests received by the application must be signed. Requests sent by the application are signed.	true, false	false
com.aris.umc.saml.signature.response.active	**Enforce signing of responses** Enforces that the SAML response must be signed. If set, all responses received by the application must be signed. Responses sent by the application are signed.	true, false	false
com.aris.umc.saml.signature.metadata.active	**Enforce signing of metadata** Enforces that the SAML metadata must be signed. If set, the service provider metadata file provided by the application is signed.	true, false	false
com.aris.umc.saml.signature.algorithm	**Signature algorithm** Specifies the algorithm for the signature. The algorithm can be selected from the list.	String	

KEYSTORE

Key	Description	Valid input	Example
com.aris.umc.saml.keystore.location	**Keystore** Specifies the location of the keystore file used for validating SAML assertions. The keystore must have been uploaded previously.		
com.aris.umc.saml.keystore.alias	**Alias** Specifies the alias name that is used to access the keystore.	String	
com.aris.umc.saml.keystore.password	**Password** Specifies the password that is used to access the keystore.	String	
com.aris.umc.saml.keystore.type	**Type** Specifies the type of the keystore to be used. The keystore type can be selected from a list.	String	JKB

TRUSTSTORE

Key	Description	Valid input	Example
com.aris.umc.saml.truststore.location	**Truststore** Specifies the location of the truststore file used for validating SAML assertions. The truststore must have been uploaded previously.		
com.aris.umc.saml.truststore.alias	**Alias** Specifies the alias to be used for accessing the truststore.	String	
com.aris.umc.saml.truststore.password	**Password** Specifies the password to be used for accessing the truststore.	String	
com.aris.umc.saml.truststore.type	**Type** Specifies the type of the truststore.	String	JKB

USER ATTRIBUTES

Key	Description	Valid input	Example
com.aris.umc.saml.attribute.fname	**First name** Specifies the attribute name to be used for reading first names from a SAML assertion.	String	John
com.aris.umc.saml.attribute.lname	**Last name** Specifies the attribute name to be used for reading last names from a SAML assertion.	String	Doe
com.aris.umc.saml.attribute.email	**E-mail address** Specifies the attribute name to be used for reading e-mail addresses from a SAML assertion.	String	jd@company.com
com.aris.umc.saml.attribute.phone	**Telephone number** Specifies the attribute name to be used for reading phone numbers from a SAML assertion.	Integer	01234567
com.aris.umc.saml.attribute.memberof	**Member of** Attribute that references the groups of a user.	String	Main group
com.aris.umc.saml.attribute.userdefined	**User-defined** Comma-separated list of attributes to be imported as user-defined attributes of the user.		

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.saml.login.mode.dn.active	**Login using DN** Specifies whether login is to be tried using the fully qualified name instead of the user name.	true, false	
com.aris.umc.saml.login.mode.keyword.active	**Decompose DN** Specifies whether the fully qualified name is to be decomposed.	true, false	
com.aris.umc.saml.login.mode.keyword.name	**Keyword** Specifies which part of the fully qualified name is to be used for login.	true, false	
com.aris.umc.saml.auth.context.class.refs	**Authentication context classes** Specifies the authentication context classes to request, meaning which strength of the authentication is defined. For example, you specify that users must use Kerberos if you define Microsoft® Windows as the **Authentication context class** and the **Authentication context comparison** as **exact**.	String	
com.aris.umc.saml.auth.context.comparison	**Authentication context comparison** Specifies the authentication context comparison to request, meaning you specify whether other authentication procedures are allowed or not. For example, you specify that users must use Kerberos if you define Microsoft® Windows as the **Authentication context class** and the **Authentication context comparison** as **exact**.	String	

Key	Description	Valid input	Example
com.aris.umc.saml.auth.nameid.format	**NameID format** Specifies in which format the user ID is transferred to ARIS Administration.	String	
com.aris.umc.saml.login.users.create	**Automatically create user** Defines whether or not the user specified in the SAML assertion should be created automatically if the user does not already exist. The default value is **false**. The following restrictions apply to automatically created users: ▪ The **Login** attribute is set to the name specified in the assertion. ▪ The **distinguished name** attribute is set to the name specified in the assertion (only if the name is in an appropriate format). ▪ A manual login is not possible if the **password** and **e-mail** attributes are not maintained.	true, false	false
com.aris.umc.saml.assertion.timeoffset	**Clock skew (in seconds)** Specifies the time offset between identity provider and service provider in seconds. Assertions are accepted if they are received within the permitted time frame.		60
com.aris.umc.saml.assertion.ttl	**Assertion lifetime (in seconds)** Specifies the maximum lifetime of a SAML assertion in seconds.		10

Key	Description	Valid input	Example
com.aris.umc.saml.service.provider.assertion.consumer.url.overwrite	**Assertion consumer service URL** Specifies that the Assertion Consumer Service URL used in SAML authentication requests can be overwritten. The URL must be specified in the format of **http(s)://hostname/umc/rest/saml/initsso**. If no specification is made, the URL is derived from the HTTP request.		
com.aris.umc.saml.tenant	**Default tenant** Specifies the default tenant that is to be used for the SAML-based login. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	String	default

10.2.21.9 What security properties are available?

You can customize the security settings (page 255) as required.

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings enter the following:

```
reconfigure umcadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure umcadmin_m JAVA-Dcom.aris.umc.loadbalancer.url="https://myserver.com"
```

ACCOUNT LOCKOUT

Key	Description	Valid input	Example
com.aris.umc.authentication.lock.enabled	**Lock users after failed login attempts** Specifies whether a user login is temporarily locked when a user causes too many failed logins. The default value is **false**.	true, false	
com.aris.umc.authentication.lock.counter.limit	**Attempt limit** Specifies the number of failed login attempts that are allowed before user login is locked.	Integer > 0	
com.aris.umc.authentication.lock.ttl	**Lockout duration (in seconds)** Specifies how long a user login is temporarily locked when a user causes too many failed logins. This is defined in seconds.	Integer > 0	
com.aris.umc.authentication.lock.counter.ttl	**Lock counter duration (in seconds)** Time that must elapse before the number of failed login attempts is reset. This is defined in seconds.	Integer > 0	

USER SESSIONS

Key	Description	Valid input	Example
com.aris.umc.session.renewal.cache.size	**Session cache size** Specifies how many session IDs are saved in the session renewal cache. When the cache is full, the least recently used sessions are removed. This is defined in seconds. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	

Key	Description	Valid input	Example
com.aris.umc.session.renewal.cache.ttl	**Session cache lifetime (in seconds)** Specifies the maximum duration in seconds that a renewed session remains in the session renewal cache. A session can be renewed at the earliest after this period of time. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	
com.aris.umc.session.identifier.generator	**Session ID generator** Specifies the random number generator used for generating session IDs.	String	
com.aris.umc.session.identifier.length.min	**Minimum length of session ID (in bytes)** Specifies the minimum length of a session ID in bytes. For security reasons this value should not be less than 32.	Integer > 0	
com.aris.umc.session.identifier.length.max	**Maximum length of session ID (in bytes)** Specifies the maximum length of a session ID in bytes.	Integer > 0	
com.aris.umc.session.concurrent.max	**Maximum concurrent sessions** Specifies the maximum number of concurrent sessions that can be active for a single user. This does not apply to the **arisservice** and **superuser** users.	Integer > 0	

MULTI-FACTOR AUTHENTICATION

Key	Description	Valid input	Example
com.aris.umc.authentication.multiFactor.active	**Use multi-factor authentication** Specifies whether multi-factor authentication is required. The default value is **false**. You can use the multi-factor authentication only in API Portal and ARIS Cloud.	true, false	
com.aris.umc.authentication.multiFactor.clockSkew	**Clock skew intervals** Specifies the clock skew in number of intervals. One-time passwords (OTPs) that are within the valid range [currentTimeStep - clock_skew, currentTimeStep + clock_skew] are permitted. This is defined in milliseconds. You can use the multi-factor authentication only in API Portal and ARIS Cloud.	Integer > 0	
com.aris.umc.authentication.multiFactor.excludedUsers	**Excluded users** Specifies a comma-separated list of users for whom the multi-factor authentication is not required. You can use the multi-factor authentication only in API Portal and ARIS Cloud.	String	

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.audit.enabled	**Generate user statistics** Enables the generation of user statistics. The default value is **false**. If you specify this as true, the following properties for distinct user statistics are enabled as default: ▪ Log authentication ▪ Log changes to configuration ▪ Log changes to licenses/privileges ▪ Log changes to users/user groups ▪ You can disable/enable the properties mentioned above.	true, false	false
com.aris.umc.audit.log.auth.enabled	**Log authentication** Enables authentication logging. The default value is **true** but this property is only enabled when **Generate user statistics** is specified as **true.** The following user statistics are logged and can be exported (page 45): ▪ Login failed ▪ Login successful ▪ Logged out ▪ Logged out by administrator	true, false	true

Key	Description	Valid input	Example
com.aris.umc.audit.log.conf.enabled	**Log changes to configuration** Enables logging of changes to the configuration. The default value is **true**. The following user statistics are logged and can be exported (page 45): ▪ Organizational chart deleted ▪ Organizational chart updated ▪ One-time password requested ▪ Password changed ▪ Password reset ▪ Password transferred between users ▪ Profile picture deleted ▪ Profile picture imported ▪ Privilege assigned ▪ Privilege assignment removed ▪ Configuration option changed ▪ Configuration file deleted ▪ Configuration file imported ▪ Data backup imported ▪ Tenant created ▪ Tenant deleted ▪ Tenant updated	true, false	true

Key	Description	Valid input	Example
com.aris.umc.audit.log.license.privilege.enabled	**Log changes to licenses / privileges** Enables logging of changes to licenses or privileges. The default value is **true**. The following user statistics are logged and can be exported (page 45): ▪ License deleted ▪ License imported ▪ License consumed ▪ License released ▪ Violation of user group license limit ▪ Violation of user license limit ▪ Replace license file for tenant	true, false	true

Key	Description	Valid input	Example
com.aris.umc.audit.log.user.group.enabled	**Log changes to users / user groups** Enables logging of changes to users or user groups. The default value is **true**. The following user statistics are logged and can be exported (page 45): ▪ User created ▪ User deleted ▪ Escalation manager assignment removed ▪ User group created ▪ User group deleted ▪ Group assigned to group ▪ Group unassigned from group ▪ User group updated ▪ LDAP data imported ▪ Synchronized with LDAP	true, false	true
com.aris.umc.authentication.sso.only	**Force SSO** Specifies that only an SSO login is allowed. The default value is **false**.	true, false	false
com.aris.umc.authentication.sso.for.downloadclient.only	**Force SSO for ARIS Download Client** If this option is enabled, a user must be logged in to the portal to be able to start ARIS Download Client. The default value is **false**.	true, false	false
com.aris.umc.authentication.delay.min	**Minimum authentication delay (in milliseconds)** Specifies the minimum delay that is added at each login. This is defined in milliseconds.	Integer > 0	

Key	Description	Valid input	Example
com.aris.umc.authentication.delay.max	**Maximum authentication delay (in milliseconds)** Specifies the maximum delay that is added at each login. This is defined in milliseconds.	Integer > 0	
com.aris.umc.otp.active	**Use OTPs** Specifies whether or not the generation of one-time passwords (OTPs) is allowed.	true, false	
com.aris.umc.otp.ttl	**Lifetime (in seconds)** Specifies the lifetime of a one-time password (OTP) in seconds. Passwords become invalid after this time period at the latest.		
com.aris.umc.license.distribution.handling	**License pools at user group-level** Specifies that license pools are assigned at the user group level (page 35). If this option is enabled, licenses must not be assigned to users directly, but are to be assigned via user groups only.	true, false	false
com.aris.ums.user.statistics.backup	**User statistics in backup** Specifies that the user statistics are part of the backup. The default value is **false**.	true, false	false

10.2.21.10 What SMTP properties are available?

You can configure SMTP (page 257) as required.

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings enter the following:

```
reconfigure umcadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure umcadmin_m JAVA-Dcom.aris.umc.loadbalancer.url="https://myserver.com"
```

CONNECTION

Key	Description	Valid input	Example
com.aris.umc.notification.smtp.host	**Host name** Specifies the host name or IP address of the SMTP server. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	String	localsmtp.my.corp.softwareag.com
com.aris.umc.notification.smtp.port	**Port** Specifies the port for the SMTP server.	Integer greater than or equal to 0, but less than or equal to 65535	
com.aris.umc.notification.sender	**Sender address** Specifies the sender address for notifications. This must be a valid e-mail address.	String	
com.aris.umc.notification.type	**E-mail format** Specifies the default type used for sending notifications.	String	

Key	Description	Valid input	Example
com.aris.umc.notification.language	**Default language** Specifies the default language in which notifications are sent. If this property is not defined, the server operating system language is used. If a user prefers a different locale, this locale is given preference. Otherwise, the global settings are considered.	en	
com.aris.umc.notification.smtp.authentication	**Use authentication** Specifies whether authentication to the SMTP server is to be used.	true, false	
com.aris.umc.notification.smtp.userName	**User name** Specifies the user name that is used for authentication.	String	
com.aris.umc.notification.smtp.password	**Password** Specifies the password that is used for authentication to the SMTP server.	String	smtppassword
com.aris.umc.notification.smtp.ssl	**Use SSL** Specifies whether TLS is to be used for the connection to the SMTP server.	true, false	false
com.aris.umc.notification.smtp.ssl.mode	**SSL mode** Specifies the method to be used for a trusted connection. **STARTTLS** or **SSL** can be used. STARTTLS transforms a connection that was originally untrusted into an encrypted connection without requiring a specific port for the trusted connection. SSL establishes a trusted connection with a dedicated port immediately.	STARTTTLS, SSL	STARTTTLS

Key	Description	Valid input	Example
com.aris.umc.notification.smtp.timeout	**Connection timeout (in milliseconds)** Specifies the duration after which the attempt to connect to the SMTP server is canceled. This is defined in milliseconds.	Integer > 0	

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.notification.debug	**Debug output** Activates debugging output.	true, false	
com.aris.umc.notification.smtp.retry.count	**Number of retries** Specifies the number of retries for sending notifications.	Integer > 0	
com.aris.umc.notification.smtp.retry.sleep.min	**Minimum wait time (in milliseconds)** Specifies the minimum wait time between the retries. This is defined in milliseconds.	Integer > 0	
com.aris.umc.notification.smtp.retry.sleep.max	**Maximum wait time (in milliseconds)** Specifies the maximum wait time between the retries. This is defined in milliseconds.	Integer > 0	
com.aris.umc.notification.smtp.sendrate	**Send rate (per second)** Specifies the maximum number of messages sent per second. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	

Key	Description	Valid input	Example
com.aris.umc.notification.smtp.replyto	**Reply-to addresses** Specifies a comma-separated list of reply-to addresses.		
com.aris.umc.notification.threads	**Number of threads** Specifies the maximum number of threads that are used for sending notifications. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	
com.aris.umc.notification.queue	**Maximum queue length** Specifies the maximum number of notifications allowed in a send queue. If the send queue is too full, all subsequent notifications are refused. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	

10.2.21.11 What user settings properties are available?

You can customize the configuration for users (page 258) as required.

GENERAL

Key	Description	Valid input	Example
com.aris.umc.users.email.required	**E-mail address required** Specifies whether the **E-mail address** box must be specified for a user.	true, false	
com.aris.umc.users.email.validation.active	**Validate e-mail address** Specifies whether a check is performed when entering the e-mail address of a user to determine whether the e-mail address is valid.	true, false	
com.aris.umc.users.name.length.max	**Maximum login name length** Specifies the maximum length of the login names.	Integer > 0	
com.aris.umc.collaboration.picture.size.max	**Maximum picture size (in bytes)** Specifies the maximum size of a profile picture in bytes. The default setting is 1048576 bytes.	Integer > 0	1048576
com.aris.umc.session.system.ttl	**Initial session duration (in minutes)** Specifies the initial duration of a system user session in minutes.	Integer > 0	
com.aris.umc.session.system.ttl.max	**Maximum session duration (in minutes)** Specifies the maximum duration of a system user session in minutes.	Integer > 0	
com.aris.umc.impersonation.targets	**Impersonation target users** Specifies the users for which you want to allow impersonation (page 262).	String	

Key	Description	Valid input	Example
com.aris.umc.default.group	**Default user group name** Specifies an existing user group as default user group to which all users created afterwards will be assigned.	String	
com.aris.umc.chart.display.technicalUsers.enabled	**Display technical users** Specifies whether or not user statistics and charts are also displayed for technical users such as **system**, **arisservice**, **superuser**, and **guest**.	true, false	

ARISSERVICE

Key	Description	Valid input	Example
com.aris.umc.users.service.create	**Generate, if not available** Specifies whether the user **arisservice** is generated at startup, if not yet available.	true, false	
com.aris.umc.users.service.name	**User name** Specifies the login name of the user **arisservice**.	String	
com.aris.umc.users.service.email	**E-mail address** Specifies the e-mail address of the user **arisservice**.	String	
com.aris.umc.users.service.password	**Initial password** Specifies the initial password of the user **arisservice**.	String	

GUEST

Key	Description	Valid input	Example
com.aris.umc.users.guest.create	**Generate, if not available** Specifies whether the user **guest** is generated at startup, if not yet available.	true, false	
com.aris.umc.users.guest.name	**User name** Specifies the login name of the user **guest**.	String	
com.aris.umc.users.guest.email	**E-mail address** Specifies the e-mail address of the user **guest**.	String	
com.aris.umc.users.guest.password	**Initial password** Specifies the initial password of the user **guest**.	String	
com.aris.umc.users.guest.allow.auto.login	**Automatically log in visitors** Specifies that visitors are automatically logged in as a guest when accessing the ARIS Connect portal.	Integer > 0true, false	

SUPERUSER

Key	Description	Valid input	Example
com.aris.umc.users.admin.name	**User name** Specifies the login name of the administrator in ARIS Administration.	String	
com.aris.umc.users.admin.email	**E-mail address** Specifies the e-mail address of the administrator.	String	
com.aris.umc.users.admin.password	**Initial password** Specifies the initial password of the administrator in ARIS Administration.	String	

SYSTEM

Key	Description	Valid input	Example
com.aris.umc.users.system.create	**Generate, if not available** Specifies whether the user **system** is generated at startup, if not yet available.	true, false	
com.aris.umc.users.system.name	**User name** Specifies the login name of the user **system**.	String	
com.aris.umc.users.system.email	**E-mail address** Specifies the e-mail address of the user **system**.	String	
com.aris.umc.users.system.password	**Initial password** Specifies the initial password of the user **system**.	String	
com.aris.umc.session.system.ttl	**Initial session duration (in minutes)** Specifies the initial life span of the **system** user session in minutes.	Integer > 0	
com.aris.umc.system.session.ttl.max	**Mximum session duration (in minutes)** Specifies the maximum life span of the **system** user session in minutes.	Integer > 0	

10.2.21.12 What is the default user group?

You can configure (page 258) a default user group in the ARIS Administration. This group must exist in the ARIS Administration. A user is automatically assigned to this default user group whenever a user is created.

All local users who were created after specifying a default user group are automatically assigned to this group.

You can specify an LDAP user group as default user group. All LDAP users in the LDAP group are assigned to this group.

Hidden users such as, for example, arisservice, are never assigned to the default user group.

10.2.21.13 What to consider using multiple LDAP servers?

KERBEROS

Even if you have configured multiple LDAP systems, you can use only one LDAP server with Kerberos authentication.

When using multiple LDAP systems, the **Ignore realm from service ticket** property under **Kerberos -> Advanced Settings** must be enabled.

SAML

If a user is created during login using SAML, the user name will not have any prefix and is assigned to the default user group. This user is not mapped to any LDAP server.

SINGLE SIGN-ON

If users have the same login ID in different LDAP servers, the Single sign-on (page 244) login fails. Users have to enter their passwords manually instead.

10.2.21.14 What SCIM properties are available?

You can configure SCIM as required.

GENERAL

Key	Description	Valid input	Example
com.aris.umc.scim.active	**Use SCIM** Enables SCIM support for User Management.	True, False	False
com.aris.umc.scim.endpoint.url	**SCIM end point URL** Specifies the end point URL used for SCIM. You cannot change this property.	<loadbalancerurl>/umc/scim/v2/{tenant}	
com.aris.umc.scim.basic.auth.active	**Basic authentication** Enables the authentication scheme using the HTTP basic standard. The default value is **true**.	True, False	True
com.aris.umc.scim.bearer.token.active	**Bearer token** Enables the authentication scheme using the bearer token standard. The default value is **true**.	True, False	True
com.aris.umc.scim.token.expiry.day	**Token lifetime (in days)** Specifies that the bearer token will expire after this period of time in days.	Integer	365

ADVANCED SETTINGS

Key	Description	Valid input	Example
com.aris.umc.scim.service.provider.advance.settings.patch.support	**Patch support** The patch support is an optional server functionality that enables clients to update one or more attributes of a SCIM resource, for example a user or a user group, using a sequence of operations to **add**, **remove**, or **replace** values. The default value is **true**.	True, False	True
com.aris.umc.scim.service.provider.advance.settings.change.password.support	**Change password support** Enables the support for changing a user password. This means that if a user changes his password in the SCIM system, then it is also changed for ARIS. The default value is **false**.	True, False	False
com.aris.umc.scim.service.provider.filter.support	**Filter support** Specifies that clients can discover the filter capabilities of the service provider. Clients use the **Filter** attribute of the service provider's configuration end point. If filtering is enabled, not all users or user groups are transferred to ARIS, but only a subset. The default value is **true**.	True, False	True
com.aris.umc.scim.user.profile.photo.support	**Profile picture support** Specifies whether a profile picture is supported. The default value is **false**.	True, False	False

10.2.21.15 The default value is false

The default value is **false**.

10.3 Set up Document storage

You can customize general settings of ARIS document storage.

10.3.1 Export configuration

You can export configurations in order to import them into any tenant or installation and use them there.

Prerequisite

- You have the **Technical configuration administrator** function privilege.
- You have allowed pop-ups for the pages of ARIS Administration.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click **Export current configuration as a file**.

You can save the configuration file of ARIS document storage at the relevant location for further use.

10.3.2 Import configuration

You can import configurations, which were, for example, exported from a different tenant, into any tenant or installation and use them there.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click **Import configuration file**.

The **Import configuration file** dialog opens. Navigate to the location where the configuration file is stored and import it. The new configuration is active immediately and no system restart is required.

10.3.3 Customize infrastructure settings

You can customize the infrastructure for your document storage, for example, the path for mobile uploads.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click **Infrastructure**. To configure advanced settings, click the arrow next to **Infrastructure** and click **Advanced settings**.
7. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
8. Adjust your settings.
9. Click **Save**.

You have customized your document storage configuration (page 332).

10.3.4 Add third-party document management system

You can configure a third-party document management system.

The system available is Microsoft® SharePoint 2013. Please contact your local Software AG sales organization (http://www.softwareag.com) for other third-party document management systems.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click the arrow next to **Document management system**.
7. Click **General settings**.

8. Click **Edit**.
9. Enable **Use third-party document management system**.
10. Optional: If you want to use more than one third-party document management system, enable **Support for multiple document management systems**.
11. Click **Save**.
12. Click **Add**. The **Add document management system server** dialog opens.
13. Enter the following (page 337):
    - the server ID
    - the display name of the server
    - the type of the third-party document management system
    - the server URL
    - the user name of the user allowed to access the third-party document management system content
    - the password of this user
    - the path to the root folder
    - the site collection
14. Click **Save**.

You have added a third-party document management system.

If you want to specify more than one third-party document management system, proceed with step 12 of the procedure steps mentioned above.

10.3.5 Test connection to a third-party document management system

You can test the connection to a third-party document management system.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click the arrow next to the relevant document management system.
7. Click **Connection**.
8. Click **Test connection**.

A message is displayed, whether or not the connection to a third-party document management system server specified is valid.

10.3.6 Edit document management system

The system available is Microsoft® SharePoint 2013. Please contact your local Software AG sales organization (http://www.softwareag.com) for other third-party document management systems.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click the arrow next to **Document management system**.
7. Click the arrow next to the relevant document management system.
8. Click a configuration category (page 337).
9. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
10. Adjust your settings.
11. Click **Save**.

You have customized your document storage configuration.

10.3.7 Delete third-party document management system

The system available is Microsoft® SharePoint 2013. Please contact your local Software AG sales organization (http://www.softwareag.com) for other third-party document management systems.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click the arrow next to **Document management system**.
7. Click the arrow next to the relevant document management system.
8. Click **Connection**.
9. Click **Delete**. The **Confirmation** dialog opens.
10. Click **OK**.

You have deleted a third-party document management system.

10.3.8 Customize quota and restrictions

You can configure the quota and restrictions for your document storage.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click **Quota and restrictions**.
7. Click **Edit**.
8. Adjust your settings.
9. Click **Save**.

You have configured the quota and restrictions (page 347) for your document storage.

10.3.9 Configure full-text search

You can display the settings for the full-text search (page 348) in your document storage.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click **Full-text search**.
7. Click **Edit**.
8. Adjust your settings.
9. Click **Save**.

The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.

10.3.10 Configure WebDAV

You can display the WebDAV settings (page 351) in your document storage.

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Click **WebDAV**.
7. Click **Edit**.
8. Adjust your settings.
9. Click **Save**.

The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.

10.3.11 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

10.3.11.1 What infrastructure properties are available?

You can configure the infrastructure (page 326) for your document storage.

Properties that are highlighted as cross-tenant properties ( ) can only be changed using ARIS Cloud Controller Command-line Tool (ACC). To change these settings enter the following:

```
reconfigure adsadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure adsadmin_m JAVA-Dcom.aris.ads.thumbnails.queue.size="40"
```

Key	Description	Valid input	Example
com.aris.ads.filesystem.active	**Enable use of network share** Specifies whether a network share or a local directory is used for storing document content. If enabled, only metadata is stored in the ARIS document storage database. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	false, true	
com.aris.ads.filesystem.path	**Path to the file share** Path to a network share or a local directory where the document content is stored. If enabled, in distributed systems, all ARIS document storage instances must have access in the same way to this share or local directory. You must enter the network share in the following form: **\\<servername>\<directory>**, for		

Key	Description	Valid input	Example
	example, **\\myServer\data**. If you leave the preconfigured path, all data is stored in the local file system under **<ARIS installation directory>\server\bin\work\work_adsadmin_m\data**. You can use an absolute path to the local file system as well, for example, **C:\docdata**. The default value is **true**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.aris.ads.audit.enabled	**Generate usage statistics** Enables the generation of usage statistics. The default value is **true**.	true, false	
com.aris.ads.anonymous.access.allowed	**Allow anonymous access by link** Specifies that API Portal allows users to anonymously access all documents by the corresponding document link. The default value is **true**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	true, false	
com.aris.ads.link.display.document.inline	**Display document content in the browser** Specifies whether the content of a document is displayed in the browser by default. If displaying the content in the browser is not possible or the option is disabled, the document is downloaded.	true, false	

Key	Description	Valid input	Example
com.aris.ads.thumbnails.size	**Thumbnail width (in pixels)** If the picture width is smaller than the thumbnail width specified, no thumbnail is displayed for this picture. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	160
com.aris.ads.thumbnails.thread.count	**Maximum number of parallel scaling threads** Specifies the maximum number of parallel threads for scaling document thumbnails.	Integer > 0	
com.aris.ads.mobile.upload.path	**Folder for ARIS API uploads** Specifies the path where to store files uploaded from mobile devices.	Folder	/mobileuploads
com.aris.ads.migration.skip	**Skip migration** Specifies that data migration is to be skipped when the application is started for the first time after an update. The default value is **false**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	true, false	
com.aris.ads.ignore.invalid.dms.config	**Do not validate configuration** Specifies that the migration process ignores corrupt document management system configurations. The default value is **false**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	true, false	

Key	Description	Valid input	Example
com.aris.ads.page.size	**Page size (default)** Number of items that are retrieved by a single query. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	2500
com.aris.ads.page.size.max	**Page size (max)** Maximum number of items that can be retrieved by a single query. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	5000
com.aris.ads.mobile.upload.path	**Read timeout (in milliseconds)** Specifies the read timeout in milliseconds.	Integer > 0	
com.aris.ads.dao.statistics.enabled	**Collect database statistics** Collects statistics (for example, on query execution times) for all database queries. The default value is **true**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	true, false	
com.aris.ads.config.cache.ttl	**Configuration cache lifetime (in seconds)** Specifies the time to live (TTL) for internal caches in seconds. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	
com.aris.ads.config.encrypted	**Encrypted properties**	List	

Key	Description	Valid input	Example
	Specifies a comma-separated list of encrypted property keys.		
com.aris.ads.version	**Build version** This ARIS document storage version is currently installed. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Number	11.0.1.123456

10.3.11.2 What document management system properties are available?

You can configure a third-party document management system (page 329).

The system available is Microsoft® SharePoint 2013. Please contact your local Software AG sales organization (http://www.softwareag.com) for other third-party document management systems.

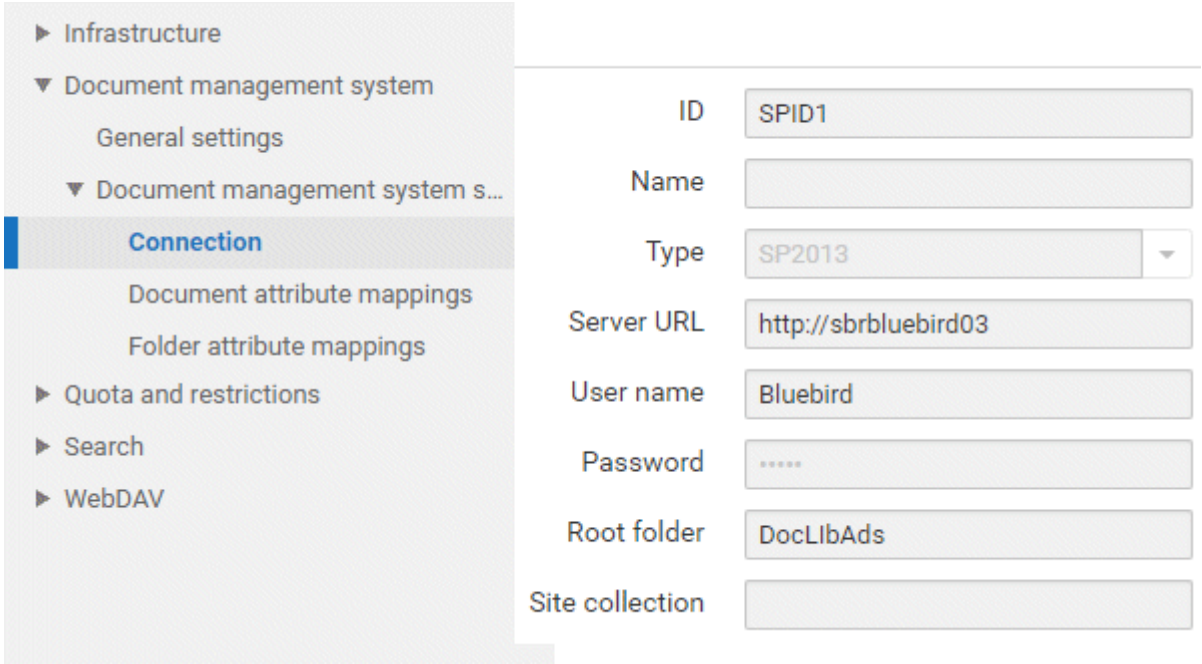
GENERAL

Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.active	**Use third-party document management system** Specifies whether or not a third-party document management system can be used.	true, false	
com.idsscheer.aris.ads.dms.multiple.active	**Support for multiple document management systems** Specifies whether or not more than one third-party document management system can be used.	true, false	
com.idsscheer.aris.ads.dms.configuration count	**Number of configured document management system servers** Displays the number of third-party document management systems configured. If you add an additional document management system server, the count is increased by one.	Integer	2

CONNECTION

Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.connection.id	**ID** Specifies the ID of the third-party documents management system.	String	
com.idsscheer.aris.ads.dms.display.name	**Name** Specifies the name of the third-party document management system.	String	
com.idsscheer.aris.ads.dms.type	**Type** Specifies which third-party document management system is to be used, for example, Microsoft® SharePoint 2013.	SP2013, SP2016	SP2013

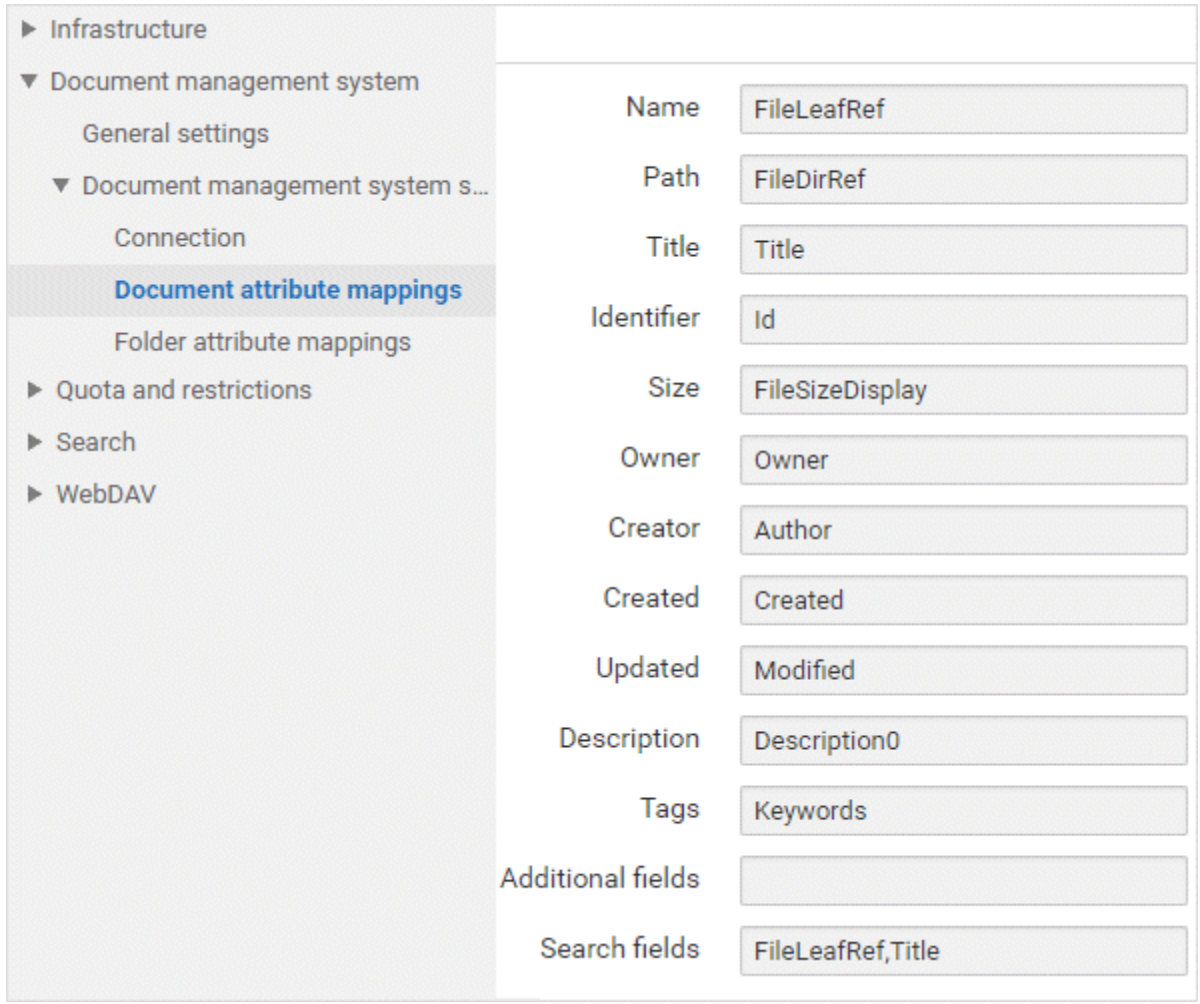
Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.url	**Server URL** Specifies the URL of the server on which the third-party document management system is installed.	URL	
com.idsscheer.aris.ads.dms.user	**User name** Specifies the user that is granted access to the third-party document management system.	String	
com.idsscheer.aris.ads.dms.password	**Password** Specifies the password for accessing a third-party document management system.	String	
com.idsscheer.aris.ads.dms.root	**Root folder** Specifies the name under which access to a third-party document management system is granted.	String	
com.idsscheer.aris.ads.dms.site.collection	**Site collection** Specifies a Microsoft® SharePoint site collection or a subsite containing the document library.	Comma-separated list	


Infrastructure
Document management system
General settings
Document management system s...
Connection
Document attribute mappings
Folder attribute mappings
Quota and restrictions
Search
WebDAV
ID
SPID1
Name
Type
SP2013
Server URL
http://sbrbluebird03
User name
Bluebird
Password
Root folder
DocLIbAds
Site collection

DOCUMENT ATTRIBUTE MAPPINGS

Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.document.name	**Name** Specifies the field to be mapped as the name.	String	FileLeafeRef
com.idsscheer.aris.ads.dms.document.path	**Path** Specifies the field to be mapped as the path.	String	FileDirRef
com.idsscheer.aris.ads.dms.document.title	**Title** Specifies the field to be mapped as the title.	String	Title
com.idsscheer.aris.ads.dms.document.id	**Identifier** Specifies the field to be mapped as the identifier.	String	ID
com.idsscheer.aris.ads.dms.document.size	**Size** Specifies the field to be mapped as the size.	String	FileSizeDisplay
com.idsscheer.aris.ads.dms.document.owner	**Owner** Specifies a document owner in the third-party document management system.	String	Owner
com.idsscheer.aris.ads.dms.document.creator	**Creator** Specifies a document creator for a folder of a third-party document management system.	String	Author
com.idsscheer.aris.ads.dms.document.created	**Created** Specifies the field to be mapped as the creation date.	String	Created

Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.document.updated	**Updated** Specifies the field to be mapped as the creation date.	String	Modified
com.idsscheer.aris.ads.dms.document.description	**Description** Specifies the description field for a document in the third-party document management system.	String	
com.idsscheer.aris.ads.dms.tags.holder	**Tags** Specifies a third-party document management system property containing the tags of the document (metadata).	Comma-separated list	
com.idsscheer.aris.ads.dms.userdefined	**Additional fields** Comma-separated list of additional fields to be mapped.	Comma-separated list	
com.idsscheer.aris.ads.dms.search.fields	**Search fields** Specifies a comma-separated list of strings that contains the names of the fields used to search for documents in a repository of a third-party document management system. The assistance of an administrator knowing which fields were configured is required.	Comma-separated list	FileLeafRef, Title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Path
FileDirRef
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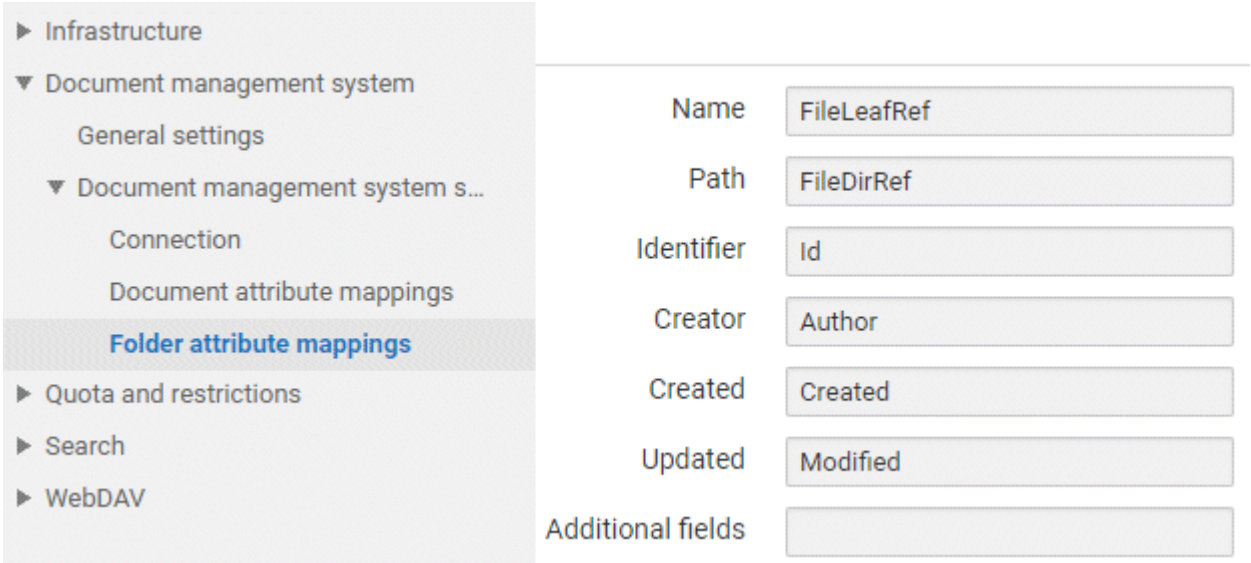
Identifier
Id
Size
FileSizeDisplay
Owner
Owner
Creator
Author
Created
Created
Updated
Modified
Description
Description0
Tags
Keywords
Additional fields
Search fields
FileLeafRef,Title

FOLDER ATTRIBUTE MAPPINGS

Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.folder.name	**Name** Specifies the field to be mapped as the name.	String	FileLeafeRef
com.idsscheer.aris.ads.dms.folder.path	**Path** Specifies the field to be mapped as the path.	String	FileDirRef
com.idsscheer.aris.ads.dms.folder.id	**Identifier** Specifies the field to be mapped as the identifier.	String	ID
com.idsscheer.aris.ads.dms.folder.creator	**Creator** Specifies a folder creator for a folder of a third-party document management system.	String	Author

Key	Description	Valid input	Example
com.idsscheer.aris.ads.dms.folder.created	**Created** Specifies the field to be mapped as the creation date.	String	Created
com.idsscheer.aris.ads.dms.folder.updated	**Updated** Specifies the field to be mapped as the creation date.	String	Modified
com.idsscheer.aris.ads.dms.folder.userddefined	**Additional fields** Comma-separated list of additional fields to be mapped.	Comma-separated list	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Search
WebDAV
Name
FileLeafRef
Path
FileDirRef
Identifier
Id
Creator
Author
Created
Created
Updated
Modified
Additional fields

10.3.11.3 What properties are available for quota and restrictions?

You can configure the quota and restrictions (page 330) for your document storage.

Key	Description	Valid input	Example
com.aris.ads.config.max.filesize	**Maximum file size (in kilobytes)** Specifies the maximum allowed size (in kilobytes) for file uploads.	Integer > 0	0
com.aris.ads.config.storage.quota.limit	**Quota limit (in kilobytes)** Specifies the maximum total size (in kilobytes) of the document storage available to a tenant.	Integer > 0	0
com.aris.ads.config.storage.quota.usage	**Quota usage (in kilobytes)** Amount of storage already used (in kilobytes) by uploaded documents.	Integer > 0	9678
com.aris.ads.config.supported.filetypes.filter.active	**Restrict file extensions** Enables or disables the file extension filter. The default is **not enabled** (default value **false**).		
com.aris.ads.config.supported.filetypes.filter	**Valid file extensions** Specifies a comma-separated list of allowed file extensions.	String	jpeg,jpg,png,gif,pdf,doc,docx,ppt,pptx,pps,ppsx,odt,xls,xlsx
com.aris.ads.config.supported.mimetypes.filter.active	**Restrict file extensions** Enables or disables the file type (MIME type) filter. The default is **not enabled** (default value **false**).	true, false	false
com.aris.ads.config.supported.mimetypes.filter	**Allowed file types** Specifies the list of allowed file types (MIME types).	String	text/plain,text/pdf

10.3.11.4 What properties for the full-text search are available?

You can display (page 331) the settings for the full-text search in your document storage.

Properties that are highlighted as cross-tenant properties ( ) can only be changed using ARIS Cloud Controller Command-line Tool (ACC). To change these settings enter the following:

```
reconfigure adsadmin_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure adsadmin_m JAVA-Dcom.aris.ads.thumbnails.queue.size="40"
```

Key	Description	Valid input	Example
com.aris.ads.thumbnails.queue.size	**Maximum size of thumbnail scaling queue** Specifies the maximum size of the queue for creating document thumbnail images. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	50
com.aris.ads.ignoresearch.enabled	**Exclude marked items from search** Specifies that a folder or document is to be excluded from the search operation. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. The default value is **false**.	True, False	False
com.aris.ads.ignoresearch.thread.count	**Maximum number of threads for items to be excluded from search** Specifies the maximum number of parallel threads for scaling down items to be excluded from the search operation.	Integer > 0	3

Key	Description	Valid input	Example
com.aris.ads.ignoresearch.queue.size	**Maximum size of the queue for items to be excluded from search** Specifies the maximum size of the queue for folders or documents to be excluded from the search operation.	Integer > 0	50
com.aris.ads.search.restriction.byrole	**Enable search restriction** Enables or disables whether or not only the last approved version of a document is displayed for users with the **ARIS Connect Viewer** or **ARIS Connect Designer** license privilege. Approved means that the document has the metadata status approved. For a user with the **ARIS Connect Designer** license privilege, two links are displayed additionally, one to open the document and one to display the document details. The default value is **false**.	True, False	False
com.idsscheer.aris.ads.search.elastic.document.maxsize.kb	**Maximum document size (in kilobytes)** Specifies the maximum document size in Elasticsearch. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	2000
com.idsscheer.aris.ads.search.elastic.parser.memory.threshold.kb	**Storage limit (in kilobytes)** Specifies the storage limit for the Elasticsearch parser. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	500
com.idsscheer.aris.ads.search.elas	**Maximum number of parallel threads**	Integer > 0	10

Key	Description	Valid input	Example
tic.parser.thread.count	Specifies the maximum number of threads for parallel processing when indexing documents. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.idsscheer.aris.ads.search.elastic.parser.queue.size	**Maximum queue size** Specifies the maximum size of the queue for indexing documents. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	10
com.aris.ads.search.term.consolidation.threshold	**Threshold for word consolidation** Number of recurrent words the application collects before performing an in-memory word consolidation.	Integer > 0	10000
com.aris.ads.search.parser.alwaysembedded	**Use in-memory parsing for all documents** Specifies that in-memory parsing is to be used for all documents regardless of their file size. The default value is **false**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	True, False	

10.3.11.5 What WebDAV properties are available?

You can display the WebDAV settings (page 331) in your document storage.

Key	Description	Valid input	Example
com.softwareag.ads.webdav.repository	**Repository** Specifies the name of the repository for which WebDAV is to be available. There can only ever be one repository per tenant.	String	apg
com.softwareag.ads.webdav.tenant	**Tenant** Specifies the tenant for which a WebDAV mapping exists. Please note that when you use multiple LDAP servers (page 236), WebDAV works for local users only.	String	default

10.4 Set up Process Governance

You can customize general settings of Process Governance.

10.4.1 Export configuration

You can export configurations in order to import them into any tenant or installation and use them there.

Prerequisite

- You have the **Process Governance administrator** function privilege.
- You have allowed pop-ups for the pages of ARIS Administration.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Export current configuration as a file**.

You can save the configuration file of Process Governance at the relevant location for further use.

10.4.2 Import configuration

You can import configurations, which were, for example, exported from a different tenant, into any tenant or installation and use them there.

Prerequisite

- You have the **Process Governance administrator** function privilege.
- You have allowed pop-ups for the pages of ARIS Administration.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Import configuration file**.

The **Import configuration file** dialog opens. Navigate to the location where the configuration file is stored and import it. The new configuration is active immediately and no system restart is required.

10.4.3 Customize infrastructure settings

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Process Governance administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Infrastructure**.
6. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
7. Adjust your settings (page 356).
8. Click **Save**.

You have customized your system configuration.

10.4.4 Customize Publishing

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Process Governance administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Publishing**.
6. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
7. Adjust your settings (page 361).
8. Click **Save**.

You have customized your system configuration.

10.4.5 Customize Reporting

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Process Governance administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Reporting**.
6. Click **Edit**.
7. Adjust your settings (page 362).
8. Click **Save**.

You have customized your system configuration.

10.4.6 Customize workflow policies

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Process Governance administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Workflow policies**.
6. Click **Edit**.
7. Adjust your settings (page 363).
8. Click **Save**.

You have customized your system configuration.

10.4.7 Customize pools

You can customize your system configuration as required. You carry out this part of the configuration in ARIS Administration.

Prerequisite

You have the **Process Governance administrator** function privilege.

Procedure

1. Click your name or the **User menu** icon.
2. Click **Administration**.
3. Click **Configuration**.
4. Click **Process Governance**.
5. Click **Pools**.
6. Click **Edit**.

   The **Cross-tenant** symbol indicates that the settings made apply to all tenants on this server and cannot be changed.
7. Adjust your settings (page 365).
8. Click **Save**.

You have customized your system configuration.

10.4.8 Set up sending notifications to Process Governance administrators

You can specify that Process Governance administrators receive e-mail notifications if problems occur during process execution for users modeled in an organizational chart relevant to Process Governance.

Prerequisite

You have the **User administrator** function privilege.

Procedure

1. Assign the relevant users Process Governance administrator privileges.
2. Also, specify (page 19) the **E-mail address** attribute for the Process Governance administrators.

The Process Governance administrators will automatically receive an e-mail if problems occur during process execution, for example, if an error occurs during execution of an automated task or if the recipient of an e-mail message has not been entered as a user.

10.4.9 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

10.4.9.1 What infrastructure properties are available?

You can configure your Process Governance the infrastructure (page 353).

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings, enter the following command:

```
reconfigure apg_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure apg_m JAVA-Dcom.idsscheer.age.activity.ws.call.timeout="https://myserver.com"
```

This is where you find an overview of keys and value pairs:

Key	Description	Valid input	Example
com.idsscheer.age.config.encrypted	**Encrypted properties** Specifies the configuration properties with encrypted values in a comma-separated list.	String	
com.idsscheer.age.activity.ws.call.timeout	**Web service read timeout** Specifies the timeout for read access to a Web service in milliseconds.	43200000	Number > 0
com.idsscheer.age.log.dblogger.severity	**Log level** Specifies the log level relevant for logging messages in a log file. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		Number > 0

Key	Description	Valid input	Example
com.idsscheer.age.log.monitoring.output.path	**Log file output path** Specifies the output path for the system monitoring log files. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Path on a server	
com.idsscheer.age.query.maxResults	**Maximum query result size** Specifies the maximum number of items that are to be returned by a single query. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.idsscheer.age.xe.maxExecDuration	**Maximum execution time** Specifies the maximum execution time in milliseconds for activities that support a timeout. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	43200000	Number > 0
com.idsscheer.age.autodeploy.archive	**Archive folder** Specifies the location of the folder used for archiving automatically generated processes. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.idsscheer.age.autodeploy.model	**Input folder** Specifies the location of the folder used for storing automatically generated processes. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer		

Key	Description	Valid input	Example
	to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.aris.age.email.fail.instance.on.error	**Stop process instance if notification fails** Specifies that running a process instance should fail if a notification cannot be successfully sent. The default value is **true**.	true, false	true
com.aris.age.email.simulate.only	**Simulate notifications** Specifies that notifications are not to be sent to their recipients. The default value is **false**.	true, false	false
com.idsscheer.age.version	**Build number** Process Governance build number. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.		
com.idsscheer.age.node.assignment.strategy	**Node assignment strategy** Indicates the node assignment strategy that is currently active. The default value is TENANT_BASED. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	TENANT_BASED, PROCESS_INSTANCE_BASED	TENANT_BASED

Key	Description	Valid input	Example
com.idsscheer.retry.failed.instances.on.restart	**Restart failed process instances** Specifies that a failed activity of an executable process instance is restarted with the same data if the system is available again. The default value is **false**.	true, false	false
com.idsscheer.age.automatic.node.rebalance	**Redistribute process instances using the PROCESS_INSTANCE_BASED node assignment strategy** Specifies that process instances are to be automatically redistributed across all active Process Governance nodes every time a new Process Governance node is added to the ARIS environment. The default value is **true**. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	true, false	true
com.idsscheer.age.batch.processing.size	**Batch processing size** Specifies the number of process instances to be processed by the engine. Instances move to QUEUED state if the current processing instances count exceeds the configured value. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. The default value is 1000.	Integer > 0	

Key	Description	Valid input	Example
com.idsscheer.age.priority.queue.size	**Priority queue size** Specifies the size of the priority queue. The priority queue contains the instances that are to be run with high priority. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. The default value is 100.	Integer > 0	
com.aris.age.email.group.by.locale.enabled	**Grouping by locale for e-mail** Enables the sending of one e-mail in each locale to the user group. Grouping is based on the preferred locale of the users. The default value is **false**.	true, false	false

10.4.9.2 What Publishing properties are available?

You can configure Process Governance Publishing (page 353).

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings, enter the following command:

```
reconfigure apg_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure apg_m JAVA-Dcom.idsscheer.age.activity.ws.call.timeout="https://myserver.com"
```

This is where you find an overview of keys and value pairs:

Key	Description	Valid input	Example
com.idsscheer.age.serviceenabling.staticExport.exportToDisk	**Export to server hard drive** Specifies that a static export is to be saved on a hard drive of the server. This works only in a non-distributed scenario in which everything is installed on a single server. If this value is set to false, the export is saved as a ZIP file to ARIS document storage and a link is generated.	true, false; the default value is true.	true
com.idsscheer.age.serviceenabling.staticExport.exportDir	**Static export directory** Specifies the directory for the static export.	<Installation directory>/server/bin/work/work_apg_m/base/webapps/aris/apgstatic	D:/ARIS9.5/server/bin/work/work_apg_m/base/webapps/aris/apgstatic
com.idsscheer.age.serviceenabling.staticExport.wsServer	**Static export link template** Specifies the template for the link to a static export that is	http://Process	http://Process Governance_server/ar

Key	Description	Valid input	Example
	generated via Web service. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Governance_server/aris/apgstatic/<GUID>	is/apgstatic/234ekmfhkdsau4w58

10.4.9.3 What Reporting properties are available?

You can configure Process Governance Reporting (page 354). This is where you find an overview of keys and value pairs:

Key	Description	Valid input	Example
com.idsscheer.age.serviceenabling.scriptrunner.defaultLanguage	**Default method language** Specifies the default method language for the ARIS services.	en_US	en_US, de_DE
com.idsscheer.age.serviceenabling.allowed.document.directory.paths	**Allowed document directory paths** Restricts the directory paths that are allowed for storing or uploading documents to the server (white list). If no path is specified, all paths are allowed.	Path	C:\documentpath1,c:\documentpath2,C:\documentpath3

10.4.9.4 What properties are available for workflow policies?

You can configure the workflow policies (page 354) for Process Governance.

Key	Description	Valid input	Example
com.idsscheer.age.days.workingdays.enabled	**Exclude weekend** Specifies whether only work days are to be considered in an escalation.	true, false	
com.idsscheer.age.days.off	**Weekend days** Specifies which days of the week represent the weekend in a five-day week. The week starts on Sunday (day 1) and ends on Saturday (day 7).	String	1,7 Weekends Saturday and Sunday.
com.idsscheer.age.days.publicholidays	**Public holidays** Specifies the public holidays. The format is DD.MM., for example, 01.01.,24.12.	Date	01.01,07.01,08.03,...
com.idsscheer.age.e.signature.enabled	**E-signature (double authentication)** Specifies whether or not reentering the password is necessary when completing tasks. The default value is **false**.	true, false	false
com.idsscheer.age.e.signature.username.enabled	**Enable user name field in e-signature (double authentication)** Enables/Disables user name protection for human tasks. User name protection is enabled only if both this option and the **E-signature (double authentication)** option are selected. The default value is **false**. If SSO is used, users must enter the password only.	true, false	false

Key	Description	Valid input	Example
com.idsscheer.age.reminder.notification.time	**Reminder notification threshold** Specifies when a reminder notification is to be sent when X% of the amount of time that is expected to elapse until the due date have already been consumed. The default value is 75 %.	Number > 0	75
com.idsscheer.age.substitution.notification.enabled	**Notify when a substitute is activated** Specifies whether or not a notification is sent when a substitute is configured for My tasks.	true, false	false
com.idsscheer.age.taskList.delegation.enabled	**Allow task delegation** Specifies whether or not delegation of tasks to other users (Delegate/Substitution) is allowed.	true, false	true
com.idsscheer.age.taskList.startTaskConfirmation.enabled	**Confirm start of task execution** Specifies centrally for all users whether or not the confirmation dialog is displayed when a task is started in My tasks for the first time.	true, false	true

10.4.9.5 What properties are available for pools?

You can configure thread pools (page 355) for Process Governance.

Properties that are highlighted as cross-tenant properties can only be changes using ARIS Cloud Controller Command-line Tool. To change these settings, enter the following command:

```
reconfigure apg_<size of your installation, s, m, or l> JAVA-D<property name>="<value>"
```

Example

```
reconfigure apg_m JAVA-Dcom.idsscheer.age.activity.ws.call.timeout="https://myserver.com"
```

This is where you find an overview of keys and value pairs:

Key	Description	Valid input	Example
com.idsscheer.age.job.service.threadsNumber	**Pool size of job service threads** Specifies the number of threads to be used by the job service. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. The default value is 8.	Integer > 0	8
com.idsscheer.age.simulation.instanceExecutorsPool.size	**Simulation pool size** Specifies the size of the pool containing simulated process instances. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. The default value is 5.	Integer > 0	5

Key	Description	Valid input	Example
com.idsscheer.age.xe.dispatch.workersPool.size	**Pool size of dispatch worker threads** Specifies the pool size for dispatch worker threads. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**. The default value is 10.	Integer > 0	10
com.idsscheer.age.xe.webservice.jobs.pool.size	**Pool size of web service worker threads** Specifies the pool size for web service worker threads. The default value is 15. Cross-tenant property that can only be changed using ARIS Cloud Controller. For further information, refer to **ARIS Cloud Controller (ACC) Command-line Tool manual**.	Integer > 0	15

10.5 Set up Collaboration

You can customize general settings of Collaboration.

10.5.1 Customize Collaboration

You can customize Collaboration.

Prerequisite

You have the **Collaboration administrator** function privilege.

Procedure

1. Click **Configuration**.
2. Click **Collaboration**.
3. Click a configuration category (page 369).
4. Click **Edit property** in the row of the property you want to configure.
   If Collaboration is deactivated, the properties are also deactivated and cannot be edited.

You have configured Collaboration.

10.5.2 Refresh list of published databases

You can refresh the list of published databases.

Prerequisite

You have the **Collaboration administrator** function privilege.

Procedure

1. Click **Configuration**.
2. Click **Collaboration**. If Collaboration is deactivated, the properties are also deactivated and cannot be edited.
3. Click **Configure database**.
4. Click **Refresh database list**.

You have refreshed the list of published databases..

10.5.3 Manually synchronize database

If a user name is set for the **Person responsible** model attribute of a model in an ARIS database, this user automatically becomes a follower of this model. Once the automatic following is activated in Collaboration), this user can see all model activities in **My feed**, and receives notifications about them. However, this only applies if this user has at least the **Read (r---)** access privilege in the corresponding ARIS database.

You can synchronize a database manually at any time.

Prerequisite

You have the **Collaboration administrator** function privilege.

Procedure

1. Click **Configuration**.
2. Click **Collaboration**. If Collaboration is deactivated, the properties are also deactivated and cannot be edited.
3. Click **Configure database**.
4. Move the mouse cursor in the row of the database you want to synchronize.
5. Click **Refresh database list**.

You have refreshed the content of a database for Collaboration.

10.5.4 What properties are available for Collaboration?

The following can be customized in Collaboration.

GENERAL SETTINGS

Key	Description	Valid input	Example
collaboration.optionsPage.enableECP	**Activate Collaboration** Activates Collaboration. The default value is **true**.	true, false	true
collaboration.optionsPage.allowCreationOfGroups	**Create groups** Specifies whether or not creating groups in Collaboration is allowed. The default value is **true**.	true, false	true
collaboration.optionsPage.allowCreationOfFilters	**Create filters** Specifies whether or not creating filters in Collaboration is allowed. The default value is **true**.	true, false	true
collaboration.optionsPage.enableLikeButton	**Enable Like button** Specifies whether or not the **Like** button is displayed. The default value is **true**.	true, false	true
collaboration.optionsPage.allowCommenting	**Create comments** Specifies whether or not comments on content are allowed. The default value is **true**.	true, false	true
collaboration.optionsPage.allowSharing	**Share content** Specifies whether or not sharing of content is allowed. The default value is **true**.	true, false	true

Key	Description	Valid input	Example
collaboration.optionsPage.allowBookmarks	**Create bookmarks** Specifies whether or not creating bookmarks is allowed. The default value is **true**.	true, false	true
collaboration.optionsPage.allowTags	**Create tags** Specifies whether or not creating tags is allowed. The default value is **true**.	true, false	true
collaboration.optionsPage.allowFlags	**Flag activities** Specifies whether or not flagging content is allowed. The default value is **true**.	true, false	true
collaboration.optionsPage.allowTagFilterInMainStream	**Allow tag filtering (My feed)** Specifies whether or not filtering using tags is allowed on the Collaboration start page.	true, false	true
collaboration.optionsPage.allowTagFilterInFullStream	**Allow tag filtering (Portal)** Specifies whether or not filtering using tags is allowed in the **My activities** area. The default value is **true**.	true, false	true
collaboration.optionsPage.allowTagFilterInCommentStream	**Allow tag filtering (My portal feeds)** Specifies whether or not filtering using tags is allowed in the portal. The default value is **true**.	true, false	true
collaboration.optionsPage.filterPrivateFeeds	**Public access to portal feeds** Specifies whether posts to model feeds are visible only if a user is following the model feed or is a member of a group that is following the model feed. The default value is **true**.	true, false	true

Key	Description	Valid input	Example
collaboration.optionsPage.tagsCloudSearchOperator	**Use search operator 'OR' instead of 'AND'** Specifies whether or not filtering using tags is allowed in **My feed**. If an additional tag is activated, more entries are displayed in the list. The default value is **true**.	true, false	true
collaboration.optionsPage.enableAttachment	**Enable attachments** Specifies whether or not documents from ARIS document storage can be accessed as new attachments for activities.	true, false	true
collaboration.optionsPage.exportActivitiesAsZipFileInstantly	**Export activities as ZIP file instantly** Specifies whether activities are exported as a ZIP file instantly or whether the ZIP file will be stored in ARIS document storage and you can download it later.	true, false	true
collaboration.optionsPage.autoFollowGroup	**Automatically follow groups** Specifies whether or not users are automatically followers of groups they have posted to or whose content they have commented on. The default value is **false**.	true, false	true
collaboration.optionsPage.autoFollowUser	**Automatically follow users** Specifies whether or not users are automatically followers of users they have posted to or whose content they have commented on. The default value is **false**.	true, false	true
collaboration.optionsPage.autoFollowModel	**Automatically follow models** Specifies whether or not users are automatically followers of models they have posted to or whose content they have commented on. The default value is **false**.	true, false	true

CONFIGURE USER GROUP

Key	Description	Valid input	Example
enableAllUserGroups	**Enable all user groups** Enables the function based on which all ARIS user groups are displayed when users are posting in Collaboration.	true, false	false
userGroupsToHaveOwnFeedInCollaboration	**Configure visibility of user groups in the collaboration** Enables the function based on which a single ARIS user group is displayed when users are posting in Collaboration.	true, false	false

CONFIGURE DATABASE

Key	Description	Valid input	Example
Database	**Synchronize daily at** Enables that the database is synchronized at a certain time every day if **Automatically follow users**/**Automatically follow groups**/**Automatically follow models** is enabled. If a user name is set for the **Person responsible** model attribute of a model in an ARIS database, this user automatically becomes a follower of this model. Once the automatic following is activated in Collaboration), this user can see all model activities in **My feed**, and receives notifications about them. However, this only applies if this user has at least the **Read (r---)** access privilege in the corresponding ARIS database. If a different user name is set for the **Person responsible** model attribute at a later point in time, the automatic following remains activated for the previous user until this user manually stops following this model (**Unfollow**).	time	

11 Manage server tasks

Centrally check server tasks, such as reports, merge operations, or backups. You can cancel report executions. This might be necessary, for example, if incorrect reports are executed.

11.1 Display server tasks

You can check which server tasks, such as reports, merge operations, or backups, are performed and which server tasks are completed.

Prerequisite

You have the **ARIS Connect administrator** and **Server administrator** function privileges.

Procedure

1. Click **Server tasks**.
2. Click **Running tasks** or **Completed tasks**.

Running tasks or completed tasks are listed.

11.2 Toggle auto-refresh

You can switch auto-refresh on or off. If you have enabled auto-refresh, new tasks are displayed immediately after they are created.

Prerequisite

You must have the **ARIS Connect administrator** and **Server administrator** function privileges to view **server tasks**.

Procedure

1. Click **Server tasks**.
2. Click **Toggle auto-refresh** to enable auto-refresh. The icon is underlined to indicate that auto-refresh is enabled and new tasks are displayed immediately after they are created.
3. Click **Toggle auto-refresh** again if you want to disable auto-refresh. The icon is no longer underlined. To view new tasks from now on, click **Refresh**.

You have defined whether the tasks are updated automatically or manually.

11.3 Cancel report

You can cancel the execution of a task of the **Report** category, that is, the execution of running reports.

Prerequisite

You must have the **ARIS Connect administrator** and **Server administrator** function privileges to view **server tasks**.

Warning

Canceling a report execution "kills" the report, that is, canceling a report does not guarantee data consistency. If, for example, a report has changed data, these changes are not rolled back by the cancelation.

Procedure

1. Click **Server tasks**. The tasks currently running are listed.
2. From the user column, determine the name of the user who started the report. Inform the user that the report is to be canceled and he must press **F5** to continue working in ARIS Connect when the cancel dialog opens. This closes the cancel dialog and work in the program is possible again.
3. In the row of the report you want to cancel, click **Cancel**. The confirmation dialog opens.
4. Click **Yes**.

The report is canceled and displayed in **Completed tasks** with the status **Canceled**. The user who started the report is informed of the cancelation by a cancelation dialog.

11.4 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

11.4.1 What is the Server tasks area for?

The **Server tasks** area lists current and completed server tasks, such as reports, merge operations, or backups, of a tenant. You can see which tasks are running in the background of the tenant and which tasks have been completed and no longer consume resources.

You can use the **Running tasks** list to cancel a task (page 374) of the category **Report**. Canceled tasks are listed in the **Completed tasks** list with the status **Canceled**.

The **Completed task** list displays a maximum of 1.000 tasks. When more tasks are completed, the oldest tasks are removed from the list. Entries older than seven days are automatically removed from the list.

11.4.2 How is the Running tasks list structured?

The **Running tasks** list has the following columns. You can sort the columns in the table in ascending and descending order.

Column	Content
Category	Outputs the category of the server task, such as **XML Import**, **DB Restore**, **Merge** and **Report**.
Name	Name of the task.
User	Name of the user who started the task.
State	Status of the task, for example, **Initializing** and **Running.** Depending on the category of the task, additional information is provided, for example, **The request is in the processing queue** for reports.
Server	Server on which the task is executed.
Start time	Month, day, and time at which the task was started.
Duration	Duration of the task in milliseconds, seconds, minutes, etc.

11.4.3 How is the Completed tasks list structured?

The **Completed tasks** list has the following columns. You can sort the columns in the table in ascending and descending order.

Column	Content
Category	Outputs the category of the server task, such as **XML Import**, **DB Restore**, **Merge** and **Report**.
Name	Name of the task.
User	Name of the user who started the task.
State	Status of the task, for example, **Completed** or **Canceled.**
Server	Server on which the task was executed.
Start time	Month, day, and time at which the task was started.
Duration	Duration of the task in milliseconds, seconds, minutes, etc.

12 Administrate dashboards (ARIS Aware)

You can use the product ARIS Aware as visualizing component of ARIS Connect. Using ARIS Aware enables you to combine information from many sources and visualize data as KPIs by means of dashboards. ARIS Aware supports users in various departments across the enterprise by providing dashboards for evaluating a wide variety of data. It improves the transparency of the business and enables you to make the best decisions based on reliable data analyses. What users see and what they can do in ARIS Aware depends on their user role (page 565).

ARIS Aware is equipped with predefined templates for common scenarios in the context of business process management, including:

Center of Excellence (CoE)

Collaboration

Customer Experience Management (CXM)

Business Strategy

Enterprise Architecture Management

Governance Risk and Compliance Management

General Data Protection Regulation (GDPR)

Portal usage

Process Performance Management

SAP Solutions data

These templates can be extended and customized according to the individual requirements of a company.

12.1 Configure dashboards

Specify a URL alias for the server where data for dashboards and data feeds are stored. You can specify a URL alias for the ARIS Process Performance Manager server as well.

12.1.1 Connections

You can define the alias URL to be used within data feeds, create a ARIS Process Performance Manager server connection, define the JDBC driver or the JDBC data source (page 624) to be used within data feeds.

12.1.1.1 Add an alias URL for dashboards

Define the alias URL to be used within data feeds. If you specify **Feed URL**, all default data feeds will work properly.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **URL_ALIAS** from the list.
8. Click **Add**. The **Add property** dialog opens.
9. Enter the alias. Enter **Feed URL** for the content that is delivered with the installation.
10. Enter the protocol (http or https) to be used for the communication.
11. Enter a fully-qualified host name (FQHN). Enter the fully-qualified host name, for example, myserver.mydomain.ext, where ARIS Server runs for the content that is delivered with the installation, for example, copy it from your browser's URL.
12. Enter the port. Enter the port on which ARIS Server runs for the content that is delivered with the installation.
13. Enter user name and password of the user who is supposed to have access to the data feeds used by the dashboards.

    If you change the password of the user who created this URL_ALIAS, you must also update the password for the **Feed URL** alias (**Edit Property**), otherwise dashboards cannot be displayed.
14. Click **Save**.

The alias URL is defined.

This alias URL can be used for your data feeds.

12.1.1.2 Edit an ARIS Server alias

Edit an alias of the ARIS Server where dashboard and feed data are stored.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Move the mouse pointer to the item you want to change.
8. Click **Edit**.
9. The corresponding dialog opens.
10. Enter your changes.
11. Enter the password.
12. Click **Save**.

You have edited the alias of the ARIS Server where dashboard and feed are stored.

12.1.1.3 Delete an ARIS Server alias

You can delete an ARIS Server alias where dashboard and feed data are stored.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **URL_ALIAS** from the list.
8. Move the mouse pointer to the item you want to change.
9. Click **Delete property**.

The selected alias of the ARIS Server containing of dashboard and feed data is deleted without prompting for confirmation.

12.1.1.4 Create a PPM server connection

You can create a ARIS Process Performance Manager server connection.

If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you must recreate the PPM connections that were defined for ARIS Connect 10.0 Service Release 1. First delete the PPM connection (page 383) and add a new PPM connection (page 381) with the same data.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **PPM_CONNECTIONS** from the list.
8. Click **Add**. The **Add property** dialog opens.
9. Enter the PPM client.
10. Enter the protocol (http or https) to be used for the communication.
11. Enter a fully-qualified host name (FQHN).
12. Enter the port.
13. Enter the client of your PPM server. A client provides you with all the configuration files and applications required to extract data from your source system and configure it for further processing.

    The version information cannot be changed.
14. Click **Save**.

You have created a connection to your ARIS Process Performance Manager server.

12.1.1.5 Edit a PPM server connection

You can edit your ARIS Process Performance Manager server connection.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **PPM_CONNECTIONS** from the list. All ARIS Process Performance Manager servers configured are displayed.
8. Move the mouse pointer to the item you want to change.
9. Click **Edit**. The **Edit property** dialog opens.
10. Enter your changes.
11. Click **Save**.

You have edited your ARIS Process Performance Manager server connection.

12.1.1.6 Delete a PPM server connection

You can delete a ARIS Process Performance Manager server connection.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **PPM_CONNECTIONS** from the list. All ARIS Process Performance Manager servers configured are displayed.
8. Move the mouse pointer to the item you want to delete.
9. Click **Delete property**.

The selected ARIS Process Performance Manager server connection is deleted without prompting for confirmation.

12.1.1.7 Add a JDBC driver for dashboards

Define the JDBC driver to be used within data feeds.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **JDBC drivers** from the list.
8. Click **Add**. The **Add property** dialog opens.
9. Enter the name of the JDBC driver.
10. Enter the driver class, for example, jar.
11. Click **Select import file**.
12. Select the driver file and click **OK**.
13. Click **Upload**.

This JDBC driver can be used for your data feeds.

12.1.1.8 Edit a JDBC driver for dashboards

You can edit your JDBC driver to be used within data feeds.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **JDBC drivers** from the list.
8. Move the mouse pointer to the item you want to change.
9. Click **Edit**. The corresponding dialog opens.
10. Enter your changes.
11. Click **Save**.

This JDBC driver can be used for your data feeds.

12.1.1.9 Delete a JDBC driver for dashboards

You can delete your JDBC driver.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **JDBC drivers** from the list.
8. Move the mouse pointer to the item you want to delete.
9. Click **Delete property**.
10. Click **OK** to confirm.

This JDBC driver is deleted.

12.1.1.10 Add a JDBC data source for dashboards

Specify the JDBC data source (page 624) to be used within data feeds.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.
- You have uploaded a JDBC driver.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **JDBC data source** from the list.
8. Click **Add**. The **Add property** dialog opens.
9. Enter the name of the JDBC data source.
10. Select the JDBC driver.
11. Enter the URL of the JDBC driver.
12. Enter the user name of the user who can access the data.
13. Enter the password of the user who can access the data.
14. Enter the initial size.
15. Enter the maximum active time.
16. Enter the maximum wait time.
17. Enter the maximum idle time.
18. Enable the pool prepared statement, if required.
19. Enter the validation query.
20. Enter the validation timeout.
21. Enter the number of eviction runs.
22. Enter the number of tests per run.
23. Enter the maximum evictable idle time.
24. Click **Save**.

This JDBC data source can be used for your data feeds.

12.1.1.11 Edit a JDBC data source for dashboards

You can edit your JDBC data source (page 624) to be used within data feeds.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **JDBC data source** from the list.
8. Move the mouse pointer to the item you want to change.
9. Click **Edit**. The corresponding dialog opens.
10. Enter your changes.
11. Click **Save**.

This JDBC data source can be used for your data feeds.

12.1.1.12 Delete a JDBC data source for dashboards

You can delete your JDBC data source (page 624).

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Connections**.
7. Select **JDBC data source** from the list.
8. Move the mouse pointer to the item you want to delete.
9. Click **Delete property**.
10. Click **OK** to confirm.

This JDBC data source is deleted.

12.1.2 Styles

You can customize styles and themes for the dashboard editor (page 419), the data feed editor (page 553), and dashboards (page 563).

12.1.2.1 Dashboard and data feed editor

You can customize styles and themes for the dashboard (page 419) and the data feed editor (page 553).

12.1.2.1.1 Upload styles and themes

Upload styles and themes for the dashboard (page 419) and the data feed editor (page 553).

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.
- You have a customized **LESS** file.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Styles & Themes**.
7. Click **Application**.
8. Click **Upload**.
9. Select the relevant file.

You have uploaded styles and themes for the dashboard (page 419) and the data feed editor (page 553).

12.1.2.1.2 Download styles and themes

Download styles and themes from the dashboard (page 419) and the data feed editor (page 553).

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Styles & Themes**.
7. Click **Application**.
8. Click **Download**.

You have downloaded styles and themes for the dashboard (page 419) and the data feed editor (page 553).

12.1.2.2 Dashboards

You can upload styles and themes for dashboards that can be processed in the dashboard editor.

12.1.2.2.1 Upload styles and themes

Upload styles and themes for dashboards (page 563).

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.
- You have a customized ZIP archive containing **LESS** files.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Styles & Themes**.
7. Click **Dashboard**.
8. Click **Upload**.
9. Select the relevant file.

You have uploaded styles and themes for dashboards.

12.1.2.2.2 Download styles and themes

Download styles and themes for dashboards (page 563).

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Styles & Themes**.
7. Click **Dashboard**.
8. Click **Download**.

You have downloaded styles and themes for dashboards (page 563).

12.1.2.2.3 Delete styles and themes

Delete styles and themes for dashboards (page 563).

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- Your ARIS Server is enabled for ARIS Aware.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Dashboards**.
6. Click **Styles & Themes**.
7. Click **Dashboard**.
8. Move the mouse cursor over the dashboard style you want to delete.
9. Click **Delete**.

You have deleted styles and themes for dashboards (page 563).

12.1.3 Make default dashboards available

This procedure explains how to provide default ARIS Aware dashboards in ARIS Connect.

Prerequisites

- Your ARIS Server is enabled for ARIS Aware that is, the **dashboarding** runnable is activated and running (see **ARIS Server Installation Guide** or **ARIS Cloud Controller (ACC) Command-Line Tool** on DVD, ARIS Download Center (https://aris.softwareag.com/), or Empower (https://empower.softwareag.com/)).
- A valid **ARIS Connect Server Extension Pack Aware (YCSAW)** license is available in ARIS Administration.
- You have access to the ARIS installation DVD.
- If you want to generate dashboards based on portal usage statistics of ARIS Connect content, you must set up and configure the external web analytics application **Matomo**, install and configure two additional ARIS runnables, and configure the Matomo-related reports in ARIS Architect.

Procedure

1. Import the default xml documents. These documents are used by the default data feeds to generate dashboards. You can either do a bulk import using a command line tool (page 397) (for initial installation only) or copy the documents using WebDAV (page 399).
2. Import default dashboard content (page 396).
3. Add an alias URL (page 378).
4. Check default data feeds for issues (page 405).
5. Publish the database as a process portal (page 130) using the **default** or **classic** configuration set.
6. Keep dashboard data up to date (page 400).
7. Create (page 29) a new **dashboard_viewers** user group in ARIS Administration and assign all users which should see dashboards but are no Dashboard administrators. Otherwise, you have to assign permissions for all dashboards and the corresponding feeds separately to every user in the data feed editor.

All default dashboards, data feeds and documents are available in ARIS Connect.

12.1.3.1 Import default dashboard content

The default dashboards and data feeds must be imported. These default data feeds are configured to use the corresponding XML documents. Therefore make sure you have imported the required XML documents (see bulk import (page 397) or using WebDAV (page 399)).

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Copy the **Dashboards_Feeds.zip** file from the ARIS installation DVD to a temporary target directory, for example: **C:\Dashboarding**. The **Dashboards_Feeds.zip** file contains the default dashboards, data feeds, and permissions.
2. Start ARIS Connect.
3. Click **Repository**.
4. Activate the **Dashboards & Data feeds** tab.
5. Click **Dashboards**.
6. Click **Import**.
7. Select the **Dashboards_Feeds.zip** file to be imported. The file contains the default dashboards and dashboard privileges.
8. If the dashboard(s) available in the repository should be replaced, activate the **Overwrite if already exists** option.
9. If the dashboard permissions contained in the dashboard file should also be imported, activate the **Import privileges** option. This option is activated by default.
10. Click **Import**. The default dashboards, data feeds, and permissions are imported and the new dashboards are listed on the **Dashboards** tab of the repository.

All default dashboards and data feeds are available.

12.1.3.2 Bulk Import using Command Line Tool

INITIAL INSTALLATION

For new installations, you can import documents using the Command line tool. These documents are used by the default data feeds to generate dashboards.

Procedure

1. Extract the **Documents** archive (ARIS installation DVD\Content\ARISAware) to a temporary target directory, for example: **C:\Dashboarding**. This archive contains all required xml documents used by the default data feeds.
2. Import the default ARIS document storage documents via bulk import:
3. Open a Command Prompt and navigate to <ARIS installation path>\server\bin\work\work_adsadmin_<s,m or l>\tools**bin**.
4. Enter this command to import all documents into ARIS document storage of each tenant you use, for example, **default**:

   y-admintool.bat -t <tenant name> bulkimport -u system -p manager -path "c:\Dashboarding"

   c:\Dashboarding is the extracted structure from zip archive and location on the server storage.
5. Check for the shown message of 162 imported files in 10 folders for each tenant.
6. Close the Command Prompt window.

All default xml documents are available in ARIS document storage.

You must import the default data feeds (page 396) in order to generate default dashboards.

UPDATE INSTALLATION

Do not use the bulk import command line tool in case of an update installation.

Upload the **Conversation_Rate.csv** document manually to the **Dashboarding** folder.

Upload the following files manually to the **Dashboarding\<database name>\CXM** folder, for example, **Dashboarding\United Motor Group\CXM**, of each database:

- CXM_SEGMENTATION_AND_ASSIGNMENTS.xml
- CXM_SEGMENTATION_AND_ASSIGNMENTS_METADATA.xml

You can find these files in the **Content\ARISAware\Documents.zip** file from the ARIS installation DVD.

Procedure

1. Open ARIS Connect.
2. Click **Repository**.
3. Click **Documents**.

4. Click a folder in the navigation.
5. Click **Upload**. The **Upload document** (page 94) dialog opens.
6. Enter the relevant optional additional information, and click **OK**.

You have added a new content for ARIS Aware.

12.1.3.3 Copy documents using WebDAV

You can import the default ARIS document storage documents using WebDAV. These documents are used by the default data feeds to generate dashboards.

ARIS document storage supports WebDAV. You can connect only one tenant with a specific repository.

To grant users without the **Document management** role access to ARIS document storage content, ARIS document storage can be used as a WebDAV network drive.

With a Microsoft® Windows 7 operating system you just need to connect the relevant network and access ARIS document storage directly. With older operating systems, you need to use Web folders (select **Tools > Map Network Drive > Sign up for online storage connect to a network server** in Microsoft® Windows Explorer). If this does not work you need to configure your computer as follows.

Procedure

1. Open the Registry Editor.
2. Navigate to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\WebClient\Parameters** and find the DWORD entry **BasicAuthLevel**.
3. Check if the value of this entry is **2**. If the value of this entry differs, please change it to **2**. If the DWORD entry does not exist, create it.
4. With operating systems older than Microsoft® Windows 7 you also need to find the DWORD entry **UseBasicAuth**. If it does not exist, create it.
5. Change the value of this entry to the hexadecimal value **1**. Thus, you enable HTTP Basic Access Authentication for SSL and non-SSL connections.
6. Close the Registry Editor.
7. Restart Microsoft® Windows.

   You can now use ARIS document storage as a WebDAV network drive.
8. Configure ARIS document storage for WebDAV - please refer to the ARIS Connect online help, chapter **Manage ARIS Connect > Configure ARIS Connect > Set up Document storage > Configure WebDAV**.
9. Extract the **Documents** archive (ARIS installation DVD\Content\ARISAware) to a temporary target directory, for example: **C:\Dashboarding**. This archive contains all required xml documents used by the default data feeds.
10. In order to copy the content into ARIS document storage, a network mapping using WebDAV is required.
11. Map the network drive to **http://<Fully qualified domain name of ARIS Server:load balancer port>/documents/rest/webdav**. You do not need to specify the port if the load balancer uses port 80.

    Example

    http://myserver.mydomain.ext:1081>/documents/rest/webdav

12. Copy extracted folder **Dashboarding** to mapped network drive.

All default documents are available in ARIS document storage.

You must import the default data feeds (page 396) in order to generate default dashboards.

12.1.3.4 Keep ARIS Aware dashboards up to date

This procedure describes how to define scheduled reports in ARIS Architect.

Database information to be compiled for dashboard display is gathered by different reports. These reports generate data feed (page 405) input stored in ARIS document storage. Run these reports automatically to keep all data compiled for dashboard display up to date. In order to use the Matomo - Global portal usage and Matomo - Database-specific portal usage reports, make sure to have Matomo installed and configured and the report parameters specified accordingly.

Prerequisite

- You have the **Report automation** function privilege.
- You have access to this script. Access to scripts can be restricted to certain user groups.
- You have read access to all required database groups.

Procedure

1. Click **ARIS > Administration** or **ARIS > Explorer**. The **Administration** or **Explorer** tab opens.
2. Log in to the database.
3. Click **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
4. In the Explorer tree, click the folder **Scheduled reports**.
5. Click **New > Create scheduled report**. The Report Automation Wizard opens.
6. Specify the name for this schedule and enter the user's password that has **read** permission to all required database groups. Make sure that the schedule is activated.
7. Click **Next** and select the first report from the **Dashboard data** category and specify the settings as required.
8. Click **Next** and select the database to be evaluated.
9. Click **Next** and specify the schedule settings as required.
10. Click **Finish**. If the first execution is in the future, the report is automatically active and runs as soon as the defined point in time is reached.
11. Create schedules for all required reports from the **Dashboard data** category. The selection of reports depends on the data to be compiled for dashboard display.

All default data feeds used to create dashboards will be supplied with the most current data as specified.

12.1.4 Import dashboards

You can import one or multiple dashboards into the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. To import dashboards, click the **Import** button.
6. Select the dashboard file to be imported. The file is in **ZIP** format and can contain one or more dashboards. The file also includes the dashboard privileges.
7. If the dashboard(s) available in the repository should be replaced, activate the **Overwrite if already exists** option.
8. If the dashboard permissions contained in the dashboard file should also be imported, activate the **Import privileges** option. This option is activated by default.
9. Click **Import**.

The selected dashboard file is imported and the new dashboards are listed on the **Dashboards** tab of the repository.

12.1.5 Add a dashboard

You can add your own dashboard to the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. Click **Add**.

The dashboard editor opens and you can create your own dashboard (page 437).

12.1.6 Export dashboards

You can export one or all dashboards available in the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. To export a specific dashboard, click the **Export** button of the relevant dashboard.
6. To export all dashboards, click the **Export all** button in the main menu.

The dashboards are exported and downloaded directly to the browser as a single ZIP file.

12.1.7 Delete a dashboard

You can delete a dashboard from the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. Move the mouse pointer to the dashboard you want to delete.
6. Click **Delete**. The **Confirmation** dialog opens.
7. Click **Yes** to confirm.

The dashboard is deleted.

12.1.8 Import data feeds

You can import one or multiple data feeds into the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. To import data feeds, click the **Import** button.
6. Select the data feeds file to be imported. The file is in ZIP format and can contain one or more data feeds. The file also includes the data feed permissions.
7. If the data feeds available in the repository should be replaced, enable the **Overwrite if already exists** option. Activated by default.
8. If the data feed permissions contained in the data feed file should also be imported, enable the **Import permissions** option. Activated by default.
9. Click **Import**.

The selected data feed file is imported and the new data feeds are listed on the **Data feeds** tab of the repository.

12.1.9 Add a data feed

You can add a data feed to the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. Click **Add**.

The dashboard editor opens and you can create your own dashboard (page 437).

12.1.10 Export data feeds

You can export a data feed available in the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. To export a specific data feed, click the **Export** button of the relevant data feed.
6. To export all data feeds, click the **Export all** button in the main menu.

The data feeds are exported and downloaded directly to the browser as a single ZIP file.

12.1.11 Delete a data feed

You can delete a data feed from the Repository of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have the ARIS Connect Viewer license privilege with ARIS Aware enabled or the ARIS Connect Designer license with ARIS Aware enabled.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. Move the mouse pointer to the data feed you want to delete.
6. Click **Delete**. The **Confirmation** dialog opens.
7. Click **Yes** to confirm.

The data feed is deleted.

12.1.12 Check default data feeds for issues

You can open an available data feed in ARIS Connect. The data feed is opened in the data feed editor.

The available dashboards and the relevant data feeds are provided in the **Repository** of ARIS Connect.

Prerequisite

- You have the **Dashboard administrator** function privilege.
- You have an ARIS Connect Designer (page 54) license.
- The **Feed URL** alias URL is defined (page 378).
- The default ARIS Aware dashboards are available (page 395).

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**. The default data feeds are displayed.
5. Click a data feed name.

   The selected data feed opens in the data feed editor. The data feed will work properly if the Feed URL is in use. If the **Path prefix (alias)** name is shown in red, the alias URL has not been created (page 378) properly.
6. Click **Calculate preview**.

Data is shown in the **Calculation result of operator ARIS Table** section, the default data feeds work properly. All default dashboards can be displayed in ARIS Connect (page 412).

In case of errors check whether the prerequisites specified are met. If you change the password of the user who created this URL_ALIAS, you must also update the password for the **Feed URL** alias (**Edit Property**), otherwise dashboards cannot be displayed.

12.1.13 Manage Fact sheets

Edit your own modification sets created based on the classic configuration set or the default configuration set.

12.1.13.1 Add a dashboard to the 'Overview' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be altered.
6. Scroll to **Dashboards**.
7. Click **Add**. The **Add Dashboard** dialog is displayed.
8. Enter a name. You can enter a name in multiple languages.
9. Select the database in which the dashboard is to be displayed.
10. Select a dashboard.
11. Click **Add**. The dashboard is added to the **Overview** item.
12. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

12.1.13.2 Remove a dashboard from the 'Overview' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Overview** item, click **Edit**. If the overview belongs to an item that is in the package and the overview has not yet been edited, the **System** layout is activated, which cannot be altered.
6. Scroll to **Dashboards**.
7. Move the mouse pointer over the dashboard you want to delete.
8. Click **Delete**. The dashboard is removed from the **Overview** item.
9. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

12.1.13.3 Add a dashboard to the 'Diagram' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Diagram** item, click **Edit**.
6. Click **Add**.
7. The **Add Dashboard** dialog is displayed.
8. Select a dashboard.
9. Enter a name in the relevant languages.
10. Click **Add**. The dashboard is added to the **Diagram** item.
11. Select the database in which the dashboard is to be displayed.
12. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

12.1.13.4 Remove a dashboard from the 'Diagram' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Diagram** item, click **Edit**.
6. Select a dashboard.
7. Click **Delete**. The dashboard is removed from the **Diagram** item.
8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

12.1.13.5 Add a dashboard to the 'Dashboard' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

You can add dashboards globally for items.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Dashboards** item, click **Edit**.
6. Click **Add**. The **Add Dashboard** dialog is displayed.
7. Select a dashboard.
8. Enter a name in the relevant languages.
9. Click **Add**. The dashboard is added to the **Dashboards** item.
10. Select the database in which the dashboard is to be displayed.
11. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

12.1.13.6 Remove a dashboard from the 'Dashboard' item

Edit your own modification sets created based on the classic configuration set or the default configuration set.

You cannot edit the **Classic** and the **Default** configuration set.

Prerequisite

You have the **Portal administrator** function privilege.

Procedure

1. Open a user-defined modification set for editing. (page 140)
2. Click **Fact sheets** on the **Define modification set** page.
3. Move the mouse pointer over the item you want to change, for example, **Process**.
4. Click **Edit**. The **Edit fact sheet** page opens. All subordinate pages shown on the fact sheet are listed.
5. In the **Dashboards** item, click **Edit**.
6. Select a dashboard.
7. Click **Delete**. The dashboard is removed from the **Dashboards** item.
8. Click **Back**.

For the portal to be displayed with this modification set, you need to select (page 139) the new modification set for display.

12.2 Manage dashboards and data feeds

If you have **Dashboard administrator** function privileges, you can access the **Dashboards & Data feed** area to manage dashboards and data feeds.

12.2.1 Open a dashboard

You can open an existing dashboard from the Repository of ARIS Connect. The dashboard is displayed in view mode provided by the dashboard editor.

Prerequisite

- You have the **View** permission for the dashboard. See Manage dashboard permissions (page 444) for details.
- You have the **View** permission for the assigned data feeds. See Manage data feed permissions (page 559) for details.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. To open a dashboard, click the relevant dashboard name.

The selected dashboard opens in view mode of the dashboard editor.

In edit mode, you can edit the dashboard (page 438) currently opened, provided you have the **Dashboard administrator** function privilege. Click **Edit dashboard** in the main menu.

12.2.2 Create a dashboard

ARIS Connect allows you to create your own dashboards (page 563).

By default, dashboards and the relevant data feeds are provided in the Repository of ARIS Connect.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. Click New.

   The dashboard editor is opened in edit mode.
6. Configure and save your dashboard using the dashboard editor (page 438).
7. Click **Refresh**.

Your dashboard is created and available in the **Dashboards** list in the Repository of ARIS Connect.

12.2.3 Delete a dashboard

You can delete an existing dashboard from the Repository of ARIS Connect.

Warning

Deleted dashboards cannot be restored.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. To delete a dashboard, move the mouse pointer over a dashboard in the dashboard list and click the **Delete** icon in the corresponding row.
6. To delete one or more dashboards, select the dashboards you want to delete and click the **Delete** icon on the toolbar.
7. Click **Yes** to confirm the deletion.

The selected dashboards are deleted.

12.2.4 Specify dashboard privileges in the Repository

You can specify dashboard view privileges in the Repository of ARIS Connect. You can assign view privileges to individual users or to user groups. If you assign privileges to a user group, the privileges are automatically assigned to all members of that group.

All users and user groups with the **View** privilege for the dashboard are listed in the **Associated users / user groups** box. Initially, only the creator of the dashboard has the **View** privilege for the dashboard. All not yet assigned users and user groups are listed in the **Available users / users groups** box.

All users and user groups with the **View** privilege for the dashboard has automatically the **View** privilege for all associated assets of the dashboard, such as data feeds and aliases.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Dashboards**.
5. To specify dashboard privileges, move the mouse pointer over a dashboard in the dashboard list and click the **Specify privileges** icon in the corresponding row.
6. Enter a term in the filter box to filter the list of available users and user groups.
7. In the **Available users / users groups** box, select the users and user groups you want to assign to the dashboard and click **Add**.
8. Click **Add all** to assign all available users and user groups to the dashboard.
9. In the **Associated users / user groups** box, select the users and user user groups from whom you want to revoke the **View** privilege and click **Remove**.
10. Click **Remove all** to revoke the **View** privilege of all users and user groups.
11. Click **OK**.

The selected users and user groups have now the **View** privileges for the dashboard and the associated assets.

12.2.5 Open a data feed

You can open an available data feed in the Repository of ARIS Connect. The data feed is opened in the data feed editor.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. To open a data feed, click the relevant data feed name.

The selected data feed opens in the data feed editor.

You can edit the data feed currently open using the data feed editor (page 553), provided you have the **Dashboard administrator** function privilege.

12.2.6 Create a data feed

ARIS Connect allows you to create your own data feeds (page 563).

By default, the available dashboards and the relevant data feeds are provided in the Repository of ARIS Connect.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. Click New.

   The data feed editor is opened.
6. Configure and save your data feeds using the data feed editor (page 553).
7. Click **Refresh**.

Your data feed is created and available in the **Data feeds** list in the Repository of ARIS Connect.

12.2.7 Delete a data feed

You can delete an available data feed in the Repository of ARIS Connect.

Warning

Deleted data feeds cannot be restored.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. To delete a data feed, move the mouse pointer over a data feed in the data feed list and click the **Delete** icon in the corresponding row.
6. To delete one or more data feeds, select the data feeds you want to delete and click the **Delete** icon on the toolbar.
7. Click **Yes** to confirm the deletion.

The selected data feeds are deleted.

12.2.8 Specify data feed privileges

You can specify data feed view privileges in the Repository of ARIS Connect. You can assign view privileges to individual users or to user groups. If you assign privileges to a user group, the privileges are automatically assigned to all members of that group.

All users and user groups with the **View** privilege for the data feed are listed in the **Associated users / user groups** box. Initially, only the creator of the data feed has the **View** privilege for the dashboard. All not yet assigned users and user groups are listed in the **Available users / users groups** box.

All users and user groups with the **View** privilege for the data feed has automatically the **View** privilege for all associated assets of the data feed, such as other data feeds and aliases.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Dashboards & Data feeds** tab.
4. Click **Data feeds**.
5. To specify data feed privileges, move the mouse pointer over a data feed in the data feed list and click the **Specify privileges** icon in the corresponding row.
6. Enter a term in the filter box to filter the list of available users and user groups.
7. In the **Available users / users groups** box, select the users and user groups you want to assign to the data feed and click **Add**.
8. Click **Add all** to assign all available users and user groups to the data feed.
9. In the **Associated users / user groups** box, select the users and user user groups from whom you want to revoke the **View** privilege and click **Remove**.
10. Click **Remove all** to revoke the **View** privilege of all users and user groups.
11. Click **OK**.

The selected users and user groups have now the **View** privileges for the data feed and the associated assets.

12.2.9 Use the dashboard editor

You can use the graphical user interface of the dashboard editor to easily create, manage, and view dashboards. The dashboard editor offers edit mode and view mode. In edit mode, you can create, edit and manage your dashboards. The view mode allows you to view and use your dashboards interactively.

To open the dashboard editor, the **Dashboard Designer** role is required. The **Dashboard Designer** role can be assigned to users in the user administration group.

To display a dashboard in view mode, the **View** permission is required. To edit a dashboard in dashboard editor, the edit permission is required. For details, see Manage dashboard permissions (page 444).

12.2.9.1 Use dashboards in view mode

You can display and use your dashboards interactively in view mode.

To use a dashboard in view mode, you need the **View** permission for the dashboard. See Manage dashboard permissions (page 444) for details.

12.2.9.1.1 Open a dashboard in view mode

You can switch from edit mode to view mode in the dashboard editor. Your currently opened dashboards are displayed with real data in view mode.

Prerequisite

You have the required access privileges for the dashboard (page 444).

Procedure

1. Create (page 437) or open (page 436) a dashboard in edit mode in the dashboard editor.
2. Click **View dashboard** in the dashboard editor main menu.

The dashboard is displayed with real data in view mode.

To switch from view mode to edit mode, click **Edit dashboard** in the main menu.

12.2.9.1.2 Use interactive filters in dashboards

You can use interactive filters for charts and tables if the relevant filter conditions have been defined for these widgets. You can set a filter by clicking a data element of a widget, for example, a data point in a line chart. The selected data element of this widget takes effect as a filter for all associated widgets.

MULTIPLE SELECTION

Some widgets allow you to select multiple values at the same time to filter other widgets. You can select, for example, multiple rows in a table or multiple data points in a chart. Multiple selection is available if the corresponding **Multiple selection** option is enabled for a widget. The widgets providing the **Multiple selection** option are Column chart (page 575), Bar chart (page 569), Pie chart (page 600), Grid (page 584), and List (page 596). The widget to be filtered must also support multiple selection. For details, see the chapter Define filters for widgets (page 534).

DISTRIBUTION CHARTS

In distribution charts, you can select multiple values using a selection frame by default. If you select a range of values using a selection frame, the upper end of the rage is not included in the selection for filtering. For example, if you select a range from 10 to 20 and the step width is 1, the affected widget is filtered with the values 10 to 19.

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click a data element of a widget, for example, a coordinate of a line chart or a cell in a table.

   The selected data element is applied as a filter to all associated widgets.
3. In distribution charts, you can use a selection frame to select multiple columns.
   a. Click a column and drag the mouse to the left or right.
   b. A selection frame is displayed.
   c. Release the mouse pointer.

   The selected columns are highlighted.
4. Click the **Menu** icon > **Clear selection** to clear your filter settings. In charts, you can also click in the background of a widget to cancel the selection of your filter. The menu is available if the **Show menu** option is enabled for the widget.

The widgets are displayed with the filters selected.

You can define filters for specific widgets. See the chapter Define filters for widgets (page 534).

12.2.9.1.3 Use the filter panel of Process Mining context-based widgets

You can display and configure the filter panel in dashboard edit and view mode.

Using the filter panel, you can filter widgets of a dashboard whose data are based on a Process Mining context. The filter panel replaces the standard filter method used for non-context-based widgets (page 420). The filter provides all text-based and filterable numeric data columns that are not yet assigned to any other context-based widget.

- Text-based filter criteria are displayed as a list.
- Numeric filter criteria are provided as a slider in the filter panel. The basic settings are automatically preconfigured, these are range, initial selection, step width, and numeric format. You can manually adjust the minimum and maximum values of the slider widget. See **Slider (page** 606**)** widget for details.

Prerequisites

The filter panel is enabled (page 463).

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click the **<<** icon to show the filter panel on the right-hand side of the dashboard.

   The panel is hidden by default and no filter columns are specified.
3. To hide the filter panel, click the **>>** icon.
4. If no filter is specified, add filter criteria to the filter panel.
   a. Click the **Add filter** icon to add an initial filter.
   b. Click the **Filter settings** icon to display filter options.
   c. Enter a term in the **Search** box to filter the column list.

      The list includes all data columns of text type that have not been assigned as filter columns to the Process Mining context-based widgets. See Assign data columns to Process Mining context-based widgets (page 459).
   d. Enable the **Selected** option to display only the data columns that have already been selected.
   e. Select the data columns you want to use as filter criteria.
   f. Click **OK**.

      Your settings are applied. An appropriate filter criterion is added to the filter panel for each selected data column.
5. Specify further filter criteria to be used in the panel.
   a. Click **Edit filter panel**.
   b. Click the **Filter settings** icon to display filter options.
   c. Enter a term in the **Search** box to filter the values of a filter criterion.

d. Enable the **Selected** option to display only the filter values that have already been selected.

e. Select the data columns you want to use as filter criteria.

f. You can use the filter criteria configured for context-based widgets (page 460) in the filter panel. As long as such a filter criterion is enabled in the filter panel, the filter criterion is no longer available in the widget. These filter criteria are hidden by default.

   1. Enable the option **Show configured context filters from dashboard widgets**. The filter criteria are displayed and marked in bold.
   2. Select the context filter criteria that you want to use in the filter panel.

g. Click **OK**.

   Your settings are applied. An appropriate filter criterion is added to the filter panel for each selected data column.

6. Click the name of a text-based filter criterion to sort the values of the criterion.
7. Select the individual values of the text-based criteria by which you want to filter the widgets.
8. Adjust the slider using the mouse pointer to select the numeric filter values. You can adjust the minimum and maximum values and you can move the entire selected data range with the mouse pointer.

The filter panel is configured and the filter values for the widgets are specified. The values of all widgets are filtered according to your filter settings.

12.2.9.1.4 Refresh data of widgets

You can manually refresh the data currently displayed in a widget.

The data is extracted from the cache or recalculated if the refresh rate of the data source has expired. The default refresh rate value is 12 h. You can set the **Refresh rate** in the Assign data (page 483) dialog.

The use of the manual **Refresh** option is independent of the **Auto Refresh** function.

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click a widget.
3. Click the **Menu** icon > **Refresh**.

The widgets are displayed with the refreshed data.

Most of the widgets provide the **Auto refresh** option. Use this option to enable automatic data retrieval for a widget. The source data is reimported and recalculated automatically based on the refresh rate set. The **Auto refresh** option is available on the **Config** tab in the widget properties. To display the properties dialog in dashboard edit mode ( ), click an inserted widget.

12.2.9.1.5 Pause automatic data refreshing

You can pause the automatic refreshing of widget data.

The data is automatically extracted from the cache or recalculated if the refresh rate of the data source has expired. The default refresh rate value is 12 h. You can set the **Refresh rate** in the Assign data (page 483) dialog.

Procedure

1. Display a dashboard in dashboard view mode. (page 419)
2. Click a widget.
3. Click the **Menu** icon > **Pause** to pause the automatic data update.
4. Click the **Menu** icon > **Resume** to restart the automatic data update.

The automatic refreshing of widget data is paused.

Most of the widgets provide the **Auto refresh** option. Use this option to enable automatic data retrieval for a widget. The source data is reimported and recalculated automatically based on the refresh rate set. The **Auto refresh** option is available on the **Config** tab in the widget properties. To display the properties dialog in dashboard edit mode ( ), click an inserted widget.

12.2.9.1.6 Change column width and sort order

In dashboard view mode, you can change the initial table column width and sort order of a **Grid** widget.

Procedure

1. Open a dashboard in view mode. (page 419)
2. Click a table column header of an inserted **Grid** widget.

   The first click changes the sort order to 'ascending', the second click to 'descending', and the third click to 'unsorted' if this was the initial state.

   You can sort several columns simultaneously. To select more than one column, press the **Shift** key and click the required column headings. The rows are sorted by the first column header.
3. To change the width of a column, drag the boundary on the right side of the column header accordingly using the mouse.

Your settings are applied.

12.2.9.1.7 Save widget data as a CSV file

You can save the current data visualized in a widget as a CSV file.

- The data are saved in the default data format or in the format set in data assignment (page 483) (Assign data 2/2 dialog).
- The aggregation and the value rounding are taken from the column configuration set in data assignment (page 483) on page 78 (Assign data 2/2 dialog).
- The sorting is taken from the data feed result based on the feed definition.
- The default separator is ,.
- The default masking is ".

Note that when exporting data from a widget, the export may fail if the stream size is too large. In this case you can increase the **maxPostSize** value of the HTTP Connector of your **Tomcat** installation. If not already specified, you can set this attribute to 2097152 (2 megabytes). You can set this value in the **server.xml** file.

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click a widget.
3. Click the **Menu** icon.

   The menu is available if the **Widget menu** option is enabled for the widget.
4. Click **Save as CSV**.
5. Make your settings.

   Depending on which Web browser you are using, you can select an application that you want to open to view the data, or you can save the data directly as a CSV file.

The widget data is saved as a CSV file.

Note that CSV files can pose a security risk when they are opened in MS Excel. Certain characters in the CSV file can be used for unwanted code execution.

Enclose all values beginning with =, +, -, or @ in single quotation mark before exporting as CSV file. For details, refer to https://www.contextis.com//resources/blog/comma-separated-vulnerabilities/.

12.2.9.1.8 Use multiple selection in lists and tables

You can use the multiple selection of values to filter values of other widgets (page 420).

In lists and tables, you can select individual or multiple values using your mouse and keyboard. A list also provides check boxes to select multiple values if the **Multiple selection** option is enabled. For details, see the option list of the List (page 596) and Grid (page 584) widgets.

Procedure

1. Open a dashboard in view mode. (page 419)
2. Click a row in a list or table to select the value contained in it.
3. To select multiple values, click a row, press the **Shift** key and click another row.

   All other rows between the selected rows are now also selected.
4. Alternatively, hold down the **Ctrl** key and click individual rows in the list or table to select multiple values.
5. To select all values in a list, click the check box in the column header. Click the check box again to clear all list values.
6. To sort a list or table, click the name in the header of a column.

   The first click changes the sort order to ascending, the second click to descending, and the third click to unsorted, if this was the initial state.
7. You can filter the list values.
   a. Click the **Search** icon in the list header.
   b. Enter your filter term in the **Search** box.
   c. Click **Selected** to show only the selected values in the filtered list.

Your settings are applied.

Multiple selection is also available in the widgets Column chart (page 575), Bar chart (page 569), and Pie chart (page 600).

12.2.9.1.9 Set the step width of a distribution chart

You can change the preset step width of a distribution chart.

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click a **Distribution chart** widget.
3. Click the **Menu** icon.
   The menu is available if the **Widget menu** option is enabled for the widget.
4. Click **Set step width**.
5. Specify the step width for the distributed measure in the **Step width** input box.
6. Click **OK**.

Your settings are applied.

12.2.9.1.10 Create a process model on basis of process variants

In the Process Variants (page 602) widget, you can select one or more process variants and create a process model of type **EPC** or **BPMN**. The created model is then available for further processing in ARIS Connect.

Uncategorized process variants ("v0" for combined step width and "v0-0" for precise step width) cannot be exported.

Prerequisites

The dashboard is based on a Process Mining context (page 453).

The dashboard contains a Process Variants (page 602) widget.

You have the **ARIS data transfer** function privilege in PPM.

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click a **Process Variants** widget.
3. Select one or more variants.
4. Click the **Menu** icon.

   The menu is available if the **Show menu** option is enabled for the widget.
5. Click **Create ARIS model**.
6. Enter a model name.
7. Select a model type.
8. To specify the data base and group in which you want to save the created ARIS model, click **Change** and make your settings.

The process model is created on basis of the selected variants and is located in the specified group.

You can open and edit the model as usual in ARIS Connect.

12.2.9.1.11 Use the Function Flow diagram

In dashboard view mode, you can use the **Function Flow** diagram interactively.

In view mode, you can

- select individual functions and connections, for example, for filtering other widgets. Selected elements are highlighted. To select a connection, you can click it or its value. Unlike the functions, the special start and end nodes and the corresponding connections are not selectable. Functions and connections are only selectable if you have selected the **Change selection interaction** mode in the Settings menu. To deselect a function or a connection, select the function or connection again or select another one.
- select multiple functions in the diagram if multiple selection mode is enabled. The option is enabled by default. You can select one function after the other in the diagram and the corresponding filters are added and applied to the widgets. When multiple selection is enabled, the filtering of connections is disabled. Edges in the **Function Flow** diagram cannot be selected and no edge filters can be set from outside the **Function Flow** widget.

  To disable your selection, click the **Settings** icon > **Clear Selection**, or click the **Menu icon** > **Clear Selection**, if enabled. The menu is disabled by default for the **Function Flow** widget.
- display connection values. If connection values are displayed, hovering over connections shows a tooltip which contains the column name of the shown connection value together with the corresponding value for this connection. Click the **Settings** icon and select a measure from the **Values shown at connections** drop-down menu. The drop-down menu is provided if you have set at least one additional connection value in the **Assign data (2/2)** dialog. See Assign data sources.
- display function labels and function measures. Function name and measure value are displayed within the function. Move the mouse pointer over the function to display a tooltip containing the function name and value. If function measures are defined but there are no values available for a specific function, no value is shown.
- select the function measure whose values are to be displayed in the function. Click the **Settings** icon and select a measure from the **Values shown at functions** drop-down menu. If only one measure is specified in the data assignment, no selection box is available, and the corresponding values are displayed automatically.

  If thresholds are configured, the function symbols are marked with colors that represent the state in which the corresponding measure value is currently located.

- move the entire diagram or the individual function using drag and drop. To move the complete diagram, click on an empty space within the widget and hold down the mouse button. Now the graph can be moved until you release the mouse button. The functions can be moved by dragging them to a new location. If a function has been moved, the alignment of the connection and the position of the label on the connection are automatically adjusted. The lines are drawn straight instead of the previous curved lines. If you want to move individual functions, you must select the **Adjust layout interaction** mode in the **Settings** menu.
- resize the diagram using the mouse wheel. The diagram can be zoomed in or out related to the mouse pointer position.
- enable the magnifier. Click the **Settings** icon and select **Enable magnifier**. The magnifier is enabled by default. The magnifier enlarges the diagram elements on mouse over.
- display the relevance slider. Click the **Settings** icon and select **Show slider**. The relevance slider is enabled by default. If you deactivate the **Show slider** option, the slider is hidden and only the plus and minus buttons are displayed. The slider is also hidden if there is not enough space in the widget.
  - The relevance slider filters the connections in the graph based on the relevance value assigned to the connections. See Assign data sources. The top and the bottom values are based on the configured sorting of the relevance column. The top value is set to 100% and the bottom value only shows the connections with the smallest value, depending on the sorting.
  - Move the mouse pointer over the plus and minus button or over the slider to display a tooltip with information about the filtered connection values.
  - The relevance slider is not supported if the widget is used as global, that is, used on more than one tab.
  - If selected objects disappear when you use the slider, the selection is retained and an info icon is displayed indicating that selected objects are hidden.
- reset the layout. Click the **Settings** icon and select **Reset layout**. A layout reset does not affect the selection of objects (single or multi selection), independent of whether they are visible or hidden.
- reset the zoom factor. Click the **Settings** icon and select **Reset zoom**.
- select the type of interaction of the function symbols when they are selected. Click the **Settings** icon and select the interaction type in the **Node interaction** drop-down menu. The default is **Change selection**.

Note that the diagram layout has changed with version 10.4. If a widget from an older version is opened, the layout is retained if possible. A new layout is generated if new nodes are added to the data, or if you reset the layout manually.

By default, the diagram layout is recreated when new nodes or connections are added to the data (for example, by changing filters), or when the layout is reset manually. If no nodes are moved in Edit mode, the layout is always reset when the dashboard is opened. After that, the

nodes remain in place as long as the dashboard is open. If nodes were moved in Edit mode, the diagram layout is saved and the changed layout is restored, if possible, when the dashboard is opened again.

12.2.9.1.11.1 Create a process model on basis of a function flow diagram

In the Function flow (page 582) widget, you can create a process model of type **EPC** or **BPMN**. The created model is then available for further processing in ARIS Connect.

Prerequisites

The dashboard is based on a Process Mining context (page 453).

The dashboard contains a Function flow (page 582) widget.

You have the **ARIS data transfer** function privilege in PPM.

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click a **Function Flow** widget.
3. Click the **Menu** icon.

   The menu is available if the **Show menu** option is enabled for the widget.
4. Click **Create ARIS model**.
5. Enter a model name.
6. Select a model type.
7. To specify the data base and group in which you want to save the created ARIS model, click **Change** and make your settings.

The process model is created and located in the specified group.

You can open and edit the model as usual in ARIS Connect.

12.2.9.1.12 Use bookmarks

You can use bookmarks to save the dashboard settings that you specified in view mode, such as selections and filter settings.

A bookmark does not store the values from the data sources assigned to the widgets in the dashboard, but the configuration data of an analysis as well as the dashboard settings.

The bookmarks are stored in the separate bookmark bar. Using the bookmark bar, you can create (page 433), share (page 435), rename (page 434), update (page 435) and delete (page 434) bookmarks.

The bookmark bar is hidden by default and must be enabled.

12.2.9.1.12.1 Open the bookmark bar

You can open the bookmark bar in your dashboard.

The bookmark bar is hidden by default.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Click **Bookmarks** on the right side of the dashboard.

The bookmark bar opens.

To hide the bookmark bar, click » **Hide bookmark bar**.

12.2.9.1.12.2 Create bookmarks

You can create bookmarks to save your dashboard settings that you made in view mode, for example, your filter settings.

The bookmarks are stored in the a separate bookmark bar, which is hidden by default.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open a dashboard in dashboard view mode. (page 419)
2. Make your settings, for example, set the filter values for a widget.
3. Open the bookmark bar (page 433).
4. Click **Add bookmark**.

The bookmark is created and added to the bookmark bar.

By default, a new bookmark is marked as private. That means that only the creator of the bookmark can see it in the bookmark bar. You can, however, share your bookmarks (page 435) with any other user who has access to the dashboard.

12.2.9.1.12.3 Open a bookmarked dashboard

You can apply the settings you have saved as a bookmark (page 433) to the dashboard.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmark bar (page 433).
2. Click a bookmark.

The Dashboard applies the settings stored in the bookmark.

12.2.9.1.12.4 Rename a bookmark

You can rename an existing bookmark (page 433).

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmark bar (page 433).
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Rename**.
4. Enter a name for the bookmark.
5. Press the **Enter** key.

The selected bookmark is renamed.

12.2.9.1.12.5 Delete a bookmark

You can delete an existing bookmark (page 433).

Warning

A deleted bookmark cannot be restored.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmark bar (page 433).
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Delete**.
4. Click **Yes**.

The selected bookmark is deleted.

12.2.9.1.12.6 Update a bookmark

You can update an existing bookmark with the current settings of your displayed dashboard. The saved settings of the bookmark will be overwritten.

Warning

An updated bookmark cannot be restored.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmark bar (page 433).
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Update**.
4. Click **Yes**.

The saved dashboard settings of the selected bookmark are updated.

12.2.9.1.12.7 Share a bookmark

You can share your bookmarks with any other user who has access to the dashboard.

You can mark your bookmarks as follows:

- **Private** (default setting): Only the creator of the bookmark can see it in the bookmark bar.
- **Public**: Anyone who has access to the dashboard can see the bookmark.
- **Shared**: Anyone who has access to the dashboard can use the bookmark using a specific URL. You can copy the bookmark URL to the clipboard and share it with other users.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmark bar (page 433).
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Share**.
4. Make your settings.

You settings are applied.

12.2.9.2 Manage dashboards

In the dashboard editor, you can manage your dashboards in Edit mode.

To use a dashboard in Edit mode, you need the **Edit** permission for the dashboard.

For details, see Manage dashboard permissions (page 444).

12.2.9.2.1 Open a dashboard in the dashboard editor

In the dashboard editor, you can open an existing dashboard in edit mode.

Prerequisite

You have the required access privileges for the dashboard (page 444).

Procedure

1. Click **Manage** > **Open** in the dashboard editor main menu.
2. Select a dashboard in the list of available dashboards.
   You can also search for a dashboard using your keyboard.
3. Click **OK**.

The selected dashboard opens in the dashboard editor.

12.2.9.2.2 Create a dashboard in the dashboard editor

In the dashboard editor, you can create and configure your dashboards.

Procedure

1. Click **Manage** > **Create dashboard** in the dashboard editor main menu.

   A new dashboard opens.
2. Configure your dashboard.
3. Click **Manage** > **Save** in the dashboard main menu. The **Properties** dialog of the dashboard opens.
4. Enter a dashboard name in the **Name** box.

   Warning

   Note that when you save your dashboard using the name of an existing dashboard, conflicts may occur when you reopen the dashboard.
5. Optionally, enter a dashboard description in the **Description** box.
6. Optionally, enter comma-separated search tags in the **Tags** box. The search tags help you to find your dashboard when you are using the search function.
7. Click **OK**.

Your changes are applied.

You can edit the dashboard properties (page 443) later as needed.

To display the dashboard in view mode, click **View dashboard** in the main menu.

12.2.9.2.3 Use smart dashboard edit mode

The edit mode of the dashboard editor is an easy-to-use tool to create, manage and edit your dashboards.

The edit mode provides two different dashboard workspaces, that is, a smart dashboard and a fixed-grid dashboard.

Unlike a fixed-grid dashboard, the size of a smart dashboard is automatically adapted to the screen resolutions in dashboard view mode. Depending on the space available, widgets are stretched or compressed. In case there is not enough space available, widgets are automatically re-positioned. See Use dashboards in view mode (page 419) for details.

The smart dashboard workspace is displayed by default when you create a new dashboard (page 437) or when you open an existing smart dashboard.

The workspace is divided in three rows and 12 columns in which you can place your widgets (page 482).

12.2.9.2.3.1 Insert new row

You can insert a new row in the dashboard.

Procedure

1. Click a row in the smart dashboard workspace.
2. Click **Insert row** in the properties dialog of the row.

A new line is inserted below the row selected.

12.2.9.2.3.2 Delete a row

You can delete a row from the dashboard.

Procedure

1. Click a row in the smart dashboard workspace.
2. Click **Delete** in the properties dialog of the row.

The row is deleted.

12.2.9.2.3.3 Resize a row

You can change the height of a row.

Procedure

1. Move the cursor to the lower boundary of a row.
   The cursor will change to a resize symbol.
2. Click and drag the row boundary using your mouse.
   The height of all widgets located in the row is automatically resized.

The row height is resized.

12.2.9.2.3.4 Lock row height

You can lock the row height set in the dashboard workspace.

By default, the row height is adapted dynamically to the screen resolution of the dashboard view mode and therefore the size of the widgets contained in the dashboard is adapted as well. If you lock the row height, the widget size is also fixed.

Procedure

1. Click a row in the workspace.
2. Enable the **Lock height** option in the properties dialog of the row.

The row height is fixed.

12.2.9.2.3.5 Change a row order

You can change the row order on the smart dashboard.

Procedure

1. Click a row in the workspace.
2. Move the row selected up or down using drag and drop

The row order is changed.

12.2.9.2.3.6 Place a widget

You can place a widget in any empty field in the dashboard workspace.

Procedure

1. Click a widget in the dashboard workspace.
2. Move the widget selected using drag and drop and place it in an empty field on the dashboard.

   You cannot place more than one widget in one field.

The widget is placed in an empty field.

12.2.9.2.3.7 Resize widgets

You can scale the size of widgets up or down.

Procedure

1. Click a widget on the dashboard. The widget is displayed with a frame.
2. Resize the widget width by dragging the anchor point of the frame with your mouse pointer.

   A widget width can be resized across multiple empty fields.
3. Resize the widget height by resizing the height of the row containing the widget. To resize the row height, drag the upper or lower row border with your mouse pointer.

   The height of all widgets inserted into the same row is resized automatically.

The selected widgets are resized.

12.2.9.2.3.8 Avoid line break in dashboard view mode

You can avoid the automatic line break of the widgets if there is not enough space available in dashboard view mode.

Procedure

1. Click a row in the workspace.
2. Enable the **Do not break** option in the properties dialog of the row.

In view mode, the widgets are compressed and kept in the same row.

12.2.9.2.3.9 Group widgets

You can group widgets on the dashboard using the Layout group.

The **Layout group** ( ) consists of two rows and 12 columns. Grouped widgets can be handled as one single widget. You can insert, move, resize, or copy a layout group like any other widget. The **Layout group** is available in the widget bar.

Procedure

1. Insert the **Layout group** into the dashboard using drag and drop. See Insert widgets in a dashboard (page 482).
2. Resize the layout group. See Resize widgets (page 543).
3. Insert widgets in the layout group.

The layout group is placed on the dashboard.

Use the selection mode if a layout group overlaps its host cells completely and the underlying row and cells cannot be selected. Click **Options** > **Selection mode ON** in the dashboard main menu.

12.2.9.2.3.10 Set row style

You can change the style applied to a single row. The selected style specifies, for example, the background color of the row.

Procedure

1. Click a row in the workspace.

   You can also select a single row in a layout group
2. Select a style template in the **Style** drop-down menu in the row properties dialog.

The row style is set.

12.2.9.2.3.11 Set layout group style

You can change the style applied to a layout group. The selected style specifies, for example, the background color of the layout group.

Procedure

1. Click **Group** inside a layout group.
2. Select a style template in the **Style** drop-down menu in the layout group properties dialog.

The layout group style is set.

12.2.9.2.3.12 Set dashboard tab style

You can change the style applied to a dashboard tab. The selected style specifies, for example, the background color of the tab.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click the **Show menu** icon beside the tab title of the relevant tab.
3. Click the **Style** selection box and select a style.

The dashboard tab style is set.

12.2.9.2.3.13 Switch to fixed-grid workspace

You can switch from the smart dashboard workspace to the fixed-grid workspace.

You can only switch if you have not already inserted a widget in the smart dashboard, and you cannot switch from a fixed-grid dashboard to a smart dashboard workspace. If a dashboard was created using the fixed-grid workspace, it is automatically opened in the fixed-grid workspace.

Procedure

1. Create a dashboard (page 437).
2. Click **Manage** > **Switch to fixed grid** in the dashboard main menu.

The fixed-grid workspace is displayed.

12.2.9.2.4 Save a dashboard

You can save a dashboard and give it a unique name, for example, to make a copy of your dashboard.

Warning

Note that when you save your dashboard using the name of an existing dashboard, conflicts may occur when you reopen the dashboard.

Procedure

1. Click **Manage** > **Save** in the main menu of the dashboard editor.

   You can create a copy of the currently opened dashboard by using the **Save as** option.
2. Specify your settings.

The dashboard is saved on the server.

You can change your settings by editing the dashboard (page 442).

12.2.9.2.5 Edit a dashboard

You can edit existing dashboards in the dashboard editor.

Depending on the dashboard edit mode used to create the dashboard, the dashboard selected is opened in smart dashboard mode or fixed-grid mode. See Using smart dashboard edit mode (page 438) for details.

Procedure

1. Click **Manage** > **Open** in the dashboard editor main menu.
2. Select an **Available dashboard** and click **OK**. The selected dashboard is opened in edit mode in the dashboard editor.

   A warning message is displayed if local changes exist for the dashboard selected. To open the dashboard with the local changes, click **Continue with unsaved local version**.
3. Configure the dashboard.
4. Click **Manage** > **Save** in the dashboard main menu.

   Warning

   Note that when you save your dashboard using the name of an existing dashboard, conflicts may occur when you reopen the dashboard.

Your changes are applied.

To display the dashboard in view mode, click the **View dashboard** icon in the dashboard main menu.

12.2.9.2.6 Delete a dashboard

You can delete dashboards from the dashboard editor.

Warning

Deleted dashboards cannot be restored.

Procedure

1. Open a dashboard to be deleted. (page 442)
2. Click **Manage** > **Delete** in the dashboard main menu.
3. Click **Yes**.

The selected dashboard is deleted.

12.2.9.2.7 Edit dashboard properties

You can edit the properties (name, description and tags) of existing dashboards in the dashboard editor.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Manage** > **Properties** in the dashboard main menu. The dashboard **Properties** dialog is displayed.
3. The dashboard name is mandatory and is entered in the **Name** box.
4. The dashboard description is optional and entered in the **Description** box.
5. Comma-separated search tags are optional and are entered in the **Tags** box.
6. Click **OK**.
7. Click **Manage** > **Save** in the dashboard main menu.

Your changes are applied.

12.2.9.2.8 Manage dashboard permissions

You can manage dashboard permissions in the dashboard editor. You can assign specific access permissions to individual users or to user groups. If you assign permissions to a user group, the permissions are automatically assigned to all members of that group.

For new users and user groups of a dashboard, you can automatically assign view permissions to all associated assets of the dashboard, such as data feeds and aliases. It is not required to assign the permissions to each asset manually. A user requires the view permission for all associated assets to display the corresponding source data in the dashboard. If view permissions are not assigned to all associated assets, a corresponding option to assign the missing view permissions is additionally displayed in the dialog.

You can assign the following access permissions for saved dashboards only.

- **Edit**

  Users can display and edit dashboards in the dashboard editor.

- **View**

  Users can view dashboards in the dashboard editor view mode.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Manage** > **Permissions** in the dashboard main menu. The **Manage dashboard permissions** dialog is displayed.
3. Enter a term in the search box and click **Search**. Clicking **Search** without any input values results in a list of all users and groups.
4. Drag a user or a user group from the **Search result** box and drop it on the **Principals with permissions** box.

   By default, the creator of the dashboard already exists in the **Principals with permissions** list.
5. Enable or disable the **View** or **Edit** permissions of a user or a user group.
6. Click **Save**.

   The button is available if the option **Assign the relevant view permissions to related assets** is disabled, or view permissions are already assigned to all associated assets.
7. Enable the option **Assign the relevant view permissions to related assets** to assign the required view permissions to all associated data feeds and aliases.

   The option is available if view permissions are not assigned to all associated assets.
8. Click **Next**.

   A new dialog opens. The first list in the dialog contains the assets whose view permissions you can update. The second list contains the assets whose view permissions you cannot change. At least one of the following prerequisites must apply to change the view permissions for data feeds or aliases.

   You are an administrator who can edit the permissions for aliases.

You have permissions to view and to edit data feeds.

You have permissions to create and to edit data feeds.

Your changes are applied.

If you want to remove a user or a user group from the **Principals with permissions** list, click the **Delete** icon. Deleted permissions for a dashboard do not affect the associated data feeds or aliases.

12.2.9.2.9 Change the dashboard style

You can assign another style to an available dashboard. Using styles you can customize the look and feel of your dashboards, for example, colors schemes, fonts or background color.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Manage** > **Change style template** in the dashboard main menu.
3. Select a style in the **Dashboard** drop-down menu.
4. Click **OK**.

The selected style is applied to the current dashboard.

12.2.9.2.10 Use Multi-lingual dashboards

With version 10.3, MashZone NextGen supports multi-lingual dashboards. Every widget can offer different elements for translation. For example, this includes the widget title, axis title, or partition name. Date format and number patterns are automatically translated by MashZone NextGen. You can also translate certain dashboard elements, such as tab titles.

The dashboard creator can specify different translations in different languages for every widget at creation time (edit mode) and the viewer can then switch between these languages at view time (view mode).

12.2.9.2.10.1 Configure languages for translation

You can configure the languages supported by a dashboard. The supported languages can be used to translate individual widget elements.

You can add or remove multiple languages supported by a dashboard. Additionally, you can set the primary design language, which is used by default to create dashboards and widgets.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Manage** > **Languages** in the dashboard main menu. The corresponding dialog opens.
3. Click **+ Add language**.
4. Select a language in the drop-down menu.
5. To delete a language from the list, move the mouse pointer over a language in the list and click the **Delete** icon. The default language cannot be deleted.
6. To change a language, move the mouse pointer over a language in the list and select a language from the drop-down menu.
7. Click **OK**.

The languages supported by the dashboard are configured.

You can translate the content of the default language in all languages supported by the widget. (page 448)

12.2.9.2.10.2 Translate the widget content

You can translate the widget content in all languages supported by a dashboard (page 447). Depending on the widget, different elements can be translated. This includes for example the widget title, axis title, or partition name.

Date format and number patterns are automatically translated by MashZone NextGen.

Prerequisite

You have assigned data columns to the widget. (page 483) Widgets to which no data can be assigned are excluded, such as the **Label** widget.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The corresponding properties dialog opens.
3. Click **Translate**.

   The **Translations** dialog opens. The default language is the design language and the corresponding content cannot be changed. Only the data source columns that are assigned to widget elements (page 483), such as measures, are available for translation.
4. Enter your translation for the content of the default language column in the respective table line.
5. Click **OK**.

The widget content is translated in one or more languages.

You can select the supported languages in view mode.

12.2.9.2.10.3 Select the language for your dashboard

You can display your dashboard content, for example, column title, axis title, or axis format, in any language supported by the dashboard.

Prerequisites

The languages supported by the dashboard widgets are configured (page 447) and the widget contents are translated (page 448).

Procedure

1. Display a dashboard in dashboard view mode. (page 419)
2. Click **Manage** > **Languages** in the dashboard main menu and select a language.

   The option is available if at least two languages are configured for translation. (page 447)

The dashboard is displayed in the language selected.

12.2.9.2.10.4 Translate the tab title

You can translate the tab titles in all languages supported by a dashboard (page 447).

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Add one or more tabs to the dashboard. (page 547)
3. Click a dashboard tab.
4. Click the **Settings** icon beside the tab title.
5. Click **Translate**.

   The **Translations** dialog opens. The default language is the design language and the corresponding content cannot be changed.
6. Enter your translation for the content of the default language in the respective table line.
7. Click **OK**.

The tab title is translated in one or more languages.

You can select the supported languages in view mode.

12.2.9.2.11 Manage bookmarks

In Edit mode, you can manage the created bookmarks of a dashboard (page 433).

The bookmarks are stored in the separate bookmark bar. Using the bookmark bar, you can rename (page 451), share (page 452), and delete (page 451) bookmarks, or set a bookmark as default (page 452).

The bookmark bar is hidden by default and must be enabled for it to be used.

12.2.9.2.11.1 Enable the bookmark bar

You can enable the bookmark bar in Edit mode. If you enable the bookmark bar in the dashboard editor, the bookmark bar is also enabled in View mode.

The bookmark bar is hidden by default.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Options** > **Bookmarks** in the main menu.

The bookmarks bar is enabled.

To open the bookmark bar (page 433), click **Bookmarks** on the right side of the dashboard.

12.2.9.2.11.2 Open the bookmark bar

You can open the bookmark bar in Edit mode.

The bookmark bar is hidden by default.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Bookmarks** on the right side of the dashboard.

The bookmark bar opens.

To hide the bookmark bar click » **Hide bookmark bar**.

12.2.9.2.11.3 Rename a bookmark

You can rename an existing bookmark (page 433) in Edit mode.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmarks bar. (page 450)
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Rename**.
4. Enter a name for the bookmark.
5. Press the **Enter** key.

The selected bookmark is renamed.

12.2.9.2.11.4 Delete a bookmark

You can delete an existing bookmark (page 433) in Edit mode.

Warning

A deleted bookmark cannot be restored.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmarks bar. (page 450)
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Delete**.
4. Click **Yes**.

The selected bookmark is deleted.

12.2.9.2.11.5 Share a bookmark

You can share your bookmarks with any other user who has access to the dashboard.

You can mark your bookmarks as follows:

- **Private** (default setting): Only the creator of the bookmark can see it in the bookmarks bar.
- **Public**: Everyone who has access to the dashboard can see the bookmark.
- **Shared**: Everyone who has access to the dashboard can use the bookmark using a specific URL. You can copy the bookmark URL to the clipboard and share it with other users.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmarks bar. (page 450)
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Share**.
4. Make your settings.

You settings are applied.

12.2.9.2.11.6 Set and reset a bookmark as default

You can set or reset a bookmark as the default bookmark to load when you open the dashboard in View mode. The bookmark settings are automatically applied to the dashboard.

Prerequisite

The bookmark bar is enabled. (page 450)

Procedure

1. Open the bookmark bar. (page 450)
2. Move your mouse pointer over a bookmark and click the menu icon.
3. Click **Set bookmark as default**.
4. To reset the default bookmark, move the mouse pointer over a default bookmark, click the menu icon and then **Reset default bookmark**.

Your settings are applied.

12.2.9.3 Process Mining context

The Process Mining context is an easy way to use PPM analyses as data sources for your widgets. With a Process Mining context, you can easily create dashboards based on data from a PPM sever. This allows you to directly access analytics results, such as measures and dimensions, without creating any favorite in PPM itself. In addition, dashboards based on a Process Mining context are automatically filterable, that is, it is no longer required to manually define filters across different widgets.

12.2.9.3.1 Create a Process Mining context

You can create a Process Mining context (page 453) for a new dashboard or for an already existing dashboard. The Process Mining context is automatically assigned to all new widgets on the dashboard. Widgets that have already been inserted into the dashboard retain their assigned data sources.

Prerequisites

- A PPM connection has been created for each PPM system to be used.
- The appropriate PPM client server must be running to connect to PPM. See the PPM documentation **PPM Installation** for details.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Options** > **Process Mining** > **Create context** in the dashboard main menu. The **Create Process Mining context** wizard opens.
3. Select an available PPM connection from the **PPM connection (alias)** drop-down menu.

   The alias is the name of the PPM connection that contains the PPM client connection data defined in ARIS Connect. See Configure PPM server (page 381) for details. Only PPM connections for which you have the appropriate permissions are displayed.
4. Specify the authentication details to connect to the PPM client server. Select one of the following options.
   a. Enable the **Single Sign-On** option to log in to the PPM client server via single sign-on (SSO) using your current ARIS Connect credentials.
   b. Enable HTTP basic authentication and enter the required user name and password of a PPM user.
5. Click **Next**.

   Your settings are applied.
6. Select the language in which you want to display the PPM data from the **Language** drop-down menu.

   Only the languages specified for the PPM client of the selected PPM connection are available.
7. Select the processes to be analyzed from the Process type drop-down menu.

   The menu provides the process types specified for the PPM client of the selected PPM connection. Depending on the process type you can select various measures and dimensions.
8. Select the relation to be analyzed from the Relation for measures and dimensions drop-down menu.

   The menu provides the relations specified for the PPM client of the selected PPM connection. Depending on the selected process type, you can choose between different relations.

Based on your selected relation, the corresponding measure and dimension are provided for the context.

By default, Process and Function is selected.

Note that if you are using PPM in a version older than 10.5, the drop-down menu is not available.

9. Select the relation to be analyzed from the Relation for Function Flow widget drop-down menu.

   The menu provides the relations available for the Function Flow widget that are specified for the PPM client of the selected PPM connection. Depending on the selected process type, you can choose between different relations.

   Based on your selected relation, the corresponding measure and dimension are provided for the context.

   By default, None is selected.

10. Select the measures and dimensions to be analyzed.

    The measures and dimensions provided depend on the process type and relation you have selected. By default, all available measures and dimensions are preselected.

    a. Click **Measures** and select the required measures.

    b. Click **Dimensions** and select the required dimensions.

11. Click **OK** to exit the **Create Process Mining context** wizard.

    Your settings are applied. For each selected element, for example, measures and dimensions, the corresponding data columns are created in the Process Mining context. You can now use the context as a data source for your widgets.

12. Click **Next** to manually edit the data columns of the context.

13. Enter a term in the **Search** field to filter the data columns list.

14. If required, you can add a new data column to the Process Mining context.

    a. Click **Add column**.

    b. Select the data column type, that is, measure or dimension, from the **Type** drop-down menu.

    c. Select a measure or dimension from the **Measure** or **Dimension** drop-down menu.

    d. Enter a column name.

    e. Click **Add**.

    The new data column is added.

15. Click the **Edit** icon to change the settings of a data column. Make your settings and click **Change**.

    Besides the type, all other properties can be changed.

16. Click the **Copy** icon to create a new data column based on the copy of the selected one. You must change at least one property. Make your settings and click **Add**.

17. Click the **Delete** icon to delete a data column from the Process Mining context.

18. Click **OK** to exit the **Create Process Mining context** wizard.

Your settings are applied.

The data columns are added to the Process Mining context and can now be assigned as data source columns.

12.2.9.3.2 Edit a Process Mining context

You can change the settings of the Process Mining context (page 453) configured for a dashboard.

Changes in the Process Mining context settings can cause an incorrect data source configuration. Therefore, the data on the dashboard might not be displayed correctly.

If the dashboard uses an older context, you might need to manually migrate the context to the current context version. See Migrate context-based dashboard.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Options** > **Process Mining** > **Edit context** in the dashboard main menu.

   The last page of the **Create Process Mining context** wizard opens. The page lists all configured data columns of the Process Mining context. See Create a Process Mining context (page 454). By clicking **Previous**, you can navigate to page two and one of the wizard and change the settings.
3. Select an available PPM connection from the **PPM connection (alias)** drop-down menu.

   The alias is the name of the PPM connection that contains the PPM client connection data defined in ARIS Connect. See Configure PPM server (page 381) for details. Only PPM connections for which you have the appropriate permissions are displayed.
4. Enter a term in the **Search** field to filter the data column list.
5. If required, you can add a new data column to the Process Mining context.
   a. Click **Add column**.
   b. Select the data column type, that is, measure or dimension, from the **Type** drop-down menu.
   c. Select a measure or dimension from the **Measure** or **Dimension** drop-down menu.
   d. Enter a column name.
   e. Click **Add**.

   The new data column is created.
6. Click the **Edit** icon to change the settings of a data column. Make your settings and click **Change**.

   You can change all properties except the type.
7. Click the **Copy** icon to create a new data column based on the copy of the selected one. You must change at least one property. Make your settings and click **Add**.
8. Click the **Delete** icon to delete a data column from the Process Mining context.
9. Click **OK** to exit the wizard.

Your settings are applied.

If new data columns are added to the Process Mining context, they can now be assigned as data source columns.

12.2.9.3.3 Delete a Process Mining context

You can delete a Process Mining context (page 453) configured for a dashboard.

If you delete the Process Mining context of a dashboard, the corresponding data is no longer displayed. The configured context cannot be restored.

Procedure

1. Open a dashboard in the dashboard editor (page 436).
2. Click **Options** > **Process Mining**> **Delete context** in the dashboard main menu.
3. Click **Yes**.

The Process Mining context is deleted.

12.2.9.3.4 Assign data columns to Process Mining context-based widgets

You can assign the data columns provided by a Process Mining context to widgets.

The Process Mining context is automatically assigned as a data source to all new widgets on the dashboard. You do not need to assign the data source to each widget manually (Assign data (1/2) dialog). Widgets that have already been inserted into the dashboard retain their assigned data sources. The data columns that are provided by the Process Mining context depend on your context configuration (page 454). The procedure to assign data columns is similar to the standard method for assigning data columns to widgets (page 483) (Assign data (2/2) dialog). If you do not want to use context-based data columns, you can assign any other data source provided.

Prerequisites

You have created a Process Mining context for the dashboard (page 454).

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The relevant properties dialog is displayed.
3. Click **Assign data** to edit the data source assignment.

   The Assign data (2/2) dialog opens.
4. Assign the data columns of the Process Mining context to the widget elements using drag and drop.

   For details on the assignment of data columns to specific widgets, see the chapter Assign data sources to widgets (page 483) and the following chapters.
5. Click **OK** to save your settings.

The data columns are assigned to the widget elements.

- If required, you can adjust the list of data columns provided for the data columns assignment. Click **Edit context** to edit the data columns specified in the Process Mining context.
- If required, you can change the data source assigned. Click **Use other data** to assign another data source. The **Assign data (1/2)** dialog opens. For details on the assignment of a data source to a widget, see the chapter Assign data sources to widgets (page 483). If you assign another data source, you cannot reassign the Process Mining context to the widget.

12.2.9.3.5 Configure filters for Process Mining context-based widgets

You can configure filter settings for Process Mining context-based widgets.

All widgets on a dashboard that use the Process Mining context are automatically filtered by the selection that you specified for any context-based widget. That is, if you select a data point in a context-based widget, such as a column in a chart, all other context-based widgets on the dashboard are filtered by this selection. The selections are directly passed to PPM and the corresponding filtered data is returned to the dashboard and used as a filter for the relevant widgets.

By default, the filter conditions are also automatically set when you assign data columns of the Process Mining context to the widgets (page 459). Data columns of text and date type assigned to the widget elements are automatically used as filter columns. You do not have to configure the filter conditions manually.

A data column can be used only once in a dashboard as a filter column. Therefore, the filter column is enabled only once on the dashboard to filter across all widgets. By default, this filter column is provided by the widget to which the data column is assigned first. The filter columns used by a widget are listed on the **Context** tab in the properties dialog of the widget. Here you can enable or disable the filter columns that are based on the Process Mining context.

Prerequisites

You have created a Process Mining context for the dashboard (page 454).

Procedure

1. Open a dashboard in the dashboard editor (page 436).
2. Assign data columns to Process Mining context-based widgets (page 459).
3. Click a widget on the dashboard. The relevant properties dialog is displayed.
4. Click **Context** in the properties dialog.

   The **Context** tab is available when you have assigned data columns to the elements of the widget. The tab lists all data columns that are assigned to any context-based widget on the dashboard and that can be used as filter columns. The filter columns that can be used by the selected widget are enabled. The filter columns that are used by other widgets are disabled.
5. Enable a filter column for a widget.

   You can enable a filter column that is already used by a widget for another widget.

   a. Move the mouse pointer over the icon to display a tool tip. The tool tip shows the name of the widget that uses the filter column.

   b. Click the name of the widget that uses the filter column. The **Context** tab of the referenced widget opens.

   c. Disable the filter column that you want to reassign.

   d. On the dashboard, click the widget to which you want to assign the filter column.

e. Click **Context** in the corresponding properties dialog.

f. Enable the filter column that you want to use for the selected widget.

6. Cancel the selection of a filter column to disable it for filtering, if required.

The filters are configured and can be used in view mode.

You can use the filter criteria configured for context-based widgets in the filter panel (page 463). As long as such a filter criterion is enabled in the filter panel, the filter criterion is no longer available in the widget. In this case you can select the filter values only in the filter panel and not in the widget. For details, see Use the filter panel of Process Mining context-based widgets (page 421).

12.2.9.3.5.1 Configure a date filter for a Process Mining context

Using the **Date filter** (page 577) widget, you can specify a filter column for filtering the widgets of a Process Mining context-based dashboard. You can select a context column of **Date** type to specify a single date value, such as 2018-03-25, or a time range with a start value and an end value, for example, from 2018-03 to 2018-07.

Note that if you are using a PPM version older than 10.5, the **Allow range selection** option is not available for Process Mining context-based dashboards.

Procedure

1. Click a **Date filter** widget on the dashboard. The relevant properties dialog is displayed.
2. To specify a time range, you must first enable the **Allow range selection** option on the **Configure** tab.

   Do not specify the **From** and **To** parameters. They are set automatically by the context. If only one range value (the start value or the end value) is set in the context, the filter is interpreted as open range, for example, > 2010 or < 2010.
3. Click **Context** in the properties dialog to open the corresponding tab.
4. Click the drop-down menu and select a filter column.

   The menu provides all filterable context columns of **Date** type. **None** is selected if a data column of date type is already used in another widget as a filter column. If you select a filter column from the drop-down menu, the column is used only by the **Date filter** widget.

The filter column is enabled for the **Date filter** widget and can be used in view mode.

Note that depending on your selection on the **Context** tab, different entries are available, if you specify an action for a widget (page 536), for example, Set selection (page 537) or Call URL (page 538).

- If you select **None** on the **Context** tab, the available entries are **from** and **to**.
- If you select a column, for example, 'Time [By month]', and the **Allow range selection** option is not enabled, the available entries are 'Time [By month]_from' and 'to'.
- If you select a column, for example, 'Time [By month]', and the **Allow range selection** option is enabled, the available entries are 'Time [By month]_from' and 'Time [By month]_to'.

12.2.9.3.6 Enable the filter panel

You can enable the filter panel for a Process Mining context-based dashboard.

Prerequisites

You have created a Process Mining context for the dashboard (page 454).

Procedure

1. Open a dashboard in the dashboard editor (page 436).
2. Click **Options** > **Process Mining** > **Filter panel** in the dashboard main menu.

   The **Filter panel** option is available if you have created a Process Mining context (page 454).

The filter panel is enabled and available in view mode.

You can configure the filter panel in dashboard edit mode.

You can configure and use the panel for filtering in dashboard view mode. (page 421)

Warning

If you disable the filter panel, all your settings are lost.

12.2.9.4 Root Cause Miner

PPM provides the **Root Cause Miner** (page 605) widget to analyze the visible data on a dashboard.

If you observe unusual symptoms on a dashboard, that is, interesting data points that need to be investigated, you can use the **Root Cause Miner** widget to analyze these symptoms. For example, you observe that the number of complaints in some distribution regions is too high and you want to investigate the symptom.

12.2.9.4.1 Start a root cause analysis

You can use the **Root Cause Miner** widget to do a root cause analysis.

Technically, a root cause is a dimension value that affects a symptom observed in the dashboard. The root causes are divided into two categories: Root causes that have a promoting effect and root causes that have an inhibiting effect on the observed symptom.

Currently the **Root Cause Miner** widget only supports process filters as symptoms. Symptoms that are based on a process-by-detail filter or on a filter at function or relation level are not selectable in the **Root Cause Miner** widget. They are listed at the end of the symptom list. These filters cannot be selected, but are taken into account when data is calculated and retrieved from PPM. For process-by-detail filters, multiple values are linked with the **AND** operator instead with the **OR** operator, as is the case with other filters.

Prerequisites

- You have configured a Process Mining context.
- You have enabled the filter panel.

Procedure

1. Open a dashboard in the dashboard editor (page 436).
2. Insert a **Root Cause Miner** widget in the dashboard.
3. Specify the widget settings.

   Only basic settings are available for the **Root Cause Miner** widget. The **Assign data** and **Filter** options are not available. To enable the Translate option, you must add a further language to the dashboard. For details on how to add a language, see the MashZone NextGen online help.
4. Click **View dashboard** to open the dashboard in view mode.
5. Click **New** on the **Root Cause Miner** widget to start a new root cause mining. The **New** option is available if a Process Mining context has been configured and the filter panel is enabled.

   The opened dialog shows all Process Mining context related filters that are set in the dashboard, either in dashboard widgets or in the filter panel.
6. Select the filter for the symptom that you want to analyze. You can select only one filter from the list.

You must have specified at least one filter in your analysis, otherwise the filter list is empty.

7. If you only want to view process instances that are above a certain threshold value, you can hide results that only occur in a small number of processes and that are of less interest. Root causes that cover more processes are potentially more interesting than those that cover only a few.

   Click **Show options** and enter a threshold value in the **Ignore results that occur in fewer instances than** input box. Root causes found in fewer than the set threshold are ignored in the analysis.

8. Click **Start** to start the data request to PPM.

   The **Start** option is only available if a filter is selected and the entered threshold value is in the correct format.

   After you started the root cause analysis, the widget sends an analysis request to PPM. You can cancel the running request by clicking **Abort**.

After the request has finished, the **Result** option is enabled.

The Root Cause Miner widget stores your settings as an internal bookmark. These settings are the starting point for your further analyses. You can view the result and perform further analyses (page 466).

12.2.9.4.2 Analyze the Root Cause Miner results

You can analyze the results returned from your PPM request. As soon as the results are available in MashZone NextGen, you can display the results in a separate dialog. The result contains possible root causes that affect the symptom.

Prerequisites

You have started a root cause analysis. (page 464)

Procedure

1. Click **Result** on the **Root Cause Miner** widget. The result dialog opens.

   The dialog shows information on the query at the top: The used symptom for the root cause analysis (for example, Process costs [EUR] is between 2.500 and 3.680) and the total instances with the percentage of instances leading to the symptom. The total instances are all instances which were analyzed, including all instances of the process type configured in the context filtered by the other filters available in the dashboard which were not chosen for analysis.

   Additionally, the points are displayed in the bar for each root cause. The points indicate the strength of the promoting or inhibiting association of the root cause with the symptom. It does not necessarily correspond to the percentage of symptomatic processes. The points are displayed logarithmically inside the bar.

   If you move the mouse pointer over the score bar, a tooltip is displayed.
2. Select **Root causes promoting the symptom** in the drop-down menu to display only the root causes that promote the symptom.
3. Select **Root causes inhibiting the symptom** in the drop-down menu to display only the root causes that inhibit the symptom.
4. For further analysis in the dashboard, you can select one root cause in the result list and apply it as a filter to the dashboard. Select a root cause and click **Apply**.

Your settings are applied and the selected root cause is transferred as filter to the filter panel.

You can extend your analysis, for example, by adding new filters or performing a new result analysis. When you start a new result analysis, all the settings you made are reset to the settings stored in the internal bookmark set after the symptom analysis (page 464).

12.2.9.5 Process Variants widget

The **Process Variants** widget enables the PPM process variants feature in ARIS Connect. The widget adapts the process variants feature to <_connet> and makes the **Process Variants** widget available in the widget bar.

The **Process Variants** widget is available from PPM version 10.1.0.2.

12.2.9.5.1 What is the Process Variants widget?

From version 10.1, PPM provides the process variants feature. The process variants feature helps you to obtain an overview of the most typical process variants, to identify irregular processes, and to analyze them (for example, to detect critical outliers).

For details on how to use the variants feature in PPM, see the **PPM Process Analysis Quick Start Guide**.

The **Process Variants** widget adapts the PPM process variants feature to the requirements and use cases of MashZone NextGen.

- The **Process Variants** widget provides a bar chart that shows the configured measure of the variants. In addition to the graphical representation, the measure values are displayed in the bars.
- On the left side of the bar chart, the values of the column assigned to the **Variant dimension** field are displayed. In most cases, these are the names of the variants.
- On the right side, optional measure values are displayed. A column with the values to be displayed can be specified as required. See Assign data sources (page 527) for details.
- When you move your mouse pointer over a bar, a tooltip displays all information for this variant.

AXIS SCALING

You can select the axis scaling in the widget properties dialog.

- **Linear axis scaling** - The X-axis values are scaled linearly from 0 to the highest value (bar completely filled).
- **Logarithmic axis scaling** - The X-axis values are scaled logarithmically.

VARIANT NAMES

The names of the variants depend on the variant dimension level selected. **Variant** has two dimension levels, **Combined variant** (rough step width) and **Precise variant** (refined step width).

The variant **v0(n/a)** contains all process instances that are not assigned to a variant.

Examples

Combined variant with rough step width: v1, v2, v3,...

Precise variant with refined step width: v1-1, v1-2, v1-3,.... ,v2-1, v2-2, v2-3... ,v3-1, v3-2, v3-3,....

PAGINATION AND NAVIGATION

Depending on the number of variants and space available for the chart widget, the variants are displayed on multiple pages. The current page and the total number of pages are shown at the center of the page, for example, 1 / 5 pages. You can use the links **<<**, **<**, **>** and **>>** to browse the pages. With the links **<<** and **>>** you can navigate to the first or the last page, respectively. With the links **<** and **>** you can navigate one page backward or forward, respectively. If you click a link, the variants of the new page are loaded immediately without resetting the selections of the previous page.

When MashZone NextGen refreshes the data of the widget, the pages are updated automatically.

12.2.9.5.2 Specify the widget settings

You can specify the widget display settings in the widget properties dialog.

Procedure

1. Click the **Process Variants** widget on the dashboard. The relevant properties dialog is displayed.
2. Specify your settings. See the display options list below.

Your settings are applied.

Display options

General options	Description
Name	Optional widget name.
Container	**Show / Hide header**: Shows/Hides the header as well as the title of the widget, and resizes the content of the container. Click the icon again to hide/show the header. **Show / Hide border**: Shows/Hides the outline of the widget container. Click the icon again to hide/show the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget. The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific Process **Variants widget options**	**Description**
Scaling	Scaling type of the primary measure values. Select the type of scaling, **Linear** or **Logarithmic**. The bars are scaled depending on the selected scaling type.
Widget version	Displays the currently installed widget version.

12.2.9.5.3 Set selections and filters

The **Process Variants** widget supports the filter and selection functionalities of MashZone NextGen dashboards. You can set filters and selections to define relations and interactions between several dashboard widgets.

The **Process Variants** widget can be used to set a selection or a filter in other dashboard widgets. Additionally, the entire widget can be filtered by other widgets.

You can select a single variant or multiple variants at once. Click the variants you want to select. Or click a bar in the chart and drag the mouse pointer to the last variant bar that you want to select. A rectangle displayed marks your multiple selection. You can also use the rectangle to deselect variant bars.

The interactions between widgets are handled using coordinates that contain the current selection. These coordinates are then updated by the widget on every selection change and can be used to filter other widgets. The **Process Variants** widget currently only exposes one coordinate with the name **VariantList**. This **VariantList** coordinate delivers all variants which are currently selected in the **Process Variants** widget (in a special PPM syntax because MashZone NextGen currently does not support multiple selection.).

Please note the following advice:

- The filtering of other widgets is currently limited to data sources that can interpret the special PPM syntax. Therefore, only an input parameter in the feed or dashboard can be used which directly forwards the filter to PPM.
- Currently, you can only use **Process Variants** widgets to set the selection of other **Process Variants** widgets, because only **Process Variants** widgets can interpret the required PPM syntax.
- The **Process Variants** widget can be filtered by other widgets without restriction. These filters are only result filters and are not forwarded to PPM unless they are configured as input parameters for the PPM operator.
- The selection of the **Process Variants** widgets can be set by other widgets using the **VariantList** coordinate. Multiple selection is currently supported only by **Process Variants** widgets.

General information on how to use filters and selections can be found in the MashZone NextGen online help.

12.2.9.6 Function Flow widget

The **Function Flow** widget provides the PPM **Function Flow** diagram (page 472) in ARIS Connect.

12.2.9.6.1 What is the Function Flow diagram?

The **Function Flow** diagram enables you to analyze the sequence of activities within your business processes. You can use the **Function Flow** diagram to clearly display and evaluate the process structure and the relationship between the activities.

DIAGRAM LAYOUT

NODES AND CONNECTIONS

A **Function Flow** diagram begins with a start node and has only outgoing connections (except self-loops). The end node of the diagram has only incoming connections (except self-loops). All other functions have at least one incoming and one outgoing connection.

If the number of start and end functions is configured, special start and end nodes are displayed in the graph. The outgoing and incoming connections of the special start and end nodes are drawn with a dashed line. The value on the connections shows the number of times the function was a start or end function in an EPC.

The line weight of a connection is defined by its relevance value. In addition to the stroke-size, the line transparency of the connections also depends on their relevance. Connections of start and end nodes always have the same line weight and are not displayed transparently.

SYMBOLS

The **Function Flow** diagram can be displayed with symbols of **EPC** or **BPMN** style. The symbol size is fixed, and the function name within a symbol is automatically adjusted. If the visualization of the function measure value is configured, the measure value is displayed in the bottom right corner of a symbol. In addition, a tooltip containing the complete function name and the measure is displayed on each node.

Example

Function Flow diagram with EPC symbols and special start and end nodes.

12.2.9.6.2 Specify the widget settings

You can specify the widget settings in the widget properties dialog.

Procedure

1. Click the **Function Flow** widget on the dashboard. The relevant properties dialog is displayed.
2. Specify your settings. See the display options list below.
3. Click the **Interactive mode** icon to activate the interactive mode. In the interactive mode, you can edit the diagram layout. See the display options list below.

   The **Function Flow** diagram is laid out automatically. But you can change the diagram layout in interactive mode manually.
4. You can preselect the measure that is to be displayed initially in the functions in view mode.

   Select a measure from the **Values shown at functions node** drop-down menu and save the dashboard. If only one measure is specified in the data assignment, no selection box is available,and the corresponding values are displayed automatically.
5. To set the **Process Mining context** options, click **Context**.

Your settings are applied.

Display Options

General Options	Description
Name	Optional widget name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

General Options	Description
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Auto refresh	Specifies the automatic data retrieval for the component.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific Function Flow widget options	Description
Edit widget	Activates the interactive mode. The interactive mode () enables you to perform the following actions. - You can resize the diagram using the mouse wheel. - You can move the entire diagram or the individual function symbols using drag and drop. To move the complete graph, click an empty space within the widget and hold down the mouse button. You can move the graph until you release the mouse button. You can select a connection value. You can select a value in the widget **Settings** menu if you have set at least one value using the **Additional connection values** option in the **Assign data (2/2)** dialog. See Assign data sources. - You can enable the magnifier. Click **Settings** and select **Enable magnifier**. - You can modify the relevance slider view and the relevance slider value. The slider value is not saved in the dashboard.

Specific Function Flow widget options	Description
Symbol style	Selects the style of the symbols used in the function flow diagram. The diagram can be displayed with **EPC** and **BPMN** symbols. The default symbols are of EPC style. Depending on the selected symbol style, the diagram layout changes, including the start and end nodes. When the symbol style is changed, the layout of the graph is automatically adjusted.
Layout	**Reset initial**: Restores the initial diagram layout.
Zoom	**Reset**: Restores the initial diagram size.
Relevance slider	Enables the relevance slider in the dashboard view and edit mode.
Connection labels	Displays the connection values in the diagram. The connection values defined in the data assignment can be displayed or hidden beside the connections. By default, the relevance values are displayed beside the connections. If an additional connection value is defined, it is displayed as the connection value instead. If more than one additional connection value is defined, a drop-down menu is provided in the settings menu for you to select the values that are to be displayed beside the connections. By default, the first additional connection value is displayed.
Connection weight	Displays the connection weight in the diagram. The connection weight is indicated by the connection thickness.

Specific Function Flow widget options	Description
Multiple selection	Enables multiple selections for the **Function Flow** widget. In view mode, you can select multiple functions simultaneously. You can select one function after the other and the corresponding filters are added and applied to the widgets. The option is enabled by default. When multiple selection is enabled, the filtering of connections is disabled. Connections in the **Function Flow** diagram cannot be selected and no connection filters can be set from outside the **Function Flow** widget.

Context options

The following options are available on the **Context** tab. The **Context** tab is available if the Process Mining context is enabled for the dashboard.

Context options	Description
Exclude widget from being filtered.	Excludes a dashboard widget from being filtered by the Process Mining context. It displays only unfiltered context data and does not respond to context filtering. The excluded widget can still be used to filter other context widgets.

Context options	Description
Self-filtering	Using the **Self-filtering** option, you can directly view the results of a filter that is applied. If a filter is set within the **Function Flow** diagram, this filter is also applied to the **Function Flow** diagram itself. (By default, the widget producing the filter is excluded from being filtered by this filter). The option is enabled by default. When the **Self-filtering** option is enabled, connections in the function flow cannot be selected. The filtering of connections is disabled. If there is no value in the context filter or the widget is excluded from being filtered ("Exclude widget from being filtered" is checked), the **Self-filtering** option will be disabled.

12.2.9.6.3 Set selections and filters

The **Function Flow** widget supports the filter and selection functionalities of MashZone NextGen dashboards. You set filters and selections to define relations and interactions between several dashboard widgets.

The **Function Flow** widget can be used to set a selection or a filter in other dashboard widgets. Furthermore, single functions or connections of the widget can be selected by other widgets. Additionally, the entire widget can be filtered by other widgets.

Details on how to use filters and selections can be found in the MashZone NextGen Online Help.

For setting selections and using coordinates in other widgets, keep the following in mind:

- The **NodeName** coordinate contains the function name of the selected function. If multiple selection is enabled, the coordinate contains a list of the function names. This coordinate only contains one or more values if at least one function is selected.
- There is a coordinate for the function name value configured. This coordinate is only available if the widget runs in Process Mining context mode. The name of the coordinate corresponds to the relevant column name. The coordinate contains a list of node names if one or more functions are selected (multiple selection). The coordinate contains a single value or an array of values depending on the active selection mode (single or multiple selection).
- There is a coordinate for every function measure value configured. The name of the coordinate corresponds to the relevant column name. This coordinate only contains values when at least one function is selected. The coordinate contains a single value or an array of values depending on the active selection mode (single or multiple selection).
- The **StartNode** and **EndNode** contain the names of the respective connections. The **StartNode** coordinate contains the name of the function where the connection starts and the **EndNode** coordinate contains the name of the function where the connection ends. These coordinates only contain values when a connection is selected.
- There is one coordinate for every connection value configured.The name of a coordinate corresponds to the relevant column name. These coordinates only contain values when a connection is selected.
- The **SliderValue** coordinate contains the current filter value of the relevance slider control. This value is updated after changes to the slider itself or by pressing any of the two slider buttons. If the **SliderValue** coordinate is set, the functions and connections are filtered accordingly. The values of the other connections are only changed if the currently selected function or connection is no longer visible (in which case the selection is removed).

Functions can be selected by setting the **NodeName** coordinate or by setting the function measure coordinate. In single selection mode, the selection may be assigned ambiguously. That is, there is more than one function with the same value. In this case, a function is selected randomly. If the multiple selection mode is enabled and there is more than one function with the same value, all functions are selected.

If the widget is used in Process Mining context mode, a function can also be selected using the coordinate for the function name, similar to the **NodeName** coordinate.

Connections can be selected by setting the **StartNode**, **EndNode** or connection value coordinate or an arbitrary combination of these coordinates. Thereby, not all coordinates need to contain values. In single selection mode, the selection may be assigned ambiguously, that is, there is more than one connection with the same value or more than one connection with the same start node. In this case a connection is randomly selected. If multi selection is enabled and there is more than one function with the same value, all functions are selected.

The **SliderValue** coordinate can be set by other widgets. Then the corresponding value is set on the slider and the connections and functions are displayed or hidden accordingly.

12.2.9.6.4 How to display function data

The **Function Flow** widget allows you to display function data on nodes in the **PPM Function Flow** diagram (page 472).

The procedure is not required for PPM context-based dashboards.

Several conditions must be fulfilled.

- The function data and the connection data are available in separate data tables provided by the relevant data sources.
- A column contains the function names. The data feed can supply several function measure values including start and end node information. However, only one value other than the start or end node information can be displayed in the graph.
- The data sources are connected by the **Concatenate** operator.
- The data source columns must be assigned correctly to the **Function Flow** widget elements. An incorrect assignment (for example, the function measure value is used for the relevance or vice versa), can result in no graph or no function measure values. It is not validated whether the columns have been assigned consistently.

To replace a displayed function measure value, select a different column in the assign data dialog for the function measure value.

Detailed information on how to configure data feeds and how to assign data can be found in the MashZone NextGen online help.

Example data feed for displaying function data

The example shows a working data feed configuration. The connection data is retrieved by the left PPM data source operator and the function data is retrieved by the right one. Both data sources are connected by the **Concatenate** operator.

Example feed table with concatenated tables

The result of the data feed definition is shown in the next figure.

12.2.9.7 Configure widgets

You can configure the visualization and the behavior for all widgets. Additionally, you can assign data sources and set filters for most widgets.

Depending on the widget type, for example, line chart, grid, or image, various options are available.

The appendix lists all available widgets (page 568) and the relevant configurable parameters:

- Line chart (page 594)
- Column chart (page 575)
- Bar chart (page 569)
- Pie chart (page 600)
- Bubble chart (page 571)
- Grid (page 584)
- Circular gauge chart (page 573)
- Horizontal and vertical gauge chart (page 588)
- Traffic light (page 611)
- Drop-down box (page 581)
- Input field (page 591)
- Image (page 590)
- Label (page 593)
- Function flow diagram (page 582)
- Jump to PPM (page 609)

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The relevant widget properties dialog is displayed.
3. Click **Assign data** to edit the data source assignment. See Assign data sources to widgets (page 483) for details.
4. Click **Configure filter** to specify filter conditions. See Define filters for widgets (page 534) for details.
5. Click the **Config** tab and set the widget display options. See the list of widgets (page 568) for details.
6. Specify **Actions** for the widget, if required. See Specify actions for widgets for details.
7. Specify **URL selections** for the widget, if required. See Use dynamic URL selection (page 550) for details.

Your settings are applied.

12.2.9.7.1 Set up widgets

You can configure the visualization and the behavior in dashboard view mode for all widgets. Additionally, you can assign data sources and set filters for most widgets.

Various options are available depending on the widget type, for example, line chart, grid or image.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The relevant widget properties dialog is displayed.
3. Click the **Assign data** icon to edit the data source assignment. See Assign data sources to widgets (page 483) for details.
4. Click the **Configure filter** icon to specify filter conditions. See Define filters for widgets (page 534) for details.
5. Click the **Config** tab and set the widget display options. See the list of widget (page 568) for details.
6. Optionally, specify **Actions** for the widget. See Specify actions for widgets for details.
7. Optionally, specify **URL selections** for the widget. See Use dynamic URL selection (page 550) for details.

Your settings are applied.

12.2.9.7.2 Insert widgets in a dashboard

Using widgets you can create your individual dashboards and visualize your source data interactively. The dashboard editor provides you with various widgets, for example, line chart, bar chart, speedometer chart, grid, or input field.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget icon in the widget bar. The widget selected is inserted as a blank box on the dashboard and placed in the next empty field. The relevant widget properties dialog is displayed.

   Alternatively, place the widget using drag and drop in any empty field on the dashboard. The relevant widget properties dialog is displayed.
3. Click the widget inserted and place it in a empty field on the dashboard using drag and drop.

The widget selected is inserted and placed on the dashboard.

12.2.9.7.3 Assign data sources to widgets

Before you can display content in a widget, you must first assign a data source to this widget.

You can define dynamical and reusable input parameters for several data sources, for example, XML, JSON, or ARIS Table. See Create input parameters (page 532). Data sources are not required for **Input field** and **Image** widgets.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The relevant properties dialog is displayed.
3. Click **Assign data** to edit the data source assignment.

   The **Assign data (1/2)** dialog is displayed. Here you can edit the **Data flow** and create dynamic **Input parameters** for the widget selected. The **Data flow** box shows an overview of the data source configuration.
4. Optionally, you can create input parameters for the selected widget.

   Input parameters are dynamic and reusable parameters used in several data source operators and data transformation operators. See Create input parameters (page 532).
5. Select a data source operator in the **Add a data source** bar and specify your settings. See Data source operators (page 614) for a list of available data source operators.
6. In addition to the data source operator you can add further operators to transform the source data. In the **Add data operations** bar, select a data transformation operator, for example, **Change data type**, and specify the settings.

   See Data transformation operators (page 637) for a list of available data transformation operators.
7. To calculate a data preview of an operator, click the **Calculate preview** icon. This allows you to track all data changes step by step. For details, see chapter Calculate the feed data (page 555).
8. Click **Next**.

   The **Assign data (2/2)** dialog is displayed.
9. If you want to return to the **Assign data (1/2)** dialog to change the data source settings, click **Previous**.

The data source and transformation operators are assigned to the selected widget.

To display data in a widget (for example, line chart) you must assign the relevant data source columns to the required widget elements. In the **Assign data (2/2)** dialog you can assign data source columns to the individual widget elements. For example, you can assign separate columns to the chart axes as a dimension (X-axis) or KPI (Y-axis).

12.2.9.7.3.1 Assign data columns to line, column or bar charts

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

In a line chart (page 594), column chart (page 575), or bar chart (page 569), you can display one dimension (X-axis) and several KPIs (Y-axis), or two dimensions (x-axis and partition) and one KPI (Y-axis).

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a **Data column** as a dimension to the **X-axis** using drag and drop.
4. Assign one or more **Data columns** as KPIs to the **Y-axis** using drag and drop.

   If you have assigned a column to the **X-axis** and a column to the **Partition**, you cannot assign more than one column to the **Y-axis**.
5. Optionally, assign a **Data column** as a second dimension to the **Partition** using drag and drop.

   If you have assigned more than a column to the **Y-axis** the **Partition** is no longer available.
6. Optionally, assign one or more columns to the **More columns (invisible)** element using drag and drop. The columns are not displayed in the widget. They are used for filtering widgets only. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.1.1 Set properties of widget elements

For each widget element, such as axis, dimensions or measures, you can edit the settings, for example, axis title, display name or format.

Various settings are available depending on the data type of the assigned data source column. See the Options list below for details.

Procedure

1. Click a source column assigned to the **X-axis** and specify the axis and column settings.
2. Click **Y-axis** to specify the axis settings.
   a. Click the **Text** tab to specify the **Axis title** and **Axis format**.
   b. Click the **Data range** tab to limit the KPI value range.
3. Click a source column assigned to the **Y-axis** and specify the settings.
4. Click the source column assigned to the **Partition** and specify the settings.
5. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
6. Click **Coloring** and then click the **Thresholds** tab to specify the KPI thresholds. See Configure KPI thresholds (page 487) for details.
7. Click **Coloring** and then click the **Rating** tab to specify the KPI rating. See Configure KPI rating (page 488) for details.
8. Click **OK** to save your settings and to close the dialog.

The chart is displayed in the dashboard with real data of the assigned data source.

Options list

Option	Description
Axis position	Specifies on which side of the chart the axis is located. Default is left.
Scale type	Specifies the scale type of the axis values. The scale type is available for axes with numeric values. ▪ **Linear**: The axis values are displayed linearly. This is the default scale type. ▪ **Log** (logarithmic): The maximum value of the source column is set to 100 and the minimum is set to 1. All axis values are between 100 and 1. Negative values and 0 values of the source column are not taken into account.
Axis title	Title of the X- or Y-axis. Enable the title field and enter an **Axis title**. By default, the **Automatic** option is selected and the axis title consists of the concatenated names of the assigned columns.
Axis format	Output format of the X- or Y-axis. The selected format

Option	Description
	overwrites the formats of the assigned columns. By default, **Auto** is selected and the individual formats are used for tooltips. Optionally, you can add a prefix or postfix to the format, for example, $ 1,234 or 1,234 mm.
Display name (data point)	New column name displayed in the widget, for example, used for KPIs, data points, or tool tips. By default, the data source column name is used.
Format	Output format of the column values, for example, used for data points or tool tips. Available for columns of **date** and **numeric** type.
Sorting	Sorts the labels of the X-axis data points in ascending or descending order, or sorts the labels of the X-axis data points according to the order of a data column that is assigned to the chart. The option is not available in a line chart if a date column is assigned to the X-axis. The "Sort by" option is not available if a partition is assigned.
Sort by	Sorts the labels of the X-axis data points by any column assigned to the chart. The option is not available if a column is assigned to the **Partition**.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Text tab	Enables you to specify the **Axis title** and **Axis format**.
Data range tab	Enables you to specify the minimum value (**From**) and the maximum value (**To**) of the KPI value range. If the values are not set the values are calculated automatically. You can enter specific values manually or assign data source columns for a dynamic value assignment using drag and drop.
Coloring	Enables you to specify KPI thresholds and ratings. You can set the background or the graphic color depending on the KPI values.
Thresholds tab	Enables you to specify the thresholds values range and to set the background and graphic color accordingly. You must assign at least one KPI to the Y-axis.

Option	Description
Rating tab	Enables you to specify the KPI rating and to set the data point color accordingly. You must assign a single KPI to the Y-axis.

12.2.9.7.3.1.2 Configure KPI thresholds

You can define thresholds for numeric and text KPIs to display their status. A colored background and graphic show the threshold range in which a KPI value is located.

Procedure

1. Click **Coloring**.
2. Click **Thresholds** to specify the KPI thresholds.

   The tab is only available if at least one column is assigned to the Y-axis.
3. Click **Background** to set the chart background color or click **Graphic** to set the color scheme.

   The **Graphic** tab is only available if a single KPI is assigned to the Y-axis.
4. Click a **Color** box to select a background color for each threshold.
5. Select an operator for each threshold to define the KPI value range, for example, < (less than).
6. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric values are valid as dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
7. Click the **Plus** button to add a threshold or click the **Minus** button to remove a threshold.
8. Select a threshold view style in the **Style** drop-down menu.

   This option is only available for the background.
9. Enable the **Colorize axis labels** to apply the specified color scheme to the axis labels.

The thresholds are configured for the selected widget.

12.2.9.7.3.1.3 Configure KPI rating

You can define a rating for numeric KPIs to display their status. A colored data point shows the rating range in which a KPI value is located.

For example, you can color the ten poorest or worst KPI values, either as an absolute or as a percentage rating.

Prerequisites

You have assigned a single KPI to the Y-axis.

Procedure

1. Click **Coloring**.
2. Click **Rating** to specify the KPI rating.

   The tab is only available if a single column is assigned to the Y-axis.
3. Enable the **Absolute** or **Percentage** option to set an absolute or a percentage rating, for example, to color the top three or 30% KPI values.

   The highest value is considered as 100%
4. Click a **Color** box to select a color for each rating range.
5. Select **Top** or **Button** in the drop-down menu to assign the selected color to the best respectively the poorest KPI values.
6. Enter a value for the rating range, for example, 5 for the five best KPI values.
7. Click the ⊕ **Plus** button to add a rating range or click the ⊖ **Minus** button to remove a rating range.
8. To color the remaining, unassigned KPI values, enable the **Others** option and select a color.
9. Enable the **Colorize axis labels** to apply the specified color scheme to the axis labels.

The rating is configured for the selected widget.

12.2.9.7.3.2 Assign data columns to a distribution chart

To display data in a distribution chart (page 579), you must assign the relevant data source columns to the required widget elements.

The distribution chart is available only for context based dashboards.

Prerequisite

You have created a Process Mining context for the dashboard (page 454).

Procedure

1. Click a **Distribution chart** widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/3)** dialog is displayed.
3. Select a measure to be distributed on the X-axis from the **Measure to distribute** drop-down menu.
4. Specify the step width for the distributed measure in the **Step width** input box.

   In view mode, you can change the step width (page 427) in the settings dialog of the distribution chart.
5. If you want to add or change the data columns provided by the Process Mining context, click **Edit context**.
6. Click **Next**.

   The **Assign data (3/3)** dialog is displayed. Here you can assign the data source columns to the widget elements. The data column assigned to the X-axis is preset by your selection in the **Assign data (2/3)** dialog and cannot be changed.
7. Assign a data column to the **Y-axis** using drag and drop.
8. Optionally, assign one or more columns to the **More columns (invisible)** box using drag and drop. The columns are not displayed in the widget. They are used only for filtering widgets. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.2.1 Set properties of widget elements

For each widget element, such as axis, dimensions or measures, you can edit the settings, for example, axis title, display name or format.

Various settings are available depending on the data type of the assigned data source column. See the Options list below for details.

Procedure

1. Click the **X-axis** box to specify the X-axis settings.
2. Click the **Y-axis** box to specify the Y-axis settings.
   a. Click the **General** tab to specify the position, title, and format of the axis.
   b. Click the **Data range** tab to limit the KPI value range.
3. Click a source column assigned to the **Y-axis** and specify the settings.
4. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
5. Click **OK** to save your settings and to close the dialog.

The chart is displayed in the dashboard with real data of the assigned data source.

OPTIONS LIST

Option	Description
Axis position	Specifies on which side of the chart the axis is located. Default is left.
Scale type	Specifies the scale type of the axis values. The scale type is available for axes with numeric values. ▪ **Linear**: The axis values are displayed linearly. This is the default scale type. ▪ **Log** (logarithmic): The maximum value of the source column is set to 100 and the minimum is set to 1. All axis values are between 100 and 1. Negative values and 0 values of the source column are not taken into account.
Axis title	Title of the X- or Y-axis. Enable the title field and enter an **Axis title**. By default, the **Automatic** option is selected and the axis title consists of the concatenated names of the assigned columns.
Axis format	Output format of the X- or Y-axis. The selected format overwrites the formats of the assigned columns. By default, **Auto** is selected and the individual formats are used for tooltips. Optionally, you can add a prefix or postfix to the format, for example, $ 1,234 or 1,234 mm.

Option	Description
Display name (data point)	New column name displayed in the widget, for example, used for KPIs, data points, or tool tips. By default, the data source column name is used.
Format	Output format of the column values, for example, used for data points or tool tips. Available for columns of **date** and **numeric** type.
Sorting	Sorts the labels of the X-axis data points in ascending or descending order, or sorts the labels of the X-axis data points according to the order of a data column that is assigned to the chart. The option is not available in a line chart if a date column is assigned to the X-axis. The "Sort by" option is not available if a partition is assigned.
Sort by	Sorts the labels of the X-axis data points by any column assigned to the chart. The option is not available if a column is assigned to the **Partition**.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.

12.2.9.7.3.3 Assign data columns to heat matrix

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

In a Heat matrix (page 586) chart you can display three dimension (X-axis, Y-axis, and size) and descriptive data, such as label and tooltip.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a data column to each of the widget elements **X-axis**, **Y-axis**, and **Size by** as a dimension using drag and drop.
4. Assign a data column to each of the widget elements **Label** and **Tooltip** as content using drag and drop.

The data source columns are assigned to the widget elements.

12.2.9.7.3.3.1 Set properties of widget elements

For each widget element, such as axis, dimensions or measures, you can edit the settings, for example, axis title, display name or format.

Various settings are available depending on the data type of the assigned data source column.

Procedure

1. Click the **X-axis column** box and specify the axis settings.
   a. Click the **Display name (data point)** to specify the column name of the dimension.
   b. Click the **Axis label** to specify the label of the dimension in the chart.
   c. Add or delete values and labels for the dimension values with **Configured values and labels**. The value must match the values received from the data column. The label describes the value and can be created individually.
2. Click the **Y-axis column** box and specify the axis settings.
   a. Click the **Display name (data point)** to specify the column name of the dimension.
   b. Click the **Axis label** to specify the label of the dimension in the chart.
   c. Add or delete values and labels for the dimension values with **Configured values and labels**. The value must match the values received from the data column. The label describes the value and can be created individually.
3. Click the **Size by** box and specify the axis settings.
   a. Click the **Display name (data point)** to specify the column name of the dimension.
   b. Add or delete values and percentages for the dimension values with **Configured bubble sizes**. The value must match the values received from the data column. The percentage can be created individually and represents the data point bubble size to the other bubble size.
4. Click the **Label** box element and enter the **Display name (data point)** to specify the column name of the dimension.
5. Click the **Tooltip** box element and enter the **Display name (data point)** to specify the column name of the dimension.
6. Click OK to save your settings and to close the dialog.

The chart is displayed in the dashboard with real data of the assigned data source.

12.2.9.7.3.4 Assign data columns to pie charts

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A pie chart (page 600) can display one numeric KPI iterated via a dimension (text or date dimension).

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a numeric **Data column** to the **KPI** using drag and drop.
4. Assign a text or date **Data column** as a dimension to the **Partition** using drag and drop.
5. Optionally, assign one or more columns to the **More columns (invisible)** element using drag and drop. The columns are not displayed in the widget. They are used for filtering widgets only. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.4.1 Set properties of widget elements

You can edit the settings, for example, display name or format, for each widget element, such as measure or dimension.

Various settings are available depending on the data type of the assigned data source column. See the Option list below for details.

1. Click the source column assigned to the **KPI** and specify the settings.
2. Click the source column assigned to the **Partition** and specify the settings.
3. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
4. Click **OK** to save your settings and to close the dialog.

The chart is displayed with real data of the assigned data source.

Options list

Option	Description
Display name (data point)	New column name displayed in the widget, that is for instance used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, for example, used for data points or tooltip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.

12.2.9.7.3.5 Assign data columns to bubble charts

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

In the bubble chart (page 571) you can display one dimension and two KPIs. The two KPIs are plotted on the x- and Y-axis. The dimension is represented by various colors of the individual bubble areas. Optionally, a third KPI can be incorporated; its values determine the size of the bubble areas.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a **Data column** as a KPI to the **X-axis** using drag and drop.
4. Assign a **Data column** as a KPI to the **Y-axis** using drag and drop.
5. Optionally, assign a **Data column** as a KPI to the **Size by** element using drag and drop.
6. Assign a **Data column** as a dimension to the **Partition** using drag and drop.
7. Optionally, assign one or more columns to the **More columns (invisible)** element using drag and drop. The columns are not displayed in the widget. They are used for filtering widgets only. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.5.1 Set properties of widget elements

You can edit the settings, for example, axis title, display name or format, for each widget element, such as axis, dimensions or measures.

Various settings are available depending on the data type of the assigned data source column. See the Options list below for details.

1. Click the **X-axis** or **Y-axis** to specify the axis settings.
   a. Click the **Text** tab to specify the **Axis title** and **Axis format**.
   b. Click the **Data range** tab to limit the KPI value range.
2. Click the source column assigned to the **X-axis** and specify the axis and column settings.
3. Click the source column assigned to the **Y-axis** and specify the settings.
4. Click the source column assigned to the **Size by** element and specify the settings.
5. Click the source column assigned to the **Partition** and specify the settings.
6. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
7. Click **Coloring** to specify the KPI thresholds. See Configure KPI thresholds (page 499) for details.
8. Click **OK** to save your settings and to close the dialog.

The chart is displayed with real data of the assigned data source.

Options list

Option	Description
Scale type	Specifies the scale type of the axis values. The scale type is available for axes with numeric values. ▪ **Linear**: The axis values are displayed linearly. This is the default scale type. ▪ **Log** (logarithmic): The maximum value of the source column is set to 100 and the minimum is set to 1. All axis values are between 100 and 1. Negative values and 0 values of the source column are not taken into account.
Axis title	Title of the X- or Y-axis. Enable the title field and enter an **Axis title**. By default, the **Automatic** option is selected and the axis title consists of the concatenated names of the assigned columns.
Axis format	Output format of X- or Y-axis. The selected format overwrites the formats of the assigned columns. By default, **Auto** is selected and the individual formats are used for tooltips. Optionally, you can add a prefix or postfix to the format, for example, $ 1,234 or 1,234 mm.
Display name (data point)	New column name displayed in the widget, that is for instance

Option	Description
	used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Text tab	Allows you to specify the **Axis title** and **Axis format**.
Data range tab	Allows you to specify the minimum value (**From**) and the maximum value (**To**) of the KPI value range. If the values are not set the values are calculated automatically. You can enter specific values manually or assign data source columns for a dynamic value assignment using drag and drop.
Coloring > Thresholds	Allows you to specify the thresholds values range and to set the background color accordingly. You must assign at least one KPI to the Y-axis.

12.2.9.7.3.5.2 Configure KPI thresholds

You can define thresholds for numeric and text KPIs to display their status. A colored background shows the threshold range in which a KPI value is located.

Procedure

1. Click **Coloring**.
2. Select the axis for which you want to define thresholds.
3. Click a **Color** box to select a background color for each threshold.
4. Select an operator for each threshold to define the KPI value range, for example, < (less than).
5. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric data columns are allowed for dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
6. Click the **Plus** button to add a threshold or click the **Minus** button to remove a threshold.
7. Select a threshold view style in the **Style** drop-down menu.

   This option is only available for the background.

The thresholds are configured for the widget selected.

12.2.9.7.3.6 Assign data columns to grids

To display data in the Grid (page 584) widget, you must assign the relevant data source columns to the grid columns required.

You can assign any number of data source columns as grid columns.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign one or more **Data columns** to the **Grid columns** using drag and drop.
4. Optionally, assign one or more columns to the **More columns (invisible)** element using drag and drop. The columns are not displayed in the widget. They are used for filtering widgets only. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.6.1 Set properties of widget elements

You can edit the settings for each widget element, for example, column name or format.

Various settings are available depending on the data type of the assigned data source column. See the Options list below for details.

Procedure

1. Click one of the assigned **Grid columns** to specify the settings.
   a. Click the **Text** tab and specify the settings.
   b. Click the **Thresholds** tab and specify the KPI thresholds. See Configure thresholds (page 502) for details.
2. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
3. Click **OK** to save your settings and to close the dialog.

The grid is displayed with real data of the assigned data source.

Options list

Option	Description
Axis title	Title of the X- or Y-axis. Enable the title field and enter an **Axis title**. By default, the **Automatic** option is selected and the axis title consists of the concatenated names of the assigned columns.
Axis format	Output format of X- or Y-axis. The selected format overwrites the formats of the assigned columns. By default, **Auto** is selected and the individual formats are used for tool tip. Optionally, you can add a prefix or postfix to the format, for example, $ 1,234 or 1,234 mm.
New column name	Replaces the data source column name, used for tooltips. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the grid. Available for numeric columns. Enabled by default.
Show cell value	Displays the values of the column. Enabled by default.
Make clickable (for actions)	Makes the column clickable for triggering actions. See Specify actions for widgets for details.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based

Option	Description
	widgets may differ from that of non-context-based widgets.
Set as key column for selection	Sets the selected column as key column. When a selection is made and new data arrives, the selection is automatically recreated with the new data. The key column is used to ensure that the new data matches the selection. This means that if values in non-key columns have changed, the selected row remains selected even after new data arrives. You can select one or more columns as key columns.
Text tab	Allows you to specify the **New column name**, **Format** and **Aggregation**.
Thresholds tab	Allows you to specify the thresholds values range.

12.2.9.7.3.6.2 Configure thresholds

You can define thresholds for numeric and text grid columns to display the status of a KPI. A colored marker shows the threshold range in which a KPI value is located.

Procedure

1. Click an assigned **Grid columns** to specify the settings.
2. Click the **Thresholds** tab.
3. Click **Background** or **Foreground** to set the KPI values and the background or foreground colors of the grid.

   You can define a KPI value range for the thresholds and the corresponding colors of the grid cells background or foreground.

   a. Click a **Color** box to select a color for each threshold.

   b. Select an operator for each threshold to define the KPI value range, for example, < (less than).

      The available operators differ for numeric values (for example, **< (less than)** or **= (equals to)**) and text columns (for example, **starts with** or **is equal to**).

   c. Enter a value for each threshold.

      You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only text data columns are allowed for dynamic threshold values. Assign the required text data column from the data source to a threshold field using drag and drop.

   d. Click the ⊕ **Plus** button to add a threshold or the ⊖ **Minus** button to remove a threshold.

   e. Enable the **Colorize row** option to apply the background or foreground color scheme to all cells in the row.
4. Click **Traffic Lights** to set KPI values and to define traffic lights.

   You can define a KPI value range for the thresholds and corresponding traffic lights. The traffic lights are displayed in each cell of the rows. By default, there are three traffic light stages and one inactive stage. Additionally, you can select a different shape for each traffic light stage.

   a. Click a **Color** box to select a color and a shape for each traffic light stage.

      To use custom images instead of the colored shapes for the traffic light stages, enable the **Image based Traffic Light** option, click the drop-down menu and enter an **Image URL**.

   b. Enable the **Multi State** option to show multiple states of traffic lights instead of a single traffic light.

   c. Select an operator for each threshold to define the KPI value range, for example, is equal to.

   d. Enter a value for each threshold.

You can either enter specific threshold values or you can choose numeric columns from your data source representing the threshold values. Assign a data column from the data source to a threshold field using drag and drop.

e. Click the **Plus** button to add a traffic light stage or click the **Minus** button to remove a stage.

f. Enable the **Switch position** option to place the traffic light symbol to the right of the values.

g. Enable the **Make clickable (for actions)** option to make the traffic lights clickable for triggering actions. See Specify actions for widgets for details.

h. Enable the **Show tooltip** option to show tool tips for each traffic light symbol.

i. By default, the traffic light stage is also visible if it is inactive (that is, a KPI value is not available.). Disable the **Inactive state** option if the traffic light stage should not be visible. You can also change the color of the inactive traffic light stage. If you use custom images, you cannot change the color. You can only deactivate the **Show inactive state** option.

5. Click **OK**.

The thresholds are configured for the selected widget.

12.2.9.7.3.7 Assign data columns to lists

To display data in the List (page 596) widget, you must assign the relevant data source columns to the widget elements required.

You can assign one or two data source columns as list columns.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a list widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.
   The **Assign data (2/2)** dialog is displayed.
3. Assign a data column to the List column box using drag and drop.
   The list column is the main column by which the list can be sorted and filtered.
4. Optionally, assign a data column to the **Additional column** box using drag and drop.
   The additional column shows additional values to the main column.
5. Optionally, assign one or more columns to the **More columns (invisible)** box using drag and drop. The columns are not displayed in the widget. They are used for filtering widgets only. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.7.1 Set properties of widget elements

You can edit the settings, for example, column name or format, for each widget element.

Depending on the data type of the assigned data source column, different settings are available. See the **Option list** below for details.

Procedure

1. Click the assigned List column to specify the settings.
2. Click the assigned Additional column to specify the settings.
3. Click an assigned source column of the More columns (invisible) box and specify the settings.
4. Click OK to save your settings and exit the dialog.

The list is displayed in the dashboard with the data of the assigned data source.

Options list

Option	Description
New column name	Replaces the data source column name that is used by default. The column name is also used for the tool tip.
Format	Output format of the column values, for example, used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the grid. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.

12.2.9.7.3.8 Assign data columns to circular gauge charts

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A circular gauge chart (page 573) displays a set of aggregated KPI values. The value ranges are arranged in a semicircle with a red pointer that indicates the actual value of the KPI.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.
   The **Assign data (2/2)** dialog is displayed.
3. Assign a numeric **Data column** to the aggregated **KPI** using drag and drop.

A data source column is assigned to the **KPI** element.

12.2.9.7.3.8.1 Set properties of widget elements

You can define a minimum and a maximum value for the displayed KPI value range. Additionally, you can compare the actual KPI value to several threshold values. The value ranges in the speedometer are indicated by various colors.

See the Options list below for details.

1. Click the source column assigned to the **KPI** and specify the settings.
2. Click **Thresholds** to specify the KPI thresholds. See Configure thresholds (page 508) for details.
3. Click **OK** to save your settings and to close the dialog.

The chart is displayed with real data of the assigned data source.

Options list

Option	Description
Display name	New column name displayed in the widget, that is for instance used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Min value	Minimum value of the displayed KPI value range. If the value is not set the value is calculated automatically.
Max value	Maximum value of the displayed KPI value range. If the value is not set the value is calculated automatically.

12.2.9.7.3.8.2 Configure thresholds

You can define thresholds for a numeric KPI to display their status. A colored marker shows the threshold range in which a KPI value is located.

1. Click **Thresholds**.
2. Click a **Color** box to select a color for each threshold.
3. Select an operator for each threshold to define the KPI value range, for example, < (less than).
4. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric data columns are allowed for dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
5. Click the **Plus** button to add a threshold or click the **Minus** button to remove a threshold.

The thresholds are configured for the selected widget.

12.2.9.7.3.9 Assign data columns to horizontal and vertical gauge charts

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A horizontal and vertical gauge chart (page 588) displays a set of aggregated KPI values. The value ranges are arranged in a horizontal or vertical bar with a pointer that indicates the actual value of the KPI.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a numeric **Data column** to the aggregated **KPI** using drag and drop.

A data source column is assigned to the **KPI** element.

12.2.9.7.3.9.1 Set properties of widget elements

You can define a minimum and a maximum value for the displayed KPI value range. Additionally you can compare the actual KPI value to several threshold values. The value ranges in the speedometer are indicated by various colors.

See the Options list below for details.

1. Click the source column assigned to the **KPI** and specify the settings.
2. Click **Thresholds** to specify the KPI thresholds. See Configure thresholds (page 510) for details.
3. Click **OK** to save your settings and to close the dialog.

The chart is displayed with real data of the assigned data source.

Options list

Option	Description
Display name	New column name displayed in the widget, that is for instance used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Min value	Minimum value of the displayed KPI value range. If the value is not set the value is calculated automatically.
Max value	Maximum value of the displayed KPI value range. If the value is not set the value is calculated automatically.
Thresholds tab	Allows you to specify the thresholds values range.

12.2.9.7.3.9.2 Configure thresholds

You can define thresholds for a numeric KPI to display their status. A colored marker shows the threshold range in which a KPI value is located.

1. Click **Thresholds**.
2. Click a **Color** box to select a color for each threshold.
3. Select an operator for each threshold to define the KPI value range, for example, < (less than).
4. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric data columns are allowed for dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
5. Click the **Plus** button to add a threshold or the click **Minus** button to remove a threshold.

The thresholds are configured for the selected widget.

12.2.9.7.3.10 Assign data columns to traffic lights

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A traffic light (page 611) displays the status of a KPI. A colored marker shows the threshold range in which a KPI value is located.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a numeric or text **Data column** to the **KPI** element.

A data source column is assigned to the **KPI** element.

12.2.9.7.3.10.1 Set properties of widget elements

For the displayed KPI value range you can define a minimum and a maximum value. Additionally you can compare the actual KPI value against several threshold values. The value ranges in the speedometer are indicated by various colors.

See the Options list below for details.

Procedure

1. Click the source column assigned to the **KPI** and specify the settings.
2. Click **Thresholds** to specify the KPI thresholds. See Configure thresholds (page 512) for details.
3. Click **OK** to save your settings and to close the dialog.

The traffic light is displayed using the real data of the assigned data source.

Options list

Option	Description
Display name	New column name displayed in the widget, that is for instance used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.

12.2.9.7.3.10.2 Configure thresholds

You can define thresholds for numeric and text columns to display the status of a KPI. A colored marker shows the threshold range in which a KPI value is located.

By default, there are three traffic light stages plus the inactive stage.

Procedure

1. Click **Thresholds**.

   The option is only available if a column has been assigned to the KPI.
2. Select **Color and shape** in the drop-down menu to display the traffic light stages with various colored shapes.
3. Click a color box to select a color and a shape for each threshold stage.
4. Select **Image** in the drop-down menu to use custom images instead of the colored shapes for each traffic light stage.
5. Select an operator for each threshold to define the KPI value range, for example, < (less than).

   The available operators differ for numeric values (for example, **< (less than)** or **= (equals to)**) and text columns (for example, **starts with** or **is equal to**).
6. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric data columns are allowed for dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
7. Click the **Plus** button to add a threshold or the **Minus** button to remove a threshold.
8. By default, the traffic light stage is also visible if it is inactive (A KPI value is not available.). Disable the **Inactive state** option if the traffic light stage should not be visible. You can also change the color of the inactive traffic light stage. If you use custom images, you cannot change the color. You can only deactivate the **Show inactive state** option.

The thresholds are configured for the selected widget.

12.2.9.7.3.11 Assign data columns to a drop-down box

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A drop-down box (page 581) provides you with a selection of values in a drop-down menu for you to filter other widgets.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a **Data column** to the **Visible column** element using drag and drop.
4. Optionally, assign one or more columns to the **More columns (invisible)** element using drag and drop. The columns are not displayed in the widget. They are used for filtering widgets only. See Define filters for widgets (page 534) for details.

The data source columns are assigned to the widget elements.

12.2.9.7.3.11.1 Set properties of widget elements

For each widget element you can edit the settings, for example, display name or format.

See the Options list below for details.

1. Click the source column assigned to the **Visible column** element and specify the settings.
2. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
3. Click **OK** to save your settings and to close the dialog.

The drop-down menu is displayed with real data of the assigned data source.

Options list

Option	Description
Display name	New column name displayed in the widget, that is for instance used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.

12.2.9.7.3.12 Assign data columns to labels

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A label (page 593) displays a fixed text you have entered, or a text that is supplied dynamically by a data source.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.
   The **Assign data (2/2)** dialog is displayed.
3. Assign a source **Data column** to the **Data column** element using drag and drop.

A data source column is assigned to the widget element.

If you have assigned a text or date column to the widget the values are retrieved from the first data row.

12.2.9.7.3.12.1 Set properties of widget elements

You can edit the settings, for example, display name or format for each widget element.

See the Options list below for details.

Procedure

1. Click the source column assigned to the **Visible column** element and specify the settings.
2. Click a source column assigned to the **More columns (invisible)** box and specify the settings.
3. Click **OK**.

Your settings are applied. The drop-down menu in the dashboard is displayed with real data of the assigned data source.

Options list

Option	Description
Display name	New column name displayed in the widget, that is for instance used for KPI, data point or tool tip. By default, the data source column name is used.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.
Initial selected value	Specifies the initial selected column value. By default, the first column value is selected.
Sort descending	Displays the column values in a descending order in the drop-down menu.

12.2.9.7.3.13 Assign data columns to a rich text area

To display data in the Rich text area (page 603) widget, you must assign the relevant data source columns to the required widget elements.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a Rich text area (page 603) widget in the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign one or more data source columns to the **Data column** box using drag and drop.

The data source columns are assigned to the widget elements.

12.2.9.7.3.13.1 Set properties of widget elements

You can edit the settings, for example, the display name or the format for each widget element.

Settings differ depending on the data type of the assigned data source column. See the option list below for details.

Procedure

1. Click an assigned column in the **Data column** box to specify the settings.
2. Click **OK**.

Your settings are applied. The drop-down menu in the dashboard is displayed with data of the assigned data source.

Options list

Option	Description
New column name	Replaces the default name of the data source column. The column name is also used for the tool tip.
Format	Output format of the column values, that is used for data points or tool tips. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values. Available for numeric columns. Enabled by default.

12.2.9.7.3.14 Assign data columns to sliders

12.2.9.7.3.14.1 Set properties of widget elements

You can edit the settings, for example, column name or aggregation, for each widget element.

Procedure

1. Click an assigned data column.
2. Specify your settings.
3. Click **OK** to save your settings and exit the dialog.

The widget is displayed with data of the assigned data source columns.

Option list

Option	Description
Display name	Replaces the data source column name that is used by default. The display name is also used for the tool tip.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.

12.2.9.7.3.15 Assign data columns to date filters

To display data in the widget, you must assign the relevant data source columns to the widget elements.

The data assigned are used to define a date range for the Date filter (page 577) widget. You can assign data source columns of **Date** type that are used as start and end values of the date range. Optionally, you can assign columns used as default values. If you do not assign a column to a widget element, you can manually specify the required value in the widget properties. See Date filter (page 577) for details.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a Date filter (page 577) widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.
   The **Assign data (2/2)** dialog is displayed.
3. Assign a data column to the **From** and **To** boxes under **Range** using drag and drop.
   The values are initially used as start or end values of the date range.

4. Assign a data column to the **From** and **To** boxes under **Default selection** using drag and drop.

   The values are used as default start or end values of the initially selected data range.

5. Click **OK** to save your settings and exit the dialog.

The data source columns are assigned to the widget elements.

12.2.9.7.3.16 Assign data columns to vector map

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A vector map (page 612) allows you to interact with a vector-based online map and to visualize geographic areas of interest.

Even without any data assignments, based on the template chosen, you can select regions on the map. This allows you to trigger selection events and to filter other widgets.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a **Vector map** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.

3. Assign a data column containing region identifiers to the **ID** element using drag and drop.
4. Assign a data column to the **Region value** element using drag and drop. The element provides numeric values for the individual regions.
5. Assign a data column to the **Region name** element using drag and drop. The element provides names for the individual regions that are used for the labels & tooltips.

The data source columns are assigned to the widget elements.

12.2.9.7.3.16.1 Set properties of widget elements

For each widget element, such as axis, dimensions or measures, you can edit the settings, for example, axis title, display name or format.

Various settings are available depending on the data type of the assigned data source column. See the Options list below for details.

Procedure

1. Click the source column assigned to the **ID** and specify the display name and the initial selected value.
2. Click the source column assigned to the **Region value**.
   a. Click the **Text** tab and make your settings..
   b. Click the **Thresholds tab** to specify the KPI thresholds. See Configure KPI thresholds (page 521) for details
3. Click the source column assigned to the **Region name** and make your settings.
4. Click **OK** to save your settings and to close the dialog.

The chart is displayed in the dashboard with real data of the assigned data source.

Options list

Option	Description
Display name (data point)	New column name displayed in the widget, for example, used for KPI, data points or tool tips. By default, the data source column name is used.
Initial selected value	Initial selected ID. If an ID is specified, the corresponding region will be selected by default.
Text tab	Enables you to specify the column settings.
Thresholds tab	Enables you to specify the threshold values range and to set the background and graphic color.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Format	Output format of the column values, for example, used for data points or tool tips. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.

12.2.9.7.3.16.2 Configure KPI thresholds

You can define thresholds for numeric KPIs to display their status. A colored background shows the threshold range in which a KPI value is located.

Procedure

1. Click a **Color** box to select a background color for each threshold.
2. Select an operator for each threshold to define the KPI value range, for example, < (less than).
3. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric values are valid as dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
4. Click the **Plus** button to add a threshold or click the **Minus** button to remove a threshold.

The thresholds are configured for the selected widget.

12.2.9.7.3.17 Assign data columns to map with markers

To display data in a widget, you must assign the relevant data source columns to the required widget elements (for example, to the X-axis).

A map with markers (page 598) allows you to mark points of interest on a map based on geo-coordinates (latitude & longitude) defined in the assigned data.

Prerequisite

You have assigned a data source to the widget (page 483).

Procedure

1. Click a **Map with markers** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment.

   The **Assign data (2/2)** dialog is displayed.
3. Assign a data column containing marker identifiers to the **ID** element using drag and drop.
4. Assign a data column of numeric type to the **Latitude** element using drag and drop. The assigned column should contain the required latitudes for the markers.
5. Assign a data column of numeric type to the **Longitude** element using drag and drop. The assigned column should contain the required longitudes for the markers.
6. Assign a data column of numeric, or text type to the **Marker value** element using drag and drop. The element provides numeric or text values for the corresponding markers.
7. Assign a data column of numeric, text, or date type to the **Marker label** element using drag and drop. The element provides labels for the corresponding markers.

The data source columns are assigned to the widget elements.

12.2.9.7.3.17.1 Set properties of widget elements

For each widget element, such as axis, dimensions or measures, you can edit the settings, for example, axis title, display name or format.

Various settings are available depending on the data type of the assigned data source column. See the Options list below for details.

Procedure

1. Click the source column assigned to the **ID** and specify the display name and the initial selected value.
2. Click the source column assigned to the **Latitude** and specify the display name.
3. Click the source column assigned to the **Longitude** and specify the display name.
4. Click the source column assigned to the **Marker value**.
   a. Click the **Text** tab and make your settings.
   b. Click the **Thresholds tab** to specify the KPI thresholds. See Configure KPI thresholds (page 523) for details
5. Click the source column assigned to the **Marker label** make your settings.
6. Click **OK** to save your settings and to close the dialog.

The chart is displayed in the dashboard with real data of the assigned data source.

Options list

Option	Description
Display name (data point)	New column name displayed in the widget, for example, used for KPI, data points or tool tips. By default, the data source column name is used.
Initial selected value	Initial selected ID. If an ID is specified, the corresponding region will be selected by default.
Text tab	Enables you to specify the column settings.
Thresholds tab	Enables you to specify the thresholds values range and to set the background and graphic color. You must assign at least one KPI to the Y-axis.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Format	Output format of the column values, for example, used for data points or tool tips. Available for columns of **date** and **numeric** type.
Round numerically	Displays rounded KPI values in the chart. Available for numeric columns. Enabled by default.

12.2.9.7.3.17.2 Configure KPI thresholds

You can define thresholds for numeric KPIs to display their status. A colored background shows the threshold range in which a KPI value is located.

Procedure

1. Click a **Color** box to select a background color for each threshold.
2. Select an operator for each threshold to define the KPI value range, for example, < (less than).
3. Enter a value for each threshold.

   You can either enter specific threshold values or you can choose columns from your data source representing dynamic threshold values. Only numeric values are valid as dynamic threshold values. Assign the required numeric data column from the data source to a threshold field using drag and drop.
4. Click the ⊕ **Plus** button to add a threshold or click the ⊖ **Minus** button to remove a threshold.

The thresholds are configured for the selected widget.

12.2.9.7.3.18 Assign data sources to the Function flow diagram_connect

Before you can display content in a dashboard widget, you must first assign a data source to this widget. You can select PPM as data source or any desired data source available in ARIS Connect.

Procedure

1. Click the **Function Flow** widget (page 582) on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (1/2)** dialog is displayed.

   Here you can select a data source and specify your data source settings.
3. Click **Next**.
4. The **Assign data (2/2)** dialog is displayed.

   Here you can assign the data source columns to the individual widget elements. See Settings for details.
5. Assign the data columns to the widget elements using drag and drop.
6. Click the assigned columns to specify the column settings. See Settings for details.
7. Click **OK** to save your settings.

The widget shows a **Function Flow** diagram based on the data of the assigned data source.

12.2.9.7.3.18.1 Assign data columns of a Process Mining context

If you have configured a Process Mining context for your dashboard, you need only assign the data columns provided by the Process Mining context to the elements of the dashboard widgets (**Assign data (2/2)** dialog). You do not have to assign a data source to each widget first (**Assign data (1/2)** dialog). The Process Mining context is automatically assigned to all widgets in the dashboard that have no data source assigned.

By default, the Process Mining context provides all available data columns of the PPM system. For the **Function Flow** widget, the columns are automatically filtered, and the Process Mining context provides all relevant data columns.

Procedure

1. Click the **Function Flow** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (2/2)** dialog is displayed.

   Here you can assign the data source columns to the individual widget elements. For details, see chapter Settings.
3. Assign the data columns of the Process Mining context to the widget elements using drag and drop.
4. Click the assigned columns to specify the columns settings. For details, see chapter Settings.
5. You can configure thresholds for the function measure values.
6. Click **OK** to save your settings.

The widget shows a **Function Flow** diagram based on the data of the assigned data source.

If you do not want to use context-based data columns, you can assign any other data source provided. You can change the data source by clicking **Use other data**. The **Assign data (1/2)** dialog opens. Here you can assign any data source provided. If you assign another data source, you cannot reassign the PPM context to the dashboard widget. For details, see chapter Assign data sources.

If required, you can adjust the list of data columns provided for the data columns assignment. Click **Edit context** to edit the data columns specified in the Process Mining context.

For details on using and configuring a Process Mining context, see the MashZone NextGen online help.

12.2.9.7.3.18.1.1 Configure thresholds

You can define thresholds for the function measures to display their status. In view mode, a colored marker shows the threshold range in which a function measure value is located.

Procedure

1. Click a **Function measure value** box that contains an assigned data column.
2. Under **Thresholds** click a **Color** box to select a color for each threshold.
3. Select an operator for each threshold to define the measure value range, for example, < (less than).
4. Enter a value for each threshold.

   Only numeric values are allowed.
5. Click the **Plus** button to add a threshold or click the **Minus** button to remove a threshold.

   By default, there are initially three lines to configure thresholds.

The thresholds are configured.

In dashboard view mode, you can view the colored markers for each function measure for which you have specified thresholds. (page 429)

12.2.9.7.3.18.1.2 Column matching

To facilitate the assignment of the source columns to the widget elements, the names of the source columns are automatically matched to the default names of the columns in the standard customizing (in English and German only). The matching is only done if there are no columns already assigned to some widget elements.

The following elements of the **Function Flow** widget are matched (the comparison is case insensitive):

- Start function

  Contains "Function (Start)"

  Contains "(Start)"
- End function

  Contains "Function (Target)"

  Contains "(Target)"
- Function names

  Contains "Function (F" then

  Is exactly "Function"
- Number of start functions

  Contains "Number of start functions (F" then

  Contains "Number of start functions"
- Number of end functions

  Contains "Number of end functions (F" then

  Contains "Number of end functions"
- Relevance column

  Is estimated if there is only a single column with type numeric, then

  Is exactly "Number of processes", then

  Contains "Number of processes"

If there is no matching source column for a widget element, the widget element stays unassigned, and you must manually assign the column to be used.

12.2.9.7.3.19 Assign data sources to the Variant widget

Before you can display content in the variants widget, you must first assign a data source to this widget. You can select PPM as data source or any desired data source available in MashZone NextGen.

Procedure

1. Click the **Process Variants** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (1/2)** dialog is displayed.

   Here you can select a data source and specify your data source settings.
3. Click **Next**.
4. The **Assign data (2/2)** dialog will be displayed.

   Here you can assign the data source columns to the individual widget elements. See Settings (page 530) for details.
5. Assign the data columns of the PPM context to the widget elements using drag and drop.
6. Click an assigned column to specify the column settings. See Settings (page 530) for details.
7. Click **OK** to save your settings.

The widget shows a bar chart based on the data of the assigned data source.

12.2.9.7.3.19.1 Assign data columns of a PPM context

If you have configured a Process Mining context for your dashboard, you need only assign the data columns provided by the Process Mining context to the elements of the dashboard widgets (**Assign data (2/2)** dialog). You do not have to assign a data source to each widget first (**Assign data (1/2)** dialog). The Process Mining context is automatically assigned to all widgets in the dashboard that have no data source assigned.

By default, the PPM context provides all data columns of the PPM system. For the **Process Variants** widget, the columns are automatically filtered, and the PPM context provides only the variant dimension and numeric columns available.

Procedure

1. Click the **Process Variants** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (2/2)** dialog is displayed.

   Here you can assign the data source columns to the individual widget elements. See Settings (page 530) for details.
3. Assign the data columns of the PPM context to the widget elements using drag and drop.
4. Click the assigned columns to specify the columns settings. See Settings (page 530) for details.
5. Click **OK** to save your settings.

The widget shows the variants as a bar chart based on the data of the assigned data source.

If you do not want to use context-based data columns, you can assign any other data source provided. You can change the data source by clicking **Use other data**. The **Assign data (1/2)** dialog opens. Here you can assign any data source provided. If you assign another data source, you cannot reassign the PPM context to the dashboard widget. For details, see chapter Assign data sources (page 527).

If required, you can adjust the list of data columns provided for the data columns assignment. Click **Edit PPM context** to edit the data columns specified in the PPM context.

For details on using and configuring a Process Mining context, see the MashZone NextGen online help.

12.2.9.7.3.19.1.1 Column matching

To facilitate the assignment of the source columns to the widget elements, the names of the source columns are automatically matched to the default names of the columns in the standard customizing (in English and German only). The matching is only done if there are no columns already assigned to some widget elements.

The following elements of the **Process Variants** widget are matched (the comparison is case insensitive):

- Variant dimension

  Is exactly "Variant"

  Contains "Variant"
- Primary measure

  Is only matched if there is only a single column with numeric type.

If there is no matching source column for a widget element, the widget element stays unassigned, and you must manually assign the column to be used.

12.2.9.7.3.19.2 Settings

The **Process Variants** widget requires one column for the **Variant dimension** and one for the **Primary measure** element. Additionally, you can assign a data source column to the optional **Additional measure** element.

You can specify the **Display name** for the **Variant dimension** element. For the **Primary measure** and **Additional measure** elements, you can specify the **Display name** and the **Format**. If you enable the **Round numerically** option, the values are rounded according to the specified format, otherwise the digits are truncated. A column used as **Primary measure** cannot be used as **Additional measure** and vice versa.

If you use the PPM context for a **Process Variants** widget, you can rename the **Display name** of the **Primary measure** and **Additional measure** widget elements.

Option list

Field	Description
Variant dimension	Contains the column with the names of the variants, for example, v1, v2, or v1-3. The names are displayed as labels of the bars. Mandatory. Allows only text columns. If the field is empty, no chart is displayed.
Primary measure	The values are used to compute the length of the bars and the sorting order of the variants. The data is always sorted in descending order. The order cannot be changed. Mandatory. Allows only numeric columns. If the field is empty, no chart is displayed.
Additional measure	Contains additional measure values assigned to the various variants. The values are displayed on the right side of the chart besides the bars. Optional. Allows only numeric columns.

Advanced options

Field	Description
Display name	New column name displayed in the widget, that is used for measure, data point, or tool tip, for example. By default, the data source column name is used.

Field	Description
Aggregation	Specifies how the measure value is calculated. Available for numeric columns. The preset aggregation type depends on the configuration in PPM. The number of aggregation types provided by context-based widgets may differ from non-context-based widgets.
Format	Output format of the column values, that is used for data points or tool tip, for example. Available for columns of date and numeric type.
Round Numerically	Displays rounded measure values in the chart. Available for numeric columns. Enabled by default.

12.2.9.7.3.20 Create input parameters

You can create input parameters to enter dynamic values that are passed to the data transformation step (for example, for filtering) or passed to the data source itself.

You can use parameter sets to create dynamic URLs for your XML source and RAQL queries. The parameters are used to dynamically pass context from dashboards to applications using the URL. You can create dynamic URLs and query parameters that provide the required context to open URLs, to invoke web services, etc.

Procedure

1. Click a widget on the dashboard. The relevant properties dialog is displayed.
2. Click the **Assign data** icon to edit the data source assignment.

   The **Assign data (1/2)** dialog is displayed.
3. Click the **Input parameters** box.
4. Click the input parameter type required in the **Add input parameters** bar.

   The data types **Text**, **Number** and **Date** are available for input parameters. They allow the dynamic entry of text, date or numerical values in data feed processing.
5. Enter a **Name** for your parameter set.
6. Enter an optional **Default value**.

   The default value is used if no value is passed from the dashboard to the input parameter.
7. Enter a **Preview value**.

   The preview value is used to calculate a data preview (debug run) in the data assignment dialog. See Assign data sources to widgets (page 483).
8. Click the **Data flow** box to display the data source assignment overview.

The input parameter is displayed in the **Input parameters** box. The defined input parameters are only available for the currently selected widget.

You can use the input parameters for the **XML**, **CSV**, **MS Excel**, and **ARIS Table** data sources. Available input parameters are provided by the data source operator via an additional button.

If you use the input parameter in an XML data source URL, you can specify that the value of the parameter must be URL encoded. For an input parameter of **Date** or **Number** type, you can additionally specify the format pattern in the data source operator.

To specify the parameter properties click the inserted input parameter and select the option required.

Input parameters can also be used as filter elements for several data transformation operators, for example, Insert column, to enter dynamic values in columns. The list of parameters provided, depends on the selected data type of the relevant column.

The input parameters are also provided as filter elements by the widget. See Define filters for widgets (page 534) for details.

12.2.9.7.4 Remove widgets from dashboard

You can remove widgets from a dashboard.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Select one or more widgets on the dashboard. A corresponding pop-up menu is displayed.
3. Click the **Delete** icon in the pop-up menu.
4. Click **Delete**.

The widgets selected are deleted from the dashboard.

12.2.9.7.5 Define filters for widgets

In dashboard edit mode, you can define relations between widgets by specifying filter conditions for selected widgets. The defined filters can be used in dashboard view mode (See Use interactive filters in your dashboards (page 420)).

Most widgets support data filters. Especially, the **Drop-down box** (page 581), **Input field (page** 591**)** and **List (page** 596**)** widgets can be used for filtering other widgets. (See Insert widgets to a dashboard (page 482)).

FILTERING USING MULTIPLE SELECTION

Multiple selection allows you to filter widgets by selecting multiple values, such as multiple rows or data points, in a widget. See Use interactive filters in dashboards (page 420) for details.

In particular, the List (page 596) widget is provided for filtering using multiple selection.

The values selected in a widget are processed as a list and passed on to the widget to be filtered. The widget to be filtered must also support multiple selection. This means that the filtered widget is enabled to process a list of values

and not only a single value. You can enable a widget and, respectively, the assigned data feed to receive and process a value list by inserting user inputs (input parameters (page 532)) of **List** type in the data feed, Date user input (List) (page 684), Number user input (List) (page 686), and Text user input (List) (page 688).

If user inputs (input parameters) of List type have been defined, they are listed below the **Source columns** of a widget. They are identified by their own list icon.

Note that user inputs (input parameters) of **List** type cannot be used to filter singe values. For details see Configure filters for Process Mining context-based widgets (page 460) and Use the filter panel of Process Mining context-based widgets (page 421).

PROCESS MINING CONTEXT-BASED DASHBOARDS

The filter definition method described below is not supported by Process Mining context based widgets. The filter conditions are automatically set when you assign data columns of the Process Mining context to the widgets.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. If you have placed a widget on several tabs, select the tab containing the widget for which you want to set a filter. You cannot change the tab in the filter dialog. See Display widgets on several dashboard views (page 545) for details.
3. Click a widget on the dashboard. The relevant properties dialog is displayed.
4. Click the **Filter** icon to edit the filter configuration. The filter dialog of the selected widget displays the **Source columns** assigned to the widget and the **Select filter widget** bar. See Assign data sources to widgets (page 483) for details.

If applicable, input parameters are displayed as additional filter widgets. If input parameters have been defined, they are listed below the **Source columns** of a widget. See Create input parameters (page 532) for details.

If invisible columns have been defined, they are listed as **Source columns**. Invisible columns are not displayed in the widget, but they can be used as a filter criterion. See Assign data sources to widgets (page 483) for details.

5. Drag the column that you want to filter from the **Source columns** box and drop it into the **Drop here to define a new filter** field. The **Define filter condition** dialog is displayed. All widgets that can be used as a filter are highlighted. The columns in the **Available coordinates** box for each widget can be used as filter condition values.
6. Define the filter condition.

   You can use a column or a constant value as filter condition.

   a. Select a condition from the drop-down menu, for example, **is equal to**.
   b. Drag a coordinate from the **Available coordinates** box of the widget that you want to use as filer widget and drop the selected coordinate into the empty filter condition field.
   c. Alternatively, you can enter a constant value as filter condition.
   d. To enable case sensitivity, click the Aa **Match case** / **Ignore case** icon. This option is available only for coordinates or values of type **Text**.
   e. If the filter conditions are considered to be fulfilled, even if the selected values are empty, click the **Empty compare values are accepted** icon.
   f. Click the **Add** icon to add a filter condition.
   g. Enable the **block values** option to block the rows that meets the condition.
7. Click **Add an additional filter** to add filters to other source columns.
8. Click **Save filter**.

Your filter conditions are saved and can be applied to your dashboards (page 420).

12.2.9.7.6 Specify actions for widgets

You can assign actions to specific widgets (for example, charts, traffic light, label, image). The actions either select and apply data in widgets, or open an other dashboard tab, or open a specific URL.

You can specify a data selection for a specific widget on a dashboard tab, for example, a column in a table. The widget is then displayed with the selected data applied. If the selected data also serves as a filter for other widgets, these widgets are filtered accordingly.

Depending on the selected widget, the actions are triggered by clicking a widget, by a mouse over event or by a selection change event.

On mouse over events are performed if you move your mouse pointer over a data point of a widget, for example, a coordinate of a line chart. **On selection change** events are performed if you click a data point in a chart or if you delete a data selection in a widget.

For the **Grid** widget additional trigger options can be available, depending on your **Grid** widget settings. That are **On "item" click** and **On "item" traffic light click**. Whereby "item" is a placeholder for a column name. In the Grid widget settings you can make column cells clickable for triggering actions. See Assign data columns to grids (page 499) for details.

You can use the defined action in the dashboard view mode. See Open a dashboard in MashZone NextGen. Depending on the widget, you can delete a selection by clicking in the background or selecting the **Clear selection** option in the pop-up menu ( ) of the widget.

12.2.9.7.6.1 Change tab

By triggering, the action calls another dashboard tab.

The action is only available if you have added one or more views in the dashboard. See Add dashboard tabs (page 547).

If you deactivate the option, the action will not be deleted but deactivated in view mode.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a chart widget on the dashboard that supports actions. The relevant properties dialog is displayed.
3. Click the **Action** tab.
4. Select the action trigger event in the **Trigger** drop-down menu.

   The actions available dependent on the widget selected.
5. Activate the **Change** tab option.
6. Select the target tab in the drop-down menu.

Your settings are applied and your action is specified for the selected widget.

12.2.9.7.6.2 Set selection

By triggering, the action sets a data selection in a target widget. The target widget is displayed applying the data selected.

This action sets a specific selection, for example, a column in a table or a data point in a chart, in one or several target widgets. The target widgets can be placed on any tab available in the dashboard. If the data selected also represents filter values for another widget, this widget is filtered accordingly.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a chart widget on the dashboard that supports actions. The relevant properties dialog is displayed.
3. Click the **Action** tab.
4. Select the action trigger event in the **Trigger** drop-down menu.

   The actions available dependent on the widget selected.
5. Enable the **Set selection** option.

   If you deactivate the option, the action will not be deleted but deactivated in view mode.
6. Configure the **Set selection** action.
   a. Click **Configure** to set the action configuration.

      Initially, all **Available coordinates** of the target widgets are displayed.
   b. Set the coordinates of the widget that you want to select by your action. For this, drag the relevant coordinate and drop it in the field in the **Select selection component** area.
   c. Set the values that should be selected. You can enter a constant value or you can assign the values of a coordinate of another widget. Select a tab, drag the relevant widget coordinate, and drop it in the **Selection** box of the previously set coordinate.

      Only the coordinates with the fitting values are provided.
   d. Click **Add an additional selection** to define a further selection.
   e. Click **Save action**.

Your settings are applied and your action is specified for the selected widget.

12.2.9.7.6.3 Call URL

By triggering, the action calls a specific URL.

The target widgets can be placed on any tab available in the dashboard.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a chart widget on the dashboard. The relevant properties dialog is displayed.
3. Click the **Action** tab.
4. Select the action trigger event in the **Trigger** drop-down menu. The actions available dependent on the widget selected.
5. Enable the **Call URL** option.

   If you disable the option, the action is not deleted but it is deactivated in view mode.
6. Set the action configuration.
   a. Click **Configure**.
   b. Enter the target URL in the **URL** input box of the **Enter target URL** area.

      You have the option to create a dynamic URL by adding available coordinates to the URL. For this you can insert the coordinates from several widgets via drag and drop. A selected coordinate will placed on the current cursor position in the **URL** input field.

      You can also add coordinates of widgets placed on any tab available in the dashboard. In this case select a tab first and then insert the relevant **Available coordinates** in the **URL** input field via drag and drop.

      In case of a coordinate of type **number** or **date**, click the inserted coordinate and select a format pattern.

      To ensure that a coordinate is URL encoded, click the inserted coordinate and activate the **Use URL encoding** option.
   c. In the Target window field you can enter a name of the window where the URL should be opened, or you can select a target attribute in the drop-down menu. Available attributes are **_blank** (new window), **_self** (self window), **_parent** (parent window), and **_top** (entire window).
   d. Click **Save action**.

Your settings are applied and your action is specified for the selected widget.

12.2.9.7.6.4 Specify an image source URL

You can configure the source of an image (page 590) to be displayed on a dashboard. You can specify a specific URL or select a URL alias as image source. You can also define a dynamic URL to use in view mode.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click an inserted image on the dashboard. The relevant properties dialog is displayed.
3. Click the **Source URL** icon. The corresponding dialog opens.
4. To define a specific URL, select **URL** from the **Source** drop-down menu and enter a URL in the URL input field.
5. To select a URL alias, select **URL alias** from the **Source** drop-down menu and select an alias from the **Path prefix (alias)** drop-down menu.

   The **Path prefix (alias)** drop-down menu provides aliases configured in the administration. Only URL aliases without basic authentication are provided. Only the URL aliases for which you have the appropriate permissions are provided.
6. Enter a URL in the **Default source** input box to specify an image to be displayed when no selection is made. The image is also displayed in edit mode. If this box is left empty, no image is shown.
7. Define a dynamic URL using selections (coordinates). The dynamic URL takes effect only in view mode.
   a. You can create a dynamic URL by adding available coordinates to the URL. For this you can insert the coordinates from several widgets using drag and drop. A selected coordinate is placed at the current cursor position in the URL input field.
   b. You can also add coordinates of widgets placed on any tab available in the dashboard. In this case, select a tab first and then insert the relevant available coordinates in the URL input field using drag and drop.
   c. Click **Configure input** to change the format of a coordinate to type **Date** or **Number**. The option is enabled only if at least one coordinate is inserted in the URL input field.
   d. In case of a coordinate of type **number** or **date**, click the inserted coordinate and select a format pattern.
   e. To ensure that a coordinate is URL encoded, click the inserted coordinate and activate the **Use URL encoding** option.
8. Click **OK**.

Your settings are applied and the URL is specified for the selected image.

See also

Image (page 590) widget

12.2.9.7.6.5 Post data

The action creates an outbound API to pass data from MashZone NextGen dashboards to an embedding system, for example, an external web application.

The API data structure consists of the dashboard id, the specified external widget id (**URL-ID**, see: Use dynamic URL selection (page 550)), the selected coordinate names (columns), the selected coordinate values, and the name of the event triggering the outbound data push. See the **MZNG outbound data structure** example below.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click an inserted chart widget that supports actions. The relevant properties dialog is displayed.
3. Click the **Action** tab.
4. Select the action trigger event in the **Trigger** drop-down menu.

   The available actions depend on the selected widget.
5. Activate the **Post data** option.

   If you disable the option, the action is not deleted but it is deactivated in view mode.
6. Click **Configure** to set the action configuration.
   a. Select the coordinates that you want to add to the outbound data.

      The coordinates selected are added to the outgoing data, that is displayed in the Outbound data preview box.
   b. Click **Save action**.

Your settings are applied and your action is specified for the selected widget.

Example

The outbound data is structured as follows:

```
{
    "dashboardGUID": "d216bf4a-bd12-476d-aa5d-2a07a3efd4bf",
    "outbound Widgets": [
      {
        "extId": "widget2",
        "outboundData": [
           { "name": "ARTIST",
             "value": "Bob Dylan",
             "type": "TEXT"
           },
           {
             "name": "PRICE",
             "value": "11.0",
             "type": "NUMERIC"
           }
         ],
          "trigger": "onSelectionChange"
      }
    ]
}
```

By triggering the **Post data** action, MashZone NextGen sends the configured outbound data using **window.postMessage()** events. In order to receive the events in an embedding system a listener function must be implemented as in the example below:

```
function listener(event){
// The origin of the window that sent the message
// at the time postMessage was called
// Format: protocol://host:port var origin = event.origin
// A reference to the window object that sent the message var source = event.source;
// The posted data object var data = event.data;
}
if (window.addEventListener){ addEventListener("message", listener, false) } else
{ attachEvent("onmessage", listener) }
```

12.2.9.7.7 Hide or display widget header and border

You can hide the header and the outline of the widget container.

The header and the outline of certain widgets are hidden by default, for example, Input field and Combobox.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. A corresponding pop-up menu is displayed.
3. Click the **Config** tab to set the display options.
4. Click **More options**.
5. Set the **Container** header and border.

- Click the **Hide header** icon. This option hides the header and the title of the widget and resizes the content. To unhide the header, click the icon again.
- Click the Hide border icon. This option hides the outline of the widget container. To unhide the outline, click the icon again.

The header and outline of the widget are hidden or displayed.

12.2.9.7.8 Resize widgets

You can scale the size of widgets.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The widget is displayed with a frame.
3. In smart dashboards
   a. Resize the widget width by dragging the anchor point of the frame with your mouse pointer.

      A widget width can be resized across multiple empty fields.

   b. Resize the widget height by resizing the height of the row in whichthe widget is inserted. To resize the row height, drag the upper or lower row border with your mouse pointer.

      The height of all widgets that are inserted into the same row is resized automatically.
4. In fixed-grid dashboards drag the anchor point of the frame with your mouse pointer.

The selected widgets are resized.

12.2.9.7.9 Move widgets to the foreground or background

On the dashboard, you can move widgets to the foreground or background. For example, you can display a chart in the background of the dashboard and place several widgets on top of it.

This option is only available in fixed-grid dashboard mode. See Switch to fixed-grid workspace (page 441) for details.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Select one or more inserted widgets in the dashboard. A corresponding pop-up menu is displayed.
3. Set **Layering**

- Click **Bring to front**. Displays the widget in front of one or more other widgets.
- Click **Bring forward**. Brings the widget one level forward.
- Click **Send backward**. Brings the widget one level backward.
- Click **Send back**. Displays the widget behind one or more other widgets.

The selected widgets are moved forward or backward on the dashboard.

12.2.9.7.10 Copy and paste widgets in dashboards

You can copy or cut widgets and paste them in the same or in any other tab of the dashboard.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. A corresponding pop-up menu is displayed.
3. Click the **Copy** icon in the pop-up menu to copy the selected widgets to the clipboard.
4. Click the **Paste** icon in the pop-up menu to insert the copied widgets in the same tab of the dashboard.
5. Click the **Cut** icon in the pop-up menu to cut the selected widget and copy it to the clipboard.
6. Open any tab of the dashboard and press **Ctrl**+**V**.

   Filter relations between copied widgets are retained.

The widget selected is copied to the clipboard and pasted in the selected dashboard tab.

12.2.9.7.11 Display widgets on multiple dashboard tabs

You can display a widget on multiple views of a dashboard.

A widget that is placed on multiple tabs can be used for filtering other widgets and for triggering selection events across multiple tabs. At the same time, the global placed widget can be filtered and triggered by other widgets. If a global widget is selected (for example, if you click a data point of a line chart), the selection is shown on all tabs on which the widget is placed. The dependent filters and actions are triggered for the entire dashboard.

The option is only available for dashboards that use the fixed grid work space.

On each tab, the widget has the same features such as position, size, configuration and filter conditions etc., except for the widget layering. See Move widgets to the foreground or background (page 543).

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget. The relevant properties dialog is displayed.
3. Click **More options**.
4. Click **Select tabs** and select the tabs on which the widget should be placed.

   Before you can display a widget on several views, you must first add one or more tabs. See Add dashboard tabs (page 547) for details.
5. To remove a widget from a tab, deselect the relevant tab in the **Select tabs** menu.

   You cannot remove a widget from the currently activated tab.
6. To delete a widget click **Delete** in the pop-up menu.

   If you delete a widget on a tab, the widget is deleted on all tabs on which it is used.

The widget is placed on several tabs and displayed on the corresponding dashboard tabs.

You can use an action defined in dashboard view mode. See Use dashboards in view mode (page 419).

12.2.9.7.12 Change the widget style

You can assign a different style to a widget on your dashboard. Using styles you can customize the look and feel of your widgets, for example, colors schemes, fonts or background color.

The styles provided for the selected widget are part of the style template that is assigned to the current dashboard (page 446).

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget on the dashboard. The relevant properties dialog is displayed.
3. Click **More options**.
4. Select a style in the **Style** drop-down menu.

The selected style is applied to the current widget.

12.2.9.8 Configure dashboard tabs

You can configure the individual dashboard tabs in the dashboard editor.

12.2.9.8.1 Add dashboard tabs

You can add additional dashboard tabs. The individual views are displayed on separate tabs.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click the **New tab** icon beside the tab name.

A new tab is added. The tab is displayed as a separate dashboard tab in view mode.

12.2.9.8.2 Delete dashboard tabs

You can delete any view from a dashboard. A dashboard tab is displayed as a separate tab in the dashboard editor.

Warning

Deleted dashboard tabs cannot be restored.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Show menu** beside the relevant tab title.
3. Click **Delete** in the pop-up menu.
4. Click **Delete**.

The selected dashboard tab is deleted.

12.2.9.8.3 Set dashboard tab properties

You can set the properties of a dashboard tab. You can specify a name for the dashboard tab, select a style and set the selected view as default.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a dashboard tab.
3. Click the **Settings** icon beside the tab title.
4. Enter a text in the **Name** box in the pop-up menu.
5. To set the dashboard tab style, click the **Style** selection box and select a style.

   This option is only available for smart dashboards.
6. To set the dashboard tab background, click the color selection box and select a background color.

   This option is only available for fixed-grid dashboards.
7. Click **Set tab as default** to set the current selected tab as the default view.

   The default view is displayed initially when you open the dashboard in view mode.

The dashboard tab properties are set.

12.2.9.8.4 Set dashboard tab style

You can change the style, for example, the background color, applied to the dashboard tab.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Show menu** beside the tab title of the relevant tab.
3. Click the **Style** selection box and select a style.

The dashboard tab style is set.

12.2.9.8.5 Set dashboard tab as default

You can set the current selected tab as the default tab. The default tab is displayed initially when you open the dashboard in view mode.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Show menu** beside the tab title of the relevant tab.
3. Click **Make default**.

The dashboard tab is set as default view.

12.2.9.9 Other

12.2.9.9.1 Use dynamic URL selection

You can select specific elements of widgets (for example, a grid row, a combobox entry, a pie slice, etc.) dynamically by specifying URL parameters. When you use the URL to open a dashboard in view mode, the elements are automatically preselected and, if applicable, the preselected elements are used as a filter or an action trigger.

You can select the URL parameters required for dynamic URL selection in the properties menu of a widget and copy them to the clipboard. You can set a data column preselection for each widget that supports data preselection, for example, Grid, Input field, or several charts.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click a widget that supports data preselection. The relevant properties dialog is displayed.

   Before you set a preselection you must assign the relevant data columns to the widget. See Assign data sources to widgets (page 483).
3. Click the **URL selection** tab.
4. You can enter a widget ID in the **URL-ID** input field. If you change the preset ID, you must choose a unique ID within your dashboard and you must save the dashboard to keep the new **URL-ID**.
5. The **URL example** field contains a URL selection of the widgets including all assigned data columns and corresponding dummy values.
6. You can edit the URL selection according to your requirements in the **URL example** field.

   Expected formats:

   Number: Do not use thousands separators and use dots as decimal separators.

   Date / time: yyyy-MM-ddThh:mm:ss

   Text: no restrictions (URL-encoded)
7. Copy the URL selection to the clipboard. If your browser supports this function, a **Copy to clipboard** button is available.

   The URL parameters are copied to the clipboard of your operating system (URL-encoded).
8. Add the parameters to a URL that you want to use to open a dashboard and enter the URL in your web browser.
9. To open a specific dashboard tab, add the corresponding tab parameter to the dashboard URL.
   a. Click **Show menu** beside the tab title of the relevant tab.
   b. Click the **URL selection** tab.
   c. You can enter a tab ID in the **URL-ID** input field. If you change the preset ID, you must choose a unique ID within your dashboard.

d. Save your settings.

e. Copy the URL selection to the clipboard. If your browser supports this function, a **Copy to clipboard** button is available.

f. Add the URL selection that was copied to the clipboard to your dashboard URL.

The dashboard is displayed in view mode with the specified selection.

Example

Dashboard preselection parameters

&cn16.Time=2015-12-23&cn16.Location=New%20York

Tab preselection parameter

&tab=tab1

URL with parameters added

http://<local host>:8080/mashzone/hub/dashboard/dashboard.jsp?editmode=false&guid=0bd1cbcc-49d2-4cb1-a5fe-72cfdc624cda**&cn16.Time=2015-12-23&cn16.Location=New%20York&tab=tab1**

These URL parameters are applied when you open the dashboard. To apply a modified preselection, you must reload the dashboard page. However, you can also apply a selection in an open dashboard without reloading the entire page. In this case, the selection string must begin with #... instead of &...

...#cn16.Time=2015-12-23&cn16.Location=New%20York

12.2.9.9.2 Hide tab bar in view mode

You can hide the tab bar in dashboard view mode.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Manage** in the dashboard main menu.
3. Click **Properties**.
4. Enable the **Hide tab bar in view mode** option.
5. Click **OK**.

Your settings are applied.

The tab bar is hidden when you open the dashboard in view mode. Only the active tab is displayed.

12.2.9.9.3 Set display size

You can set the display size for the currently displayed dashboard. Set the zoom factor to improve the legibility of a dashboard.

The option is only available in fixed-grid dashboards. See Switch to fixed-grid workspace (page 441) for details.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Options** in the dashboard main menu.

- Click **Zoom In** to increase the display size.
- Click **Zoom Out** to decrease the display size.
- Click **Set Zoom to 100%** to restore the default display size.

The display size of the current dashboard is adjusted accordingly.

12.2.9.9.4 Set grid lines

You can set the grid lines in the desktop background. The grid lines help you to arrange the individual widgets more easily. The widgets are automatically aligned to the grid lines.

These options are only available in fixed-grid dashboards. See Switch to fixed-grid workspace (page 441) for details.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Options** in the dashboard main menu.
3. Click **Increase Grid Space**.
4. Click **Reset Grid** to restore the default grid space.
5. Click **Decrease Grid Space**.

The grid lines of the current dashboard are adjusted accordingly.

12.2.10 Use the data feed editor

The data feed editor as a graphical user interface is an easy-to-use tool to create, manage and view your data feeds without any programming knowledge.

To use the data feed editor, the **Dashboard administrator** function privilege is required.

To use data feeds on dashboards and in other data feeds, and to see the data on a dashboard, the **View** permission is required. See Manage data feed permissions (page 559) for details.

12.2.10.1 Create a data feed

You can create data feeds in the feed editor.

A data feed is a table that contains processed data. The data in the data feed table is calculated using a feed definition, which combines data from various data sources.

To create a data feed definition you must perform the following steps.

- Open a new data feed (page 553)
- Select data sources (page 554)
- Calculate the feed data (page 555)
- Add further operators (page 556)
- Connect the operators (page 557)
- Save the data feed (page 557)

12.2.10.1.1 Open the data feed editor

You can create a new data feed by using the data feed editor.

Procedure

Click **Manage** > **New data feed** in the data feed editor main menu.

An new data feed is opened.

When creating a data feed, the **Output** element that finalizes the feed definition, is already set. The element is mandatory and cannot be deleted.

12.2.10.1.2 Select data sources

You can set one or more data sources for the data feed definition, for example, MS Excel, CSV, or XML files. The data sources for a data feed can be located locally, in the LAN, or on the Internet.

The data sources are represented by data source operators. Various options are available for setting the data source depending on the data source type.

See Data source operators (page 614) for a list of data sources and the relevant settings supported by the data feed editor.

The source files can be selected by specifying the path, and must be stored in the Repository of ARIS Connect.

Procedure

1. Click the symbol in the **Add data operations** bar if the symbol is not selected.
2. Click a data source, for example, XML.

   The selected operator is displayed in the data feed editor workspace.
3. Select the data source or connection type of the data source file required, for example, an URL or a local path to a XML file.
4. Enter a URL or a path to the data source file, for example, for an XML file. Or select a data source or a connection in a selection box, for example, a PPM connection.
5. Specify your additional settings.

The selected data source operator is inserted and the source data can be extracted.

12.2.10.1.3 Calculate the feed data

You can calculate the data for all operators of the feed definition and display the corresponding preview in a preview table. This enables you to track all data changes step by step.

The preview table provides several preview modes. For details, see the table below.

For performance reasons, the preview is limited to a maximum of 1000 rows by default.

Procedure

1. Click the Calculate preview icon in the header of an operator.

   The feed data is calculated for the selected operator of the feed definition. The result is displayed in a preview table at the lower edge of the workspace.
2. Select the preview mode in the corresponding drop-down menu in the header of the preview table.

   The raw data preview (quick or full) of text-file operators (XML, JSON, CSV) is displayed in a single (non-sortable) column. The raw preview of an **Excel** operator has Excel column names (A, B, C, etc.) and an initial column that contains the line number.
3. To change the sort order of a table, click a column heading.

   Click once to change the sort order to ascending.

   Click twice to change the sort order to descending.

   Click three times to change the sort order to default.

The result is displayed according to your settings.

The preview mode remains selected as long as the data feed (or **Assign data 1 / 2** (page 483) dialog) is open.

The preview table provides the following preview modes.

Preview mode	Description
Quick	The selected operator returns at most 1000 rows in its result. This applies to the operator for which a preview is needed, as well as to all other operators required for calculating the preview. This preview mode is equal to the data preview provided in MashZone NextGen up to version 10.3. The **Quick** preview mode is preselected by default.
Quick raw	The preview displays the data of the source of the selected operator. This preview mode is supported only for the data source operators **XML**, **JSON**, **CSV**, and **Excel. XML** and **JSON** source data are reformatted with indentation. The results are limited to 1000 rows.
Full	The preview is displayed without limiting the operator results to 1000 rows. The actual limit depends on the license you use.
Full raw	The result of the raw data preview is displayed without limiting it to 1000 rows. The actual limit depends on the license you use.

Preview mode	Description
Statistics	The result table has one line per measure, an initial column containing the name of the measure, and one column for each column of the operator's result table. ▪ Count: the count of non-NULL values for this column ▪ #Null: the count of NULL values for this column ▪ Min: the minimum value of this column ▪ Max: the maximum value of this column ▪ Avg: the average value of this column ▪ Std: the standard deviation of this column ▪ Unique: the number of unique values in this column ▪ Top: a value that has the highest frequency ▪ Freq: the frequency of the top value

12.2.10.1.4 Add further operators

Insert optional operators in the data feed definition to convert, calculate or transform data. For this the feed editor provides additional data transformation and user input operators.

You can use various operators to create calculation rules for calculating the data of your feeds.

See Data transformation operators (page 637) for a list of transformation operators and the relevant settings supported by the data feed editor.

Procedure

1. Click the **Transformation** or **Single values** icon in the **Add data operations** bar.
2. Click an operator or insert an operator using drag and drop.

   The operator is displayed in the feed editor workspace.
3. Specify your settings.

The selected operator is inserted and configured.

12.2.10.1.5 Connect the operators

Connect the inserted operators to define the data flow of the data feed definition.

The data of an operator is forwarded to another operator using a link. The link is created as a connection between outgoing and incoming anchor points of the individual operator. The permitted incoming anchor points are marked in blue for a selected outgoing anchor point.

User input operators are only connectable with **Single value** operators.

Procedure

1. Click the outgoing anchor point of a data source and drag it to an incoming anchor point of a transformation operator.
2. To disconnect two operators click an incoming or outgoing anchor point and drop it in the workspace.
3. Define the data flow among the inserted operators in a similar manner.
4. Connect the last transformation operator with the **Output** operator to finalize the data feed definition.

Your data feed definition is configured.

To view the calculation result of the completed data feed definition click the **Calculate preview** symbol of the **Output** operator.

12.2.10.1.6 Save the data feed

You can save the data feed and give it a unique name.

Warning

Note that when you save your data feed using the name of an existing data feed, conflicts may occur when you reopen the data feed.

Procedure

1. Click **Manage** > **Save** in the main menu.

   You can create a copy of the currently opened data feed using the **Save as** option.
2. Specify your settings.

The data feed is saved on the server.

You can change your settings by editing the data feed (page 558).

12.2.10.2 Edit a data feed

You can edit a data feed that is available in the data feed editor.

Prerequisite

You have the required access privileges for the data feed (page 559).

Procedure

1. Click **Manage** > **Open** in the data feed editor main menu.
2. Select an available data feed.
3. Specify your settings.
4. Click **Manage** > **Save** in the data feed editor main menu.

Warning

Note that when you save your data feed using the name of an existing data feed, conflicts may occur when you reopen the data feed.

Your settings are applied.

12.2.10.3 Delete data feeds

You can delete data feeds in the data feed editor.

Warning

Deleted data feeds cannot be restored.

Procedure

1. Create a dashboard (page 437) or open a dashboard (page 442) in the dashboard editor.
2. Click **Manage** > **Delete** in the data feed editor main menu.
3. Click **Delete**.

The selected data feed is deleted.

12.2.10.4 Edit data feed properties

You can edit the properties (name, description and tags) of existing data feeds.

Procedure

1. Create a new data feed (page 553) or open an existing data feed (page 558).
2. Click **Manage** > **Properties** in the feed editor main menu. The **Dashboard properties** dialog is displayed.
3. Enter the **Name** of the data feed.
4. Enter an optional **Description**.
5. Optionally, enter comma-separated search tags in the **Tags** field.
6. Click **OK**.

Your changes are applied.

12.2.10.5 Manage data feed permissions

You can manage the permissions of data feeds in the data feed editor. You can assign specific access permissions to individual users or user groups. If you assign permissions to a user group, the permissions are automatically assigned to all members of the user group.

For new users and user groups of a data feed, you can automatically assign view permissions to all associated assets of the data feed, such as aliases or other data feeds. It is not required to assign the permissions to each asset manually. A user requires the view permission for all associated assets to display the corresponding source data in the data feed. If view permissions are not assigned to all associated assets, a corresponding option to assign the missing view permissions is additionally displayed in the dialog.

You can specify the following access rights for saved data feeds.

- **Edit**

  The user can use data feeds to create dashboards or to include them in other data feeds. The user can edit data feeds in the data feed editor.

- **View**

  The user can use data feeds to create dashboards or to include them in other data feeds. The user can view the data of the data feed in view mode on the related dashboard.

Procedure

1. Create a new data feed (page 553) or open an existing data feed (page 558).
2. Click **Manage** > **Permissions** in the data feed editor main menu. The **Manage dashboard permissions** dialog is displayed.
3. Enter a term in the search field and click **Search**. If you click **Search** without specifying a search term, all users and user groups are listed.
4. Drag a user or a user group from the **Search result** field and drop it on the **Principals with permissions** field.

   By default, the creator of the data feed is shown in the **Principals with permissions** list.
5. Enable or disable the **View** or **Edit** privileges of a user or a user group.
6. Click **Save**.

   The button is available if the option **Assign the relevant view permissions to related assets** is disabled, or the view permissions are already assigned to all associated assets.
7. Enable the option **Assign the relevant view permissions to related assets** to assign the required view permissions to all associated data feeds and aliases.

   The option is available if the view permissions are not assigned to all associated assets.
8. Click **Next**.

   A new dialog opens. The first list in the dialog contains assets whose view permissions you can update. The second list contains assets whose view permissions you cannot change. At least one of the following prerequisites must apply to change the view permissions for data feeds or aliases.

   You are an administrator who can edit the permissions for aliases.

You have permissions to view and edit data feeds.

You have permissions to create and edit data feeds.

Your changes are applied.

If you want to remove a user or a user group from the Principals with permissions list, click the **Delete** icon. Deleted permissions for a data feed do not affect the associated data feeds or aliases.

12.2.10.6 Data feed operators

The data feed editor provides a wide range of data source and data transformation operators for creating data feed definitions (page 553).

- Data source operators (page 614)
- Data transformation operators (page 637)
- User input operators (page 683)

12.2.10.7 Upload file based data sources

You can use data sources in the dashboard and data feed editor that are file-based, such as Excel spreadsheets, CSV files or XML files. You must store the files in a resource directory in the ARIS document storage that is accessible in the Repository of ARIS Connect.

Prerequisite

You have the **Dashboard administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click **Repository**.
3. Activate the **Documents** tab.
4. In ARIS document storage navigation tree, select the folder where you want to store your source file.
5. Click **Upload**. The **Upload new document** dialog is displayed.
6. Click **Select** and select the relevant resource file.
7. Enter a title in the **Title** input box.
8. Enter a description in the **Description** input box.
9. Enter a number of terms comma separated in the **Tags** input box. Tags are used for the search function.
10. Click **Upload**.

The source file is stored in the resource directory selected.

The URL of the data source file is required for the data source operator in the data feed editor. You can copy the file URL to the clipboard. For this, click the relevant data source file name to display the document details. In the document details right click the **Link** at the end of the page and select **Copy Link Location** in the context menu. The file URL is copied to the clipboard.

12.2.10.8 Other

12.2.10.8.1 Make your dashboards context-sensitive

You can make your dashboards context-sensitive by assigning dashboards to specific ARIS models or objects. For example, if you select a model in ARIS Connect, the dashboards assigned to the model are displayed and you can open any dashboard from the list.

The **Input field** widget allows you to insert variables in a dashboard. The variables are used to connect ARIS models or objects with the dashboard. The dashboard variables required are **contextguid** for the GUID of an open model and **selectionguid** for the GUID of a selected object.

When you open a model, the **selectionguid** variable is not set. However, when you make a selection in the open model, the **selectionguid** variable is set to the GUID of the selected object. When you remove the focus from the selected object, the **selectionguid** variable is set to the GUID of the opened model.

Procedure

1. Click the **Input field** widget icon to insert an input field for each required variable.
2. Click an input field to open the properties dialog.
3. Enter the variable names **contextguid** and **selectionguid** in the **Name** input box of the relevant input field.
4. On the **URL selection** tab of the **contextguid** input field, enter **contextguid** in the **URL ID** input field.
5. On the **URL selection** tab of the **selectionguid** input field, enter **selectionguid** in the **URL ID** input field.

The relevant variables **contextguid** and **selectionguid** are inserted into the dashboard.

Tip

ARIS Aware provides the predefined data feed **Context GUID** containing the variables required. The variables defined always deliver the current selection, either the model GUID or the object GUID. You can use the data feed as an example for creating your own context-sensitive dashboards.

12.3 Valuable information

This section provides background information to assist you in carrying out the relevant procedures.

12.3.1 What are dashboards?

Dashboards are interactive applications that collect, combine, and visualize data from different data sources, for example, ARIS table or CSV files. Dashboards are composed of individual widgets (for example, line chart or grid). They obtain their data from data sources and display it.

Dashboards make it easy to visualize and analyze information. You can combine data from any original source and visualize them by means of graphic elements, filter the displayed results interactively and thus analyze them intuitively.

The dashboard editor as a graphical user interface gives you an easy graphic way to create, manage and view your dashboards. The dashboard editor provides the edit mode and the view mode. In the edit mode you can create and manage your dashboards. The view mode enables you to view and use your dashboards interactively.

See Use dashboards in view mode (page 419) for instructions.

See Create a dashboard (page 437) for instructions.

12.3.2 What are data feeds?

A data feed is a table containing prepared data. It consists of several columns that contain numerical values (for example, figures), text, or date values. Each row in the calculated result of a data feed corresponds to one data record.

The data in a data feed is calculated based on various data sources (for example, data from MS Excel, CSV, or XML files) by means of feed definitions. The source data is not an integral part of the data feed, but remains in its original sources, ensuring that it is constantly up-to-date. In addition to the external data sources, direct user entries in the data feeds can also be processed.

Data feeds are used as data sources for dashboards.

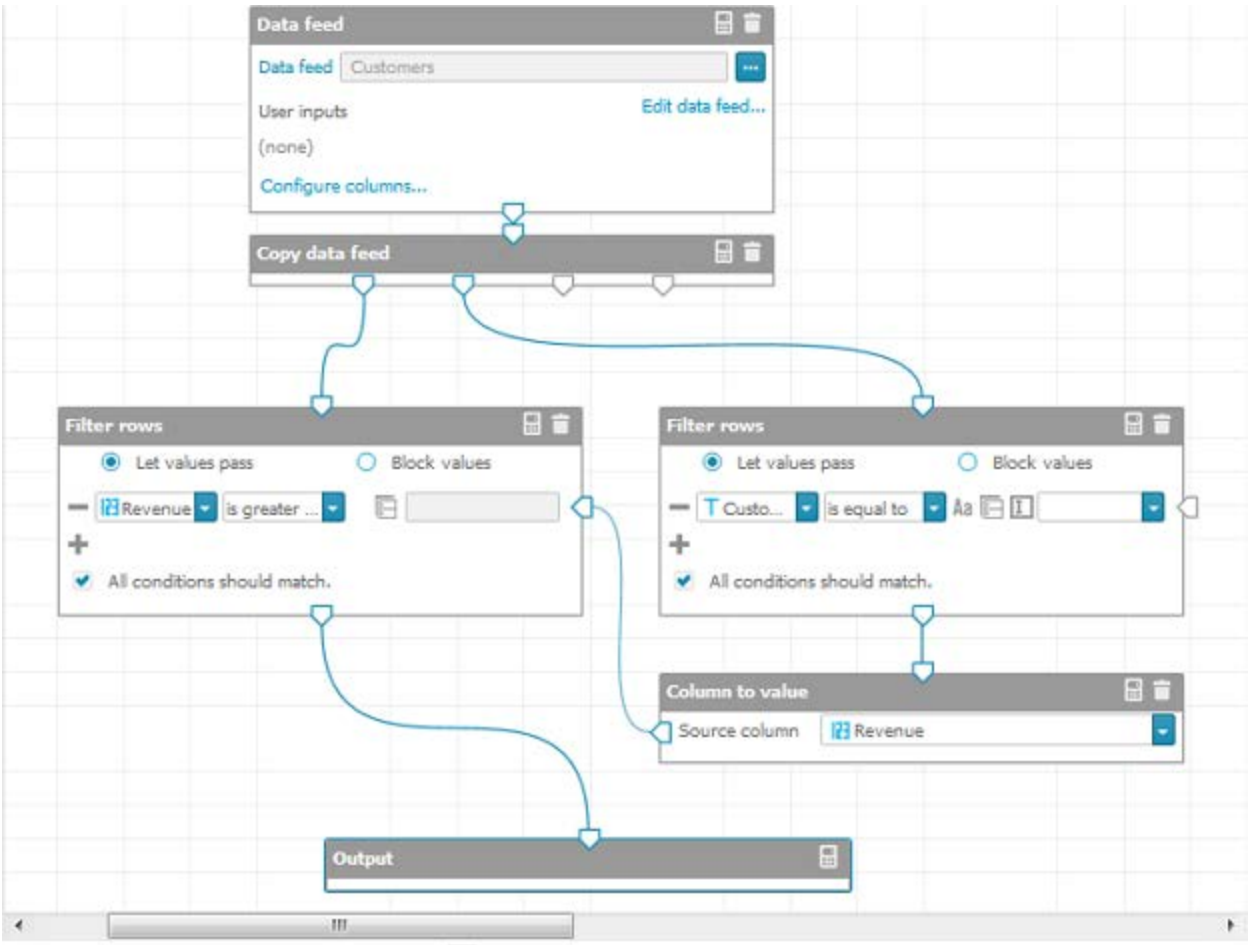
Only one data feed can be assigned to each widget, with the same data feed being able to supply the data for multiple widgets. See Assign data sources to widgets (page 483) for details.

Feed definitions aggregate, extend, transform, or calculate data from one or more data sources. A feed definition can consist of any number of operators and data sources that are linked byconnections. Data is calculated for each data source and each operator and then passed on to the operators linked to them for further processing. A feed definition delivers a data structure in the form of a list table as its result. All individual processing steps in the feed definition are based on this data structure.

The feed editor as a graphical user interface offers you an easy, visual way to create, manage, and view your data feeds, without programming knowledge being required. The feed editor provides you with all supported data source operators, all relevant data transformation, and user input operators. The rule definitions can be created using drag and drop.

See Create data feeds (page 553) for instructions.

Data feed definition and feed table



Calculation result of operator 'Data feed'

Customer	Revenue
SAP	10000.0
Siemens	20000.0
HP	15000.0
Volswagen	12000.0

12.3.3 Who can use or manage dashboards?

ARIS administrators can control (page 36) what ARIS users can see and do. There are several user types that can use and manage dashboards and data feeds in ARIS Connect. The following user types have different license and function privileges and individual access privileges to dashboards and data feeds.

ARIS AWARE ADMINISTRATORS

- Can see dashboards if they have access to the dashboard and the dashboard is assigned to an accessible ARIS context, such as a model or the **Home** area.
- Have access to the **Dashboards and Data feeds** tab in the **Repository**.
- Have all administrative privileges for dashboards and data feeds, for example, to create, edit, import, export, and delete dashboards and data feeds.

ARIS Aware administrators are ARIS users that have the **ARIS Connect Viewer** + **ARIS Aware** or the **ARIS Connect Designer** + **ARIS Aware** license privileges and the **Dashboard administrator** function privilege. The **ARIS Aware** license is only available if the **ARIS Connect Server Extension pack ARIS Aware** was installed.

MY DASHBOARDS USERS

- Have access to the **Dashboards and Data feeds** tab in the **Repository**.
- Can see all dashboards and data feeds for which they have **Read** or **Write** access.
- Can edit and delete all dashboards and data feed for which they have **Write** access.
- Can create new private dashboards and data feeds. Private means that by default only this user can access them.
- Can assign **View** privileges to other users in ARIS Connect for any dashboard (page 415) and data feed (page 418) for which they have **Write** access permission.
- Can assign **Edit** privileges in MashZone NextGen for any dashboard and data feed for which they have **Write** access permission.
- Cannot import or export dashboards or data feeds.

My Dashboards users are ARIS users that have the **ARIS Connect Designer** + **ARIS Aware** license privileges but must not have the **Dashboard administrator** function privilege.

ARIS AWARE VIEWERS

- Can see dashboards if they have access to the dashboard and the dashboard is assigned to an accessible ARIS context, such as a model or the **Home** area.
- Have no access to the **Repository**.
- Cannot create, edit, or delete dashboards.

ARIS Aware viewers are ARIS users that have the **ARIS Connect Viewer** + **ARIS Aware** license privileges but must not have the **Dashboard administrator** function privilege.

12.3.4 What is the data source for default dashboards?

In ARIS Architect, users with the **Script administrator** function privilege will find all standard reports available in this category. The reports are shown on the **Administration** > **Evaluations**> **Report** tab. If in the **General** properties dialog of a report script the **Available to users** option is selected, the report can be selected in the Report Wizard for execution.

In this category, you find reports required to generate data feed input for default ARIS Aware dashboards. You can not modify the code of these reports. If you want to modify the code in order to define your own dashboards (page 413), import the required reports from the ARIS installation DVD.

For some reports parameters can be specified. These parameterized reports are to be started frequently using report schedules (page 400). This keeps the dashboards up to date. The scheduled reports themselves trigger related reports. Each report collects specific pieces of information. The results are stored in ARIS document storage as XML report output files. These pieces of information are formed into dashboards. That is why dashboards correlate very closely to the set of executed reports.

12.3.5 How to make default dashboards visible

ARIS provides several default dashboards. In ARIS Connect these sample dashboards can be accessed using the most recent version of the **United Motor Group** ARIS database. You can either use these dashboards (page 395) created for demonstration purposes, or create your own dashboards (page 413).

In order to make the default dashboards available in ARIS Connect, the following prerequisites must be met:

- The **dashboarding** runnable is in the **ACTIVE** state.

  It is already activated if ARIS Aware has been installed. If the runnable is not active, your server administrator must activate the runnable using ARIS Cloud Controller (ACC) (see **ARIS Server Installation Guide** or **ARIS Cloud Controller (ACC) Command-Line Tool** on DVD, ARIS Download Center (https://aris.softwareag.com/), or Empower (https://empower.softwareag.com/)).
- In the User Management, a valid ARIS Server license of type **YCSAW** is available in the ARIS Administration (see ARIS Connect online help).
- In ARIS Connect, the **Feed URL** alias URL must be defined (see ARIS Connect online help; Add an alias URL for dashboards (page 378)).
- The required content has been made available from the ARIS installation DVD (page 395).
- In ARIS Connect, check default data feeds for issues (page 405).

12.3.6 What is an alias of a URL?

Defining a URL alias enables you to shorten the link used in dashboards and data feeds. If you use an alias, you do not have to enter the entire URL, but only the path to the location where the data is stored.

Furthermore, adapting the alias enables you to import this kind of data to a different server.

If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you need to recreate the URL alias that have been defined for ARIS Connect 10.0 Service Release 1. Delete the URL alias (page 380) at first and add a new URL alias (page 378) with the same data.

12.3.7 Widgets

The dashboard editor provides a number of widgets.

See also Insert widgets in a dashboard (page 482).

12.3.7.1 Action button

Can be used to trigger an action.

The following widget options are available.

General options	Description
Name	Optional widget name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

Specific bar chart options	Description
Label	Label that is displayed in the widget.

12.3.7.2 Bar chart

A bar chart can display values for two iterations:

- Two dimensions and one KPI
- One dimension and multiple KPIs

The second iteration is displayed in the form of several stacked bars. If multiple KPIs are used, these are displayed in bars of different colors.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific bar chart options	Description
Chart title	Optional chart title of the chart displayed in the widget.
Column type	Selects the bar type of the bar chart. This option is only available if a data source has been assigned. Bars available are **Stacked** or **Grouped**.

Specific bar chart options	Description
Show values	Displays the measure values outside the bars by default. If the space is too limited, the values are displayed inside the bars. If the space inside the bars or stack bars is also limited, the values are not displayed at all.
Legend position	Displays a legend in the widget and sets the legend's position. The default is **None**, that is, no legend is displayed.
Axis	Specifies the visualization of the X- and Y-axis. **Show all**: Displays the axis titles and labels. Enabled by default. **Hide title**: Hides the axis titles and displays only the axis labels. **Hide all**: Hides the axes completely.
Multiple selection	In view mode, the user can select multiple values at the same time in the corresponding widget, for example, multiple rows in a table or multiple coordinates in a chart. The multiple selection can be used, for example, to filter other dashboard widgets. See Use interactive filters in dashboards (page 420) for details. The values selected are processed as a list. If the option is enabled, columns of **List** type are provided in the filter configuration dialog to configure filter conditions. See Define filters for dashboard widgets (page 534) for details.

12.3.7.3 Bubble chart

A bubble chart displays one dimension and two KPIs. The two KPIs are plotted on the X- and Y-axis. The dimension is represented by different colors of the individual bubble areas. Optionally, a third KPI can be incorporated; its values determine the radii of the bubble areas.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific bubble chart options	Description
Chart title	Optional chart title of the chart displayed in the widget.
Data points	Selects the data point shape. The default is **Circle**. The option is available only if a **Partition** is assigned. See Assign data columns to bubble chart. (page 496)
Data point size	Selects the data point size. The default is **Medium**.
Legend position	Displays a legend in the widget and sets the legend's position. The default is **None**, that is, no legend is displayed.

Specific bubble chart options	Description
Axis	Specifies the visualization of the X- and Y-axis. **Show all**: Displays the axis titles and labels. Enabled by default. **Hide title**: Hides the axis titles and displays only the axis labels. **Hide all**: Hides the axes completely.

12.3.7.4 Circular gauge chart

A circular gauge chart displays a set of aggregated KPI values. The value ranges are arranged in a semicircle with a red pointer being displayed that indicates the actual value of the KPI.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific circular gauge chart options	Description
Scale	Displays a scale in the chart.
Scale value	Displays the scale values in the chart.
KPI name	Displays the KPI name in the chart.
KPI value	Displays the KPI value in the chart.
Threshold	Displays the threshold in the chart.
Threshold value	Displays the threshold value in the chart.

Specific circular gauge chart options	Description
Level meter	Displays a level meter in the chart.
Percentage	Displays a scale from 0 to 100% in the chart. The KPI value is also displayed in percent.

12.3.7.5 Column chart

A column chart can display values for two iterations:

- Two dimensions and one KPI
- One dimension and multiple KPIs

The second iteration is displayed in the form of several stacked columns. If multiple KPIs are used, these are displayed in columns of different colors.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific column chart options	Description
Chart title	Optional chart title of the chart displayed in the widget.
X-axis label orientation	Aligns the labeling of the X-axis. ▪ Auto: aligns the labels depending on the available space on the X-axis. This behavior is default. ▪ Rotated: rotates the labels of the X-axis 90 degrees.

Specific column chart options	Description
	▪ Alternate: the labels of the X-axis are alternately offset.
Show values	Displays the measure values outside the columns by default. If the space is too limited, the values are displayed inside the columns. If the space inside the bars or stack columns is also limited, the values are not displayed at all.
Column type	Selects the column type of the column chart. This option is only available if a data source has been assigned. Columns available are **Stacked** or **Grouped**.
Legend position	Displays a legend in the widget and sets the legend's position. The default is **None**, that is, no legend is displayed.
Axis	Specifies the visualization of the X- and Y-axis. **Show all**: Displays the axis titles and labels. Enabled by default. **Hide title**: Hides the axis titles and displays only the axis labels. **Hide all**: Hides the axes completely.
Multiple selection	In view mode, the user can select multiple values at the same time in the corresponding widget, for example, multiple rows in a table or multiple coordinates in a chart. The multiple selection can be used, for example, to filter other dashboard widgets. See Use interactive filters in dashboards (page 420) for details. The values selected are processed as a list. If the option is enabled, columns of **List** type are provided in the filter configuration dialog to configure filter conditions. See Define filters for dashboard widgets (page 534) for details.

12.3.7.6 Date filter

Provides an interactive calendar for configuring a date filter. The calendar filters the values in a given date range.

In view mode, you can adjust the date range by clicking the **+** symbol and **-** symbol in the widget.

The **Date filter** widget supports values only of date type.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific date filter options	Description
Granularity	Specifies the structure of the time range. ▪ There are three possible time granularities: ▪ Year ▪ Quarter ▪ Month

Specific date filter options	Description
Allow range selection	Enables the selection of multiple time periods in the calendar. To define a time range in view mode, select multiple periods by holding the mouse button. The option is enabled by default. If the option is disabled, the **From** and **To** values of the default selection are set to the same value. If you are using a PPM version older than 10.5, this option is not available for Process Mining context-based dashboards.
Compact	Hides the selected range label above the time filter.
Range	Specifies the initially displayed date range with a start value (From) and an end value (To). You can either enter the date value manually or extract it from a data feed. This option is disabled for manual entry if the date value is extracted from a data feed. If no data source columns are assigned to the widget, you can enter the initial range values manually. If data source columns are assigned, the range values are taken from the corresponding columns. The first values of the corresponding data source columns are always taken as the start or the end value of the range.
Default selection	Specifies the range values that are preselected by default. You can either enter the date value manually or extract it from a data feed. This option is disabled for manual entry if the date value is extracted from a data feed. If no data source columns are assigned to the widget, you can enter the default range values manually. If data source columns are assigned, the default values are taken from the corresponding columns. The first values of the corresponding data source columns are always taken as the minimum or the maximum.

12.3.7.7 Distribution chart

You can use a distribution chart to identify outliers and suspected deviations for process or function instances.

In a distribution chart, you can display the frequency distribution of a distributable measure's values for a number of process or function instances.

The distribution chart is available only for context based dashboards.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific distribution chart options	Description
Chart title	Optional chart title of the chart displayed in the widget.
X-axis label orientation	Aligns the labeling of the X-axis. ▪ Auto: aligns the labels depending on the available space on the X-axis. This behavior is default. ▪ Rotated: rotates the labels of the X-axis 90 degrees. ▪ Alternate: the labels of the X-axis are alternately offset.

Specific distribution chart options	Description
Show values	Displays the measure values outside the columns by default. If the space is too limited, the values are displayed inside the columns. If the space inside the bars or stack columns is also limited, the values are not displayed at all.
Axis	Specifies the visualization of the X- and Y-axis. **Show all**: Displays the axis titles and labels. Enabled by default. **Hide title**: Hides the axis titles and displays only the axis labels. **Hide all**: Hides the axes completely.

12.3.7.8 Drop-down box

The drop-down box provides you with a selection of values in a drop-down menu for you to filter other widgets.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific drop-down box options	Description
No selection	Adds the **No selection** value to the value list as the first entry. By default, the first entry of the value list is preselected in the drop-down box for filtering. Selecting the **No selection** value has no effect on filtering other widgets.
No selection label	Alternative text for **No selection** default. The text is displayed in the drop-down box.

12.3.7.9 Function flow diagram

The **function flow diagram** enables you to analyze the sequence of activities within your business processes. Using the function flow diagram, you can clearly display and evaluate the process structure and the relationships between the activities.

A function flow diagram begins with a start function that is indicated by a green symbol and has only outgoing connections (except for self loops). The end function has only incoming connections (except for self loops) and is indicated by a red symbol. All other functions are represented by white symbols and have at least one incoming and one outgoing connection.

The weight of a connection is defined by its relevance value.

The following component options are available.

General options	Description
Name	Optional component name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the component.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific function flow diagram options	Description
Edit widget	Activates the interactive mode. The interactive mode () enables you to perform the following actions. - You can resize the diagram using the mouse wheel. - You can move the entire diagram or the individual function symbols using drag and drop. To move the complete graph, click an empty space within the widget and hold down the mouse button. You can move the graph until you release the mouse button. You can select a connection value. You can select a value in the widget **Settings** menu if you have set at least one value using the **Additional connection values** option in the **Assign data (2/2)** dialog. See Assign data sources. - You can enable the magnifier. Click **Settings** and select **Enable magnifier**. - You can modify the relevance slider view and the relevance slider value. The slider value is not saved in the dashboard.
Layout	**Reset initial**: Restores the initial diagram layout.
Zoom	**Reset**: Restores the initial diagram size.
Relevance slider	Enables the relevance slider in the dashboard view and edit mode.
Connection labels	Displays the connection values in the diagram. The connection values defined in the data assignment can be displayed or hidden beside the connections. By default, the relevance values are displayed beside the connections. If an additional connection value is defined, it is displayed as the connection value instead. If more than one additional connection value is defined, a drop-down menu is provided in the settings menu for you to select the values that are to be displayed beside the connections. By default, the first additional connection value is displayed.
Connection weight	Displays the connection weight in the diagram. The connection weight is indicated by the connection thickness.

12.3.7.10 Grid

You can use the **Grid** widget to insert a table in your dashboard.

The following widget options are available.

General options	Description
Name	Optional component name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the component.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific grid options	Description
Edit columns	Enables you to edit the **Grid** widget interactively. Click the **Configuration** icon. In edit mode, the **Grid** widget has a blue frame. You can set the initial widths and the initial sort order of the columns. You can change the sort order by clicking the column header. To adapt the column width, drag the column borders using the mouse. You can change the defined column width and column sort order in dashboard view mode (page 424).
Auto column width	Automatically adapts the column width to the column content. The horizontal scroll bar is no longer displayed in the widget.

Specific grid options	Description
Multiple selection	In view mode, the user can select multiple values at the same time in the corresponding widget, for example, multiple rows in a table or multiple coordinates in a chart. The multiple selection can be used, for example, to filter other dashboard widgets. See Use interactive filters in dashboards (page 420) for details. The values selected are processed as a list. If the option is enabled, columns of **List** type are provided in the filter configuration dialog to configure filter conditions. See Define filters for dashboard widgets (page 534) for details.

12.3.7.11 Heat matrix

A heat matrix chart can display values for three dimensions:

- Two dimensions by the two-dimensional matrix
- One dimension by the size of a data point bubble

If the number and size of the data points displayed in one matrix cell is too large, excess data points are shown as aggregated square.

The following widget options are available.

General options	Description
Name	Optional component name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the component.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific heat map chart options	Description
Show bubble text	Sets whether the data from **Label** element is displayed or not.
Show range warnings	Sets whether data outside the defined value ranges creates a warning in the chart or not.
Select cell layout	Selects the orientation and geometry of the matrix: Square or Rectangle.
Axis	Specifies the visualization of the X- and Y-axis. Show all: Displays the axis titles and labels. Enabled by default. Hide title: Hides the axis titles and displays only the axis labels.

Specific heat map chart options	Description
	Hide all: Hides the axes completely.
Define levels	Allows you to define the **qualitative levels** (or **heat level**) to be displayed in the matrix (visible as colors of the matrix cells). Enter the subordinate attributes and click **Add** to create a new level. The levels are ordered by **ID**. The **Label** of the level describes the level. Pick a color for the level from the color picker to be displayed in the matrix.
Define color matrix	Allows you to distribute the levels to the matrix cells.

12.3.7.12 Horizontal and vertical gauge chart

A gauge chart displays a set of aggregated KPI values. The value ranges are arranged in a horizontal or vertical bar with a pointer being displayed that indicates the actual value of the KPI.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific circular gauge chart options	Description
Scale	Displays a scale in the chart.
Scale value	Displays the scale values in the chart.
KPI name	Displays the KPI name in the chart.
KPI value	Displays the KPI value in the chart.
Threshold	Displays the threshold in the chart.
Threshold value	Displays the threshold value in the chart.
Level meter	Displays a level meter in the chart.

Specific circular gauge chart options	Description
Percentage	Displays a scale from 0 to 100% in the chart. The KPI value is also displayed in percent.
Scale size	Selects the scale size of the gauge chart. The default is **Medium**.

12.3.7.13 Image

The **Image** widget supports the file format PNG, GIF, and JPEG. The image file can be selected using a Web URL or a URL Alias.

For information about specifying the image source URL, see Specify an image source URL (page 539).

General options	Description
Name	Optional component name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

Specific image options	Description
Image sizing	**Original**: Displays the image in the original size. **Scaled**: Fits the display of the image to the widget frame size. **Aspect ratio**: Keeps the aspect ratio of the image.
Horizontal alignment	Aligns the image horizontally within the widget frame.
Vertical alignment	Aligns the image vertically within the widget frame.

12.3.7.14 Input field

The input field enables you to manually enter values in order to filter other widgets.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific input field options	Description
Data type	Data type of the user input. The user can insert only values of the selected data type. **Text** **Number** **Date** If the input field data type is set to **DATE**, a calendar icon that you can use to open a date piker is shown in the input field.
Date format	**Format** of the user input. The user can insert only values that comply with the selected format. The option is available only for data type **Date**.

Specific input field options	Description
Prompt text	Displays a prompt text in the input field.
Initial value	Initial value is displayed in the input field and used as preset value. Optional
Current date/time	Uses the current date as the value that is preset by default. The widget always uses the current date and time of the dashboard at runtime. The option is available only for data type **Date**. The value displayed depends on the format selected.
Submit button text	Alternative text for the submit button. The default text is **Ok**.
Show submit button	Displays the submit button in the input field.
Submit value with each keystroke	Immediately submits the entered values with each keystroke. The input field only submits valid date or number values for **Date** and **Number**.

12.3.7.15 Label

A label displays a fixed text you have entered, or a text that is supplied dynamically by a data source.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific label options	Description
Style	Style to be used for the text displayed in the drop-down menu.
Alignment	Alignment of the text that is displayed. The default is **left aligned**.

12.3.7.16 Line chart

A line chart can display values for two iterations:

- Two dimensions and one KPI
- One dimension and multiple KPIs

The second iteration is displayed in the form of several stacked lines. If multiple KPIs are used, these are displayed in lines of different colors.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific line chart options	Description
Chart title	Optional chart title of the chart displayed in the widget.
Line type	Selects the line type of the line chart. **Linear**, **Curved** or **Step** line types are available. The default is **Linear**.
Data points	Selects the size of displayed data points. Line types available are **Large**, **Small** or **None**. The default is **Large**.

Specific line chart options	Description
Interpolate	Enabled: A lack of values results in a continuous line. Disabled: A lack of values results in gaps within the line.
X-axis label orientation	Aligns the labeling of the X-axis. ▪ Auto: aligns the labels depending on the available space on the X-axis. This behavior is default. ▪ Rotated: rotates the labels of the X-axis 90 degrees. ▪ Alternate: the labels of the X-axis are alternately offset.
Legend position	Displays a legend in the widget and sets the legend's position. The default is **None**, that is, no legend is displayed.
Axis	Specifies the visualization of the X- and Y-axis. **Show all**: Displays the axis titles and labels. Enabled by default. **Hide title**: Hides the axis titles and displays only the axis labels. **Hide all**: Hides the axes completely.

12.3.7.17 List

The **List** widget lists the values of one or two assigned data source columns.

You can use the **List** widget to select values, for example, to filter multiple values in other widgets.

In view mode, the widget provides check boxes for selection when multiple selection is enabled. You can select multiple values by pressing the **Shift** key and clicking several rows.

The following widget options are available.

General options	Description
Name	Optional component name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the component.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific list options	Description
Edit columns	Enables you to edit the **List** widget interactively. Click the **Configuration** icon. In edit mode, the **List** widget has a blue frame. You can set the initial widths and the initial sort order of the columns. You can change the sort order by clicking the column header. To adapt the column width, drag the column borders using the mouse. You can change the defined column width and column sort order in dashboard view mode (page 424).

Specific list options	Description
Multiple selection	In view mode, the user can select multiple values at the same time in the corresponding widget, for example, multiple rows in a table or multiple coordinates in a chart. The multiple selection can be used, for example, to filter other dashboard widgets. See Use interactive filters in dashboards (page 420) for details. The values selected are processed as a list. If the option is enabled, columns of **List** type are provided in the filter configuration dialog to configure filter conditions. See Define filters for dashboard widgets (page 534) for details. The option is enabled by default.

12.3.7.18 Map with markers

A map with markers allows you to mark points of interest on a map based on geo-coordinates (latitude & longitude) defined in the assigned data.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific map with markers options	Description
Base map	Selects a base map. A base map provides you with context for a map. You can add information to a base map by overlaying other information on top of it. Default base map is Open Street Maps. Select a base map in the drop-down menu. You can add your own base maps. For details, see Manage tile server configuration files.
Default marker icon	Selects the default marker icons. Default icon is a circle.

Specific map with markers options	Description
	Select an icon in the drop-down menu.
Sticky active area	Adjust automatically the zoom level of the map based on the active markers to display all markers in the widget.
Show label	Displays the label of all regions if applicable.

12.3.7.19 Pie chart

A pie chart can display one numerical KPI iterated over a dimension (text or date dimension).

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific pie chart options	Description
Chart title	Optional chart title of the chart displayed in the widget.
Inner radius	Specifies a inner radius in % to display an inner circle using the specified radius.
Values	Selects the display type of the KPIs.
Values position	Selects the position of the displayed KPI values. Positions available are **Inside** and **Outside**.
Legend position	Displays a legend in the widget and sets the legend's position. The default is **None**, that is, no legend is displayed.

Specific pie chart options	Description
Multiple selection	In view mode, the user can select multiple values at the same time in the corresponding widget, for example, multiple rows in a table or multiple coordinates in a chart. The multiple selection can be used, for example, to filter other dashboard widgets. See Use interactive filters in dashboards (page 420) for details. The values selected are processed as a list. If the option is enabled, columns of **List** type are provided in the filter configuration dialog to configure filter conditions. See Define filters for dashboard widgets (page 534) for details.

12.3.7.20 Process Variants

The **Process Variants** widget enables the PPM process variants feature in the dashboard editor. The widget adapts the PPM variants feature to the dashboard editor and makes the **Process Variants** widget available in the widget bar of the dashboard editor.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific Process variants options	Description
Scaling	Scaling type of the primary measure values. Select the type of scaling, **Linear** or **Logarithmic**. The bars are scaled depending on the selected scaling type.
Widget version	Displays the currently installed widget version.

12.3.7.21 Rich text area

The **Rich text area** widget displays a fixed text that you have entered, or a text that is supplied dynamically by a data source or a selected element of another widget.

The widget provides a text editor in which you can enter and format text. You can also insert variable data fields to dynamically display values of a data source.

The **Rich text area** widget supports multi-lingual dashboards (page 446). You can translate the widget title into different languages, but not the contents of the widget.

Double-click the widget to open the text editor.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific Rich text area options	Description
Text style	Provides options for text layout. ▪ Text format, for example, Heading, Titel, or Normal, provided in the drop-down menu. ▪ Increase and decrease text size ▪ Bold

Specific Rich text area options	Description
	▪ Italic ▪ Underline ▪ Strikethrough ▪ Text color ▪ Clear text style
Paragraph	Provides options for paragraph layout. ▪ Text alignment ▪ Text indent ▪ Ordered and unordered list
Insert dynamic values	Inserts variable data fields at the cursor position. The variable data fields allow you to display values that are dynamically supplied by assigned columns of the data source. See Assign data columns to rich text editors.

12.3.7.22 Root Cause Miner widget

PPM provides the **Root Cause Miner** (page 605) widget to analyze the visible data on a dashboard.

If you observe unusual symptoms on a dashboard, that is, interesting data points that need to be investigated, you can use the **Root Cause Miner** widget to analyze these symptoms. For example, you observe that the number of complaints in some distribution regions is too high and you want to investigate the symptom.

For details on using Root Cause Miner, see Use Root Cause Miner (page 464).

For further details about root cause analysis, see Root Cause Miner (page 689).

Display options

General options	Description
Name	Optional component name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Widget version	Displays the currently installed widget version.

12.3.7.23 Slider

Provides the user with a selection of values in the form of a slider. The slider filters the values in a given data range. You can set the maximum and minimum of the data range using indicators.

The selected minimum and maximum values of the slider are labeled. In view mode, you can manually edit the minimum and maximum values of the labels. This allows you to enter exact values for the selected data range. Click a label of an indicator and enter a value required. In addition, you can adjust the minimum and maximum values individually or you can move the entire selected data range using the mouse pointer.

The **Slider** widget supports only numeric values.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific slider options	Description
Type	Selects one of the following slider types:

Specific slider options	Description
	▪ **Single value**: With this slider, you can select a single value in a defined range of values. ▪ **Range**: With this slider, you can select the minimum (From) and the maximum (To) value of a data range. ▪ **Range (fixed upper)**: With this slider, you can select the minimum (From) value of a data range. The maximum value is fixed. ▪ **Range (fixed lower)**: With this slider, you can select the maximum (To) value of a data range. The minimum value is fixed. ▪ Range (open): With this slider, you can select the minimum (From) value and the maximum (To) value of a data range. You can also specify an open range, that means, you can set a fixed minimum and an open maximum or an open minimum and a fixed maximum. When you move the slider beyond the start and end point of the slider, the selection is removed.
Display range	Specifies the data rage with a minimum value (From) and a maximum value (To). If no data source columns are assigned to the widget, you can enter the range values manually. If data source columns are assigned, the range values are taken from the corresponding columns. The first values of the corresponding data source columns are always taken as minimum or maximum. The first value of the column assigned to the data range maximum should be greater than the first value of the column assigned to the data range minimum. The preset values are **0** (minimum) and **100** (maximum).
Initial selection	Values that are preselected by default. For the **Single** type, you specify a single value. For the **Range** type, you specify the **From** and **To** values of the data range. For the **Range (fixed upper)** type, you specify the **From** value. For the **Range (fixed lower)** type, you specify the **To** value. For the Range (open) type, you specify the From and To value. If no data source columns are assigned to the widget, you can enter the initial range values manually. If data source columns are assigned, the initial values are taken from

Specific slider options	Description
	the corresponding columns. The first values of the corresponding data source columns are always taken as minimum or maximum. By default, the slider selects the full available range.
Show ticks	Shows the step ticks. Enabled by default.
Step width	Step width of the values between minimum and maximum value. The values of the slider, starting with the minimum, are increased by this value until the maximum is reached. By default, the step width is set automatically. The minimum permissible step width is not smaller than 1/1000th of the range value. For example, if the range is 0 to 10000, the minimum step value is 10. You can enter your own value for the step width. The option is only available if the **Show ticks** option is enabled.
Only step values	Allows the user to select step values only. The indicator snaps to the nearest tick (step value) if the indicator is left between two ticks. Disabled by default. The option is only available if the **Show ticks** option is enabled.
Enable markers	Displays the selected slider value in the marker. The option is enabled by default.
Rotate axis	Displays the values at an angle of 45° on the axis if the option is enabled, otherwise displays the values horizontally. The option is disabled by default.
Numeric format	Selects the format of the values displayed in the widget. The slider widget supports only numeric values.

12.3.7.24 Jump to PPM client

The **Jump to PPM client** widget displays a customizable text which can be used to jump to PPM. Optionally, you can configured a favorite which is displayed when you jump to PPM.

The following widget options are available.

General options	Description
Name	Optional component name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

Specific Jump to PPM widget options	Description
PPM Connections	Alias of the PPM Connection, which contains the PPM client connection data defined in MashZone NextGen.
Favorite	Path of a PPM favorite. The favorite path represents the favorites tree including favorites folder and name, for example, \Favorites\Process cycle time.
Extract from URL	Automatically determines the connection data of the PPM data source, for example, alias, favorite path, and favorite type, click **Extract from URL** and insert the favorite URL created in PPM.
Favorite type	Favorite type specifies the favorite as **Private** or **Shared**.

SAML AUTHENTICATION

If a user starts PPM using the Jump to PPM widget, he is automatically authenticated against the PPM system using single sign-on (SSO), provided SSO is configured correctly for PPM and ARIS Connect. The current logon language of the user is used for PPM, if available. Otherwise, the default language of PPM is used.

There are several ways the PPM client can be open:

- PPM applet always opens in a new tab.
- PPM web start opens a new client window (If no favorite jump client window is open.).
- PPM web start reuses an open client window (If a favorite client window is open, and the languages match.).
- PPM web start opens a new windows and closes an open one (If a favorite client window is open, and the languages do not match.).

12.3.7.25 Traffic lights

A multi-color vertical, horizontal, or single traffic light shows the threshold range in which a KPI value is located. You can define thresholds in the **Assign data** dialog.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific traffic light options	Description
Type	Types available are **Vertical**, **Horizontal** and **Single**.

12.3.7.26 Vector map

A vector map allows you to interact with a vector-based map and to visualize geographic areas of interest.

The following widget options are available.

General options	Description
Name	Optional widget name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the widget , and resizes the content of the container. Click the icon again to display the header. **Hide border**: Hides the outline of the widget container. Click the icon again to display the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget . The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Auto refresh	Sets the automatic data retrieval of the widget.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific vector map options	Description
Template	Selects a map template of outline maps based on available **GeoJSON** configurations. Default map template is world-countries-by-name. Select a map template in the drop-down menu. You can add your own map templates. For details, see Manage geoJSON files.
Base map	Selects a base map. A base map provides you with context for a map. You can add information to a base map by overlaying other information on top of it.

Specific vector map options	Description
	Default base map is Open Street Maps. Select a base map in the drop-down menu.
Sticky active area	Adjust automatically the zoom level of the map based on the active regions to display all regions in the widget.
Show label	Displays the label of all regions if applicable.

12.3.8 Operators

The dashboard and data feed editor provide a wide range of data source and data transformation operators to create dashboards and data feed definitions.

- Data source operators (page 614)
- Data transformation operators (page 637)

12.3.8.1 Data source operators

A data source operator enables you to specify the connection to a data source and to configure the data retrieval.

The following data source operators are available in the dashboard and data feed editor.

12.3.8.1.1 ARIS table

Extracts data from an ARIS model of type **Table**.

In ARIS Architect, you can export the content of a model of the **Table** type and generate a link to the export file in the form of a URL. For more information about on how to create an ARIS table see the ARIS Architect online help. See also **Generate dashboard link** in the ARIS Architect online help.

In ARIS Architect, you can run scheduled reports to create dashboards and to generate the relevant data sources. Each report output file is automatically stored in the ARIS document storage. These documents are used as the data sources for the corresponding default data feeds that are provided in ARIS Connect. In these data feeds, **ARIS table** is set as data source operator.

The following parameters are available.

Parameters	Description
Source	ARIS export file in XML format. Size limit: Unlimited. ▪ **URL**: HTTP address of the source file If another operator supplies the URL dynamically, the URL cannot be edited here. Example http://**myhost.company**:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 ▪ **URL alias**: Loads the file from a resource directory. Files must be located in a defined resource directory on the server. The data source files are located in a folder or a sub-folder of the ARIS document storage accessible in the ARIS Connect Repository. If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you need to recreate the URL alias that have been defined for ARIS Connect 10.0 Service Release 1. Delete the URL alias (page 380) at first and add a new URL alias (page 378) with the same data. **Path prefix (alias)**: Alias of the resource directory with the path to a directory on the server. Select an alias of the local resource directory, for example, Feed URL. **Feed URL** is the alias of the resource directory of the default data feeds provided in ARIS Connect. In the input box, enter a path to the relevant data source file for the Path prefix (alias) selected. Example

Parameters	Description
	/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 To configure a **Path prefix (alias)**, see Configure Dashboard server (page 378) for details. To store data source files in a resource directory, see Upload file based data sources (page 561) for details. To copy the source file URL, see Upload file based data sources (page 561) for details.
Insert parameter ( )	Inserts user defined input parameters at the cursor position. The button is clickable only if at least one user input parameter, for example, **Text user input**, has been inserted in the feed definition.
Parameter options ( )	Enables you to set input parameter options.
Refresh rate ()	Specifies the time until the data source is read in again. Default value is 12 h.
Authentication	Specifies an HTTP basic access authentication. User name and password are required for accessing the source file.
HTTP headers	Adds HTTP headers to the URL.
Parameters: Detect	Automatically reads out potential parameters of the data source. A requested parameters list is displayed that is based on the specified ARIS table source. You can enter the parameter values required to read in the data source.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.

12.3.8.1.2 CSV

Reads the CSV file and writes the individual values (character strings) to the table columns in the data feed based on the specified parameters. A change of column is identified by the specified separator between the individual values.

The following parameters are available.

Parameters	Description
Source	Text file, with values that are separated by the same separator. ▪ **URL**: HTTP address of the source file If another operator supplies the URL dynamically, the URL cannot be edited here. Example http://**myhost.company**:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 ▪ **URL alias**: Loads the file from a resource directory. Files must be located in a defined resource directory on the server. The data source files are located in a folder or a sub-folder of the ARIS document storage accessible in the ARIS Connect Repository. If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you need to recreate the URL alias that have been defined for ARIS Connect 10.0 Service Release 1. Delete the URL alias (page 380) at first and add a new URL alias (page 378) with the same data. **Path prefix (alias)**: Alias of the resource directory with the path to a directory on the server. Select an alias of the local resource directory, for example, Feed URL. **Feed URL** is the alias of the resource directory of the default data feeds provided in ARIS Connect. In the input box, enter a path to the relevant data source file for the Path prefix (alias) selected. Example /documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 To configure a **Path prefix (alias)**, see Configure Dashboard server (page 378) for details. To store data source files in a resource directory, see Upload file based data sources (page 561) for details. ▪ To copy the source file URL, see Upload file based data

Parameters	Description
	sources (page 561) for details.
Insert parameter ( )	Inserts user defined input parameters at the cursor position. The button is clickable only if at least one user input parameter, for example, **Text user input**, has been inserted in the feed definition.
Parameter options ( )	Enables you to set input parameter options.
Refresh rate ()	Specifies the time until the data source is read in again. Default value is 12 h.
Authentication	Specifies the credentials for authenticating to access the source file. **Single Sign-On**: Enables you to access the source file using single sign-on (SSO). SSO only works within ARIS Connect and not for CSV files provided by external data sources, such as an external web page. For details on how to configure SSO, see Configure single sign-on (page 244). **HTTP basic auth**: Specifies an HTTP basic access authentication. User name and password are required for accessing the source file.
HTTP headers	Adds HTTP headers to the URL.
Separator	Separates the column values in the CSV file. Comma (,), semicolon (;), space, tab and pipe ((l)) are available. Default is comma.
Get column names from row	Specifies a specific row that contains the column names. Activate the **Get column names from row** option and enter the number of the relevant row.
Data from row	Specifies a specific row from which the data source values extraction starts.
Advanced parsing options	**Charset**: Character set in which the source file is coded. The default value can be changed manually if the extracted data refers to a different coding type. Default: windows-1252. **Masking**: Protects the enclosed characters against being split at the separator. If column values contain the specified separator, they can be enclosed in a pair of masking characters, for example, "1,23". Masking characters can be set as required (available masking characters: single-quote ('), double-quote ("), none).

Parameters	Description
	Remove quote characters in column value: Removes the characters used for masking from the result data. If this option is deactivated the masking characters will remain as part of the result data. **Sanitize names**: Transforms column names in such a way that they can be used as XML names, according to EMML standards. This affects the names containing blank spaces or other special characters. If this option is deactivated, the names are left unchanged. **Trim whitespace**: Removes all leading and trailing whitespace from column values. If this option is deactivated, whitespace can be part of the result data. **EMML parsing**: Parses values in the same way as they are parsed in EMML. This affects the parsing of numeric and date values. It affects whether a specific value is understood as a date or numeric value, because different sets of date patterns and locales are used. If this option is deactivated, dates without an explicit time zone are assigned to the server's default time zone, if this option is activated, they are assigned to GMT.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.

If you use an absolute URL, for example, **http://myhost.company:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication must be set. All requests to the uploaded file are made with the specified user/password combination.

If you use a relative URL, for example, **/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication is not required. All requests to the uploaded file are made with the current logged in user.

12.3.8.1.3 Data feed

Extracts data from an existing data feed.

To include a data feed as data source in a dashboard or in other data feeds, the **View** permission for the data feed selected is required. See Manage data feed permissions (page 559) for detail.

The following parameters are available.

Parameters	Description
Data feed	Data feed selected. **Select data feed** displays a list of available data feeds.
Edit data feed	Opens the selected data feed in a new tab.
User inputs	List of user inputs used in the selected data feed. You can enter a value in the relevant input box.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.

12.3.8.1.4 Excel

Reads a worksheet of an MS Excel file and writes the individual values to table columns in the data feed based on the specified parameters. The source table can be imported as a list or cross table.

In list tables, a corresponding column is created in the data feed for every non-empty column in the source table.

In cross tables, three columns are created in the data feed: A vertical iteration column corresponding to the first source column with the header, a horizontal iteration column defined in the operator and a value column.

MS Excel cells of data type number are extracted accurately, regardless of their formatting. Therefore, the values can be more accurate than displayed in MS Excel. MS Excel cells of data type date are extracted according to the formatting information to maintain the accuracy of the time stamp.

A cell can have a maximum of 2,000 characters.

The following parameters are available.

Parameters	Description
Source	MS Excel file (xls, xlsx) ▪ **URL**: HTTP address of the source file If another operator supplies the URL dynamically, the URL cannot be edited here. Example http://**myhost.company**:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 ▪ **URL alias**: Alias of a URL configuration. Only URL aliases for that you have the Usage privilege are available. Select a URL alias. For details, see Manage URL aliases. ▪ **Local file**: Loads file from a resource directory. Files must be located in a defined resource directory on the MashZone NextGen server. **Path prefix (alias)**: Alias of the resource directory with the path to a directory on the server. Select an alias of the local resource directory. In the input box, enter a path to the relevant data source file for the Path prefix (alias) selected. Example /documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1

Parameters	Description
Browse file (alias)	Enables you to browse the resource directories with the alias defined. Click the **Browse file alias (...)** button and select the required source file. At least one resource directory must exist. For details, see Manage resource directories.
Insert parameter ( )	Inserts user defined input parameters at the cursor position. The button is clickable only if at least one user input parameter, for example, **Text user input**, has been inserted in the feed definition.
Parameter options ( )	Enables you to set input parameter options.
Refresh rate ()	Specifies the time until the data source is read in again. Default value is 12 h.
Sheet	Sheet in the source table to be extracted. The default value: First sheet Specification: Mandatory
List table / Cross table	Specifies the table type. The default value: List table Specification: Mandatory For cross tables, only a single vertical iteration on the left side of the table is currently supported.
Separator	Separates the column values in the CSV file. Comma (,), semicolon (;), space, tab and pipe ((l)) are available. Default is comma.
Column name from row	Determines the names of the individual columns from a specific row, the row number of which must be specified. This option is not available for cross tables.
Horizontal iteration from row	Determines the column names of the individual iteration steps from a specific row. The column name of the vertical iteration is also determined from this row.
Import values from row	Extracts all values from the source file starting with a specific row. The default value: 2 Specification: Mandatory
Import data range from/to	Area of the table from which data is to be extracted, specified using column and row coordinates, for example, A3 to H128 Specification: Optional You can only specify a single continuous data range that can

Parameters	Description
	contain empty rows or columns. If no upper limit (to) is specified for the data range, all cells above the lower limit (from) are extracted.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.

If you use an absolute URL, for example, **http://myhost.company:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication must be set. All requests to the uploaded file are made with the specified user/password combination.

If you use a relative URL, for example, **/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication is not required. All requests to the uploaded file are made with the current logged in user.

12.3.8.1.5 JDBC

Extracts data from a preconfigured JDBC database.

You can configure JDBC data sources in the ARIS Connect Administration. See Add a JDBC data source for dashboards (page 387) for details.

The following parameters are available.

Parameters	Description
Data source	List of available JDBC data sources. Only JDBC data sources for which you have the required privilege are available. Select a JDBC data source.
Refresh rate ()	Specifies the time until the data source is read in again. Default value is 12 h.
SQL query	Input field to enter any SQL query command, for example, SELECT * FROM <table name>.
Insert parameter ( )	Inserts user defined input parameters at the cursor position. The button is clickable only if at least one user input parameter, for example, **Text user input**, has been inserted in the feed definition. See SQL statement parameters (page 625) for details.
Expand ( )/ Collapse ( )	Expands or collapses the query input box.
Authentication	Specifies an HTTP basic access authentication. User name and password are required for accessing the source file.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.

12.3.8.1.5.1 SQL statement parameters

You can insert parameter references in SQL statements of the JDBC operator. They are represented by a colon, followed by the parameter name. If the name contains special characters, it must be enclosed in double quotes.

JDBC PARAMETERS

Parameters are handed over to the database server as typed values along with the SQL statement at execution time. Before a statement is handed over to the database server, it is rewritten to use JDBC parameter markers ('?') as follows:

- A single-value parameter is replaced by a single JDBC parameter marker.
- A reference of a non-empty list is replaced by a comma-separated list of JDBC parameter markers, one for each list element. This is useful for populating the values of an **IN** predicate by a list value.

  Example

  SELECT * FROM table WHERE column IN (:list)

  with 3 elements in the list is rewritten to

  SELECT * FROM table WHERE column IN (?,?,?)
- A reference of an empty list is replaced by a single parameter marker that refers to a **NULL** value.

The last rule provides a valid SQL statement for an empty list. Note that if the list of values is empty, both **IN** and **NOT-IN** predicates return the same result: UNKNOWN and not FALSE.

12.3.8.1.6 JSON

Extracts data from a JSON file.

The following parameters are available.

Parameters	Description
Source	JSON file ▪ **URL**: HTTP address of the source file If another operator supplies the URL dynamically, the URL cannot be edited here. Example http://**myhost.company**:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 ▪ **URL alias**: Loads the file from a resource directory. Files must be located in a defined resource directory on the server. The data source files are located in a folder or a sub-folder of the ARIS document storage accessible in the ARIS Connect Repository. If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you need to recreate the URL alias that have been defined for ARIS Connect 10.0 Service Release 1. Delete the URL alias (page 380) at first and add a new URL alias (page 378) with the same data. **Path prefix (alias)**: Alias of the resource directory with the path to a directory on the server. Select an alias of the local resource directory, for example, Feed URL. **Feed URL** is the alias of the resource directory of the default data feeds provided in ARIS Connect. In the input box, enter a path to the relevant data source file for the Path prefix (alias) selected. Example /documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 To configure a **Path prefix (alias)**, see Configure Dashboard server (page 378) for details. To store data source files in a resource directory, see Upload file based data sources (page 561) for details. To copy the source file URL, see Upload file based data sources (page 561) for details.
Insert parameter ( )	Inserts user defined input parameters at the cursor position. The

Parameters	Description
	button is only clickable if at least one user input parameter, for example, **Text user input**, has been inserted in the feed definition.
Parameter options ( )	Enables you to set input parameter options
Refresh rate ()	Specifies the time span before the source file is read in again. Default valueThe default value is 30 sec.
Authentication	Specifies a HTTP basic access authentication or an existing authentication defined in the administration. User name and password are required for accessing the source file.
HTTP headers	Adds HTTP headers to the URL
Repeating object: Detect	Reads out the repeating object automatically. A repeating object already set by a user will not be considered. The detected columns are displayed in the **Columns** box depending on the repeating object. JSON object that is repeated for each row; You can edit the repeating object manually. Specify a valid XQuery 3.1 lookup expression, for example, ?catalog?journal?articles?* ?data?rows?* ?catalog?books?* A JSON document is loaded as a nested structure of maps and arrays. The above expressions use the (terse form of the) map/array lookup syntax as follows: - The initial '?' is a unary lookup operator that selects a named member of the root map - Further '?' are postfix lookup operators - '?*' selects all members of an array, for example, '?5' selects the fifth element of an array. For more information about the lookup syntax, see https://www.w3.org/TR/xquery-31/#id-lookup.
Advanced parsing options	**Charset**: Character set in which the source file is coded. This can be set manually if the extracted data refers to a different coding type. By default, the HTTP response encoding is used if available, otherwise UTF-8 is used. **EMML parsing**: Parses values in the same way as they are parsed in EMML. This affects parsing of numeric and date values. It affects whether a specific value is understood as a date or numeric value,

Parameters	Description
	because different sets of date patterns and locales are used. If this option is activated, dates without an explicit time zone are assigned to the server's default time zone. If this option is deactivated, they are assigned to GMT.
Columns: Detect	Reads out the columns of the data source automatically. The requested columns lists are displayed, based on the specified repeating object.
Configure columns	Configures the columns list. Deselect a column to exclude it from the result data. If you enter a **New name** for a column, it is used instead of the original column name in the result. If you click **Reset columns,** the column list is reloaded from the data source and all changes in the list are undone.

If you use an absolute URL, for example, **http://myhost.company:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication has to be set. All requests to the uploaded file are made with the specified user/password combination.

If you use a relative URL, for example, **/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication is not required. All requests to the uploaded file are made with the current logged in user.

12.3.8.1.7 PPM

Uses the ARIS Process Performance Manager (PPM) query interface to retrieve data from favorites defined in PPM.

For every PPM system that can be used in ARIS Connect, a PPM connection (page 381) must be created.

The relevant PPM client server must be running. See the PPM documentation **PPM Installation** for details.

In PPM, you can use the pop-up menu of a favorite to copy the corresponding favorite URL. Click **Use in dashboard** in the pop-up menu of a favorite. See the PPM online documentation for details.

If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you must recreate the PPM connections that were defined for ARIS Connect 10.0 Service Release 1. First delete the PPM connection (page 383) and add a new PPM connection (page 381) with the same data.

The following parameters are available.

Parameters	Description
PPM Connection	Alias of the PPM Connection, that contains the PPM client connection data defined in ARIS Connect. See Configure PPM server (page 381) for details.
Refresh rate ()	Specifies the time until the data source is read in again. Default value is 12 h.
Favorite	Path of a PPM favorite. The favorite path represents the favorites tree including favorites folder and name, for example, \Favorites\Process cycle time
Extract from URL	Determines the connection data of the PPM data source automatically, for example, alias, favorite path, language and favorite type. Click **Extract from URL** and insert the favorite URL created in PPM.
Authentication	Specifies the credentials for authenticating the query against the PPM client server. **Single Sign-On**: Enables you to log in to PPM client server using single sign-on (SSO), and your current credentials. For details on how to configure SSO, see Configure single sign-on (page 244). **HTTP basic auth**: Requires the user name and the password of a PPM user. The returned data is filtered based on the PPM user access rights. The PPM user must have access rights for the selected favorite.
Advanced options	Specifies further connection parameters. **Favorite type** specifies the favorite as **Private** or **Shared**.

Parameters	Description
	Language of the favorite, for example, en for English **Request key columns separately**: Extracts all key values from the list table and writes them to separate columns of the data feed.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.
Filters: Detect	Reloads the dimensions and measures information from PPM
Add filter	Adds one or more filter criteria to filter the values of the PPM query. PPM supports filtering by multiple selection. For details on using multiple selections, see Use multiple selection in lists and tables (page 426). For details on configuring the **PPM** operator for filtering, see Add filters (page 631).

12.3.8.1.7.1 Add filters

You can add one or multiple filter criteria to filter the values of the PPM query.

The **PPM** data source operator supports user inputs of **List** type as input parameter. Thus, widgets using the **PPM** operator allows the use of multiple selection (page 426). That means that you can select one or multiple values in another widget to filter values provided by the **PPM** data source operator. To enable multiple selection when using the **PPM** operator, you must assign at least one user input of **List** type as input parameter. You can select **Date user input (List)** and **Text user input (List)** as input parameter. **Number user input (List)** is currently not supported by the **PPM** operator.

For details on creating input parameters, see the chapter Create input parameters (page 532).

Procedure

1. In the **PPM** operator, click **Add filter**.
2. Select a dimension or measure, such as **Date** or **Process cycle time**, and click **Add**. The selected criterion is added to the PPM operator as a filter criterion.
3. Select an operator for the condition of the filter criterion in the drop-down menu, for example, **is equal to**.

   For criteria of **Text** type, the **is equal to** operator is available by default. If you enable filtering by expressions, the **starts with**, **ends with**, and **contains** operators are additionally provided. For enabling filtering by expressions, see step **5** below.

   For criteria of **Date** type, the operators **On**, **Before or on**, and **On or after** operators are available. The **Before or on** and **On or after** operators cannot be used with **Date user input (List)**.
4. Enter a constant filter value in the input field, or click **Insert input parameter** and select an input parameter. The button can only be clicked if there is at least one input parameter with the same data type as the filter criterion.

   To enable the multiple selection for the **PPM** operator, select a user input of **List** type as input parameter.
5. You can filter criteria of **Text** type by expressions instead of entire words. For example, if you use a place holder in the filter expression, for example, * or ?.

   a. Click the **Set filter properties** icon and specify the filter parameters.

   b. Enable the **Filter using an expression** uses.

   c. Select whether the **Key** or the **Description** of the criterion is to be used as filter value.

   If you enable filtering by expressions, further operators are provided to set the filter condition. See step **3** above.
6. Click **Add condition** (**+**) to add further filter conditions.

   If you add further filter condition, the **AND-link conditions** option is displayed. You can enable the option to link the filter condition with a logical AND. By default, the conditions are linked with a logical OR.

7. Click **Delete condition** (**-**) to remove a filter condition.

Your settings are applied.

12.3.8.1.8 XML

Extracts data from an XML file. The data records are identified using a recurring element. The individual values are written to the table columns in the data feed based on the specified parameters.

The following parameters are available.

Parameters	Description
Source	XML file ▪ **URL**: HTTP address of the source file If another operator supplies the URL dynamically, the URL cannot be edited here. Example http://**myhost.company**:1080/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 ▪ **URL alias**: Loads the file from a resource directory. Files must be located in a defined resource directory on the server. The data source files are located in a folder or a sub-folder of the ARIS document storage accessible in the ARIS Connect Repository. If you have updated ARIS Connect 10.0 Service Release 1 to version 10.0 Service Release 2, you need to recreate the URL alias that have been defined for ARIS Connect 10.0 Service Release 1. Delete the URL alias (page 380) at first and add a new URL alias (page 378) with the same data. **Path prefix (alias)**: Alias of the resource directory with the path to a directory on the server. Select an alias of the local resource directory, for example, Feed URL. **Feed URL** is the alias of the resource directory of the default data feeds provided in ARIS Connect. In the input box, enter a path to the relevant data source file for the Path prefix (alias) selected. Example /documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580?tenantid=default&revision=1 To configure a **Path prefix (alias)**, see Configure Dashboard server (page 378) for details. To store data source files in a resource directory, see Upload file based data sources (page 561) for details. To copy the source file URL, see Upload file based data sources

Parameters	Description
	(page 561) for details.
Insert parameter ( )	Inserts user defined input parameters at the cursor position. The button is clickable only if at least one user input parameter, for example, **Text user input**, has been inserted in the feed definition.
Parameter options ( )	Enables you to set input parameter options.
Refresh rate ()	Specifies the time until the data source is read in again. Default value is 12 h.
Authentication	Specifies an HTTP basic access authentication. User name and password are required for accessing the source file.
HTTP headers	Adds HTTP headers to the URL.
Repeating element: Detect	Reads out the repeating element automatically. A repeating element already set by a user is not considered. The repeating element is displayed corresponding to the hierarchy of the XML elements, for example, <element>/<repeating element>. The requested columns are displayed in the **Columns** box depending on the repeating element. XML element that is repeated for each row (XPath to repeat element); You can edit the repeating element manually. Specify a valid XPath expression, for example, /catalog/journal/article /data/row /catalog/book
Columns: Detect	Automatically reads out the columns of the data source. The requested columns list is displayed, based on the specified repeating element.
Configure columns	Configures the columns list. You can unselect a column to exclude it from the result data. If you enter a new name for a column, this name is used in the result instead of the original column name. If you click **Reset columns**, the column list is reloaded from the data source and all changes in the list are undone.

For detailed information on configuring the time zone used by this operator, see the chapter Configure feed processing time zone.

If you use an absolute URL, for example,
http://myhost.company:1080/documents/rest/links/03388871-367d-4abe-a2c9-37

bc9fa44580, an authentication has to be set. All requests to the uploaded file are made with the specified user/password combination.

If you use a relative URL, for example, **/documents/rest/links/03388871-367d-4abe-a2c9-37bc9fa44580**, an authentication is not required. All requests to the uploaded file are made with the current logged in user.

12.3.8.1.9 URL parameter syntax

You can insert parameters in the input URL of the **ARIS Table**, **CSV**, **Excel**, **JSON**, and **XML** operators, as well as in the configuration of a **Call URL** action.

A parameter reference is represented by the parameter name in square brackets. If the name contains special characters, it must be enclosed in quotes.

Examples

http://[domain]

["web address"]

To represent a literal square bracket, you double the square bracket. In this way, the square bracket does not introduce a parameter reference. For example, **http://[[::1]]:8080** does not refer to a parameter, but represents the IPv6 loopback address literal **[::1]**.

At runtime, parameter references will be replaced by the value of their parameter.

A parameter reference can have options appended to it. Options appear inside of the square brackets and are separated by commas. The following options are supported:

- **encode-value="true"** causes URL encoding of the resulting parameter string
- **format="format string"** causes a numeric or date value to be converted to text with the given format

Examples

http://localhost:8080/[path,encode-value="true"]

http://localhost:[port,format="1234"]

12.3.8.2 Data transformation operators

In addition to the data source operators you can add further operators to transform the source data. The following data transformation operators are available in the data feed editor.

12.3.8.2.1 Aggregate

Combines rows if identical values occur multiple times in specified dimension columns. The numerical values in the remaining columns are combined using Average, Sum, Minimum, Maximum, or Number.

One or more numerical columns in a table are aggregated using none, one, or several dimension columns. In all rows with identical values in all dimension columns, the values in the columns to be aggregated are combined into one row based on an aggregation rule. That is, the result contains one row for each combination of dimension columns. This also applies if no columns are specified for aggregation. If no dimension column is specified, only a single row is created and all values in the columns to be aggregated are combined into a single value for each column. No rows are created for combinations that do not occur in the original table.

PARAMETERS

The following parameters are available.

Action	Result
Dimension column	Name of dimension column. Source: Source table Data type: Date, Number, or Text The default value: {None} Specification: Optional
Aggregation column	Name of the column to be aggregated. Source: Aggregation column is transferred from the source table. Data type: Number The default value: {None} Specification: Optional
Aggregation type	Aggregation type for the column to be aggregated: Average value, Sum, Minimum, Maximum, Count, First row and Last row. The default value: Average value, if aggregation column selected. Specification: Mandatory, if aggregation column selected.
Weighting	If the aggregation type is Average value or Sum, a numerical column for weighting of the rows can be specified for each column to be aggregated. Specification: Optional

AGGREGATION TYPE

The following aggregation operations can be applied to the columns to be aggregated.

Data type	Comparison operators
Minimum	Finds all rows that have a specific combination of values in the dimension columns and returns the lowest value that occurs in these rows in the column to be aggregated.
Maximum	Finds all rows that have a specific combination of values in the dimension columns and returns the highest value that occurs in these rows in the column to be aggregated.
Average value	Finds all rows that have a specific combination of values in the dimension columns and returns the average of the values in the column to be aggregated. For weighting purposes, an additional column can be specified for each source column, containing a weighting factor for each row. The weighting information is combined as a pair with the source column.
Sum	Finds all rows that have a specific combination of values in the dimension columns and returns the sum of the values in the column to be aggregated. For weighting, an additional column can be specified for each source column, containing a weighting factor for each row. The weighting information is combined as a pair with the source column.
Count	Finds all rows that have a specific combination of values in the dimension columns and returns the count of values in the column to be aggregated.
First row	Finds all rows that have a specific combination of values in the dimension columns and returns the value of the row with the lowest row index (according to the index column).
Last row	Finds all rows that have a specific combination of values in the dimension columns and returns the value of the row with the highest row index (according to the index column).

At least one dimension or aggregation column, or both, must be set.

If no aggregation columns or dimension columns are specified, the incoming table remains unchanged.

EXAMPLE

The following table is to be aggregated based on the **Dim 1** and **Dim 2** columns. The sum is to be calculated for the Values 1 column and the average for the Values 2 column. The Weight (values 2) column is used for weighting the Values 2 column one row at a time.

Dim 1	Dim 2	Values 1	Values 2	Weight (values 2)
A	X	1	2	3
B	Y	2	4	4
C	Z	5	6	3
A	X	7	8	4
B	Y	9	10	3
C	Z	11	12	4

Result

Dim 1	Dim 2	Sum (values 1)	Average (values 2)
A	X	8 (1+7)	5,43 (2*3 + 8*4)/(3+4)
B	Y	12 (3+9)	6,57 (4*4 + 10*3)/(4+3)
C	Z	16 (5+11)	9,43 (6*3 + 12*4)/(3+4)

12.3.8.2.2 Arithmetic

Executes various arithmetical calculations. The operator sets any number of numerical operands against each other. The values are set against each other one row at a time according to the specified calculation type. The calculation always runs from top to bottom. In other words, two operands are always set against each other one row at a time and the result from the first two operands is then set against the third operand.

Compounding can be mapped by using a separate operator for each expression in brackets.

The following parameters are available.

Action	**Result**
Operands	One numerical operand per operation for the "Square" and "Square root" calculation types, otherwise two numerical operands. Source: Source table, constants, user input or incoming values from other operators. Data type: Number Specification: Mandatory
Calculation type	
Addition (+)	Adds two columns row by row
Subtraction (-)	Subtracts 2 columns row by row
Division (/)	Divides the first column by the second column
Multiplication (*)	Multiplies two columns row by row
Percent (%)	Row by row, multiplies the second column with the percent value of the first column
Square (x^2)	Calculates the square of a column
Root	Calculates the square root of a column
Sine (sin)	Calculates for a column the sine value of an angle in degrees
Cosine (cos)	Calculates for a column the cosine value of an angle in degrees
Tangent (tan)	Calculates for a column the tangent value of an angle in degrees
Arcsine (asin)	Calculates for a column the arcsine of an angle in degrees
Arccosine (acos)	Calculates for a column the arccosine of an angle in degrees
Arctangent (atan)	Calculates for a column the arctangent of an angle in degrees
Logarithm (lg)	Calculates for a column the common logarithm
Logarithm (ln)	Calculates for a column the natural logarithm
Power (exp)	Calculates for a column S1 the S2nd power of S1 (S1 to the power of S2)

Action	Result
Minimum (min)	Calculates the minimum of column 1 and column 2
Maximum (max)	Calculates the maximum of column 1 and column 2
Absolute value (abs)	Calculates for a column the absolute value The default value: Addition (+) Specification: Mandatory You need to specify the source values for the trigonometric functions sin, cos, tan, asin, acos, and atan in degrees.

EXAMPLE

Example: Result = Column 1 + Column 2 - Column 3

Column 1	Column 2	Column 3	Result
1000	2000	50	2950
2000	3000	1000	4000
3000	4000	1200	5800

12.3.8.2.3 Average

Calculates the average of the values from several numerical source columns one row at a time, writes the result to a target column, and overwrites any existing values there. If the target column does not exist, it is created.

The following parameters are available.

Parameter	Description
Column	Name of the column for which the average value is calculated. Column is transferred from the source table. Data type: Number Specification: Mandatory
Weight	Weight factor, which can be specified for each column to be aggregated: a column with values, a single value from a feed (single-value operator), an input value or a constant. Data type: Number Specification: Optional
Target column	Name of the column to which the result is written. The column name can be transferred from the source table or freely entered. Data type: Number Default value: Result_1 Specification: Mandatory

12.3.8.2.4 Change data type

Changes the data types of the specified columns to the **Number**, **Text**, or **Date** data types

Action	Result
Conversion of **Text** to **Number**	Numerical value of the text taking into account the decimal separator. If the decimal separator is set correctly, any thousands separator is detected automatically.
Conversion of **Number** to **Text**	Text representation of the number in the internal format, or based on the language and the specified format. You can also specify a valid number of leading zeros. If nothing is specified here, the results are formatted in the numerical format.
Conversion of **Text** to **Date**	Date value of the text in the internal format, based on the specified format and, where applicable, the language. The date must be in the AD era. Date values before the common era are not supported. The time format must be specified. The time format is made up of sequences of characters, which stand for date fields, for example, year, month, day of the week, or minute, in the relevant language; separated by separators. In addition, the corresponding language must be specified. Non-editable text must be enclosed in quotation marks. When using the **Q** or **q** symbol for quarters, all other symbols except **Y** and **y** for years are ignored. Only the order of **Q / q** and **Y / y** is relevant.
Conversion of **Date** to **Text**	Text representation of the date in the internal format, or based on the language and the specified format Non-editable text must be enclosed in quotation marks. The format and language specifications are optional. If no format is specified, the data is output in the internal date format. If no language is specified, English (EN) is applied as the default language.
Conversion of **Number** to **Date**	Date value corresponding to the value of the number as milliseconds since 01/01/1970
Conversion of **Date** to **Number**	Number of milliseconds since 01/01/1970

Internal number format

If a user is logged in in English, the number format is Anglo-Saxon, which uses a period as the decimal separator, but no grouping characters.

Internal date format

Use yyyy-Q for specifying to the nearest quarter, otherwise use yyyy-MM-ddThh:mm:ss. The number of digits corresponds to the accuracy of the date, and the remaining digits are omitted. This is the transfer format.

Quarterly specifications

Quarterly specifications are indicated by a **Q** within the section of the format that is not in single quotation marks.

Prerequisites for conversion of text into quarterly date values:

1. It is expected that a source value containing a quarterly date consists of just two sequences of figures indicating the year and the quarter. Any non-numerical characters can occur before, after and between them, for example, Quarter 04/2009.
2. The pattern uses **Y** or **y** as the symbol for the year and **Q** or **q** for the quarter, for example, quarter Q/y or Q Y.

Procedure:

1. The (first) two sequences of digits are determined from the source value.
2. The section of the format that is not enclosed in between single quotation marks is used to determine whether **q / Q** or **y / Y** appears first.
3. If q or Q appears first, the first sequence of digits is interpreted as the quarter and the second as the year, and vice-versa.

PARAMETERS

The following parameters are available.

Parameter	Description
Column	Name of the column to be changed; Source: Source table Data type: Date, Number, or Text Specification: Mandatory
New type	New column data type Default value: Text Specification: Mandatory
Format (Date type)	Time format for conversion from **Date** type to **Text** type and vice versa. The following formatting symbols are available when converting date into text: Year: y or Y

Parameter	Description
	Quarter: Q Month: M Calendar week: w Day of the week: E or e Day of the month: d Day of the year: D Hour: H or h Minute: m Second: s AM/PM: a Time zone: z (for example, GMT) RFC time zone: Z (for example, -0900) Era: G (must always be AD) Default value: MM/dd/yyyy
Format (Date type)	The following formatting symbols are available when converting text to date: Year: y Quarter: Q Calendar week: w Week of the month: W Day of the week: E Day of the month: d Day of the year: D Hour (0-23): H Hour (1-24): k Hour AM/PM (0-11): K Hour AM/PM (1-12): h Minute: m Second: s AM/PM: a Time zone: z RFC time zone: Z Era: G Default value: yyyy-MM-dd'T'HH:mm:ss; Permitted separators in both cases: Dash/minus (-), underscore (_), slash (/), period (.), colon (:),

Parameter	Description
	comma (,), tab character, and space. Specification: Mandatory
Language	Language if the target format is of the **Date** type. Available languages: de and en. Specification: Mandatory when using names of months and names of days of the week
Decimal separator	Separator for the decimal places, if the target format is of the **Number** type. Default value: Comma (,) Specification: Mandatory
Format (**Number** source format)	Number format for the conversion of the **Number** type to the **Text** type. You can select predefined formats or set your own format manually. If the numbers before the decimal separator are entered manually, they must have four digits in ascending order followed by digits in descending order. This combination can be followed by text (such as the unit "hours" or km/h). Default value: 1234 Permitted separators: Thousands separator in German: period (.) Thousands separator in English: comma (,) Decimal separator in German: comma (,) Decimal separator in English: period (.)
Leading zeros	Number of leading zeros. The maximum number of leading zeros is the number of digits before the decimal separator. Example: Format: 1,234.12 and leading zeros: 5 Number -> Text 10,245 -> 00010,25 12000,4 -> 12000,4 89,7 -> 00089,70
Specify type	Automatically specifies the data type of the source values. If the content of a column does not correspond to its assigned data type, a row is created in the operator which specifies the data type determined for this column. Vice-versa, settings (lines) are removed from the operator, which would reset the data type of a column

Parameter	Description
	already typified correctly.
Encoding (**Text** source format)	Specifies the encoding of special characters, for the conversion of the **Text** type to the **Text** type, for example, "/", "&", "?". Apply UTF-8 encoding: encodes the entire text, using UTF-8 codes Decode UTF-8: decodes the entire text, using UTF-8 codes Apply URL encoding: keeps the URL specific characters For UTF-8 encoding/decoding the special characters must be masked in a valid URL. Only select this option if you are sure that all sections that make up the URL are already masked.

The characters used for the time format can be combined in any order and repeated any number of times.

Exceptions:

- For a month, the number of characters must be >= 3 (MMM or MMMM) if the month is specified in text format (JAN, FEB, etc.) and <3 if it is specified as a figure. In this case, a language must also be specified so that the name of the month can be transformed correctly.
- For a year format, such as 2009, y can be specified any number of times, that is, yy and yyyy return 2009.
- For a year format, such as 09, however, yyyy returns the year 9 and yy the year 2009.
- When formatting date values as days of the week for a date-to-text conversion, an e/E number < 4 returns the day abbreviations (MON, TUE, etc.), while e/E = or > 4 returns the full name of the day.
- Only the month (M), minute (m), time zone (z), RFC time zone (Z) and calendar week (w) are case-sensitive.
- When converting text to date, if the Q or q symbol is used for quarters, all other symbols except Y and y are ignored. Only the order of Q/q and Y/y is key.
- For the reverse conversion from date to text, the Q/q can be combined with any other symbols, but may only occur once (not QQ/yy)
- Quarter entries are currently only possible in the form YYYY-Q. These strings can contain only the year, separator, and quarter.
- All other strings must be enclosed in single quotation marks ('). Spaces can be inside or outside, for example, 'On' dd.MM.yy 'at' hh:mm, or 'On 'dd.MM.yy' at 'hh:mm' '.
- The space pattern in the source and target format must match, for example, "2 .3 .09" -> "d .M .y" but not "2. 3. 09" -> "d .M .y".

EXAMPLES

Source format: "22.3.2009"
Time format: "d.M.y" or "DDDD.MM.YYYY",
but not "DD.MMM.YYYY "

Source format:"03/22/09 30:24 PM"
Time format: "MM/DD/YY hh:mm a" or "M/d/y HH:mm A"
but not "M/d/y HH:MM A" or "m/d/y HH:mm A"

Source format: "Time: 2009-FEBRUARY-01T22:33:44"
Time format: "Time: 'y-MMM-d'T'h:m:s" or "'Time:' y-MMMMM-d'T'h:m:s",
but not "'Time: 'y-MM-d'T'h:m:s"

Source format: "3. quarter 2009"
Time format: "QY" or "Q'. quarter' y or "QQ/yyyy";
but not "YQ"

12.3.8.2.5 Change data type - single value

Changes the data type of the incoming single value to the **Number**, **Text**, or **Date** data types.

Action	Result
Conversion of **Text** to **Number**	Numerical value of the text taking into account the decimal separator. If the decimal separator is set correctly, any thousands separator is detected automatically.
Conversion of **Number** to **Text**	Text representation of the number in the internal format, or based on the language and the specified format. You can also specify a valid number of leading zeros. If nothing is specified here, the results are formatted in the numerical format.
Conversion of **Text** to **Date**	Date value of the text in the internal format, based on the specified format and, where applicable, the language. The date must be in the AD era. Date values before the common era are not supported. The time format must be specified. The time format is made up of sequences of characters, which stand for date fields, for example, year, month, day of the week, or minute, in the relevant language; separated by separators. In addition, the corresponding language must be specified. Non-editable text must be enclosed in quotation marks. When using the **Q** or **q** symbol for quarters, all other symbols except **Y** and **y** for years are ignored. Only the order of **Q / q** and **Y / y** is relevant.
Conversion of **Date** to **Text**	Text representation of the date in the internal format, or based on the language and the specified format Non-editable text must be enclosed in quotation marks. The format and language specifications are optional. If no format is specified, the data is output in the internal date format. If no language is specified, English (EN) is applied as the default language.
Conversion of **Number** to **Date**	Date value corresponding to the value of the number as milliseconds since 01/01/1970
Conversion of **Date** to **Number**	Number of milliseconds since 01/01/1970

Internal number format

If the user is logged in in English, the number format is Anglo-Saxon style with a period as the decimal separator and at least one decimal place, but without grouping characters.

Internal date format

yyyy-Q for specifying to the nearest quarter, otherwise yyyy-MM-ddThh:mm:ss. The number of digits corresponds to the accuracy of the date, and the remaining digits are omitted. This is the transfer format.

Quarterly specifications

These are indicated by a **Q** within the section of the format that is not in single quotation marks.

Prerequisites for conversion of text into quarterly date values:

1. It is expected that a source value containing a quarterly date consists of just two sequences of figures indicating the year and the quarter. Any non-numerical characters can occur before, after and between them, for example, Quarter 04/2009.
2. The pattern uses **Y** or **y** as the symbol for the year and **Q** or **q** for the quarter, for example, quarter Q/y or Q Y.

Procedure:

1. The (first) two sequences of digits are determined from the source value.
2. The section of the format that is not enclosed between single quotation marks is used to determine whether **q / Q** or **y / Y** appears first.
3. If q or Q appears first, the first sequence of digits is interpreted as the quarter and the second as the year, otherwise the reverse.

PARAMETERS

The following parameters are available.

Parameter	Description
Single value	Source: Single-value operator Data type: Date, Number, or Text Specification: Mandatory
New type	New single-value data type Default value: Text Specification: Mandatory

Parameter	Description
Format (Date type)	Time format for conversion from **Date** type to **Text** type and vice versa. The following formatting symbols are available when converting date into text: Year: y or Y Quarter: Q Month: M Calendar week: w Day of the week: E or e Day of the month: d Day of the year: D Hour: H or h Minute: m Second: s AM/PM: a Time zone: z (for example, GMT) RFC time zone: Z (for example, -0900) Era: G (must always be AD) Default value: MM/dd/yyyy
Format (Date type)	The following formatting symbols are available when converting text to date: Year: y Quarter: Q Calendar week: w Week of the month: W Day of the week: E Day of the month: d Day of the year: D Hour (0-23): H Hour (1-24): k Hour AM/PM (0-11): K Hour AM/PM (1-12): h Minute: m Second: s AM/PM: a Time zone: z

Parameter	Description
	RFC time zone: Z Era: G Default value: yyyy-MM-dd'T'HH:mm:ss; Permitted separators in both cases: Dash/minus (-), underscore (_), slash (/), period (.), colon (:), comma (,), tab character, and space. Specification: Mandatory
Language	Language if the target format is of the **Date** type. Available languages: de and en. Specification: Mandatory when using names of months and names of days of the week
Decimal separator	Separator for the decimal places, if the target format is of the **Number** type. Default value: Comma (,) Specification: Mandatory
Format (**Number** source format)	Number format for the conversion of the Number type to the Text type. You can select predefined formats or set your own format manually. With manual entry, the numbers before the decimal separator must have four digits ascending and then descending, for example, 1,234.321. After this, you can add text (such as the unit "hours" or km/h). Default value: 1234 Permitted separators: Thousands separator in German: period (.) Thousands separator in English: comma (,) Decimal separator in German: comma (,) Decimal separator in English: period (.)
Leading zeros	Number of leading zeros. The maximum number of leading zeros is the number of digits before the decimal separator. Example: Format: 1,234.12 and leading zeros: 5 Number -> Text 10,245 -> 00010,25 12000,4 -> 12000,4 89,7 -> 00089,70

Parameter	Description
Specify type	Automatically specifies the data type of the source values. If the content of a column does not correspond to its assigned data type, a row is created in the operator which specifies the data type determined for this column Vice-versa, settings (lines) are removed from the operator, which would reset the data type of a column already typified correctly.
Encoding (**Text** source format)	Specifies the encoding of special characters, for the conversion of the **Text** type to the **Text** type, for example, "/", "&", "?". Apply UTF-8 encoding: encodes the entire text, using UTF-8 codes Decode UTF-8: decodes the entire text, using UTF-8 codes Apply URL encoding: keeps the URL specific characters For UTF-8 encoding/decoding the special characters must be masked in a valid URL. Only select this option if you are sure that all sections that make up the URL are already masked.

The characters in the time format can be combined in any order and repeated any number of times.

Exceptions:

For a month, the number of characters must be >= 3 (MMM or MMMM) if the month is specified in text format (JAN, FEB, etc.) and <3 if it is specified as a figure. In this case, a language must also be specified so that the name of the month can be transformed correctly.

For a year format such as 2009, y can be specified any number of times, that is, yy and yyyy return 2009.

For a year format such as 09, however, yyyy returns the year 9 and yy the year 2009.

When formatting date values as days of the week for a date to text conversion, an e/E number < 4 returns the day abbreviations (MON, TUE, etc.), while e/E = or > 4 returns the full name of the day.

Only the month (M), minute (m), time zone (z), RFC time zone (Z) and calendar week (w) are case-sensitive.

When converting text to date, if the Q or q symbol is used for quarters all other symbols except Y and y are ignored. Only the order of Q/q and Y/y is decisive then.

For the reverse conversion from date to text, the Q/q can be combined with any other symbols, but may only occur once (not QQ/yy)

Quarter entries are currently only possible in the form YYYY-Q. These strings can only contain the year, separator, and quarter.

All other strings must be enclosed in single quotation marks ('). Spaces can be inside or outside, for example, 'On' dd.MM.yy 'at' hh:mm, or 'On 'dd.MM.yy' at 'hh:mm' '.

The space pattern in the source and target format must match, for example, "2 .3 .09" -> "d .M .y" but not "2. 3. 09" -> "d .M .y".

EXAMPLES

Source format: "22.3.2009"
Time format: "d.M.y" or "DDDD.MM.YYYY",
but not "DD.MMM.YYYY "

Source format:"03/22/09 30:24 PM"
Time format: "MM/DD/YY hh:mm a" or "M/d/y HH:mm A"
but not "M/d/y HH:MM A" or "m/d/y HH:mm A"

Source format: "Time: 2009-FEBRUARY-01T22:33:44"
Time format: "Time: 'y-MMM-d'T'h:m:s" or "'Time:' y-MMMMM-d'T'h:m:s",
but not "'Time: 'y-MM-d'T'h:m:s"

Source format: "3. quarter 2009"
Time format: "QY" or "Q'. quarter' y or "QQ/yyyy";
but not "YQ"

12.3.8.2.6 Column to value

Converts a data feed column into a value or value list. If the **to list** option is enabled, the resulting value is a list containing values from all rows of the column. Otherwise, the first value found is returned.

The following parameters are available.

Parameter	Description
Source column	Name of the column whose values are filtered. Source: Source table; Data type: Number, Text, Date, depending on the input column type; Specification: Mandatory
to list	Creates a value list. If enabled, the resulting value is a list of all column values. Otherwise the first value found is returned. Specification: Optional

12.3.8.2.7 Combine data feeds

Merges two data feeds by comparing the values in key columns one row at a time. The key columns for the left and right table are defined in pairs. Several pairs of key columns can be specified. Both key columns must have the same data type.

One table is defined as the main table, to which all columns from the second table are added except for its key columns. The main table is linked to the upper left anchor point.

The following parameters are available.

Parameter	Description
Left/right column	Name of the left or right key column. Source: Source tables Data type: Text, Date or Number For **Text** data type, the **Case sensitive** and **Ignore spaces** options are additionally available.

Options	
Include key values of left data feed	Always transfers all key values from the left data feed (main data feed), regardless of whether there are matching rows in the right data feed. Rows with matching key values are merged. Rows in the right data feed whose key values do not occur in the left table are omitted. This option is selected by default.
Include identical key values of both data feeds	Transfers only the rows whose key values match in the two data feeds, and which therefore can be merged.
Include key values of both data feeds	Always transfers the key values from both data feeds, even if their key values do not occur in the other data feed. Rows with matching key values are merged.
Allow multiple values	Allows multiple occurrences of rows with identical key values in the right table. This can lead to a large number of result rows, as all combinations of the rows with identical key values are transferred to the results. This option is unselected by default.

The key columns have the name they had in the left table.

Since the individual table columns are identified by name when being imported you need to ensure that the columns of the table area to be imported have unique names.

If other columns with identical names occur in both feeds, other than the key columns, _L or _R is appended to the names of these columns.

12.3.8.2.8 Concatenate data feeds

Adds the rows from the right-hand table after the final row of the left-hand table and merges columns of the same name and type.

For every row in the main table, a check is made as to whether there is a row in the right table that has the same values in all key column pairs. These rows are then combined into one row.

The following parameters are available.

Parameter	Description
Left/right data feeds	Two data feeds to be combined. Specification: Mandatory

12.3.8.2.9 Concatenate texts

Combines the values of the specified columns or text fragments into one text.

Appends the values from the source columns or the source values to one another one row at a time, writes the results to the target column, and overwrites any existing values there. If the target column does not exist, it is created.

The following parameters are available.

Parameter	Description
Text	Value to be linked. Source: Source table, single-value operator, input value, or a constant. Data type: Number, Text, Date; Specification: Optional
Target column	Name of the column to which the linked text is written. Source: Source table or constant. Data type: Text Default value: Result_1 Specification: Optional

12.3.8.2.10 Conditional replace

Changes the value in the specified column one row at a time if certain conditions are met.

Replaces existing values in the column with new values. Replacement must be linked to a condition, that is, you can specify whether all or at least one condition must be met. Several conditions can be specified and these are linked to each other with "AND".

The following parameters are available.

Action	Result
Column	Name of the column whose values are replaced. Source: Source table Data type: Number, Text, Date; Specification: Mandatory
New value	Value that replaces the value in the source column. Source: Column with values, single value from a feed (single-value operator), user input, or a constant. Default value: is equal to Specification: Mandatory
Replace	Values are replaced if one or all conditions is/are met.
Source column	Name of the column whose values are compared. Source: Source table Data type: Number, Text, Date; Specification: Mandatory
Comparison operator	Operator that compares the values from the source column with the comparison values. Available comparison operators depend on the data type of the source column. Default value: is equal to Specification: Mandatory
Comparison values	Values that are compared with the values from the source column. Source: Column with values, single value from a feed (single-value operator), user input, or a constant. Data type: Must be identical to that of the source column. Comparison value missing Condition met: If a comparison value is missing, the condition is assumed to be met. Condition not met: If a comparison value is missing, the condition is assumed to not be met.

Action	Result
	Specification: Mandatory

COMPARISON OPERATORS

The following comparison operators are available.

Data type	Comparison operators
Number	Is equal to Is not equal to Is less than Is less than or equal to Is greater than Is greater than or equal to Is empty Is not empty
Text	Is equal to Is not equal to Starts with Ends with Contains Does not contain Is empty Is not empty
Date	Before After On Before or on On or after Is empty Is not empty

12.3.8.2.11 Convert text

Converts all characters in the source column one row at a time, based on the specified transformation rule. The transformation rule includes all rows in the selected source column.

The following parameters are available.

Parameter	Description
Column	Name of the column whose values are converted. Source: Source table Data type: Text Specification: Mandatory
Conversion	Transformation rule for conversion of column values: UPPER: Converts all characters into upper case, according to the rules of the specified language. LOWER: Converts all characters into lower case, according to the rules of the specified language. ONLY_LETTERS: Removes all figures (0-9) from the column values; ONLY_NUMBERS: Removes all letters from the column values. REMOVE_SPACES: Removes all spaces from the column values. REMOVE_LEADING_WHITESPACE: Removes leading whitespace from the column values. REMOVE_TRAILING_WHITESPACE: Removes trailing whitespace from the column values. Specification: Mandatory
Target column	Name of the column to which the conversation search result is written. This can be either a new column (typing a column name in the text field) or existing column (selecting a column from the drop-down menu). Data type: Text Default value: Result_1 Specification: Optional If the target column is identical to the source column, the values in the source column are overwritten.

12.3.8.2.12 Copy data feeds

Creates up to four independent copies of a data feed.

The following parameters are available.

Parameter	Description
Data feed	Data feed to be copied. Specification: Mandatory

12.3.8.2.13 Copy single value

Creates an independent copy of a value or list value, without changing the input value.

The following parameters are available.

Parameter	Description
Input value	Input value or value list to be copied. Specification: Mandatory

12.3.8.2.14 Delete column

Deletes the specified columns from the data feed.

The following parameters are available.

Action	Result
Column	Name of the column to be deleted. Source: Source table Data type: Date, Number, or Text Specification: Mandatory

12.3.8.2.15 Duplicate column

Copies the specified columns from the data feed to new or existing columns of the same type.

It is possible to create multiple copies of a column, but the target columns must have different names.

If the target column does not exist, it is created. If it does exist, it is replaced. Regardless of their type, all columns can be duplicated.

The following parameters are available.

Action	Result
Source column	Name of the column to be duplicated. Source: Source table Data type: Date, Number, or Text Specification: Mandatory
Target column	Name of the new or existing column. Source: Constant Data type: Corresponds to source column. Specification: Mandatory

12.3.8.2.16 Extract text

Creates an extract from each value in a text column starting from the specified position (start index), and with the specified length, and writes the result to a target column.

Searches the source column at the specified start index, using the specified length for the string,and displays it in the target column. Start index and length must be >= 0, otherwise an empty entry appears in the target column.

The following parameters are available.

Parameter	Description
Column	Name of the column whose values are searched. Source: Source table Data type: Text Specification: Mandatory
Start index	Start position of the string to be extracted. Source: Source column, single-value operator, input value, or constant. Size >= 0; Data type: Number Specification: Mandatory
Length	Number of characters in the string to be extracted. Source: Source column, single-value operator, user input, or constant. Number of characters >= 0 Data type: Number Specification: Mandatory
Target column	Name of the column to which the search result is written. This can be either a new column (typing a column name in the text field) or existing column (selecting a column from the drop-down menu). Data type: Number Default value: Result_1 Specification: Mandatory

12.3.8.2.17 Filter by date

Searches a date column for the latest or earliest date and transfers these rows to the results table. All other rows are filtered out. The search can be limited to specific dimensions. If one or more dimensions are specified, the operator determines the feed row with the earliest or latest date within the feed rows with identical dimension values and transfers this to the result table. If there are several feed rows with the earliest or latest date, all of them are transferred to the results table.

The following parameters are available.

Parameter	Description
Source column	Name of the source column for which the earliest or latest date values are determined. Source: Source table Data type: Date Specification: Mandatory
Earliest/latest date	Determines the earliest or latest date values in the source column. Default value: Earliest date
Dimension column	Dimension for which the earliest or latest date values are determined. Acts as a filter to restrict the values determined. Data type: Text Specification: Mandatory Multiple dimension columns can be set.

12.3.8.2.18 Filter rows

Filters the data feed one row at a time using specific conditions.

Column values of the Number, Text, or Date type are either let passed or blocked. An appropriate filter criterion can be selected depending on the data type.

The operator allows the processing of single values and value lists. You can connect the single-value user inputs and the user inputs of **List** type, see User input operators (page 683).

Action	Result
Action	Executed if particular conditions are met. Possible actions: ▪ **Let values pass** (from source table) ▪ **Block values** (from source table) if ▪ all conditions are met ▪ one condition is met Default value: Let values pass if all conditions are met. Specification: Mandatory
Column	Name of the column whose values are filtered. Source: Source table Data type: Number, Text, Date; Specification: Mandatory
Comparison operator	Operator that compares the values from the source column with the comparison values. Available comparison operators depend on the data type of the source column. Default value: is equal to Specification: Mandatory
Comparison values	Values that are compared with the values from the source column. Source: Source table, single-value operator, user input, user input (List), or a constant Data type: Must be identical to that of the source column. Comparison value missing ▪ Condition met: If a comparison value is missing, the condition is assumed to be met. ▪ Condition not met: If a comparison value is missing, the condition is assumed to not be met. Specification: Mandatory

Action	Result
All conditions should match.	Combines the specified filter conditions. If the option is not enabled, the result will be a concatenation of all single filter results.

The following parameters are available.

Parameter	Description
Number	Is equal to Is not equal to Is less than Is less than or equal to Is greater than Is greater than or equal to Is empty Is not empty
Text	Is equal to Is not equal to Starts with Ends with Contains Does not contain Is empty Is not empty
Date	Before After In Before or on On or after Is empty Is not empty

COMPARISON OPERATORS PROCESSING VALUE LISTS

If a value list is processed (that is, the comparison value is a value list), either all filter values (ALL) or just a few filter values (ANY) can be applied for the filter condition (see table below). Click the ( ) **Operator condition** icon to view the settings. The settings are also displayed in the tool tip.

- For filter conditions using the comparison operators is equal to, starts with, ends with, contains, and on the predefined applied list values are set to ANY.
- For filter conditions using the comparison operators is not equal to, does not contain, is less than, is greater than, and after the predefined applied list values are set to ALL.
- The setting of the applied filter values can be changed for all comparison operators except is equal to, is not equal to, and on. Click the ( ) **Operator condition** icon and select the settings required.

12.3.8.2.19 Find text index

Finds the specified search text in a search column and writes the position of the text found to a numerical target column.

If the search text is not found, the position is -1.

The following parameters operators are available.

Parameter	Description
Column	Name of the column whose values are searched. Source: Source table Data type: Text Specification: Mandatory
Search text	String for which the search is performed. Source: Column values from source table, single value from a feed (single-value operator), input value, or a constant. Data type: Text Specification: Mandatory
Target column	Name of the column to which the search result is written. This can be either a new column (typing a column name in the text field) or existing column (selecting a column from the drop-down menu). Data type: Number Default value: Result_1 Specification: Mandatory
First/last hit	If multiple results are found, the first or last hit is taken as the search result.

12.3.8.2.20 Goal accomplishment

Calculates the degree of goal accomplishment of column values one row at a time, based on the rating and the two planned values for 100% and 0%.

The following parameters are available.

Parameter	Description
Calculation column value	Name of the column for which the goal accomplishment is calculated. Source: Source table Data type: Number Specification: Mandatory
Rating	Rating of the column values for which the goal accomplishment is calculated. Valid values: Positive or Negative Positive: Higher values are assessed as positive, for example, sales revenue Negative: Higher values are assessed as negative, for example, process throughput time. Data type: Text Default value: Positive: Specification: Mandatory
100% relates to	Target values that are compared with the source values. Source: Source table, single-value operator, input value, or a constant. Data type: Number Specification: Mandatory Goal accomplishment depends on the rating: Positive rating: Source values >= target values Negative rating: Source values <= target values
0% relates to	Target values that are compared with the source values. Source: Source table, single-value operator, input value, or a constant. Data type: Number Specification: Mandatory Goal accomplishment depends on the rating: Positive rating: Target values <= source values Negative rating: Target values >= source values
Target column	Name of the column to which the result is written.

Parameter	Description
	Source: Source table or constant. Default value: Result_1 Data type: Number Specification: Optional

12.3.8.2.21 Insert column

Inserts new columns of the **Text**, **Number**, or **Date** data type into the data feed. Each of the columns can be populated with an initial value.

The following parameters are available.

Action	Result
Column name	Name of the new column. Source: Constant Data type: Date, Number, or Text Specification: Mandatory
Type	New column data type; Date, Number, or Text. Default value: Text; Specification: Mandatory
Create numeric enumeration	Fills a new column with ascending values. The values start at 1 or the value entered in the Value input box and increase by a value of 1 in each subsequent row. Specification: Optional If the option is enabled the Value box is disabled and any (default) value already entered or selected is deleted. Incoming connections for dynamic values are ignored.
Value	Initial value of the new column. Source: User input, constant or source table Data type: Depends on the data type of the source column. Specification: Optional

12.3.8.2.22 Merge single texts

Concatenates multiple text values.

By default, the number of characters in a text cell is limited to 2,000. This limitation applies to text cells that are part of a feed result (also of a partial result). The limitation does not apply to individual values during feed calculation.

The following parameters are available.

Parameter	Description
Text	Any strings Source: User input, single-value operator, or constant Data type: Text Specification: Optional

EXAMPLE

An SQL statement is assembled by the **Merge single texts** operator. As long as it is handled as an individual value, this value can exceed the 2,000 characters. As soon as it is used in a table, however, it is automatically shortened to 2,000 characters.

12.3.8.2.23 Move date

Moves a date by a specified amount of time in a given direction and writes the results to a target column.

A date can only be moved by an amount of time, the unit of which is the same as or less accurate than the unit of the date itself. If the format of the moving period is more accurate than the format of the source date, the source date is retained. If you move a date by quarters, it is moved by three months for every quarter.

If a date accurate to the nearest day with a number of days > 28 is moved to a month that has fewer days, the result is the last day of the target month.

For example, you can move a date accurate to the nearest month by months, quarters or years, but not by days. A date accurate to the nearest year can only be moved by years, a date accurate to the smallest unit by any unit.

The following parameters are available.

Action	Result
Source column	Name of the source column whose date values are moved. Source: Source table Data type: Date Specification: Mandatory
Direction	Direction in which the date is moved. Valid values: Forward or Backward Data type: Text Default value: Forward Specification: Mandatory
Value	Value by which the date is moved by the selected unit. Source: Manual entry, single value or source table Data type: Number Default value: 1 Specification: Optional
Unit	Unit of time by which the date is moved. Data type: Text Default value: Second Specification: As source The information **As source** allows a move even if the unit of the date values is unknown at the time of creation or if it can vary.
Target column	Name of the target column to which the result is written. Data type: Date

Action	Result
	Default value: Result_1 Specification: Optional The target column can be identical to the source column. The values in the target column are overwritten.

EXAMPLE

Source value	Value	Unit	Direction	Result
2009-12-24T16:23	10	YEAR	Forward	2019-12-24T16:23
2009-12-24	10	DAY	Forward	2010-01-03
2009-12-30	10	MONTH	Backward	2009-02-28
2009-11	1	QUARTER	Forward	2010-02
2009-11	1	DAY	Forward	2009-11
2009-01-01	3	As source	Forward	2011-01-04
2011-Q1	3	As source	Forward	2011-Q4

12.3.8.2.24 Rename column

Changes the names of the specified columns from the data feed. The data type of the column is retained.

The following parameters are available.

Action	Result
Column	Name of the column to be deleted. Source: Source table Data type: Date, Number, or Text Specification: Mandatory
New name	New name of the renamed column. Source: Constant Data type: Corresponds to source column. Specification: Mandatory

12.3.8.2.25 Replace text

Replaces text in a search column with the specified Find or Replace text one row at a time, or writes the text to a target column.

If the search text cannot be found, the search text itself is written to the target column.

The following parameters are available.

Parameter	Description
Column	Name of the column whose values are searched. Source: Source table Data type: Text Specification: Mandatory
Search text	String for which the search is performed. Source: Column values from source table, single value from a feed (single-value operator), input value, or a constant. Data type: Text Specification: Mandatory
Replacement text	String that replaces the search text. Source: Source table, single-value operator, input value, or constant. Data type: Text Specification: Optional If no replacement text is specified, the search text found is replaced with a empty text.
Target column	Name of the column to which the search result is written. This can be either a new column (typing a column name in the text field) or existing column (selecting a column from the drop-down menu). Data type: Number Default value: Result_1 Specification: Mandatory
First/last hit	IF multiple results are found, the first, last, or all hits is/are replaced. The specification relates to occurrence within the individual rows of the search column and not to the sequence of rows, that is, NOT "First row", "Last row" and "All rows".

12.3.8.2.26 Round up/down

Rounds the values from a numerical source column to the specified number of decimal places (accuracy), writes the results to the target column, and overwrites any existing values there. If the target column does not exist, it is created.

If the accuracy itself is specified as a decimal number, the decimal places are ignored, that is, the integer value is used. Values that already have the same number or fewer decimal places than specified remain unchanged.

When rounding, the value is rounded down if the next decimal place is < 5, otherwise it is rounded up.

The following parameters are available.

Action	Result
Source column	Name of the source column whose values are rounded. Source: Source table Data type: Number Specification: Mandatory
Precision	Numerical value specifying the number of decimal places; Source: Source table, single-value operator, input value, or a constant. Data type: Number Specification: Mandatory
Target column	Name of the column to which the result is written. The column name can be transferred from the source table or freely entered. Data type: Number Default value: Result_1 Specification: Optional

12.3.8.2.27 Round up/down date

Converts date values from a date column to a rougher time unit and writes the results to a target column.

The following parameters are available.

Action	Result
Source column	Name of the source column whose values are rounded. Source: Source table Data type: Date Specification: Mandatory
Precision	Accuracy of the new date format, defined by the unit: Year, Quarter, Month, Day, Hour, Minute, or Second, and Interval: Depending on the selected unit, for example, 5 minutes or 1 year Data types: Numeric, Text Default values: 1, Minute If the accuracy of the source column is less accurate or the same as the target column format, the original value is retained. The date values are rounded according to the selected interval. Only the unit to be rounded is taken into account, for example, when rounding to minutes, the seconds are ignored. Rounding type: Specifies how the selected time interval is to be rounded. Round up for half an interval: Automatically rounds up above an interval value higher than or equal to half of the interval value Round down for half an interval: Automatically rounds down below an interval value lower than or equal to half of the interval value Always round up: Always rounds up, regardless of the interval value Always round down: Always rounds down, regardless of the interval value
Target column	Name of the target column to which the converted date is written Data type: Date Default value: Result_1 Specification: Optional The target column can be identical to the source column. The values in the target column are overwritten. If the target column is not of the Date type, it is replaced by a new date column.

EXAMPLES

Source value	Accuracy	Result
2009-12-24T16:23	Day	2009-12-24
2009-12-24T16:23	Hour	2009-12-24T16
2009-12-24	Month	2009-12
2009-12-24	Quarter	2009-Q4
2009-12-24	Year	2009

Rounding

2010-08-06T17:15:**27**	10 seconds	2010-08-06T17:15:**30**
2010-08-06T17:**07**:00	15 minutes	2010-08-06T**17**:00
2010-08-06T17:**18**:00	15 minutes	2010-08-06T**17:15**
2010-08-06T**02:18:04**	4 hours	2010-08-06T0**4:00:00**

Round up

Source value	Accuracy	Result
2010-02-28T23:**07:00:00 AM**	15 minutes	2010-02-28T**23:00**
2010-02-28T23:**07:30**	15 minutes	2010-02-28T**11:15:00 PM**
2010-**02-28**T23:30:00	1 hour	2010-**03-01**T00

Round down

Source value	Accuracy	Result
1970:01:01T09:00:**01**	6 hours	1970:01:01T**12**:00:00
1970:01:01T09:00:**00**	6 hours	1970:01:01T**06**:00:00

Always round up

Source value	Accuracy	Result
2010-02-28T**11:15:00 PM**	15 minutes	2010-02-28T**11:15:00 PM**
2010-02-28T**11:15:01 PM**	15 minutes	2010-02-28T**11:30:00 PM**
2010-**02-28T20:00:01**	6 hours	2010-**03-01**T00

Always round down

Source value	Accuracy	Result
2010-02-28T**11:15:00 PM**	15 minutes	2010-02-28T**11:15:00 PM**
2010-02-28T**11:14:59 PM**	15 minutes	2010-02-28T**23:00**
2010-**03-01T05:59:59**	6 hours	2010-**03-01T00**

12.3.8.2.28 Runtime info

Provides system information on the logged-in user or the current date. The operator can also generate a random number.

The value type of the resulting single value changes accordingly.

The following parameters are available.

Parameter	Description
Information type	The single-value operator can return the following types of information: User data Today's date Random number Default value: User data Specification: Mandatory
Property	Properties of the logged-in user; displayed if User data is selected as the information type. The following values can be selected: Login, First name, Last name, E-mail and Language Default value: User name Specification: Mandatory
Precision	Specifies the accuracy of the date, displayed if Today's date is selected as the information type. The following values can be selected: Minute, Hour, Day, Month, Year Default value: Day Specification: Mandatory For detailed information on configuring the time zone used by this operator, see the chapter Configure feed processing time zone.
Number range	Number range of the random number; displayed if Random number is selected as the information type. The following values can be selected: Integers, Floating point numbers Default value: Integers Specification: Mandatory
Upper/lower limit	Upper or lower limit of the value range for the random number; displayed if Random number is selected as the information type. Default value: 0 and 10 Specification: Mandatory

12.3.8.2.29 Value to column

Converts an individual value into a column so that it can be connected to an operator.

Creates a feed table from an input value. If the input value is a list, the result contains one list element per row. Otherwise the result has a single row containing the value.

The following parameters are available.

Parameter	Description
Target column	Name of the column to which the conversion result is written. The name of the column is initially **Result**. You can change the name manually if required. Data type: Text, Date or Number, depending on the input value. Default value: Result Specification: Optional

12.3.8.3 User input operators

A user input operator is an interface to a data feed, allowing a user to enter data manually in a dashboard. The following user input operators are available in the data feed editor.

12.3.8.3.1 Date user input

The date user input enables the dynamic entry of date values in data feed processing. User input is an interface to a data feed, allowing a user to enter data manually in a dashboard.

The input has the format yyyy-MM-dd'T'HH:mm:ss (up to the required accuracy) or yyyy-'Q'Q.

The following parameters are available.

Parameter	Description
Name	Name of user input Source: Constant Data type: Text Specification: Optional The names of the individual user input must be unique within the feed definition.
Debug value	Value used for a test calculation in the Feed Editor. Source: Constant Data type: Date Specification: Optional
Preview value	The value is used if the user does not provide any input. Source: Constant Data type: Date Specification: Optional

12.3.8.3.2 Date user input (List)

The date user input enables the dynamic entry of date values in data feed processing. The operator is an interface to a data feed that can process multiple values (lists of values) at the same time. It enables the multiple selection in widgets.

The user input (list) operator can only be connected to operators that support the processing of list values (multiple selection). These operators are:

- Filter rows
- Data feed
- PPM
- JDBC
- Terracotta

The date user input has the format yyyy-MM-dd'T'HH:mm:ss (up to the required accuracy) or yyyy-'Q'Q.

The following parameters are available.

Parameter	Description
Name	Name of user input Source: Constant Data type: Text Specification: Optional The names of the individual user input must be unique within the feed definition.
Default value	Value used for a test calculation in the feed editor. Source: Constant Data type: Date Specification: Optional
Preview value	The value is used if the user does not provide any input. Source: Constant Data type: Date Specification: Optional
Edit	Enables you to enter the relevant debug and preview values in a table.

12.3.8.3.3 Number user input

The number user input enables the dynamic entry of numerical values in data feed processing. User input is an interface to a data feed, allowing a user to enter data manually in a dashboard. The input is done with a period (.) as the decimal separator and with no thousand grouping character (for example, 1234.56).

The following parameters are available.

Parameter	Description
Name	Name of user input Source: Constant Data type: Text Specification: Optional The names of the individual user input must be unique within the feed definition.
Debug value	The values is used for a test calculation in the Feed Editor. Source: Constant Data type: Number Specification: Optional
Preview value	The value is used if the user does not provide any input. Source: Constant Data type: Number Specification: Optional

12.3.8.3.4 Number user input (List)

The number user input enables the dynamic entry of numerical values in data feed processing. User input is an interface to a data feed, allowing a user to enter data manually in a dashboard. The input is done with a period (.) as the decimal separator and with no thousand grouping character (for example, 1234.56).

The user input (list) operator can only be connected to operators that support the processing of list values (multiple selection). These operators are:

- Filter rows
- Data feed
- JDBC
- Terracotta

The following parameters are available.

Parameter	Description
Name	Name of user input Source: Constant Data type: Text Specification: Optional The names of the individual user input must be unique within the feed definition.
Default value	List of value used for a test calculation in the feed editor. Source: Constant Data type: Number Specification: Optional
Preview value	List of values used if the user does not provide any input. Source: Constant Data type: Number Specification: Optional
Edit	Enables you to enter the relevant debug and preview values in a table.

12.3.8.3.5 Text user input

The text user input enables the dynamic entry of text in data feed processing. User input is an interface to a data feed, allowing a user to enter data manually in a dashboard.

The following parameters are available.

Parameter	Description
Name	Name of user input Source: Constant Data type: Text Specification: Optional The names of the individual user input must be unique within the feed definition.
Debug value	Value used for a test calculation in the Feed Editor. Source: Constant Data type: Text Specification: Optional
Preview value	The value is used if the user does not provide any input. Source: Constant Data type: Text Specification: Optional

12.3.8.3.6 Text user input (List)

The text user input enables the dynamic entry of text in data feed processing. User input is an interface to a data feed, allowing a user to enter data manually in a dashboard.

The user input (list) operator can only be connected to operators that support the processing of list values (multiple selection). These operators are:

- Filter rows
- Data feed
- PPM
- JDBC
- Terracotta

The following parameters are available.

Parameter	Description
Name	Name of user input Source: Constant Data type: Text Specification: Optional The names of the individual user input must be unique within the feed definition.
Default value	Value used for a test calculation in the feed editor. Source: Constant Data type: Text Specification: Optional
Preview value	The value is used if the user does not provide any input. Source: Constant Data type: Text Specification: Optional
Edit	Enables you to enter the relevant debug and preview values in a table.

12.3.9 Root Cause Miner

PPM provides the **Root Cause Miner** (page 605) widget to analyze the visible data on a dashboard.

If you observe unusual symptoms on a dashboard, that is, interesting data points that need to be investigated, you can use the **Root Cause Miner** widget to analyze these symptoms. For example, you observe that the number of complaints in some distribution regions is too high and you want to investigate the symptom.

12.3.9.1 Symptoms and root causes

Symptoms are observed when a process analysis is performed, whereby the processes are analyzed with the help of a base set of filters.

Example

For example, you inspect your global sales processes of the last year and you find that a disproportionately large number of customer complaints occur in your subsidiary in **China** compared to the rest of the world. You start a process analysis to find out the cause of this asymmetry. In addition to the filters that define the **base set** of your observation (here: sales processes, last year's processes, and country) you specify the dimension value that you want an explanation for (here: complaints). This dimension value is called the **symptom**. PPM uses your settings to analyze all suitable dimensions for values with strikingly high or low numbers of occurrences in combination with the symptom. The result of the analysis is a table that lists all dimension values together with an estimate of how strongly this value affects the occurrence of the symptomatic value. This table may contain a row showing that complaints very often occur together with the value "PN4711" for the product dimension. The dimension value "PN4711" is called a **root cause**.

The following criteria can be used as symptoms.

- Single-level dimension value, as mentioned in the example
- Multi-level dimensions, which are interpreted disjunctively, such as the dimension **Equipment** with the values **basic** or **luxury**.
- KPIs
- Value ranges, for example, **Processing time** with the range **10 to 12 hours**. When the symptom contains a process measure, all process instances for which that measure is undefined are counted among the non-symptomatic processes.

The following criteria are not supported.

- Time range dimensions
- Function and relation dimensions. The symptom must be specified on process level.

SUPPORTED DIMENSIONS

- Only single-level text dimensions on process level and the variant dimension are analyzed as root causes.

  Variants are analyzed on combined and precise level independently.
- Only dimensions that are available in the Process Mining context are included in the analysis.

NON-SUPPORTED DIMENSIONS

- Function and relation dimensions are not analyzed.
- Any dimension that already occurs in the symptom is ignored.
- Dimensions that contain user-defined steps or usages are ignored.

12.3.9.2 Limitations

Note the following limitations.

- Number of dimension values

  PPM calculates only dimensions with less than a critical number of values in a query. Due to the risk of memory overflow, dimensions with more values are not calculated.

  Normally there is no reason to analyze such dimensions. The typical use case is that of a search dimension, such as a dimension holding an order number, with one distinct value for each process instance.
- Number of dimension value occurrences

  Dimension values that only occur in a few process instances are ignored in the calculation.
- Number of results

  The maximal number of root causes that is returned to the client can be specified by the client as part of the query. If nothing is specified, PPM returns up to 50 results, consisting of the top 25 causes that promote the symptom and the top 25 causes that inhibit the symptom.

12.3.9.3 Score

The score output by PPM is a measure of the association between a process with the symptom and also with some other dimension value. This measure is a number between 1 and 1000. The value of the measure represents the importance of the root cause. The closer the value moves to 1000, the stronger the effect of the root cause becomes.

An association may promote the symptom, meaning that the root cause and the symptom extraordinarily often occur together, or may inhibit the symptom, meaning that they seldom occur together. In the example (page 689) above, a customer coming from China is associated with having a complaint, so the root cause **China** promotes the occurrence of complaints.

Note that the score does not necessarily correspond to the percentage of symptomatic processes. It takes other factors besides the percentage into account, such as the relative frequencies of the dimension values.

12.3.9.4 Scaled system

The **Root Cause Miner** feature is also available in a scaled system. The sub-servers transfer counts of their symptomatic and non-symptomatic processes for each dimension value to the master. The master aggregates these results, and computes the root causes and their scores.

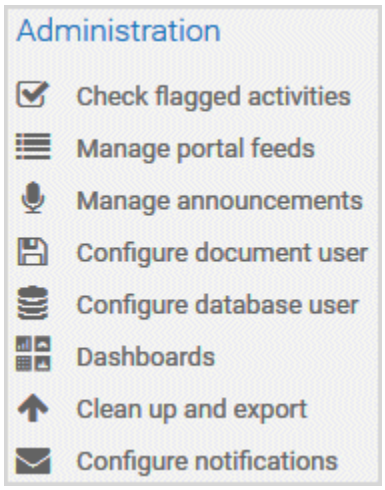
Note that this architecture may lead to high memory load on the sub-servers and much network traffic between the master and its sub-servers.

12.3.9.5 Permissions

No special permissions are required for performing root cause analysis. However, as usual your process and data access privileges in PPM restrict the data that you can analyze.

13 Administrate Collaboration

Collaboration is the platform for cooperation across teams. With Collaboration, information can be exchanged faster, knowledge can be shared, and cooperation across borders is improved. As an Collaboration administrator you have several options (page 702) for managing Collaboration.



13.1 Open Collaboration

Open Collaboration to exchange information, share knowledge, etc.

Prerequisites

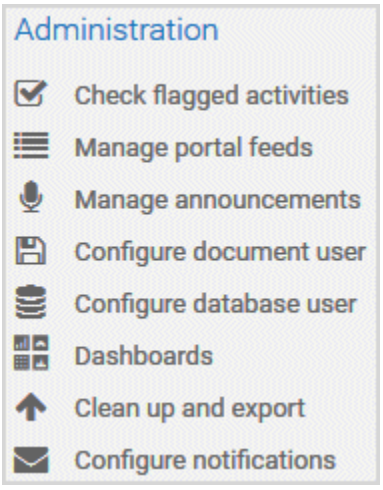
- Collaboration is activated in ARIS Administration configuration.
- You have at least the **ARIS Connect Viewer** license privilege.
- You have the required access privilege (page 705) in ARIS Architect.

Procedure

1. Open ARIS Connect and log in with your user name and password.
2. Click **Collaboration**.

Collaboration opens.

As an Collaboration administrator you have several options (page 702) for managing Collaboration.



13.2 Check activities flagged as inappropriate

Check content flagged as inappropriate and decide whether it must be deleted.

Prerequisite

- Flagging activities is enabled in ARIS Administration configuration.
- You have the **Collaboration administrator** function privilege.

Procedure

1. Under **Administration** click **Check flagged activities**. The activities flagged as inappropriate are displayed.
2. Verify whether the Collaboration terms of use have been violated.
3. Click **Allow** if the content does not violate the terms of use.
4. Click **Comment** to enter a comment or further information for a post.
5. Click **Delete** if the content violates the terms of use, and then click **OK**.

The flagged activity was checked and is either deleted or will continue to be shown depending on the result. Alternatively, you can check the flagged activities in your notifications.

13.3 Manage portal feeds

Edit portal feed subscriptions of Collaboration users. You can cancel subscriptions completely or just for individual users. Canceled subscriptions cannot be added here again.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You have the required access privilege (page 705) in ARIS Architect.

Procedure

1. Under **Administration** click **Manage portal feeds**. The followed items are displayed.
2. Click **Delete** to unsubscribe from a portal feed. This removes the entire stream along with all activities and posts.
3. Click **OK**.
4. To cancel the subscription for individual followers, click **Edit** in the row for the relevant item. The followers are displayed.
5. Click **Unfollow** in the row for the follower whose subscription you want to cancel.
6. Click **OK**.
7. Click **Save**.

The selected subscriptions will be canceled. The corresponding feed in no longer displayed in **My portal feeds** for the selected users.

13.4 Synchronize access privileges

For some interactions in Collaboration, users need special access privileges, for example, to post on portal feeds. These access privileges are assigned in ARIS Architect. To use updated privileges at once, synchronize them manually in Collaboration.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You have the required access privilege (page 705) in ARIS Architect.

Procedure

1. Under **Administration** click **Manage portal feeds**.
2. Click **Synchronize access privileges**.
3. Click **Execute**.

The access privileges from ARIS Architect are updated. The users can now work with the relevant content.

13.5 Manage announcements

Publish information important for all colleagues as an announcement. Announcements are always displayed on the top of any feed or stream of all users. Additionally, they are highlighted by the background color. Only one announcement is possible at a time, that is, if a new announcement is published, it replaces the previous one.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You have the required access privilege (page 705) in ARIS Architect.

Procedure

1. Under **Administration** click **Manage announcements**.
2. Enter the announcement title.
3. Enter or copy your text into the text box. Up to 2000 characters are available.
4. Click **OK**.

Your announcement is published in **All company feed** and **My feed** of all colleagues. Users can hide the announcement in their feed by clicking **Remove**.

If the announcement is outdated, delete it (**Administration > Manage announcements)**.

13.6 Configure ARIS document storage user

Specify a user responsible for the generation of dashboards. The data of dashboards is stored in ARIS document storage. The dashboard data from Collaboration is automatically updated to ARIS document storage every day. Only one ARIS document storage user (page 69) can be specified at a time. For detailed information about access to ARIS document storage (page 69) etc., please refer to **Manage documents** help.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You have the **Dashboard administrator** function privilege.
- You have the **ARIS Connect Designer** license privilege.

Procedure

1. Under **Administration** click **Configure document user**.
2. Enter the user name and the password of the relevant user.
3. Click **OK**.

The ARIS document storage user is specified.

13.7 Configure database user

Specify a user responsible for the interaction with ARIS Connect server. The users login information is required for processes executed in the background, for example, the activation of automatic following (**ARIS Administration > Collaboration > Configure database user**). Only one database user can be specified at a time.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You have the ARIS Connect Designer license privilege.
- The user to be configured as database user must have the **Database administrator** function privilege.

Procedure

1. Under **Administration**, click **Configure database user**.
2. Enter the user name and the password of the relevant user.
3. Click **OK**.

The database user is specified.

13.8 Display dashboards

You can view statistics data using dashboards. Dashboards can be used, for example, to perform controls in real time.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You have at least the **MashZone Viewer** license privilege.
- **Generate user statistics** (**com.aris.umc.audit.enabled**) is enabled in the configuration (page 302) (**User management > Security > Advanced settings**). If **License monitoring** (**User management > License monitoring > General**) is enabled, **Generate user statistics** is automatically enabled.
- Your ARIS Server is enabled for ARIS Aware.
- ARIS document storage user is specified (page 695).

Procedure

1. Under **Administration**, click **Dashboards**.
2. Click the relevant area (**Overview**, **Content**, **Users**, **Groups**).

The dashboards for the selected area are displayed.

More information on dashboards is available in Use dashboards, Dashboards available by default, and Set up dashboards.

Example

Content added over time
Content added over the last 3 months
80
70
60
50
40
30
20
10
0
2/23/2017
3/14/201
Date
Comments
Posts (ARIS co...
Posts (ECP con...
Tags
Number of active users over time
Count
7
6
5
4
3
2
1
0
2/23/2017
3/14/2017
Date
Active
Numerical content type distribution
Content types added over the last 3 months
ContentType
Posts (ECP co...
Comments
Posts (ARIS co...
Tags
0
20
40
60
80
Count
Numerical group type distribution
Private
Public
Private
2
Public
7
Total number of groups: 9

13.9 Clean up and export activities

You can delete activities from before a specified date in order to remove outdated content from Collaboration. This makes the feed overview more transparent. To archive this data, you can create an export. These elements are stored in the export: Comments, tags including hashtags and system tags, external links, links to models, bookmarks, likes, etc.

Prerequisite

You have the **Collaboration administrator** function privilege.

Procedure

1. Under **Administration** click **Clean up and export**.
2. Click the **Activities older than** box. The calendar opens.
3. Select the date from which all earlier activities are to be deleted or exported.
4. Click **OK**.
5. Specify whether the activities should be exported and/or deleted.
6. Depending on your selection, click **Export**, **Export and delete** or **Delete**.

According to your specifications, the activities older than the date entered are deleted and/or exported. The export is saved as a ZIP file.

Archive the ZIP file on your computer. To do so, move the mouse pointer over the relevant export. The buttons of the available functions are displayed. Click **Download ZIP file**. If export files are outdated, you can remove them from the list by clicking on **Delete Zip file**.

13.10 Configure notifications

You can specify the time for daily e-mail notifications and the day for weekly e-mail notifications. Defaults are AM 00:00 and Monday respectively. The global settings are used for all users who have not specified an e-mail frequency in their own account yet (**View notifications > Change your notification settings**).

Prerequisite

You have the **Collaboration administrator** function privilege.

Procedure

1. Under **Administration** click **Configure notifications**.
2. Select a time for the daily digest e-mail (**Daily digest at**).
3. Select a day for the weekly digest e-mail (**Weekly digest on**).
4. Select a global frequency (**Global settings**).
5. Click **Save**.

The e-mail notifications will be sent to the users at the time and on the day you specified.

13.11 Customize e-mail notifications

You can customize the e-mail notification layout by editing the HTML template. You can for example, adapt font size and font color as well as the background color.

Prerequisite

- You have the **Collaboration administrator** function privilege.
- You know how to edit HTML code.

Procedure

1. Under **Administration** click **Configure notifications**.
2. Click **Customization**. The HTML template is displayed.
3. Edit existing HTML tags or add new ones. See the example below.
4. Under the HTML template, click **Help** to receive information about important keywords used in the HTML template.
5. Click **Save**.
6. Under the HTML template, click **Send preview e-mail** to receive an e-mail with a preview of your customized design.

The customized layout is created.

Click **Restore defaults** below the HTML template to undo all the settings you have made. The default settings are loaded and the template is refreshed.

Tip

Alternatively, you can edit the template with an external HTML editor. To do so, copy the template to your clipboard ().

Example

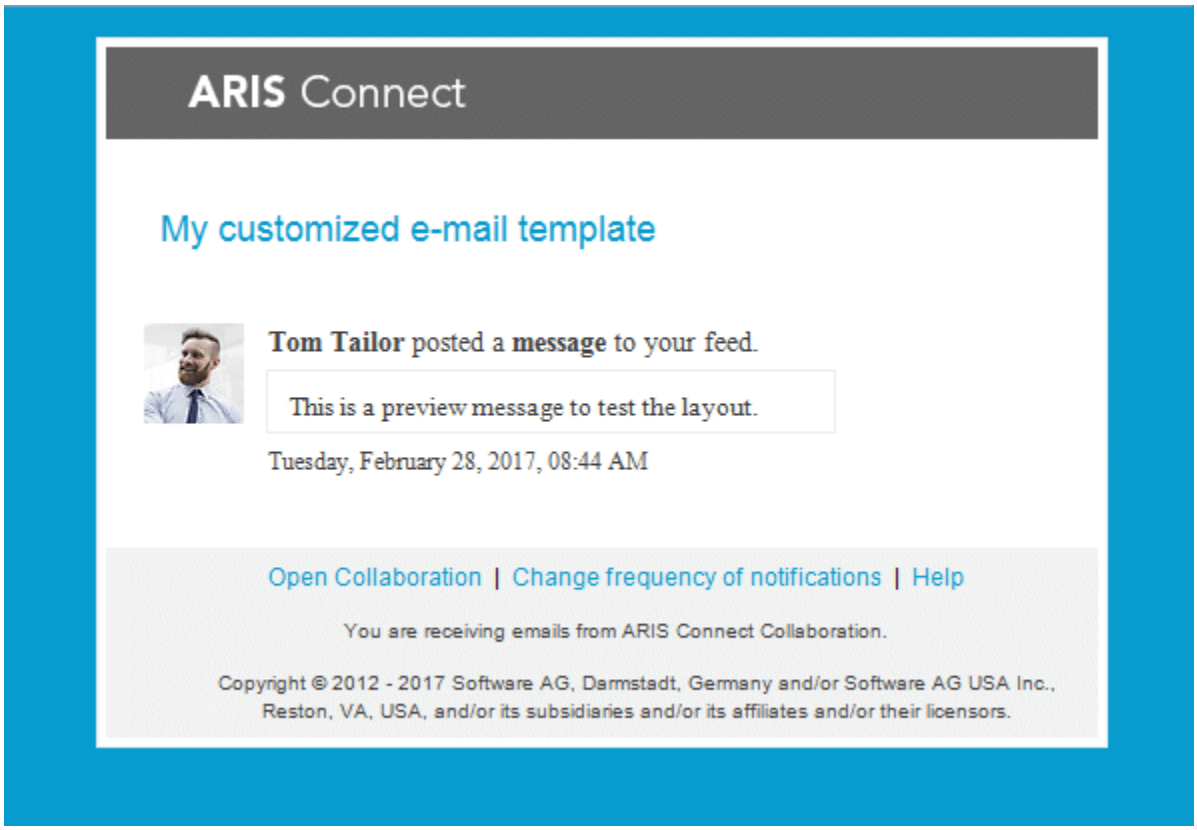
Change the background color of the e-mail and the heading.

- Replace the tag **<body class="mail-font-family">**

  with **<body class="mail-font-family" style="background-color: #0899CC;">** in order to use a blue background color.
- Replace the tag **<h3 class="mail-heading body-heading">$emailTitle</h3>**

  with **<h3 class="mail-heading body-heading">My customized e-mail template</h3>** in order to use the heading **My customized e-mail template**.

Your preview e-mail should now look like this:



13.12 Keyboard shortcuts for Collaboration

The following shortcuts are available in Collaboration.

Keyboard shortcuts can be performed on selected items. Selected items can be identified by the focus in the program.

Shortcut	Action
Page down	Scrolls the screen down. The scroll distance may vary depending on the application.
End	Moves to the lower entries if they cannot be displayed completely due to the window size or the screen resolution.
Page up	Scrolls the screen up. The scroll distance may vary depending on the application.
Home	Moves to the upper entries if they cannot be displayed completely due to the window size or the screen resolution.
Tab	▪ Highlights the next control or input field. ▪ Jumps from the **Comment** box to the **Tag**, **Link**, and **File** symbols that you can use to attach tags, links, or files to your comment. It also jumps to the other input fields and to the **Post** button.
Shift + Tab	Highlights the previous control or input field.
Right arrow/ Left arrow	Moves the cursor through the text in input fields.
Up arrow/ Down arrow	Selects the previous/next item in lists.
Enter	Opens the attachment fields and places the cursor in the input field if the **Tag** or **Link** symbol is selected. Opens the **Select document** dialog when the **File** symbol is selected. ▪ Posts the comment when the **Post** button is selected. ▪ Executes the highlighted button. ▪ Opens the dialog/the selection list of the highlighted item.
Ctrl + Enter	Posts a comment when the **Post** button is active.

13.13 What are the privileges of coordinators and Collaboration administrators?

COORDINATORS

- Are responsible for managing the group profile, privileges, access, and feed activity facilitation.
- Can delete their groups.

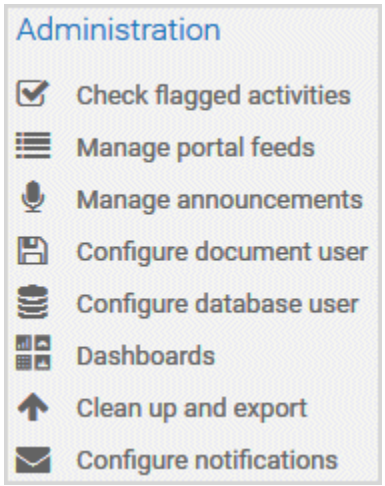
As the creator of a group, you are automatically the coordinator. You can assign coordinator privileges to other group members, as well. If there is no coordinator anymore for a group, for example, because all users with coordinator privileges for a group were deleted, Collaboration administrators can manage the group and assign coordinator privileges.

COLLABORATION ADMINISTRATORS

- Have the same privileges as coordinators.
- Manage the posts that users have flagged as inappropriate (page 693).
- Can synchronize (page 694) access privileges
- Can manage (page 695) announcements
- Can configure ARIS document storage user (page 695) and database user (page 696)
- Can display (page 696) dashboards
- Can clean up and export (page 698) activities
- Can view all posts and delete them.
- Can configure (page 698) and customize (page 699) e-mail notifications.
- Can customize (page 367) Collaboration in ARIS Administration.

Collaboration administrator is a function privilege assigned in ARIS Administration.

COLLABORATION ADMINISTRATION



13.14 What is the synchronization user?

The synchronization user serves technical purposes only. No function or license privileges are assigned to this user. The synchronization user is required for synchronization processes executed in the background of Collaboration, for example, to synchronize the user data between ARIS Administration and Collaboration.

The synchronization user is automatically generated for every newly created tenant. If the synchronization user is not available, the **system** user (page 48) is used instead, provided that the default password of the **system** user was not changed. If the **system** user cannot be used, you must manually create the synchronization user using ARIS Cloud Controller. The technical name of the synchronization user, for example in ARIS Cloud Controller, is **_aris_tech_user_ecp_techuser**. For detailed information, refer to **ARIS Cloud Controller (ACC) Command-Line Tool > Create synchronization user**.

13.15 How can user accounts be deleted and anonymized?

Users can only be deleted (page 27) in ARIS Administration. To anonymize Collaboration users according to GDPR, use ARIS Cloud Controller. For detailed information, refer to **ARIS Cloud Controller (ACC) Command-Line Tool**.

After anonymization, activities of Collaboration users, such as posts, comments, groups, are shown with **Anonymized user** instead of with the user name. The same applies to dashboards. To distinguish the anonymized users from each other, a number is automatically added to **Anonymized user**. This number is increased by one for each additional anonymized user, for example, **Anonymized user2**. Pictures of anonymized users are no longer shown. User profiles, bookmarks, filters, etc. of anonymized users in Collaboration are deleted.

13.16 What dashboards are there?

There are dashboards from the overview, Collaboration content, users and groups areas.

Example

13.17 Which database access privileges of ARIS Architect are relevant to Collaboration?

For some interactions in Collaboration, users need special access privileges, for example, to post on portal feeds. These access privileges are assigned in ARIS Architect. You can synchronize (page 694) the privileges in Collaboration manually, after you edited them in ARIS Architect. The following database access privileges are relevant to Collaboration:

- **No access (----)**

  No portal content is displayed.

- **Read (r---)**

  Portal content is displayed. Users can read posts added to models, and they can like, share, bookmark, tag, and flag them. However, they cannot comment on models.

- **Read + Comment (rc--)**, **Read + Write (rw--)** (and all other types of rw access)

  Portal content is displayed. Users can use all functions of Collaboration.

For detailed information about access privileges, refer to the help in ARIS Architect (ARIS Configuration and Administration).

14 Manage SAP Solutions

ARIS for SAP® Solutions is available, if you have configured the system in ARIS Connect as well as in ARIS Architect. For details see **ARIS for SAP® Solutions** and **ARIS Requirements for SAP® Solutions** on DVD, ARIS Download Center (https://aris.softwareag.com/) or Empower (https://empower.softwareag.com/).

ARIS video tutorial

Process-Driven SAP Management Explainer, 4 minutes (https://resources.softwareag.com/youtube-product-videos-for-uberflip/manage-your-digital-future-support-best-in-class-sap-solutions-with-aris)

14.1 Define a portal configuration set providing SAP content

In order to start executables and download SAP documents, or to have the ARIS Online Guide available, you must create an additional configuration set for the portal and publish the database as a portal (page 130).

You can create (page 136) your own modification sets based on the classic configuration set, on the default configuration set or based on a user-defined configuration set. If you require further modification sets, please contact your local Software AG sales organization (http://www.softwareag.com).

Prerequisites

- You have the **Portal administrator** function privilege.
- You have the **ARIS Connect Designer** license privilege.
- You have the **Portal publisher** function privilege.
- You have access to the ARIS Connect installation directory.

Warning

Advanced configuration changes require the use of XML configuration. Please contact Software AG (https://empower.softwareag.com/) for a customization request or participate in the **742-xx ARIS Connect Portal Configuration training** (**https://knowledge.softwareag.com/course/view.php?id=16**). Please note that customization and training services are not covered by the standard Software AG software maintenance agreement. Configuration changes can only be performed by Software AG if you request and agree to them.

Errors in XML configuration may have serious impact. You may not be able to start ARIS Connect again.

Procedure

1. Copy and paste the directory you want to use as a basis for the new configuration set. This example is based on the **classic** configuration set:

   <ARIS installation path>\server\bin\work**work_copernicus_<s**, **m**, or **l>**\base\webapps**ROOT**\WEB-INF\config**classic**

2. Rename it to **Groupview_SAP**. Do not use spaces or any language-specific special characters. This directory name will be used automatically as configuration set name in all user interface languages.
3. Open the following XML file in an editor:

   <ARIS installation path>\server\bin\work**work_copernicus_<s**, **m**, or **l>**\base\webapps\ROOT\WEB-INF\config**Groupview_SAP**\views**item.xml**
4. Find the following entry that occurs multiple times in the file:

   `<!--Remove the following comments to enable SAP-Transactions-->`
5. Uncomment the tags before and after the rows with the SAP-relevant content:

   `<!--SAP`

   ...

   `SAP-->`
6. Save the file.
7. Open the ARIS installation directory.
8. Copy and paste the directory that is to be used as a basis for the search in the new configuration set:

   <ARIS installation path>\server\bin**work_abs_<s**, **m**, or **l>**\base\webapps**abs**\WEB-INF\config**classic**

   Make sure to copy the directory name copied in **step 2**, as a basis for the new configuration set. In this example this is **classic**.
9. Rename the directory to **Groupview_SAP**. Make sure to use the same name as in **step 3**. Do not use spaces or any language-specific special characters.
10. Open the following XML file in an editor:

    work_copernicus_<s, **m**, or **l>**\base\webapps\ROOT\WEB-INF\config**Groupview_SAP**\search**search.xml**
11. Find the following entry that occurs multiple times in the file:

    `<!--Remove the following comments to enable SAP-Transactions-->`
12. Uncomment the tags before and after the rows with the SAP-relevant content:

    `<!--SAP`
    `...`
    `SAP-->`
13. Save the file.
14. Open the following XML file in an editor:

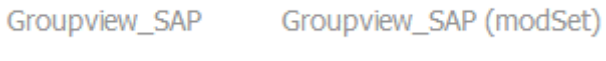
    work_copernicus_<s, **m**, or **l>**\base\webapps\ROOT\WEB-INF\config**Groupview_SAP**\factsheets**processViewDetails.xml**
15. Find the following entry that occurs multiple times in the file:

    `<!--Remove the following comments to enable SAP-Transactions-->`
16. Uncomment the tags before and after the rows with the SAP-relevant content:

    `<!--SAP`
    `...`
    `SAP-->`

17. Save the file.
18. Load the current changes using the external link:

    http://<server name><:port number, if different from default port>/#<tenant>/**reloadConfig**,

    for example http://connectserver.eu.comp:1080/#default/reloadConfig
19. Log in as a system user.
20. Click **Reload and validate configuration files**. The changed configuration is validated. Results will be displayed on completion.
21. If the **Groupview_SAP** entries 

are not marked with the ✘ **error** symbol, the new configuration set is configured properly and can be made available.

    If errors were detected, resolve the logged problems and **Reload and validate configuration files** again. Any warnings about missing properties can be ignored.
22. Activate the **Groupview_SAP** configuration set via external link:

    http://<server name><:port number, if different from default port>/#<tenant>/**adminSettings**

    for example:

    http://connectserver.eu.comp:1080/#default/adminSettings

    You can also activate (page 139) the **Groupview_SAP** configuration set within ARIS Connect.

In this configuration set, the functions Run SAP executable, Download SAP documents, and ARIS Online Guide are now available for published databases (page 130). If you are using HD server, define a portal configuration set providing SAP content also for the **hds** runnable as described for the **abs** runnable.

Ensure you are connected to SAP Solution Manager 7.2 (page 712).

14.2 Select the View Providing SAP Content

Select the additionally created **classicSAP** view (page 706) to display portal data.

Prerequisite

- You own the **ARIS Connect Designer** license privilege.
- You have created additional views (page 706).
- You own the **Portal publisher** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Portal > Manage views** on the **Configuration** tab. All available views are displayed. The current view is marked.
5. Move the mouse pointer over the additionally created view, for example, **classicSAP**.
6. Click **Activate**.

All of the databases selected for the portal are published in the **classicSAP** view.

14.3 Configure ARIS Online Guide

If the ARIS Online Guide is used for making documents that were created in the SAP ® system specially for your business processes available across the company, configure your custom settings to call the ARIS Online Guide.

Prerequisite

ARIS and the SAP® system have been configured for using the ARIS Online Guide.

Procedure

1. Log on to the SAP system.
2. Start the **/n/IDS/AOG_USER** executable. The **ARIS Online Guide - User-specific settings** dialog opens.
3. Enable the **Use ARIS Online Guide** check box.
4. Select the **Connect** option to display the ARIS Online Guide in the portal in ARIS Connect.
5. If you also want to use the F1 help from the SAP system in addition to the ARIS Online Guide, enable the **Also show default help** check box.
6. Enter the required connection data for ARIS Server and tenant on which the database was published as a portal. You administrator might already have specified default entries that you do not need to edit.

   Base URL for Connect

   URL for the relevant ARIS Server:

   http://<server name>

   Tenant

   Tenant that manages the database published as a portal.
7. Save your changes.

The settings have been applied.

If you changed the default values set by your administrator and want to restore them, click **Restore defaults**.

14.4 Publish database in ARIS Connect portal (ARIS Online Guide)

If you plan to use ARIS Online Guide to make documents available across the company which were specially created for your business processes in the SAP® system during customizing, please make the database available as a portal using ARIS Connect.

Prerequisite

- You own the **ARIS Connect Designer** license privilege.
- You own the **Portal publisher** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Portal > Publish** on the **Configuration** tab. All available databases are displayed.
5. Enable the check boxes of the databases you want to publish in the portal.
6. For versioned databases, select the version required.
7. Click **Apply**.

The content of the databases is published in the portal in the selected view (page 139). As long as the databases are available in the portal they cannot be deleted in ARIS.

14.5 Make log files available

After transferring projects/branches or performing SAP synchronization all actions are logged. The files can be opened after each action and will be saved automatically. If log files are not saved in project or solution configurations in ARIS Architect, make sure that, in ARIS document storage configuration, the **txt** file extension is configured as valid extension.

You have the **Technical configuration administrator** function privilege.

Procedure

1. Start ARIS Connect.
2. Click your name or the **User menu** icon.
3. Click **Administration**.
4. Click **Configuration**.
5. Click **Document storage**.
6. Select **Quota and restrictions**.
7. Click **Edit**.
8. Make sure that **txt** is listed in the **Valid file extensions** field, and that the **txt** file type extension is **not** restricted.
9. Click **Save**.

Log files with **txt** extensions can be transferred.

15 Configure Tenant Management

The Tenant Management user interface has been installed using the ARIS server setup program. It is run automatically with the user account of the user **superuser**. In order for other users to be able to log in (page 717), you have to configure the infrastructure tenant (page 713). This assigns users in the infrastructure tenant privileges for impersonation (page 262), along with additional function privileges.

Once all operational tenants are configured (page 715), impersonation enables users to assume the account of the system user **superuser** in order to perform administration tasks. After the ARIS server was updated, for all operational tenants make sure to specify **superuser** in the **Impersonation target users** field again.

If you want existing tenants that were not created using Tenant Management to be managed centrally, you have to adjust the configuration of these tenants (page 717).

15.1 Configure infrastructure tenant

In order for users to be able to log in to Tenant Management, they must have been assigned **impersonation** privileges (page 262) by a system user in this node's infrastructure tenant and also require additional function privileges. Impersonation enables users to use the account of the system user **superuser** to perform administration tasks. If this node has been accidentally removed, please make sure to add it again.

Prerequisite

You are a system user or have the **User administrator** and **Impersonation** function privileges.

Procedure

1. Click the link that was provided to you or that you have saved as a bookmark in your browser, for example, **http://myServer:1080/umc**. The User Management login dialog opens.
2. Enter the name of the infrastructure tenant in the **Tenant** field, for example, **master**.
3. Enter the user name **superuser** and the associated password.
4. Click **Log in**. The **User management** tab is displayed.
5. Click the user **superuser**.
6. Enter a valid e-mail address. This assures that the system administrator is informed whether backups were completed successfully or whether warnings or errors occurred.
7. Click **Privileges**. The list of function privileges is displayed.
8. Make sure that in addition to the assigned privileges at least the following function privileges are activated:
   - User administrator
   - Impersonation
   - Tenant administrator

- Technical configuration administrator

The user **superuser** now has the required privileges in the infrastructure tenant.

If necessary, create users as substitutes and assign them the required function privileges in the same way.

For users to be able to use Tenant Management, you must configure all operational tenants (page 715).

15.2 Configure operational tenants

Impersonation enables users to use the account of the system user **superuser** to perform administration tasks.

To enable Tenant Management to establish connections to tenants, the user **superuser** must have all function privileges required for backup and restore in all operational tenants and must be defined as a target for impersonation.

Prerequisite

You are a system user or have the **User administrator** and **Impersonation** function privileges.

Procedure

1. Open ARIS Administration for an operational tenant, for example, http://<server name>:<port>/#**default**/home).
2. Log in as a system user or a user with the **User administrator** and **Technical configuration administrator** function privileges.
3. Click **<user name> > Administration**. ARIS Administration opens.
4. Click **Configuration**.
5. Click **User management**.
6. Select the **Users** entry in the drop-down list.
7. Click **General**.
8. Click **Edit**.
9. Click in the **Impersonation target users** field.
10. Enter the user name **superuser**.

    If the ARIS server was updated, make sure to reenter the user name for all operational tenants in the **Impersonation target users** field again.
11. Click **Save**. All users that have the **Impersonation** and **Tenant administrator** function privileges on the infrastructure tenant take on the identity of **superuser** and inherit all of the **superuser** privileges.
12. Click **User management**.
13. Select the user **superuser**. The details will be displayed.
14. Click **Privileges**. The list of function privileges is displayed.
15. Activate the function privileges required for backing up and restoring:
    - Analysis administrator
    - ARCM administrator
    - Collaboration administrator
    - Database administrator
    - Dashboard administrator

- Document administrator
- License administrator
- Portal administrator
- Process Governance administrator
- Server administrator
- Technical configuration administrator
- User administrator

The function privileges depend on the license. Therefore, you may not be able to assign all of the function privileges shown.

16. Log out of ARIS Administration.

    The user **superuser** has the privileges to manage data for the **default** tenant.

17. Enter the user **superuser** under **Impersonation target users** in all other operational tenants in your system in turn, and assign the required function privileges.

The user **superuser** has the privileges to manage all data for the tenants (page 719). All substitutes can log in using their user name and manage tenants on behalf of the system user **superuser**.

15.3 Configure existing tenants

To enable Tenant Management to establish connections to tenants that were not created using Tenant Management, you must adjust the configuration of these tenants.

Add missing permissions to the superuser, if impersonation (page 262) failed. This can occur, if tenants were added by ARIS Cloud Controller (ACC) but functional privileges are missing.

Procedure

1. Click **Tenants**. The status of the tenants is displayed. If the **Impersonation failed** status is shown, the tenant is not accessible for users.
2. At the end of the row for the tenant, click **More > Allow access**. The **Allow access** dialog opens.
3. Enter the user credentials of a user with sufficient privileges, for example, **system**.
4. Click **OK**.

The missing privileges are applied to the superuser. Impersonation should work and the **Active** state is shown. If the change is not displayed, click **Refresh**.

15.4 Open Tenant Management

System users and users (page 713) to whom the required privileges are assigned can log in to Tenant Management on the infrastructure tenant.

- They know the passwords for the system users **system** or **superuser**.
- They have login privileges (page 713).

Procedure

1. Click the link that was provided to you or that you have saved as a bookmark in your browser (syntax: <server name>:<port>/tm). The Tenant Management login dialog opens.

   The name of the infrastructure tenant is displayed. You cannot select any other.
2. Select the interface language. You cannot change the language once you have logged in.
3. Enter your user name and your password.

   Clicking **Forgot password** enables you to reset the password.

   Warning

   If you reset the password for the user **system** or **superuser**, other users can no longer log in with these user names. Automated processes, for example, automatic backups, can no longer be performed.
4. Click **Log in**.

You can manage all tenants in the system.

15.5 Which users can manage tenants?

The user **superuser** and users to which the required privileges are assigned by the user **superuser** can manage tenants.

If users with appropriate privileges start Tenant Management, they do this as the user **superuser**. This is facilitated by the **Impersonation** function privilege, which is assigned to relevant users on the infrastructure tenant (page 262).

15.6 What is impersonation?

Users manage tenants on behalf of the user **superuser**. This requires the creation of these users in the user management for the infrastructure tenant, for example, master (page 232). To use impersonation, users require the **Impersonation** function privilege in the infrastructure tenant.

For Tenant Management, they also require the **User administrator**, **Tenant administrator**, and **Technical configuration administrator** function privileges.

In all other operational tenants, for example, **default**, the user **superuser** must be defined as the target for impersonation (page 713). Impersonation enables users to back up tenants in which they do not exist as a user.

To back up and restore the data, the **superuser** user requires the following function privileges in all operational tenants:

- Analysis administrator
- ARCM administrator
- Collaboration administrator
- Database administrator
- Dashboard administrator
- Document administrator
- License administrator
- Portal administrator
- Process Governance administrator
- Server administrator
- Technical configuration administrator
- User administrator

15.7 What data is backed up and restored?

If you back up tenants manually or use a scheduled backup, the current state of the following data is saved in backup lists.

Tenant data is fully backed up only if the user executing the commands has sufficient privileges for all components in every tenant and if all components were selected for the backup. Extensions, for example, SSL certificates, SAP® Java Connector, and JDBC drivers, added using the **enhance** ACC command are not backed up. In ARIS 10 all started runnables are automatically taken into account when executing tenant backup/restore commands.

Content	Required function privileges	Component (runnable)
Data from ARIS Administration, for example, users, privileges. User statistics are not includes by default. If you want to include the user statistics, the property **User statistics in backup** (**com.aris.umc.user.statistics.backup**) must be enabled in the configuration (page 302) (see ARIS help: ARIS Administration > Configuration > User management > Security > Advanced settings).	User administrator Technical configuration administrator	ARIS Administration/User Management (umcadmin_<s, m, or l>)
Licenses User administration audit events are not part of the tenant backup.	License administrator	
System database Contains filters, templates, and font formats, but also ARIS Method and all evaluation scripts, macros and scheduled reports.	Server administrator	Modeling & Publishing (abs_<s, m, or l>)
ARIS databases	Database administrator	

Content	Required function privileges	Component (runnable)
Ad hoc analyses and queries	Analysis administrator	Analysis (octopus_<s, m, or l>)
ARIS document storage data, including Process Governance archives Documents and access privileges	Document administrator Technical configuration administrator	ARIS document storage (adsadmin_<s, m, or l>)
Process Governance data	Process Governance administrator	Process Governance (apg_<s, m, or l>)
Collaboration data	Collaboration administrator	Collaboration (ecp_<s, m, or l>)
ARIS Risk & Compliance Manager data	ARCM administrator	ARIS Risk & Compliance Manager (arcm_<s, m, or l>)
Dashboards and feeds	Dashboard administrator	ARIS Aware (dashboarding_<s, m, or l>)
ARIS Connect portal views, modification sets, and configuration sets.	Portal administrator	ARIS Connect portal (copernicus_<s, m, or l>)

You require the same function privileges to restore the data.

16 Legal information

16.1 Documentation scope

The information provided describes the settings and features as they were at the time of publishing. Since documentation and software are subject to different production cycles, the description of settings and features may differ from actual settings and features. Information about discrepancies is provided in the Release Notes that accompany the product. Please read the Release Notes and take the information into account when installing, setting up, and using the product.

If you want to install technical and/or business system functions without using the consulting services provided by Software AG, you require extensive knowledge of the system to be installed, its intended purpose, the target systems, and their various dependencies. Due to the number of platforms and interdependent hardware and software configurations, we can describe only specific installations. It is not possible to document all settings and dependencies.

When you combine various technologies, please observe the manufacturers' instructions, particularly announcements concerning releases on their Internet pages. We cannot guarantee proper functioning and installation of approved third-party systems and do not support them. Always follow the instructions provided in the installation manuals of the relevant manufacturers. If you experience difficulties, please contact the relevant manufacturer.

If you need help installing third-party systems, contact your local Software AG sales organization. Please note that this type of manufacturer-specific or customer-specific customization is not covered by the standard Software AG software maintenance agreement and can be performed only on special request and agreement.

If a description refers to a specific ARIS product, the product is named. If this is not the case, names for ARIS products are used as follows:

Name	Includes
ARIS products	Refers to all products to which the license regulations of Software AG standard software apply.
ARIS Client	Refers to all programs that access shared databases by using ARIS Server.
ARIS Download Client	Refers to an ARIS Client that can be accessed using a browser.

16.2 Data protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR).

Where applicable, appropriate steps are documented in the respective administration documentation.

16.3 Disclaimer

ARIS products are intended and developed for use by persons. Automated processes, such as the generation of content and the import of objects/artifacts via interfaces, can lead to an outsized amount of data, and their execution may exceed processing capacities and physical limits. For example, processing capacities are exceeded if models and diagrams transcend the size of the modeling area or an extremely high number of processing operations is started simultaneously. Physical limits may be exceeded if the memory available is not sufficient for the execution of operations or the storage of data.

Proper operation of ARIS products requires the availability of a reliable and fast network connection. Networks with insufficient response time will reduce system performance and may cause timeouts.

If your product contains ARIS document storage, the following applies:

ARIS document storage was tested with 40.000 document items. This includes documents, document versions or folders. We recommend monitoring the number and overall size of stored document items and archiving some document items if needed.

If ARIS products are used in a virtual environment, sufficient resources must be available there in order to avoid the risk of overbooking.

The system was tested using scenarios that included 100,000 groups (folders), 100,000 users, and 1,000,000 modeling artifacts. It supports a modeling area of 25 square meters.

If projects or repositories are larger than the maximum size allowed, a powerful functionality is available to break them down into smaller, more manageable parts.

Some restrictions may apply regarding the use of process administration, ARIS Administration, ARIS document storage, and My tasks, and the generation of executable processes. Process Governance has been tested and approved for 1000 parallel process instances. However, the number may vary depending on process complexity, for example, if custom reports are integrated.

ARIS document storage was tested with 40.000 document items. This includes documents, document versions or folders. We recommend monitoring the number and overall size of stored document items and archiving some document items if needed.

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