Reporting Suite

Reporting

Power Viewer Guide

Version 5.7.0

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Enghouse Interactive

Contents

About this Guide

This Guide is intended for Reporting Power Viewers. In order to use this document, these users need to have an understanding of the data relevant to your system and how it can be used, as well as have intermediate computer using skills.

New in this release

No new information was added in this version of the document.

Reference materials

Use this document with the following Guides:

- *Reporting Viewer Guide*
- *Reporting Standard Reports Guide*

Guide conventions

This Guide uses the following text formats and notation conventions:

Text format

Bold text indicates a button, field, link, option name, or similar function requiring an action.

Italicized text indicates new terms, directory paths, or references to external documents.

`Text in this font` indicates code.

Notes and cautions

Icons used throughout this Guide identify additional details or special conditions.

> **Note**
> Provides additional information or describes special circumstances.

> **Caution**
> Warns of user actions that may cause system failure or irreversible conditions.

> **Stop**
> Describes actions that you should only perform under the supervision of Enghouse Interactive Customer Support.

Legal disclaimer

Contact information

To submit comments or questions about the content in this Guide, please open a case in Support.

Basic concepts and terminology

Reporting is a web-based framework for report designing. It includes a set of configurable standard reports that should cover most of any Contact Center product’s needs, and which are built on top of the Standard Data Warehouse. A number of such assets are already available, and more are continually being developed.

The software provides its users with the following features and advantages:

- Complete overview of the system behavior
- Customizable display of detailed information about every relevant KPI and data point in your system
- Printable, paginated, shareable reports, exportable in several formats
- Customers or Enghouse professionals can create custom assets based on the Enghouse adopted framework

Dashboarding is an extension of Reporting with which users can create and work with dashboards, powerful data visualization boards that use charts, widgets, tables and text to help you understand your data.

> **Note**
>
> BI Dashboarding is not included in Reporting by default. Therefore, if it is not enabled in your system, any references to it in this and other documents do not apply to your use case.

User roles

The following user roles are available in Reporting and Dashboarding:

- **System Administrators**: In charge of tenants and ensuring that standard assets (such as standard reports) are available as necessary. Little to no other interaction with the system, such as working with reports, is expected from this user role. Aside from the Admin tab, they can only interact with the rest of the application the way Viewers do.
- **Administrators**: Manage users, groups, and certain data source, report, dashboard, and system settings for their tenant. In addition to some extra access, they also have the same access rights as Viewers (below).
- **Data Designers**: Create, manage and work on data sources, in addition to the same access rights as Report Designers and Viewers (below).
- **Designers**: Create, manage and work on reports and dashboards. They also have the same access rights as Viewers (below).
- **Power Viewers**: Work with views and styles based on assets shared with them. They cannot edit other assets in any way. They also have the same access rights as Viewers (below).
- **Viewers**: View reports and work with reports' and dashboards' filters and settings, and have access to subscriptions and downloads.

For more information on this topic, see *User Roles on page 10*.

Assets

Assets in Reporting and Dashboarding are the basic building blocks of the software and the primary components that users work with. They are **data models**, **reports**, **dashboards**, **report views** and **styles**. In the following section, you can read more about each type of asset in Reporting and Dashboarding.

Data models and sources

Data models are used to define connections and queries that Reporting uses to access data for reports and dashboards from the relevant databases and files. In Reporting, data models are organized in a Dictionary, which information about connections to databases, data sources and their relations, variables and other objects.

A data model is used as the basis for every report and dashboard. Each data model can have one or multiple data sources. A **data source** is like a program "layer" which provides data from a database or file and handles its conversion and to the report generator. In other words, the data source is a description of the methods, parameters, and data access methods.

In BI Reporting, the following data sources can be used for your reports and dashboards:

- Files:
  - CSV file
  - Excel file
  - JSON file
  - XML file
- Database connections:
  - MySQL
  - MS SQL
  - Oracle
  - PostgreSQL

Data models and their related sources are shown in the **Data** tab of Reporting and are only available to Data Designer users, who can view, edit and generally work with them, as well as Administrators, who can only interact with them to share with other users, typically Data Designers.

The **Standard Data Warehouse** (DWH) is a standardized database developed by the Enghouse BI Team, the goal of which is to provide a standardized and equal-for-all way of organizing data. This is done by using ETL (extract-transform-load) procedures to transfer data from, for example, a customer's database and to adapt it to the structure of the standard DWH without altering any of the data. This method is currently in the process of being implemented for a number of CC and CCaaS products in Enghouse.

Although Reporting and Dashboarding can be used without the DWH, instead utilizing one's own data or database directly, using the Standard DWH enables the use of **Standard Reports**, which are out-of-the-box reports that can be customized to a degree through Views, and can be utilized right away, without having to wait for the creation of individual reports. More information on both standard reports and report views can be found below.

Data models are primarily the focus of Data Designers, so refer to the *Reporting Designer Guide* for detailed information on this topic.

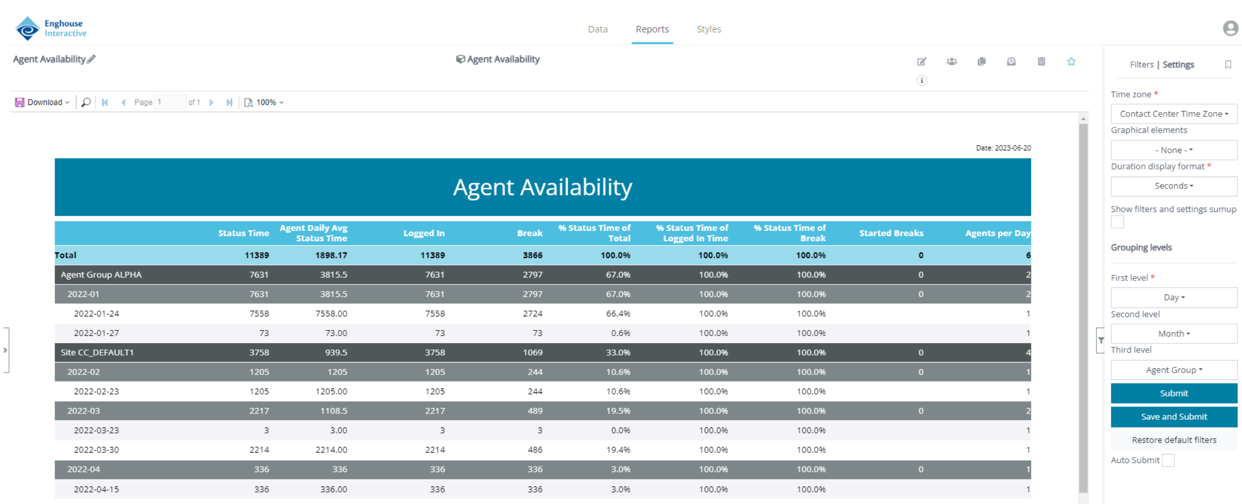
Reports

Reports are assets connected to your data models to show you the data in meaningful ways, in pixel-perfect and typically (but not only) tabular form. This gives you a simple, yet effective overview of all the data you may need. Their design can vary and be customized, depending on your needs. All the reports you can interact with, whether they were created by you or shared with you, are shown in the tiles of the **Reports** tab. Viewers and other users can interact with reports to filter the data they want to see, adjust some of the settings of the report, focus on the data they need, and perform other actions, all depending on the design of the report.

Additionally, Viewers and other users can also download the report in a number of formats, including printable ones, and they can subscribe to periodic updates via email or other channels.

Another interesting feature that is part of Reporting is the **Standard Reports**. Standard reports are a set of out-of-the-box reports which take advantage of the standard DWH to provide users with reports that are ready to use as soon as they enter the web application. In order to be able to use them, the original database must be integrated with the standard DWH. Standard reports are made to suit the needs of many different CC and CCaaS environments and use cases, and can be modified in terms of which data will or will not be shown through the use of report **Views**. You can read more about them in the upcoming sections.

Here is an example of a report from the perspective of a Designer:



Reports are the basic asset of Reporting and are available to all users, although they may interact with reports in different ways. For basic use and interaction with reports, see the *Reporting Viewer Guide*. For more advanced topics, particularly on the creation and management of reports, see the *Designer Guide*.

To find out more about the topic of standard reports and which ones are available to you, make sure to read the *Standard Reports Guide*.

Dashboards

Similarly to reports, dashboards are also assets connected to your data models to show data in meaningful ways – but while reports primarily rely on tabular form, dashboards utilize various custom or premade elements to display your data. Their design can also vary and be customized depending on your needs. Viewers and other users can interact with dashboards in that they can modify the filters to show only the needed data, adjust the settings to suit their preferences, and work with some of the individual elements to, e.g., increase the size of the viewing field for that element or to download it.

All the dashboards available to a user are shown in the **Dashboards** tab.

Just like with reports, users can download the dashboard in a number of formats or subscribe to it to receive periodic updates through one of the chosen channels.

In the same way Standard Reports are available, users can utilize **Standard Dashboards** as well, if their system is integrated with the Standard DWH. Some Standard Dashboards are already available and more are currently in the process of being developed.

Below is an example of a dashboard from the perspective of a Viewer.

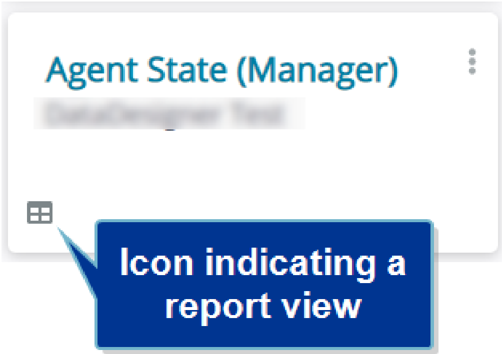
Dashboards are also a basic asset of Reporting and are available to all users, even though they can interact with them differently. For basic use and interaction with dashboards, see the *Dashboarding Viewer Guide*. For more advanced topics, particularly on the creation and management of dashboards, see the *Dashboarding Designer Guide*.

Views

Reports may be comprehensive and contain a large number of options, KPIs and other metrics that may not always all be needed at the same time. For example, if your report has 10 columns, but you only want to show call center managers 7 of them, you would typically have to create a copy of the original report and then remove the 3 extra columns. However, creating separate reports to accommodate each (small) change in the content of a report may quickly become difficult to maintain.

This is why, for reports that contain a lot of data and are not intended to be used in their full form with all users, reports can instead be modified to show only the metrics needed for a certain user profile, while still preserving all the data and metrics within the report in the background. This is done with the **Report Views asset**, which is a powerful tool used to facilitate the way users interact with reports, allowing them to focus only on the most relevant information at a time, as opposed to everything the report contains. With this feature, you can also control the way a report is displayed, what the report page size is, how the fields are resized etc.

A report view (as opposed to a full report) is indicated with the view icon, as can be seen below:



Users that can create and work with views are Designer users and Power Viewers. From a Viewer perspective, in the Reports tab of Reporting, individual views function the same way reports normally do.

Refer to the *Reporting Designer Guide* and *Power Viewer Guide* for more information on how to work with Views. Since Views function the same way as reports do for Viewers, Administrators, and users that only have viewing permissions, see the *Viewer Guide* for more information.

Some Standard Reports also contain readily available standard views, which are another useful component of the out-of-the-box features available with Reporting. To find out more about this topic, make sure to read the *Standard Reports Guide*.

Styles

Styles are a feature that allows you to define a visual style or look an feel that you want to use across multiple assets. This feature is accessible to all Designer users and to Power Viewers, and they can utilize the styles and collections they make to modify what the reports, dashboards and views they work with will look like.

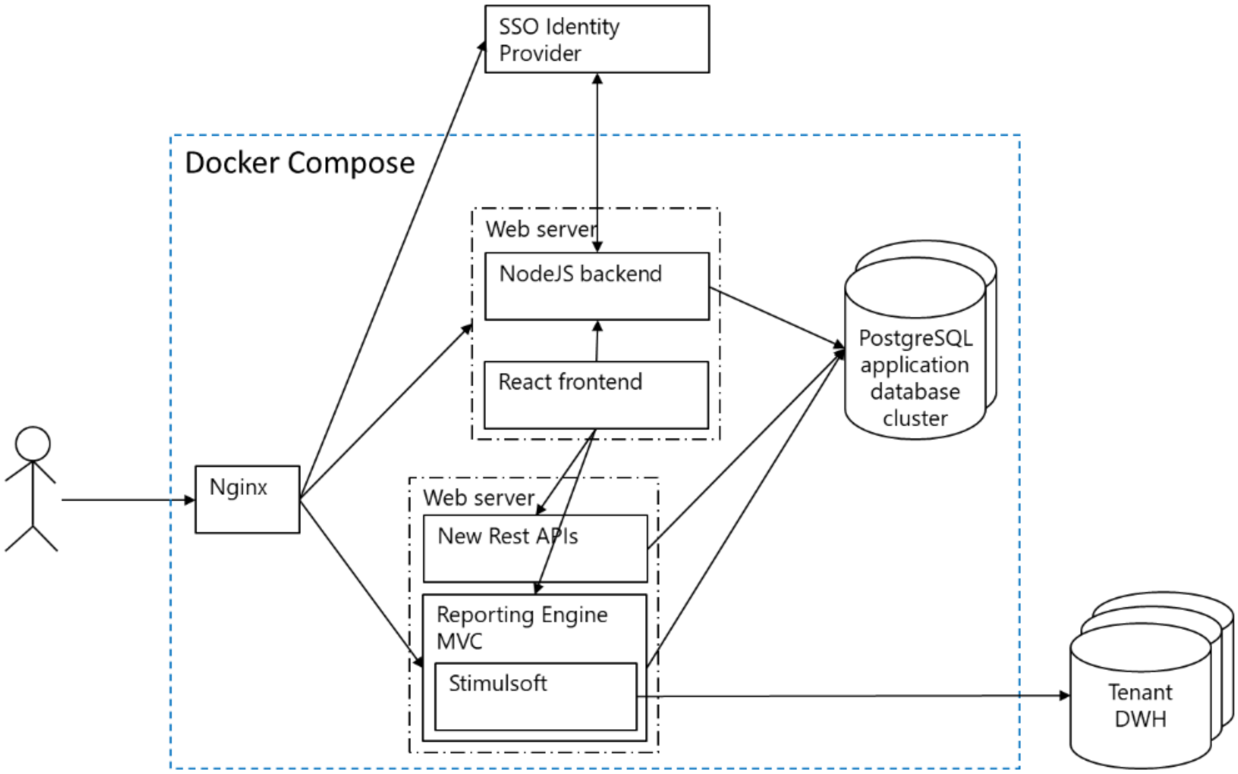
This allows users to create specific styles for different needs, which you can then quickly apply to assets without having to modify all the individual elements by hand.

The styles can be created, modified, deleted, and imported and exported. When a style is changed within the **Styles** tabs, these changes are also automatically shown in all the assets that the style was applied to, which means that you do not need to make the changes in the various places manually.

You can learn more about this topic in the *Designer Guide* and the *Power Viewer Guide*.

Architecture

The initial deployment of Reporting is done by installing Linux VMs using a template provided by the BI team. The deployment is based on Docker Compose and can be single-node or multi-node, the specific configuration and size depending the system’s needs.



Reporting is deployed through Docker Compose and the individual system modules are organized in Docker containers. The Reporting Engine MVC module implements the designer and visualization features using the .NET version of Stimulsoft libraries.

When a user accesses Reporting, they first go through NginX, which is the proxy app that allows the user to enter just one entry point. Based on the full URL the user entered to access BI Reporting, NginX forwards the request to the right app. Additionally, a custom SSO configuration option has been added to the Reporting architecture in order to enable enhanced use, particularly in cloud environments. If SSO is enabled for a tenant, the unauthenticated user is redirected to the third-party identity provider for that tenant. The identity provider is not part of Reporting and should be managed in the cloud environment, outside the Reporting environment.

Within the Docker-compose configuration of Reporting, the application database is hosted on a PostgreSQL database, deployed through Docker Compose as well, which consists of 2 instances of PostgreSQL in a master-slave configuration.

The individual tenant data warehouses, however, are not part of the Reporting assets and are managed by the Enghouse Interactive DevOps team, and not Reporting or the BI team.

Multitenancy

With Reporting Version 4.0 and newer, this is a cloud-based product with the multitenancy feature. This means that the same instance of Reporting can support multiple tenants that are separated from each other, with their own data, users and settings. This enables, for example, multiple customers to use the same instance/installation of Reporting without having access to each other’s data and users in any form, thereby eliminating the need for individual installations for each customer.

Multitenancy-related features are managed by System Administrators. For more information, see *the Dashboarding System Administrator Guide*.

User Roles

Reporting provides the following user profiles:

- **System Administrator**: Users handling the tenants of a multi-tenant (cloud-deployed) system. They have the same access rights to the Admin tab that Administrators do, but typically don't interact with assets (reports, views, and data sources) in any way. They can only interact with these assets the way Viewers do, and they do not have access to e.g. the Data tab. They are in charge of creating and managing tenants in a Reporting instance. When initializing your Reporting instance, the System Administrator is the first user to be created, and whose role is to set up the rest of the system (tenants and administrators).

  > **Note**
  >
  > System Administrators are special and unique users created and configured on system initialization. They cannot be added, modified or deleted by Administrators, which manage all other users in a Reporting instance.

- **Administrator**: The role with the highest level of access in a tenant. Administrators can perform all actions in charge of general Reporting configuration, user and group management. The **Administrator**-level user can also view all the reports, views, and data models. They can manipulate ownership and subscriptions of these assets. However, Administrators cannot edit any content, such as reports or data models. Otherwise, Administrators can use and interact with assets in the same way a Viewer can.
- **Data Designer**: User role in charge of creating, modifying and sharing data sources needed for the creation of reports. Data Designers have full data access and distribute limited data access to **Designer**-level users, through data model design. In the context of system-wide access to data and users, this role has a lower access level than **Administrators**, but higher than **Designers** and **Viewers**.
- **Designer**: Designers are in charge of creating, modifying and publishing reports. The data available for components is limited by the data models that are shared with a **Designer**. This role has a lower access level than **Administrators** and **Data Designers**, but higher than **Viewers**.
- **Power Viewer**: Power Viewers can work with existing reports in order to create new views. However, they cannot create their own components or edit existing ones, only use them as a basis for views. In order to be able to do so, both the original component and its data source must be shared with the Power Viewer. Compared to a Designer, a Power Viewer has fewer options available to them even when they have all the permissions needed for asset editing. Other than that, they have the same access level and can use and interact with reports same as a Viewer can.
- **Viewer**: Users with this role can access shared reports, report views, modify the way data is displayed in them by using filters and settings (depending on the design of the asset), view, print and export reports, views . This is the lowest access level.

Logging in

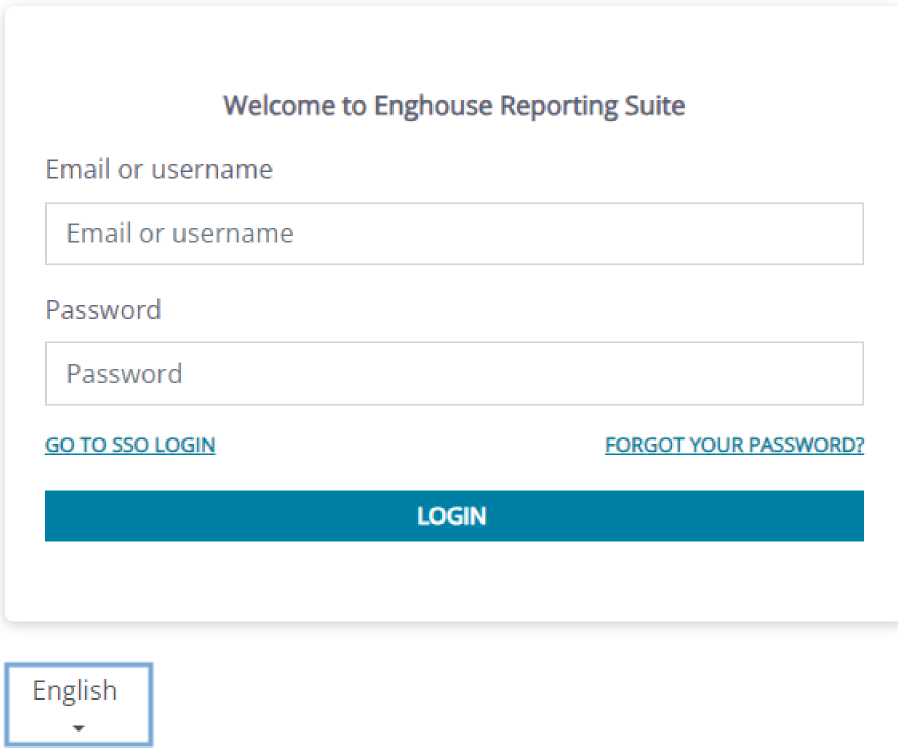
To log into Reporting, do the following:

1. Start up the application and enter the necessary data:
    - **Email or username**: Email or username used to register the user to the system.
    - **Password**: The password used for the selected account upon registration.

        A robust password policy requires a minimum length of eight characters and must include at least one digit, one lowercase letter, one uppercase letter, and one special character from the set [!@#$%^&*()-_=+{};:,<.>]. The system allows customization of these rules, but it does not enforce password expiration nor does it retain a history of previously used passwords. System administrators can configure lockout behavior by setting the maximum number of failed login attempts and the lockout duration (in seconds). Because the platform primarily relies on Single Sign-On (SSO), the recommended approach is to delegate password management to the integrated identity provider (EIS), which offers finer-grained control over password complexity, rotation, and history across all Enghouse products.

> **Note**
>
> - An Administrator can provide an initial password for a user. In this case, the password must be communicated to the end user through some other channel.
> - If an SSO option is set up in your instance of the software, you will typically be redirected to the SSO login page automatically. However, in case you use a different URL than the standard to log in, you may have the **Go to SSO Login** option available in the login page, allowing you to manually access the SSO login page.
> - If you have forgotten your password, click the **Forgot your password?** link. The system will prompt you to enter your account's email address for the recovery process. Enter the address and click **Send**, then follow the instructions received via email.

2. Select the preferred language of the Reporting interface from the list of available languages in the dropdown menu (**English** is the default setting).



3. Click **Login** to enter the system.

User options menu

After a successful login, the **Data** page is displayed for Data Designers, and the **Reports** page for all other users.

Regardless of the user role you have, in the top right corner, the **User** icon provides access to the user options menu.

The user's registered email address is displayed at the top of the menu. This is the address used for all Reporting related information, as well as automatic scheduling feature. Several user-related options are available from the menu:

- The currently selected interface language (**English** by default) is displayed under the email. Several other languages are available. To select another language, click English, and then click the desired language from the dropdown menu.
- **Change password**: Lets users change their own password at any time.
- **Logout**: Logs the current user out of the system. It is recommended that users log out before closing the web application window.

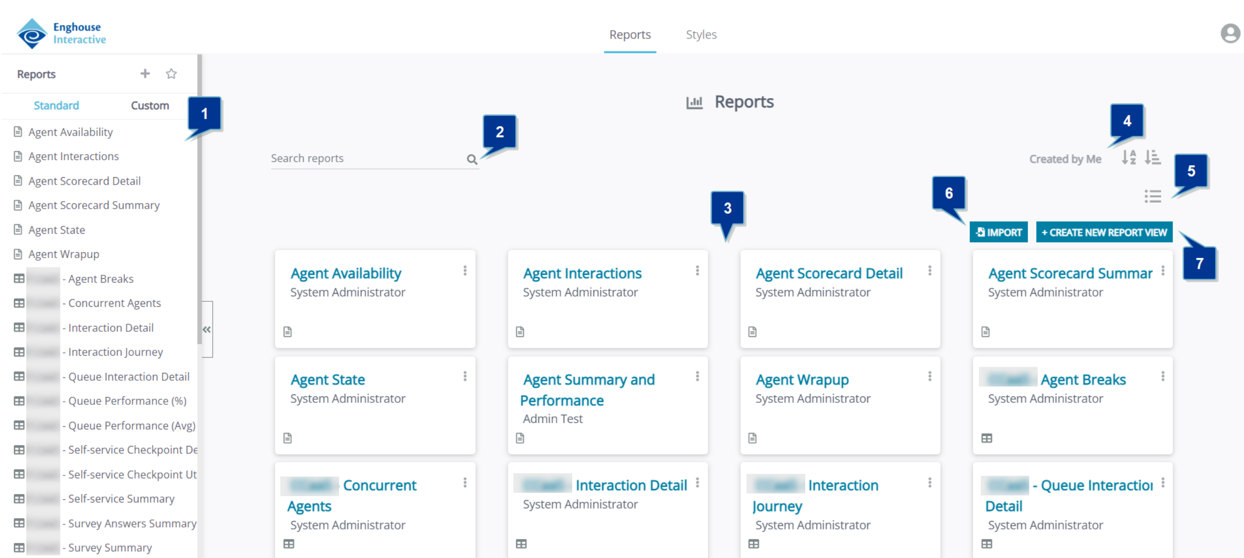
The last line of the menu displays the currently installed and used software version number. This number should be quoted when requesting assistance or used for selecting relevant user documentation.

Reports tab

After a successful login, the **Reports** page in Reporting opens. You can view, print and export reports and report views. You can also make new views and share the assets you own.

The main parts of the Reports tab are as follows:

1. **Reports** pane on the left side of the screen,
2. **Search** bar,
3. Report tiles in the central part,
4. Sorting tools,
5. Table and bulk operations view (see more below and in *Report and report view export and import on page 50*),
6. Import tool (see more in *Report and view import on page 50*),
7. Create new report view (see more in *Report views on page 42*).



Reports pane

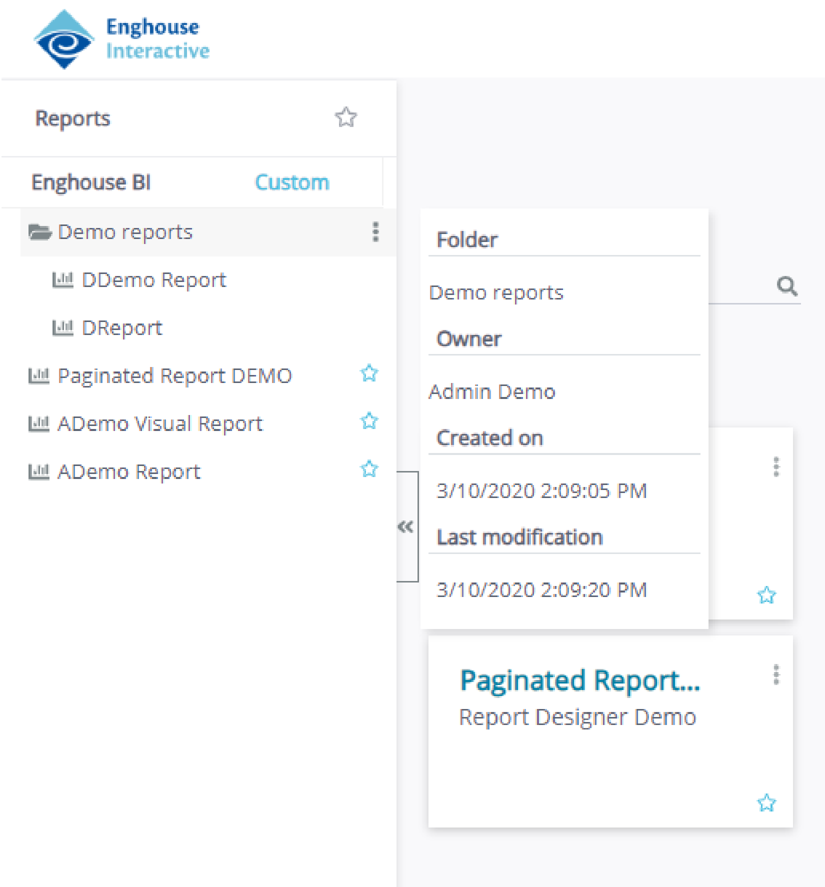
In the **Reports** pane, on the left-hand side of the screen, a list of available assets that are shared with the logged-in user is provided. The Reports pane can be hidden by clicking the arrows on the left outer edge of the pane.

Depending on how the report Designer organized the assets, they can be standalone or arranged in folders. All assets belonging to a folder are slightly indented and listed under the folder title.

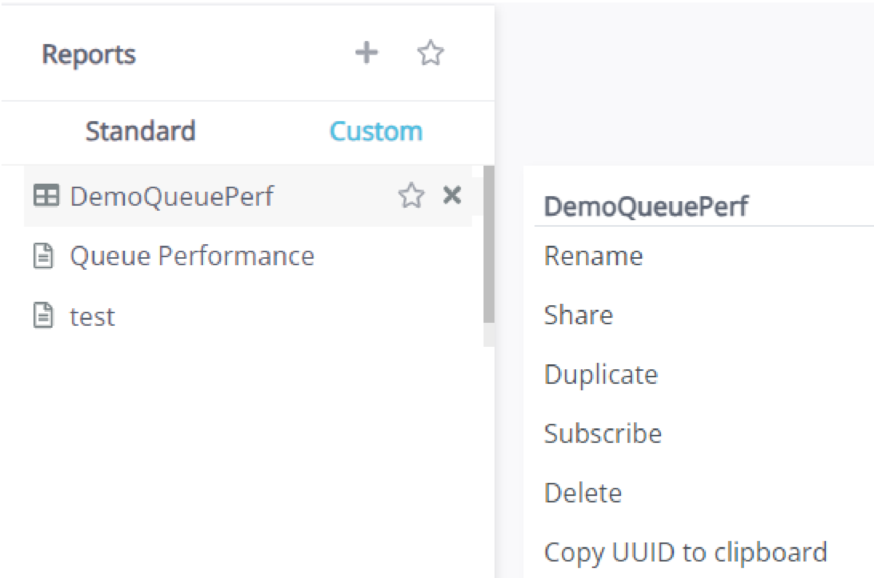
The Reports list is also divided into two sections. These sections are available in the two tabs in the upper part of the Reports pane. They are as follows:

- **Reporting** premade reports and views, provided by Enghouse Interactive, and
- **Custom** reports, where all reports or views that are custom-created by the users of your system are stored.

Hovering the pointer over a folder or asset name opens a pop-out with an overview of details about the asset or folder, including the name, **Owner** and relevant dates.



Clicking the **Options** of an asset, either in the Reports pane or one of the report tiles, opens a new menu. Here you subscribe to an asset, duplicate it (if it is a view) and copy its UUID; alternatively, if you own the asset, you can also rename it, share it, or delete it. The **Subscribe** option is described in detail in *Automated report delivery on page 35*.



Sort and search

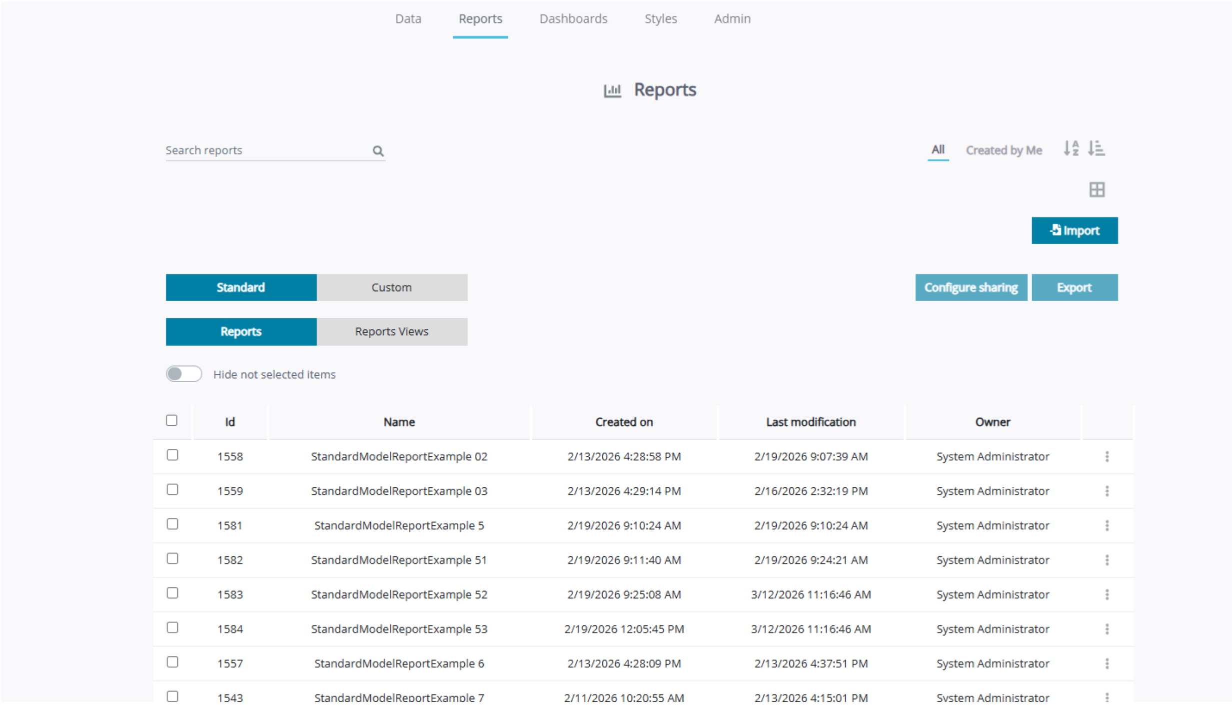
All the assets are available in the **Reports** main window, in form of tiles in the central part of the window. If there are assets grouped in folders in the Reports pane, this structure is not shown in the Reports window, as all the reports and views are shown individually. However, the assets can be sorted and searched through for easier access.

Sorting is performed alphabetically or by creation date, in ascending or descending order. The buttons for sorting control are at the top-right corner of the main window, under the **Reports** window title.

You can also filter out the shown tiles by clicking **Created by me** to show only the assets owned by you.

A **Search reports** input field is available for quick asset locating. The search filter is applied as you type and it instantly displays the results of your search. This search filter does not apply to the Reports pane, only the tiles.

Furthermore, you can also choose to see the **Reports** tab in a tabular form. You can switch to this mode by clicking .



Here you can see the most important data about the reports, such as the UUID, name, relevant dates and the owner. In the first column of the table, you can select all or just some individual assets. You can switch between showing standard reports or custom reports by clicking **Standard** or **Custom** in the toggle above the table. You can also switch between showing only reports or only views by selecting either **Reports** or **Report Views**.

Each asset row also has the **Options** menu at the right-hand end of the column. Here you can see the same options as described above.

Additionally, when you select one or more assets, additional options are shown for the asset(s):

- **Configure sharing**: Add or remove access rights from users or groups. See *Report and report view sharing on page 48* for further details.
- **Delete**: Delete the selected asset(s). You must be the owner of an asset to be able to delete it. If there are any assets among the selected that you do not own, a warning message will be shown to indicate which assets the action will not be performed for.

> **Caution**
> Deleting an asset cannot be undone. Always check before confirming this action.

> **Note**
> You cannot delete a Standard report. This option will be disabled if you do not click the **Custom** option in the toggle above the table.

- **Export**: Export the selected asset(s). See *Report and report view export and import on page 50* for further details.

Note

- You need to have the relevant access level to an asset to be able to perform all of these actions. If you select any assets for which you do not have the needed access level (such as being the owner), you will not be able to perform the needed action for those assets. A warning message is shown in this case. If there are any assets left among the selected that you have the relevant access level for, you can proceed with the action for these assets only.
- Hover over in the top part of the pop-up window to see which assets you are working with if multiple are selected.

To turn the tile view back on, click under the sorting tools in the upper right section of the **Reports** tab.

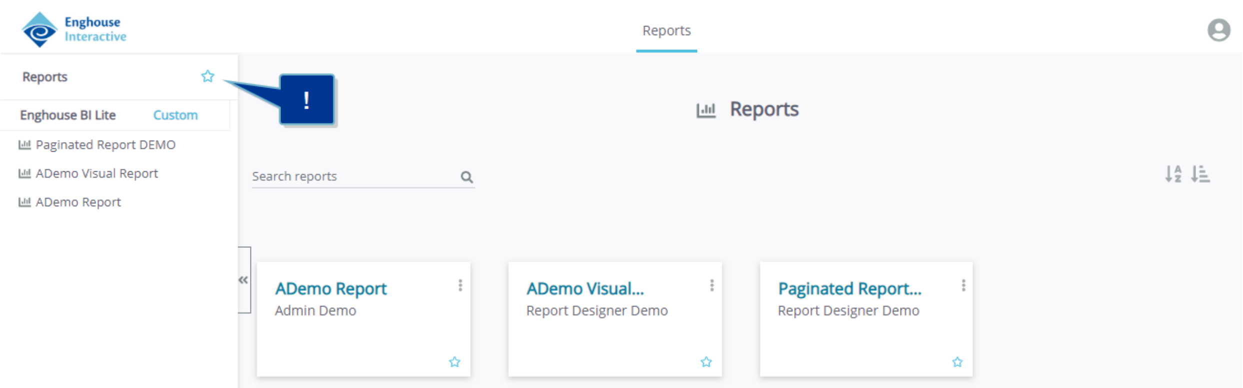
Favorites

If the **Reports** list contains many different assets, the **Favorites** functionality facilitates finding reports that are used more often.

You can add an asset to your Favorites in the pane to the left, or in a tile in the main window. On hover over an asset, a disabled (grayed out) star icon is displayed. When clicked, the related report is added to the favorites list, and is from that moment on marked with an enabled (blue) star icon. This indicates that these assets are marked as **Favorites**.

The left pane and main window can then be filtered for favorites by clicking the star next to the list title in the pane.

In the example below, only the reports marked as favorite are displayed in the list and as tiles in the main window.



Reports

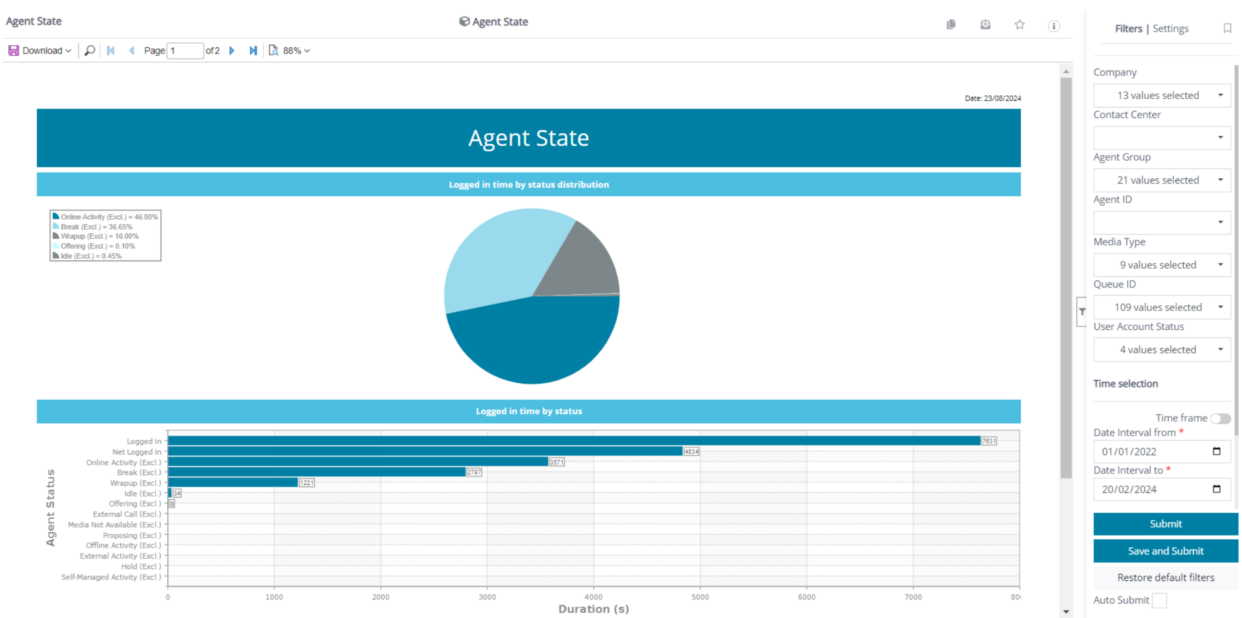
Reports are self-contained elements of Reporting. Every report has a defined correlating data model, from which all displayed data is acquired.

Reports are mainly designed for producing printable data displays. The displayed results can be sorted and/or filtered if allowed by the Designer, but more complex interactions are not available. The most common form for these reports is texts and tables. Data visualization elements, such as those used in visual reports, are less commonly used in this kind of report.

Interacting with reports

Reports in Reporting are dedicated to providing printing and print-like data display documents. Their user interaction options are limited to sorting and filtering, and they are available only if the Designer includes them in the report.

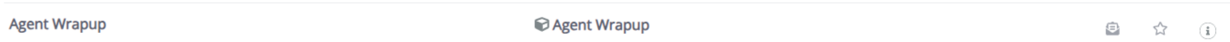
The following image displays an example of a standard report in Reporting.



There are multiple pages of data available for viewing. This report also features some graphical elements that help visualize data.

The **Filters** icon is on the right-hand side of the main screen. If clicked, it hides the **Parameters** pane, which is open in this image and which allows access to all custom filtering options and other settings for the report. A report Designer must include such options in the report design for this option to be available. The Parameters pane can be minimized to optimize the viewing screen for the elements of the report in the main screen. For more information about report filtering and settings, see *Filters & Settings on page 23*.

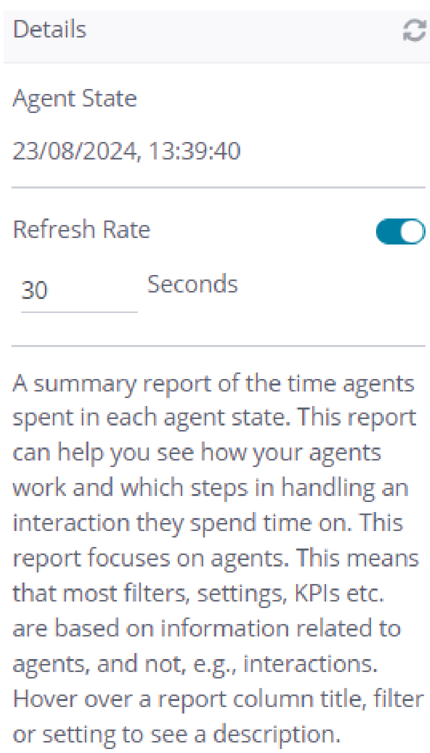
The **Report Title Bar** is located at the top of the report.



It includes the following:

- **Report title**: To the left of the bar, the same title as in the Reports pane or on a report tile.
- **Data model**: Located centrally, showing which data model the report is connected to.
- **Interaction buttons**: Buttons located on the right side of the bar:
  - **Subscribe**: Scheduling automated report delivery via designated distribution channels. See *Automated report delivery on page 35* for more details.
  - **Favorite**: Toggles the report as favorite or removes the report from favorites. Adding a report to the **Favorites** list makes it more easily accessible. See *Favorites on page 19*.
  - **Report Details**: Used to access additional report information in a new window. It provides information on the last refresh time of the report data, as well as the option to set an automatic refresh rate (toggle *ON* or *OFF*). It also provides a description of the report (if provided by the report Designer).

    Clicking the **Refresh** icon  in the top right-hand corner of the report details window reloads the complete report, displaying the most recent data available.

Additionally, reports also have the following top menu, shown only once the report is generated:

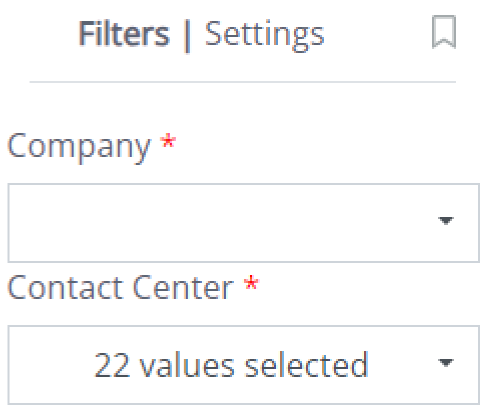
In includes these options:

- **Download**: Opening this dropdown menu lets you select from a number of formats in which you can download the generated report. This includes formats you cannot edit after download, such as image formats or PDF, as well as formats you can edit after download if needed, such as .doc or .xls. Each format has an additional dialogue window where you can choose the page range you want to export, as well as adjust format-specific settings to suit your needs. Once you have set up all the settings, click **OK** to start the download.
- **Search**: Using this tool, you can enter a string you want to find in the report. Clicking this icon opens a new menu under the existing one, containing the search field and additional options.
- **Pagination**: If the report has multiple pages, use this menu to move between pages, skip to the first or last one, or enter a specific page number you want to see.
- **Zoom**: Use the integrated zoom function to make the report larger or smaller without affecting the rest of the interface. In the dropdown menu, you can find a set of predefined zoom percentages, or you can use the Page Height or Page Width options to adjust the zoom level so that either the whole report fits the page height or its width.

Filters & Settings

The **Parameters** pane, which contains the filters and settings, is located on the right-hand side of the report window. If the Designer sets up the report so that it has filtering options and other settings you can modify, reports can be filtered by Viewers.

When both filters and settings are available for a report, the filters and settings are divided into two tabs for a more efficient viewing experience:



The **Parameters** pane can be minimized or expanded by clicking the Filtering icon. The icon is gray and white  if the pane is expanded, or white and blue  if the pane is collapsed.

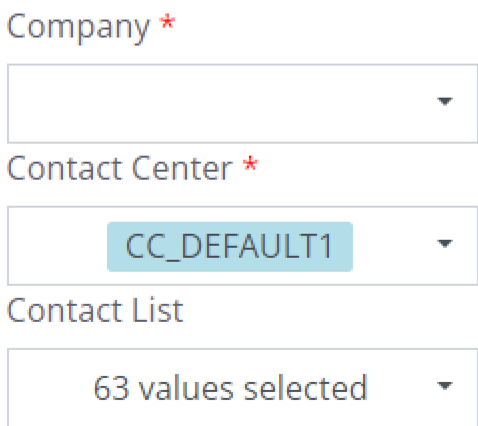
All the parameters that can be used by the Viewer to filter and modify data presented in the report are listed in the Parameters pane. The types of parameters can vary and their values are entered by the Viewer. If a report has required (*) filters and/or settings, the report and its data are not rendered unless relevant values are used for those parameters. Only after the values are set up is the report rendered and data displayed.

> **Note**
> If no Viewer-input requirements in form of filtering values and settings exist for a report, the report is rendered directly once it is opened from the available reports list.

> **Note**
> It is possible to add custom checks (validations) for filter values a user can enter to ensure they meet business rules before a report runs. To learn how a data designer can define and validate the content a user introduces in the filters and settings, see the Validation section of the Designer Guide.

Filters and settings are shown as empty until one or multiple values (depending on the type of parameter) are selected or entered.

Additionally, when you open a dropdown list, you can use the search function to find the data that you need, or you can click Select all / clear all to facilitate your selection. Furthermore, when one value is selected, it is shown in the parameter field against a blue background, while if multiple values are selected, the total number of selected values for that parameter is shown:

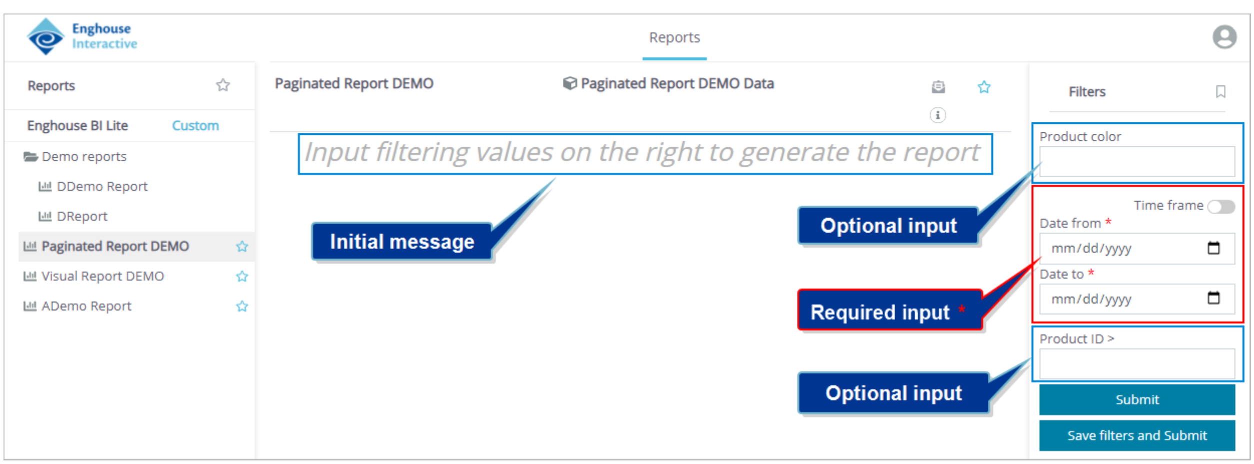


When a report that has required filters and/or settings is selected from the available reports list, an initial message is shown in the report area to note that relevant parameters need to be entered to generate the report. The rest of the Reports window is blank, as the report itself has not been rendered yet.

Finally, when sharing your report with others, you may want to include relevant information about the filters and settings you used in the report. In order to do so, select **Show filters and settings sumup** in the Settings tab. When this checkbox is selected, your report, once generated, will include a footer section that shows all the used parameters.

Report data filtering example

In this example, the report is opened and the initial message related to filtering is displayed. Several input fields for filtering values are available:



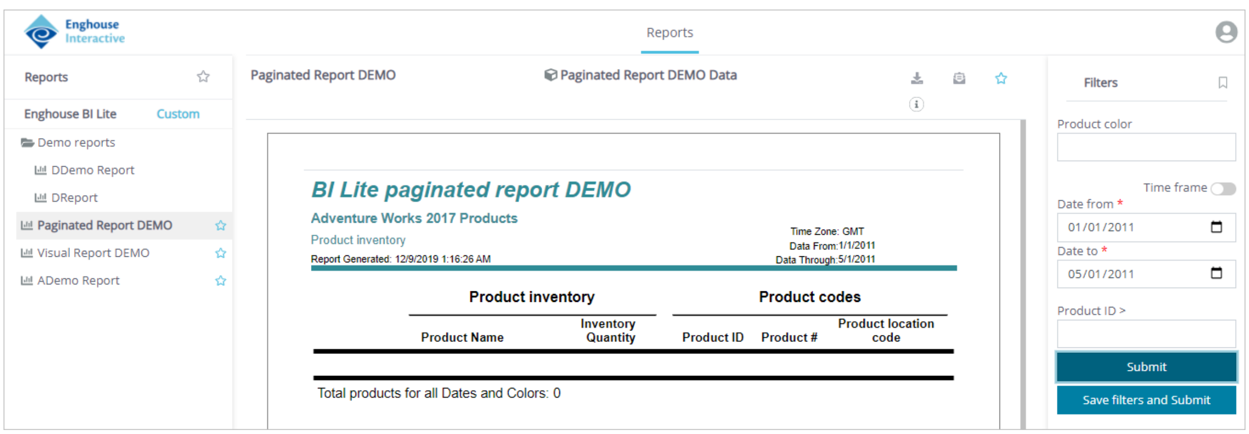
- The first is related to the **Product color** category, which is a product color column in the data source. The data displayed in the report is filtered according to the value entered in this field. Since this field is not marked as required (with a * symbol), it can be left empty (NULL).

> **Note**
> You still need to click the **Submit** button to render the report, even if all the filters are optional and you do not need to enter them.

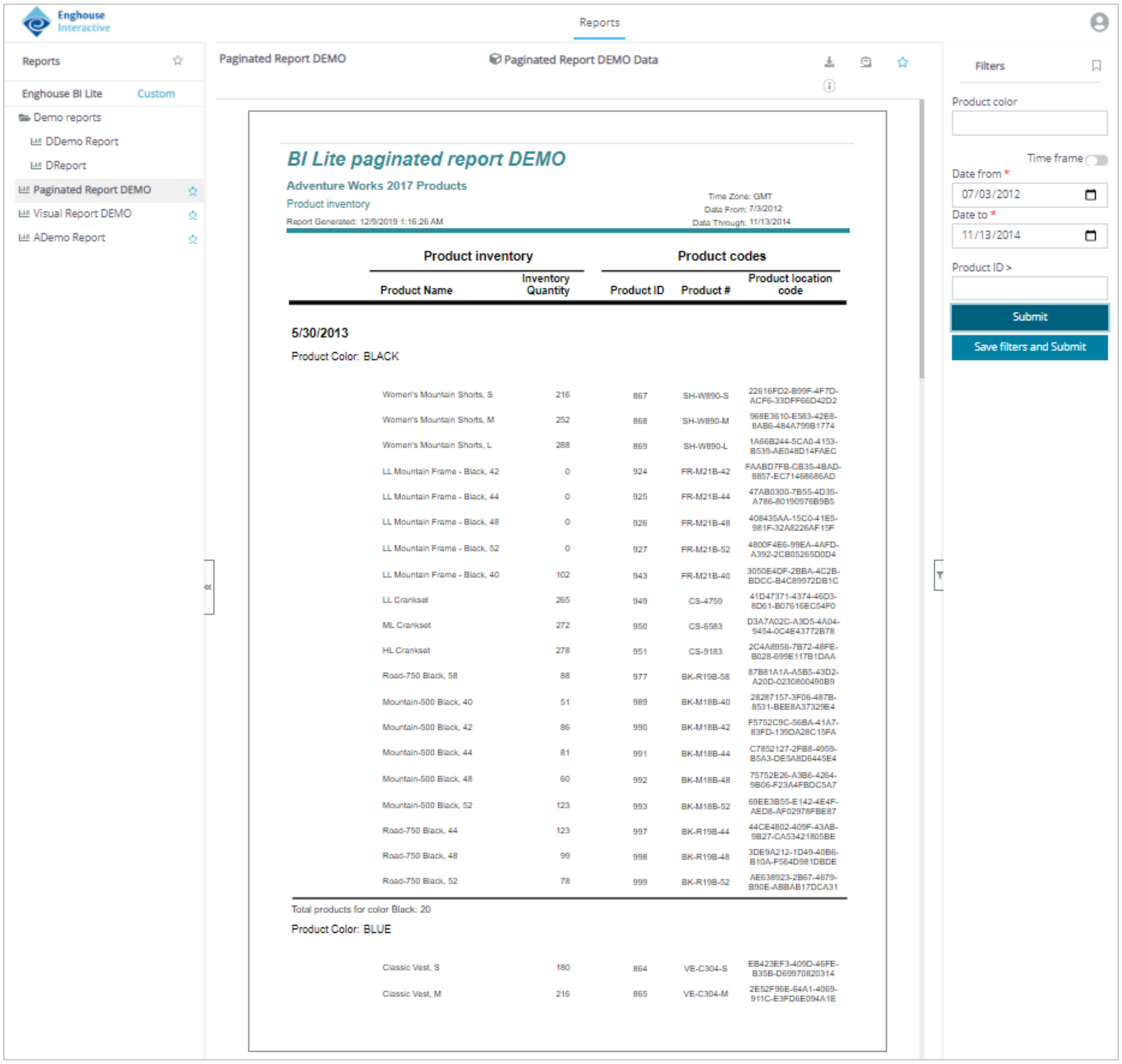
- The next two fields provided for filtering are on a date-range basis. The two values are required (marked with *). For the report to render, **Date from** and **Date to** must be entered and the displayed report will correspond to this date range. The report Designer can provide suggested default values, or leave them up to the Viewer.
- The remaining filtering field **Product ID >**, connected to this column in the data source, is also optional. It is used to display items with a product ID number larger than the one entered in the field (as signified by ">" in the field title).

If **Submit** is clicked with an empty required field value (*Date* fields in this example), the following warning is displayed: *The required filtering fields are: Date.* Only when a valid value is submitted is the report data filtered and the report page is rendered (data is displayed).

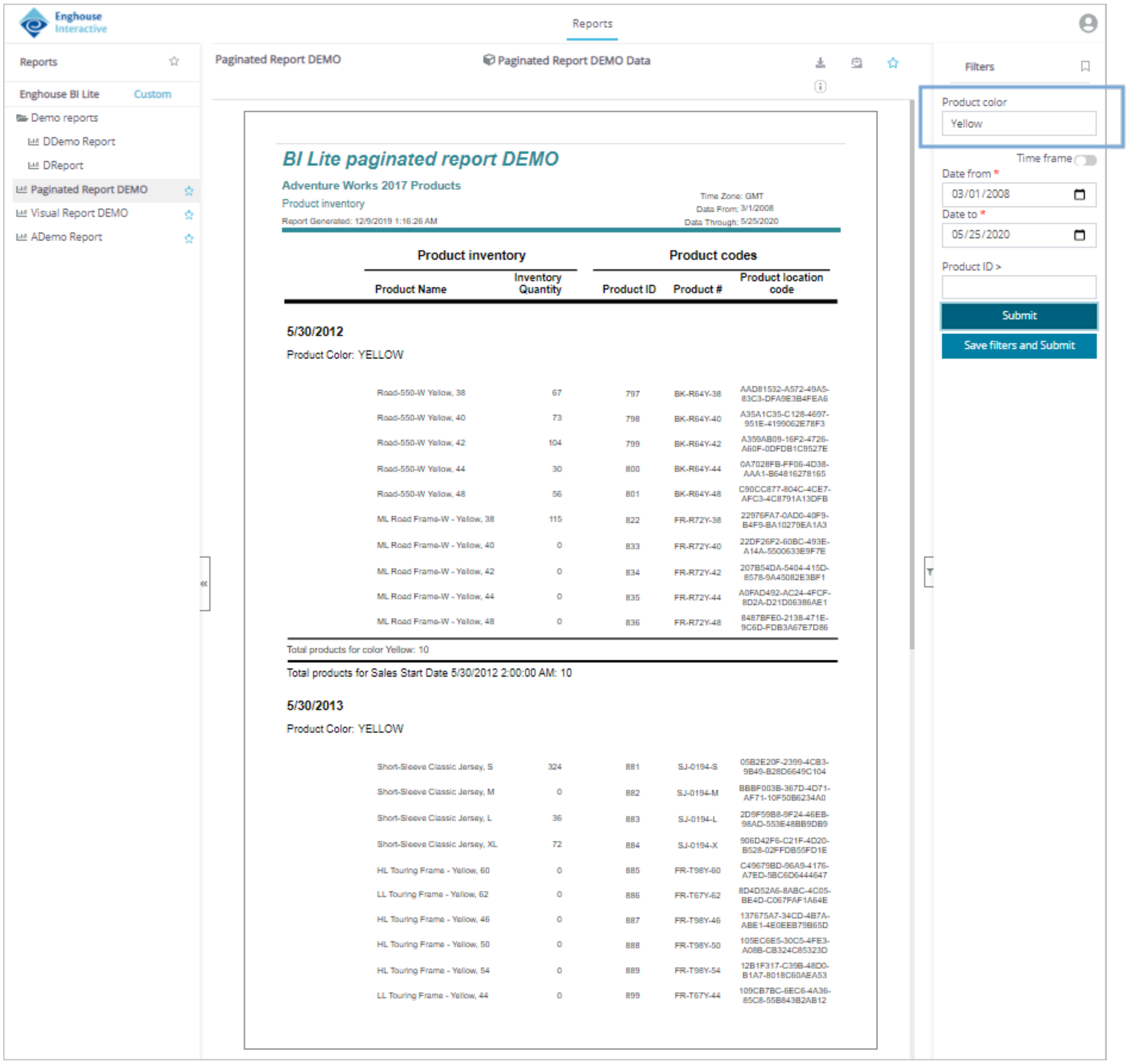
In case the filtering input field value is valid (non NULL), but it is not present in the database, the rendered report will be displayed as empty since there is no related data available for these filter settings. This may happen, for example, if the date range is set outside the dates available in the data source. In the following image, the date range is set to a range for which the data source has no data.



In the following example, the **Product color** and **Product ID >** filter fields are left empty, but a valid date range is entered. After clicking **Submit**, the date filtering limits the displayed data to records that have the *sales start date* inside the defined range. You can compare the rendered report (below) with the one presented in *Interacting with reports on page 20*, and see that it changed in accordance with the reduced date range.



In the next filtering example, the displayed data is filtered so that it shows only products that have the filtering **Product color** column value set to *Yellow*. The displayed records are different compared to the report presented in *Interacting with reports on page 20*, as well. In this example, the selected date range also encompasses the full database contents. The report now includes only products with the *Yellow* product color, filtering out the rest.



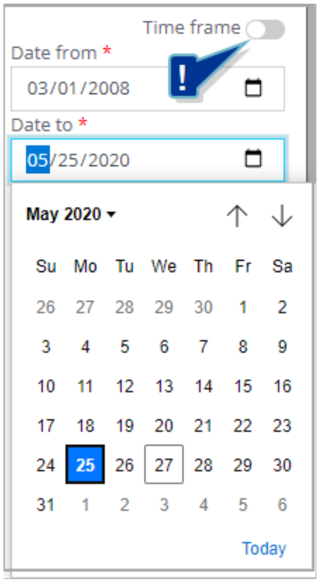
Time frame

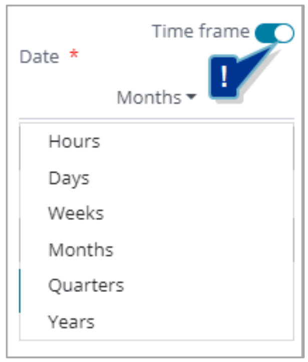
The datetime values can be defined either as absolutes or as relatives. Absolute values are explicit datetime values like the ones that were used in the previous examples. The **Time frame** toggle for the datetime filtering option provides an alternative to absolute values for date and time.

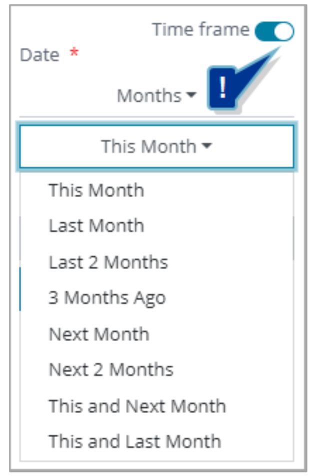
When the **Time frame** toggle is switched on in the **Parameters** pane, the relative datetime input becomes available. This allows you to set a time frame relative to your current date and time. Units of time you can select are *Days, Weeks, Months, Quarters* or *Years*. Each of these units has a selection of possible related amounts of time. To complete the selection, both the unit and the corresponding amount need to be selected.

For example, if you click the **Months** category, possible additional options include **This Month**, **Last 2 Months**, etc.

The first of the following three images represents the absolute datetime selection, with specific dates entered as the start and end points. The second and third image show a relative time frame unit and amount selection, respectively.







The **Time frame** option allows you to select a time range independent of the absolute option, which are specific individual dates. For example, this can be useful if you want a report to only show data relevant for this quarter. If you use the **Time frame** option, you do not have to change the specific dates periodically, as the system will automatically show you a report with data for e.g. your current quarter, regardless of the individual date.

Filtering data types

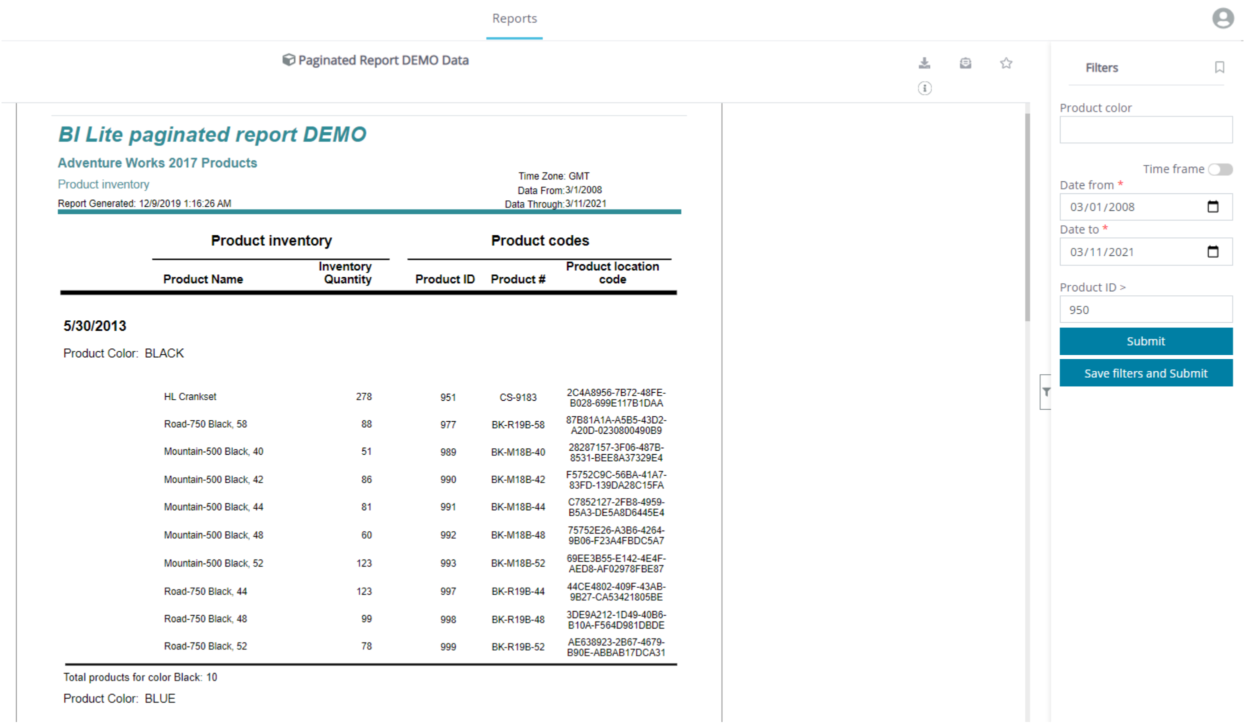
Depending on the report design, filters can be of different data types. The most common ones are *Numerical*, *String*, *Datetime* and *Boolean* (logical True/False). Filters (and settings) can also be shown in various forms, such as multi-select or single-select dropdown lists, entry fields, calendar selections, checkboxes, etc.

In the following example, another filtering value was added to the previously used report. Now it includes three different filtering categories at the same time.

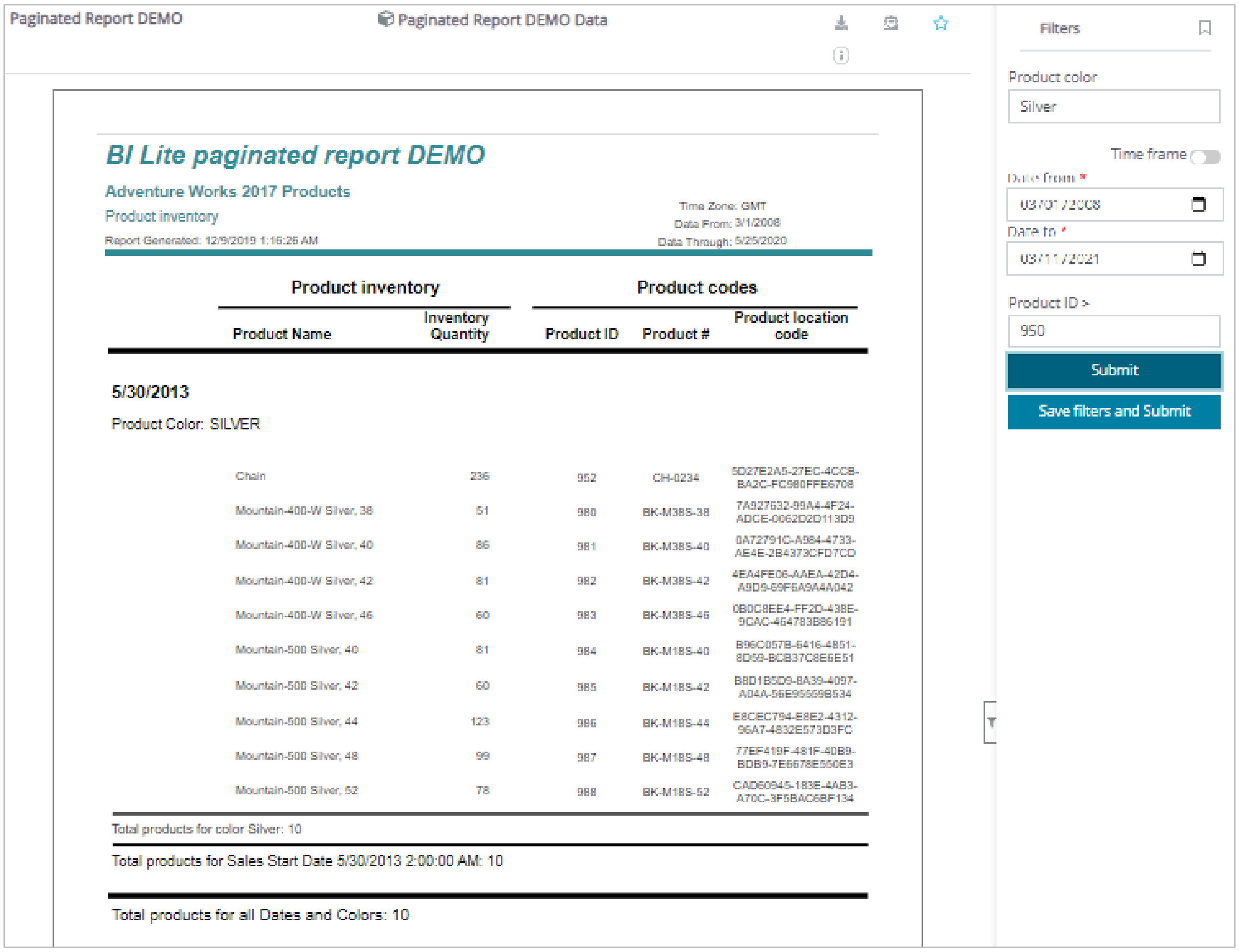
Along with the previously presented **Product color** (*String*) and **Date** (*Datetime*) filters, a new **Product ID >** (*Numerical*) data type filter is added. It allows the Viewer to select only records for which the **Product ID** category has a value larger than the one that is input.

Leaving the **Product color** category empty does not filter the records by color, but shows all products with all colors.

In the example below, products that started selling after *03/01/2008* and with a **Product ID** higher than *950* are shown.



In the next example, the values for **Product ID** and **Sell Start Date** are retained. However, *Silver* is also added as the **Product color**. After clicking **Submit**, the contents of the page change to display products that correspond to the added of filtering values.



Dependent filters

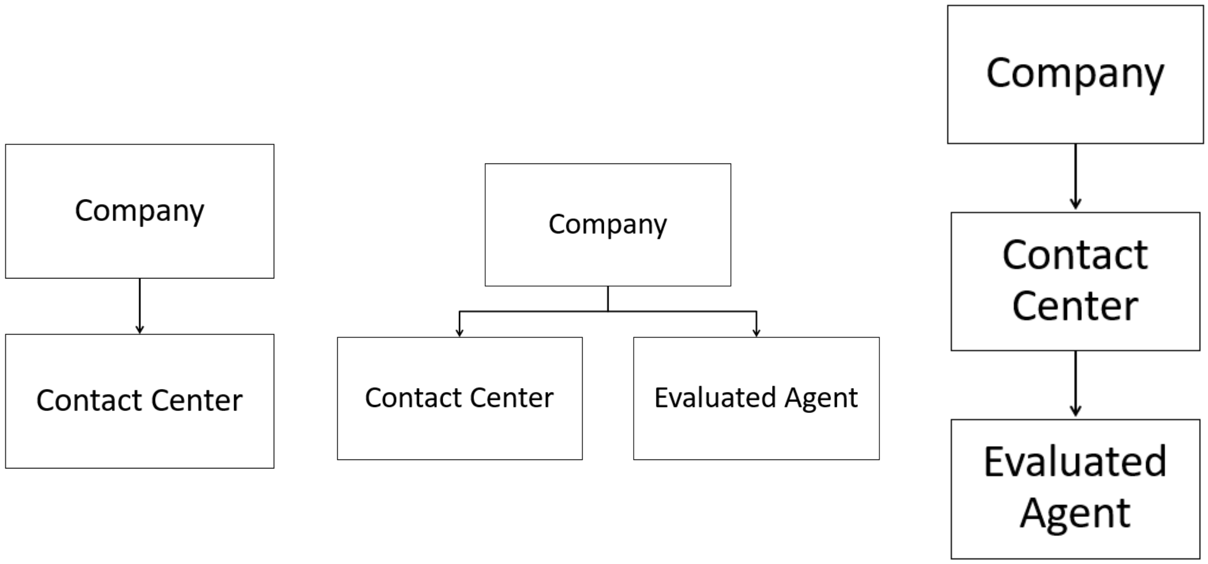
Based on the design of the data source, the asset you are viewing may feature dependent filters. These are filters that are in a hierarchical relationship where the selections of one filter influence which options are available in one or more others.

Dependent filters are not indicated in the Parameters pane in any way, but if the conditions of a filter that has one or more other filters dependent on it are changed, a reload of all filters occurs to adjust to the changes as needed.

> **Caution**
>
> Typically, dependent filters are only dropdown single and multi-selection list filters. If other types of filters, such as user-input filters, are set up as dependent filters, they may not function properly.

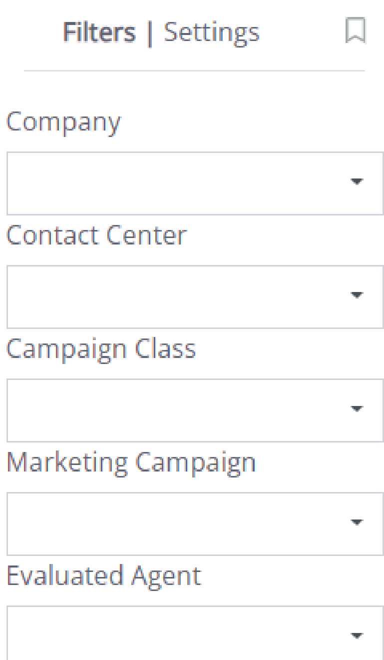
Additionally, one filter may have multiple dependent filters, or they may be organized in a multi-level hierarchy, where every filter influences all the filters below it.

Simple dependent filter	Multiple dependent filters on same filter	Hierarchy of dependent filters



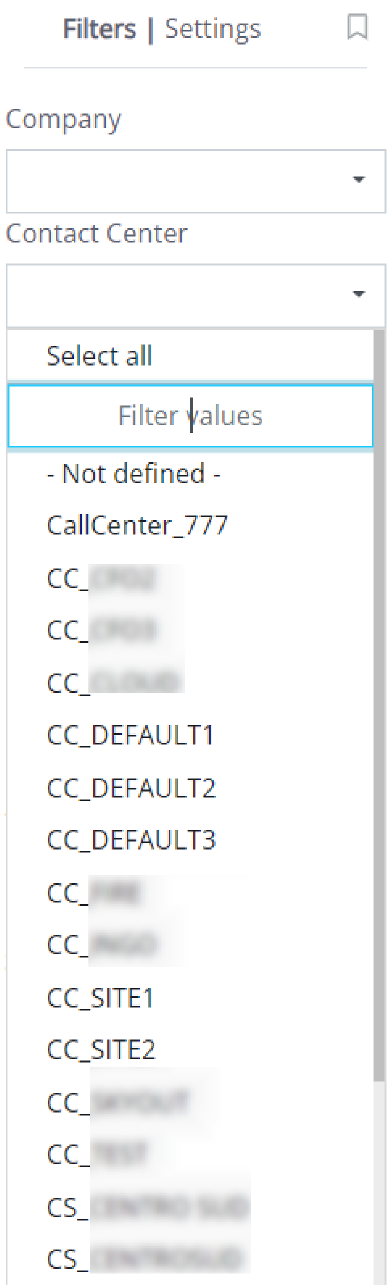
Example

Below is a snippet of the filters available in the Survey Answers Detail standard report:

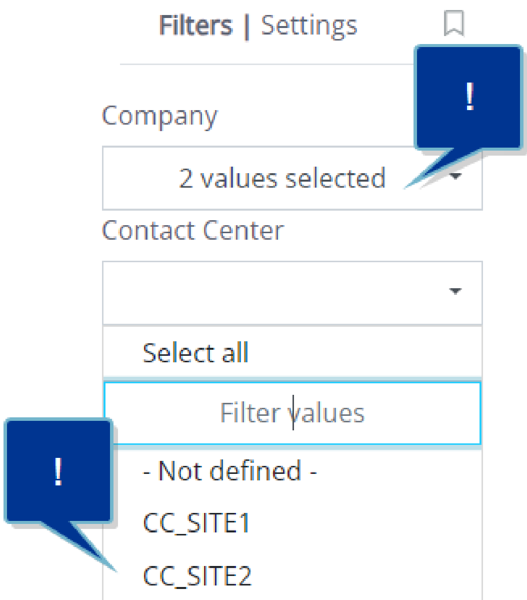


In this report, the Contact Center filter is dependent on the Company filter. This means that when one or multiple company filter values are selected in the dropdown list, this triggers the dependency so that only Contact Center values that are related to the selected companies are shown.

When no specific Company values are selected, all Contact Center values available to the user in the data source are shown:



However, when some Company values are selected, such as "Company A" and "Company B", a quick refresh is triggered, and now only those Contact Center values that are related to the selected companies are shown (and can be used in the report):



Following the same logic, another filter in this report could be dependent, such as the Evaluated Agent filter. For example, it could also be dependent either on the Company filter (so only agents related to the selected companies are shown in the filter dropdown list), or on the Contact Center filter (so only agents in the selected contact centers are shown), which, in turn, is dependent on the Company filter.

As mentioned previously, multiple filters can be dependent on the same filter, such as both Contact Center and Evaluated Agent depending on the Company filter, without any relation to each other, or there can be multiple levels of dependent filters in a sort of hierarchy, where every level of the filters influences all those below it in the hierarchy, such as Company > Contact Center > Evaluated Agent, as described in this example.

Saving filters

Any set of entered filtering values can be saved for future use as the default set. This means that the saved values are automatically loaded with the report. To do this, click **Save and Submit**, located below the **Submit** button in the **Parameters** pane.

When a set of filter values is saved, the **Restore default filters** button appears, which provides the option of deleting the saved set of filtering values and reverting to the original default ones, allowing you to enter new values.

Additionally, when you save and submit your filters and settings, an additional **Auto Submit** option is shown. If you select this checkmark, your report will automatically generate every time you open it, using the saved filters and settings.

Filter Bookmarks

The bookmark icon located at the top right of the report viewer **Parameters** pane, can be used to save multiple sets of filtering values.

This option can be used by both Designers (in View Report mode) and Viewers.

> **Note**
> Dependent filters work in bookmarks the same way they do when viewing and generating the report or view.

The saved set of values can be used privately, or shared with other users of the report by making it **Public** . All report users can access the Public bookmarks. When a bookmark is selected, the predefined set of values is copied to the filtering variables.

Using an existing bookmark:

1. Click the **Bookmarks** dropdown list from the **Bookmarks** menu.
2. Choose one of the available bookmarks. The bookmarked values set is copied to the variables of the report **Filters**. You can use the search bar to facilitate your search.
3. Once you've clicked the needed bookmark, click **Submit** in the **Parameters** pane to apply the filtering values.

Creating a new bookmark:

1. Enter the desired set of variable values in the **Parameters** pane.
2. Click **New bookmark** in the **Bookmarks** menu.
3. Enter a name for the new bookmark.
4. Check **Make bookmark public** if you want to share it with other Designers and Viewers or leave it blank to keep it private.
5. Confirm by clicking **Save**.

> **Note**
> The owner of a bookmark is the user who created it. This user can delete the bookmark at any time. Deleting the bookmark also makes the bookmark unavailable for other users if it is shared.

Deleting an existing bookmark:

1. Click the **Bookmarks** dropdown list in the **Bookmarks** menu.
2. Locate the bookmark you want to delete. You must be the owner of this bookmark to delete it.
3. Hover over the filter and click **Delete** .

> **Caution**
> When deleting a bookmark, there is no confirmation dialog. A deleted bookmark cannot be restored.

Automated report delivery

One of the options available to all users of Reporting is the automated report delivery. This gives users the option to automatically receive reports in their chosen format. The **Subscribe** option allows for scheduling report delivery over these distribution channels:

- **Email**
- **FTP/SFTP** server.

Setting up automatic reporting

To set up automatic reporting, you must do the following:

1. In the **Reports** list on the left side of the window, or on a report tile in the **Reports** tab, click the options for the report you want to subscribe to. In the dropdown menu, click **Subscribe**. A new window opens.
2. OR in the top menu of your report, in the upper right corner, click **Subscribe**. A new window opens.
3. If there are no predefined schedules, create your own by clicking **New Schedule**. If there are preexisting subscriptions that you want to edit, modify their settings as described below.

> **Note**
> All of the required schedule settings and parameters need to be entered correctly for you to be able to save the schedule. In case any of the schedule sections are not set up correctly, a warning is given to let you know which section has an error that is preventing you from saving the schedule. For example, if a mandatory filter is not entered, you will not be able to save the schedule until the mandatory filter is set up.

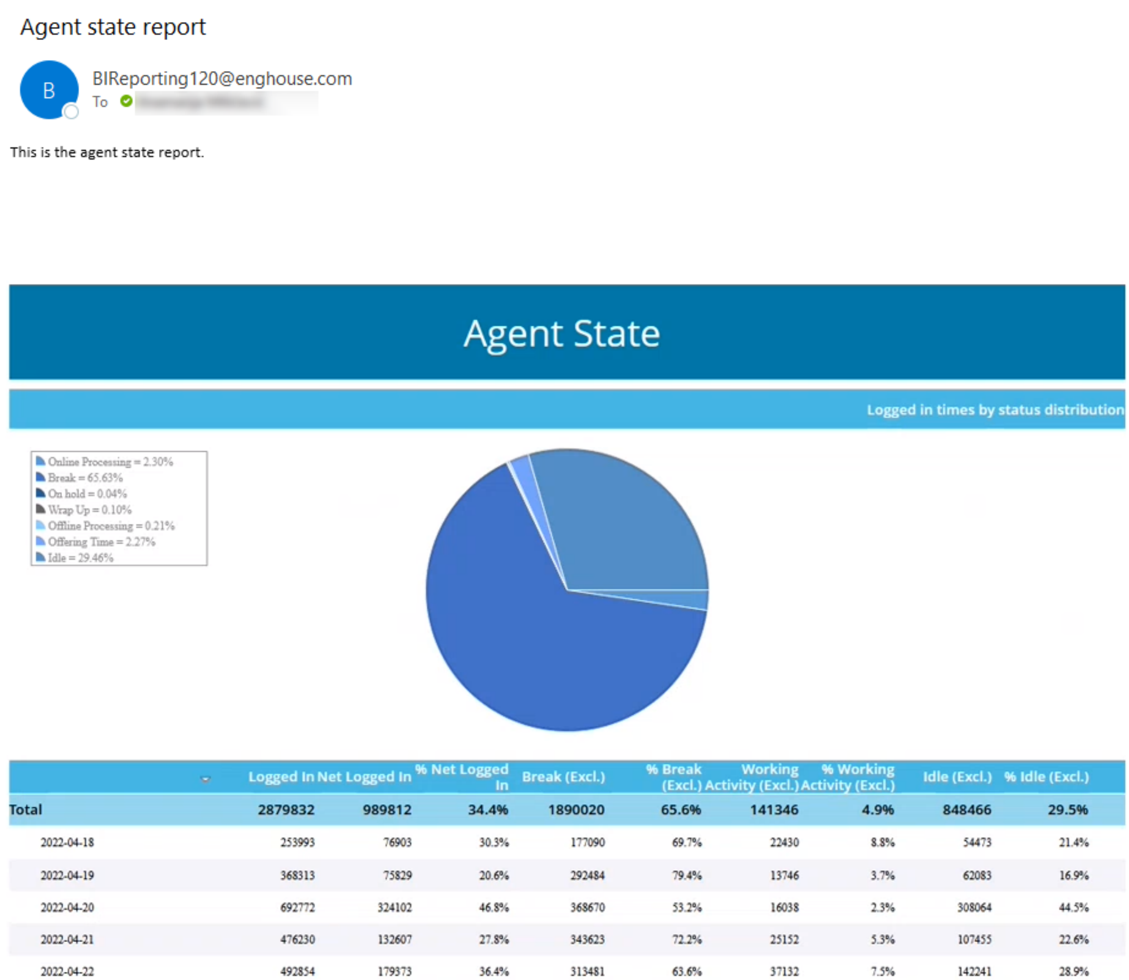
4. Enter or edit the necessary data:

- The schedule can be set to certain days of the week and at a certain time of day. Choose your preferred settings in the **Schedule days** dropdown menu, and enter the time manually in **Schedule times** or click the clock in the corner of the field to open a dropdown menu. The available time format is AM/PM.
- Click on the Filter icon to set up the report filtering options. The **Filter** option allows setting report parameters (filters and settings) that will be applied to report generation when preparing for a delivery.

> **Note**
> These parameters depend on the design of the related report and may not always be required or available.

- Click on the mail icon to choose a **Distribution** channel for report delivery. For additional information, see *Distribution settings on page 38*. Click **Confirm** to save your settings or **Back to scheduling** to return to the previous window.

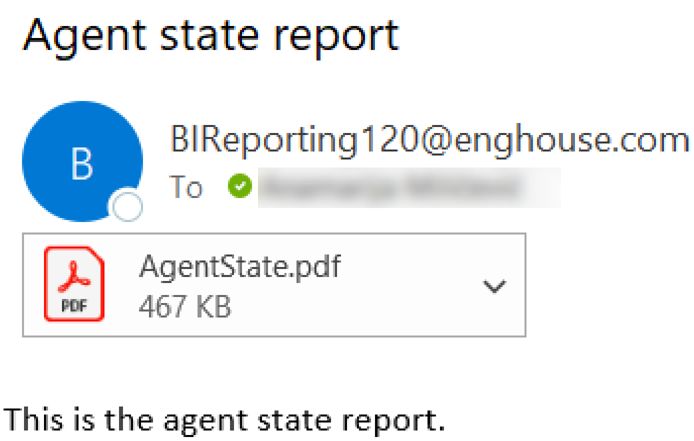
- Choose the report format from the **Format** dropdown menu:
    - **Email report**:If the report is delivered in the body of the email, there is no file attached to the email and the report contents are delivered as text organized in a table (via HTML). The email body text message provided in the **Email settings** (see *Distribution settings on page 38*) is included at beginning of the email, above the report.



	Logged In	Net Logged In	% Net Logged In	Break (Excl.)	% Break (Excl.)	Working Activity (Excl.)	% Working Activity (Excl.)	Idle (Excl.)	% Idle (Excl.)
Total	2879832	989812	34.4%	1890020	65.6%	141346	4.9%	848466	29.5%
2022-04-18	253993	76903	30.3%	177090	69.7%	22430	8.8%	54473	21.4%
2022-04-19	368313	75829	20.6%	292484	79.4%	13746	3.7%	62083	16.9%
2022-04-20	692772	324102	46.8%	368670	53.2%	16038	2.3%	308064	44.5%
2022-04-21	476230	132607	27.8%	343623	72.2%	25152	5.3%	107455	22.6%
2022-04-22	492854	179373	36.4%	313481	63.6%	37132	7.5%	142241	28.9%

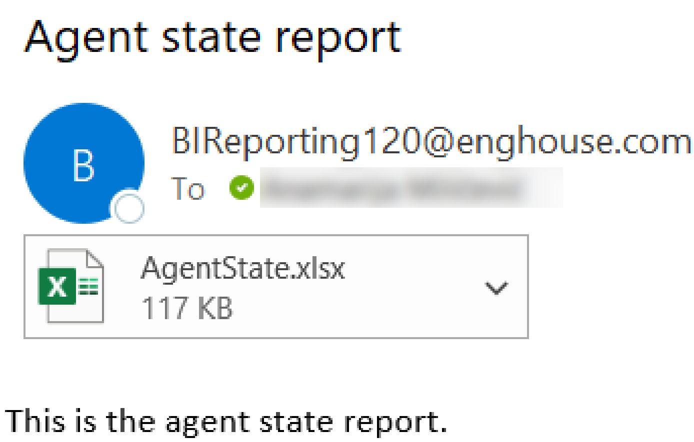
    - **Pdf attachment**: If the report is delivered as a PDF attachment, a file is provided as an attachment of your email which you can then store on your computer. There is no additional email body text other than the message provided in the **Email settings** (see *Distribution settings on page 38*).

      Select the **Compress Attachment** checkbox to compress the attached file.



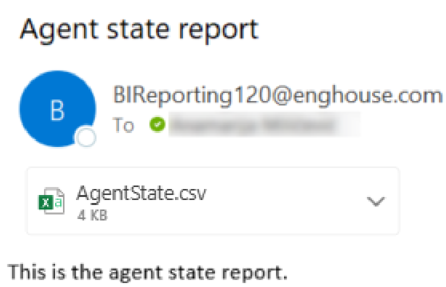
- **Excel attachment**: If the report is delivered as an Excel attachment, a file is provided as an attachment of your email which you can then store on your computer. There are several export settings to choose from:
  - **Type**: Choose the type of file the report is converted into.
  - **Image Resolution**: Used to change DPI (image property PPI - Pixels Per Inch). Increasing the number of pixels per inch is increases the quality of the image and the size of the finished file.
  - **Image Quality**: Change the image quality. The higher the quality, the bigger the size of the finished file.
  - **Bands Filter**: This parameter enables you to specify which report bands are exported. The following options are available:
    - **All Bands**: All the bands present in the rendered report are exported.
    - **Data Only**: Only the Data band is exported.
    - **Data and Headers**: Only the Data band and the related Header bands are exported.
    - **Data and Headers/Footers**: Only the Data band and the related Header and Footer bands are exported.
  - **Use One Page Header and Footer**: Select the checkbox to use only the first header and footer.
  - **Export Each Page to Sheet**: Select the checkbox to export each page to sheet.
  - **Export Page Breaks**: Select the checkbox to export page breaks.
  - **Compress Attachment**: Select the checkbox to compress the attached file.

  There is no additional email body text other than the message provided in the **Email settings** (see *Distribution settings on the next page*).



- **CSV attachment**: If the report is delivered as a CSV attachment, a file is provided as an attachment of your email which you can then store on your computer. There is no additional email body text other than the message provided in the **Email settings** (see *Distribution settings below*).

  Select the **Compress Attachment** checkbox to compress the attached file.



5. When all the needed data is entered, click **Save** to continue.

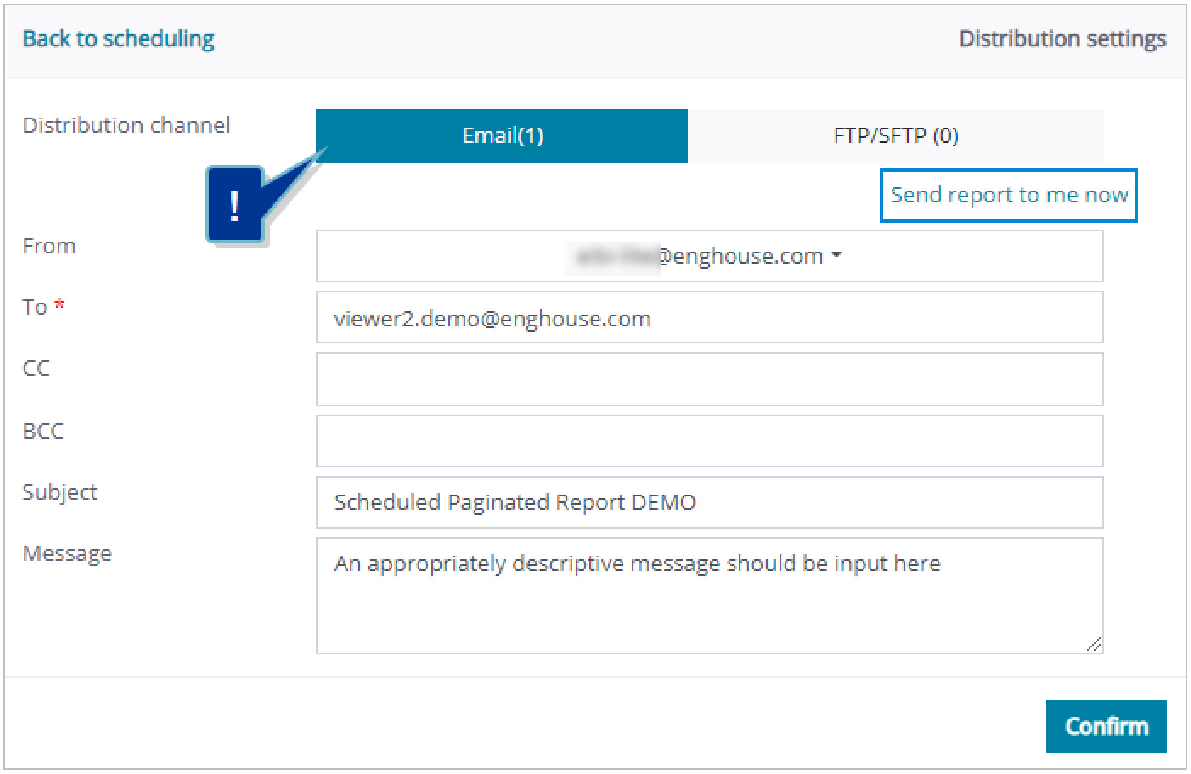
To create another schedule for the same report, follow the same procedure. To delete an existing schedule, click **Delete** at the right end of that schedule's row.

Distribution settings

Email

It is possible to schedule automated report delivery to a list of one or more email recipients.

The **Distribution** channel parameters define the sender of the email (**From**), the list of recipients (**To**, **CC** and **BCC**), as well as the subject of the scheduled report email (**Subject**) and the mail body text (**Message**).



> **Note**
> The list of available senders is edited by the Administrator and Viewers can only select from among the predefined senders.

The **Send report to me now** link instantly sends the report to the user's email address. This is a good way to check if all the other settings in this window are set up as planned before sending the report to others.

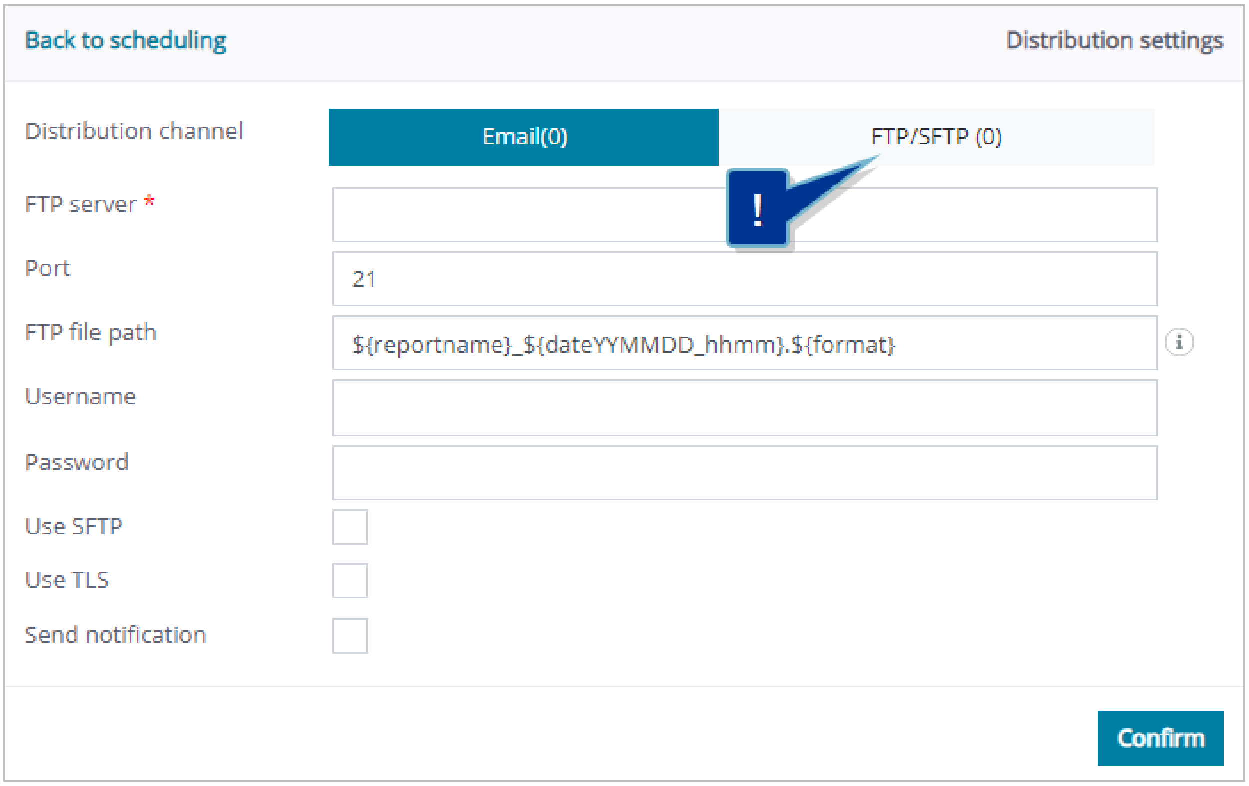
The specific content or format of the email is defined by the **Format** parameter, as described in the previous section.

FTP/SFTP

It is possible to schedule automated report delivery to an FTP or SFTP server. To set this up, fill out the following fields:

- **FTP server**: The required parameter which stands for the location of the file server (i.e. IP address).
- **Port**: Defines the port to be used for server access.
- **FTP file path**: Lets you customize the name of the file to be stored on the server (same as in the previous section).
- **Username**, **Password**: Authentication parameters, if required by the server.
- **Use SFTP**: When checked, removes the *TLS* modifier and defines distribution to an *SFTP* server.

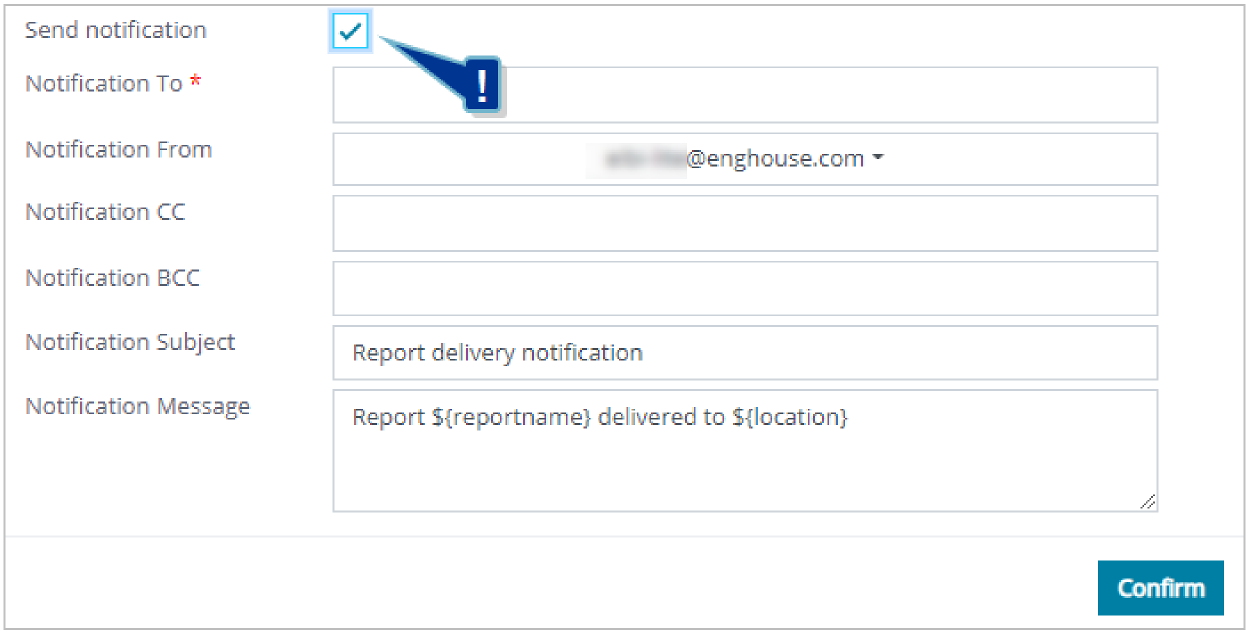
- **Use TLS**: Switches between *FTP* without *TLS* or over *TLS.*
- **Send notification**: Activates an email notification of the delivery, but does not include the generated report itself. The **Distribution settings** window is expanded and new email notification fields appear. See *Send notification below* for more information.



Send notification

In both file server distribution channels (Shared Network File Server and FTP/SFTP), an additional notification delivery option is available. If **Send notification** is checked, it provides access to settings very similar to those for emailing reports. Fill out the necessary fields and click **Confirm** to return to the scheduling window.

> **Note**
>
> **Notification Message** can be formatted in the same way as the **Filename**/**File Path** fields for file servers.

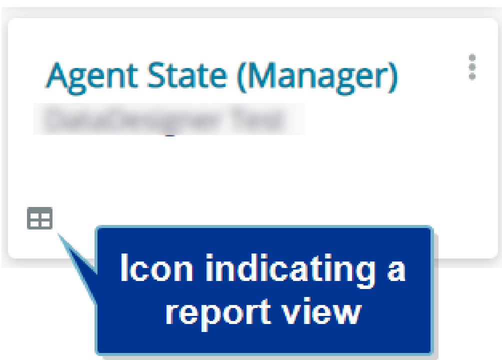

Send notification
Notification To *
Notification From
@enghouse.com
Notification CC
Notification BCC
Notification Subject
Report delivery notification
Notification Message
Report ${reportname} delivered to ${location}
Confirm

Report views

The reports you create may be comprehensive and contain a large number of options, KPIs and other metrics that maybe will not always all be needed at the same time. For example, if your paginated report has 10 columns, but you only want to show call center managers 7 of them, you would typically have to create a copy of the original report and then remove the 3 extra columns. However, creating separate reports to accommodate each (small) change in the content of a report may quickly become difficult to maintain.

This is why, for reports that contain a lot of data and are not intended to be used in their full form with all users, reports can instead be modified to show only the metrics needed for a certain user profile, while still preserving all the data and metrics within the report in the background. You can do this with the **Report Views feature**, which is a powerful tool used to facilitate the way users interact with reports, allowing them to focus only on the most relevant information at a time, as opposed to everything the report contains. With this feature, you can also control the way a report is displayed, what the report page size is, how the fields are resized etc.

A report view (as opposed to a full report) is indicated with the view icon, as can be seen below:



From a user perspective, in the Reports tab of Reporting, individual report views function the same way reports normally do.

Multiple views can be made for the same report, depending on the purpose, audience, or other motivation – for example, a contact center manager and supervisor may be interested in different levels of detail in their reports. In such cases, the manager may have more use of a higher-level report, while a supervisor would benefit from more specific, detailed reports. Examples of differences in report views are illustrated in the screenshots below.

Manager report view example:

Agent State (Full)

	Logged In	Net Logged In	% Net Logged In	Break (Excl	% Break (Excl	Working Activity (Excl	% Working Activity (Excl	Idle (Excl	% Idle (Excl
Agent Group GAMMA	52340	2572	4.9%	49768	95.1%	2535	4.8%	138	0.3%
agent_gamma_001	43278	1103	2.5%	42175	97.5%	985	2.3%	118	0.3%
2020-12-31	1856	27	1.5%	1829	98.5%	27	1.5%	0	0.0%
2021-02-03	41	0	0.0%	41	100.0%	0	0.0%	0	0.0%
2021-03-08	16879	70	0.4%	16809	99.6%	70	0.4%	0	0.0%
2021-03-09	3319	0	0.0%	3319	100.0%	0	0.0%	0	0.0%
2021-08-31	361	92	25.5%	269	74.5%	92	25.5%	0	0.0%
2021-09-13	4998	0	0.0%	4998	100.0%	0	0.0%	0	0.0%
2021-10-13	1054	685	65.0%	369	35.0%	655	62.1%	30	2.8%
2021-10-14	234	229	97.9%	5	2.1%	141	60.3%	88	37.6%
2021-11-11	14536	0	0.0%	14536	100.0%	0	0.0%	0	0.0%

Supervisor report view example:

Agent State (Full)

	Logged In	Net Logged In	% Net Logged In	Break (Excl	% Break (Excl	Working Activity (Excl	% Working Activity (Excl	Idle (Excl	% Idle (Excl	Online Activity (Excl	Hold (Excl	Wrapup (Excl	Offline Activity (Excl	Offering (Excl	Proposing (Excl
Total	**1867339**	**1444928**	**77.4%**	**422411**	**22.6%**	**1104093**	**59.1%**	**317217**	**17.0%**	**446557**	**8**	**314173**	**6**	**179105**	**857**
Company A	76701	29061	37.9%	47640	62.1%	24562	32.0%	4491	5.9%	4162	0	20072	0	221	0
CC_SITE1	76701	29061	37.9%	47640	62.1%	24562	32.0%	4491	5.9%	4162	0	20072	0	221	0
2021-01	22683	100	0.4%	22583	99.6%	57	0.3%	43	0.2%	0	0	0	0	0	0
2021-02	11011	164	1.5%	10847	98.5%	129	1.2%	35	0.3%	0	0	129	0	0	0
2021-03	3426	675	19.7%	2751	80.3%	670	19.6%	5	0.1%	0	0	670	0	0	0
2021-04	3054	2380	77.9%	674	22.1%	1985	65.0%	395	12.9%	0	0	1985	0	0	0
2021-06	3685	0	0.0%	3685	100.0%	0	0.0%	0	0.0%	0	0	0	0	0	0
2021-11	32842	25742	78.4%	7100	21.6%	21721	66.1%	4013	12.2%	4162	0	17288	0	221	0

Creating a report view

A new report view can be made from any report that has been shared with the user. This includes all available sharing levels.

> **Note**
> In order to be able to create a report view, the data source of the base report has to be shared with the user, as well (by an Administrator or Data Designer).

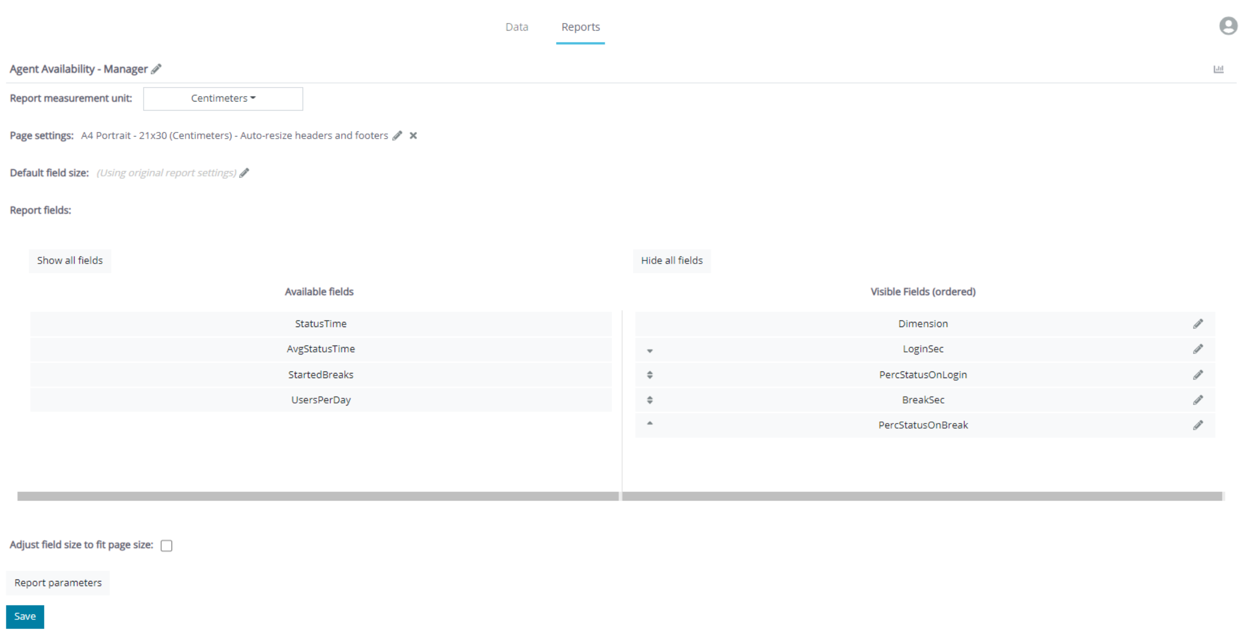
To create a new report view, follow these steps:

1. In the Reports tab, click **+Create new report view** + CREATE NEW REPORT VIEW .
2. In the pop-up window, enter the desired report view title in **Report view name**.
3. Click **Select base report**, and then from the dropdown list choose the existing report for which you want to create a new view. You can use the search field for faster access.

> **Note**
>
> The base report can later be changed if needed by opening the view and clicking the base report in the middle section of the top menu of the report view. From there, you can choose a different base report from the dropdown list.

4. Click **Create report view** to finish the creation process. A new window opens.
5. In the Report View Editor, define the settings for your new report view as described in the sections below.
6. Once you have finished setting up the report view, make sure to click **Save** to preserve the changes, and then click **View Report** in the upper right corner of the window to open the report view, set up any necessary filters and/or settings, and finally generate the new report view.

You can see an example of the Report View Editor below:



> **Note**
>
> The upcoming sections focus on report view settings you can customize. However, if you leave some of the settings undefined, where possible, the default report settings (defined by the Report Designer in the original report) will be used.

Report view name

Click to edit the report view name. You can modify this setting at any time, but it is recommended to retain a resemblance to the original report title for clarity. This name is shown in the Reports tab and pane.

Report view title

Click to edit the report view title. You can modify this setting at any time, but it is recommended to retain a resemblance to the original report title for clarity. This title is shown on top of the report view.

Report view description

Click to edit the report view description. The report view description is shown in the Details, in the top menu of a report view. If left unedited, the default report description of the base report is used.

Report measurement unit

In this section, you can define which unit of measurement you want to use in your report. Click the dropdown menu and then click the unit you want to use.

When you change the unit of measurement, all existing measures are converted to the equivalent value in the new unit, thereby preserving all the previously entered sizes.

Page settings

Clicking in this section opens a new window. Here, you can modify the settings described below:

- **Paper size**: Choose a predefined paper size, or enter a custom page width and height (in centimeters).
- **Page orientation**: Choose a landscape or portrait page orientation.
- **Auto scaled**: If this checkbox is selected, the report view headings and footers will be automatically resized to fit the new size of the report view. If it is cleared, they will stay the default size, as defined in the original report.

Click **Apply settings** to save your new report view settings. Once you've applied any changes, they will be shown in this section of the Report View Editor.

Fields default resize

Clicking in this section opens a new window. In this pop-up window, you can choose if you want to use a fixed width value or relative width scaling of the size of all the fields (columns) in the report view. A default value is set when creating the (original) report, but it may be modified here for the report view. You can modify the following settings:

- **Use width scaling**: If this checkbox is selected, enter the relative width scaling percentage in **Width scaling coefficient (%)**. This means that the width of each field will be scaled to the entered percentage of the default full size.
- **Fixed width value**: Available if **Use width scaling** is cleared; enter the report view fixed field width value (in centimeters). This means that the width of each field is going to be the specified size in centimeters.

Click **Apply settings** to save your new report view settings. Once you've applied any changes, they will be shown in this section of the Report View Editor.

Report fields

> **Note**
> If you do not have proper access levels to the base report, you will not be able to see or use this section.

In this section of the Report View Editor, you can define which fields from the original report will be used in the report view. Two columns are available:

- **Available Fields**: The fields that are available in the original report. The fields that remain in this column are not shown in the report view.
- **Visible Fields (ordered)**: Fields you've chosen to display in the report view, ordered in the way you want to display them. Fields shown top to bottom here will be shown left to right in the report view.

> **Note**
> If available and properly set up in your data source, field labels and their translations are shown in the Report View Designer. If not available, the default name of the value in your database is shown.

Move the fields you want to use in the report view from Available Fields to Visible Fields. Similarly, if you want to remove a field from the report view, drag it back to Available Fields.

To change the order of the visible fields in the report view, drag them to the position you want to use them in. The top-most fields in this section are the left-most fields in the report view table.

> **Note**
> Dimension fields are always visualized first in a report and their position in the report cannot be changed by dragging them below other fields, or dragging other fields above the Dimensions.

Additionally, you can also change the individual width settings for each field. To do so, click in the right-hand part of the field you want to edit, and then apply the needed settings in the pop-up window, as described in *Fields default resize on the previous page*. These settings will refer **only to the individual field** you edit, and not the report view as a whole.

> **Note**
> If you define the individual width of a field, the settings defined in *Fields default resize on the previous page*

Adjust field size to fit page size

If you select this checkbox, all field sizes will be adjusted to best fit the page size you use for this report view. In case any individual field settings are changed, settings will be preserved and adjusted to fit the page size, while preserving the set up field size ratios.

If left cleared, all the fields will use the default report size, or whichever size modifications are applied to the report view or its individual fields, as described in the previous sections of this document.

Report parameters

In this pop-up window, you can set up the default, background and hidden filters and settings for your report view.

> **Note**
> If you do not have proper access levels to the base report, you will not be able to see or use this section.

All the parameters available in the original report are shown. In this window, you do not need to set the mandatory filters and settings to be able to confirm the changes, but users will still have to set the mandatory parameters when generating the report view. You can do the following:

- **Background parameters**: Next to each filter and setting, there is a checkbox. If you select it, you set that filter or setting as a background parameter. Once you set up a background parameter, when users want to set up a filter or setting and they choose their options from a dropdown list, they will only be able to choose from the options you select in this window. None of the dropdown options that you do not select in this window will be available to the users of the report view. Additionally, any filters or settings you set up in this window will also be loaded as the default filters and settings for this report view. Users may need to apply some of the filters (for example, if not all mandatory filters are set up in this window), but they can also change the filters and settings on their own if needed, among the filters and settings available to them.
- **Hidden parameters**: If you set any filter or setting as a background parameter, a second checkbox appears next to it. Selecting this checkbox too will make a background parameter a hidden parameter, as well. This means that the parameter will automatically be applied to the filter view. Furthermore, it will be hidden from Viewers, and they will not be able to change it or interact with it in any way. This will also hide the parameter from the Filters and Settings Sumup section of a report, as described in the *Reporting Standard Reports Guide*.

> **Note**
> If a filter or setting is a single-select item (e.g. data grouping levels only let Viewers choose one option from the dropdown list), in the context of background filters, you can select multiple options to be shown to the Viewer, but they will still be able to only choose one of them to generate the report.

> **Caution**
>
> - If any of the default, background or hidden filters and settings are part of Viewer-defined bookmarks or default filters and settings, the bookmarks or default filters and settings will be applied normally. However, for example, if a user has a bookmark that contains filters which are now hidden or removed via background filters, and are therefore unavailable to the user, the removed filters will not be used in the bookmark. Instead, the selection will default to the first filter for that value from the list of available ones.
> - Make sure to keep in mind which, if any, filters are **dependent** filters when using them as background or hidden filters, so as to avoid issues when using the report view.
> - For example, you might set up background filter values for a mandatory filter that is dependent on another filter. In this case, the background filter values of may end up being removed as options for the viewer due to a filter dependency, which will result in the user being unable to select any value for a mandatory filter, and will therefore not be able to submit and generate the report. For more information about dependent filters, see *Filters & Settings on page 23*.

Select style

From a list of available styles, choose which style set to apply to the report view. The style set will be applied to all elements in the report (that have the appropriate style-related settings). This setting has higher priority than the style settings of the original report.

Click **Remove custom style** to revert to the original report style settings.

> **Note**
> In order for styles to be applied properly to all relevant elements of the report and all its views, the original base report needs to be set up in an adequate manner. If any issues regarding styles and their application arise, contact the Report Designer.

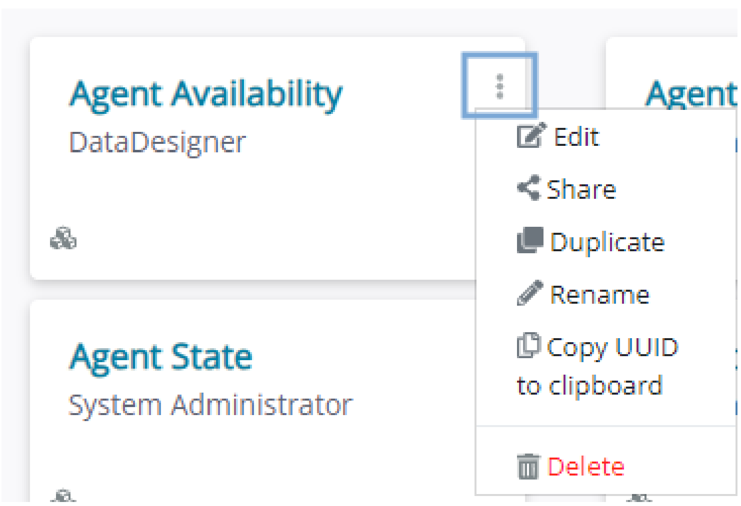
Individual styles and style sets can be modified in the Styles tab, as described in *Styles on page 52*.

Report and report view sharing

The sharing option lets the **owner** of the asset grant access to other users or groups of the Reporting instance.

It is located in the options menu for all owned reports or report views in the **Reports** tab. To share an asset with other users, do the following:

1. Click **Options** ⋮ of an owned report or view tile.
2. Click **Share** in the dropdown menu.



3. In the **Search user or group** search box, enter the group name or individual user name or email address.
4. Click the user or group you want to share the asset with.
5. Select one of the following sharing options from the dropdown list:

- **Can view**: The user or group gains permission to view the asset, but cannot change the asset or share it with others in any way. This is the only option for Viewers, but can be assigned to other user roles, as well.
- **Can read**: The user or group gains permission to open, generate and view the asset as a Viewer would, but cannot edit the report or view directly. Designer and Power Viewer users can duplicate assets shared with the "Can read" permission level and are the owners of the duplicate asset, enabling them to edit the duplicate.

- **Can create view**: For reports - the user or group gains permission to create report views based on the shared report, but they cannot see the report in the **Reports** tab and they cannot duplicate or edit it. For example, a Power Viewer can benefit from this access level as they would still be able to create views from the shared base report, but since they cannot interact with reports directly (other than as Viewers), they would not have a report tile they could not interact with in their Reports tab.
- **Can edit**: The user (or group) can use, edit and duplicate the report or report view, but not share it with other users. Available only for Designer roles. This applies to users of a group the report or view was shared with; if there are, e.g., Viewers in such a group, they will not be able to edit the asset, as this action goes beyond their role access level; they will still only be able to read it.
- **Make owner**: Ownership of the report or report view is transferred to the user. Current owner loses all access rights to the asset. Available for Designer roles and Administrators.

> **Caution**
>
> Transferring ownership cannot be undone by the original owner. It can be reversed only by the new owner or the tenant Administrator or System Administrator.

Existing sharing settings for each user or group can be modified (dropdown list) or deleted ( ).

Bulk asset sharing

If you use the tabular view , you can share and unshare the assets in bulk. To do so, follow these steps:

1. Select one or more assets in the table.
2. Click **Share** or **Unshare**.
3. Search for the user(s) or group you want to share or unshare the asset for.
4. For sharing, choose the access level you want to grant to the user(s) or group. The same rules apply as described in the section above. For unsharing, click next to the user(s) or group you want to remove access from.
5. When done with the changes, click **Share** or **Unshare** to shave your changes.

> **Note**
>
> - You need to have the relevant access level to an asset to be able to perform all of these actions. If you select any assets for which you do not have the needed access level (such as being the owner), you will not be able to perform the needed action for those assets. A warning message is shown in this case. If there are any assets left among the selected that you have the relevant access level for, you can proceed with the action for these assets only.
> - Hover over in the top part of the pop-up window to see which assets you are working with if multiple are selected.

Report and report view export and import

It is possible to export and import reports and report views in the **Reports** tab of Reporting. With this feature you can, for example, share assets with other users or create backups of your assets.

Asset export

Using the tabular view , you can export individual assets or assets in bulk. To do so, follow these steps:

1. Select one or more assets in the table.
2. Click **Export**. All the assets to be exported are listed in this window.
3. Select **Include Universal ID** to include the unique ID of the selected asset in the exported data.

> **Note**
> The Universal ID is a unique string ID assigned to an individual asset within the Reporting instance. It is used to update an existing asset in the system with its versions created or modified outside the current system. Such a modified asset can be imported into the system to seamlessly replace an existing one via the Universal ID.

4. To confirm, click **Export**. The assets are bundled in a single file that is then downloaded to the default browser download folder, and can be accessed using the file browser.

In this interface, you can also do the following:

- **Select reports**: When this checkbox is selected, only reports are shown in the list.
- **Select report views**: When this checkbox is selected, only report views are shown in the list.
- **Show only selected items**: Filter the list to show only selected items.
- **Search**: Search through the assets. The search is performed by the name column values.

Report and view import

To import reports into Reporting, you must do the following:

1. Click **Import** 

at the top-right of the **Reports** tab window to start the importing procedure.
2. In the file browser, navigate to the file location and select the file you want to import. A pop-up window opens:

- A warning states that the reports about to be imported are not connected to data models. Imported reports will not be functional until the corresponding data models are connected with them after import. In order to be able to connect a report with a data model, the model needs to first be shared with you. Refer to a Data Designer for more information.
- The window also lists all the reports that will be imported.

3. Select **Replace existing report by Universal ID** to update existing reports or views in Reporting with the same universal ID. Leave cleared if you want to import a separate report. For more information on the Universal ID, see *Report and report view export and import on the previous page*.
4. Optionally, you can choose which folder to place the report or report view in at import. You can skip this step by leaving the checkboxes cleared and clicking **Confirm**.
5. Click **Confirm** to finish the importing process. The reports contained in the file are imported and added to the **Reports** list in the **Reports** tab.

> **Note**
>
> - When importing report views, if a base report (used to create the view) with a corresponding Report ID is available in the system, the view will connect to it automatically and will be ready for use on import. If no base report with a corresponding ID is available, you will need to connect the view with the relevant report for it to function.
> - If an imported asset has the same name as another object in Reporting, and is not used to update the existing object through replacing an existing report or view via Universal ID, the object is then renamed to signify it is a copy, e.g., Report (1).

Styles

In the **Styles** tab of Reporting, you can define style sets and collections to use in your assets, such as report views.

Once a style is created, it can be applied to report views, or exported and used separately for reports. This allows you to create specific styles for different needs, which you can then quickly apply to assets without having to modify all the individual elements by hand.

The styles can be created, modified, deleted, and imported and exported. When a style is changed within the **Styles** tabs, these changes are also automatically shown in all the assets that the style was applied to, which means that you do not need to make the changes in the various assets manually.

> **Note**
>
> When styles and style sets are created in the Styles tab of Reporting, they are referred to view styles, as they are primarily intended to be used with report views. Similarly, if they are created within a report, in the Report Designer (which means they are not available for all users and for views), they are referred to as report styles.

Read more about the various functionalities of styles in Reporting, as well as how to use them, in the upcoming sections of this document.

Styles tab

To work with view styles in Reporting, navigate to the tabs in the upper central section of the Reporting window and click **Styles**. This opens the Styles tab.

The following becomes available:

- A list of all available view styles, in form of a table:
    - Information about the name and owner of the style is shown.
    - Each row has additional options, allowing you to **Edit** or **Delete** existing styles.
- A search bar, facilitating the navigation through available styles. Searches are done by style title.
- The **+ Create new style** button.

Creating a new style

To create a new view style in Reporting, do the following:

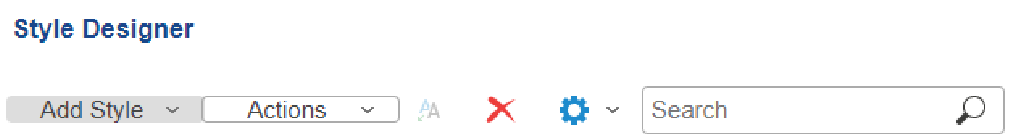
1. Click **Create new style** in the **Styles** tab. A new pop-up opens.
2. Enter the name in the style name field.
3. Click **Create style**. A new window opens where you can start creating the view style elements within your set. This window consists of the following:

- **Style title**: Located in the top-left part of the screen. Click **Edit** to modify the title of the style.
- **Top toolbar**: This section contains basic editing options, such as **Save**.
- **Properties pane**: A pane containing the properties of each individual element style that you add to the style set. Here you can set up, edit and see the properties for each style. The properties vary based on what kind of style you are working with (e.g., for a component, a chart, a map, etc.).
- **Style Designer**: In this section of the window, you create and organize the individual style elements for your style set.

4. To create a new view style element, in the Style Designer section, click **Add Style**. Alternatively, if you have not created any styles yet, click anywhere inside the Style Designer space and proceed to the next step.
5. In the dropdown menu, click the element you want to create a style for.
6. In the **Properties** pane, set up all the relevant properties to suit your needs. The individual properties vary based on the report element you are creating the style for. If the style you want to edit is not already selected (and its properties not opened), click it in the list in the Style Designer to see and modify its properties.
7. If needed, use any of the options available in the style designer toolbar. Find out more about this in *Style designer toolbar below*.
8. Repeat the previous three steps as many times as necessary to create all the needed style elements.
9. Once you have set everything up, click **Save** to save your changes. Your style set can now be used with report views, as described in *Select style on page 47*.

Style designer toolbar

The style designer toolbar offers some additional features that can be used to further enhance your use of styles in Reporting.



The following options are available:

- **Add Style**: Add an individual new style, as described in *Creating a new style on the previous page*.
- **Actions**: The following actions apply to all the styles in the currently open style set:
  - **Open**: Load an .sts file from your machine to import a premade style set.
  - **Save As**: Save the current style set as an .sts file on your machine. This file can then be shared with Reporting users that have access to the Styles feature.
  - **Create Style Collection**: Create a new collection in your style set. This feature creates a predefined set of styles for certain report elements, such as charts or various level headings. This also creates a new folder for the collection. Multiple collections can be created within the same style set. In the **Create Style Collection** pop-up window, adjust the collection settings to your needs. Individual styles from the

collection can later on be modified as needed.

- **Delete**: Delete the currently selected individual style or collection folder.

> **Caution**
> The action of deleting a style component or collection folder is permanent and cannot be undone.

- **Get Style from Selected Components**: Primarily used by Report Designers in the Report Designer tool when creating base reports and adding individual report elements; this feature is used to select a pre-styled component and to turn its properties into a style that can then be applied to other report elements.
- **Filter and Sort**: Filter through the various kinds of styles, or sort them in ascending or descending order.
- **Search**: Search the available styles for quicker use. The search is done by style name only.

> **Note**
> In order for styles to work properly, all elements of a report that you want to apply styles to need to be given a style in the Report Designer. Report elements without an assigned style will not have any style applied to them in report views.
>
> The name of the styles assigned to the individual elements in the Report Designer need to be the same as the names in any other style you may want to use e.g. for report views.
>
> In other words, you need to ensure that **all the styles intended for the same element** (e.g., Heading 1) **always have the same name** across all style sets to ensure full functionality and faster switching between styles.