SIEMENS

Opcenter Reporting 2401.0001

# User Manual

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## Guidelines

This manual contains notes of varying importance that should be read with care; i.e.:

Important:

Highlights key information on handling the product, the product itself or to a particular part of the documentation.

Note: Provides supplementary information regarding handling the product, the product itself or a specific part of the documentation.

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# 1 Before you Start

## Accessing the Application

For security reasons, the first access to Opcenter Reporting is only granted to the user who has been configured in Opcenter Reporting under the **Insert the UMC user who will have the Administrator role for Opcenter Reporting** section.

This user must perform the following operations:

1. Double-click the Opcenter Reporting desktop icon.

   > This link redirects to the following default URL:
   > http://<*machine name*>/opcenterrp
   > Depending on the security configuration (http/https) or on the full computer name, this URL may need to be modified by the user.

2. Assign roles to other users in the Access Control page.

## The Home Page

The **Home** page is made up of the following cards. Some of the cards may be displayed or not depending on the role of the logged-in user.

| Card | Description |
|---|---|
| **Reports** | This card gives you access to the **Reports** page, where you can create reports and folders to manage and organize them. |
| **Data Sources** | This card gives you access to the **Data Sources** page, where you can create the entities to supply data for your reports. |
| **Access Control** | This card gives you access to the **Access Control** page, where you can manage users and licenses. |

## The Primary Navigation Bar

The Primary Navigation Bar is displayed on the left-hand side of each page and includes the following commands:

| Command | Action |
|---|---|
| **Back** | Go to the previously-visited page. |
| **Home** | Go to the **Home** page. |
| **Information on version** | Click this icon to display the **About** pop-up window that contains information about Opcenter Reporting version number. |

| Command | Action |
| --- | --- |
| **License information** | Open the Siemens Third-Party Software disclosure document. |

## User Commands

When you click a panel opens, where you can execute the following operations. You can pin or unpin the panel to the current page.

| Command | Action |
| --- | --- |
| **Logout** | Log out from Opcenter Reporting. |
| **Settings** | Configure the following options:<br>• **Full Screen Mode** or **Exit Full Screen Mode** to enable or disable this option.<br>• **Command Labels** to show labels under commands in the Command Bar. |

## Page Visualization Modes

The pages where items are saved and managed can be displayed in the two following modes:

- **List with Summary**: the list of existing items is shown on the left-hand side of the page. When you select an item, details about it are shown in the **Overview** section in the right-hand side of the page.
- **List**: only the list of existing items in alphabetical order is displayed.

## Naming Convention

When you name an item, you must follow these rules:

| Field | Naming Convention |
| --- | --- |
| **Name** | • The first letter of the name must be an uppercase, lowercase or numeric character.<br>• For the remaining characters of the name, only alphanumeric characters, underscores and spaces should be used.<br>• Special characters (such as %, \|, §, &, #, +, -, etc.) are not allowed.<br>• The maximum length for names must not exceed 255 characters. |
| **Description** | • The first letter of the description must be an uppercase, lowercase or numeric character.<br>• Other character types are allowed for the remaining text of the description.<br>• The maximum length for the description must not exceed 1000 characters. |

# 2 How to Manage Access Control

## Accessing the Page

To access the **Access Control** page, click the **Access Control** card in the **Home** page.

> Only authorized users can access this page. If you do not have the permissions, the card is disabled and the **Not Authorized** notification is shown.

## Available Operations

- Configure users and roles
- Check the number of available seats for the existing users

# 2.1 Configuring Users and Roles

In this page you can grant users access to the Opcenter Reporting application functionalities by assigning them a predefined role.

## Procedure

1. In the **Access Control** page, click ⊕ **Add user or group**.
2. In the **Add user or group** panel, insert the user or group name in the format used during User Management Component configuration. For more details, see *Opcenter Reporting Installation Manual*.

   > No check on the existence of users is performed, since they may belong to different categories (e.g. UMC or Trusted App users).

3. Select the **Can perform administrative functions** check box if you want this user to have the permission of assigning roles to users and manage data sources.
4. Select one of the following roles:

| Role | Description |
|---|---|
| **Report Author** | Can create, author, edit and delete reports and use data sources to create reports. Permissions for the functionalities accessible from the **Reports** card include all the available operations. |
| **No Role** | This role does not consume any seats and can be assigned to any user. Can create data sources and import and export reports, but cannot create reports. |
| **Report Viewer** | Can only view reports. |

5. Click **Save**.

## 2.2 Checking License Seats

This page shows the number of total and available seats for each role and each user. Seats correspond to the number of users that can access the application at the same time, depending on the type of license you have purchased. A seat is consumed for each logged-in user, unless this user has been assigned the **No role** role in the **Access Control** page.

### Checking the number of available seats

In the **License Management** tab, check the following information:

| Field | Description |
|---|---|
| **User** | The name assigned to the user when he was created in the **Access Control** page. |
| **Session** | Unique number that a website server assigns to a specific user for the duration of his visit (session). |
| **Expiration** | The number of inactivity minutes left before the session for this user expires. The maximum duration of inactivity is 120 minutes. After this time has elapsed, a new session is started. |
| **User Agent** | The Internet browser used to access the application. |
| **IP Address** | The IP address of the machine from which the user is connected and is sending requests. |

### Releasing Seats

Seats are released only when:

- You log out of Opcenter Reporting by clicking the **Logout** button.
- The session expires due to user inactivity (maximum inactivity duration is 120 minutes).

> Seats are not released when you close the browser.

### Updating the license

If you have updated your license, for example to add more seats, perform the following operations:

1. Click **Reload license information** to update the application with the information about the new license.
2. Update the license server: for more details see *Opcenter Reporting Installation Manual*.

# 3 Quick Start to Using Opcenter Reporting

This workflow provides a general outline of the main steps that must be executed to use Opcenter Reporting.

## Workflow

1. Create Data Sources
2. Create Folders
3. Create Reports
4. Author Reports

## Additional Operations

**On Reports**

- Clone Reports
- Export or Import Reports
- Embed Reports in a Custom Application

**On Data Sources**

- Create Custom Entities

## Batch Operations

- Move Reports to a Different Folder
- Edit Data Sources

# 4 How to Create a Data Source

In this step, authorized users can define the Siemens MOM sources that supply data for reports by creating data source connections to be used when they create a report.

> Opcenter Reporting can only be connected to the databases of Siemens MOM products. The connection to third-party databases is not allowed.

## Accessing the Page

To access the **Data Sources** page, click the **Data Sources** card in the Home page.

## Available Operations

You can create two types of data sources depending on your requirements and on the data management system installed on your machine. If both SQL Server and Oracle systems are present, this option is marked by a small triangle on the left side of the ⊕ command.

- Create a SQL Server Data Source
- Create an Oracle Data Source

## Additional Operations on Data Sources

On existing data sources you can perform a number of additional operations. The toolbar is displayed on the right side of the page and includes the following commands:

| Command | Action |
|---|---|
| | Delete the selected data source.<br>You cannot delete a data source that is being used by a report. |
| | Edit the selected data source. This operation allows you to modify the details you have inserted during the data source creation and is different from the Edit data source operation you can perform to associate a different data source to a report. |
| | (Optional) Import Custom Relation. |
| | Test connection. This action validates the data source, including custom relations, if they have been imported, and custom entities. A data source cannot be used to create a report if it has not been validated using this command. If the data source has not been validated after you have created it, a red mark is shown under the data source name. After you have validated it, a green mark will appear. |
| | (Optional) Open the data source to Create Custom Entities |

## 4.1 Creating a SQL Server Data Source

Follow this procedure to create a data source for a Siemens MOM product using a SQL Server database.

## Procedure

1. In the **Data sources** page, click ⊕ **Create data source**.
2. In the **Create a SQL Server data source** panel, insert the following details:

| Parameter | Description |
|---|---|
| **Name** | A meaningful name that you want to assign to the Data source. |
| **Server name** | Insert the name of the SQL server: <*server name*> or <*server name\instance name*>. |
| **Database name** | Insert the database name. |
| **Windows Authentication** | Windows Authentication is only supported when the server type is SQL Server. This check box is selected by default.<br>For more information on how to configure IIS Application Pool to use Windows Authentication, see the *How to Configure Opcenter Reporting* section in *Opcenter Reporting Installation Manual*. |
| **User** | This field is enabled if the Windows Authentication box has not been selected. Insert the name of the user. |
| **Password** | This field is enabled if the Windows Authentication box has not been selected. Insert the password for the user. |
| **Use schema prefix in table names** | If you select this check box, in the Designer the tables' names will be prefixed by the schema name. This option is particularly helpful to distinguish tables with the same name but belonging to different schemas of the database (for example: schema1.tableName, schema2.tableName). |
| **Encrypt connection** | Select this check box to enable an encrypted connection between *Opcenter Reporting* server and the SQL Server database you are using.<br>To obtain the connection, you must have configured SQL Server correctly: for more information, see https://support.microsoft.com/en-us/help/316898/how-to-enable-ssl-encryption-for-an-instance-of-sql-server-by-using-mi |
| **Description** | (Optional) A description to provide further information for the data source. |

3. Click **Save**.

## 4.2 Creating an Oracle Data Source

Follow this procedure to create a data source for a Siemens MOM product using an Oracle database.

### Procedure

1. In the **Data sources** page, click ⊕ **Create data source**.
2. Select the **Create an Oracle data source** option from the drop-down menu.
3. In the **Create an Oracle data source** panel, insert the following details:

| Parameter | Description |
|---|---|
| **Name** | A meaningful name that you want to assign to the Data Source. |
| **User** | Insert the name of the user. |
| **Password** | Type the user's password. |
| **Hostname** | Insert the name of the server, which in Oracle corresponds to the hostname. |
| **Port** | Insert the Port number. Select either the **SID** or the **Service name** radio button and provide either of them in the edit box below. |
| **Use schema prefix in table names** | If you select this check box, in the Designer the table names will be prefixed by the schema name. This option is particularly helpful to distinguish tables with the same name but belonging to different schemas of the database (for example: schema1.tableName, schema2.tableName). |
| **Description** | (Optional) A description to provide further information for the data source. |

4. Click **Save**.

## 4.3 Importing Custom Relations

The Designer automatically recognizes the relations natively present in the database. If you need to define further relations which are not present, you can use the **Import custom relations** command.

To perform this operation, you need to define a script in which the relation between parent and child entities is defined. This relation can be applied to more than one field. Relations can refer to tables or views.

### Prerequisites

You have defined the custom relation script.

### Procedure

1. In the **Data sources** page, select an existing data source.
2. Click **Import custom relation**.
3. In the **Custom relation script** area, insert the script (see an example below).

   You cannot use custom entities within the custom relation script.

4. Click **Save**.

## Example of custom relation script

```
[
    {
        "RelationName": "FK_Orders_Customers",
        "Parent": {
            "Schema": "",
            "Table": "Customers",
            "Fields": [
                "CustomerID"
            ]
        },
        "Child": {
            "Schema": "",
            "Table": "Orders",
            "Fields": [
                "CustomerID"
            ]
        }
    }
]
```

# 4.4 How to Create Custom Entities

You can define custom queries in order to expose new data sets in the Designer. When you create a report using the Designer, the custom entities you have created will be included in the list of available tables and views.

## Accessing the Page

To access the **Custom entities** page, in the **Data sources** page select the data source for which you want to create a custom entity and click .

## Workflow

1. Create a custom entity
2. Edit a custom entity

## Additional Operations on Custom Entities

On existing custom entities you can perform a number of additional operations. The toolbar includes the following commands:

| Command | Action |
|---|---|
| | Delete the selected custom entity. If you delete a data source, the custom entities created for that data source will be deleted as well. |
| | Import custom entity. |
| | Export custom entity. This command exports a .zip file containing the entity definitions. You can export more than one custom entity at a time. |

## 4.4.1 Creating a Custom Entity

### Prerequisites

You have created a data source.

### Limitations

You cannot use custom entities within a custom relation script.

### Procedure

1. In the **Custom entities** page, click **Create custom entity**.
2. In the **Create custom entity** panel, insert a meaningful name for the custom entity.
3. Click **Save**.

## 4.4.2 Editing a Custom Entity

### Prerequisites

You have created a custom entity.

### Procedure

1. In the **Custom Entities** page, select a custom entity.
2. Click **Edit**.
3. Build your query starting with the SELECT statement. For your statement to be valid, you must be able to include it within another statement, for example:

```
SELECT * FROM (your statement)
```

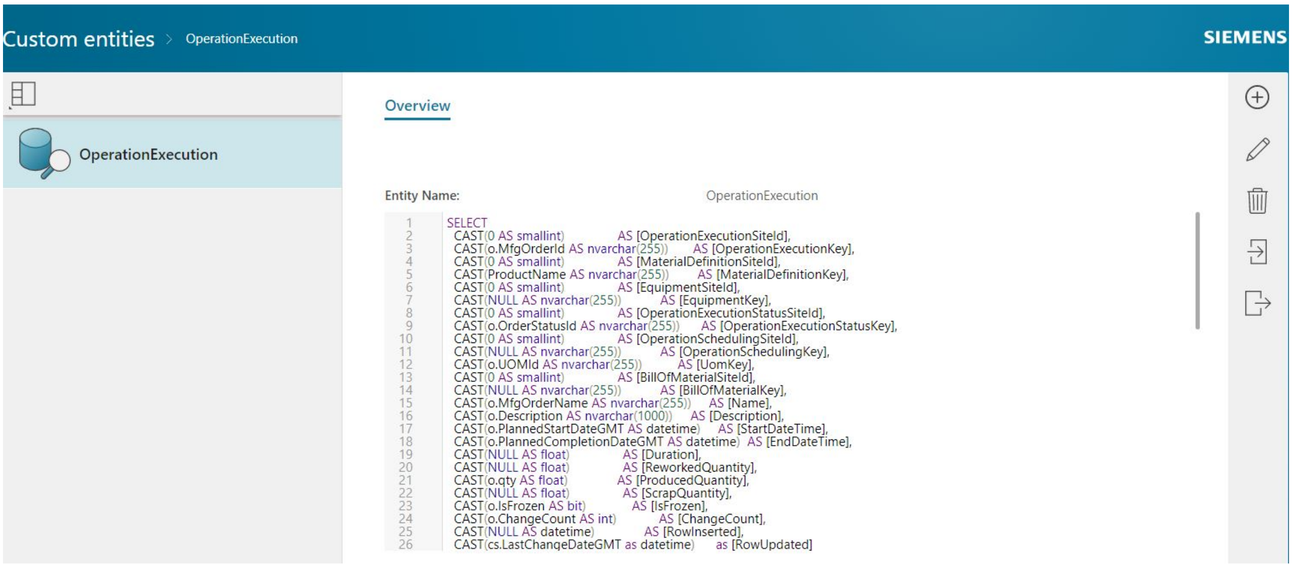
4. Click **Parse** to check the validity of the script.
5. If the script is valid, click **Save**.

### Server-side Filtering and Sorting

Server-side filtering and sorting can be performed. The supported keywords for filtering are:

- = <= => <>
- not
- and or
- isnull
- startswith
- endswith
- contains
- dateinrange
- numinrange
- LEN
- MID$
- LEFT$
- RIGHT$
- YEAR
- MONTH
- DAY
- UPPER$
- LOWER$
- EMPTY

## Example of Custom Entity



# 5 Creating Folders

In this step, you can create folders to organize and manage your reports. Folders can be created in the root folder or within any other folder.

## Accessing the Page

To access the **Reports** page, click the **Reports** card in the Home page.

## Procedure

1. In the **Reports** page, select **Create**.
2. Select the **Create folder** option from the drop-down menu.
3. In the **Create folder** panel, insert the following details:

| Parameter | Description |
|---|---|
| **Name** | A meaningful name that you want to assign to the folder. You can assign the same name to different folders provided that they are contained in different parent folders. |
| **Description** | A description to provide further information on the folder. |

4. Click **Create**.
5. Repeat steps 1 to 4 to create more folders. You can also create folders within another folder. To do so, select a folder and click **Open** near the folder name, then repeat steps 1 to 4.

## Additional Operations on Folders

On existing folders you can perform a number of additional operations. The toolbar is displayed on the right side of the page and includes the following commands:

| Command | Action |
|---|---|
| | Delete the selected folder. You can only delete empty folders. |
| | Edit the selected folder. |
| | Import a report to the the selected folder. |

# 6 How to Create Reports

## Accessing the Page

To access the **Reports** page, click the **Reports** card in the Home page.

## Workflow

1. Add a Report
2. Author a Report using Combit® List & Label Designer

## Additional Operations on Reports

On existing reports you can perform a number of additional operations. The toolbar is displayed on the right side of the page and includes the following commands:

| Command | Action |
|---|---|
| | Delete the selected report. |
| | Edit the selected report. |
| | Open report using Report Designer. |
| | Edit the report data source. |
| | Move items to folder. |
| | Import a report. |
| | Export the selected report(s) in .zip format. You can only export reports marked with a green icon. |

Some operations on reports can only be performed if the data source of the reports has been validated using the **Test Connection** command. If that is the case, reports will be marked with a green icon.

## 6.1 Adding Reports

In this step you can create reports either in the root folder or from within another existing folder.

### Procedure

1. In the **Reports** page, select **Create** and the **Create report** option from the drop-down menu.
2. In the **Create report** panel, insert the following details:

| Parameter | Description |
|---|---|
| **Name** | A meaningful name that you want to assign to the report. |
| **Data sources** | Select the report data source from those you have previously created. |
| **Description** | (Optional) A description to provide further information on the report. |

3. Click **Create**. The newly-created report is added to the list of folders and reports on the left-hand side of the page. New reports are marked with a red icon, which means that they need to be edited with the Designer tool.

## 6.2 Authoring Reports

After you have created a report, you need to design its structure and choose how to show the information that originates either from a database or another data source. To this end, you can use Combit® List & Label Designer.

> Opcenter Reporting is designed to only create and manage reports. Even though Combit List & Label® Designer includes the labeling functionality, Opcenter Reporting does not support it.

### Prerequisites

The Combit® List & Label Designer must be installed on your local machine. The first time you want to design a report, you can download the executable file to be launched for the tool installation.

> For information and instructions on how to use the Designer, see **List & Label® Designer Manual**, which is provided in the same folder as Opcenter Reporting Documentation, or at the link: https://docu.combit.net/designer/en/#

### Procedure

1. Select a report.
2. Click **Open Report using Report Designer**.
3. Click **Open Web Designer**.
4. Create a report using the Designer according to your requirements.

### Result

After a report has been designed and saved, it is marked with a green icon. To view it in Opcenter Reporting environment, click **Open** on the report.

> Before you open a report, keep in mind this list of limitations.

### 6.2.1 Limitations

There are limitations set by the target format. The most important are:

- Rows that are anchored to each other are not correctly exported.
- Overlapping objects (except rectangles) are not supported.
- Rectangles cannot have any frames. Transparent rectangles will be ignored.
- Decimal tabs will be transformed to right-aligned tabs.
- Any other tabs will be transformed to a blank.
- 'Paragraph spacing' and 'Line distance' in text objects are not supported.
- The option 'Line break' in text objects and table columns is always active in the export result.
- The option 'Separators fixed' in table objects is not supported.
- The left offset in the first column of a table line will be ignored.
- The list object option "fixed size" is not supported.
- The chart object is exported as a picture and thus cannot appear transparently.
- The transformation of RTF text to HTML code is carried out by an RTF parser. This parser interprets the basic RTF formatting. Extended RTF functionality such as embedded objects will be ignored.
- Rotated RTF text is not supported.
- Spacing before table lines is not supported.
- Horizontal and vertical lines are exported as images; all other lines are ignored.
- Gradient fills are not supported.
- Rotated text (RTF and plain) is not supported.
- Custom drawings in callbacks are not supported.
- Objects to be exported as picture should not overlap the object frame.
- Table frames of neighboring cells are not drawn so that they overlap each other, but discretely. This can double the frame width and needs to be taken into account during the design.
- Offset of table lines is not supported.
- TotalPages$() may not be used in rotated text objects.
- Shadow Pages are not supported.
- The wrapping option 'Minimum Size' in the crosstab object is not supported.
- The property "Link" is not supported.

The following tags or attributes superseding HTML 4.01 standard will be used:

- Ending the page frame for HTML pages will use browser specific tags.
- Setting line color for the table grid (<table BORDERCOLOR="#ff0000">) is browser specific.
- Setting line color for horizontal table lines (<hr COLOR="#ff0000">) is browser specific.

If the HTML object is not exported as picture but as HTML text, the part of the stream between the <body> and </body> tags will be embedded. This by definition leads to the following limitations:

- Cascading Style Sheets are not completely supported.
- Page formatting such as background color, margins etc. is lost.
- HTML does not allow scaling. The exported result may thus differ from the layout in the Designer, especially when the HTML object contains the contents of a whole website.
- Even if the HTML object wraps over several pages, it will be exported in one stream, i.e. no page wrap will occur.
- Embedded scripting functionalities may be lost.
- Issue print is not supported.

> ⚠ The HTTPS protocol is currently not supported by the HTML object.

Preserving the text rendering in XHTML while activating the "shrink" option for text is not supported. XHTML has a number of restrictions compared to other formats as there are not always corresponding CSS styles to support certain features. Automatically shrinking font sizes to match a given box is one of them. While there are workarounds like viewport based font sizes or script based DOM manipulations, there is no secure way that works equally well in all scenarios and browsers. Thus, usage of the shrink option is discouraged when printing to XHTML.

# 7 Cloning Reports

Follow this procedure to create the copy of an existing report. You can clone either reports that have already been authored using the Designer tool (marked with a green icon) or reports that have not yet been edited (marked with a red icon).

## Procedure

1. In the **Reports** page, select the report you want to copy and click **Clone Report**.
2. A new report named *<Report name_1>* is automatically created in the same folder.

# 8 Moving Reports to a Different Folder

Once you have created a report, either in the root folder or within another folder, you can move it to another folder to better organize your reports.

> ⚠ The target folder must not contain a report with the same name as the report you want to move, otherwise the move operation will be canceled, even if you are moving a batch of reports and only one of them has the same name as a report contained in the target folder.

## Procedure

1. Select the report you want to move and click **Move**.
2. In the **Move items to folder** panel, the folders tree is shown. Select the folder where you want to move the report.
3. Click **Move** and then **Confirm**.

# 9 Editing Data Sources

You can modify the data source for an existing report or for more than one reports at the same time.

- The reports for which you want to modify the data source must be contained in the same folder.
- The Server Type you have selected when you created the report cannot be modified.

## Procedure

1. In the **Reports** page, select one or more reports for which you want to modify the data source.
2. Click **Edit data source**.
3. In the **Edit reports data source** panel, select the new data source from the drop-down menu.
4. Click **Save**.

# 10 Exporting or Importing Reports

You can export and import reports, but remember that reports are unique within the system: therefore you cannot reimport a report you have previously exported if you have not previously deleted the report in your system.
For example, if you have exported one or more reports in a .zip file you cannot reimport them (neither by changing their name nor by creating a new folder) unless you have deleted them from the system.

> Files exported by the Opcenter Reporting product may contain sensitive data, advanced custom logic source code, and could potentially be altered or silently modified by a malicious user; as a consequence, it is mandatory to keep these files in a secure and safe place, transmit them using secure and trustable tools (encrypted emails, encrypted containers like VeraCrypt or Zed! or other encryption solutions) and make them available to restricted users only.

## Limitations

The images used in reports are not exported nor imported with the reports. As a result, after you have imported a report, you must open it and add the missing images again.

## Exporting Reports

1. In the **Reports** page, select one or more reports from the required folder. To select more reports, press the SHIFT key.
2. Click **Export**.
3. A .zip file containing the exported reports is downloaded by the system. The reports are saved in: **ProgramData\Siemens\Opcenter\Intelligence\Report\Server\App_Data**

## Importing Reports

1. In the **Reports** page, click **Import**.
2. In the **Import report** panel, browse for the file(s) to be imported.
3. From the drop-down list, select an existing data source.
4. Select the folder where you want to store the imported report(s).
5. Click **Import**.

# 11 How to Embed Reports in a Custom Application

You can embed the Opcenter Reporting reports directly into your custom application using the Siemens Web Application Collaboration (SWAC) library.

For more information on the SWAC Library, see *SWAC Documentation*, available at https://code.siemens.com/swac/sdk/development/-/tree/master/documentation

ⓘ The SWAC Component is available at this source: https://<*domain name*>/opcenterrp/AnalyticTool/swacWidget/swacReportViewer.html

## Prerequisites

- The SWAC Library has been imported. For more information on how to import and integrate a SWAC component in a Siemens Web Framework (SWF) project, see *SWAC Documentation*.
- You have used User Management Component (UMC) authentication to log in to Opcenter Reporting.
- You have created at least one report in Opcenter Reporting.

For information on other SWAC prerequisites, see *SWAC Documentation*.

## Available Operations

- Integration Methods
- Embed Reports

# 11.1 SWAC Integration Methods

The SWAC Component provides the following methods to retrieve the folder tree hierarchy and the report list.

## getFolderStructure()

Retrieves the folder tree hierarchy in Opcenter Reporting.

The return type is for example:

```
{
   "RepositoryItemId":"00000000-0000-0000-0000-000000000000",
   "Name":"root",
   "Children":[
      {
         "RepositoryItemId":"a235c809-d95f-44b4-b14d-422990e4ec98",
         "Name":"Folder1",
         "Children":[
            {
               "RepositoryItemId":"75d197a4-199b-4d28-8126-9efbc48a287a",
               "Name":"Folder2",
               "Children":[
                  {
                     "RepositoryItemId":"02666012-f1f3-4195-b08f-996c83f0b732",
                     "Name":"Folder3",
                     "Children":[

                     ]
```

```
                    }
                ]
            }
        ]
    },
    {
        "RepositoryItemId":"fb0b4b8c-f6eb-43db-bc88-6f3766f163de",
        "Name":"TEST Custom Entities",
        "Children":[

        ]
    },
    {
        "RepositoryItemId":"74496140-e613-4e5d-89c8-3bae93189975",
        "Name":"TEST Custom Entities Easy",
        "Children":[

        ]
    },
    {
        "RepositoryItemId":"bdecabbd-af79-44aa-b8df-0820c63c9e35",
        "Name":"TEST Custom Entities Northwind",
        "Children":[

        ]
    },
    {
        "RepositoryItemId":"d00044e9-2864-4f56-ae89-426d617152c1",
        "Name":"TestImage",
        "Children":[

        ]
    },
    {
        "RepositoryItemId":"584bdc3a-e7ef-42db-b463-6c24b98f292c",
        "Name":"FOLDER",
        "Children":[

        ]
    },
    {
        "RepositoryItemId":"37b346ca-82b2-4859-917d-a55ecb7c2b83",
        "Name":"ReferenceReport",
        "Children":[
            {
                "RepositoryItemId":"6e344501-19d2-4b9e-b145-de81e3adaf6f",
                "Name":"SQLSERVER",
                "Children":[

                ]
            },
            {
                "RepositoryItemId":"7aff6dcb-5a23-4b3a-9d31-82ef002f0ca5",
```

```
                    "Name":"ORACLE",
                    "Children":[

                    ]
                }
            ]
        }
    ]
}
```


The "Authentication not resolved" message is returned when, after UMC authentication, any issues arise in the call to Opcenter Reporting APIs.

## getReportsList(parentItemId)

Shows the list of items (reports/folders) included in a folder.

The **parentItemId** argument is the **Item Id** of the folder where the reports you want to display are contained.


```
[
   {
      "ItemId":"a235c809-d95f-44b4-b14d-422990e4ec98",
      "cbID":"",
      "ItemName":"Folder1",
      "ItemType":1,
      "ParentItemId":"00000000-0000-0000-0000-000000000000",
      "DataSourceId":"00000000-0000-0000-0000-000000000000",
      "DataSourceName":"n/a",
      "Description":"",
      "IsEmpty":true,
      "IsValid":false
   },
   {
      "ItemId":"fb0b4b8c-f6eb-43db-bc88-6f3766f163de",
      "cbID":"",
      "ItemName":"TEST Custom Entities",
      "ItemType":1,
      "ParentItemId":"00000000-0000-0000-0000-000000000000",
      "DataSourceId":"00000000-0000-0000-0000-000000000000",
      "DataSourceName":"n/a",
      "Description":"",
      "IsEmpty":true,
      "IsValid":false
   },
   {
      "ItemId":"74496140-e613-4e5d-89c8-3bae93189975",
      "cbID":"",
      "ItemName":"TEST Custom Entities Easy",
      "ItemType":1,
      "ParentItemId":"00000000-0000-0000-0000-000000000000",
      "DataSourceId":"00000000-0000-0000-0000-000000000000",
      "DataSourceName":"n/a",
```

```
        "Description":"",
        "IsEmpty":true,
        "IsValid":false
    },
    {
        "ItemId":"bdecabbd-af79-44aa-b8df-0820c63c9e35",
        "cbID":"",
        "ItemName":"TEST Custom Entities Northwind",
        "ItemType":1,
        "ParentItemId":"00000000-0000-0000-0000-000000000000",
        "DataSourceId":"00000000-0000-0000-0000-000000000000",
        "DataSourceName":"n/a",
        "Description":"",
        "IsEmpty":true,
        "IsValid":false
    },
    {
        "ItemId":"37b346ca-82b2-4859-917d-a55ecb7c2b83",
        "cbID":"",
        "ItemName":"ReferenceReport",
        "ItemType":1,
        "ParentItemId":"00000000-0000-0000-0000-000000000000",
        "DataSourceId":"00000000-0000-0000-0000-000000000000",
        "DataSourceName":"n/a",
        "Description":"",
        "IsEmpty":true,
        "IsValid":false
    },
    {
        "ItemId":"8a72f23e-ef4a-4158-819f-11dd71b20a7e",
        "cbID":"repository://{4BB00BF8-B5E6-405B-A6D5-AE4BDD718C4B}",
        "ItemName":"TESTREPORT",
        "ItemType":0,
        "ParentItemId":"00000000-0000-0000-0000-000000000000",
        "DataSourceId":"35838883-51e5-4989-acb5-5d5fbbde831f",
        "DataSourceName":"CEP_DataSource",
        "Description":"",
        "IsEmpty":false,
        "IsValid":true
    },
    {
        "ItemId":"f649c77e-7cb0-49fb-9a72-b6e6a5d8ca1a",
        "cbID":"repository://{42A8D3FD-EF2D-4A95-92A1-04FD283290F8}",
        "ItemName":"SimpleTest",
        "ItemType":0,
        "ParentItemId":"00000000-0000-0000-0000-000000000000",
        "DataSourceId":"80265225-a5e6-480c-841e-d5220accabae",
        "DataSourceName":"NorthwindSqlServer",
        "Description":"",
        "IsEmpty":false,
        "IsValid":true
    }
]
```

> ⚠ The "Authentication not resolved" message is returned when, after UMC authentication, any issues arise in the call to Opcenter Reporting APIs.

### getReportCbId(itemId, parentItemId)

Returns the **CbId** if you input the **ItemId** and **ParentItemId** that can be retrieved using the previous methods.

```
repository://{42A8D3FD-EF2D-4A95-92A1-04FD283290F8}
```

> ⚠ The "Authentication not resolved" message is returned when, after UMC authentication, any issues arise in the call to Opcenter Reporting APIs.

### setRepositoryId(itemId, reportQueryParams)

Loads the report into the SWAC Component. You have to input the **repository Id**, which is the **CbId** of the report, and the **reportQueryParams**. For the latter, null or empty values are accepted. If some parameters have been configured for the report, the following types are allowed:

- **string**
- **date**: JSON format ISO 8601
- **bool**: true or false
- **numeric**: using decimal point as separator
- **array**: separated by **;**

**Example**

Create a report that contains the parameters:

- **@EmployeeID**
- **@City**
- **@BirthDate**

In List & Label Designer, set the visibility of these parameters to **False**.
Pass the **reportParams** argument as in this example:

```
"@EmployeeID=0&@City=Seattle&@BirthDate=1958-09-01T00:00:00Z"
```

## 11.2 Embedding Reports in a Custom Application

### Procedure

1. Create an HTML file and refer to the SWAC libraries. You can use script tags in HTML to add references.

   ```
   SWAC-Base.js: <script src="../assets/lib/@swac/swac-base.min.js"></script>
   SWAC-Container.js: <script src="../assets/lib/@swac/swac-container.min.js"></
   script>
   ```

2. Configure the necessary SWAC library properties. Example: SWAC.Config.LevelLog = 1; SWAC.Config.TimeOuts.Enabled = false.

3. (Optional) Specify the path of the SWAC base library, which permits the execution of SWAC code and communication between SWAC container and SWAC component. Example: SWAC.Config.Container.URLs.BaseLibrary = <*URL*>
4. Initialize the SWAC component object by configuring the necessary properties.
5. Create the SWAC component by calling the **beginCreate** method in the SWAC library.
6. Subscribe to the **onReady** event to call exposed SWAC component methods. Only after the **onReady** event has been fired, it is possible to call all the SWAC component methods.
7. Fetch the SWAC component object by component name and call the necessary method exposed by the SWAC component.
8. In the callback function, use the **beginShow** (**true**) method to display the SWAC component.

You can download the SWAC kit at this link: https://code.siemens.com/swac. The SWAC kit must be downloaded and referenced locally.