About SAS Projects

SAS Projects provides a collaborative interface that data management staff can use to create data projects that they can build and maintain together. You can use the interface to help turn ad hoc data work into repeatable business processes that you can monitor as a team. You can use SAS Projects to perform the following tasks:

- Add a Project on page 5
- Review a Project Summary on page 5
- Edit a Project on page 6
- Maintain Project Data on page 7
- Add Data to a Project on page 8
- Maintain Project Members on page 9
- Add Project Members on page 10
- Change Access Levels on page 10
- Maintain Project Content on page 11
- Add Content on page 12

A Tour of the Interface

The following table covers the main components of the SAS Projects user interface:

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main window</td>
<td>Displays a table containing existing projects.</td>
<td>Open the SAS Projects application.</td>
</tr>
<tr>
<td>Summary window</td>
<td>Displays summary information about an opened project.</td>
<td>Open a project in the Main window.</td>
</tr>
</tbody>
</table>
### Getting Started with SAS Projects

You can use SAS Projects to create and manage new projects or to work with existing projects. You can find more information in the following topics:

- “Add a Project” on page 5
- “Open and Review the Projects List” on page 5

### Sample Project Windows

You can use SAS Projects to keep track of the data, content items, and people connected to the projects that you work on. You can build projects that collect these items and connect them to the applications where you put them to work. This topic examines the main collection points created in SAS Projects: the Projects window, the Summary window, the Data window, the Membership window, and the Content window.
The Projects window displays all of the projects that you have created. It also lists the projects that have added you as a member. You can filter, refresh, and review the projects list. You can also create new projects and delete existing ones. For more information, see “Open and Review the Projects List” on page 5.

The Summary window displays detailed information about a project that you opened in the Projects window. You can use this window to access the Data, Membership, and Content windows for the selected project. You can also review and update both the Status and Project Detail panes for the project. For more information, see “Review the Summary Window” on page 6.
The list in the center of the Data window enables you to review, filter, and refresh the data that you have added to the selected project. The pane on the right side of the window has Details, Sample Data, and Profile tabs that you can use to explore a selected data item. You can click Actions menu to use the data in related applications. For more information, see “Maintain Project Data” on page 7.

The Membership window displays the members that have been added to a selected project. The Groups and Individuals panes are displayed because both groups and individuals are members of this project. For example, if only groups were present, the Individuals pane would not be displayed.
You can filter and refresh the members list. You can also add members to the project. If you select members in the list, you can remove them or change their access level. For more information, see “Maintain Project Members” on page 9.

Figure A.5  Content Window

The Content window displays the content items that have been added to a selected project. You can filter and refresh the content list. You can also add content items to the project. If you select content items in the list, you can remove them. For more information, see “Maintain Project Content” on page 11.

Add a Project

You can add a project from the Main window that is displayed when you open SAS Projects.

1 Click New Project to access the New Project window.
2 Enter an appropriate name for the project. The project name must be unique among all project names, including the names of projects that you do not have permission to see. If you enter a name that conflicts with a project that you cannot see, a duplicate name error message is displayed.
3 (Optional) Enter a description of the project in the Description field.
4 Click Save to save the new project and open the Summary window for the project.

Open and Review the Projects List

The projects that you have added are displayed in a tabular list in the Projects window when you log on to the SAS Projects application. You can perform the following functions in the projects list table:

- Enter text in the Filter field to filter the list.
- Sort the list in ascending or descending order by clicking in any of the column headings.
- Refresh the list by clicking.
Create a new project by clicking **New Project**.

- Click to access additional functions. In this case, you can select one or more projects by using the check boxes in the left column of the table. If you select multiple projects, you can delete them. If you select one project, you can open, edit, or delete it. You can also click a project to open it.

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**Review the Summary Window**

The Summary window displays information about a selected project, including status messages and project details. You can perform the following project tasks in this window:

<table>
<thead>
<tr>
<th>Task</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Data, Membership, and Content windows for the project.</td>
<td>Click the links in the left pane of the window.</td>
</tr>
<tr>
<td>Post and review status comments.</td>
<td>Enter text in the <strong>Status</strong> field, and click <strong>Post</strong>.</td>
</tr>
<tr>
<td>Review project details.</td>
<td>Click to refresh the Status and Project Details panes.</td>
</tr>
<tr>
<td>Edit project details.</td>
<td>Click to access the Edit Project Details window, where you can edit the project name and description and add a project avatar image.</td>
</tr>
</tbody>
</table>

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**Edit Project Details**

Click in the Summary window to access the Edit Project Details window. You can use this window to edit the name and description of the selected project. You can also change a project avatar image, as described in “Choose a Project Avatar Image” on page 6.

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**Choose a Project Avatar Image**

You can choose a project avatar image to identify your project. Perform the following steps:

1. Click **New Image** in the Edit Project Details window to access the Choose File to Upload window.
2. Select an image that is saved into one of the file types listed in the **Custom Files** field.
3. Click **Open** to open and review the selected file. If you want to crop the file to fit the Project avatar window, select Crop to fit. (Click **Choose** on a Macintosh computer to perform the same function.)
4. Click **Save** when you are finished editing your project details. The avatar image is saved, along with the other details.
Maintain Project Data

The data items that you have added to your project are listed in the window Data. The window contains two sections. In one section, a table lists the data items that have been added to the project. The other section enables you to drill down and display the details, sample data, and profile results for a selected data item.

The data items list displays all of the data items that have been added to project in alphabetical order. You can use the Search field and the buttons in this section to perform the following functions:

- Enter text into the Search field to display only the data items with names that contain that text.
- Click to add data items to the project.
- Click and then click Refresh to refresh the list of data items.
- Click to remove that data item from the project.

The icon designates tables that are loaded in memory. You can right-click on this icon to access a set of functions listed in a contextual menu that you can perform to maintain a selected in-memory data item. You can also click Actions on the right side of the Data window to manage data, prepare data, explore and visualize data, or explore lineage. The functions are described in the following table:

<table>
<thead>
<tr>
<th>Name</th>
<th>Action</th>
<th>Description</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare Data</td>
<td>Opens the data item in SAS Data Studio and creates a plan for the selected table.</td>
<td>Transforms data in a SAS Cloud Analytic Services (CAS) environment. The data quality transformations are available only when SAS Data Preparation is licensed.</td>
<td>Click or Actions to access Actions ➔ Prepare Data.</td>
</tr>
<tr>
<td>Manage Data</td>
<td>Opens the data item in SAS Data Explorer.</td>
<td>Imports data into a CAS environment. The advanced data profiling features are available only when SAS Data Preparation is licensed.</td>
<td>Click or Actions to access Actions ➔ Manage Data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See “Getting Started with the Choose Data Window” in SAS Data Explorer: User’s Guide.</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Action</td>
<td>Description</td>
<td>Access</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Explore and Visualize Data</td>
<td>Opens the data item in SAS Visual Analytics.</td>
<td>Leverages SAS high-performance analytic technologies and empowers organizations to explore huge volumes of data very quickly to identify patterns, trends, and opportunities for further analysis. See “About SAS Visual Analytics” in SAS Visual Analytics: Overview.</td>
<td>Click or Actions to access Actions ⇒ Explore and Visualize Data.</td>
</tr>
<tr>
<td>Explore Lineage</td>
<td>Opens the data item in SAS Lineage.</td>
<td>Displays the relationships of objects in a CAS environment, such as data sources and jobs. See “Getting Started with SAS Lineage Viewer” in SAS Lineage Viewer: User’s Guide.</td>
<td>Click or Actions to access Actions ⇒ Explore Lineage.</td>
</tr>
<tr>
<td>Run profile</td>
<td>Submits a profile job based on the selected table.</td>
<td>Submits a profile job. See “Getting Started with the Choose Data Window” in SAS Data Explorer: User’s Guide.</td>
<td>Click or to access Run profile.</td>
</tr>
</tbody>
</table>

Click the Details, Sample Data, and Profile tabs at the right side of the screen to see more information about a data item that you select in the data items list:

Details
detailed information about the selected item, such as column names and types, number of columns and rows, and creation and modification dates and times.

Sample Data
take sample data for a specified number of rows.

Profile
data from the most recent profile run for the selected item. Click to refresh the profile data and to delete the profile report.

**Add Data to a Project**

You can use the Choose Data window to add data to your project. You can access your data on one of the following tabs at the left of the window:

Available
displays the items contained in the SAS Cloud Analytic Services (CAS) Servers that your logon authorizes you to access.

Data Sources
adds and displays database sources such as SAS and Oracle tables into the caslibs on the CAS Server. Enables you to define connection settings for the sources that you need.
Import
adds and displays additional types of data that you can import into the CAS libraries on the CAS Server. For example, you can import local files and social media such as Twitter, Facebook, Google Analytics, YouTube, and Google Drive feeds. You can also import Geo Enrichment assets such as ESRI files.

Add data to your project from the Available tab:
1. Click in the Data window to access the Choose Data window.
2. Click one of the tabs at the left of the Data window.
3. Click a data item in the list to select it.
4. Click Add. (You can also double-click the selected item.) A message confirming the addition is displayed after a few seconds.
5. Click any additional data items that you want to select and add them. Note that you can select only one item at a time.
6. Click Close when you have added all of the needed items. The Data window is displayed with the data items that you added.

You can click the buttons in the Choose Data window to perform the following functions:
- Click to sort the list of available items.
- Click to refresh the list.
- Select an item in the list and click to unload the item.
- Select an item in the list and click to add the item to an import.
- Select an item in the list and click to run a profile on the item.

For more information about adding items to your project by using this Available tab and the Data Sources and Import tabs, see “Getting Started with the Choose Data Window” in SAS Data Explorer: User’s Guide.

Maintain Project Members
Once you add members to a project, you can maintain them in the Membership window, which is accessed by clicking Membership in the Summary window for the project.

Group members are displayed in the Groups section of the Membership window, and individual members are displayed in the Individuals section. These sections are displayed only when you have added the corresponding type of member to the project. For example, if you have no group members, you do not see the Groups section. You will always see the Individuals section because it contains the creator of the project.

You can use the tools in the content items list to perform the following functions:
- Enter a string in the Filter field, and click to filter the list of members to return only those items that contain the string.
- Click to refresh the list of members.
- Click Add Members to Project to access the Choose Members window and add members to your project.
- Select a content item from the list and click to access the contextual menu.

The functions available in the contextual menu are listed in the following table:
### Table A.3  Membership Maintenance Functions

<table>
<thead>
<tr>
<th>Name</th>
<th>Action</th>
<th>Description</th>
<th>Access from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove</td>
<td>Removes one or more selected members.</td>
<td>Removes one or more selected members.</td>
<td>➕ to access Remove.</td>
</tr>
<tr>
<td>Access level</td>
<td>Displays the Change Access Level window.</td>
<td></td>
<td>➕ to access Access level.</td>
</tr>
</tbody>
</table>

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### Add Project Members

Click **Membership** in the Summary page to access the Membership window.

1. Click **Add Members to Project** to access the Add Members window.
2. Find the member that you want to add. You can enter text in the **Filter** field to limit the results shown.
3. Click the + icon or click the name of the member. The group or individual is added to the **Selected members** section of the window.
4. Click **Add** to add the selected members to your project.

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### Change Access Levels

1. Open the Membership window to change access levels for one or more members of your project.
2. Select the check box next to one or more members. The check box is marked with the ☑️ icon.
3. Click ➕ to access the contextual menu.
4. Click **Access Level** in the contextual menu to display the Change Access Level window.
5. Select an access level from the **Access level** field.
6. Click **OK** to apply the access level that you select to all of the items in the Change Access Level window. If you want to set some members to contributor access and other members to owner access, you must use the Change Access Level window twice, once for each access level. Then, you can select the members that you want to set to the specific access level.

<table>
<thead>
<tr>
<th>Contributor Access Level Actions</th>
<th>Owner Access Level Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add data to a project</td>
<td>Add data to a project</td>
</tr>
<tr>
<td>Remove data from a project</td>
<td>Remove data from a project</td>
</tr>
<tr>
<td>Add content to a project</td>
<td>Add content to a project</td>
</tr>
<tr>
<td>Remove content from a project</td>
<td>Remove content from a project</td>
</tr>
</tbody>
</table>
**Contributor Access Level Actions** | **Owner Access Level Actions**
---|---
Action not available | Edit a project (to change the name, description, or project avatar image)
Action not available | Delete or rename a project
Action not available | Add members to a project
Action not available | Remove members from a project

A project can contain more than one owner. Only an owner of a project or an administrator can add another member as an owner. Moreover, only an owner or administrator can add members to a project or remove members from a project. If there is only one owner in a project, that owner cannot be removed until another owner is added. You can add a new owner by promoting an existing contributor or adding a new member as an owner.

When a group is added as a member, the role applies to all members of the group (and transitively for groups within groups). If a user is both an explicit individual member and a member of a participant group and there is a difference in the roles, then the elevated role will hold. For example, if a user can be both a contributor as an individual member and a member of a group that has been added as an owner. In this case, that user is considered an owner.

**Maintain Project Content**

The content items that you have added to your project are listed in the **Content** window. The window contains a table that lists all of these content items.

The content items list displays all of the content items that have been added to the project in alphabetical order. You can use the tools in the content items list to perform the following functions:

- Enter a string in the **Search** field, and click ![search icon] to search for items that contain the string.
- Filter the list of results by clicking ![filter icon] to access the **Filter** section of the window. You can filter by **Type**, **Owner**, and **Date Modified**. You can also click **Reset all** to reset all of the filter settings.
- Click ![refresh icon] to refresh the list.
- Click **Add Content** to access the Choose Items window and add content items to your project.
- Select a content item from the list and click ![content item icon] to access the contextual menu.

The functions available in the contextual menu are listed in the following table:

**Table A.4  Content Items Maintenance Functions**

<table>
<thead>
<tr>
<th>Name</th>
<th>Action</th>
<th>Description</th>
<th>Access from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare Data</td>
<td>Opens the content item in SAS Data Studio and creates a plan. Available only when the content is supported in SAS Data Studio.</td>
<td>Transforms data in a CAS environment. See “Getting Started with SAS Data Studio” in SAS Data Studio: User’s Guide</td>
<td>Click ![open icon] to access <strong>Open Prepare Data</strong>.</td>
</tr>
<tr>
<td>Name</td>
<td>Action</td>
<td>Description</td>
<td>Access from</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Explore Lineage</td>
<td>Opens the content item in SAS Lineage.</td>
<td>Displays the relationships of objects in a CAS environment, such as data sources and jobs.</td>
<td>Click to access Open Explore Lineage</td>
</tr>
<tr>
<td></td>
<td>Available only when the content is supported in SAS Lineage.</td>
<td>See “Getting Started with SAS Lineage Viewer” in SAS Lineage Viewer: User’s Guide.</td>
<td></td>
</tr>
<tr>
<td>Remove</td>
<td>Removes the content item.</td>
<td>Removes the content item.</td>
<td>Click to access Remove.</td>
</tr>
</tbody>
</table>

**Add Project Content**

You can use the Choose Items window to add content items to a project.

1. Click **Add Content** in the Content window to access the Choose Items window.
2. Navigate to the folder that contains the content that you want to select.
3. Click the folder to open it.
4. Review the list of items in the folder.
5. Select the check box next to one or more items.
6. Click **OK** to choose the selected items. The Content window is displayed. The newly added items are included in the Results list.

You can use the buttons in the Choose Items window to perform the following functions:

- Enter a string into the **Search** field, and click to search for items that contain the string.
- Click to remove one or more selected items.
- Click to sort the list of available items.