SAS® Projects 2.1: User's Guide

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:

A Tour of the Interface

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

Table A.1 *Main Interface Components*

Name	Function	Access
Main window	Displays a table containing existing projects.	Open the SAS Projects application.
Summary window	Displays summary information about an opened project.	Open a project in the Main window.

Name	Function	Access
Edit window	Displays a window where you edit project details.	Click the in the Summary window for the project. You can also select the project in the Main window, click , and click **Edit**.
Data window	Displays existing data and the tools for selecting additional data. You can also create a plan, run a profile, or review the lineage for the data object.	Click **Data** in the Summary window.
Choose Data window	Enables finding and selecting data for a project.	Click in the Content window.
Members window	Displays existing members and the tools for selecting and maintaining members.	Click **Members** in the Summary window.
Add Members window	Enables finding and selecting members for a project.	Click **Add Members to Project** in the Memberswindow.
Content window	Displays existing content and the tools for selecting additional content.	Click **Content** in the Summary window.
Choose Items window	Enables finding and selecting content items for a project.	Click **Add Content** in the Content window.

Getting Started with SAS Projects

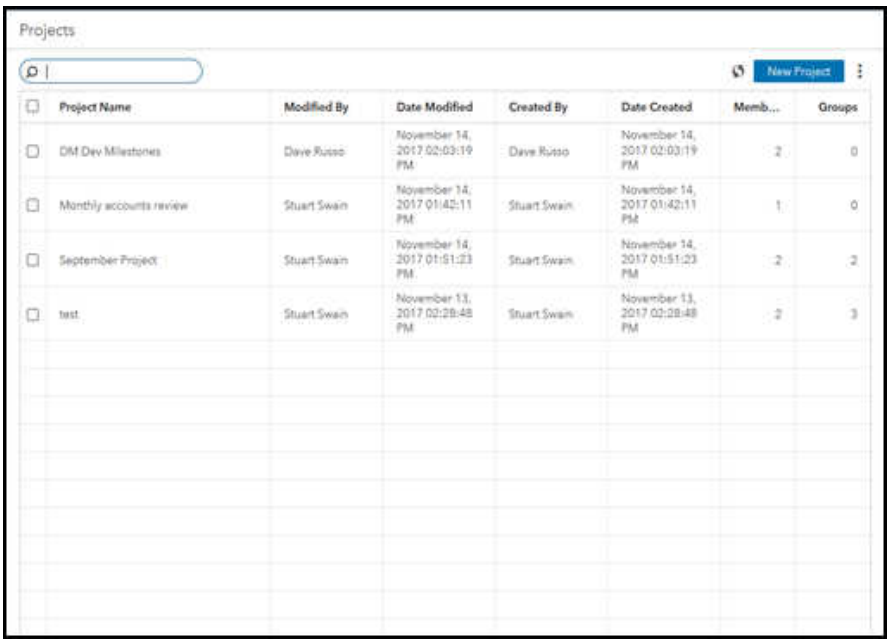
You can use SAS Projects to create and manage new projects or to work with existing projects. You can find more information in the following topics:

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

Sample Project Windows

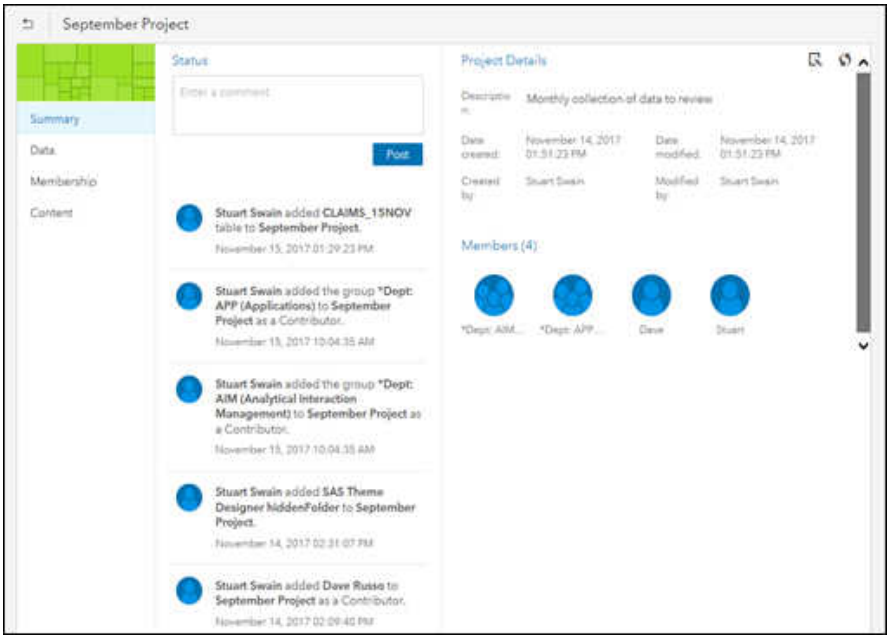
You can use SAS Projects to keep track of the data, content items, and people connected to the projects that you work on. You can build projects that collect these items and connect them to the applications where you put them to work. This topic examines the main collection points created in SAS Projects: the Projects window, the Summary window, the Data window, the Membership window, and the Content window.

Figure A.1 *Projects Window*



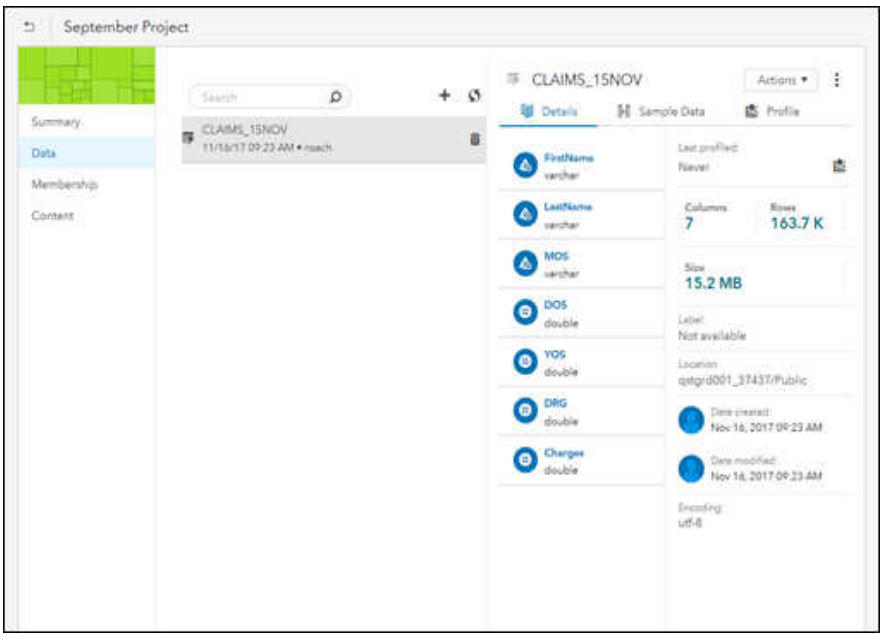
The Projects window displays all of the projects that you have created. It also lists the projects that have added you as a member. You can filter, refresh, and review the projects list. You can also create new projects and delete existing ones. For more information, see “Open and Review the Projects List” on page 5.

Figure A.2 *Summary Window*



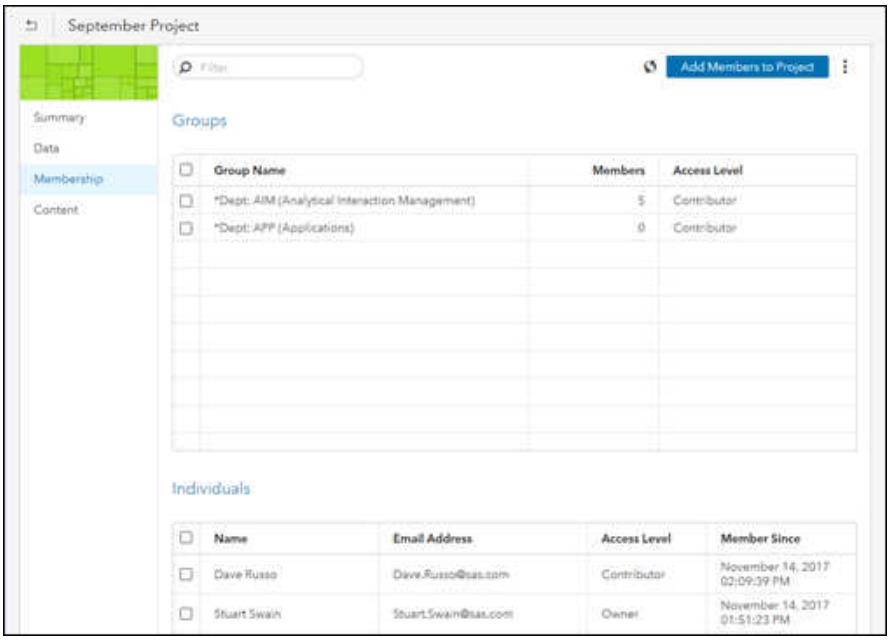
The Summary window displays detailed information about a project that you opened in the Projects window. You can use this window to access the Data, Membership, and Content windows for the selected project. You can also review and update both the Status and Project Detail panes for the project. For more information, see “Review the Summary Window” on page 6.

Figure A.3 *Data Window*



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.

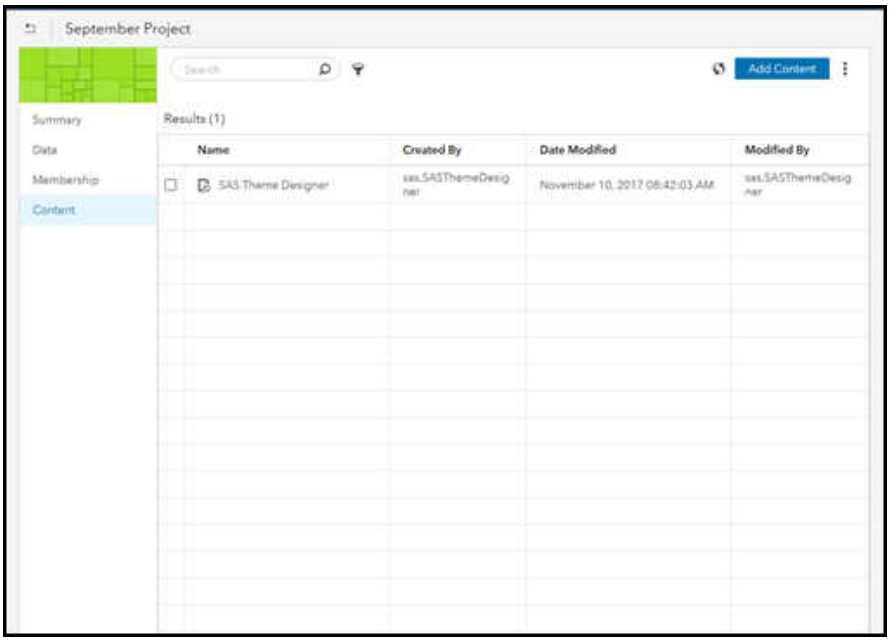
Figure A.4 *Membership View*



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.

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:

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

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.

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 A.2 *Data Maintenance Functions*

Name	Action	Description	Access
Prepare Data	Opens the data item in SAS Data Studio and creates a plan for the selected table.	Transforms data in a SAS Cloud Analytic Services (CAS) environment. The data quality transformations are available only when SAS Data Preparation is licensed. See "Getting Started with SAS Data Studio" in SAS Data Studio: User's Guide .	Click or **Actions** to access **Actions** ⇨ **Prepare Data**.
Manage Data	Opens the data item in SAS Data Explorer.	Imports data into a CAS environment. The advanced data profiling features are available only when SAS Data Preparation is licensed. See "Getting Started with the Choose Data Window" in SAS Data Explorer: User's Guide .	Click or **Actions** to access **Actions** ⇨ **Manage Data**.

Name	Action	Description	Access
Explore and Visualize Data	Opens the data item in SAS Visual Analytics.	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 .	Click or **Actions** to access **Actions** ⇨ **Explore and Visualize Data**.
Explore Lineage	Opens the data item in SAS Lineage.	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 .	Click or **Actions** to access **Actions** ⇨ **Explore Lineage**.
Run profile	Submits a profile job based on the selected table.	Submits a profile job. See "Getting Started with the Choose Data Window" in SAS Data Explorer: User's Guide .	Click or to access **Run profile**.

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
: 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 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

Name	Action	Description	Access from
Remove	Removes one or more selected members.	Removes one or more selected members.	Click ⋮ to access **Remove**.
Access level	Displays the Change Access Level window.		Click ⋮ to access **Access level**.

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.

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.

Contributor Access Level Actions	Owner Access Level Actions
Add data to a project	Add data to a project
Remove data from a project	Remove data from a project
Add content to a project	Add content to a project
Remove content from a project	Remove content from a project

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 to search for items that contain the string.
- Filter the list of results by clicking 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 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 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

Name	Action	Description	Access from
Prepare Data	Opens the content item in SAS Data Studio and creates a plan. Available only when the content is supported in SAS Data Studio.	Transforms data in a CAS environment. See "Getting Started with SAS Data Studio" in SAS Data Studio: User's Guide .	Click to access **Open** ⇨ **Prepare Data**.

Name	Action	Description	Access from
Explore Lineage	Opens the content item in SAS Lineage. Available only when the content is supported in SAS Lineage.	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 .	Click ⋮ to access **Open** ⇨ **Explore Lineage**
Remove	Removes the content item.	Removes the content item.	Click ⋮ to access **Remove**.

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.