About SAS Visual Analytics Viewer

Introduction to SAS Visual Analytics Viewer

SAS Visual Analytics Viewer (the report viewer) enables users who are not report designers to view a report using a web browser. To open a report in the report viewer from SAS Home, double-click the report.

Viewing Reports on Mobile Devices

Because the report viewer is not supported on mobile devices, mobile users are redirected to the SAS Visual Analytics App when opening a report. The SAS Visual Analytics Apps (formerly called SAS Mobile BI) are free mobile apps. You can download the apps from the following locations:

- Apple App Store (supported on iPhones and iPads)
- Google Play (supported on Android devices)
- Microsoft Store (supported on PCs and tablets running Windows 10)

Using these apps, you can view and interact with SAS Visual Analytics reports, as well as share comments and observations with others. The apps support all charts and graphs that are available in SAS Visual Analytics.

You can customize the apps by using the SAS SDK.

Navigate the Report Viewer

- To refresh a report, click ⏪, and then select Refresh report.
- Use the tabs at the top of a report to view the pages of the report.
- To view another report that has already been opened, click ⏪, and then select the report that you want to view. The icon displays the number of open reports. For example: 3
- If you are viewing a report and you want to view another report that is not already open, click ⏪, and then select Open. You can also click ⏪ to see a list of reports.
To conserve resources, close a report when you are finished viewing it.

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**Using Report Playback**

**Play a Report**

You can play a report as a slideshow, which is useful for kiosk displays and other scenarios where the audience cannot navigate the report interactively.

To play the current report, select **Play report** from the main menu.

To stop playback, press the Esc key.

**Edit the Playback Settings**

To modify the playback settings for the current report, select **Edit playback** from the main menu.

You can modify the following options:

- **Transition unit**
  - specifies whether the playback displays one page at a time (**Page**) or one object at a time (**Object**).

- **Seconds per unit**
  - specifies how long each page or object is displayed.

- **Show maximized objects**
  - displays each object in maximized mode (and shows the details table where available).
  
  **Note:** This option is available only if you select **Object** for the **Transition unit**.

- **Show canvas only**
  - hides the report control area, page tabs, and the page control area.

- **Show timer**
  - displays a countdown for each page or object transition.

- **Show navigation controls upon click or touch**
  - enables navigation controls for the report playback.

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**Interacting with Objects**

**Sort an Object**

For list tables, crosstabs, and graphs that support sorting, you can sort the data by right-clicking the object, and selecting **Sort**. For each of the data items that can be used to sort the data, you can select either **data-item: Ascending** or **data-item: Descending**.

For list tables and crosstabs, you can also sort by clicking the column headings. To add a secondary sort, press Ctrl, and then click a column heading. Alternatively, you can add a secondary sort by right-clicking a column heading, and selecting **Sort ⇒ data-item: Add Ascending** or **Sort ⇒ data-item: Add Descending**.
Maximize an Object
Maximizing an object expands it to the full size of the canvas and displays the details table for the object.

To maximize an object, right-click the object, and select Maximize view. You can also click ☰ in the object toolbar.

Note: If the Enable selection in the viewers option was disabled (not selected) for this object by the report author, the details table is not displayed when you maximize the object.

Hide Object Overlays
You can hide all of the overlays (for example, toolbars and information messages) for your objects by selecting Disable object overlays from the main menu. Select Enable object overlays to restore the overlays.

Interacting with Geo Maps

Zoom a Geo Map
You can zoom the map by using any of the following controls:

- scroll the mouse wheel to zoom in or zoom out at the location of the pointer
- enable the zoom control by selecting Zoom ⊲ Zoom Controls from the object toolbar. Click ☰ to zoom in and ★ to zoom out.
- use the ☰ pointer tool to click and drag to create a rectangular zoom selection.

To reset the zoom state for the geo map, select Zoom ⊲ Reset zoom from the object toolbar.

Use Pointer Tools to Pan a Map, Create Shape-Based Selections, and Zoom
In a geo map, the pointer can perform different tasks when you click and drag the map. The default pointer action is to pan (scroll) the map.

To change the selected pointer tool, select the icon from the object toolbar that matches the current pointer tool, and then select one of the following icons:

- ☰ pans (scrolls) the map.
- ☳ creates a rectangular selection.
- ⭕ creates a circular selection.
- ✝ creates a free-form selection.
- ☪ zooms the map to the rectangle that you create.
Use Linking and Drilling

About Using Links

Objects can link to other reports or report pages. And, they can link to external resources via URLs.

If the target object that you are linking to shares a data source with the current object or a mapping is defined between the two data sources, then the target object is filtered based on the data value that you selected. If the data source is not shared between the two objects, then no additional filtering occurs in the target object.

If the data value that you selected conflicts with a report-level filter in the target object, then there are no observations in the target object.

Follow a Link

To follow a link from an object, double-click a data element in the object. If an object has multiple links or actions, a list appears that enables you to select a specific link or action.

Return to the Source of a Link

To return to the report or report page where you clicked the link, click or close the pop-up window.

If you have performed multiple linking actions to arrive at the current report or report page, then you can click the report title and select from your linking history to go back to a previous state. When you go back, any filters associated with the links are removed.

Manage Incoming Filters

If your report contains incoming filters from a link, then you can view and manage those filters by clicking near the report name.

Navigate Data Hierarchies

If the data in an object contains a hierarchy, double-click a data element in the object to drill down the hierarchy. When you drill down, breadcrumb links at the top of the object enable you to move back up the hierarchy.

Filter or Select Data

Filtering restricts the data that is returned from a data source query. Depending on the actions that were defined by the report designer, you might be able to filter or select data within your report. For example, clicking a bar chart can control the data displayed in a list table.

To filter data in the target object (or objects), click on data in the source object. Clicking on different data applies the filter based on the new data selection. To clear the selection, click in the white space that surrounds the source object.

Linked selections enable you to see the selected data simultaneously in two or more tables, graphs, or both. Click on data in the source object to select data in the target object (or objects). To clear the selection, click in the white space that surrounds the source object or hold Ctrl and click the selected item again.
View Filter Information

To display the data source filters for an object, click ☰, and then select the object.

Viewing Objects with SAS Graphics Accelerator

What Is SAS Graphics Accelerator?

SAS Graphics Accelerator is a Google Chrome extension that enables users with visual impairments or blindness to explore data visualizations. It supports alternative presentations of data visualizations that include enhanced visual rendering, text descriptions, tabular data, and interactive sonification. Sonification uses non-speech audio to convey important information about the graph.

Installation


Supported Object Types

The following object types support SAS Graphics Accelerator:

- bar chart
- bubble plot
- line chart
- time series plot
- pie chart
- scatter plot

View an Object with SAS Graphics Accelerator

To view an object with SAS Graphics Accelerator, select ☰ for the object, and then select View with SAS Graphics Accelerator.

SAS Graphics Accelerator displays the object in a new Google Chrome tab.


Add Comments

If you have been granted the ability to add and view comments, you can add comments to a report, a page, or an object. Comments are saved with the report.

To add a comment to a report or to an object within a report:
1 Click ☰ to open the Comments pane.
2 Select the object on which you want to comment.
3 Enter a comment.
4 (Optional) Click ☰ to attach a file to your comment.
5 Click Post to add your comment.

To reply to a comment:
1 In the Comments pane, find the comment that you want to reply to.
2 Click Reply below the comment, and then enter your reply.
3 Click Post to add your reply.

To search for a comment:
1 Click ☰.
2 Select the report, page, or object in which you want to search.
3 Enter the word or phrase that you want to search for in the Search field, and then click ☰.

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**Print a Report to PDF**

You can print to PDF an entire report or pieces of a report.

To print a report to PDF directly from the list view and bypass the Print to PDF window, click ☰ and select Print.

To print an open report to PDF, click ☰, and then select Print. You can print specific pages or objects using the Select Objects tab.

To print an object to a PDF directly from the object, select it, click ☰ on the object, and select Print object.

Printing option details:
- **Show empty rows and columns in table** applies to both list tables and crosstabs.
- **Include appendix information** is selected by default if the report, page, or object has parameters, descriptions, filters, warnings, errors, or display rule legends.
- **Include supplemental tables** adds a section at the end of the PDF that includes the details tables for all of the objects in the report.
- **Expand clipped and non-visible content** prints, to separate pages at the end of the report, the entire content of tables, crosstabs, gauges, and containers.
- **Include cover page** prints the name of the report, the PDF creation date and time, the author name, the number of pages, and any text entered in Cover page text.

Considerations for printing to PDF:
- **Not included in the PDF:** hidden pages, report prompts, page prompts, and prompt containers. Filters that are applied to objects are listed in the appendix.

You can print a hidden page separately if it is linked from another object in the report. Click ☰ in the page window.
By default, containers and crosstabs print only what you see on the screen. Select the **Expand clipped and non-visible content** option to print all content.

A crosstab with more than 5,000 selected cells cannot be printed.

By default, an appendix is included in the PDF if the report, page, or object has descriptions, filters, warnings, errors, or display rule legends.

If an object has a high-cardinality filter, and the **Include appendix information** option is selected, the filter description might be truncated in the printed appendix.

There can be differences in the fonts in a printed report if the fonts that are used to create a report do not match the fonts that are available on the server that generates the PDF.

Depending on your locale, a PDF might not render correctly in Microsoft Edge. Try using Adobe Reader as the PDF viewer.

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**Sharing Reports or Objects**

**Email a Link to a Report**

To email a link to an interactive report using your default email application, click ➔, and then select **Share report ➔ Email**.

If the recipient is not signed in to SAS when they click the link to a report, they are prompted for a user ID and password.

If the recipient opens the email message on an iOS or Android mobile device, and then clicks the link, the report is displayed using **SAS Visual Analytics App** if the recipient has it installed. If the recipient opens the email message on a Windows mobile device, and then clicks the link, the report is displayed in the report viewer.

**Generate a Link to a Report or Object**

To generate a link to an interactive report, click ➔, and then select **Share report ➔ Link**. In the **Generate Link** window, you can specify several options about what features are available to the recipient of the link.

You can generate a link to an individual, interactive object. Select the object in the report, click ➔ in the object, and then select **Share object**.

**Guest Access**

On systems that allow guest login, specify the **Guest access** option to create a link that automatically logs a user in as a guest, bypassing the sign-in screen. This option can be used for access to interactive reports, interactive objects, or static images. The option does not appear on systems that are not configured for guest login.

By default, guest users have access to fewer features than authenticated users. For example, guest users cannot specify application settings.
Export as Data

Users who have the Export Data capability can export data from objects as a Microsoft Excel workbook, tab-separated values (*.tsv), or comma-separated values (*.csv). This exported output can be saved locally.

To export data:

1. Select the object that contains the data that you want to export.
2. Click ᵁ, and select Export data. 
   - The Export Data window is displayed.
3. Specify the rows and columns to export.
4. Choose whether the exported data is formatted.
5. (Optional) If you select Detailed data, then you can select the columns that you want to export.
   - Note: The Detailed data option is not available for imported objects, custom graph objects that have multiple data definitions, or for any graphs in which detail data is not allowed.
6. Select the file type for the exported file. Click OK.

Key points about exporting:
- When you export a graph, you are exporting the data, not the visual graph representation.
- Not all objects support exporting. For example, you cannot export data from gauges.
- Leading blanks are not preserved in displayed data or exported data. However, you can filter for values that contain leading blanks.
- When you export detailed data from a crosstab or a list table to Excel, totals are not exported.

Export as Image

You can save an image of an object as a PNG file.

To save an image:

1. Select the object that you want to save.
2. Click ᵁ, and select Save image.

Key points about saving an image:
- Saved images do not show ranks or filters that are associated with the object.
- The image is saved at the same size it is displayed in the report.
- Images are saved using the object type, object name, and a timestamp. The following characters in an image name are converted to an underscore when the image is saved: / \ : * ? " < > | %.
Modify SAS Visual Analytics Viewer Settings

You can adjust settings related to the High Contrast report theme, the refresh report interval, and alert notification settings. Settings are saved per user, and they persist between sessions.

To modify your report viewer settings, click the user name button in the application bar, select Settings, and then click one of the SAS Visual Analytics Viewer sections in the side menu.

Using URL Parameters to View a Report

Although URL parameters are handled for you when you generate a link to a report or object, you can manually use two parameters to view a report with the standard report viewer URL that requires login credentials. For example:


<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>reportName</td>
<td>The name of the report. Required if you are accessing a specific report through a URL.</td>
</tr>
<tr>
<td>reportPath</td>
<td>The path to the report. Required if you are accessing a specific report through a URL.</td>
</tr>
</tbody>
</table>

Parameters are specified in the URL as a sequence of name=value pairs, separated by the ampersand character (&).

Special characters (such as spaces and most punctuation) must be URL-encoded using the %nn convention, where nn is the hexadecimal representation of the character in the ASCII character set. A space can be encoded as a plus sign (+) or %20.

Report parameters can also be passed in the URL, enabling you to specify values for display rules, filters, ranks, calculations, and aggregated measures. Specify the parameter name and value using the format parameter-name=value. For example, if your report has a parameter named region, then you might specify region=Europe to set the parameter value to Europe. Parameter names and values are case sensitive.

Note: For a report parameter that accepts multiple values, you can specify multiple values by using the same report parameter more than once in the URL. For example, if you append &VehicleType=Cars&VehicleType=Trucks to your URL, then the report parameter VehicleType has multiple values: cars and trucks.