



SAS[®] Code Debugger: Accessibility Features

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Accessibility Features of SAS Code Debugger

Overview

This document describes how to configure your system and use our products to maximize accessibility support.

Recommended Configuration

SAS Code Debugger works with a variety of operating systems, browsers, and screen readers. However, we recommend the following software for a better experience when using our product with a screen reader:

- Use Google Chrome as your browser.
- On Microsoft Windows, use the latest version of JAWS.
- On Mac OS X or later, use VoiceOver.
- On iOS 8.1 or later, use VoiceOver with Safari.

Limited Vision

Selecting the High Contrast Theme

You can change the appearance of the web applications by using the **Theme** setting. The theme specifies the collection of colors, graphics, and fonts that appear in the application. We recommend trying the High Contrast theme. This theme uses a dark background with bright foreground colors to achieve high contrast.

To change to the High Contrast theme:

- 1 Click the user button in the application toolbar to access the application options menu.
- 2 Click **Settings**.
- 3 Navigate to the **General** page, which is in the **Global** section.

- 4 For the **Theme** option, select the **High Contrast** theme.

Accessibility Settings for Limited Vision

There are several settings in the **Accessibility** section that can also be used to improve your experience.

To change these settings:

- 1 Click the user button in the application toolbar to access the application options menu.
- 2 Click **Settings**.
- 3 Navigate to the **Accessibility** page, which is in the **Global** section.
- 4 Update the settings that you are interested in.

The following settings for limited vision are available from this page:

- To turn off animation, deselect **Enable visual effects**. Turning off this option suppresses the subtle movement and animation that is used to emphasize changes in state in the interface.
- Select **Adjust the display duration for pop-up notifications** to specify how long temporary pop-up notification messages are displayed. Increasing the amount of time that notifications are displayed can help users discover and read messages that disappear automatically.
- Select **Invert application colors** to make the user interface easier to see for users with sensitivity to certain bright colors. You can also use the Ctrl+` (Ctrl+back quote) keyboard shortcut to invert the application colors.
- The focus indicator is an outline that indicates which user interface component is active. You can make the focus indicator easier to see by selecting **Customize the focus indicator settings** and adjusting the color, thickness, and opacity.

Without Vision

Description of User Interface

You can navigate using landmarks. For more information, see [Accessing Product-Specific Landmarks](#). For a list of keyboard shortcuts, see [Keyboard Shortcuts](#).

Accessibility Settings to Optimize Screen Reader Usage

In the **Accessibility** section, you can use the **Enable sounds** option to improve your experience.

- 1 Click the user button in the application toolbar to access the application options menu.
- 2 Click **Settings**.

- 3 Navigate to the **Accessibility** page, which is located in the **Global** section.
- 4 Select **Enable sounds** to enable audio indicators for events that occur within the user interface. For example, you hear “tick, tick” for the loading screen.

Note: Changes take effect after you sign out and sign back in.

Disabling the JAWS Virtual PC Cursor

This product is a Rich Internet Application that contains many highly interactive widgets. JAWS users should press Insert+Z to turn off the JAWS Virtual PC cursor by default. This strategy enables JAWS users to quickly use keyboard shortcuts to move focus around the application window, edit code, complete forms within tasks, and so on. Turning off the JAWS Virtual PC cursor also helps JAWS users avoid potential confusion that can occur when trying to access complex HTML5 widgets.

Mobility

Accessibility Settings for Mobility

There are several settings in the Accessibility section that can also be used to improve your experience.

To change these settings:

- 1 Click on the user button in the application toolbar to access the application options menu.
- 2 Click **Settings**.
- 3 Navigate to the **Accessibility** page, which is located in the **Global** section.
- 4 Update the settings that you are interested in.
 - Select **Display tooltips when using the keyboard to navigate** to enable keyboard users to access tooltips. When this option is selected, putting keyboard focus on a control also displays the tooltip on the screen. You can also select the location in the browser window to display the tooltip. By default, the tooltip is displayed in the bottom right corner of the browser window.
 - The focus indicator is an outline that indicates which user interface component is active. You can make the focus indicator easier to see by selecting **Customize the focus indicator settings** and adjusting the color, thickness, and opacity.

Accessing Product-Specific Landmarks

This product provides custom landmarks that you can use to navigate. To access the product-specific landmarks, use Ctrl+F6 in Microsoft Windows and Command+F6 in Apple OS X.

The available landmarks depend on your location in the application. For example, a page in your product might have these landmarks:

- **Application Bar** moves focus to the banner that runs along the top of the product.
- **Search** moves focus to the search.
- **Main Content Area** moves focus to the area where you select and work with items.
- **Navigation Area** moves focus to the first item in the navigation area of the product.

Keyboard Shortcuts

In the user interface, some keyboard shortcuts are displayed within parentheses in tooltips.

Table 1 *Keyboard Shortcuts*

Action	Keyboard Shortcut
Start or resume program execution	F8
Pause program execution	F8
Step over the current code statement	F9
Step into the current code statement	F10
Step out of the current code statement	Ctrl+F10

Troubleshooting Keyboard Shortcuts

Your shortcut keys might not work as expected due to the following reasons:

- The keyboard shortcut might be reserved for use by your browser.
- Your keyboard is not a standard U.S. keyboard and therefore some of the keyboard shortcuts are not supported.
- Your web browser is not supported or needs to be upgraded.
- Some shortcut keys might conflict with the shortcut keys of the Input Method Editor (IME). You can modify the IME shortcut.

User Interface Layout

The user interface for SAS Code Debugger contains the following areas:

- A banner at the top of the user interface, provides access to the applications menu, search, and notifications. The banner also contains the application options button, which you can use to sign out, to access the Help Center, to change the application settings, and to locate information about the application.
- The main part of the user interface consists of a toolbar and the following panels:
 - **Breakpoints:** Lists all the breakpoints that exist in the current debugger session.
 - **Call Stack:** Shows the layers of invocations that brought the code to the current point.
 - **Code:** Displays either the OPTIONS statement or the code to be debugged. If your code is displayed, the following sections are also provided:
 - **Functions and Methods:** Lists the functions and methods that are included in your code along with any functions or methods that are included in the same library as your functions and methods.
 - Tab list: Contains a separate tab for the main code (default) and for each function or method that you open.
 - **Console:** Provides a **Command line** and a running log for your debugger session.
 - **Variables:** Enables you to change the values of variables, to create watch variables, and to examine your variables as you step through the code.
 - **Watch:** Provides a quick and easy way for you to monitor the values of particular variables.

Exceptions to Accessibility Standards

Table 2 *Known Limitations for Tables*

Accessibility Issue	Workaround
Tables are not fully supported for keyboard users. Columns cannot be resized using only the keyboard.	No workaround is available.
Tables containing rows that can be expanded or collapsed are not fully supported with screen readers. Limitations include the following: ■ You might not be able to expand or collapse the rows with a keyboard shortcut. ■ Extra rows might be announced after the table has ended. ■ Cell coordinates might not be announced. ■ You might not be able to update a column heading that is meant to be edited.	No workaround is available.

Contact Us

For more information about the accessibility of SAS products, visit www.sas.com/accessibility. If you have additional questions about accessibility, email us at accessibility@sas.com.

