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Making Data More Familiar: Region and Language Settings with SAS® Visual Analytics

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ABSTRACT

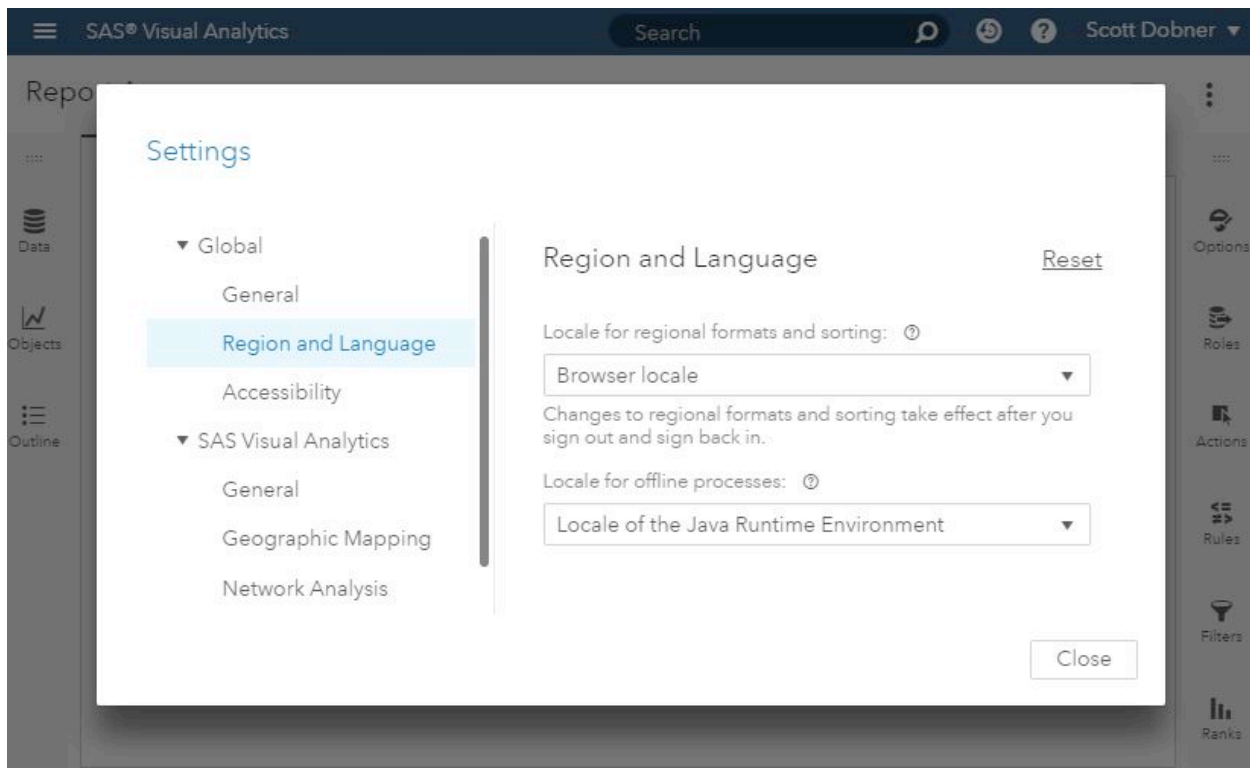
Do you like using SAS® with English text in the user interface (UI), but miss date, time, datetime, and numeric formats that are familiar to you? SAS Visual Analytics has a solution for you! Beginning in SAS Visual Analytics 8.2, you can separate the language of your UI from the regional preferences used to format your data. By giving you more options to control your environment, SAS is giving you more power to know around the globe!

INTRODUCTION

As companies become more global, many international software users prefer to use software products in English. Modern browsers make it easy for you to change the language setting and applications to take advantage of the language set in the browser. However, this typically comes at the cost of changing your regional formatting and sorting along with the application's language.

For example, imagine you are a French user from France and would typically have your browser set to the French (France) locale. When you log on to SAS Visual Analytics using this locale, you would see French text and the datetime and numeric formats for your region. When you decide you would prefer to use the English interface, you switch your browser language to English. When you log back in to SAS Visual Analytics, you see your UI in English, but your local datetime and numeric formats have been replaced with patterns appropriate for the United States.

Beginning with SAS Visual Analytics 8.2 and the SAS® Viya® 3.3 platform, SAS has added two new locale settings under **Region and Language**. These settings give you more control over your reporting results.



Display 1. SAS Visual Analytics 8.2 Region and Language Settings

The **Locale for regional formats and sorting** setting allows you to specify the locale that SAS Visual Analytics will use to format and sort the data that it displays.

SAS Visual Analytics 8.2 also offers a separate locale setting under **Region and Language** for **Locale for offline processes**. As the label implies, this locale is used when SAS Visual Analytics generates a report or runs another process while you are not connected to the application. For example, if you receive distributed reports, you can specify the locale that SAS Visual Analytics uses as it creates the report.

This paper focuses on the features and benefits of using the formatting and sorting locale.

LANGUAGE SETTINGS IN PREVIOUS VERSIONS OF SAS VISUAL ANALYTICS

In previous versions of SAS Visual Analytics, there is one setting available for your locale. You can use the browser's language as described in the introduction or you can change the **User Locale** setting through the SAS Home settings menu. This one setting affects more than just the text your application is displayed in. It also affects formatting of date, datetime, time, and numeric values and regional sorting settings called *collation*.

HOW DOES MY LOCALE AFFECT FORMATTING AND SORTING?

The locale influences more in SAS Visual Analytics than just the UI text. It is also used to determine the regional preferences that are applied when SAS Visual Analytics formats date, time, datetime, and numeric values in your reports.

Your locale setting is also used to determine the set of linguistic and cultural rules to apply when sorting data. This is called *linguistic collation*. SAS has adopted the International Components for Unicode (ICU) for linguistic collation, which implements the Unicode Collation Algorithm (UCA). Later on, this paper has an example to demonstrate how sorting is affected with this new setting.

WHAT IS THE REGIONAL FORMATTING AND SORTING LOCALE?

As mentioned previously, the regional formatting and sorting locale is a new feature in SAS Visual Analytics 8.2. This setting helps determine what cultural and regionally appropriate format patterns and sorting rules are applied to your data and reports. This setting uses your browser's language by default, and changing this setting does not affect the language your UI is displayed in.

USING THE REGIONAL FORMATTING AND SORTING LOCALE

By going to the SAS Visual Analytics settings menu, under **Global**, you will find the **Region and Language** menu. In the drop-down list labeled **Locale for regional formats and sorting**, you can select the locale to format your data. Let's examine the scenario laid out in the introduction and see how SAS Visual Analytics 8.2 helps make your life easier.

EXAMPLE

You are a SAS Visual Analytics user who is a French native speaker living in France. You typically keep your browser set to the locale French (France) so that when you visit your favorite web sites and tools, they load in French. Your dates and times are also displayed with appropriate formats for French. Here is what your report will look like when viewed in SAS Visual Analytics:

character	DATETIME20	MMDDYY10	TIMEAMP12	DOLLAR12
.
eight	1 janvier 1960 04:04:30	03/01/2000	04:04:30	6 254 \$
eighteen	1 janvier 1960 14:12:51	02/06/2100	14:12:51	7 268 \$
eleven	1 janvier 1960 04:10:34	02/28/2001	04:10:34	11 595 \$
fifteen	1 janvier 1960 06:44:51	07/04/2026	06:44:51	6 939 \$
five	1 janvier 1960 04:04:00	01/31/2000	04:04:00	10 210 \$
four	1 janvier 1960 04:03:30	01/01/2000	04:03:30	6 093 \$
fourteen	1 janvier 1960 01:40:29	07/04/1976	01:40:29	7 790 \$
nine	1 janvier 1960 04:09:35	12/31/2000	04:09:35	6 612 \$
one	1 janvier 1960 03:46:17	03/04/1997	03:46:17	7 844 \$
seven	1 janvier 1960 04:04:29	02/29/2000	04:04:29	5 017 \$
seventeen	31 décembre 1959 17:55:21	02/05/1900	17:55:21	3 004 \$
six	1 janvier 1960 04:04:28	02/28/2000	04:04:28	7 892 \$
sixteen	1 janvier 1960 07:57:54	07/04/2038	07:57:54	8 245 \$
ten	1 janvier 1960 04:09:36	01/01/2001	04:09:36	5 023 \$

Display 2. SAS Visual Analytics Displayed in French (France) Locale

As you can see, the UI text is displayed in French, and your date and time values are formatted with the appropriate regional patterns.

You have decided that you are familiar enough with using English UIs in other programs that are not translated into French, and you would like the same experience when using SAS Visual Analytics. The first step is to change the browser's locale. After that is completed, you log on to SAS Visual Analytics and see that the French date, datetime, time, and numeric formats have all been replaced with English (United States) patterns.

SAS® Visual Analytics - Explore and Visualize Data

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Report 1

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character	DATETIME20	MMDDYY10	TIMEAMP12	DOLLAR12
.
eight	January 1, 1960 04:04:30 AM	03/01/2000	04:04:30 AM	\$6,254
eighteen	January 1, 1960 02:12:51 PM	02/06/2100	02:12:51 PM	\$7,268
eleven	January 1, 1960 04:10:34 AM	02/28/2001	04:10:34 AM	\$11,595
fifteen	January 1, 1960 06:44:51 AM	07/04/2026	06:44:51 AM	\$6,939
five	January 1, 1960 04:04:00 AM	01/31/2000	04:04:00 AM	\$10,210
four	January 1, 1960 04:03:30 AM	01/01/2000	04:03:30 AM	\$6,093
fourteen	January 1, 1960 01:40:29 AM	07/04/1976	01:40:29 AM	\$7,790
nine	January 1, 1960 04:09:35 AM	12/31/2000	04:09:35 AM	\$6,612
one	January 1, 1960 03:46:17 AM	03/04/1997	03:46:17 AM	\$7,844
seven	January 1, 1960 04:04:29 AM	02/29/2000	04:04:29 AM	\$5,017
seventeen	December 31, 1959 05:55:21 PM	02/05/1900	05:55:21 PM	\$3,004
six	January 1, 1960 04:04:28 AM	02/28/2000	04:04:28 AM	\$7,892
sixteen	January 1, 1960 07:57:54 AM	07/04/2038	07:57:54 AM	\$8,245
ten	January 1, 1960 04:09:36 AM	01/01/2001	04:09:36 AM	\$5,023

Display 3. SAS Visual Analytics Changed to English (United States)

To get your French (France) patterns back, you click on your user name and then settings to bring up the **Settings** menu. Under **Global**, you click **Region and Language** and from the drop-down list labeled **Locale for regional formats and sorting**, you select **French (France) – Français (France)**

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Settings

- Global
 - General
 - Region and Language
 - Accessibility
- SAS Visual Analytics
 - General
 - Geographic Mapping
 - Network Analysis
 - Visual Statistics

Region and Language [Reset](#)

Locale for regional formats and sorting: ⓘ

Browser locale

- French (France) - Français (France)
- French (Luxembourg) - Français (Luxembourg)
- French (Switzerland) - Français (Suisse)
- German (Austria) - Deutsch (Österreich)
- German (Germany) - Deutsch (Deutschland)
- German (Liechtenstein) - Deutsch (Liechtenstein)
- German (Luxembourg) - Deutsch (Luxemburg)
- German (Switzerland) - Deutsch (Schweiz)
- Greek (Cyprus) - Ελληνικά (Κύπρος)

Display 4. Region and Language Settings

After logging out and logging back on to SAS Visual Analytics, you can see that the UI is now in English, but your formats are back to their regionally appropriate patterns for France.

SAS® Visual Analytics - Explore and Visualize Data

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Display 5. SAS Visual Analytics with Regional Formatting and Sorting Locale Set to French (France)

SORTING DIFFERENCES WHEN CHANGING FORMATTING AND SORTING LOCALE

Just as cultures around the globe have their own preferences for data formatting, there also exist differences in sorting. French sorting is different from Danish sorting. Within the German language family, there can even be differences between dictionary and phonebook sorting. Asian languages can be sorted phonetically, based on the number of pen strokes, or on the character's position in the encoding (Kiefer and Mebust, p. 5).

To make finding data easier, it is important to retain the sorting characteristics that you might find in your native locale.

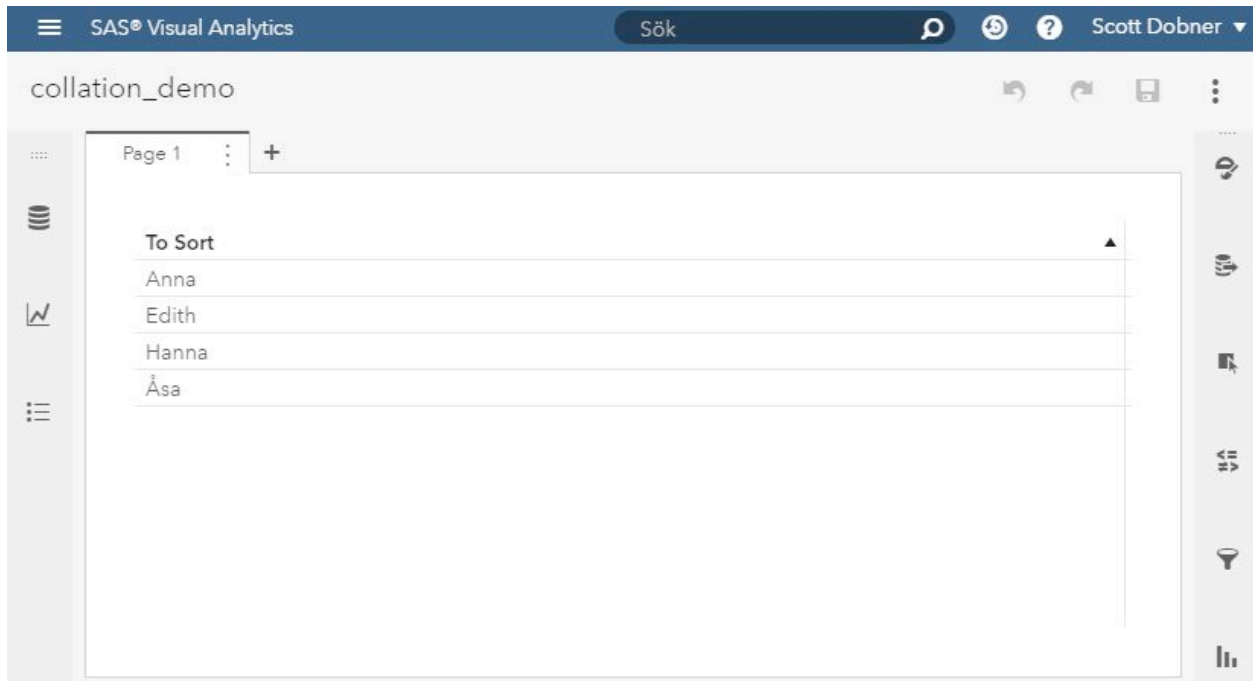
LINGUISTIC COLLATION EXAMPLE

Consider the A-ring character, Å. Across several languages, this character can be sorted in several ways. The example here demonstrates why it is important to consider linguistic collation when changing the locale that influences sorting rules.

Examine the following list of strings, which have been loaded into a simple table for analysis:

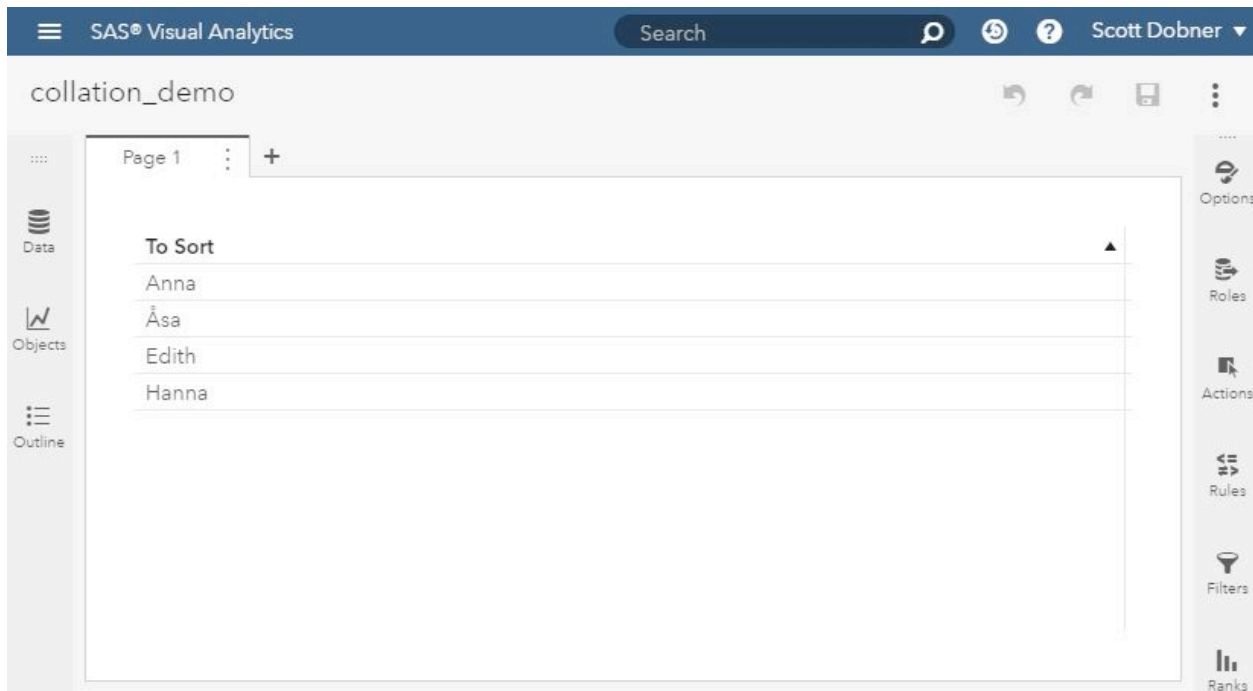
```
Anna
Edith
Hanna
Åsa
```

When this table is loaded in a SAS Visual Analytics report with the browser locale set to Swedish (Sweden), the following results are displayed:



Display 6. Table Sorted for Swedish (Sweden)

After changing the browser locale to English (United States), the list now looks like this:



Display 7. Table Sorted for English (United States)

Notice that Åsa is sorted second for English, but at the end of list when the locale is set to Swedish. This is because Swedish collation rules dictate that the A-ring character should be sorted after other characters, whereas English rules treat it as an A.

As you can see from this example, sorting is an important consideration when deciding to use SAS Visual Analytics with an English UI.

CONCLUSION

Using the **Locale for regional formats and sorting** is a powerful way for you to have more control when viewing or creating reports in SAS Visual Analytics. It gives you the power to retain your regional formats and sorting rules while using SAS Visual Analytics translated into your preferred language.

REFERENCES

Kiefer, Manfred and Scott Mebust. SAS Institute white paper. "Linguistic Collation: Everyone Can Get What They Expect." Available <http://support.sas.com/en/support-home.html/>.

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