

Using SAS® Visual Analytics for displaying Local Currency Symbol (Rupee ₹) for Indian Locale

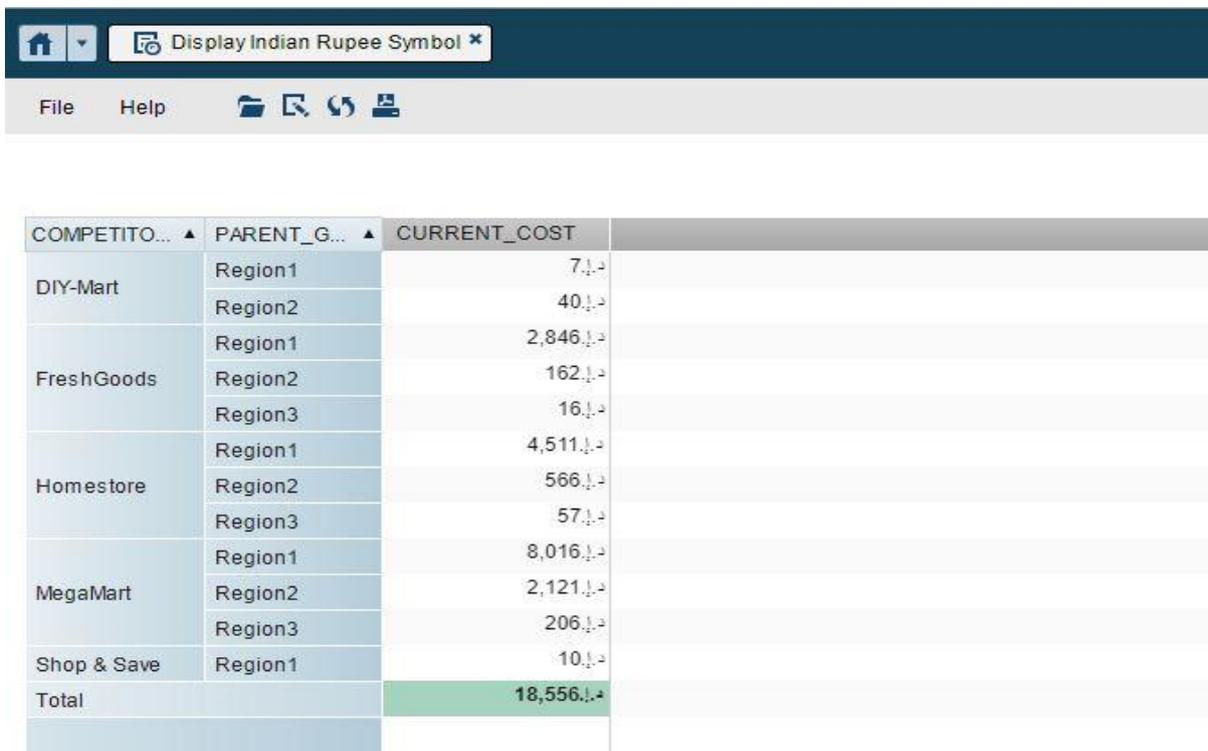
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Abstract

We are frequently asked if we can have local currency symbol in SAS® Visual Analytics Reports, Customers want the locale currency symbol displayed behind their data so they can see where the exact values are located. Unfortunately, by default SAS has limitations on the displaying currency symbols based on Locales' which is currently available on SAS. This paper will be discussing the problems and limitations with current features an example of using the new feature. In addition to that, this paper provides an information how we can overcome the limitations on the displaying the India currency symbol in SAS Visual Analytics' Report Viewer.

Introduction

This paper provides an information for displaying the SAS Locale Currency symbols in SAS Visual Analytics Reports. The motivation for the paper originated from our experiences and learning from our Customers. The paper focuses on how to bring up the feature which isn't available by default in SAS Visual Analytics' for bringing this feature in SAS Visual Analytics' we have to do some advance level configuration changes in SAS Visual Analytics Installation Directories files. For Example, we 3provided default screenshots of SAS Visual Analytics Report Viewer Interface without Locale currency symbol in below.



COMPETITO...	PARENT_G...	CURRENT_COST
DIY-Mart	Region1	7
	Region2	40
FreshGoods	Region1	2,846
	Region2	162
	Region3	16
Homestore	Region1	4,511
	Region2	566
	Region3	57
MegaMart	Region1	8,016
	Region2	2,121
	Region3	206
Shop & Save	Region1	10
Total		18,556

Figure 1 SAS Visual Analytics Report Viewer Interface without Locale currency symbol.

GETTING STARTED

When SAS Visual Analytics is first deployed, the Locale Currency symbol is not enabled. This implementation will fulfil the requirement for few customers who would require to have their Locale currency symbol implemented in their Analytic Reports. The process to enable the Local Currency symbol is explained in below.

For enabling this feature, we have to modify .swf file which is presented in SAS Installation directories for modifying those files we need flash decompiler and an editor (third party) software. Here in our scenario we have used JPEXS decompiler for editing .swf files, JPEXS is an open source software which helped us to meet our requirements.

We all know that SAS Visual Analytics Report Viewer Interface use Flash and HTML in the backend, that is the reason here we used JPEXS decompiler software to modify .swf files. The below demonstration only works on SAS Classic Report Viewer in Visual Analytics.

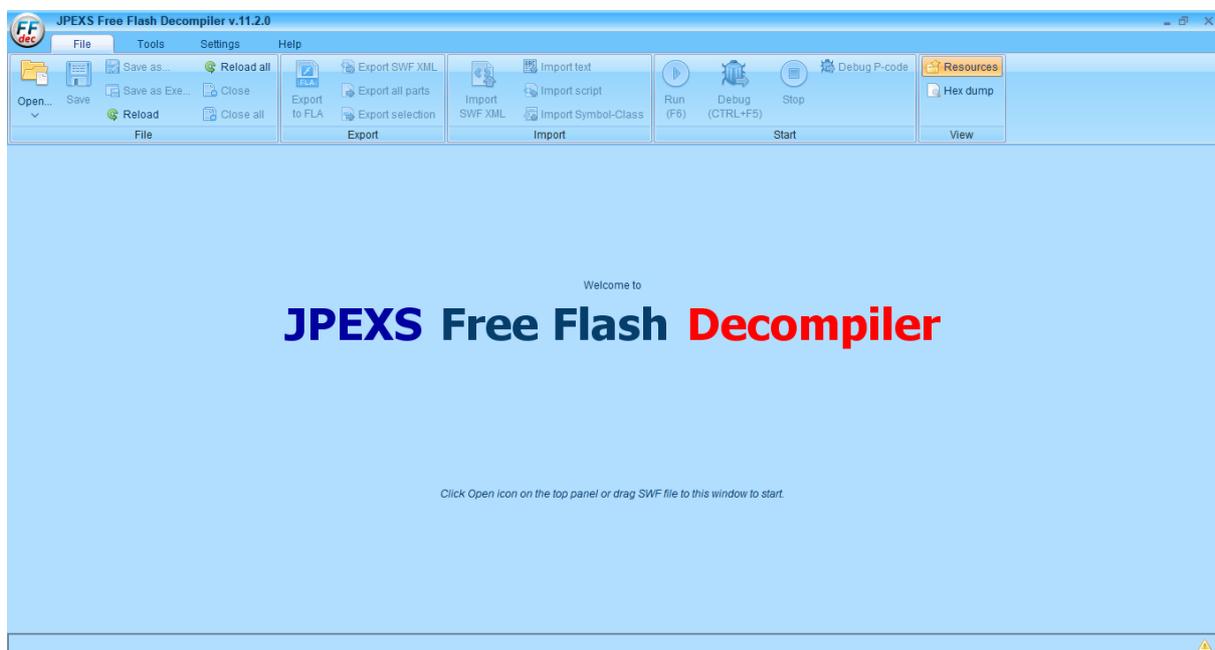


Figure 2 Welcome Page of JPEXS free Flash Decompiler Software.

MODIFYING SAS® CONFIGURATION FILES

An administrator level permission is required to perform any kind of modifications (out-of-the-box) on the SAS Installation Directories. It is recommended to back-up the original copies prior making the configuration level changes in SAS files.

In the present scenario, we started the implementation on the SAS Visual Analytics Viewer files present on the installation directories, we will be further sharing the techniques in a detailed way below.

For making the required changes in SAS Visual Analytics Report Viewer .swf files,

1. On the server browse to the path on the SAS Installation Directories as mentioned below **sashome/SASVisualAnalyticsReportViewer/7.4/Static/wars/sas.visualanalyticsviewer** This path holds configurable **web-apps** files related to SAS Visual Analytics Report Viewer.

2. Ensure to take the backup of **VAViewer.swf** file prior making any changes, **VAViewer.swf** file gets used while viewing any analytic reports on flash mode also it loads the properties of VA Viewer styles and formats. Since we had installed the flash compiler software in a windows local machine, Copied the **VAViewer.swf** file from the server and opened this file in Flash Compiler Software for editing.
3. From the left pane after expanding the Scripts section, scroll down and select the file named **en_US\$AllCurrencySymbols_properties**. The right pane displays the code being used for the properties file which was selected above. This particular file is used by SAS Visual Analytics Report Viewer interface to fetch the currency symbols as per the Locale.

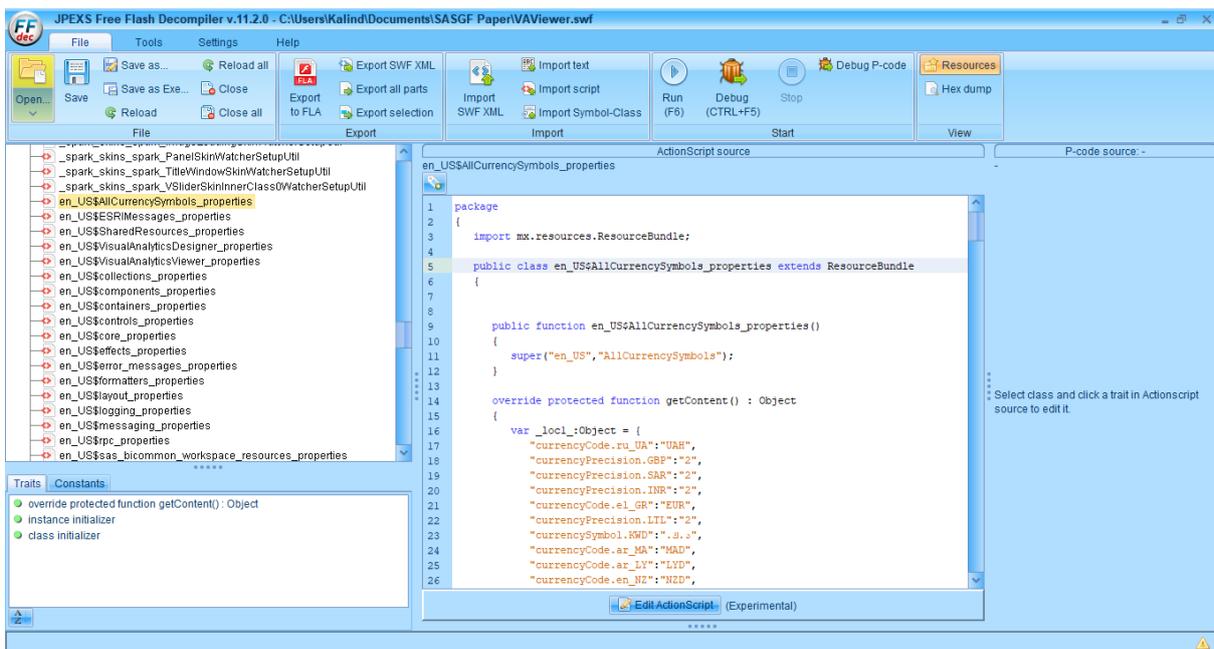
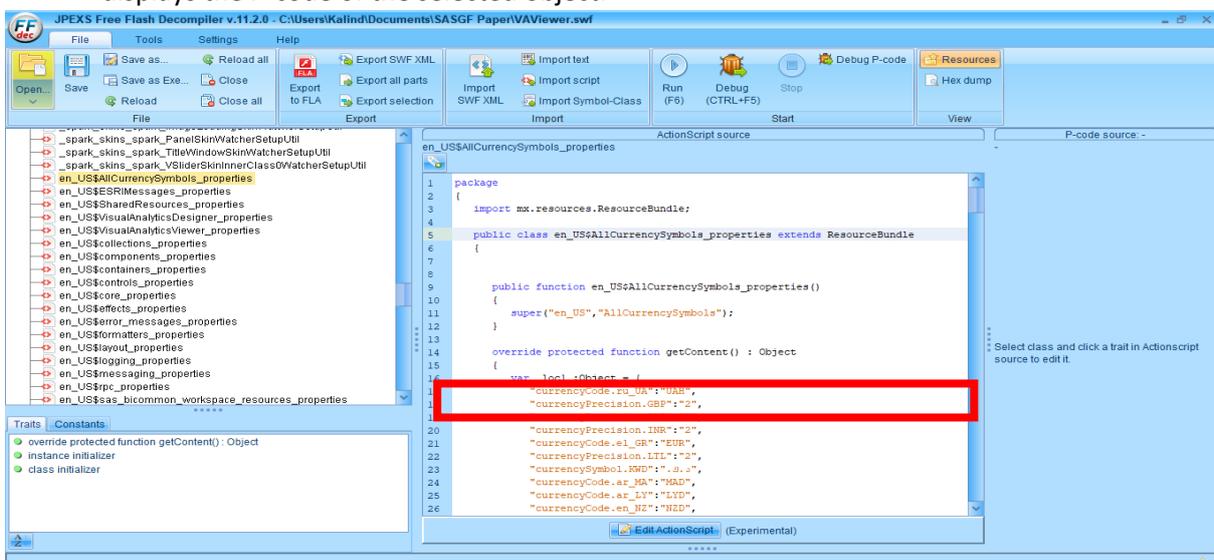
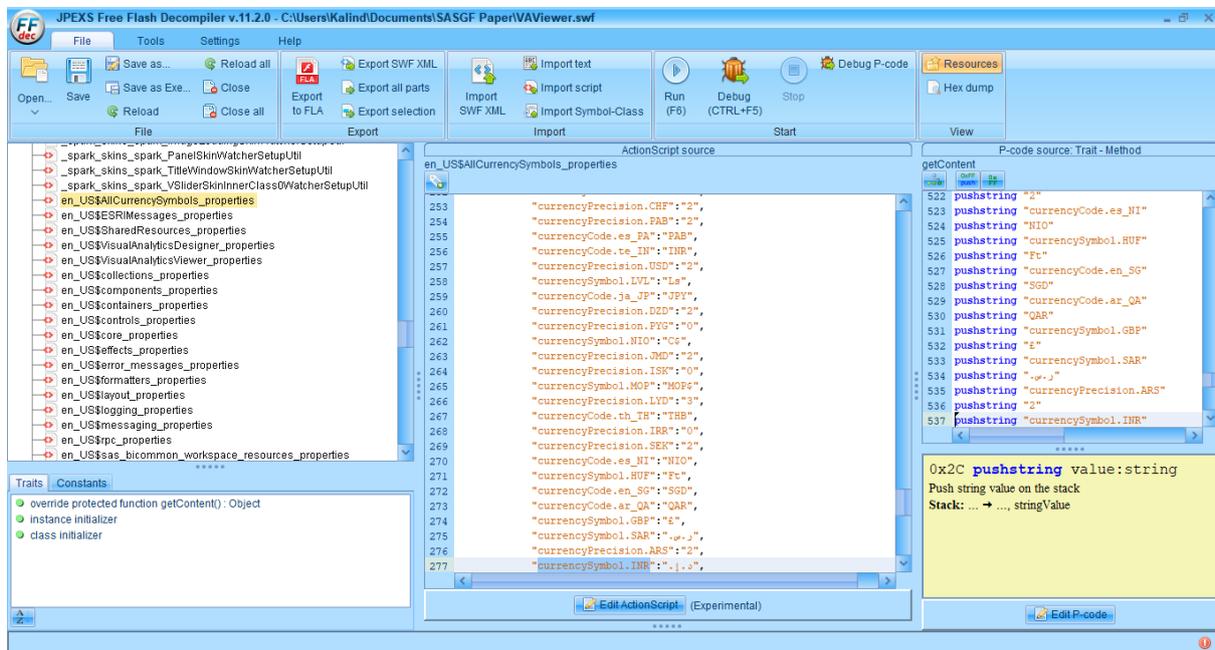


Figure 3 Shows all currency symbols Properties

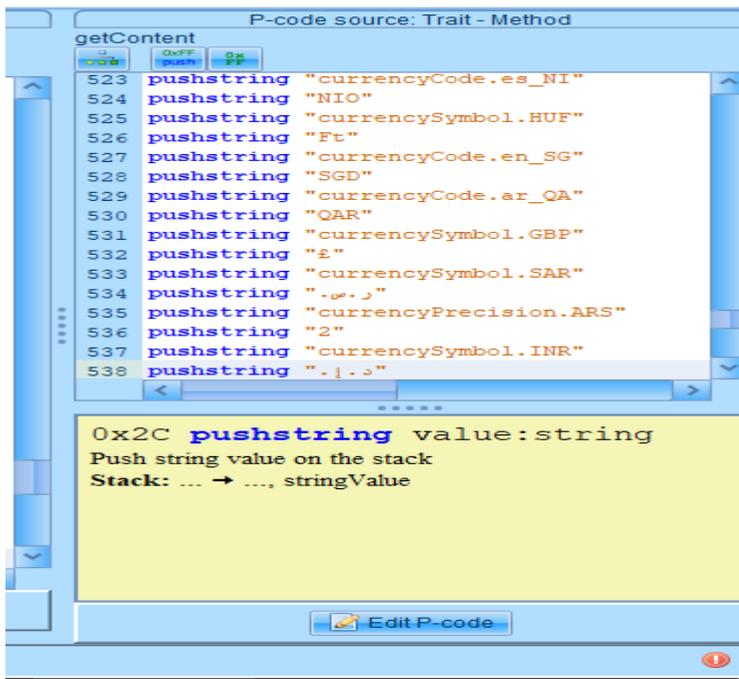
4. On the right pane under **ActionScript Source**'s text area click on "override protected function getContnet() : Object" to view and edit P-Code of this file. The P-code source area displays the P-code of the selected object.



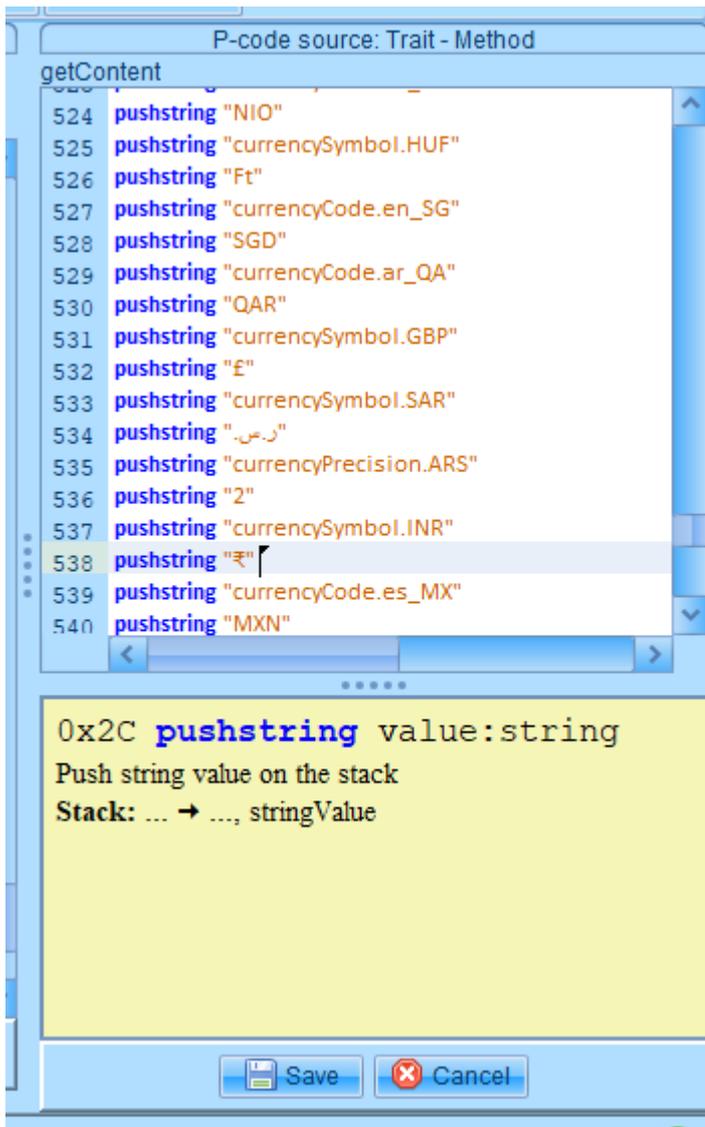
- On the right pane, under the P-code area scroll down to find and select the property **pushstring “currencySymbol.INR”** Note: - You can use the command Ctrl+F to open the search tool & locate the required property. The **pushstring** property will have information of the symbols to be used in SAS Visual Analytics Viewer.



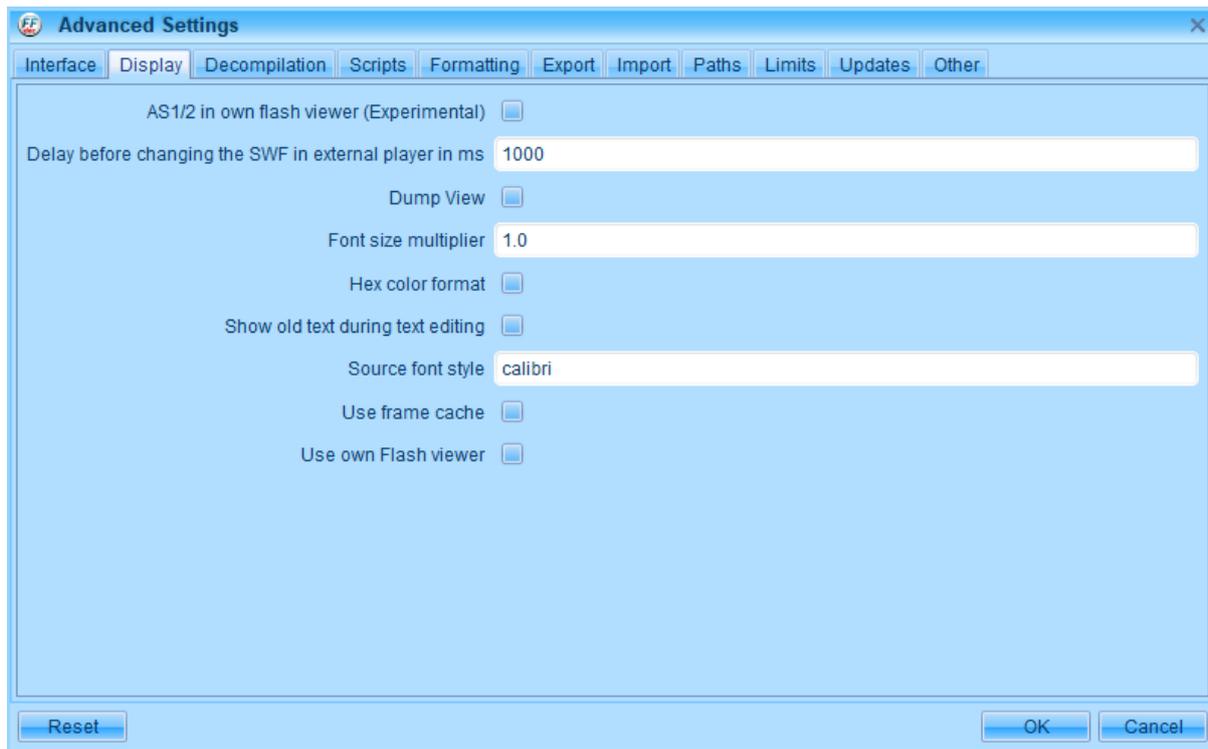
- The above figure shows that the property **pushstring “currencySymbol.INR”** has a different value “₹” other than Rupee symbol by default. The value here needs to be replaced by Rupee symbol. To accomplish this task, Open MSWORD, type “20B9” without quotes and then hold down the ALT key and press X key (ALT+X) to get the symbol ₹, Copy it. In the decompiler software, on the P-code area select the property pushstring “₹” & click on “Edit P-code” mentioned at the bottom of the area.



7. In the Edit mode, replace the symbol “₹” by “₹”. After the changes the property should have following value. **Pushstring “₹”**



Note: - If the P-Code source console doesn't allow to replace "₹" and get the box value of something like this "☐"; do the following necessary steps under decompiler software. Click on Settings -> Advanced Settings -> Display, change the source font style to "calibri".



8. The changes above will require the application restart. Post the restart, copy the Rupee symbol to the **pushstring** property.
Save the changes made in P-code editor console. Scroll to File and click on save to apply the changes made to the file "**en_US\$AllCurrencySymbols_properties**". This will recompile the file and further apply the changes to **VAViewer.swf**
9. After making the above changes scroll to the SAS Installation directory on the server /sashome/SASVisualAnalyticsReportViewer/7.4/static/wars/sas.visualanalyticsviewer and replace the existing VAViewer.swf with the updated VAViewer.swf file.
10. Post making the above changes, Have to Rebuild and Redeploy SAS Visual Analytics Web Application (SAS Visual Analytics Viewer) using SAS Deployment Manager Utility
Note: - Ensure to select SAS Visual Analytics Viewer alone while rebuild and redeploy the Application.
11. Before access the SAS Visual Analytics Report Viewer Interface it's mandatory to clear the browser 's cache & cookies.
Note: - Clearing caches and cookies will helps Visual Analytics Viewer would be able to load new caches from the server.
12. After completion of above all the steps, when you opened SAS Visual Analytics Report Interface, we can able to see the Locale Currency symbol like below.



COMPETITO...	PARENT_G...	CURRENT_COST
DIY-Mart	Region1	₹7
	Region2	₹40
FreshGoods	Region1	₹2,846
	Region2	₹162
	Region3	₹16
Homestore	Region1	₹4,511
	Region2	₹566
	Region3	₹57
MegaMart	Region1	₹8,016
	Region2	₹2,121
	Region3	₹206
Shop & Save	Region1	₹10
Total		₹18,556

CONCLUSION

This paper addresses enabling the Locale Currency Symbol in SAS Visual Analytics Report Viewer Interface. The example presented above can easily be adapted and extended. Therefore, this paper serves as a quick guide for enabling the Locale currency symbol in SAS Visual Analytics.

REFERENCE

Rebuild SAS Web Applications:

<http://documentation.sas.com/?docsetId=bimtag&docsetTarget=p0plwle8uj04upn1vrsbstiwkzmz.htm&docsetVersion=9.4&locale=en>

Redeploy SAS Web Applications:

<http://documentation.sas.com/?docsetId=bimtag&docsetTarget=n02nbqc1n26j7gn1lgpbgss3ev8p.htm&docsetVersion=9.4&locale=en>

Download Link for JPEXS Flash Decompiler Tool

<https://www.free-decompiler.com/flash/>

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