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Integrating SAS® Information Delivery Portal with your Organization's Brand

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Abstract

Corporate intranets have grown in size and complexity and have presented organizations with content management challenges; as available information has grown, users have demanded personalization and customization. In response, Webmasters have created portals to help users manage their data, applications and information.

An Enterprise Portal is designed to share information and promote collaboration across multiple workplaces. Integrating the appearance of SAS® Information Delivery Portal with your organization's brand is important to the acceptance of the new tools and information it provides. This is achieved by creating a custom theme that implements some of the following changes:

- Adding company logo and banner. Changing banner utility bar to transparent.
- Changing default preferences to vertical navigation, locale and other aspects of the Portal.
- Changing active page tab, inactive page tab and background color using custom style sheets on the Vertical Navigation Bar
- Changing the Application name from SAS Information Delivery Portal to Custom Application name

This paper presents the customization of Information Delivery Portal for user experience and Metadata folder structure planning for security.

INTRODUCTION

SAS Enterprise Business Intelligence (EBI) web applications are often called on to integrate with your organization's overall web presence in such a way that there is a single coherent look-and-feel to a user's overall experience. Aggregating content through a single access point necessitates a robust security system so that you provide the right level of access control to information and applications. SAS EBI Platform needs to be primarily configured for user experience, performance and security.

SAS/EBI Installation

Initially the SAS EBI installation has to be planned for each site. At our site we had planned to use 3 tier Architecture. On one of the LPARS we had the Application Server along with the Metadata Server, second tier was the Web Tier and the final was the Client tier.

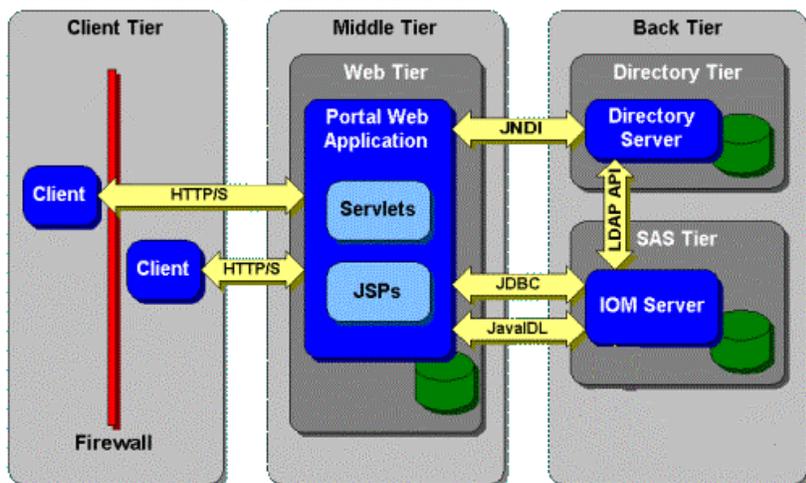


Figure 1. SAS Multi-Tier Architecture

As shown in the following figure, the SAS Information Delivery Portal is implemented using a multi-tiered architecture.

Security Implementation

The SAS 9.2® Intelligence Platform is a multi-tiered environment consisting of components residing on client desktops, middle-tier Web servers, computing servers, and (most importantly) secured data assets. This multi-tiered design offers tremendous flexibility and configurability but requires careful planning and deployment to provide a secure working environment. Each implementation of the SAS Information Delivery Portal will have different security requirements. In determining how to implement portal security, you should consider your organization's internal security policies, the security mechanisms that are in place in your environment, the types of users who will need to access the portal, and the types of content that will be made available. You can then implement your security requirements using the following mechanisms. Before anything else it is important to identify the users and groups who are potentially going to use the client applications. In our environment, we identified the following groups and tasks.

- Executive Managers – can only view Portal contents as set up
- Product Managers – can view reports and run cubes but only to summarized level, not detail numbers
- Business Users – can build reports, run cubes, and access Application to detail number level
- Developers – can build new stored processes, portlets, pages, etc. Developers create content in SAS® Enterprise Guide projects, stored processes, OLAP cubes, information maps, and SAS® Web Report
- Administrators – Administrators are developers who have access to SAS® Management Console for group administrative tasks

In order to have a system which is to be easily maintained by systems administrators, it is imperative that we considered the different options for designing and applying metadata security. Applying Access Control Templates (green background) reduces administration overhead, while explicit permissions (white background) applied directly on resources can be difficult to manage.

In our environment, we decided that Access Control Templates were our only option

Metadata Folder Structure

The following folders represent a structure which allows easy implementation of metadata security. It is a generic structure and can be modified depending on customer needs.

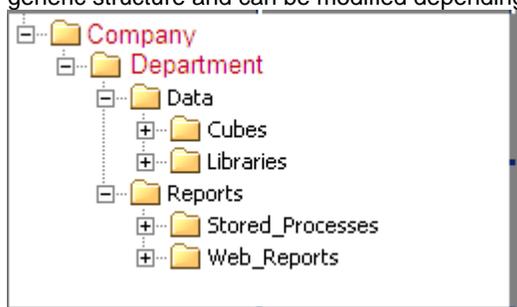


Figure 2. Custom Metadata Folder structure

Company Folder:

This allows us to apply metadata security at top level. If another folder representing a new company (companies merge) is created at the same level then we can keep the companies apart by applying security on each Company folder

Department Folder

This allows us to apply metadata security at department level. If another department company wants to use the SAS EBI Platform but not share the data. We can keep the departments apart by applying security on each Department folder.

Data Folder

This allows us to apply metadata of data at one level. If any group needs access to the reports but not the underlying granular data then we can apply the ACT so that they will be unable to see this ACT.

Reports Folder

This contains Stored Process and Web Reports sub-folder so that we can apply security over these types of objects.

Customization of the Portal

With the release of SAS 9.2, the SAS Web Application Theme System becomes a single point of control for managing the branding of all of the SAS EBI web applications. A SAS Theme is a central repository of resources that control the appearance of the applications. In SAS Web applications, these resources include cascading stylesheets (CSS), images, theme descriptors (XML), and HTML templates. A themed application is one that can look up these resources from a central repository and apply them appropriately. The SAS Theme Service provides access to theme definitions for presentation assets used in SAS 9.2 Web applications. The Theme Service is a component of the SAS 9.2 Web Infrastructure Platform (WIP) which is a collection of mid tier services and applications that provide basic integration services for all SAS 9.2 Web applications.

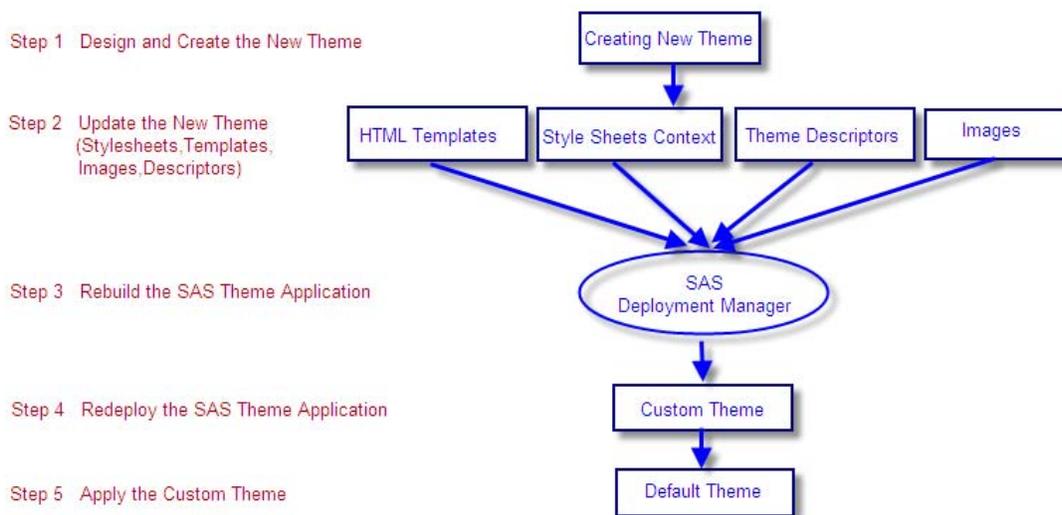


Figure 3. Designing and Creation of a SAS Theme

Step 1 Design and Create a New Theme

To create a new theme as baseline from the default theme the NewTheme.sh must be invoked provided from the SAS-configuration directory\Lev1\Web\Utilities\SASThemeExtensions directory
`./sasopt/config/Lev1/Web/Utilities/SASThemeExtensions/NewTheme.sh shlok true`
 No spaces are allowed in the theme. A baseline for your custom theme will be created in the SASThemeExtensions/themes/<theme name> location.

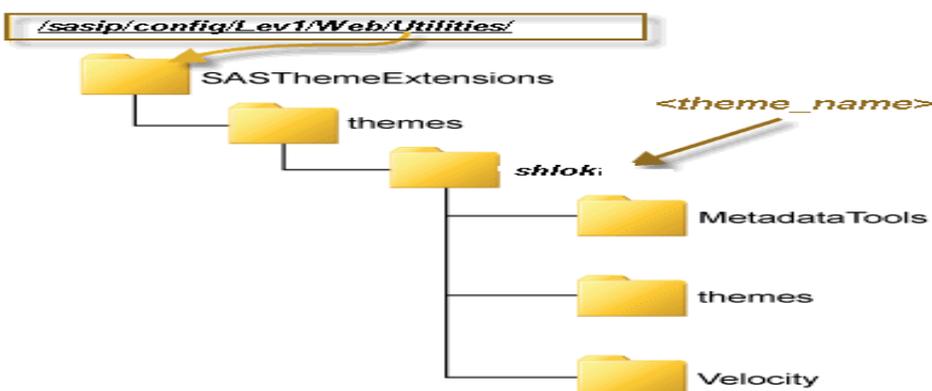


Figure 4. Directory Structure of a SAS Theme

Step 2 Update the New Theme

The next step to create your theme is to modify these files. The modification can occur in one or all of the following files.

1. Images
2. HTML Templates
3. Theme Descriptors
4. Style Sheets Contexts

Images Design and Modification

At our site we needed a company banner which also included the company logo .So we designed the banner image with the logo and replaced the banner background in the new theme with our customized banner background.



Figure 5. Company Banner Image with Logo

This picture contains both the banner and the logo for the company .The original SAS logo on the right side of IDP must be removed. Instead of editing the templates, we just used a transparent image for the logo file.

The image files are located at
 <New Theme home>\themes\<theme name>\images\ in one of three sub-directories:
 Common, Components, WRS

For the banner files these are located in
 /SAS Configuration directory/Lev1/Web/Utilities/SASThemeExtensions/themes /themes/<theme name>/images/images/components
 Example

/sasopt/config/Lev1/Web/Utilities/SASThemeExtensions/themes/shlokth/themes/shlokth/images/Components
 To replace an image, you should copy your new image file into the directory where the image you wish to replace is located. If the new image is the same format (jpg, gif, etc), has the same dimensions (in pixels) as the original, and the file has the same name, then you can just replace the original image with the new one. However, if you need to change the size, image file name, or image format, then you will need to modify the Theme Descriptor.

HTML Templates

The logo file can also be prevented from appearing on the portal by modifying the HTML template and commenting out the line which outputs the logo file from the HTML.

Theme Descriptors

When a new custom theme is created no spaces are allowed in the name. We can give a more meaningful name by changing the display name in theme descriptor file.

Location is /

/<SAS Configuration

directory>/Lev1/Web/Utilities/SASThemeExtensions/themes/shlokth/Velocity/ThemeDescriptors/contexts/ <theme name>.themeDescriptor.vctxt

/sasopt/config/Lev1/Web/Utilities/SASThemeExtensions/themes/shlokth/Velocity/ThemeDescriptors/contexts/shlokth.themeDescriptor.vctxt

this theme descriptor property file serves two purposes

1. It is a Velocity context file for token substitution in the theme descriptor template files
2. Its presence is used as an indicator to WIP config that this theme exists and needs to be generated (also uses some of the properties)

```
theme_name=shlokth
theme_displayName=Shlok_Theme
theme_contextRoot=SASTheme_shlokth
theme_archiveName=sas.theme.shlokth
theme_version=1.1
theme_rtlSupported=TRUE
```

Descriptive Theme Name



Style Sheets.

Our site needed Vertical navigation bar instead of default horizontal for the Portal pages. The vertical navigation can be changed by individual users in their Portal preferences or they can be set as default navigation from Management Console.

Along with this customization was also needed for page tabs, inactive tabs and background color of the vertical menu bar. This was customized using the custom style sheet.

/theme-name/themes/theme-name/styles contains a cascading style sheet file named custom.css that can be used to define additional style elements for the theme. This file is empty when the work area is created. A new custom.css was created and style elements were customized

Portal Navigation bar

Our site needed Vertical navigation bar instead of default horizontal for the Portal pages. There are two ways to make the navigation bar vertical.

🚦 Changing User Preferences in Portal by individual user

🚦 Changing Default Navigation from Horizontal to Vertical.

To change your user preferences, follow these steps:

1. Click Options ➔ Preferences.

- To specify the position of the portal navigation bar, click Portal on the left side of the Preferences page. Then select your Preferred Navigation

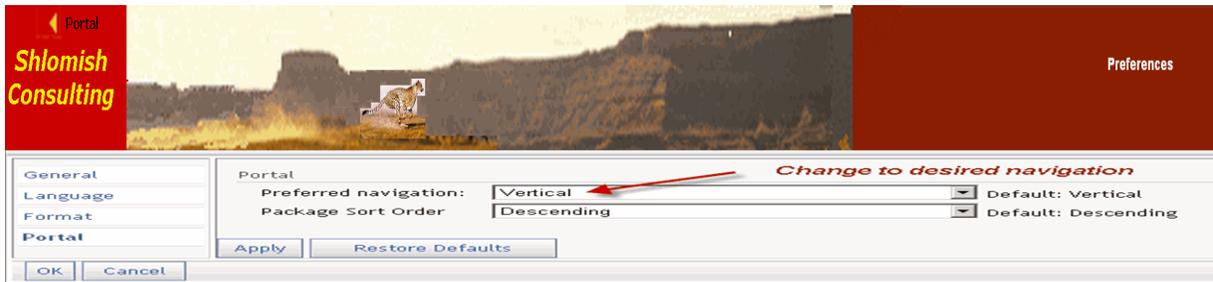


Figure 6. User Preference Selection

Select Horizontal if you want the navigation bar to appear horizontally across the top of the browser window, as shown here



Figure 7. Horizontal Portal Navigation Bar

If any site has more pages it is easier to accommodate those pages using vertical portal navigation

Select Vertical if you want the navigation bar to appear vertically down the left side of the browser window, as shown here:



Figure 8. Vertical Portal Navigation Bar

To make the vertical navigation as the default behavior the changes can be made in SAS Management Console.

To change the Preferences in SAS Information Delivery Portal, follow these steps:

1. Login to SAS Management Console as an unrestricted user.
2. On the Plug-Ins tab, navigate to SAS Folders ► Application Management ► Configuration Manager ► Information Delivery Portal 4.2.
3. Right-click on Information Delivery Portal 4.2, and select Settings tab .select portal on left pane. Select Preferred Navigation and select Vertical from drop-down list

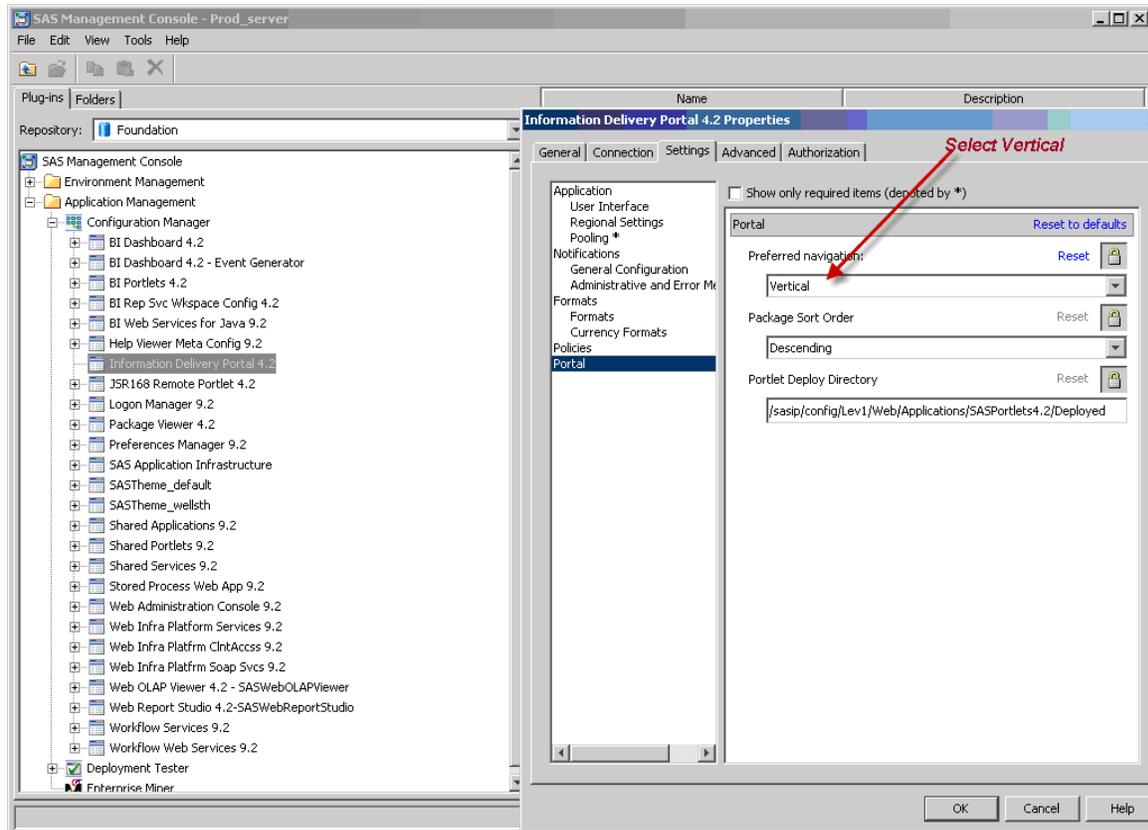


Figure 9. Changing Default Navigation of Information Delivery Portal Properties in SMC

When the changes are made using SAS Management Console then this navigation preference becomes the default.

You can easily customize the appearance of the SAS Information Delivery Portal by modifying the cascading style sheets that control the portal's text and background colors. Cascading style sheets are a standard mechanism for defining consistent and reusable formatting instructions for Web-based content. The portal makes use of the following style sheets: Portal.css, sasStyle.css, and sasads.css.

For example to change the color of background we can add

```
.pageTabBG {
```

```
background-color: #F2E2BD;
}
```

This will change the background color from blue (SAS default) to beige.

Step 3 Rebuild the SAS Theme Application

Once you have completed all the changes to the baseline theme for colors and images, added new images, or replaced existing images with your images, you must rebuild the SAS Theme application. Each theme that is defined will be packaged up as the `sas.theme.<theme name>.war` file. The WAR files will then be bundled into an EAR file, `sas.themes.ear`. This process is accomplished using the SAS Deployment Manager (SDM) application. You launch the SDM by executing `<SAS Home>\SASDeploymentManager\9.2\config.exe`

On UNIX it will be

```
<SAS Home>\SASDeploymentManager\9.2\config.sh
```

This will bring up the SAS Deployment Manager Wizard. You will select Rebuild Web Applications. Then select the SAS Theme Application to be rebuild

SAS Deployment Manager Options

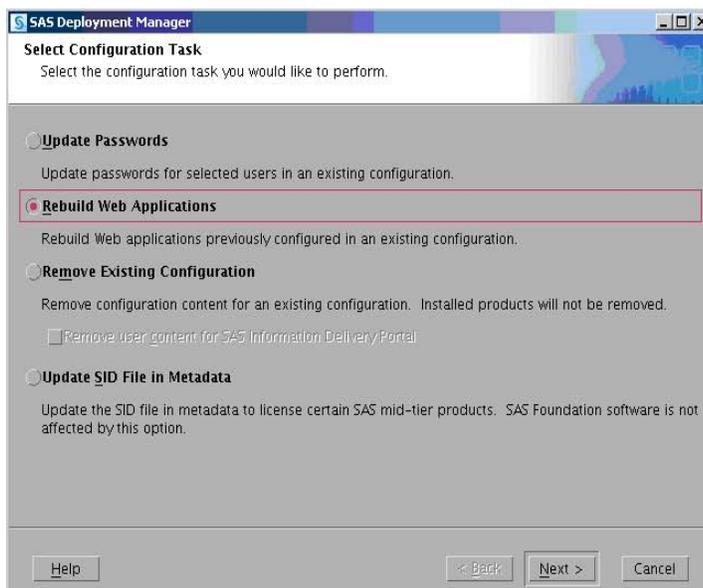


Figure 10. SAS Deployment Manager Options

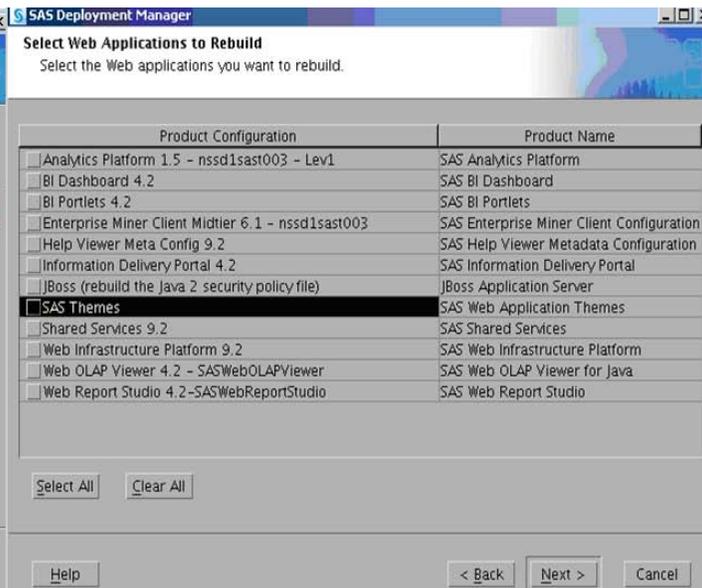


Figure 11. SAS Themes Web Application Selection

Rebuild Applications Selection List

When this process completes, the new sas.themes.ear will be placed in

<Configuration directory>\Lev1\Web\Staging

Step 4 Redeploy the SAS Theme Application

To re-deploy the sas.themes.ear file, follow the process outlined for the Web Application Server software used by your organization. You will also need to restart the SAS Remote Services server associated with your installation, so that it will pick up the new theme definitions, and make them available to the deployed web applications

JBOSS Redeployment:-To redeploy the SAS themes application on JBOSS Server copy the sas.themes.ear from configuration directory>\Lev1\Web\Staging to <JBOSS_HOME>/ server/SASServer1/deploy_sas

Depending on the software that you have installed, the following EAR files are available:

SAS BI Dashboard	sas.bidashboard4.2.ear
SAS BI Dashboard, JSR 168-compliant	sas.bidashboardjsr1684.2.ear
SAS BI Portlets1	sas.biportlets4.2.ear
SAS Package Viewer (ships with SAS Information Delivery Portal)	sas.packageviewer4.2.ear
SAS Information Delivery Portal	sas.portal4.2.ear
SAS Shared Services	sas.shared9.2.ear
SAS Stored Process	sas.storedprocess9.2.ear
SAS Web Application Themes	sas.themes.ear
SAS Help Viewer Metadata Configuration	sas.webdocmd9.2.ear
SAS Web OLAP Viewer for Java	sas.webolapviewer4.2.ear
SAS Web Report Studio	sas.webreportstudio4.2.ear
SAS Web Infrastructure Platform Applications	sas.wip.apps9.2.ear
SAS Content Server	sas.wip.scs9.2.ear
SAS Web Infrastructure Platform Services	sas.wip.services9.2.ear

Step 5 Apply the Custom SAS Theme.

The SAS Deployment Manager also registers the new theme in the Metadata. After the process is complete, you new custom theme will be available for use by the SAS EBI web applications.

Changing the theme just for Individual Portal

For example, if you followed this process for a custom theme named Shlok_Theme, when you logged into the SAS Information Delivery Portal and opened the Preferences dialog, you would now see the new theme available to users:

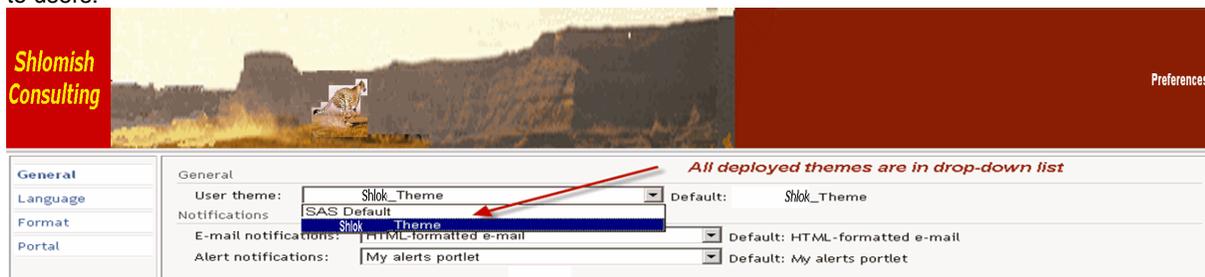


Figure 12. SAS Themes Web Application Selection in Information Delivery Portal

Changing the default theme for all SAS EBI Applications

To change the default theme for all of the SAS EBI applications, follow these steps:

Login to SAS Management Console as an unrestricted user.

- On the Plug-Ins tab, navigate to Application Management ► Information Delivery Portal 4.2.
- Right-click on Information Delivery Portal 4.2., and select properties
- Select Settings tab in properties window. Modify the value of default theme

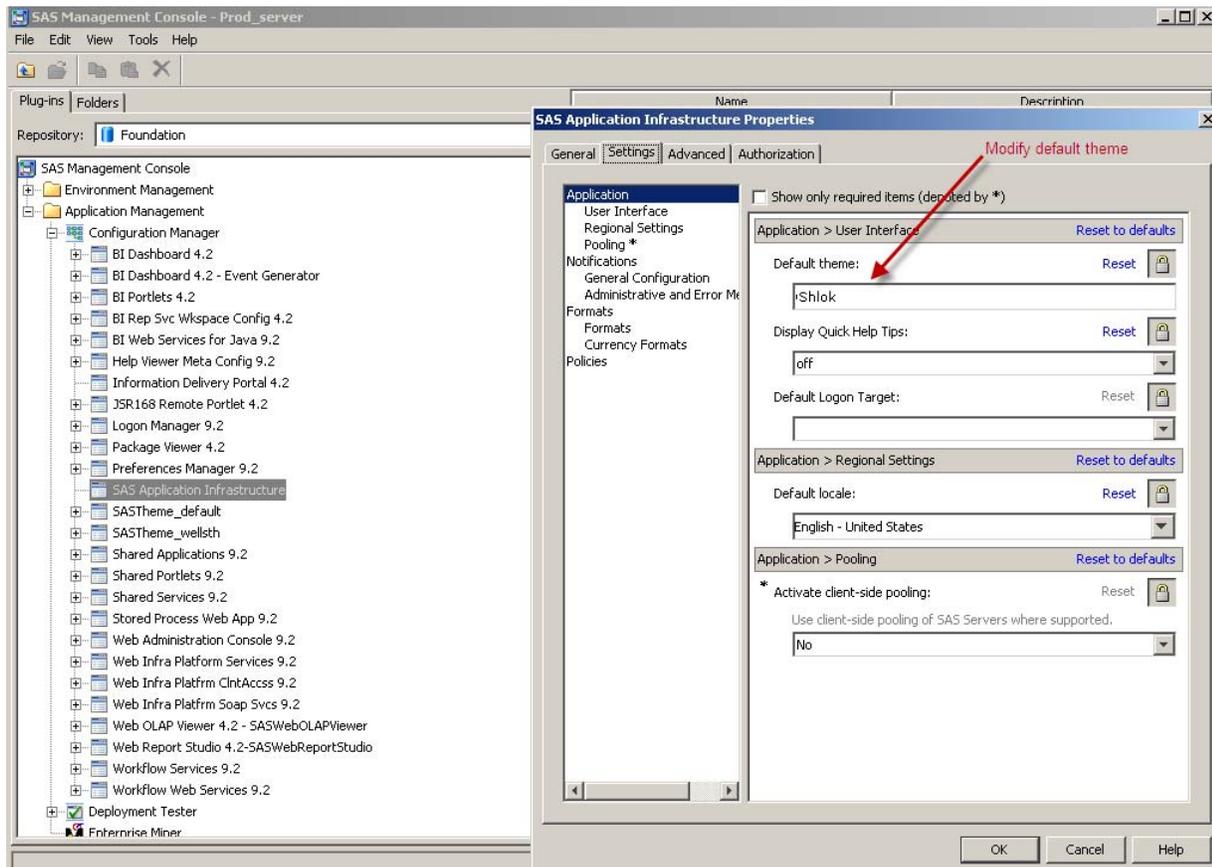


Figure 13. SAS Themes modification for all SAS EBI Applications

You must restart SAS Remote Services and the SAS Web Infrastructure Platform application for the change of default theme to be recognized across the environment. This will change all applications from the SAS default theme to your new custom theme.

Step 6 Changing the Portal banner title.

To change the Banner Title for SAS Information Delivery Portal, follow these steps:

- Login to SAS Management Console as an unrestricted user.
- On the Folders tab, navigate to Systems ► Applications ► SAS Application Infrastructure
- Right-click on SAS Application Infrastructure in the right window, and select properties
- Change the name of webapp.portal.banner.title to your preferred title, and then press Enter.

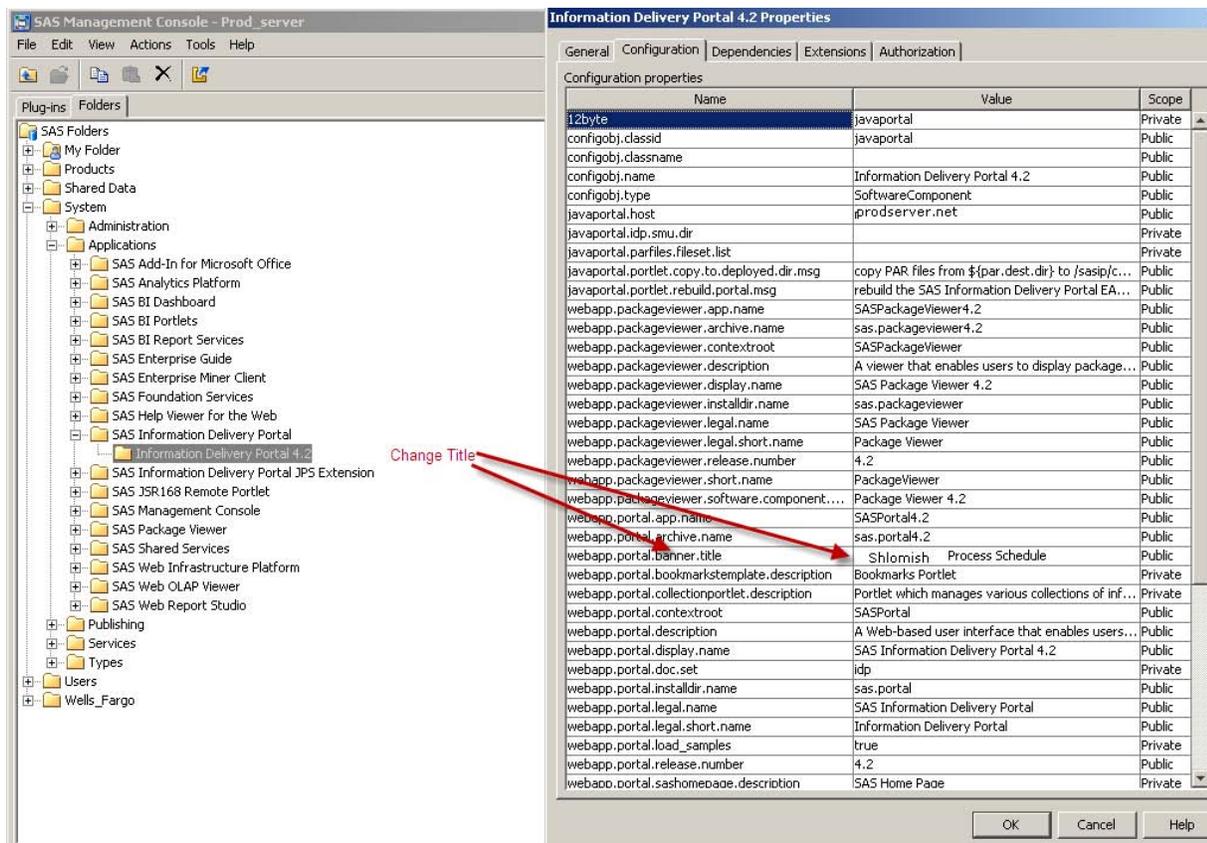


Figure 14. SAS Information Delivery Portal Title change

Note: Pressing Enter is important after typing the value, If you just click ok after typing the new value, the new value might not get saved. To verify that new value is saved, go back to the Properties dialog box after clicking Ok to confirm the new value was saved

- Rebuild the Portal using the SAS Deployment Manager
- Redeploy the Portal.



Figure 15. SAS Information Delivery Portal with Custom Title

Themes Available for SAS EBI Applications

After the custom theme is built there will be 2 themes available from which users can choose the theme that they like for the Portal.

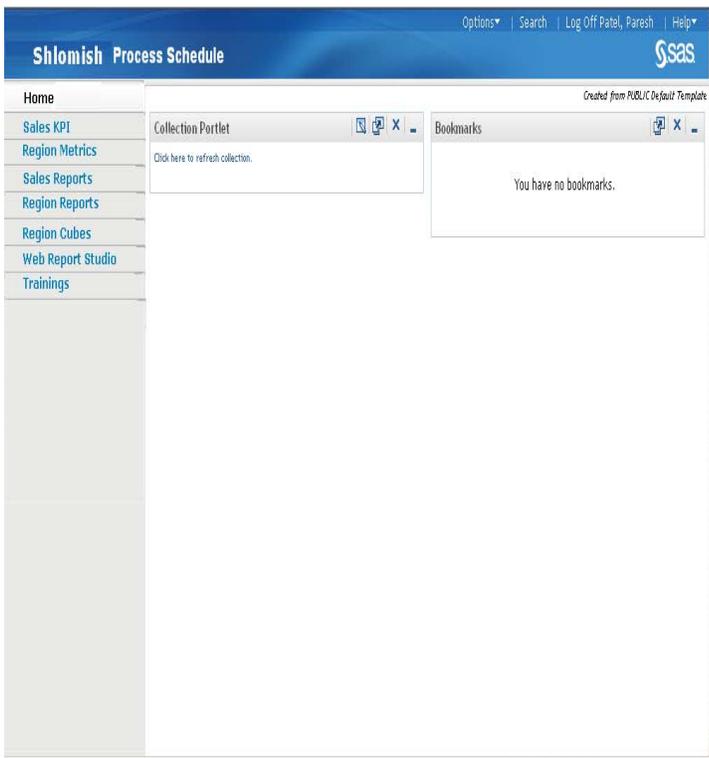


Figure 16. SAS Default theme

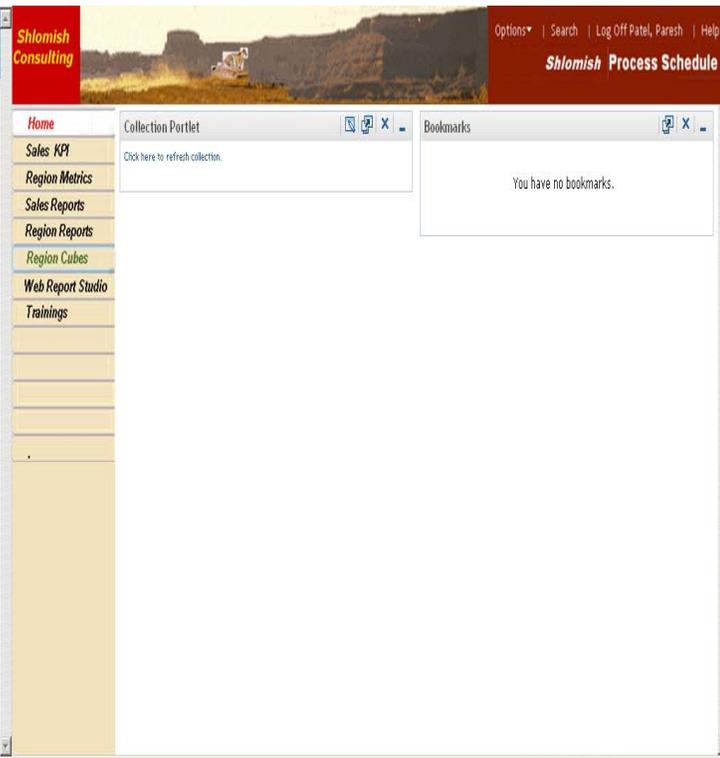


Figure 17. Shlok Custom Theme

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