



THE  
POWER  
TO KNOW.

# SAS<sup>®</sup> Information Delivery Portal 4.4: Introduction

The correct bibliographic citation for this manual is as follows: SAS Institute Inc 2013. *SAS® Information Delivery Portal 4.4: Introduction*. Cary, NC: SAS Institute Inc.

**SAS® Information Delivery Portal 4.4: Introduction**

Copyright © 2013, SAS Institute Inc., Cary, NC, USA

All rights reserved. Produced in the United States of America.

**For a hardcopy book:** No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise, without the prior written permission of the publisher, SAS Institute Inc.

**For a Web download or e-book:** Your use of this publication shall be governed by the terms established by the vendor at the time you acquire this publication.

**U.S. Government Restricted Rights Notice:** Use, duplication, or disclosure of this software and related documentation by the U.S. government is subject to the Agreement with SAS Institute and the restrictions set forth in FAR 52.227-19 Commercial Computer Software-Restricted Rights (June 1987).

SAS Institute Inc., SAS Campus Drive, Cary, North Carolina 27513.

Printing 1, July 2013

SAS® Publishing provides a complete selection of books and electronic products to help customers use SAS software to its fullest potential. For more information about our e-books, e-learning products, CDs, and hard-copy books, visit the SAS Publishing Web site at [support.sas.com/publishing](http://support.sas.com/publishing) or call 1-800-727-3228.

SAS® and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration.

Other brand and product names are registered trademarks or trademarks of their respective companies.

---

# Contents

<b>Chapter 1 • Overview of the SAS Information Delivery Portal</b> . . . . .	<b>1</b>
What Is the SAS Information Delivery Portal? . . . . .	1
Information in the Context of Roles . . . . .	1
Main Features of the Portal . . . . .	2
Accessibility Features in the SAS Information Delivery Portal . . . . .	3
Where to Find More Information . . . . .	3
<b>Chapter 2 • How Content Is Organized in the Portal</b> . . . . .	<b>5</b>
The Portal's Graphical Interface . . . . .	5
Overview of Content Organization . . . . .	7
Types of Content That the Portal Can Contain . . . . .	7
About Portlets . . . . .	8
Types of Portlets That Are Included with the Portal . . . . .	9
<b>Chapter 3 • Viewing and Managing Portal Content</b> . . . . .	<b>17</b>
Overview of Viewing and Managing Content . . . . .	17
Viewing a SAS Report . . . . .	17
Viewing an Information Map . . . . .	18
Viewing Stored Process Output . . . . .	19
Searching for Information . . . . .	20
Using Bookmarks . . . . .	20
Viewing and Sharing Information That Is Published to Channels . . . . .	21
<b>Chapter 4 • Personalizing Your Portal</b> . . . . .	<b>27</b>
Overview of Personalization . . . . .	27
Options for Adding and Managing Personal Content . . . . .	27
Options for Managing Portal Organization and Appearance . . . . .	28
Sample Personalized Portal . . . . .	28
<b>Chapter 5 • Portal Customization</b> . . . . .	<b>31</b>
Overview of Customization . . . . .	31
Portal Development Tasks . . . . .	31
Administration and Deployment Tasks . . . . .	32
<b>Glossary</b> . . . . .	<b>35</b>
<b>Index</b> . . . . .	<b>41</b>



## Chapter 1

# Overview of the SAS Information Delivery Portal

---

<b>What Is the SAS Information Delivery Portal?</b> .....	<b>1</b>
<b>Information in the Context of Roles</b> .....	<b>1</b>
<b>Main Features of the Portal</b> .....	<b>2</b>
<b>Accessibility Features in the SAS Information Delivery Portal</b> .....	<b>3</b>
<b>Where to Find More Information</b> .....	<b>3</b>

---

## What Is the SAS Information Delivery Portal?

The SAS Information Delivery Portal (or simply, the portal) is a Web application that provides a single, easy-to-use interface from which you can access a broad range of enterprise information. This information includes reports, charts, Web applications, documents, and links to internal or external Web pages. The portal gives you access to information that is produced through the analytical capabilities of SAS, and provides a single access point to SAS output.

Your organization can use the portal to deliver important and timely business intelligence efficiently to employees, customers, partners, and vendors. The portal provides a secure environment for your business intelligence so that users see only the information that they have security rights to access.

The portal's personalization features enable you to create and customize your own Web pages and content. You can organize your personal portal so that it contains only the information that you need, in the format that makes the most sense to you. From the portal, you can subscribe to publication channels that deliver continually updated information to your desktop. The portal also provides a secure environment for sharing information with other users.

---

## Information in the Context of Roles

The power of the portal is its ability to deliver the right information to the right person at the right time.

Although the portal can provide access to enterprise-wide information, all users in your organization might not need or want to view the exact same information. With the portal,

information can be organized and presented to users according to their roles in the organization.

Consider the following sample roles and requirements:

- Executives must respond quickly to external market forces, manage internal organizational changes, and develop strategies that improve their business.
- Sales managers must understand the problems that prospective clients face in order to provide adequate solutions for those problems.
- Customer service representatives must monitor both their customers and their competitors to find the best combination of superior service and low cost.
- Engineers require a clear understanding of customer requirements. They must stay informed about technical advances in their field and be able to measure the relative value of one feature over another in the products that they design.
- To make cost-effective purchases, purchase managers and IT administrators require adequate information about suppliers. Managers also need a clear understanding of the infrastructure and tools that employees need to do their jobs.
- Managers in the Human Resources department must develop competitive compensation packages in order to attract and retain the best people, while serving the organization's cost-saving strategies.

The roles vary with each organization, but the premise remains the same: different people require different types of information to make good decisions or to do their jobs.

---

## Main Features of the Portal

The portal provides the following main features:

- delivers customized information securely to users within and outside of your organization
- enables users to access a range of content, including SAS Information Maps, SAS Stored Processes, SAS publication channels and packages, SAS reports, documents, syndication channels, and links to Web addresses
- gives individual users control over the content and organization of information in their personal workspace
- provides multiple ways for users to access information, including subscriptions to publication channels, search capability, and the ability to add and customize Web pages
- allows sharing of information in a secure environment via e-mail messages, publication channels, and posting to a WebDAV repository

*Note:* WebDAV is an abbreviation for Web Distributed Authoring and Versioning. WebDAV is a set of extensions to the HTTP protocol that enables users to collaboratively edit and manage files on remote Web servers.

- provides single sign-on, so users can launch applications, such as SAS Web Report Studio, from the portal without the need to re-enter their user name and password
- provides a portlet API for use in developing Web applications and custom portlets

---

## Accessibility Features in the SAS Information Delivery Portal

For information about accessibility for the SAS Information Delivery Portal, see the portal Help. If you have questions or concerns about the accessibility of SAS products, send e-mail to [accessibility@sas.com](mailto:accessibility@sas.com).

---

## Where to Find More Information

This introduction provides an overview of the portal and describes portal usage at a high level. However, the introduction does not include instructions for related tasks.

You can find more information about the tasks and concepts described in this introduction in the following documents:

Document	Topics
Help	<p>Describes the different types of content that the portal can contain.</p> <p>Provides step-by-step instructions that explain how to view, create, and edit pages, portlets, and other portal content.</p> <p>Describes how to personalize the portal so that it contains only the information users need, in the format that makes the most sense to them.</p> <p>Explains how to publish and subscribe to publication channels.</p> <p>(To view the online Help, you must have access to the SAS Information Delivery Portal. Click the <b>Help</b> link in the banner of the portal.)</p>
<i>SAS Intelligence Platform: Web Application Administration Guide</i>	<p>Describes the portal environment and explains how to complete the following tasks:</p> <ul style="list-style-type: none"> <li>• deploy portlets and Web applications</li> <li>• customize and deploy themes</li> <li>• manage portal users and groups, and control access to portal content</li> <li>• add reports, information maps, stored processes, documents, and other content to the portal</li> <li>• configure default values for user preferences</li> <li>• promote portal content from previous releases</li> </ul>
<i>Developing Portlets for the SAS Information Delivery Portal</i>	<p>Explains how to develop custom portlets that can run in the portal.</p>

Document	Topics
<i>Developing JSR-168-Compliant Portlets for the SAS Information Delivery Portal</i>	Explains how to develop and deploy custom portlets that comply with the JSR 168 specification.

---



## Chapter 2

# How Content Is Organized in the Portal

---

<b>The Portal's Graphical Interface</b> .....	<b>5</b>
<b>Overview of Content Organization</b> .....	<b>7</b>
<b>Types of Content That the Portal Can Contain</b> .....	<b>7</b>
<b>About Portlets</b> .....	<b>8</b>
<b>Types of Portlets That Are Included with the Portal</b> .....	<b>9</b>
Basic SAS Portlets .....	9
SAS BI Portlets .....	14
Other Portlets .....	15

---

## The Portal's Graphical Interface

Before you attempt to understand how content is organized in the portal, it's helpful to explore the portal's graphical interface. Here is an example of a portal:

*Note:* Your organization might customize the portal so that it looks different from the example shown here.

The screenshot shows the SAS Portal interface. At the top is a blue banner with the SAS logo and navigation links: Home, Sales, Outlook, Utilities. Above the banner are links for Customize, Options, Search, Log Off SAS Demo User, and Help. Below the banner are two portlets: 'News Links' and 'Sales Summary'. The 'News Links' portlet contains links for CNN World, BusinessWeek, and BBC. The 'Sales Summary' portlet contains a bar chart titled 'Sales by Product Category' for 2002Q4, showing the number of items for various product groups across Indoor, Outdoor, and Swim Sports categories.

Product Category	Anoraks & Parkas	Backpacks	Bathing Suits	Fitness	Gloves & Mittens	Knitted Accessories	Outdoor Gear	Sleepingbags	Tents	Top Trim
Indoor Sports	~1000	~600	~500	~500	~500	~500	~500	~500	~500	~500
Outdoors	~3800	~1800	~800	~500	~500	~500	~3200	~2800	~1200	~1200
Swim Sports	~1900	~1900	~1900	~1900	~1900	~1900	~1900	~1900	~1900	~1900

You can use the following elements to navigate between different areas of the portal:

**1** Navigation bar

The navigation bar contains links for your portal Web pages. You open a different page by clicking its name in the navigation bar. In the display, the portal's Home page is the active Web page. Notice that the Home link is highlighted on the navigation bar.

**2** Portlets

Portlets are the rectangular display components of a portal page that contain links, graphs, reports, and other information that is available in the portal. You can edit the contents of some portlets. To edit, remove, or minimize a portlet, use the icons in the portlet title bar. For more information about portlets, see [“About Portlets” on page 8](#).

**3** Banner links

To perform portal tasks, use the banner links as follows:

- Click **Customize** and **Options** in the banner to display menus that you can use to personalize your portal. For example, you can add and remove pages, change the appearance of your pages, rearrange portal elements, create portal content, and

perform other tasks. For more information about personalization, see [“Overview of Personalization” on page 27](#).

- Click **Search** to find content that you are authorized to access.
- To log off the portal, click the **Log Off** link.

#### 4 Portal links

To view information or to launch applications that are available to you through the portal, click any active link that is displayed inside a portlet.

---

## Overview of Content Organization

Before you can view reports, graphs, and other information, someone in your organization (typically a portal administrator or a group content administrator) must make that information available to the portal. When the content is available, you can add that content to your portal.

The portal uses pages and portlets to organize information. To add content to a portal, you first create one or more pages, then add portlets to those pages, and finally add the content that you want to the portlets.

*Note:* You can perform most of the tasks that are associated with adding content by using the **Customize** and **Options** menus on the banner. For links to documents that explain how to perform these tasks, see [“Where to Find More Information” on page 3](#).

### See Also

- [“Types of Content That the Portal Can Contain” on page 7](#)
- [“About Portlets” on page 8](#)
- [“Types of Portlets That Are Included with the Portal” on page 9](#)

---

## Types of Content That the Portal Can Contain

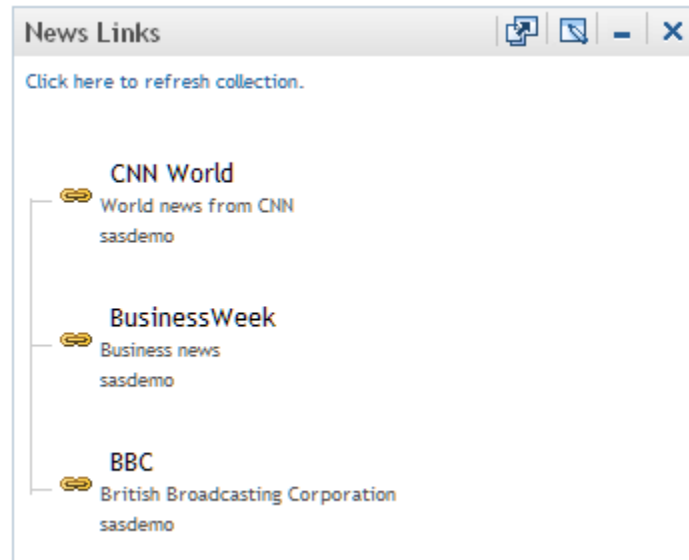
The portal uses a broad definition of the word "content" to mean a wide range of information types that might be useful to people in your organization. In general, content falls into the following two main categories:

- SAS content, such as SAS Information Maps, SAS reports, SAS Stored Processes, and packages created by the SAS Publishing Framework. For more information about these content types, see [“Overview of Viewing and Managing Content” on page 17](#).
- Other Web content, including Web applications, documents, links to internal or external Web pages, and syndication channels that provide syndicated, continually updated Web content.






---

## About Portlets


Portlets are the display components of a portal and are used to organize a portal's contents on a page. Here is a sample portlet that contains links to Web sites that provide business or world news.



Each portlet has its own title bar that contains a label and some icons. You can use the icons in a portlet title bar as follows:

- If the Edit Properties icon  is displayed, then you can click this icon to modify the portlet's title, key words, or description. If you are authorized, then you can also share the portlet with a group of users.
- If the Edit Content icon  is displayed, then you can click this icon to modify the content that is displayed in the portlet.
- If the Remove icon  is displayed, then you can click this icon to remove the portlet from your portal page.
- You can click the Minimize icon  to resize the portlet so that only the title bar is showing. You can then use the Maximize icon  to restore the entire portlet to the page.

The minimized and maximized states are maintained only while you are logged on; they do not persist from one session to another. The default state is the maximized state.

- If the Help icon  is displayed, then you can click this icon to display instructions for using the portlet.

## Types of Portlets That Are Included with the Portal

### Basic SAS Portlets

The portal includes several types of portlets that you can add to pages. Each portlet has features that make the portlet suitable for particular types of content. The following list describes each type of portlet:

- A Bookmarks portlet enables you to view and work with content that you find by browsing or by using the search tool. When you find an item of interest, you can bookmark that item, and the item is added automatically to your Bookmarks portlet. Bookmarks enable you to maintain a list of content items that you can refer to later.

Each user has a personal Bookmarks portlet, which can be added to multiple pages. Here is a sample Bookmarks portlet:



From a Bookmarks portlet, you can do the following tasks:

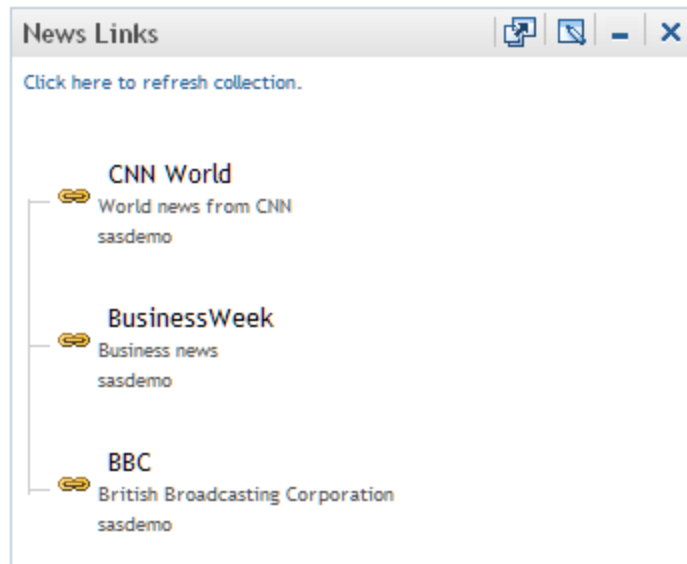
- add one or more items to a new collection portlet that you create from the Bookmarks portlet
- publish one or more items to a publication channel
- e-mail the links for one or more items (up to nine) to other users
- remove one or more items from the Bookmarks portlet, or add new items

*Note:* A button is available only if the button's action can be performed on all selected items. For example, the **Publish** button is available if all the selections can be published.

Generally, bookmarks are used to maintain a list of content items for short-term use. For long-term use of content items, you would typically add the items to a collection portlet, and then remove those items from the Bookmarks portlet.

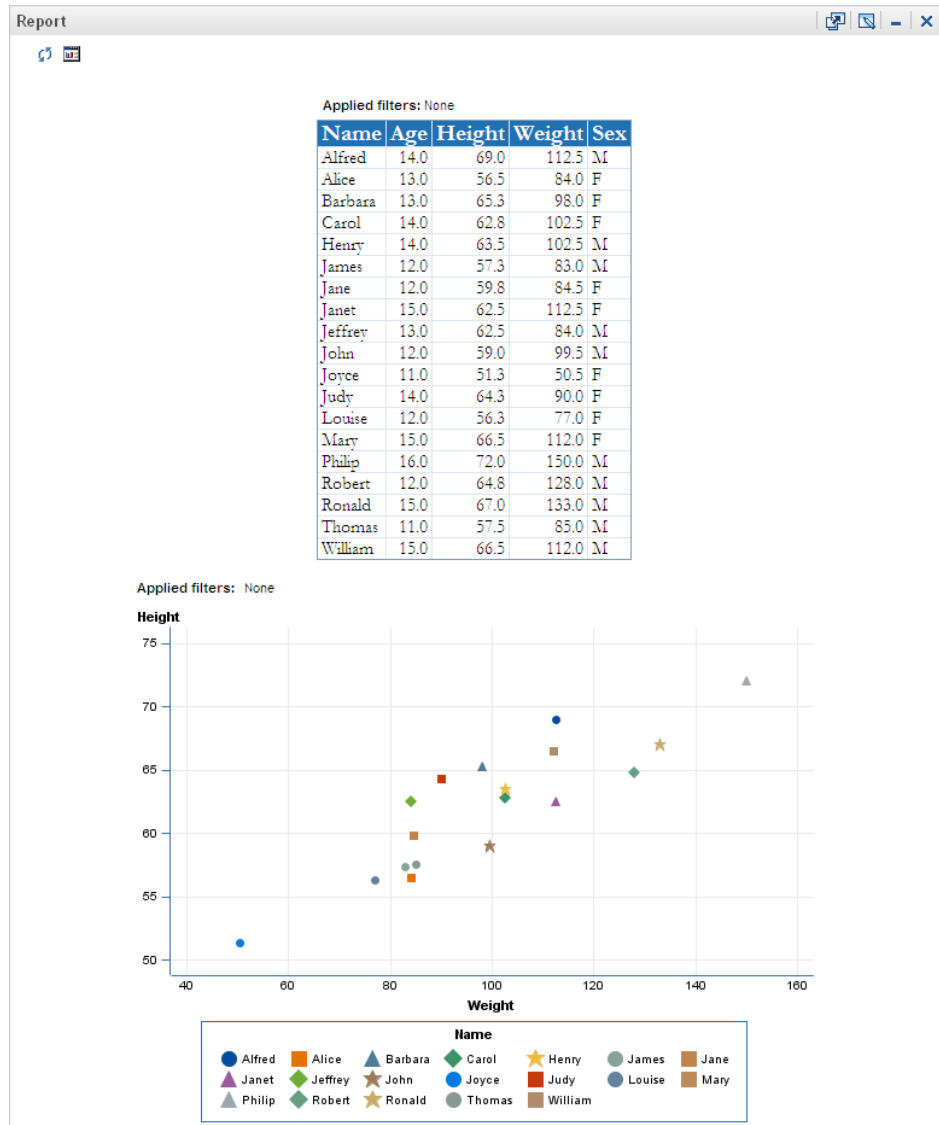
- A Collection portlet contains a list of content items. You can create your own collection portlets for your portal pages. In these collection portlets, you can add an entry for any content item that you are authorized to access.

You can create any number of Collection portlets and add them to your portal pages. Here is a sample Collection portlet:



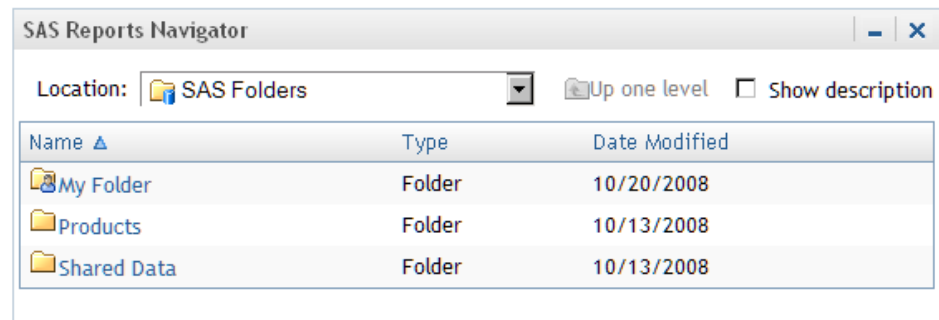
- A Report portlet displays a SAS report.

You can add any number of Report portlets to your portal pages. Here is a sample Report portlet:



- Several navigator portlets enable you to explore content items that are organized in folders and subfolders. Examples of this content might include stored processes, information maps, and reports. Some navigator portlets include files that are stored in a WebDAV repository.

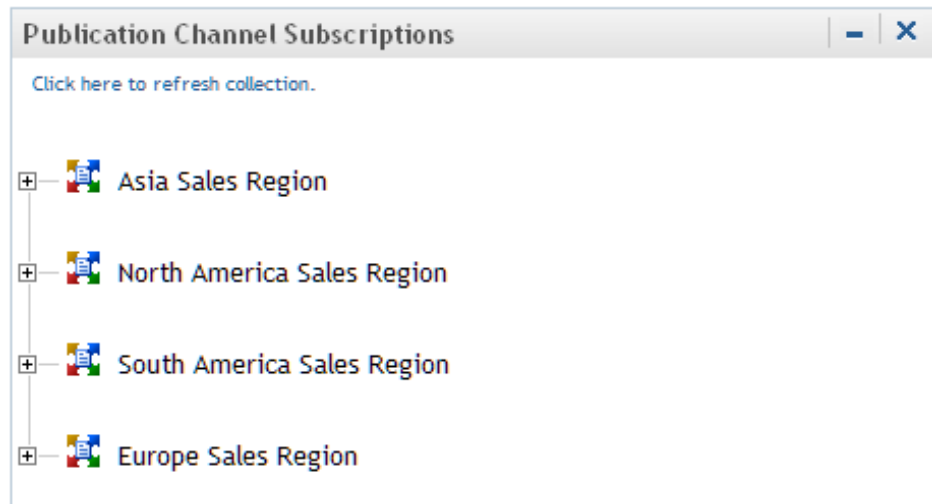
Here is a sample navigator portlet:



- A Publication Channel Subscriptions portlet contains the publication channels to which you are currently subscribed. From this portlet, you can view content that has

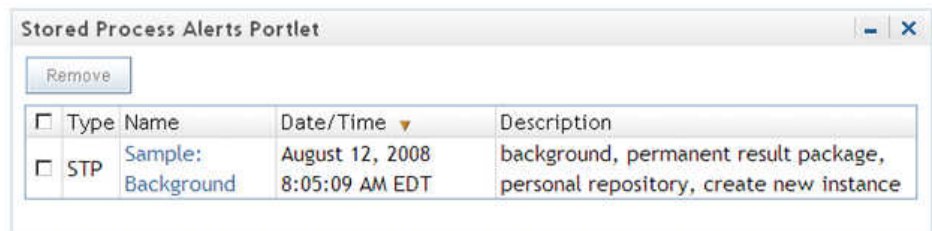
been created using the SAS Publishing Framework and that has been published to a SAS publication channel.

Each user has a single Publication Channel Subscriptions portlet, which can be added to multiple pages. Here is a sample Publication Channel Subscriptions portlet:



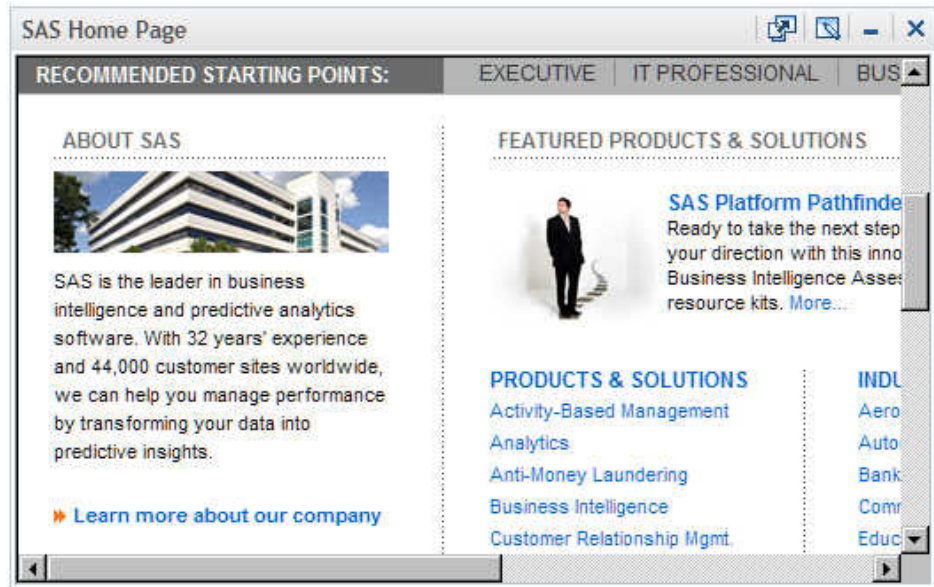
- A Stored Process Alerts portlet notifies you that certain types of stored processes have finished executing and that the results are ready to view. You can then click the alert message to see the results of the stored process. You cannot manually edit a Stored Process Alerts portlet other than to remove alert messages from the portlet. Normally, you would remove an alert message after you have viewed the results of a stored process.

Each user has a single personal Stored Process Alerts portlet, which can be added to multiple pages. Here is a sample Stored Process Alerts portlet:



- A URL Display portlet accesses a specified URL and displays the returned information inside the portlet. You can create any number of URL Display portlets and add them to your portal pages. When you create a URL Display portlet, you usually supply a URL that points to a complete HTML page, as shown in the following example:



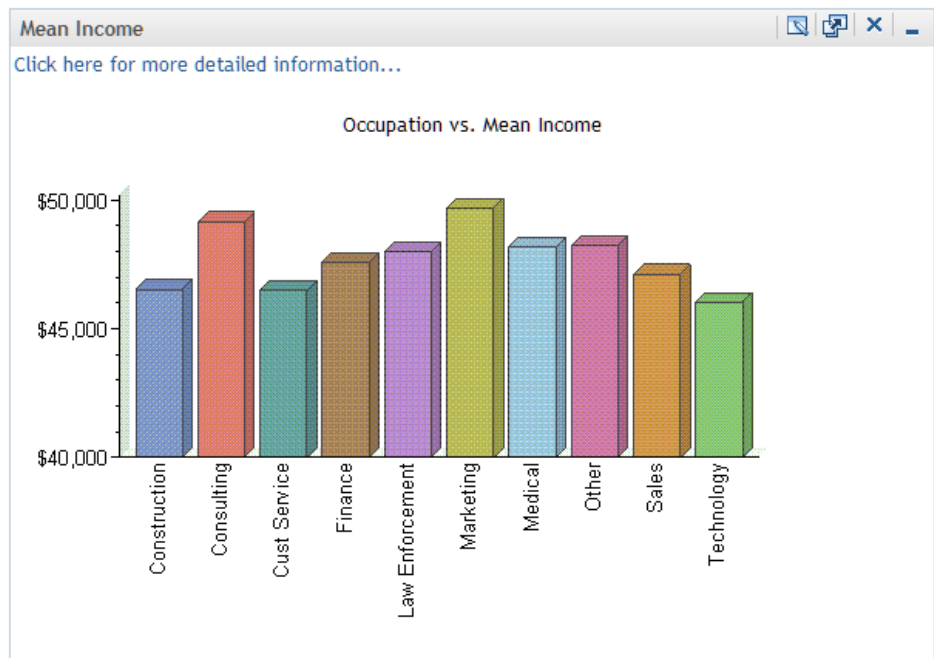


The frame height can be set to a specified number of pixels, and scroll bars appear as necessary so that the entire HTML page can be viewed.

It is also possible to create a URL Display portlet that points to an HTML fragment. You can select an option that lets the portlet modify its size to accommodate the HTML fragment, so the portlet does not use scroll bars.

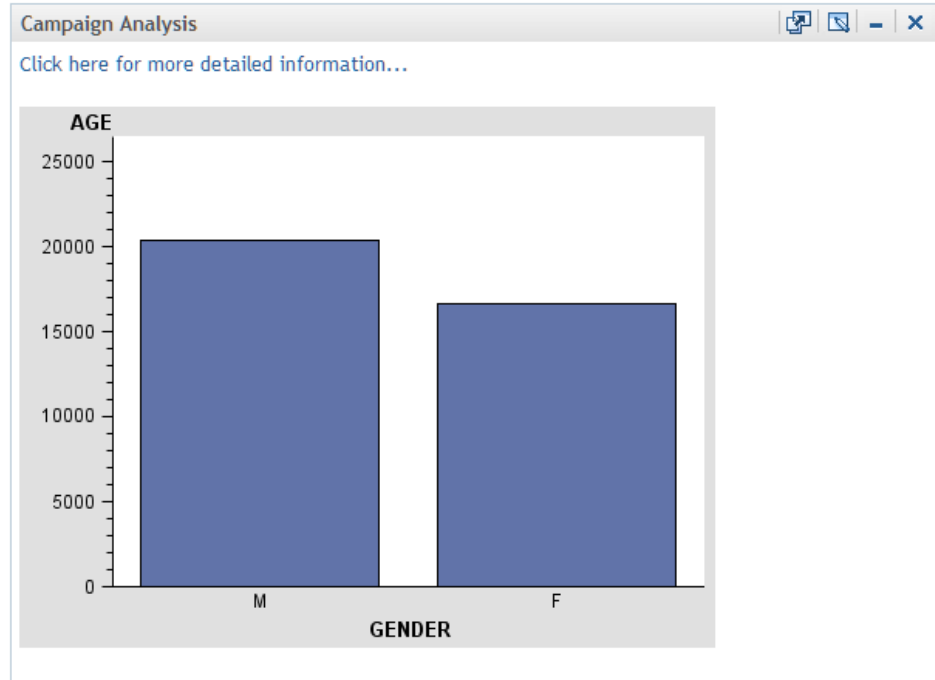
*Note:* An HTML fragment is an HTML file that does not contain opening and closing HTML tags, HEAD tags, or BODY tags. The HTML fragment can be displayed successfully in the cell of an HTML table.

- A WebDAV Content portlet displays the contents of an HTML fragment that is stored in a WebDAV repository. You can also specify a link to more detailed information. You can create any number of WebDAV Content portlets and add them to your portal pages. Here is a sample WebDAV Content portlet:



- A WebDAV Graph portlet displays a line graph, bar chart, or pie chart of data that is stored in a WebDAV repository. When you create a WebDAV Graph portlet, you can also specify a link to more detailed information.

You can create any number of WebDAV Graph portlets and add them to your portal pages. Here is a sample WebDAV Graph portlet:



## SAS BI Portlets

SAS BI portlets are portlets that conform to the JSR 168 standard and can be deployed in both the SAS Information Delivery Portal and in third-party Web portals.

If your site has SAS BI portlets installed, then the following BI portlets might be available:

### SAS Collection Portlet

displays a list of content items for easy access.

### SAS Navigator Portlet

enables you to browse folders in the SAS Metadata Repository and in WebDAV.

### SAS Report Portlet

displays a static report and provides a link to open the report in SAS Web Report Studio.

### SAS Stored Process Portlet

displays output from a SAS Stored Process. You can use edit mode to specify parameters for the stored process.


### SAS BI Dashboard Portlet

displays the SAS BI Dashboard, a Web application that contains interactive reports.

### SAS Diagnostics Portlet

displays details about your portal environment that can be used to troubleshoot problems.

## **Other Portlets**

Depending on the software that is installed at your site, your portal might contain additional portlets. These can be custom portlets created by your organization as well as portlets provided by other SAS products or solutions. These portlets can display other types of data, text, or graphics, or they can have specific interactive capabilities. These portlets are not documented here, but some of them might have a Help icon  in the title bar that you can click for information.



## Chapter 3

# Viewing and Managing Portal Content

---

<b>Overview of Viewing and Managing Content</b> .....	<b>17</b>
<b>Viewing a SAS Report</b> .....	<b>17</b>
<b>Viewing an Information Map</b> .....	<b>18</b>
<b>Viewing Stored Process Output</b> .....	<b>19</b>
<b>Searching for Information</b> .....	<b>20</b>
<b>Using Bookmarks</b> .....	<b>20</b>
<b>Viewing and Sharing Information That Is Published to Channels</b> .....	<b>21</b>
Overview of SAS Publication .....	21
Main Steps for Subscribing to Publication Channels .....	22
Viewing and Sharing Publication Channel Output .....	23
Publishing Information to a Publication Channel or to a WebDAV Repository ...	24

---

## Overview of Viewing and Managing Content

The portal provides a robust environment for viewing your organization's reports, graphs, Web pages, documents, and other data. After your portal team has deployed the portal within your organization, you can view content and run reports by selecting one of the active links in a portlet. You can also manage content from the portal. For example, after searching for a report, you can bookmark the report for future reference or e-mail the link for that report to someone else.

*Note:* For documents that explain how to perform the tasks related to viewing content, see [“Where to Find More Information”](#) on page 3.

---

## Viewing a SAS Report

A SAS report is a report that has been created using SAS Web Report Studio and is stored in an established SAS format (SAS Report Model format). Reports can contain a graph, a table, or both. Depending on the software that is installed, the portal uses either SAS Web Report Studio or SAS Web Report Viewer to display reports.

Here is a sample report:

Applied filters: None

Quantity Ordered	Total Retail Price For This Product	Date Order Was Placed By	Product Name
2	\$186.00	01APR1998	Armadillo Road Dmx Men's Running Shoes
1	\$54.70	01APR1998	Big Guy Men's Fleece Hood
1	\$62.60	01APR1998	Big Guy Men's Air Deschutz VIII Shoes
1	\$81.30	01APR1998	Big Guy Men's Air Force 1 Sc
1	\$121.30	01APR1998	Big Guy Men's Air Masai Shoes
3	\$173.10	01APR1998	Big Guy Men's Air Soc Moc Swede Sandal

You can perform the following tasks with SAS reports:

- If the report opens in SAS Web Report Studio, then you can edit the report. For example, you can apply filters, change the header, and select different data items. You can also insert new objects, such as tables, graphs, and text. For detailed instructions, click **Help** in the banner to access Help topics for SAS Web Report Studio.
- If the report opens in SAS Web Report Viewer, then the report is read-only. You can perform basic operations such as drilling down and expanding a report. You can also refresh the data that appears in the report. These actions apply to the current session only and are not preserved with the report.
- You can print and export the graph.
- If you add a report to your Bookmarks portlet, you can then e-mail the report from the portlet. (If the report opens in SAS Web Report Studio, then you can e-mail the report directly from within the SAS Web Report Studio application.)

You can also display SAS reports by using the Report Portlet. The Report Portlet provides a static view of a SAS report.

## Viewing an Information Map

An information map is a collection of data items and filters that provides a business-specific view of physical data. An information map consists of SAS metadata that describes data in terms that users can readily understand. The information map enables business users to query data for specific business needs. An information map can be based on either of the following types of data:

- OLAP data (multidimensional data on a SAS OLAP Server)

- relational data (two-dimensional data on a SAS server or in a third-party database)

Information maps are created by using SAS Information Map Studio or by using the INFOMAPS procedure.

When you click on an information map, it opens in SAS Web Report Studio or SAS Web Report Viewer as a SAS report. See [“Viewing a SAS Report” on page 17](#).

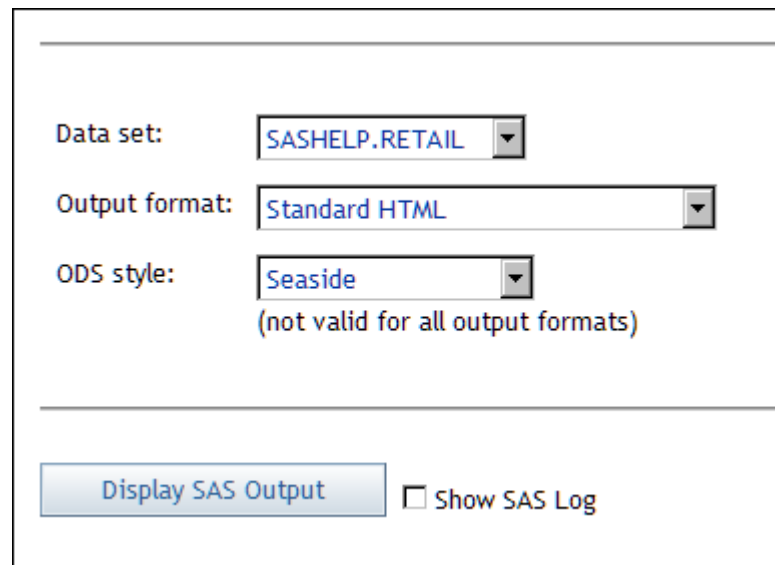
---

## Viewing Stored Process Output

A stored process is a SAS program that is stored in a central location and is available to be executed from the portal at your request. Stored processes are useful for creating output that contains the most current information available.

Stored processes can be set up to run in the background so that you can work on other tasks during processing. When a stored process is finished executing in the background, a message appears in your Stored Process Alerts portlet the next time it is refreshed.

A stored process might present an input form that enables you to customize the output. The following display shows a sample input form for a stored process that supports multiple output formats:



The screenshot shows a web-based input form for a stored process. It contains three dropdown menus for configuration: 'Data set' with 'SASHELP.RETAIL' selected, 'Output format' with 'Standard HTML' selected, and 'ODS style' with 'Seaside' selected. Below the 'ODS style' dropdown is the text '(not valid for all output formats)'. At the bottom of the form, there is a blue button labeled 'Display SAS Output' and a checkbox labeled 'Show SAS Log' which is currently unchecked.

On this form, you would provide the requested information and select **Display SAS Output**. Here is the partial result:

Retail sales in millions of \$	DATE	YEAR	MONTH	DAY
\$220	80Q1	1980	1	1
\$257	80Q2	1980	4	1
\$258	80Q3	1980	7	1
\$295	80Q4	1980	10	1
\$247	81Q1	1981	1	1
\$292	81Q2	1981	4	1
\$286	81Q3	1981	7	1
\$323	81Q4	1981	10	1
\$284	82Q1	1982	1	1

The portal provides links for bookmarking and publishing stored process output. You can also e-mail the URL address for the output.

---

## Searching for Information

The portal enables you to associate keywords with items that you add to your portal. These keywords become part of the metadata that is associated with the item. If you share the item, others can search for it by using this metadata.

The search tool, available via the **Search** link in the portal banner, enables you to search for specific content that has metadata registered in the portal.

The content that you can search for includes pages, page templates, portlets, and content items. Content items can be applications, links, syndication channels, files, SAS Information Maps, packages, publication channels, SAS Reports, and SAS Stored Processes.

For the keyword, you can enter a single word, multiple words, or a phrase. Alternatively, you can enter a single asterisk (\*) wildcard to search all keywords without any filtering. You can search by entering an item's name, description, or keywords. For the content type, you can select any of the check boxes, but you must select at least one content type as the basis for your search.



After performing a search, in the search results page you can bookmark items that you want to keep, and you can e-mail an item's URL address to someone else. If you have the appropriate authorization, you can also edit and delete items.












---





## Using Bookmarks

The search feature is often used in conjunction with bookmarks. When you locate an item through a search, you can bookmark that item, and the item is automatically added to your personal Bookmarks portlet.





For example, suppose that you want to create a portlet that contains links to news Web sites. You might first try searching for links that already exist in the portal. From the search results, you can bookmark the link items that you want to keep. You bookmark an item by clicking the **Actions** menu  next to the item that you want to bookmark, and then by selecting **Bookmark**. A Bookmark icon  appears next to the selected item, as shown in the following display:

<input type="checkbox"/>			Type	Name ▲	Description	Location	Creation Date
<input type="checkbox"/>				BBC	British Broadcasting Corporation	sasdemo	4/16/08
<input type="checkbox"/>				BusinessWeek	Business news	sasdemo	4/16/08
<input type="checkbox"/>				CNN World	World news from CNN	sasdemo	4/16/08
<input type="checkbox"/>				Google		sasdemo	4/12/08
<input type="checkbox"/>				SAS	SAS Home Page	PUBLIC	4/10/08
<input type="checkbox"/>				SAS Integration Technologies	The Integration Technologies community at SAS	PUBLIC	4/10/08

  Results 1 - 6 of 6  

Notice that several items have been bookmarked in the list. These items are automatically added to your Bookmarks portlet.

<input type="checkbox"/>	Name	Description	Location
<input checked="" type="checkbox"/>	 BBC	British Broadcasting Corporation	sasdemo
<input checked="" type="checkbox"/>	 BusinessWeek	Business news	sasdemo
<input checked="" type="checkbox"/>	 CNN World	World news from CNN	sasdemo

For more information about Bookmarks portlets, see “Types of Portlets That Are Included with the Portal” on page 9.

---

## Viewing and Sharing Information That Is Published to Channels

### Overview of SAS Publication

The portal enables you to view the contents of packages that have been created using the SAS Publishing Framework. A package can contain files, links, SAS Stored Processes, and other packages. Packages can be published to a publication channel and also to a WebDAV (Web Distributed Authoring and Versioning) repository.

A publication channel is a virtual communication path that is identified with a particular topic, organizational group, user audience, or other category. A publication channel is similar to a radio channel that is identified with a particular frequency. Your site administrator defines the publication channels for your organization. Users who sign up

to receive information from a channel are called subscribers. If you subscribe to a channel, then you automatically receive information whenever it is published to that channel.

The portal provides several ways to view and share information that has been published:

- You can search for a package, view the contents of the package, bookmark or e-mail a link to the package, and add the package to a collection portlet.
- You can search for a channel and add the channel to a collection portlet.
- You can subscribe to one or more channels. Here are some options available to you when you subscribe to a channel:
  - If you add a Publication Channel Subscriptions portlet to your portal, the channel might be added automatically to the portlet depending on the subscriber profile that is used. For more information about profiles, see [“Main Steps for Subscribing to Publication Channels” on page 22](#).
  - When you subscribe to a channel, if you specify WebDAV as your transport, channel content also appears in your WebDAV repository.
  - When you subscribe to a channel, if you specify e-mail as your transport, channel content is also e-mailed to you. (You receive e-mail only for content that is published to the channel using the SAS Publishing Framework. You do not receive e-mail for content that is published from the portal.)
- You can publish portal content to a channel or to a WebDAV location.

The following sections describe the process of subscribing to publication channels, viewing content that is published to those channels, and publishing content.

*Note:* You can perform some of the tasks that are associated with publication by using the **Options** menu on the banner. For links to documents that explain how to perform all related tasks, see [“Where to Find More Information” on page 3](#).

### **Main Steps for Subscribing to Publication Channels**

Your organization defines channels using the SAS Publishing Framework, and your SAS administrator applies security in order to control which users and groups can access the channels.

After publication channels have been defined for your organization, you can subscribe to the channels and add them to portlets. Here are the main steps:

1. Define one or more subscriber profiles. Depending on your role in an organization, this task might be performed for you. The portal administrator can define subscriber profiles for all portal users.

Subscriber profiles can specify one of the following delivery mechanisms:

**E-mail**      When information is published to the channels to which you subscribe, the information is sent to the e-mail address that is defined for you in SAS metadata. (You receive e-mail only for content that is published to the channel using the SAS Publishing Framework. You do not receive e-mail for content that is published from the portal.)

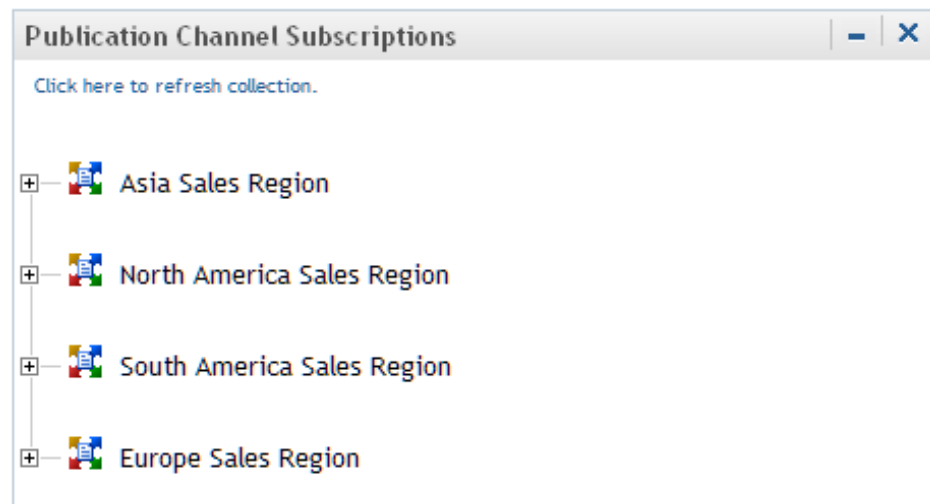
**WebDAV**      When information is published to the channels to which you subscribe, the information is stored in the WebDAV repository.

Portal You can use the SAS Information Delivery Portal to view information that is published to the channels to which you subscribe. If you add a Publication Channel Subscriptions portlet to your portal, the channels are added automatically to the portlet.

2. Subscribe to one or more channels. You must associate each subscription with one of the profiles that you have defined. Depending on your role in an organization, this task might be performed for you. The portal administrator can set up subscriptions for portal users.
3. (Optional) Add a Publication Channel Subscriptions portlet to your portal. The channels to which you subscribe are automatically added to this portlet if the related profile has been defined with a delivery mechanism of Portal.

### Viewing and Sharing Publication Channel Output

Depending on the profile that is associated with a channel, channels to which you subscribe are automatically added to your Publication Channel Subscriptions portlet, as shown in the following display:



You can also search for channels, you can bookmark channels, and you can add channels to collection portlets.

From a portlet, you can open a channel and view the packages that have been published to that channel. The following display shows the contents of the North American Sales Region channel. This channel contains a number of charts for sales in North America:



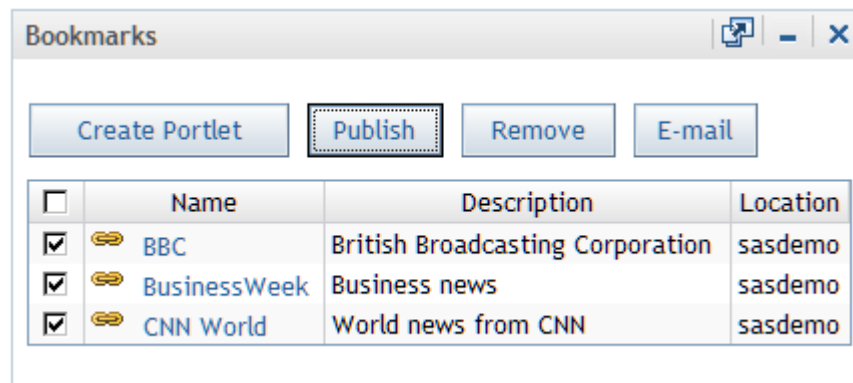
After you have opened a package, you can bookmark it or send an e-mail message that contains a link to the package.

The portal uses the default e-mail program that is defined in your browser to create an e-mail message. The URL address for each content item appears in the body of the message. You can then enter the recipient's e-mail address and send the message. When a user accesses portal content through a URL address, the portal checks the user's credentials to determine whether the content can be viewed.

### ***Publishing Information to a Publication Channel or to a WebDAV Repository***

From the portal, you can publish files, links, and SAS Stored Processes to a publication channel.

One way to publish content is to use the Bookmarks portlet. Suppose you want to publish some links that you have bookmarked, as shown in the following display. In your Bookmarks portlet, you would check the links, and then select **Publish**. (For more information about bookmarks, see “Using Bookmarks” on page 20.)



After you select **Publish**, a Publish page is displayed in which you provide information about the package that you want to publish. You must provide a name for the package, and you can provide a description and other information that others can use when searching for this package. You can also choose to publish to a document repository using WebDAV rather than to a channel.

After you publish a package, when you open the corresponding channel once again and refresh it, you see the new package listed. Other users who subscribe to this channel see the package when they log on to the portal. If they open the package, they can view, bookmark, or e-mail the links.

Here are the characteristics of a package that you publish from the portal:

- The package can be viewed in the portal by any user who has permission to view the channel to which you published. (The user might have to search for the package in order to see it.)
- The package appears automatically in a user's Publication Channel Subscriptions portlet if both of the following are true: the user has subscribed to the channel, and the subscriber profile uses the portal as its delivery mechanism.
- The package is stored in a persistent store location (either an archive or a WebDAV location) if one was specified when the channel was defined.
- The package is also disseminated to subscribers' WebDav locations if they specified WebDAV as the delivery mechanism in their subscriber profile.



## Chapter 4

# Personalizing Your Portal

---

<b>Overview of Personalization</b> .....	<b>27</b>
<b>Options for Adding and Managing Personal Content</b> .....	<b>27</b>
<b>Options for Managing Portal Organization and Appearance</b> .....	<b>28</b>
<b>Sample Personalized Portal</b> .....	<b>28</b>

---

## Overview of Personalization

The portal gives each user in your organization a personalized virtual workplace within a Web browser. This means that all users can organize and manage information in a way that makes sense to them. For example, users can subscribe to content channels that are of interest to them, create links to frequently visited Internet sites, and change the navigation scheme.

There are two broad categories of personalization:

- You can add and manage personal content in your portal. See [“Options for Adding and Managing Personal Content”](#) on page 27.
- You can manage the portal's appearance and how it organizes content. See [“Options for Managing Portal Organization and Appearance”](#) on page 28.

*Note:* For documents that explain how to perform the tasks related to personalization, see [“Where to Find More Information”](#) on page 3.

### See Also

[“Sample Personalized Portal”](#) on page 28

---

## Options for Adding and Managing Personal Content

You can do the following tasks:

- add a page to your portal view by using one of two methods:
  - create a new empty page

- add a predefined page that you locate by using the search tool
- add a portlet to one of your pages by using one of two methods:
  - create a new portlet
  - add a predefined portlet that you locate by using the search tool
- add content to a portlet (the portlet must be editable):
  - search for and add reports, information maps, stored processes, links, publication channels, or any other supported type of content
  - create a new link to a site on the Web, your local intranet, or any location that has a URL

*Note:* You can also create content that is independent of any other portal component. For example, you can create a page without adding the page to your navigation bar, and you can create a portlet without adding the portlet to a page.

- bookmark items so that you can refer to them later
- change the title, description, or keywords that are associated with a portlet
- remove from your portal view a page, a portlet, or a content item that resides in a portlet
- permanently delete from the portal environment a page, a portlet, or a content item (you must have the proper authorization for the item that you want to delete)

Other portal users cannot access your personal content unless they are designated as portal administrators.

---

## Options for Managing Portal Organization and Appearance

In addition to adding content to your personal portal, you can change particular aspects of your portal's appearance and behavior, such as the following:

- the order in which pages appear in your portal
- the number of columns on a page, and the position of portlets within the columns
- the location of the navigation bar (by moving it from the top of the page to the side of the page, in a vertical position)
- the design template (theme) that is used for your pages
- the language (for example, you can display the portal in French if your system supports a French locale)

---

## Sample Personalized Portal

Here is the Home page from a sample portal that has been personalized:



The screenshot displays the SAS Portal interface. At the top, there is a blue header bar with the text "SAS® Portal" on the left and the SAS logo on the right. To the right of the logo, there are links for "Customize", "Options", "Search", "Log Off SAS Demo User", and "Help". Below the header, a vertical navigation bar on the left contains the following menu items: "Home", "Sales", "Outlook", and "Utilities". The main content area contains two portlets. The first portlet, titled "News Links", has a "Click here to refresh collection." link and lists three news sources: "CNN World" (World news from CNN), "BusinessWeek" (Business news), and "BBC" (British Broadcasting Corporation). The second portlet, titled "Publication Channel Subscriptions", also has a "Click here to refresh collection." link and lists four sales regions: "Asia Sales Region", "North America Sales Region", "South America Sales Region", and "Europe Sales Region".

In the sample, the portal uses a different page layout. The navigation bar has been moved to a vertical position, so that the names of Web pages appear on the left. The portlets are organized on the page in a single column.



## Chapter 5

# Portal Customization

---

<b>Overview of Customization</b> .....	<b>31</b>
<b>Portal Development Tasks</b> .....	<b>31</b>
<b>Administration and Deployment Tasks</b> .....	<b>32</b>

---

## Overview of Customization

Developers and administrators at your site can make changes to the portal's content and appearance that affect all portal views. As part of this capability, SAS provides tools for customizing the portal to meet the unique requirements of your organization.

Customization occurs in two phases:

1. Your developers create the content that best suits your organization.
2. Portal administrators deploy different views of the portal to different groups of people. This means that each group of users might see a different arrangement of pages and content on those pages. Administrators can also customize the appearance of the portal.

*Note:* For documents that explain how to perform the tasks related to customization, see [“Where to Find More Information” on page 3](#).

---

## Portal Development Tasks

Your developers can create custom portlets, logos, and content items that best suit your organization.

Here are the main tasks that developers perform:

- Develop the content that your organization needs. Developers can share this task with others in the organization. For example, developers might create stored processes and publication channels, whereas business analysts might create SAS Information Maps and reports.
- Use the Portlet application programming interface (API) that is provided with the portal in order to create custom portlets. These portlets might display data, text, and graphics that are suitable for the types of information that you want to deliver.

Developers can create interactive portlets that accept input from the user. After the user provides input, the portlet might perform some action in response to the input. Portlets that are created with the API have a standard appearance, including a title bar that contains icons.

- Create the resources, such as logos, that your organization can use for custom themes. Themes control the appearance of the portal and of SAS solutions that run in the portal. A theme consists of cascading style sheets (CSS) and graphical elements, including the portal banner, background image, and logo.
- Develop Web applications that are integrated with the portal. These applications can be invoked from the portal without an additional logon.

---

## Administration and Deployment Tasks

Your organization determines the information that is appropriate for different groups of users. Then, your portal administrator customizes the information that is provided to those groups, and deploys different views of the portal for each group.

Here are the main tasks that administrators perform:

- Install the portal along with all required servers and services, and configure the portal for your environment.
- Deploy the custom portlets and applications that developers in your organization have created. Administrators use the tools that are provided with the portal for this purpose.
- Deploy the reports, information maps, stored processes, documents, and other content items that are available for the portal.

Administrators can also create XML data files that are based on SAS data sets, and then add the data files to the WebDAV repository. Portal users can then create WebDAV graph portlets to display this content.

- Configure settings that affect portal behavior for your site. For example, administrators can configure the portal to accept trusted connections from users who have been authenticated by the Web application server.
- Customize the appearance of the portal. For example, administrators can do the following:
  - Create custom themes and make the new themes available to portal users.
  - Set up a default theme. When users log on to the portal, they see the theme that is specified as default.
  - Change the default preferences that were set during installation. For example, administrators can change the locale that is used for the portal.
  - Set the default values for page navigation and package sort order.
- Configure portal security by defining users and groups, by assigning users to groups, and by controlling access to portal content.
- Set up portal views by creating content and sharing the content selectively with different groups of users. For example, administrators might share a set of Web pages, portlets, and links with a group named Sales Managers. Users who belong to this group see the shared content when they log on to the portal. Users can also locate shared content using the search tool.

See *SAS Intelligence Platform: Web Application Administration Guide* for more information about administration tasks.



# Glossary

---

**authorization**

the process of determining which users have which permissions for which resources. The outcome of the authorization process is an authorization decision that either permits or denies a specific action on a specific resource, based on the requesting user's identity and group memberships.

**background**

a mode of computer processing that does not require user interaction and which allows users to perform multiple tasks on the computer concurrently. In the SAS Information Delivery Portal, some stored processes run in the background so that you can perform other portal tasks during processing.

**banner**

a colored, rectangular area that appears at the top of some Web pages. Banners typically contain titles and navigation links.

**bookmark**

a placeholder that stores either the address and name of a document or the address of a location within a document so that you can quickly and easily return to that document or location later. In the SAS Information Delivery Portal, bookmarks refer to specific content items within the portal.

**channel**

a virtual communication path for distributing information. In SAS, a channel is identified with a particular topic (just as a television channel is identified with a particular radio frequency). Using the features of the Publishing Framework, authorized users or applications can publish digital content to the channel, and authorized users and applications can subscribe to the channel in order to receive the content. See also publish and subscribe.

**content administrator**

See group content administrator.

**custom portlet**

a portlet in the SAS Information Delivery Portal that does not fit in any of the portal's standard portlet categories (collection, navigation, bookmarks, and alert). Some custom portlets simply display data, text, or graphics, and other custom portlets have interactive features.

**deploy**

to implement software in a distributed environment. Deployment typically involves installing, configuring, and testing software over a computing network.

**group content**

content that a group of portal users can access. SAS Information Delivery Portal users who are designated as group content administrators can convert their personal content to group content. Group content can be edited and deleted only by the group content administrator who created it.

**group content administrator**

a portal user who is authorized to share pages, portlets, and other portal content items with all portal users or with other users in a group. After an item is shared, only the group content administrator can edit or delete the item.

**HTML fragment**

an HTML file that does not include opening and closing HTML tags, HEAD tags, or BODY tags and which can be displayed successfully in the cell of an HTML table.

**information map**

a collection of data items and filters that provides a user-friendly view of a data source. When you use an information map to query data for business needs, you do not have to understand the structure of the underlying data source or know how to program in a query language.

**inline frame**

a browser feature that enables an HTML page to be displayed within its own rectangle anywhere on another HTML page. Inline frames are created by using the HTML IFRAME tag. When necessary, inline frames contain horizontal and vertical scrollbars to enable users to view all of the page's contents within the frame.

**keyword**

a word that is used to describe a content item in the SAS Information Delivery Portal. Users can enter the keyword in the portal's search tool in order to find the item.

**link**

(1) a portal content item that can be accessed using a URL; (2) a character string in a portal that you can click to initiate an action.

**locale**

a value that reflects the language, local conventions, and culture for a geographic region. Local conventions can include specific formatting rules for dates, times, and numbers, and a currency symbol for the country or region. Some examples of locale values are French\_Canada, Portuguese\_Brazil, and Chinese\_Singapore.

**navigation bar**

a row of tabs or buttons on a Web page that contains links to other content. In the SAS Information Delivery Portal, the navigation bar contains links to the pages in your personal portal. The navigation bar in the SAS Information Delivery Portal can appear across the top or on the left side of the browser window.

**package**

a container for data that has been generated or collected for delivery to consumers by the SAS Publishing Framework. Packages can contain SAS files (SAS catalogs; SAS data sets; various types of SAS databases, including cubes; and SAS SQL views),



binary files (such as Excel, GIF, JPG, PDF, PowerPoint and Word files), HTML files (including ODS output), reference strings (such as URLs), text files (such as SAS programs), and viewer files (HTML templates that format SAS file items for viewing). Packages also contain metadata such as a description, an abstract, and user-specified name/value pairs.

**page**

an HTML file on the World Wide Web. A page is usually one of many pages that comprise a Web site.

**permission**

the type of access that a user or group has to a resource. The permission defines what the user or group can do with the resource. Examples of permissions are ReadMetadata and WriteMetadata.

**personal content**

content that a portal user creates for his or her own use. As a portal user, you can create your own pages, your own portlets, and your own links. After you create these items, you can access them from the portal, edit them, remove them from your personal portal, use the Search tool to find them, or delete them permanently. Other portal users (other than a portal administrator) cannot access your personal content.

**personal portal**

a portal that has been personalized for or by a specific user.

**personalization**

the process of customizing a Web application or page to meet the needs and preferences of an individual user.

**portal**

a Web application that enables users to access Web sites, data, documents, applications, and other digital content from a single, easily accessible user interface. A portal's personalization features enable each user to configure and organize the interface to meet individual or role-based needs. See also portlet.

**portlet**

a Web component that is managed by a Web application and that is aggregated with other portlets to form a page within the application. Portlets can process requests from the user and generate dynamic content.

**predefined page**

a portal page that has already been created. Predefined pages might include public pages, which are available to all users; pages that have been shared with a group of users; and pages that you created.

**predefined portlet**

a portlet that has already been created. Predefined portlets might include public portlets, which are available to all users; portlets that have been shared with a group of users; and portlets that you created.

**public content**

content that all SAS Information Delivery Portal users can access. Users who are designated as group content administrators can use the portal's share tool to convert their personal content to public content. Public content can be edited and deleted only by the group content administrator who created it.

**publication channel**

an information repository that has been established using the SAS Publishing Framework and that can be used to publish information to users and applications. See also *publish*.

**publish**

to deliver electronic information, such as SAS files (including SAS data sets, SAS catalogs, and SAS data views), other digital content, and system-generated events to one or more destinations. These destinations can include e-mail addresses, message queues, publication channels and subscribers, WebDAV-compliant servers, and archive locations.

**Publishing Framework**

a component of SAS Integration Technologies that enables both users and applications to publish SAS files (including data sets, catalogs, and database views), other digital content, and system-generated events to a variety of destinations. The Publishing Framework also provides tools that enable both users and applications to receive and process published information.

**report**

a graph or text that is generated by running a report definition.

**repository**

a location in which data is stored, organized, and maintained and which is accessible to users either directly or through a network.

**SAS Information Map**

See *information map*.

**SAS publication channel**

See *publication channel*.

**SAS report**

a report that has been stored in the SAS Report Model format. A SAS report might be available for viewing in the portal if your organization has installed SAS Web Report Studio.

**SAS Stored Process**

a SAS program that is stored in a central location and that can be executed from the SAS Information Delivery Portal at the user's request. When a stored process is executed, it creates a report that includes the most current data that is available. Stored processes can display input forms that enable users to customize the contents of reports.

**share**

to make a SAS Information Delivery Portal item accessible to all portal users or to all users in a specific group. Authorized users can share pages, portlets, and some content items such as links and applications.

**stored process**

See *SAS Stored Process*.

**stored process alert**

an automatic notification that a SAS Stored Process has finished executing in the background. See also *SAS Stored Process*.

**subscribe**

to sign up to receive electronic content that is published to a SAS publication channel.

**subscriber**

a recipient of information that is published to a SAS publication channel.

**subscriber profile**

a set of personal preferences for subscribing to SAS publication channels. A subscriber profile includes the method by which you want published information to be delivered and filtering criteria (in the form of name/value pairs) to limit the types of information that you receive. You can create multiple subscriber profiles if you want to subscribe to channels in different ways.

**syndication channel**

a channel that provides syndicated, continuously updated Web content from a content provider.

**theme**

a collection of specifications (for example, colors, fonts, and font styles) and graphics that control the appearance of an application.

**Uniform Resource Locator**

a character string that is used by a Web browser or other software application to access or identify a resource on the Internet or on an intranet. The resource could be a Web page, an electronic image file, an audio file, a JavaServer page, or any other type of electronic object. The full form of a URL specifies which communications protocol to use for accessing the resource, as well as the directory path and filename of the resource. Short form: URL.

**URL**

See Uniform Resource Locator.

**Web Distributed Authoring and Versioning**

a set of extensions to the HTTP protocol that enables users to collaboratively edit and manage files on remote Web servers. Short form: WebDAV.

**WebDAV**

See Web Distributed Authoring and Versioning.

**WebDAV repository**

a collection of files that are stored on a Web server so that authorized users can read and edit them. See also Web Distributed Authoring and Versioning.



# Index

---

## A

accessibility features [3](#)  
administration tasks [32](#)  
API [31](#)  
appearance of portal [28](#)

## B

banner links [6](#)  
bookmarks [20](#)  
Bookmarks portlet [9](#)

## C

channels [21](#)  
    publishing information to [24](#)  
    subscribing to [22](#)  
    viewing and sharing information  
        published to [21](#)  
    viewing and sharing output [23](#)  
Collection portlet [9](#)  
content  
    adding [7](#)  
    adding and managing personal content  
        [27](#)  
    managing [17](#)  
    organization of [7](#)  
    types of [7](#)  
    viewing [17](#)  
customization [31, 32](#)

## D

deployment tasks [32](#)  
development tasks [31](#)

## E

e-mailing SAS reports [18](#)  
editing SAS reports [18](#)

## G

graphical interface [5](#)

## H

HTML fragments [13](#)

## I

icons  
    in portlet title bar [8](#)  
information maps  
    viewing [18](#)  
interface [5](#)

## K

keywords for searching [20](#)

## L

links [7](#)  
logging off [6](#)  
logos [32](#)

## N

navigation bar [6](#)  
navigator portlets [11](#)

## O

OLAP data [18](#)  
organization of portal [28](#)  
output  
    viewing and sharing publication channel  
        output [23](#)  
    viewing stored process output [19](#)

**P**

- packages 21
- personal content
  - adding and managing 27
- personalization 6, 27
  - adding and managing personal content 27
  - managing portal organization and appearance 28
  - sample personalized portal 28
- portal 1
  - accessibility features 3
  - customization 31, 32
  - development tasks 31
  - features of 2
  - finding more information on 3
  - graphical interface 5
  - logging off 6
  - managing organization and appearance 28
  - personalizing 6, 27
  - sample personalized portal 28
  - types of portlets included with 9
- portal links 7
- Portlet application programming interface (API) 31
- portlets 6, 8
  - Bookmarks portlet 9
  - Collection portlet 9
  - icons in title bar 8
  - navigator portlets 11
  - Publication Channel Subscriptions portlet 11
  - Report portlet 10
  - Stored Process Alerts portlet 12
  - types included with portal 9
  - URL Display portlet 12
  - WebDAV Content portlet 13
  - WebDAV Graph portlet 14
- Publication Channel Subscriptions portlet 11
- publication channels
  - See [channels](#)
- publishing information
  - to publication channel 24
  - to WebDAV repository 24
  - viewing and sharing published information 21

**R**

- read-only SAS reports 18
- relational data 19
- Report portlet 10
- reports
  - e-mailing 18

- editing 18
- read-only 18
- viewing SAS reports 17
- roles 1

**S**

- SAS content 7
- SAS Information Delivery Portal 1
  - See also [portal](#)
- SAS Publishing Framework 21
- SAS reports
  - e-mailing 18
  - editing 18
  - read-only 18
  - viewing 17
- searching 6, 20
  - bookmarks and 20
  - keywords for 20
- sharing
  - information published to channels 21
  - publication channel output 23
- Stored Process Alerts portlet 12
- stored process output
  - viewing 19
- subscribers 21
- subscribing to publication channels 22

**T**

- themes 32
- title bar
  - icons in portlet title bar 8

**U**

- URL Display portlet 12

**V**

- viewing
  - content 17
  - information maps 18
  - information published to channels 21
  - publication channel output 23
  - SAS reports 17
  - stored process output 19

**W**

- Web applications 32
- Web content 7
- WebDAV 2
  - publishing information to repositories 24
- WebDAV Content portlet 13

WebDAV Graph portlet [14](#)

