

# **SAS/IntrNet® 9.3: Xplore Sample Web Application**



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#### SAS/IntrNet® 9.3: Xplore Sample Web Application

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## Chapter 1

## Overview of the Xplore Sample Web Application

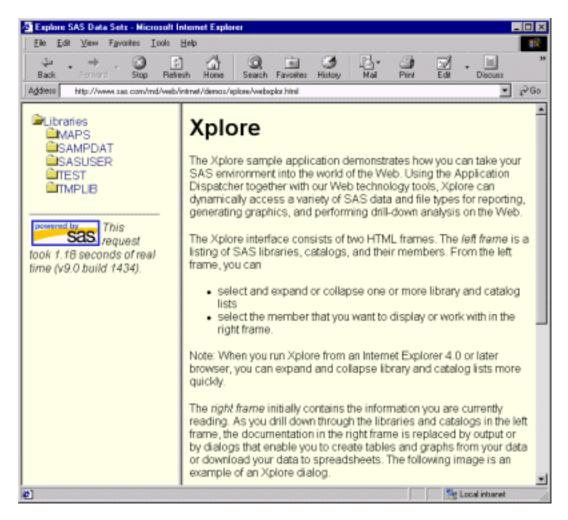
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#### What Is the Xplore Sample Web Application?

The Xplore sample application demonstrates how you can take your SAS environment into the world of the Web. Xplore is built using a variety of SAS programming tools including the SAS/IntrNet suite of Web tools. Using the Application Dispatcher together with the Web Publishing Tools, Xplore can dynamically access a variety of SAS data and file types for reporting, generating graphics, and performing drill-down analysis on the Web.

You can use Xplore as is, or if you are an expert user, you can use the Xplore application as a model for your own applications. All of the source code for Xplore is included in the WEBSAMP catalog in your SAS/IntrNet SAMPLIB library (created when you install the SAS/IntrNet Server).

The Xplore interface consists of two HTML frames.



The left frame is a listing of SAS libraries, catalogs, and their members. From the left frame, you can

- expand or collapse one or more library and catalog lists
- select the member that you want to display or work with in the right frame.

*Note:* When you run Xplore from an Internet Explorer 4.0 or later Web browser, you can expand and collapse library and catalog lists more quickly.

The right frame initially contains overview information about the Xplore application. As you drill down through the libraries and catalogs in the left frame, the documentation in the right frame is replaced by output or by dialog boxes that enable you to

- specify which variables you want to include and display
- specify the order in which to display variables in a table
- download data to a local spreadsheet application
- drill down on data sets that are created by the SUMMARY procedure
- view thin-client graphics that chart data sets that are created by PROC SUMMARY
- display the contents of a SAS/EIS application database
- display most catalog entries.

## Requirements for the Xplore Sample Web **Application**

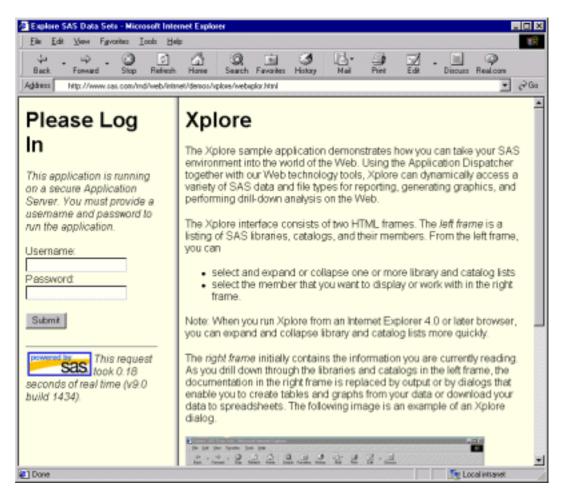
To use Xplore, you must have the following prerequisite software:

- SAS/IntrNet 9.3, including the Application Dispatcher.
- a frame-enabled Web browser. To use the dynamic HTML capabilities of Xplore, you must use Microsoft Internet Explorer 4.0 or later. To view thin-client graphics, you must also have the prerequisite Web browser software for Graph Applet.

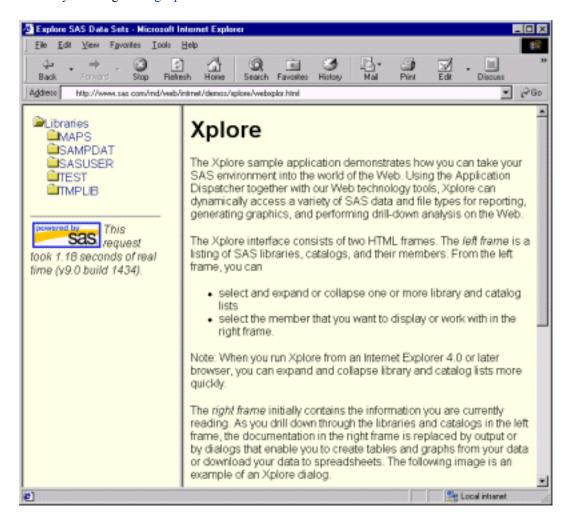
#### Logging In to a Secure Application Server

#### How to Log In

To ensure the security of data, some Application Servers run as secure servers. A secure Application Server requires that you provide a user name and password before you can access the server's data. If your Xplore application runs with a secure Application Server, then the following page appears when you start Xplore:



After you enter a user name and password, click **Submit**. When you are authorized, Xplore brings up a list of libraries in the left frame (see the following screen) and enables you to begin using Xplore.



#### Session Expiration

Authorization to a secure Application Server can expire after a certain amount of time (determined by your administrator). This means that you could leave your Web browser for a period of time and come back to an expired Xplore session.

If your session expires, an error message appears that says your session is an invalid session ID when you try to use Xplore.

To restore authorization, you must either restart Xplore or use the Web browser's **Back** button to return to the login frame and resubmit your user name and password.

## Chapter 2

## Using the Xplore Sample Web Application

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## **Overview of Using Xplore**

The following table gives an overview of what actions are necessary to complete basic tasks in Xplore.

Function	User Action
Display members of a library or catalog	Select one or more library ( ) or catalog ( ) entries from the left frame of your Web browser window and a list of members appears below each entry that you select.
	If the library or catalog is empty, an open folder icon appears next to the library or catalog entry, but nothing is listed under the entry.

#### Chapter 2 • Using the Xplore Sample Web Application

Collapse a library or catalog list  Select the opened library ( ) or catalog  ( ) that you want to close and  • the icon changes to a closed icon  • the list of members collapses into the entry.	Function	User Action
	Collapse a library or catalog list	<ul> <li>that you want to close and</li> <li>the icon changes to a closed icon</li> <li>the list of members collapses into the</li> </ul>

#### **Function**

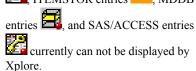
Display or work with members of libraries and catalogs

#### **User Action**

Select the item in the left frame. Usually, the right frame displays the results of your selection, though the behavior of the Web browser can vary depending on your Web browser's configuration. Select a link from the lists below to see instructions for working with that entry in the right frame of Xplore.

Library entries can consist of the following:

- any data set entries (data files set entry, Xplore determines which of the following types of entries it is and presents the corresponding dialog box:
  - PROC SUMMARY data set
  - all other data sets (including SAS/EIS application databases)
- Data Mining Database (DMDB) entries ITEMSTOR entries , MDDB



Catalog entries can consist of the following:

- CSS catalog entries (
- CSV catalog entries (
- FORMAT catalog entries (
- GIF catalog entries (
- GRSEG catalog entries (
- HTML catalog entries (
- IMAGE catalog entries ( )
- JPEG catalog entries ( )
- JS catalog entries (
- LOG catalog entries (
- OUTPUT catalog entries ( )
- PDF catalog entries ( )
- PS catalog entries (
- RTF catalog entries (
- SCL code entries ( )
- SOURCE catalog entrie

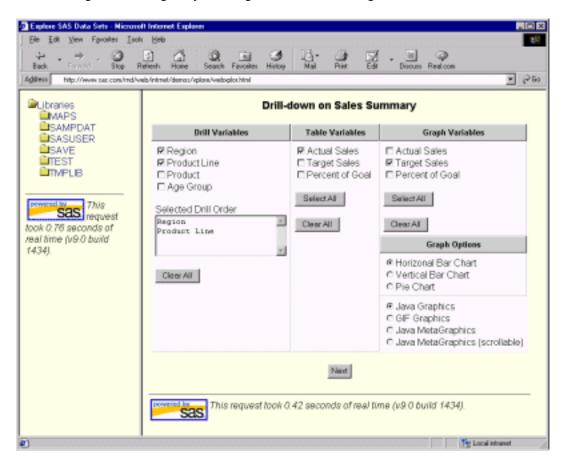
### **Working with PROC SUMMARY Entries**

For data sets that are generated by PROC SUMMARY, Xplore's right frame displays a JavaScript-based, dynamically generated, drill-down dialog box that enables you to view your data in both tabular and graphical formats.

This dialog box enables you to select the

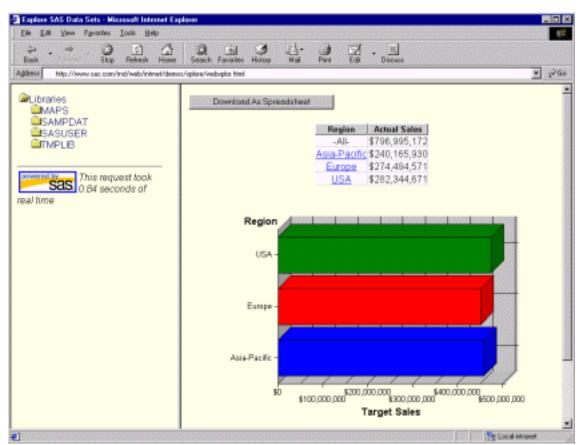
- class variables that you want to drill down on and the order in which the variables are displayed (drill order)
- analysis variables that you want to display in your table
- analysis variables that you want to graph
- type of graph that you want to show
- type of graphical image to display.

The following instructions guide you through the drill-down dialog box:



- 1. In the Drill Variables column, select the check boxes for the variables that you want to drill down on, in the order in which you want to drill. Xplore lists each drill variable that you select in the **Selected Drill Order** list box.
  - You must select at least one drill variable. The current drill variable is always the
    first column in the output table.

- To delete a variable from the list box, deselect the check box that is next to that variable.
- If you delete a variable and then reselect it, it is listed last in the drill order.
- 2. In the Table Variables column, select the check box next to each variable that you want to display as a column in the table. If you do not select any variables, then Xplore does not display a table for your data.
- 3. In the Graph Variables column, select the check box next to each variable that you want to graph. If you do not select any variables, then Xplore does not display a graph of your data.
- 4. In the Graphic Options section:
  - From the list of charts, select the radio button for the type of chart that you want to display. Three types of charts are available: horizontal bar chart, vertical bar chart, and pie chart.
  - From the list of graphics types, select the radio button for the type of graphics that you want to display:
    - Java Graphics
    - **GIF Graphics**
    - Java MetaGraphics
    - Java MetaGraphics (scrollable).
- 5. Click **Next** to display the selected data.
- 6. Xplore displays data in its right frame.



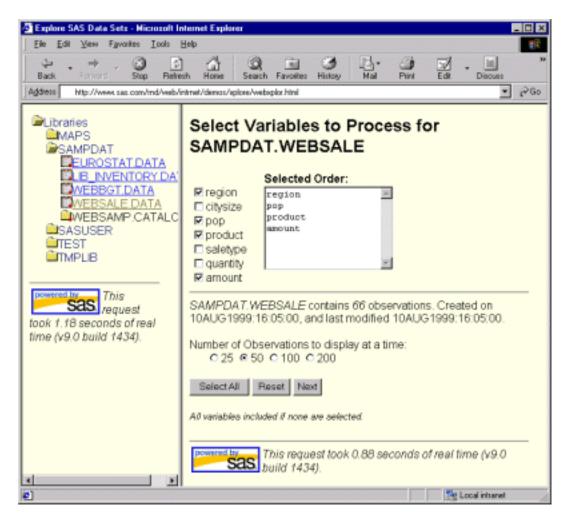
- At the top of the frame, Xplore provides a **Download As Spreadsheet** button
  that you can select to download your data to a local spreadsheet. This button is
  available for each level of data that you drill down to.
- Below the button, if you selected at least one table variable, Xplore displays an
  HTML table that contains the table variables. If you selected more than one drill
  variable, then you can select the links in the table's first column to drill down to
  the next table. The first column of each table that you drill down to contains the
  values for the next drill variable.
- After the table, if you selected at least one graph variable, Xplore displays charts
  of your data. If you selected more than one drill variable, then you can select the
  bars or slices in the chart with the first mouse button and drill down to the next
  set of data.

### **Working with Data Set Entries**

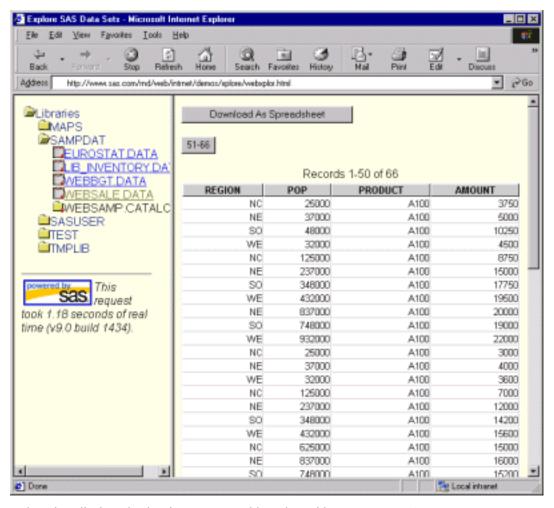
For data sets that are not PROC SUMMARY data sets, Xplore's right frame displays a dialog box that enables you to customize how Xplore displays your data.

This dialog box enables you to select the variables that you want to display, the order in which to display the variables, and the number of observations to display per Web page. In a subsequent dialog box, you can also download your data to a spreadsheet. For data files only, the dialog box also specifies the number of observations that are in the data file (Xplore cannot determine the number of observations in a data view, so it cannot provide this information for data views).

The following instructions guide you through this dialog box:



- 1. Select the check box next to each variable that you want to include. Xplore lists each selected variable in the list box that is next to the check boxes.
  - If you want to select all variables, and you want them listed in default order, then do not select any of the check boxes (all variables are selected by default).
  - If you want to select all variables and you want them in a particular order, select the check boxes in the order that you want.
  - If you want to select all variables and you want only a few of them in a particular order, then select the check boxes of the variables that you want ordered – in the order that you want – and then click the **Select All** button, which helps you quickly select the rest of the check boxes.
  - If you want to display only certain variables, select only the check boxes for the variables that you want. Ensure that you select them in the order in which you want them displayed.
  - If you want to clear all of your selections, click **Reset**.
- 2. Select one of the radio buttons that is displayed under the **Number of Observations** to display at a time prompt. This selection enables you to specify the number of rows of data that you see per Web page.
- 3. To display your data, click **Next**.



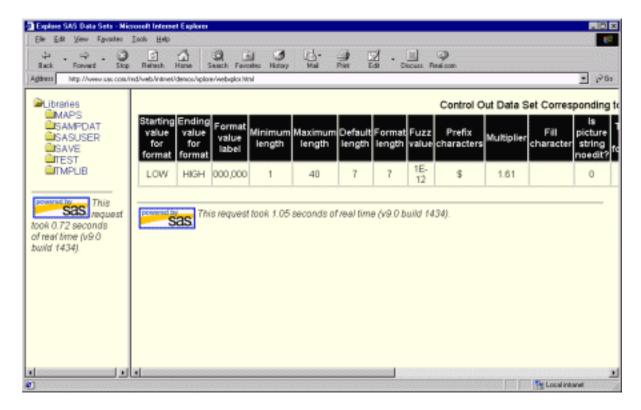
Xplore then displays the data in an HTML table and provides a **Download As Spreadsheet** button that you can click to download the table data into your local spreadsheet application.

*Note:* Only the variables that you selected in the initial dialog box are downloaded into the spreadsheet.

Xplore also provides buttons that enable you to see the next or previous page of observations. For data files only, the buttons state the range of rows that the next or previous page contains. (Xplore cannot determine the number of observations in a data view, so the buttons that are generated for data views are not always accurate.) The number of rows that are shown depends on the selection that you made for the **Number of Observations to display at a time** prompt (see above).

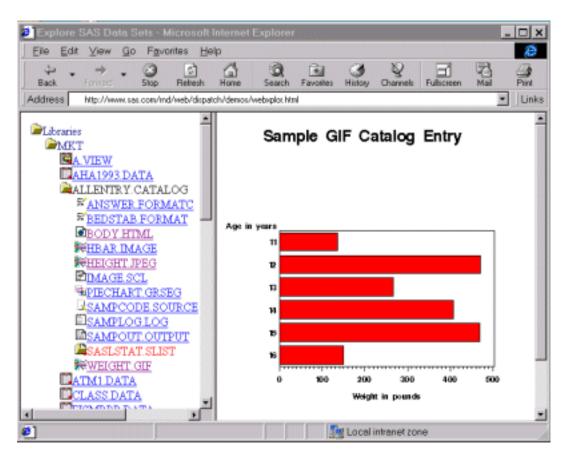
## **Working with FORMAT Entries**

When you select a FORMAT (character, numeric, or picture) entry from the left frame, Xplore's right frame displays the contents of the FORMAT procedure's control out data set.



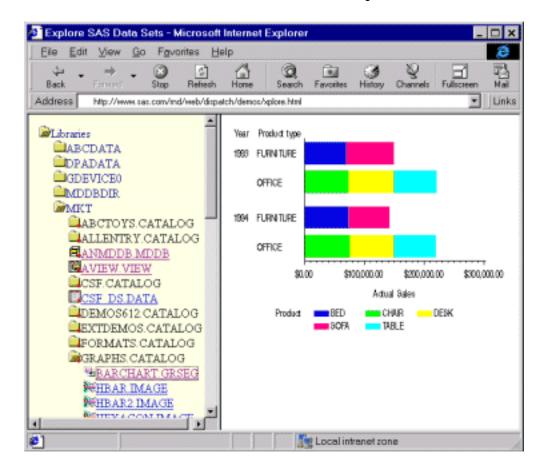
## **Working with GIF Entries**

When you select a GIF entry from the left frame, Xplore's right frame displays the graphical image.



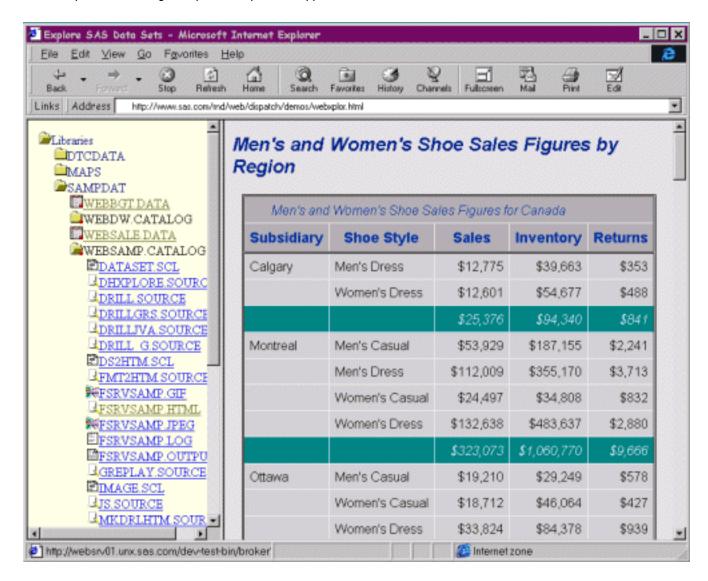
## **Working with GRSEG Entries**

When you select a GRSEG entry from the left frame, Xplore's right frame displays the graphical image.



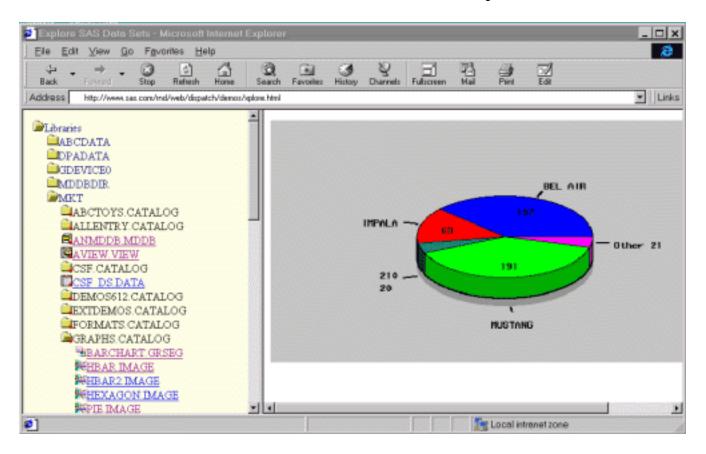
## **Working with HTML Entries**

When you select an HTML entry from the left frame, Xplore's right frame displays the Web page that is created by the HTML code.



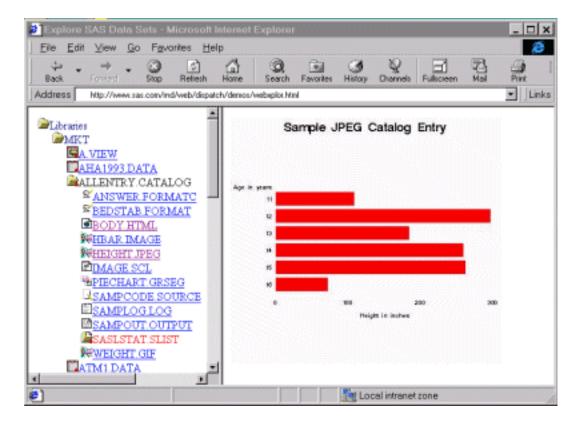
### **Working with IMAGE Entries**

When you select an IMAGE entry from the left frame, Xplore's right frame displays the graphical image.



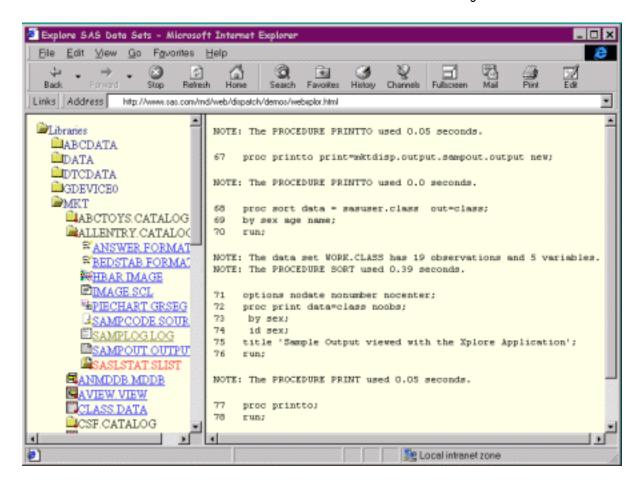
#### **Working with JPEG Entries**

When you select a JPEG entry from the left frame, Xplore's right frame displays the graphical image.



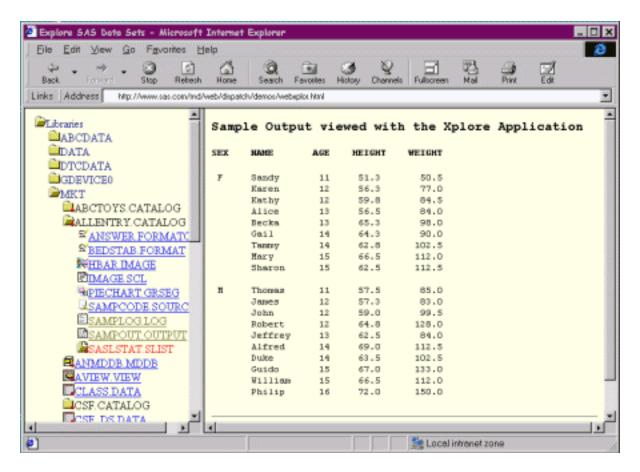
## **Working with LOG Entries**

When you select a LOG entry from the left frame, Xplore's right frame displays the contents of that SAS log.



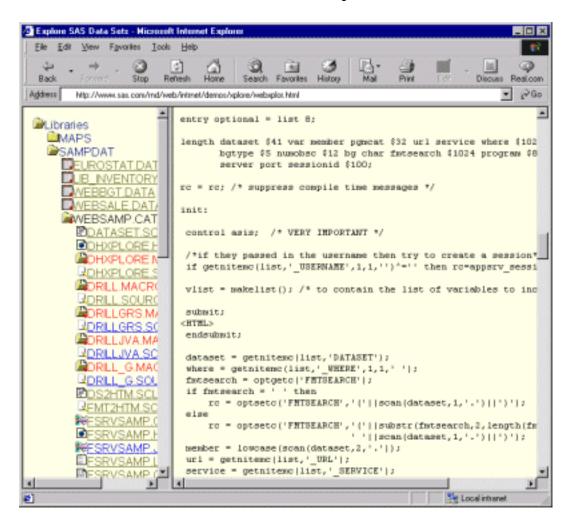
## **Working with OUTPUT Entries**

When you select an OUTPUT entry from the left frame, Xplore's right frame displays a listing of the SAS output.



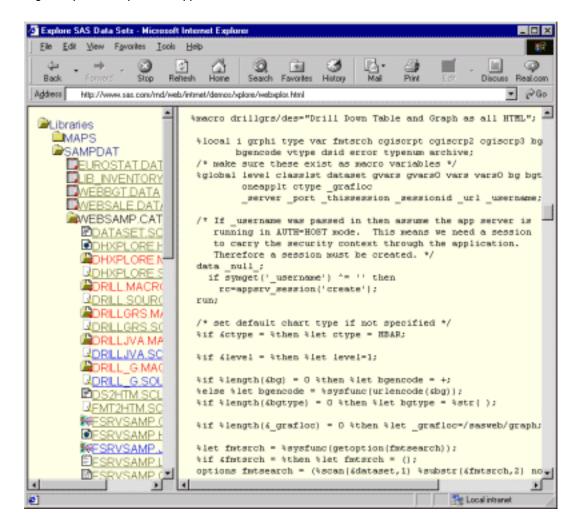
#### Working with SCL Code Entries

When you select an SCL entry from the left frame, Xplore's right frame displays the SCL code.



## **Working with SOURCE Entries**

When you select a SOURCE entry from the left frame, Xplore's right frame displays a listing of the source statements.



## Chapter 3

## Setting Up Xplore for Your Site

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## **Overview of Setting Up Xplore**

1. Ensure that the parameters in the main Xplore HTML file (webxplib.html) are correct for your site. The webxplib.html file can be found in the directory that corresponds to the following URL:

http://your\_server/sasweb/IntrNet9/xplore

where your server is your Web server host name.

- 2. If Xplore will run with a secure Application Server, you must add a statement to the program that starts your Application Server.
- 3. To run Xplore, enter the following URL in your Web browser:

http://your\_server/sasweb/IntrNet9/xplore/webxplor.html

Note: Xplore displays all Application Server data libraries except those that are excluded by the exclude parameter in the webxplib.html file (the sample webxplib.html file excludes the SASHELP library). For more information, see "exclude = new Array('sashelp')" on page 25.You can add new data libraries to Xplore by defining them in an ALLOCATE LIBRARY statement and listing them in the DATALIBS statement of the APPSRV procedure. For more information, see SAS/IntrNet: Application Dispatcher.

#### **Setting Xplore's Parameters**

#### Required Parameters

The webxplib.html file is located on your Web server in a directory that you created when you installed the Application Dispatcher. You can modify the values for the following parameters. Do not modify any of the other parameters in the file.

You must set the following parameters to run Xplore:

#### brokername = '/sasweb/cgi-bin/broker'

This parameter is the location of your Application Broker CGI. The value contains broker.exe instead of broker on Windows systems.

#### servicename = 'default'

This parameter is the Application Dispatcher service that is defined in the Application Broker configuration file. The value of default is the default service that is defined for the Application Server. Change this value only if you define another service for the Application Server.

#### xplorelocation = 'samplib.websamp'

This parameter is the name of the library that contains the source code for the Xplore sample application. Change the value of the parameter only if you rename the SAMPLIB.WEBSAMP library.

#### **Optional Parameters**

If you do not want to use an optional parameter, then set the parameter value to ' '.

#### debugvalue = '2'

This parameter specifies the debug flag. If you do not set this parameter, the value defaults to the debug flag that is set in the Application Broker configuration file.

#### bgtype = 'COLOR'

This parameter specifies whether the Xplore window's background is a color or an image. The default value is **COLOR**. To use an image for the background, specify a value of **IMAGE**.

#### bg = '%23ffffe7'

This parameter specifies the background color or image for Xplore's window. The default value is a cream color.

- Specify a background color if the value of the bgtype parameter is COLOR.
   Specify the hexadecimal value of the color, and precede it with an NCR code of %23 (the NCR code for the pound sign [#]). For an example, see the default value for the bg parameter.
- Specify a URL for the background image if the value of the bgtype parameter is IMAGE.

#### giflocation = ' '

This parameter is the location of the GIF icons that are used by Xplore. The default location is the location of the webxplib.html file.

#### memtypes = new Array()

This parameter defines the types of members to include in Xplore's list of library members. If you specify no members (that is, Array ()), then all member types are included. If you specify specific member types (for example,

Array ('data', 'view')), then only members of the specified types are included.

#### include = new Array()

This parameter defines the libraries that you want to include in Xplore's list of libraries. If you specify no libraries (that is, Array ()), then all libraries are included except the libraries that are specified by the exclude parameter. If you specify specific libraries (for example, Array ('sasuser')), then only those libraries are included.

Note:

- You cannot include the WORK library.
- You cannot use the include parameter if you use the exclude parameter.

#### exclude = new Array('sashelp')

This parameter defines the libraries that you want to exclude from Xplore's list of libraries. If you specify no libraries (that is, Array ()), then no libraries are excluded. The default value for this parameter excludes the SASHELP library.

*Note:* You cannot use the exclude parameter if you use the include parameter.

### **Running with a Secure Application Server**

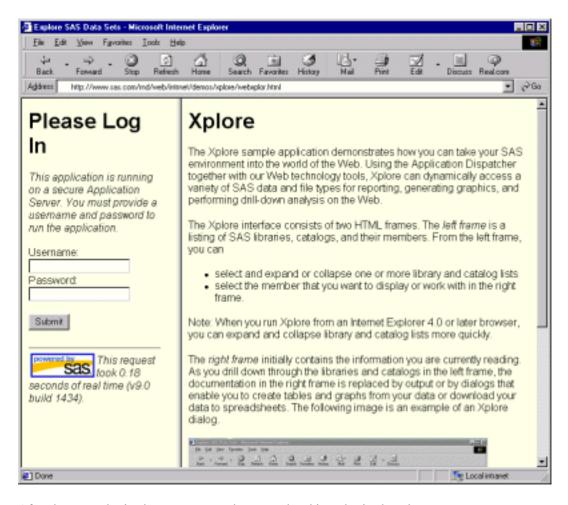
If your Xplore application runs with a secure Application Server, then you must add the following statement to the program that starts the Application Server:

```
request login=sample.weblogin.sas;
```

Your program would then look something like the following:

```
proc appsrv auth=host;
request login=sample.weblogin.sas;
run:
```

When a user starts the Xplore application, the following page appears requesting a user name and password:



After the user submits the user name and password and is authorized, Xplore runs normally.

You can configure your secure Application Server so that authorization to the server expires after a certain amount of time. For more information about setting an expiration time, see the TIMEOUT parameter of the SESSION statement for the APPSRV procedure.

#### The webxplib.html File

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN">
<HTML>
<HEAD>
<TITLE>None</TITLE>

<script language="Javascript">
function loadlibrarylist()
{
   // change the following values as appropriate:
   brokername = '/sasweb/cgi-bin/broker';
   servicename = 'default';
   xplorelocation = 'samplib.websamp';

// the following are optional. set them to ' ' if not wanted.
```

```
debugvalue = '2'; // debug option - defaults to value in broker.cfg if not set
bgtype = 'COLOR'; // background COLOR or IMAGE for generated HTML
bg = '%23ffffe7'; // either a color or a URL for an image, depending on bgtype
giflocation = ' '; // location of gif icons - defaults to same directory as this html file
// define the member types to include - leave blank for all, e.g.,
// new Array('data','view')
// says only include datasets and views
memtypes = new Array();
// define the libraries to include/exclude - e.g.,
// exclude new Array('sashelp','sasuser')
// says to exclude sashelp and sasuser.
// only one of them should be provided
include = new Array();
exclude = new Array('sashelp');
// do not touch the rest of this code
if (brokername.charAt(0) == '/')
  url = 'http://' + location.host + brokername + "?_service=" + servicename;
else url = brokername + "?_service=" + servicename;
// check for IE4 and invoke dynamic html version if appropriate
var MS=navigator.appVersion.indexOf("MSIE");
if ((MS>0) && ((parseInt(navigator.appVersion.substring(MS+5,MS+6)) >= 4) &&
   (navigator.appVersion.indexOf("MSIE"))>0 && (navigator.appVersion.indexOf("B1"))==-1))
  xplorelocation = xplorelocation + '.dhxplore.macro';
else xplorelocation = xplorelocation + '.xplore.macro';
url = url + '& program=' + xplorelocation;
if (debugvalue != ' ') url = url + '&_debug=' + debugvalue;
if (bgtype != ' ') url = url + '&bgtype=' + bgtype;
if (bg != ' ') url = url + '&bg=' + bg;
if (memtypes.length > 0)
   { thelist = memtypes[0];
     for (i = 1; i < memtypes.length; i++) thelist = thelist + '+' + memtypes[i] ;
      url = url + '&memtypes=' + thelist;
if (include.length > 0)
  { thelist = include[0];
      for (i = 1; i < include.length; i++) thelist = thelist + '+' + include[i] ;</pre>
      url = url + '&sel_libs=' + thelist;
if (exclude.length > 0)
  { thelist = exclude[0];
      for (i = 1; i < exclude.length; i++) thelist = thelist + '+' + exclude[i] ;</pre>
      url = url + '&exc_libs=' + thelist;
if (giflocation == ' ')
   { giflocation = location.href;
     lastslash = giflocation.length + 1;
      for (i = 0; i < giflocation.length; i++)</pre>
         if (giflocation.charAt(i) == '/') lastslash = i;
      giflocation = giflocation.substring(0,lastslash);
url = url + '&gifbase=' + giflocation;
```

```
// use the line below if your browsers don't support the location replace function
// location.href = url;
location.replace(url);
}
</script>
</HEAD>

<BODY BGCOLOR="#ffffe7" onLoad="loadlibrarylist()">
<H1>Loading Libraries.</H1>
<H2>Please be patient...</H2>
</BODY>
</HTML>
```

### **Xplore's Source Code**

Xplore is distributed with complete source code. The source code is located in the WEBSAMP catalog of the SAMPLIB library (created when you install the SAS/IntrNet Server).

Xplore's source code is portable across all SAS/IntrNet platforms. If you are an expert user, you can use the source code as a model or template for your own applications. You can also use some of the programs as-is in your applications.

Note: SAS supports the Xplore source code in its unmodified form only.

You can view Xplore's source code either from within the SAS environment or from the Web.

- To view the code from the SAS environment:
  - Issue a LIBNAME statement that points to the directory where the WEBSAMP catalog is stored.
  - 2. Use the BUILD command to view the source code in the WEBSAMP catalog.
- To view the source code from the Web:
  - From Xplore's main page, select the SAMPDAT library from the list in the left frame of your Web browser. Note: SAMPDAT is used instead of SAMPLIB for viewing purposes only. When you run your programs, they should still be run from SAMPLIB.WEBSAMP.
  - Select WEBSAMP.CATALOG from the list of SAMPDAT members. Xplore then displays a list of WEBSAMP.CATALOG members from which you can select.
  - 3. Select any of the .SCL or .SOURCE members that are listed, and Xplore displays that source code in the right frame of your Web browser.

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