

Scorpio Software Services

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**SAS Stored Process a
Programmatic Approach**

What is SAS/InrNet

- A CGI (Common Gateway Interface) method to execute SAS via HTML forms.
- In basic terms a HTML form can execute a SAS program via the following URL (Uniform Resource Locator).
- [http://support.sas.com/bin/broker](http://support.sas.com/bin/broker?_program=mkt.extdemos.drill.macro&_service=demo)
?_program=mkt.extdemos.drill.macro
&_service=demo

HTML Form

<http://support.sas.com/rnd/web/intrnet/demos/dispatch/drill.html>

Drill Down Demonstration

To gain the most valuable information from your data, you need to look at different relationships in that data. SAS software includes a variety of [business intelligence and online analytical processing tools](#).

This demo shows how you can use SAS software's business intelligence tools to drill down through your data. This drill down capability gives you fast, flexible data summarization and lets you look at multiple relationships in your data.

To run the demo:

1. Choose the drill hierarchy you'd like. The drill hierarchy specifies the order in which the data is displayed.
2. Select the variables that you want displayed in the table. All analysis variables for the table are selected by default.
3. Select the variables that you want included in the graph. Two of the variables are selected by default.
4. Select **Generate Table** from the bottom of the page.

Select **Start Over** to return to the default selections.

Use the links in the generated table to rapidly drill down for more specific information.

Note: The data used in this demonstration was provided by the American Hospital Association. Although the data is both factual and interesting, the main purpose of this demo is to highlight the SAS software technology, not the AHA data.

Drill Hierarchy	Table Variables	Graph Variables
<input checked="" type="radio"/> Hospital Size, Region, State	<input checked="" type="checkbox"/> Total Number of Beds	<input checked="" type="checkbox"/> Total Number of Beds
<input type="radio"/> Region, Hospital Size, State	<input checked="" type="checkbox"/> Total Number of Hospitals	<input type="checkbox"/> Total Number of Hospitals
	<input checked="" type="checkbox"/> Total Admissions	<input checked="" type="checkbox"/> Total Admissions
	<input checked="" type="checkbox"/> Total Surgical Operations	<input type="checkbox"/> Total Surgical Operations
	<input checked="" type="checkbox"/> Total Emergency Visits	<input type="checkbox"/> Total Emergency Visits
	<input checked="" type="checkbox"/> Total Outpatient Visits	<input type="checkbox"/> Total Outpatient Visits

HTML Form

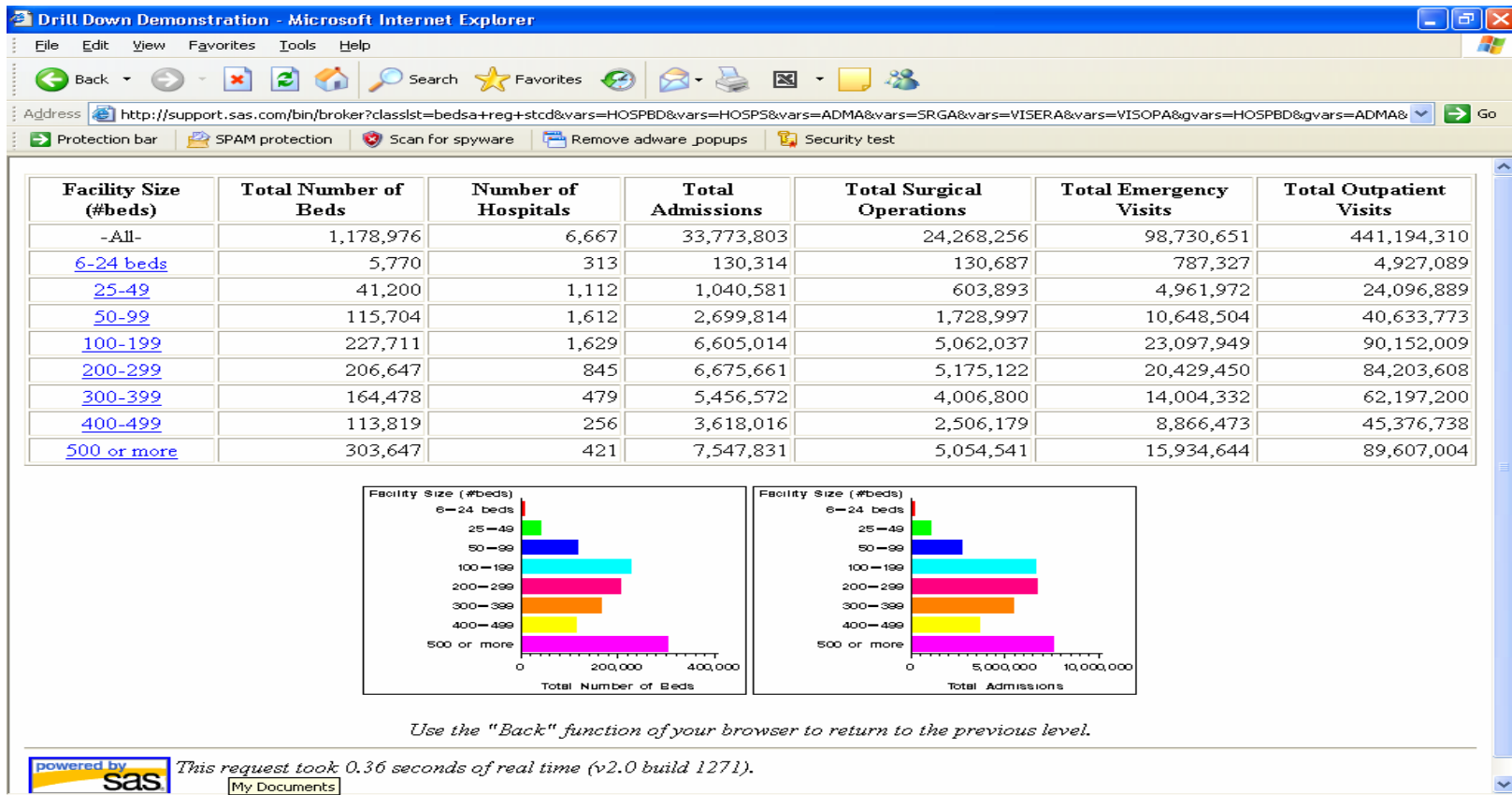
```
<FORM ACTION="/bin/broker ">
<HR>
<TABLE BORDER="1">
<TR><TH>Drill Hierarchy</TH>
  <TH>Table Variables</TH>
  <TH>Graph Variables</TH>
<TR>
<TD vALIGN=top>
<BR><INPUT TYPE="radio" NAME="classlst" VALUE="bedsa reg stcd" CHECKED>
Hospital Size, Region, State
<BR><INPUT TYPE="radio" NAME="classlst" VALUE="reg bedsa stcd">
Region, Hospital Size, State
<BR><BR><BR><BR>
<TD>
<BR><INPUT TYPE="checkbox" NAME="vars" value="HOSPBD" CHECKED>Total Number of Beds
<BR><INPUT TYPE="checkbox" NAME="vars" value="HOSPS" CHECKED>Total Number of Hospitals
<BR><INPUT TYPE="checkbox" NAME="vars" value="ADMA" CHECKED>Total Admissions
<BR><INPUT TYPE="checkbox" NAME="vars" value="SRGA" CHECKED>Total Surgical Operations
<BR><INPUT TYPE="checkbox" NAME="vars" value="VISERA" CHECKED>Total Emergency Visits
<BR><INPUT TYPE="checkbox" NAME="vars" value="VISOPA" CHECKED>Total Outpatient Visits
</TD>
```

HTML Form

```
<TD>
<BR><INPUT TYPE="checkbox" NAME="gvars" value="HOSPBD" CHECKED>Total Number of Beds
<BR><INPUT TYPE="checkbox" NAME="gvars" value="HOSPS">Total Number of Hospitals
<BR><INPUT TYPE="checkbox" NAME="gvars" value="ADMA" CHECKED>Total Admissions
<BR><INPUT TYPE="checkbox" NAME="gvars" value="SRGA">Total Surgical Operations
<BR><INPUT TYPE="checkbox" NAME="gvars" value="VISERA">Total Emergency Visits
<BR><INPUT TYPE="checkbox" NAME="gvars" value="VISOPA">Total Outpatient Visits
</TD>
</TABLE>
<HR>
<INPUT TYPE="hidden" NAME="dataset" VALUE="webdemo.aha1993">
<INPUT TYPE="hidden" NAME="__program" value="mkt.extdemos.drill.macro ">
<INPUT TYPE="hidden" NAME="__service" VALUE="demo ">
<INPUT TYPE="hidden" NAME="bgtype" VALUE="color">
<INPUT TYPE="hidden" NAME="bg" VALUE="white">
<INPUT TYPE="submit" VALUE="Generate Table">
<INPUT TYPE="reset" VALUE="Start Over">

</FORM>
```

Selected Report



SAS Stored Process

- The SAS Stored Process Web Application is similar to SAS/IntrNet it forwards the request to the SAS Stored Process Server in a similar manner to the old CGI broker.
- The servlet runs it and sends the results back to the Web server, so that users can view them in their Web browser.

SAS Stored Process

- To write a Web application that uses SAS Stored Processes just as with SAS/IntrNet, only SAS and HTML programming is needed.
- The user interacts with a Web browser interface. In most cases the user will enter parameters into an HTML form and select the submit button. The request is then sent to the SAS Stored Process Web Application, a Java Web application located on the Web application server that can execute stored processes on a SAS Stored Process Server and return results to a Web browser.
- The SAS Stored Process Web Application is included with the SAS Web Infrastructure Kit this is included with SAS/BI

Converting to SAS Stored Process

- Copy the program to a source repository .
- Register the stored process using the SMC using Streaming output
- Convert the HTML forms to SAS Stored Process Web Application url.

What needs to be changed?

- Copy the SAS program to the stored process directory make any changes necessary such as `_webout` as the ODS output destination.
- Register the Stored Process in the SMC

Converting to SAS Stored Process

New Stored Process Wizard

Specify the name, description and keywords for the Stored Process to be defined.

Name:

Description:

Keywords:

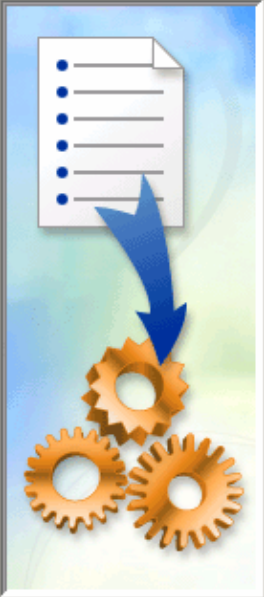
Add...
Modify...
Delete

Help Cancel < Back Next > Finish

Converting to SAS Stored Process

New Stored Process Wizard [X]

Specify the file, execution environment and result type for the Stored Process.



SAS server: SASMain - Logical Stored Process Ser... [v]

Source repository: c:\stpcourse\storedprocesses [v] [Manage...](#)

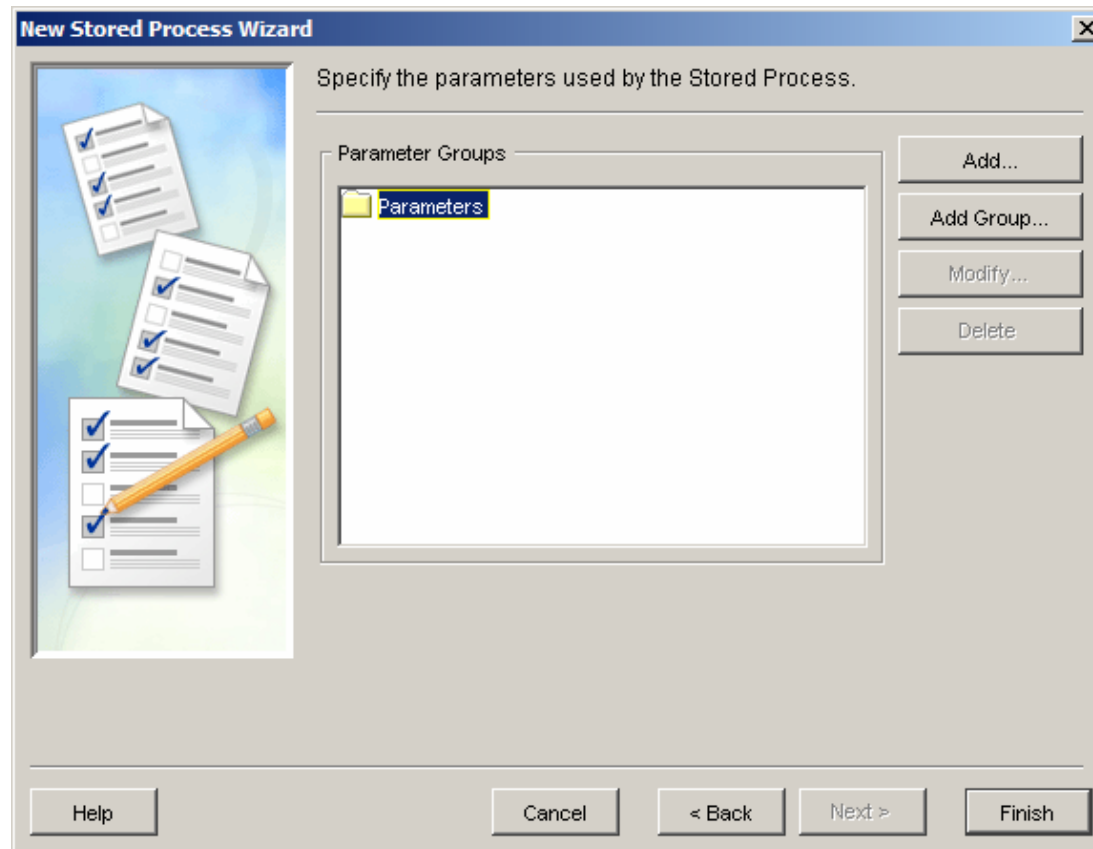
Source file: webfreq.sas

Input: None [Streams...](#)

Output: Streaming [v] [Details...](#)

[Help](#) [Cancel](#) [< Back](#) [Next >](#) [Finish](#)

Converting to SAS Stored Process



Converting to SAS Stored Process

```
<FORM ACTION="/SASStoredProcess/do ">
<HR>
<TABLE BORDER="1">
<TR><TH>Drill Hierarchy</TH>
  <TH>Table Variables</TH>
  <TH>Graph Variables</TH>
<TR>
<TD vALIGN=top>
<BR><INPUT TYPE="radio" NAME="classlst" VALUE="bedsa reg stcd" CHECKED>
Hospital Size, Region, State
<BR><INPUT TYPE="radio" NAME="classlst" VALUE="reg bedsa stcd">
Region, Hospital Size, State
<BR><BR><BR><BR>
<TD>
<BR><INPUT TYPE="checkbox" NAME="vars" value="HOSPBD" CHECKED>Total Number of Beds
<BR><INPUT TYPE="checkbox" NAME="vars" value="HOSPS" CHECKED>Total Number of Hospitals
<BR><INPUT TYPE="checkbox" NAME="vars" value="ADMA" CHECKED>Total Admissions
<BR><INPUT TYPE="checkbox" NAME="vars" value="SRGA" CHECKED>Total Surgical Operations
<BR><INPUT TYPE="checkbox" NAME="vars" value="VISERA" CHECKED>Total Emergency Visits
<BR><INPUT TYPE="checkbox" NAME="vars" value="VISOPA" CHECKED>Total Outpatient Visits
</TD>
```

Converting to SAS Stored Process

```
<TD>
<BR><INPUT TYPE="checkbox" NAME="gvars" value="HOSPB" CHECKED>Total Number of Beds
<BR><INPUT TYPE="checkbox" NAME="gvars" value="HOSPS">Total Number of Hospitals
<BR><INPUT TYPE="checkbox" NAME="gvars" value="ADMA" CHECKED>Total Admissions
<BR><INPUT TYPE="checkbox" NAME="gvars" value="SRGA">Total Surgical Operations
<BR><INPUT TYPE="checkbox" NAME="gvars" value="VISERA">Total Emergency Visits
<BR><INPUT TYPE="checkbox" NAME="gvars" value="VISOPA">Total Outpatient Visits
</TD>
</TABLE>
<HR>
<INPUT TYPE="hidden" NAME="dataset" VALUE="webdemo.aha1993">
<INPUT TYPE="hidden" NAME="__program" value="/storedProcess/samples/drill ">
<!-- Comment out the _service
<INPUT TYPE="hidden" NAME="__service" VALUE="demo ">
-->
<INPUT TYPE="hidden" NAME="bgtype" VALUE="color">
<INPUT TYPE="hidden" NAME="bg" VALUE="white">
<INPUT TYPE="submit" VALUE="Generate Table">
<INPUT TYPE="reset" VALUE="Start Over">
</FORM>
```

The New URL

- **This will depend on how things are setup.**
- **If Tomcat is used then some thing like:**
 - **`http://localhost:8080/SASStoredProcess/mywebform.html`**

Compatibility ?

SAS/IntrNet feature	Stored Process Equivalent
Application Broker	SAS Stored Process Web Application
Application Server	SAS Stored Process Server
Writing output to _WEBOUT	Streaming output written to _WEBOUT
Application Server functions	Most are still supported, along with equivalent STPSRV functions
_REPLAY	Still supported, although the URL has changed.
Sessions	Supported with the same SAVE library, macro vars, and functions

SAS Stored Process References

<http://www.sas.com/ctx/whitepapers/whitepapers.jsp?code=SP1>

<http://support.sas.com/forums/forum.jspa?forumID=8>

<http://support.sas.com/rnd/web/index.html>

http://support.sas.com/rnd/itech/doc9/dev_guide/stprocess/index.html

http://support.sas.com/rnd/itech/doc9/dev_guide/stprocess/inet2stp.html