Please be active and interact

While your waiting for the webinar to begin, please test the Questions function:

- Write suggestion for future webinar topics

During the presentation:

- Ask questions
- Provide suggestions
- Give feedback

Use the tools in the upper right corner of your screen

Webinar about the latest SAS Platforms release 9.4(R)
Highlight of some of the enhancements and demo of a few new options.
This post will be updated after the webinar with the material presented during the webinar. Attached.

---

FANS Webinar 5 January 2017 - News in SAS 9.4 - Presentation and code

Please find presentation from this webinar attached.

News in SAS 9.4 Release 5

*Overview over enhancements in SAS 9.4 releases (M0, M1, M2, M3 and M4)*
*Demo of selected new features in Base SAS, SAS programming, ODS, ODS Graphics and SAS Enterprise Guide*
*Demo of CAS – the new Cloud Analytics Services – and integration with SAS 9.4 components*
*Future webinars and membership of the new Nordic SAS User Group FANS*

Example code - including the examples demoed.

Find video recording of the presentation here.

FANS Webinar 5JAN2017 - News in SAS 9.4.pdf
SAS® 9.4M


Get the latest release
What’s New!

- Base SAS 9.4
- SAS/ACCESS
- SAS/CONNECT 9.4
- SAS 9.4 Data Quality Server
- SAS/GRAPH 9.4
- SAS 9.4 Integration Technologies
- SAS 9.4 Intelligence Platform
- SAS 9.4 In-Database Products
- SAS/SHARE 9.4

News in SAS Software

- SAS 9.4m5 <> SAS Viya integration
- “Upgrade in Place” improvements
- In SAS 9.4M5, Windows 2016 is supported.
- In SAS 9.4M5, a chapter, Using Dynamic Data Exchange under Windows was moved to the Appendix. DDE is a legacy method and should not be used with modern processes.
- Demo
- SAS Base programming
- SAS Enterprise Guide 7.15
- SAS Add-In 7.15 for Microsoft Office
- SAS Studio 3.7
- SAS Data Integration Studio 4.903
- SAS Analytical Products 14.3
- SAS 9.4 In-Database Products
- SAS 9.4 Intelligence Platform
- SAS GRID
• The DATA step and many SAS procedures have been enhanced to take advantage of the fast, distributed processing provided by SAS Viya’s CAS engine.

• SAS procedures previously only available in a SAS Viya environment can now be submitted from a SAS 9 programming client and execute distributed actions in a CAS server.

• In fact, any SAS programming client that can submit SAS code can include these CAS-enabled PROCs and distributed DATA step functionality.
Base SAS 9.4M5

- Enhancements to the FREQ statistical procedure
  - The COMMONRISKDIFF option in the TABLES statement provides estimates, confidence limits, and tests for the overall risk (proportion) difference for multiway tables
  - The default method for computing exact confidence limits for the risk difference and the relative risk has changed. Beginning in SAS 9.4M5, the default is METHOD=SCORE

- Data Set Options
  - stronger AES encryption was added with the AES2 key generation algorithm. ENCRYPT=AES2 specifies using this stronger algorithm.

- New format DTWEEKV
  - Writes a week and datetime number in decimal format by using the V algorithm

ODS

- DOCUMENT procedure - the REPLAY statement has two new options
  - new ANCESTORS= option specifies the number of parent directories to replay
  - new DYNAMDATA= option specifies the name of the data set that contains dynamic values.

- ODS HTML5 statement supports
  - new style element (FOCUSLINK) to enable you to control the appearance of the link-focus indicator in ODS output
  - image maps are supported with SVG output in the

- ODS PDF destination supports
  - accessibility when you specify the new option ACCESSIBLE
  - linking (drilling down) to targets or destinations in PDF documents

- ODS EXCEL statement – new Options
  - SHEET_INTERVAL= "NOW" - creates a new worksheet.
  - PROTECT_WORKSHEET= - protects the worksheet with a password.

- ODS RTF statement - new option
  - NOTRKEEP - Controls where tables split on a row

- ODS POWERPOINT statement adds the following options:
  - BACKGROUNDIMAGE= "NONE" - turns off the background image and returns to the default.
  - STARTPAGE= - controls when new slides are inserted.

http://documentation.sas.com/?cdcId=pgmsascdc&cdcVersion=9.4_3.2&docsetTarget=odsuugwhatsnew94.htm
ODS GRAPHICS

- **OBSMAX=**
  - specifies the maximum number of observations that are processed. If the number of observations in the data set exceeds the value specified for OBSMAX=, the procedure step terminates with a log message.

- **TOTALCELLMAX=**
  - specifies the maximum number of cells in a graph where the number of cells is determined dynamically by classification variables.

- **LINEPATTERNOBSMAX=**
  - specifies the maximum number of vertices for a patterned line.

- Vector graphics output can be generated for text plot back light, background fill, and background outline.
- For a table showing the cases for which vector graphics output can be generated
- Image maps are supported with vector graphics in HTML5. Image maps are enabled by specifying the IMAGENMAP option in the ODS GRAPHICS statement.
- If a BY statement is in effect for the data, then you can uniquely name image files based on BY iterations by inserting #BY substitution items into the image filename. You can specify BY variable values, BY variable names, or BY lines for the IMAGENAME= option in the ODS GRAPHICS statement.

- Proc HTTP
  - adds a DEBUG statement, TIMEOUT= procedure option, and PROC HTTP response status macro variables

- The FILENAME statement,
  - ZIP access method supports the GZIP option to specify an external GZIP file.
  - EMAIL (SMTP) access method now supports attaching more than one file using multiple !EM_ATTACH! directives.

- **DS2**
  - A new procedure, DSTODS2, enables you to translate a subset of your SAS DATA step code into DS2 code. Then, if necessary, you can revise your program to take advantage of DS2 features and submit your program using PROC DS2.
  - Access the Amazon Redshift, Microsoft SQLServer, and Vertica data sources

- FedSQL language
  - Access the Amazon Redshift, Microsoft SQLServer, and Vertica data sources
  - You can now get information about views from DICTIONARY.COLUMNS queries
Automatic Macro Variables

- Use `SYSINCLUDEFILEDEVICE` to determine the device type on the current %INCLUDE file.
- Use `SYنينCUEDIR` to determine in which directory the current %INCLUDE file was found.
- Use `SYSINCLUDEFILEFILEREF` to determine whether a fileref was used to access the current %INCLUDE file.
- Use `SYSINCLUDEFILENAME` to determine the name of the current %INCLUDE file.
- Use `SYSMAXLONG` to return the maximum long integer value allowed under Linux.
- `SYSDATASTEPPHASE` ensures that the macro is being executed as part of the proper phase of a DATA step.
- `SYSHOSTINFOLONG` contains the operating environment information that is displayed when the HOSTINFO option is specified.
- `SYSPROCESSMODE` contains the name of the current SAS session run mode or server type.
- `SYSTIMEZONE` contains the time zone name based on the current value of the TIMEZONE option.
- `SYSTIMEZONEIDENT` contains the time zone ID based on the current value of the TIMEZONE option.
- `SYSTIMEZONEOFFSET` contains the time zone offset based on the current value of the TIMEZONE option.
- The `_USER_` option has been added to the `%SYSPUT` statement.
SAS Enterprise Guide 7.15

- Integration with SAS Viya.
  - You can run Viya tasks from SAS Studio, and you can also submit CAS code.
- Support for SAS Visual Analytics 7.4
- Starting in SAS Enterprise Guide 7.15, the Catalog and Formats Explorer is available.
  - With the Catalog and Formats Explorer, you can explore SAS libraries and the catalogs in those libraries. You can view the metadata (name, description, created and modified dates) for every catalog entry. You can view the contents of some entry types, such as SOURCE entries and format entries. You can also delete entries. (In previous releases, this functionality was available as a downloadable custom task.)
- New option that enables you to create accessible PDFs
  - Option to add accessibility metadata to your PDF results. The metadata enables the file to be accessed by assistive technology such as a screen reader
- Ability to open script files in the text editor
  - Includes script files (*.sh).
- Support for project log operations (such as clear, export, and send via email) using automation.
SAS Add-In 7.15 for Microsoft Office


• This release provides integration with SAS Viya. SAS Add-In for Microsoft Office enables you to run Viya tasks from SAS Studio. You can also submit SAS Viya CAS code from the program window.

• You can open a data set from a file on a server. The data set does not need to be saved in a library.

• Support for SAS Visual Analytics 7.4

SAS Studio 3.7

• New tasks and code snippets provide tighter integration with CAS in SAS Viya.

• You can open your existing SAS Enterprise Guide projects in SAS Studio. When opened, these SAS Enterprise Guide projects are converted to a process flow in SAS Studio.

• You can choose to display streaming log updates as a procedure is processed. You can now see the progress of your SAS job without waiting for the procedure to complete.

• New SAS 9.4 tasks include Recode Values, Recode Ranges, Heat Map, Custom Tests for Power and Sample Size, and Equivalence Tests for Power and Sample Size. Also,

• The graph tasks (Bar Chart, Pie Chart, Scatter Plot, and so on) have been rewritten.

• New SAS Studio automatic macros.
  • _SASWORKINGDIR
  • SASWORKLOCATION
SAS Data Integration Studio 4.903

- new SAS Viya CAS Table Loader transformation.
- new Table Maintenance transformation.
- support for K-functions in code generation.
- enhanced support for Hadoop code generation.
- enhanced support for Hive transformation.
- new parameter used by the Command Line Batch Deployment Tool.
- new option that generates JCL-friendly code on z/OS systems when using userwritten code.
- new macro variables for generated transformations.

SAS Analytical Products 14.3

- SAS/STAT® provides a new procedure for causal mediation analysis and new features for propensity score analysis, survey imputation and compartment models in pharmacokinetic analysis.
- SAS/ETS® offers better temporal analysis with new procedures, features and options.
- SAS/IML® extends support for lists and other non-matrix data structures.
- SAS/QC® extends support for statistical process control of rare events.
- SAS/OR® features performance improvements and the ability to work directly with licensed SAS Viya capabilities from OPTMODEL, OPTLP, OPTQP and OPTMILP.
- SAS® Contextual Analysis uses DS2 score code to analyze product and feature-level sentiment. Supports new language
  - adding Danish, Norwegian etc – With Swedish already there
- SAS Text Miner supports new language
  - adding Finnish - With Danish, Norwegian, Swedish already there
RESOURCES / SAS PRODUCTS & SOLUTIONS

Maintenance Release Announcement for SAS 9.4

Overview

A maintenance release is a collection of updates to SAS products or components that corrects customer-reported issues and adapts the product to a changed environment. A maintenance release can also include new software functionality.

SAS 9.4M5 shipped in September 2017. This release enables existing SAS 9 customers to use the functionality in SAS Viya. For example, many SAS procedures have been enhanced to take advantage of the fast, distributed processing provided by Cloud Analytic Services, which is a part of SAS Viya. Both SAS 9 and SAS Viya are part of the SAS Platform. You can choose to use them individually or together, depending on the needs for your site.

SAS 9.4M5 also includes enhancements in creating accessible output, programming and accessing data, and using TLS protocols for more secure deployment options. In addition, several SAS analytical products, including SAS/ETS, SAS/STAT, and SAS Enterprise Miner, shipped a new release.

Assess Your Current SAS Deployment

Before you apply any maintenance release, complete these steps to assess your current SAS deployment and determine how the upgrade impacts your site.

1. Determine what product releases are currently installed at your site. You can obtain this information by running the ViewRegistry tool.

   For more information, see SAS Note 35660.

2. Based on your SAS release, review the information to understand what changes were made in the maintenance release.

   - Issues Addressed in SAS 9.4 (TB1M6)
   - The issues addressed in Web site for a SAS maintenance release is compiled by SAS Technical Support and lists the SAS Notes that were addressed in a specific maintenance release.

   - What’s New in SAS 9.4
   - The What’s New document provides a high-level overview of the new features and enhancements for each product or solution updated in the SAS 9.4 era. This document links to the “What’s New” topics in the product documentation for more specific details about each new feature and enhancement.
### SAS 9.4 In-Database Products

<table>
<thead>
<tr>
<th>Database Type</th>
<th>SAS/ACCESS Interface</th>
<th>SAS Scoring Accelerator</th>
<th>SAS Code Accelerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft SQL Server</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Azure SQL Database</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MySQL</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Amazon Aurora (MySQL variant)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Amazon RDS MySQL</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Amazon RDS MariaDB</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Oracle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oracle Cloud Platform</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Amazon RDS Oracle</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teradata</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teradata IntelliCloud</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Teradata Database on Amazon Web Services</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Teradata Database on Microsoft Azure</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Teradata Database on Vmware</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### SAS 9.4 Intelligence Platform

- SAS Web Application Server used in the middle-tier environment has been upgraded. It is now based on Apache Tomcat version 8.5.13.
- New encoding type SAS005 uses AES encryption with a 256-bit fixed key and a 64-bit random salt value. SAS005 increases security for stored passwords by using the SHA-256 hashing algorithm and is hashed for additional iterations.
- SSL replaced by TLS v1.2 (for PCI compliance).
- SAS/CONNECT, SAS/SHARE can use AUTHINFO file instead of SIGNON.
- Linux
  - Support for a new environment variable, AUTHINFO, was added. Use this environment variable to specify the location of the Authinfo file that you use to authenticate to a CAS server.
- Update of 3rd party components
  - Java 7 updated baseline
  - Updated Web Server, Web App Server
  - Updated Spring components
  - Updated OpenSSL libraries
  - WIP Data Server – manual Postgres updates available
SAS GRID

- SAS Grid Manager - Upgrade to Platform Suite for SAS 10.1
  - Single sign-on to Process Manager
- A SAS Grid Manager agent plug-in has been added to SAS Environment Manager for grids that use Platform Suite for SAS.
  - Metric data for grid queues have been added the SAS Grid Manager agent plug-in.
- A SAS Grid Manager module has been added to SAS Environment Manager for grids that use Platform Suite for SAS.
  - Functions have been added to specify dependencies and affinity requirements for high availability (HA) configurations, to update the LSF license.
- An option has been added to the SAS Grid Manager Client Utility to submit a SAS program that exists on a shared filesystem and that therefore is shared across all grid nodes, rather than on an internal filesystem and accessible only by one host.
- The agent plug-in also provides metric data for grid queues.
- These additional functions have been added to manage jobs:
  - terminate and requeue jobs
  - switch an uncompleted job to a different queue
  - change the position of jobs in the queue

Next... "What’s new” Webinars in December & January
#SASNordicFANS Newsletter

FANS Network Events, October – December 2017

Sign up here

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/10</td>
<td>Oslo</td>
<td>FANS network</td>
</tr>
<tr>
<td>15/11</td>
<td>Stockholm</td>
<td>Visual Analytics</td>
</tr>
<tr>
<td>28/11</td>
<td>Copenhagen</td>
<td>SAS Platform network</td>
</tr>
<tr>
<td>30/11</td>
<td>Oslo</td>
<td>FANS network</td>
</tr>
<tr>
<td>7/12</td>
<td>Helsinki</td>
<td>SAS Platform Network</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/10</td>
<td>Helsinki</td>
<td>SAS Intro Tour</td>
</tr>
<tr>
<td>2/11</td>
<td>Stavanger</td>
<td></td>
</tr>
<tr>
<td>9/11</td>
<td>Copenhagen</td>
<td></td>
</tr>
<tr>
<td>14/11</td>
<td>Helsinki</td>
<td></td>
</tr>
<tr>
<td>23/11</td>
<td>Skanderborg</td>
<td></td>
</tr>
</tbody>
</table>
End of Webinar

Please use 2 minutes on the survey.

Thanks for attending this #SASNordicFANS Webinar