

Boston Area SAS® Users Group BASUG Half-Day Training Announcement

Please join us for this informative training, and consider coming to our morning quarterly meeting as well (separate event). For information on the morning meeting, please visit the [Quarterly Meeting Announcement](#).

BASUG is hosting an informal light buffet lunch {between the morning and afternoon sessions / prior to the training}. We hope you can join us for this opportunity to network and socialize with your fellow SAS users.

Topic	The SAS® Hash Object: It's Time To .find() Your Way Around
Instructor	Peter Eberhardt Fernwood Consulting Group Inc.
When	Thursday, November 20th, 2014 Noon – networking lunch and sign-in 1:00 – 5:00PM - Training
Where	Microsoft New England Research and Development Center (NERD) ¹ One Memorial Drive Conference Center, First Floor Cambridge MA 02142 857-453-6000
Directions	Please visit the meeting site directions page
How to Register	Individual, on-line registration required NO WALK-INS!
Payment	\$155 - if paid on-line by Monday, 11/10/2014 \$180 - if paid on-line by NOON on 11/19/2014 \$195 - at-the-door (checks only – pre-registration required) Please see details below
Audience / Prerequisites	The class requires the student to have a good grasp of the SAS data step. No prior experience with SQL is expected
How to Register	Individual, on-line registration required Pre-payment guarantees you a seat and handouts
Contact	If you have questions about the course, please contact the training organizers .

Course Description

"The SAS® Hash Object: It's Time To .find() Your Way Around"

"This is the way I have always done it and it works fine for me."

Have you heard yourself or others say this when someone suggests a new technique to help solve a problem? Most of us have a set of tricks and techniques from which we draw when starting a new project. Over time we might overlook newer techniques because our old toolkit works just fine. Sometimes we actively avoid new techniques because our initial foray leaves us daunted by the steep learning curve to mastery. For me, the PRX functions and the SAS hash object fell into this category.

In this workshop, we address possible objections to learning to use the SAS hash object. We start with the fundamentals of the setting up the hash object and work through a variety of practical examples to help you master this powerful technique.

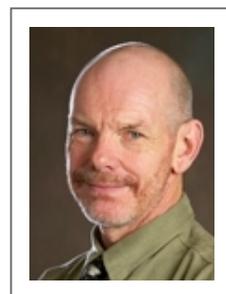
Hashing has been widely used in most programming environments (e.g. java, c++) for many years, however it is a recent addition to the SAS programmer's tool kit. Hash tables can be thought of as a SAS dataset, except the dataset exists in memory and can dynamically grow or shrink during the execution of a data step.

In its simplest form, a hash table has a look-up key and associated data fields; using the values of the key, the programmer can retrieve the associated data. At first glance, this is the same as the SAS format lookup which has been used by SAS programmers for many years. What differentiates a hash table is the ability to have a compound key, that is a key that consists of more than one field; moreover, the components can be of different data types – both numeric and character. Similarly, the associated data can also be compound.

In the class, and the associated data you can download to try for yourself, you learn the basics of creating and using hash tables with data modeled after real medical billing data – hash tables of 10 million rows, 20,000 rows, and 5,000 rows. The class requires the student to have a good grasp of the SAS data step, something most programmers with even a few month's experience would have.

Instructor Bio

Peter Eberhardt is a long time SAS consultant; his company, [Fernwood Consulting Group Inc.](#), is a SAS Alliance partner. In addition to presenting at user groups locally and internationally, Peter also is also very involved in helping to organize and run user conferences. For several years he has been a section chair, and now part of the content advisory team, at SAS Global Forum. In 2008 and again in 2012 he was the Academic Chair for SESUG. In 2015 he is the [Academic Chair for PharmaSUG China](#), to be held in Shanghai.



Training Registration and Payment Instructions

Please read this ENTIRE section carefully!

1. Pricing
 - \$ 155 if paid on-line by Monday, 11/10/2014
 - \$ 180 if paid on-line by NOON on 11/19/2014
 - \$ 195 if paid at-the-door (checks only – pre-registration required)
2. Register
 - INDIVIDUAL, ON-LINE REGISTRATION IS REQUIRED.
 - You must register for this training (even if you plan to pay by check). To register and purchase tickets for the class please visit the
 - Please register early! Seating and handouts are guaranteed only for pre-paid registrants.
3. Payment Methods
 - Credit Card:** We urge you to pay by credit card, using our online system. Make sure to purchase your ticket by November 10th to get the early-bird price.
 - Check: Do NOT mail a check to us prior to the workshop.** Pre-register online, and bring a check with you for the at-the-door-price.
 - Full payment is due by the day of the class. There will be NO EXCEPTIONS. We never accept cash. We *do* accept credit card payments through our online registration service.
4. Refund Policy
 - To receive a refund for the training, please send an email to our [training coordinators](#) by 5PM on November 10th. After November 10th we will refund your payment (less a \$10 processing fee) only if we can fill your seat with other attendees.

BASUG Contacts

Mailing Address:

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Boston MA 02117

Email [Our Webmaster](#)

¹ *The Microsoft New England Research & Development Center (NERD) is a research and software innovation campus located in the heart of Cambridge, Massachusetts. The NERD vertical campus spans two buildings with its primary presence and conference center located at One Memorial Drive and a recently renovated and expanded space located at One Cambridge Center. NERD is home to some of Microsoft's most strategic teams including Microsoft Research New England, Microsoft Application Virtualization (App-V), SharePoint Workspace, Microsoft Technical Computing, Microsoft Advertising, Microsoft Lync, Microsoft Office 365 and more. NERD has become a hub of activity for the local tech community and has hosted more than 500 events and welcomed more than 40,000 visitors during the past two years.*