



SYBASE
NORTH AMERICA
EDUCATION

FEBRUARY 2005
ISSUE 3



EDUCATION SERVICES

The Real Cost of No Training

If you'd prefer not to attend formal training, consider the following:

- Untrained users take up to six times longer to perform the same tasks as trained users.
- Training improves performance and knowledge retention.
- Companies that invest over \$1500 per employee in training (versus those spending less than \$300) experience on average over 200% higher performance and productivity per employee.

A recent customer survey shows:

Formal, Instructor-led Training	Informal Training
94% Improved productivity	53% Usually incomplete
90% Increased capabilities	34% Takes too Long
82% Improved quality	33% Lack in-house expertise
	31% Frustrating

PowerBuilder 10 Developer Professional Certification Exam

Sybase Education is pleased to announce that it will release a new PowerBuilder 10 Developer Professional Certification exam in late March, 2005. In an ongoing effort to help PowerBuilder customers succeed in their profession and personal advancement, Sybase Education has assembled a team of highly qualified certification exam writers to assist in the development of the Certification and Practice Exams. The practice exam will be available for purchase at Sybase eShop in April, 2005.

New Schedule for 2005

Sybase North America Education has just released a new schedule for 2005: March - June. Also released is an updated guaranteed list of classes, which helps customers plan for their training. Please visit <http://www.sybase.com/education> to download a PDF version of the consolidated schedule, as well as the guaranteed class list.

Exciting Learning Center News for 2005

PC Technology Upgrades:

In Q1 of 2005, Sybase Education is upgrading Learning Centers in North America and Europe with leading edge PC Technology. These classrooms will now have high performance workstation class IBM M-Pro Intellistations installed and configured to enhance customers' hands-on learning experience with Sybase software.

What does this mean to you, our customers? You will be able to run the most complex lab exercises that emulate real world business challenges. The upgrade will also enable you to unleash the powerful potential of Sybase software during training, so as to perform the most demanding tasks of today's business solutions.

SyberLearning LIVE in Europe

SyberLearning LIVE is an interactive, instructor-led virtual web-based classroom platform that brings a complete educational experience along with a live instructor—directly to your PC.

Following a successful three years of SyberLearning LIVE in the U.S. and Canada, Sybase's Education Services in Europe is planning to offer SyberLearning to its European customers.

The first European delivery of Sybase classes via SyberLearning LIVE is planned for Q2/2005.

Get Customers Certified 40,000 and counting!

Sybase Professional Certification offers the technical skills, experience, and confidence to design and implement real-world solutions. For more information, visit: www.sybase.com/profcert.

Sybase Education Reseller Program

A Sybase partner can become an Authorized Education Reseller (AER) by completing an application and signing the Education Reseller Agreement. AERs can resell all Sybase Education products and services at discounts up to 20%. For more info, contact Brian Wesselink at 678-585-7267 or brian.wesselink@sybase.com.

Several Ways to Save on Education

Education Passport

\$7,500 per year. The Sybase Education Passport lets a student attend unlimited number of training classes for one year.

Education Packages

10, 15, 30, 50 & 100 days of discounted training packages that anyone in an organization can use. Contact an Education Representative for more information.

Bring a Colleague to Class and Save 15%!

If a customer enrolls with at least one colleague for the same class, each will receive a fifteen percent discount off list price!

Sybase Incorporated

Worldwide Headquarters
One Sybase Drive
Dublin CA, 94568 USA
www.sybase.com



Sybase Education - Current Promotions

EDB550: Mastering Transact-SQL Programming: Advanced Tips & Techniques is better than ever!

Offer ends March 31, 2005.

Sybase Education would like to remind its customers that we have updated and improved our Advanced T-SQL class to better meet their needs. And better yet, if a student previously attended its predecessor "EDB334: Advanced T-SQL" he/she may be eligible to receive a 50% discount off our list price.

DEV132: Fast Track to PowerBuilder 10

Offer ends March 31, 2005.

Sybase Education has updated its Fast Track to PowerBuilder 10 class to respond to current customer content demand. All customers who have previously attended any PowerBuilder class will be eligible to receive a 50% discount off our list price.

DEV555: EAServer 5.1 Administration training is better than ever!

Offer ends April 30, 2005.

Sybase Education has developed a NEW EAServer 5.1 Administration class to better meet the business and development needs of Sybase customers. If a student attends a class during March or April 2005, he/she can receive a 25% discount by mentioning offer N-EAS2550 when registering. Students can DOUBLE the discount if they previously attended EAServer training.

Several Ways to LEARN While You Save!

Pick the one that is best for you

Sybase Education Passport

You can have it all for only \$7,500, up to 50% savings! The Sybase Education Passport lets a student attend unlimited number of training classes for one year.

Sybase Education Packages

10, 15, 30, 50 & 100 Days of Training, Discounted.

Sybase Education offers 10, 15, 30, 50 and 100 day discounted training packages that anyone in an organization can use. Contact an Education Representative for more information about Education Packages.

Bring a Colleague to Class and Save 15%!

Learning is better when done with a colleague! Colleagues can share ideas and apply real-world issues together in class. If a customer enrolls with at least one colleague for the same class, each will receive a fifteen percent discount off list price!

CALL AN EDUCATION CONSULTANT for details about our courses, current promotions, schedule and booking information, or visit our website at <http://www.sybase.com/education>

Spotlight on New and Updated Courses

The Sybase Education Curriculum Development team is continually creating and improving its customer courseware to better meet customer satisfaction and requirements. Below is a listing of new and updated courseware:

EBZ150: Fast Track to Unwired Orchestrator (5-Days)

Students learn the fundamentals of Business Process Management from both logical and physical architectural perspectives and then apply an install, configuration and enhancements to the modeling and deployment capability for automating and managing business processes across an integrated enterprise. Instruction includes the use of Unwired Orchestrator's GUIs to support process design, business rule creation, data mapping and business activity monitoring. Lab exercises provide extensive practical experience with creating the necessary formats to parse, transform, and convert simple to complex messages. Other topics include: database de-localization, the Methodology of Use D3R (Discovery, Design, Deploy, Run), activity vs. data flows, context variables, tracing/debugging and logging. Students also learn to install, configure and monitor activity using Sybase BizTracker.

DEV630: Advanced Client/Server Development Techniques using PowerBuilder 10 (5-Days)

Students learn to use PowerBuilder 10 to build and deploy a fully functional application using object-oriented programming techniques and application partitioning to meet the business requirements of a case study. This course will help customers get started on their projects more quickly and efficiently by helping them learn best practices for PowerBuilder development from an advanced client/server developers perspective. Students will be in class with certified instructors as well as other PowerBuilder client/server developer professionals looking to learn the more advanced and powerful features of PowerBuilder, so as to immediately apply new skills to their more complex Client/Server projects.

Look for a scheduled class starting starting May, 2005.

DEV132: Fast Track to PowerBuilder 10 (5-Days)

Learn to use PowerBuilder 10.0 to build and deploy a fully-functional application using object-oriented programming techniques and application partitioning to meet the business requirements of a case study. This course will help you get started on your projects more quickly and efficiently by helping you learn best practices for PowerBuilder development from the ground up and all the new features of PowerBuilder 10. Hands-on lab exercises are used to reinforce the learning objectives for this course.

DEV555: EAServer 5.0 Administration (5-Days)

Learn how to administer and secure Enterprise Application Server in an n-tiered architecture, understanding the new features of EAServer 5.0. Install EAServer using custom options and administer the server using EAServer Manager. Setup and test clustering, load balancing and component fail-over and be able to deploy applications into a production environment, troubleshooting problems. Use the Web Services Toolkit and the JagTool / JagAnt tools.

DEV336: Building .Net Applications Using Sybase DataWindow.NET (3-Days)

Learn to use DataWindow.NET to simplify the access, manipulation and presentation of data within applications built in a .NET environment using C# or Visual Basic. You will access and explore the properties of the Sybase DataWindow object and become expert at managing transaction and concurrency issues typical of database-driven applications. Learn how to dynamically create DataWindows and dynamically change the behavior of DataWindows. Other valuable topics include: how to access, validate, and update data; how to use DataStores; explore distributed programming techniques for synchronizing data. All labs and examples are developed in C#.

Look for a scheduled class starting April, 2005.

SYB144: Logical Database Design (2-Days)

Learn to apply consistent methodology in creating a logical database design that is based on the relational data model and confirms to formal standards of normalization. Examine techniques for gathering and analyzing business rules, using entity-relationship diagrams to capture conceptual data designs, and modeling business processes with data flow diagrams using PowerDesigner 10.

Tips and Techniques – Featuring PowerBuilder 10.0

Latest Tips and Techniques by Sybase Product Experts

FEBRUARY 2005 / ISSUE 3

Performance Enhancement for PowerBuilder Applications: Asynchronous Background Retrieving and Processing

Case

In a PowerBuilder application, all processing occurs in a single thread of control. A ramification of this architecture is that the user interface (GUI) becomes blocked, while the database access logic is executing. Long running reports and batch data update routines can only run sequentially, and once started, will lock the user interface.

This article presents an effective technique for multi-threading an application using a set of PowerBuilder global methods known as the Shared Object API. By using this technique, you will be able to keep your user interface responsive to user input during long data retrievals and printing background reports. (Just in case you are thinking that this is new functionality, let me tell you that Shared Objects have been around since PB version 5.0!)

API Information:

<i>SharedObjectRegister()</i>	Registers a CCUO (NVO) and opens a separate runtime session for it.
<i>SharedObjectUnregister()</i>	Marks a shared object for destruction.
<i>SharedObjectGet()</i>	Returns a reference to a shared object via its logical name.

To implement this technique, you will need at least three objects:

1. GUI	window object	Runs in the main thread
2. Shared Object	A CCUO	Started in a separate PB VM. Can only reference other CCUOs.
3. Callback Object	A CCUO	Runs in the main thread, but is referenced by the Shared Object.

Below is an event-by-event description of how the objects inter-operate to perform a background retrieve:

1. The main thread starts the Shared Object running in a separate PBVM.
2. The main thread instantiates the callback object, giving it a reference to its DataWindow control.
3. The main thread makes an asynchronous call (POST) to a function on the shared object, passing it a reference to the callback object:

```
//Parms-The class name, a logical name
SharedObjectRegister("n_shared","server");//instantiate the shared obj & start it running
//Parms-Logical name, ref var to populate
SharedObjectGet("server",in_shared ) //populate a local reference to the shared object

//this is the setup work
in_callback = CREATE n_callback //instantiate the call back object

// Pass a reference to the dw on the tab page to
in_callback.of_setdw (tab_1.tabpage_1.dw_1) //here's where to put the data
in_callback.of_setTab(tab_1) //make this the active tab

// do asynchronously - so POST!
in_shared.post_of_retrieve(in_callback)

sharedObjectUnregister('server') //destroy the shared object
```

Illustration 1

4. The Posted method on the shared object performs background processing, grinding its way through lengthy data retrieval. Meanwhile, the main thread remains responsive, allowing the user to do other work in the same or other windows.

The following illustration provides the code for the posted shared object method:

```
// arg1 is reference to the callback object
datastore lds_1
SQLCA.DBMS = "ODBC"
SQLCA.AutoCommit = False
SQLCA.DBParm = "ConnectionString='DSN=EAS Demo DB V9;UID=dba;PWD=sqj;'"
connect;
lds_1 = create datastore
lds_1.dataobject = 'd_report'
lds_1.setTransobject(sqlca)
integer rc
rc = lds_1.retrieve( )
blob l_blob
sleep (10) //kill some time to make the effect more dramatic
lds_1.getFullstate( l_blob ) //can't sharedata - 2 diff VMS!
a_callback.of_setdata(l_blob) //Mr Callback, here's your data!
destroy lds_1
disconnect;
return rc
```

Illustration 2

5. At the point when the background method completes, it notifies the callback object by invoking a method on it via its reference variable. Below is the callback instance variable declarations:

```
//reference to the dw on the tab page
datawindow idw_1
//reference to the tab control on the win
tab itab_1
```

Illustration 3

The following illustration contains the callback function on the callback object. Notice how it operates on the GUI via its instance reference variables. It gets the DataWindow state as a blob from the shared object and applies it to the GUI's DataWindow control:

```
beep(5)
//make the 1st tab viewable if its not
if invalid (itab_1) then itab_1.selectTab(1)
if invalid (idw_1) then
//pass the gui & data to the dwcontrol
return idw_1.setFullstate(a_blob)
else
return -1
end if
```

Illustration 4

6. As a side note for those not yet familiar with the DataWindow methods *GetFullState()* and *SetFullState()*: Both methods are part of the API for distributed DataWindow synchronization. *SetFullState* packages a DataWindow's buffers, syntax and change flags into a Blob for transfer over a serial communication link. *GetFullState* applies the Blob to a DataWindow control or a DataStore object. Neither a database connection nor data object definition is required on the receiver side.