The Progress Electronic Magazine

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In this issue, we explore using an ODBC data source to reach a Progress V9 database. This is a very simple article – mostly a screen tour and some issues that showed up when I was connecting a progress DB to a Cold Fusion application server.

```
def var x as int init 1.
    x eq 12.
display x.
```

If you were using Prolint, you wouldn't have spent the last two hours tracking down this bug.
Proparse Lite - Only US$65
Lint your code before check-in.
Find bugs before your customer does.

w w w . j o a n j u . c o m

The final article is a quickie on a coding question that appeared on the PEG list. We explore how to get parameters from the command line into a Progress application. This problem shows up a lot for back ground processes in the UNIX environment and for character oriented Progress applications.

Coding Article: Creating And Using An ODBC Connection To A Progress Data Source

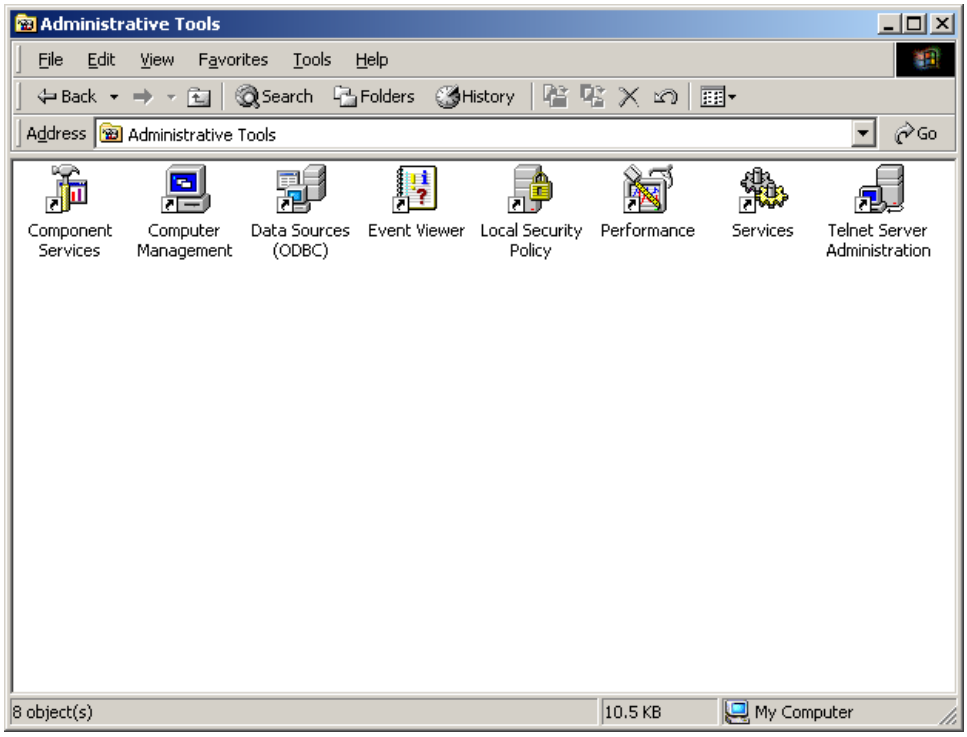
By Scott Auge

Well, it had to happen sooner or later. I had to integrate an UNIX Progress database and application into a Window's environment. The scene is this – another consultant developed an application with Cold Fusion and that needed to interact with a Progress DB.

Here is a quick drive by of what needed to be done to connect to a Progress DB for use with SQL-92 as well some of the gotcha's that nailed me for an hour or two.

Installation on the UNIX server

Installing the ability to provide ODBC connections on a UNIX server is simple. When installing the Progress RDBMS on the UNIX server, be sure to include Open Client Interfacing when installing the database servers. During the use of PROINST you will be asked if you wish this component should be installed. Be sure to check it. Doing so will allow your clients to connect via ODBC or JDBC to the database.



Icon for data sources on a Windows 2000 computer

Once this is done, then you create a database with the usual –H and –S parameters. These will be used in the ODBC data source definition.

There are some differences when using an SQL oriented database compared to a Progress 4GL client oriented database. I will glance over these differences to make the reader familiar with them.

First of all, the tables are owned by an account. Tables created via the data dictionary tool, will be owned by "pub." So when you need the client to access these tables, you need to qualify the table name with it's owner, such as:

```
SELECT * FROM pub.accesstype WHERE….
```

What if you don't want to code in this manner? There are two basic things you can do. One is to use the CREATE SYNONYM SQL statement to make a pseudo table of sorts owned by the login or that is PUBLIC to interact with that table. The other option is to SET SCHEMA SQL statement to default the other SQL statements to using PUB as the table owner.

Gotcha! Be forewarned, that when you create SYNONYMs, they appear on some tools as a duplicate of the original table. They both refer to the same table and set of data, but appear twice. This happens noticeably in MS tools like Excel (see below for an example.)

Also note that table access must be GRANTED to users. This is a level of security not found in Progress 4GL oriented databases. Hence one can allows some users to interact with tables in a READ/WRITE/NO-ACCESS manner.

Become familiar with the SQL 92 Guide and Reference available on your documentation CD accompanying the media for your Progress installation. This is also available from the Progress web site.

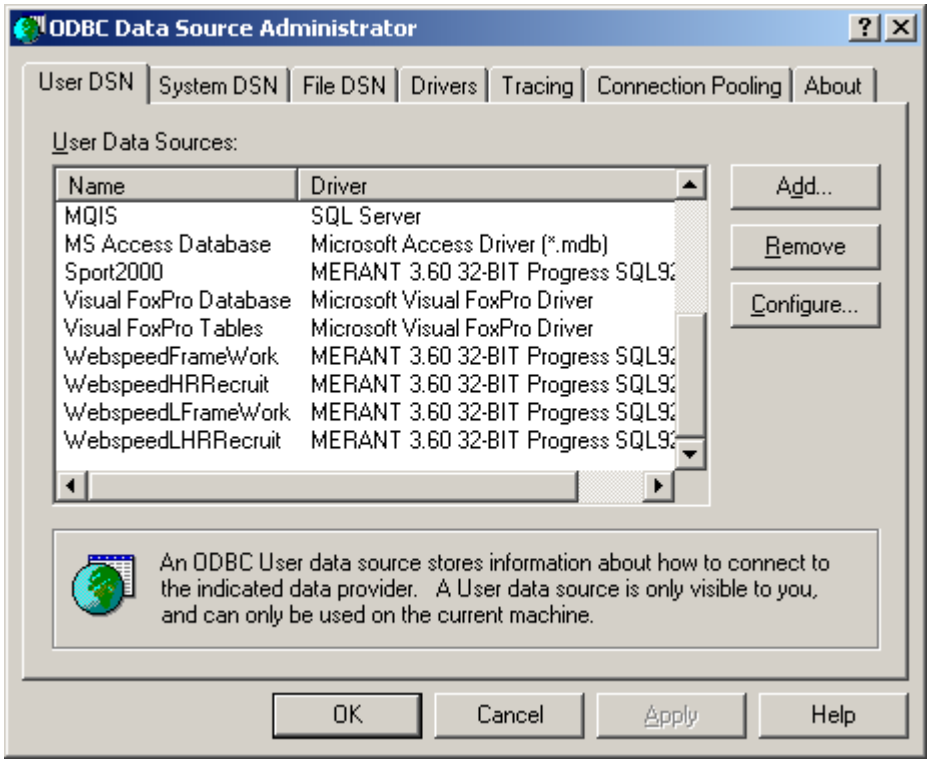
Installation on the Windows machine

On the Windows machine, there are a few steps to follow.

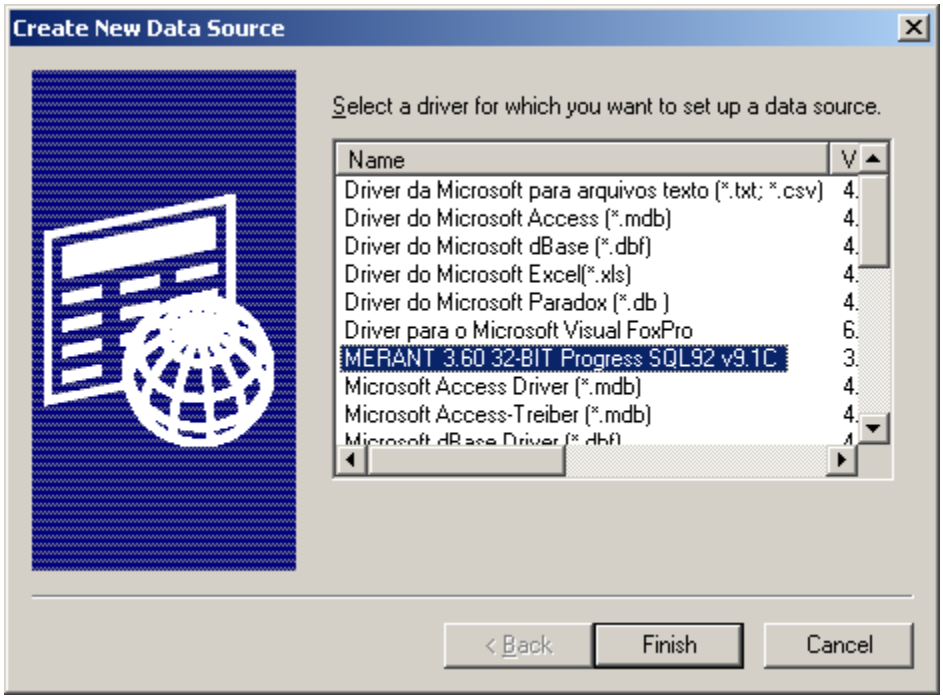
First you will need to install an ODBC driver. You can purchase it from progress directly, or by google-ing for ODBC and Progress, you can find some other drivers available for purchase. The particular driver I used came from Progress directly (The Merant Driver.)

Configuring an ODBC data source on the Windows machine

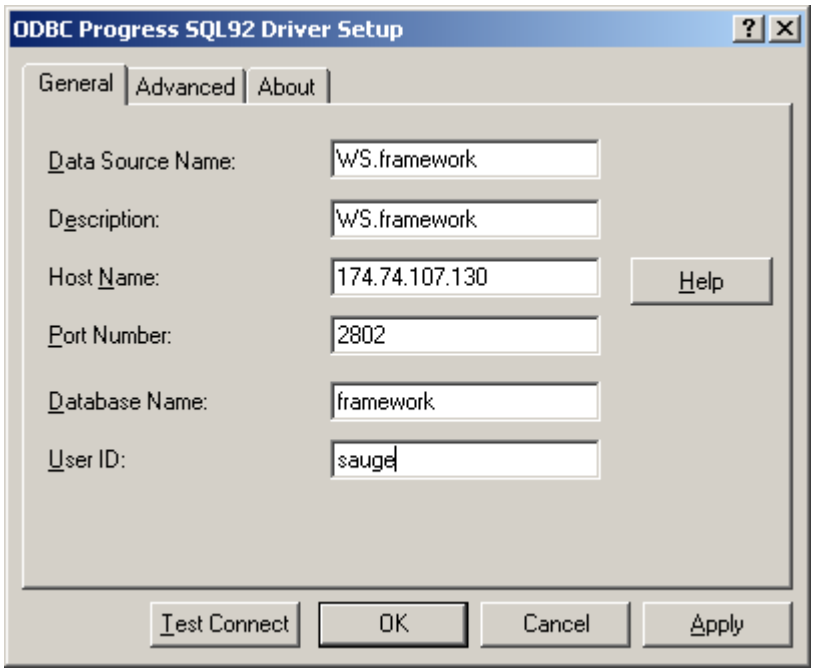
Once the driver is installed, you will need to define a data source. The steps to do this changes over different versions of windows. On Windows 2000, go into Administrative Tools and click on the ODBC data sources icon.



Once you do so, you will have the choice of creating a DSN (Data Source Name) – it basically a way to name the configuration of your databases and where to find them. One would click “Add” and look for the driver to connect and manipulate the data base with.

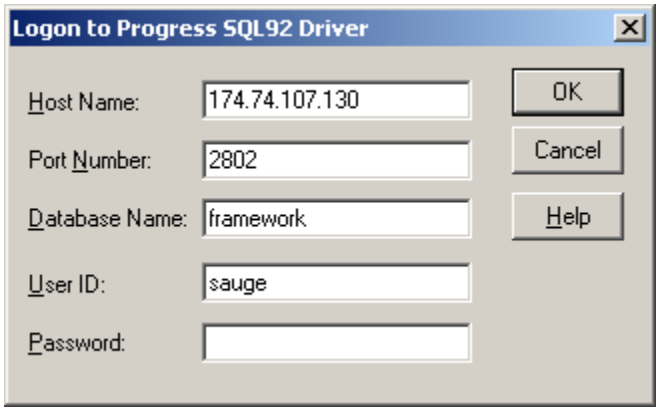


The above screen gives you a choice of which driver to use with the given data source. You will want to choose the Progress driver you previously installed. Other drivers simply will not work!



Once you have chosen the driver to use, you will need to provide information about which machine to find the database on, as well the port set up to locate it. Note that you can use a

number, or an entry in the services file. (Note that the services file tends to move around in different directories depending on the version of Windows you are using.)

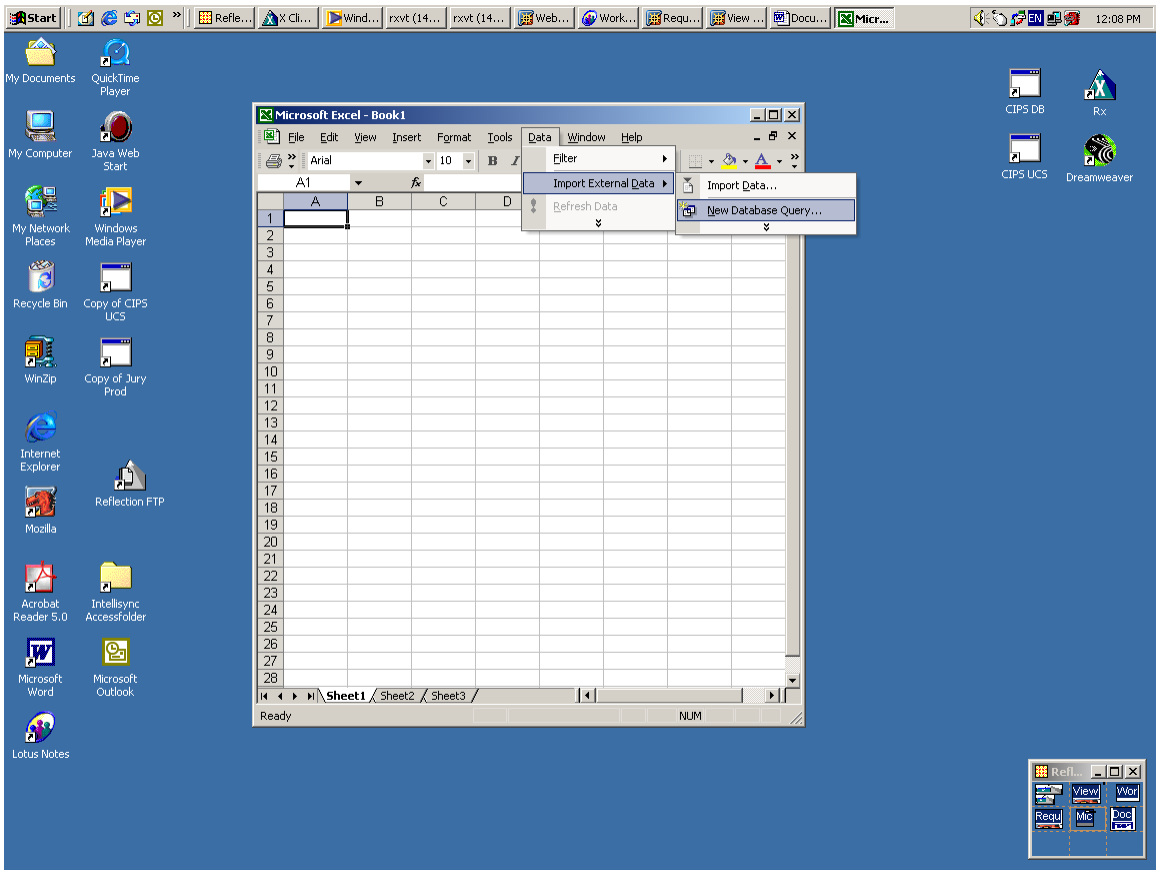


By clicking on Test Connection, you can make a connection to the database server. Hopefully you will receive the following dialog box stating you connected to it!

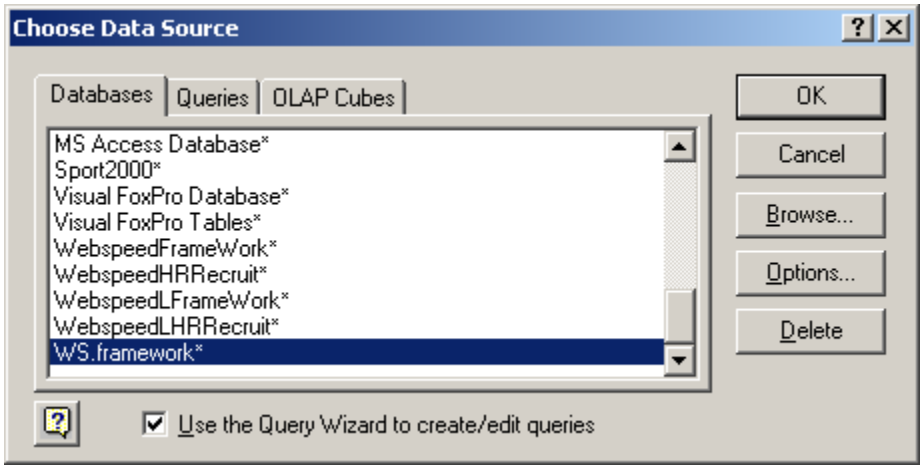
Using an Progress ODBC data source

Here is a simple use of the ODBC data source with Excel. One of the reasons why I choose Excel, is because almost everyone has it. Plus it is common to pull information out of a database and place it into an Excel spreadsheet.

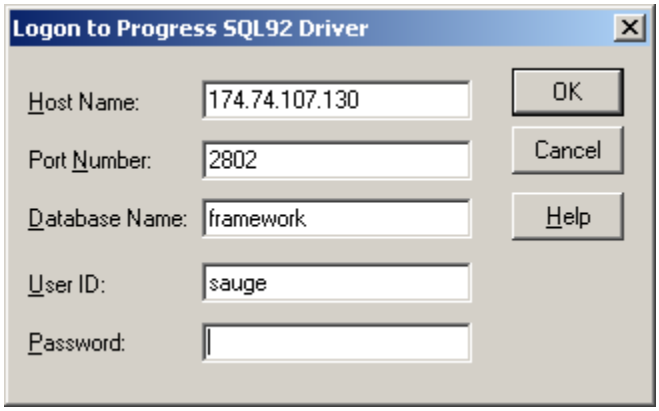
To access the database, you will need to use the Data menu item. By clicking as the image shows below, you can reach a point of interacting with the database.



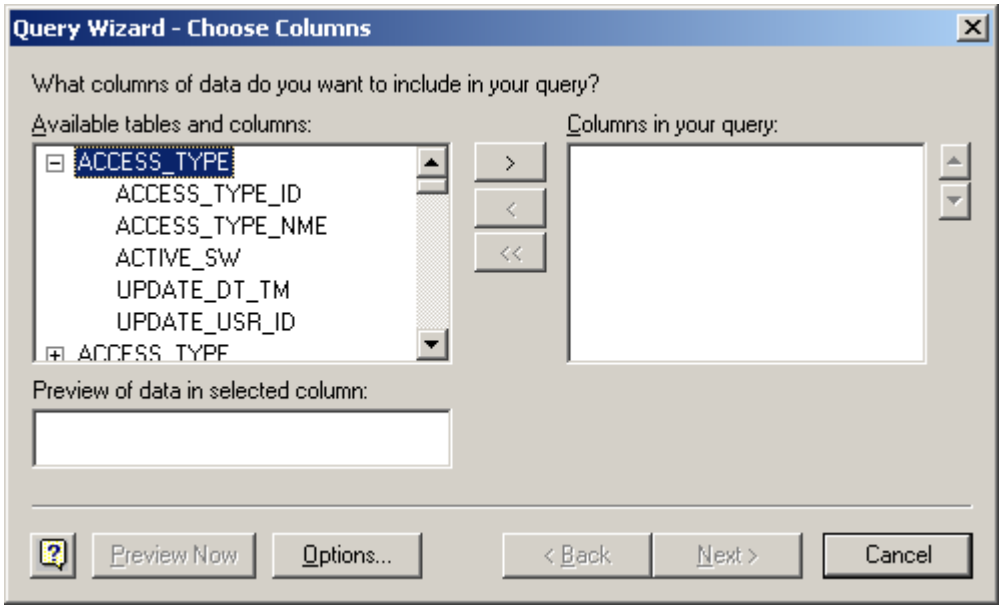
Once you choose a database query – you will need to define which database you want to interact with. You do this with the name of the ODBC connection you defined earlier.



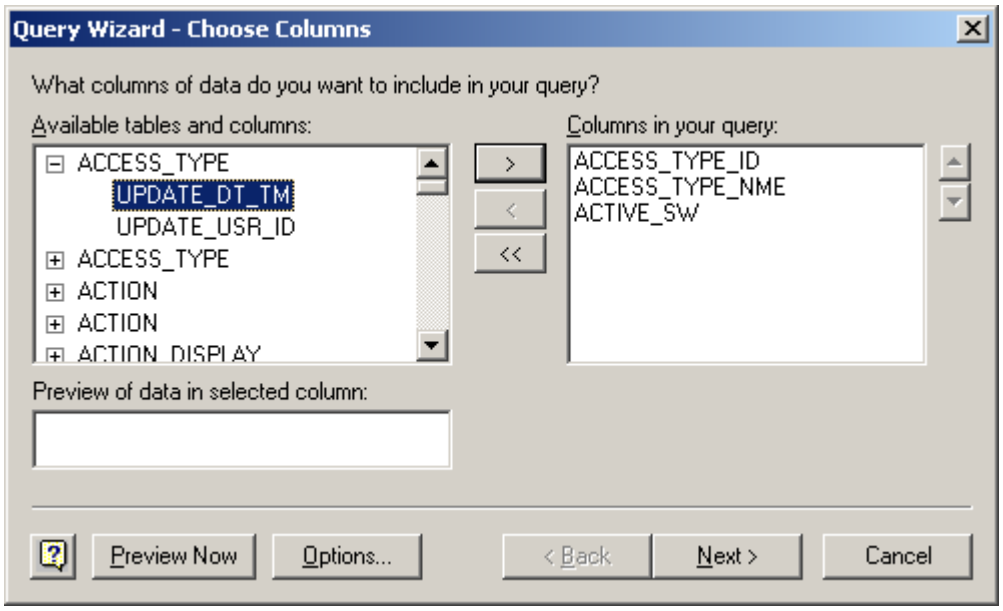
Excel will prompt you for a name and password to connect to the database with.



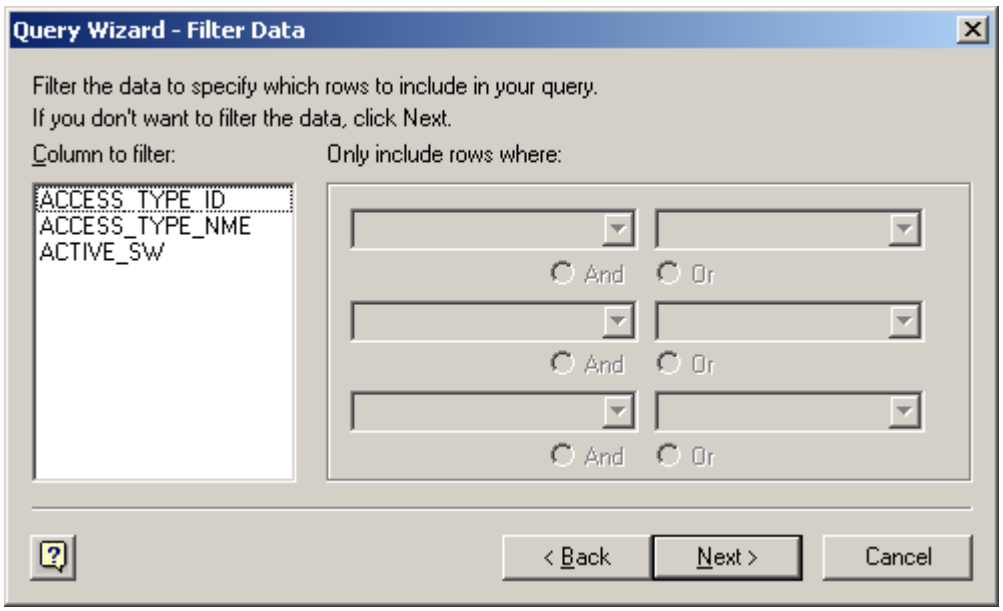
Once you have connected, Excel will bring up the tables your user has access to. By simply clicking you can choose which tables columns should be pulled into Excel.



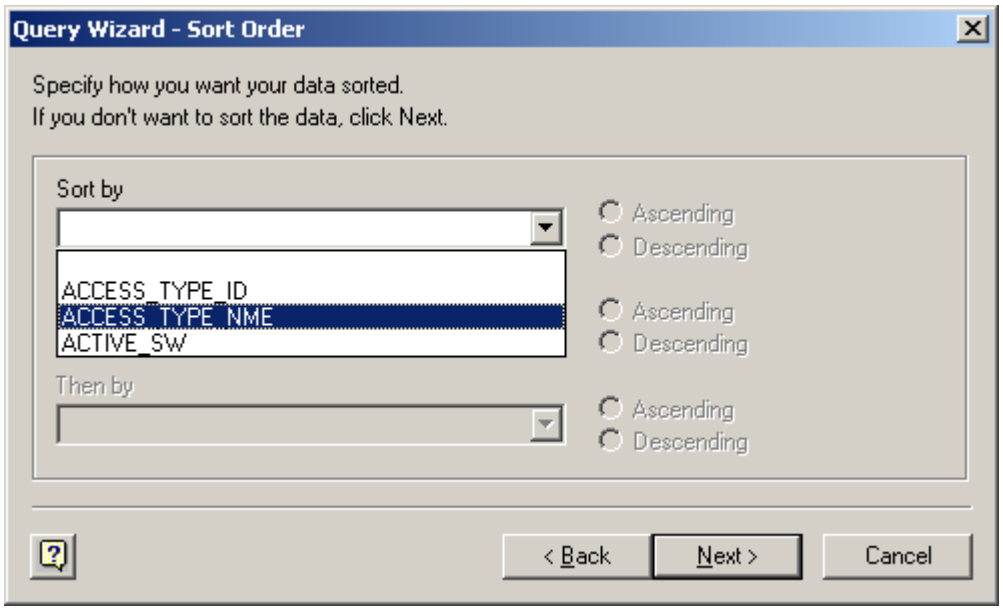
Note: Tables appear twice because of synonyms in the database.



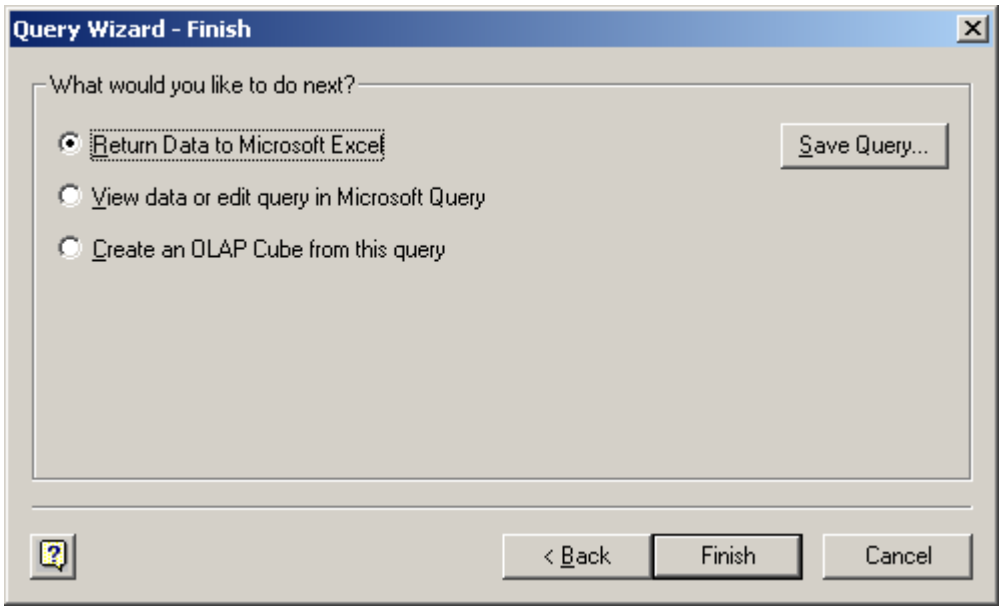
After you have the columns you wish to pulled in selected, you can filter which set of data is filled in. (This is a window that constructs the WHERE clause basically.)



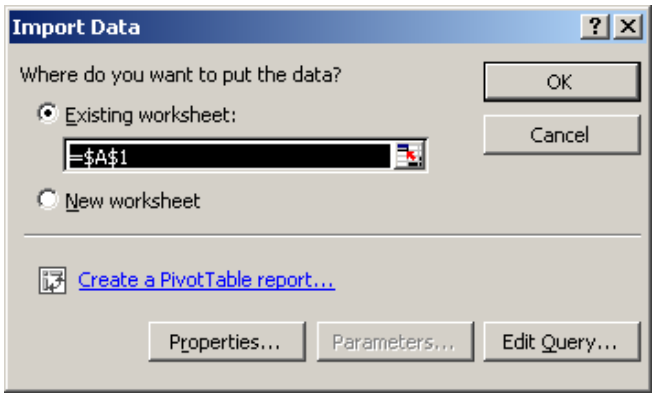
Once you have your filter define, Excel will prompt you to order the information. This pretty much makes the BY clause in the select.

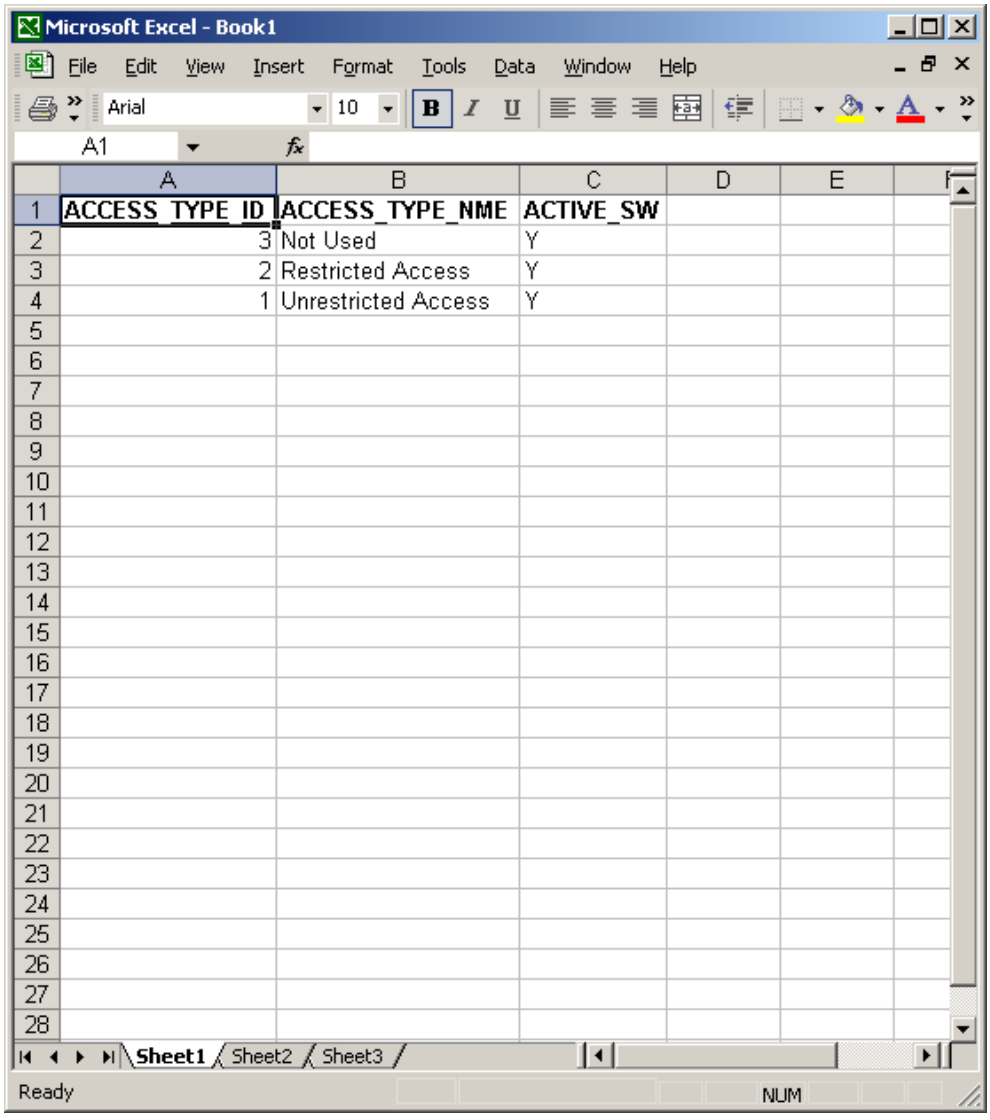


Next is to just yank it into the spreadsheet….



You define into which cell the data should start at. Note that each column will be a column in the spreadsheet.


Import Data
Where do you want to put the data?
OK
Existing worksheet:
=A1
Cancel
New worksheet
Create a PivotTable report...
Properties...
Parameters...
Edit Query...


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
Arial 10
A1
ACCESS_TYPE_ID ACCESS_TYPE_NME ACTIVE_SW
3 Not Used Y
2 Restricted Access Y
1 Unrestricted Access Y
Sheet1 Sheet2 Sheet3
Ready
NUM

Done deal!

Server Log

The .lg file associated with the database will include information associated with ODBC logins from other applications. This is the log file for a Linux installation of a Progress database server being connected to by a Windows ODBC oriented client.

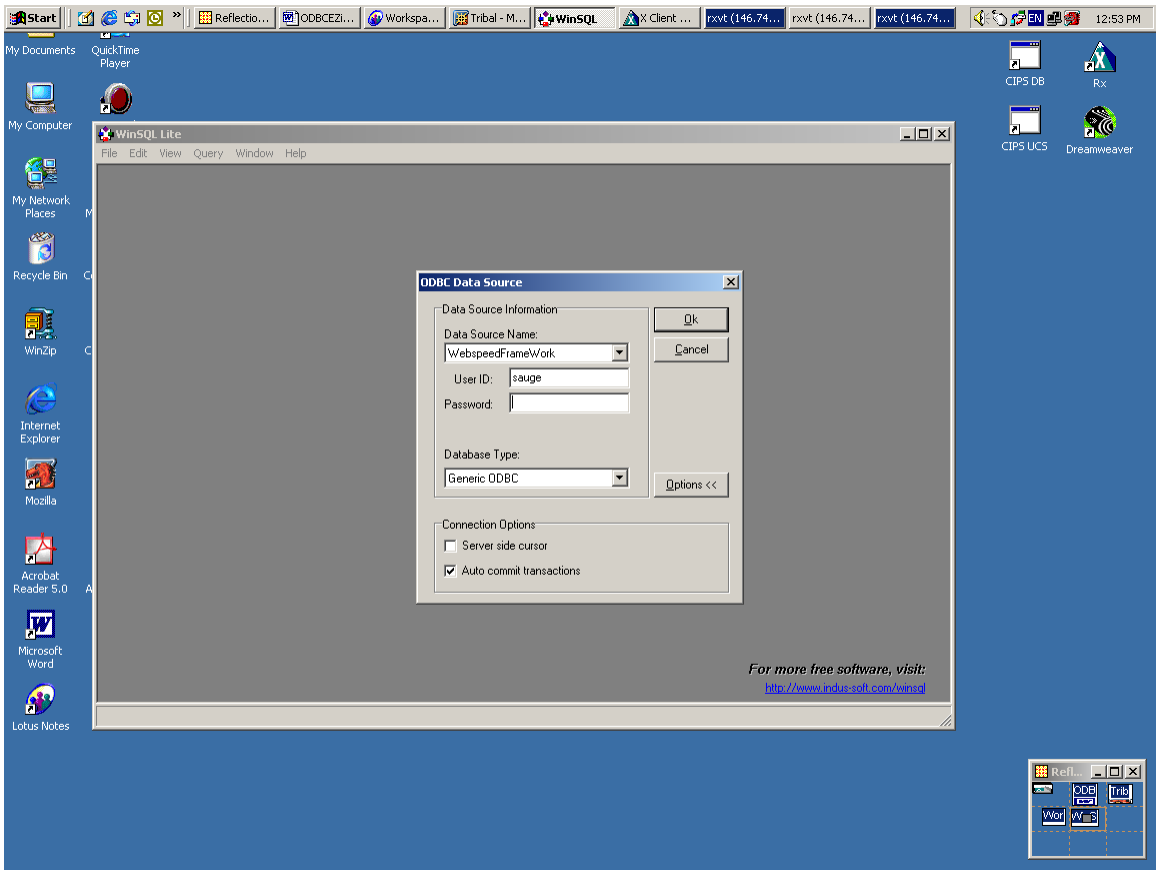
```
13:19:34 BROKER  0: Shared Library Path set to
LD_LIBRARY_PATH=/usr/java/jdk1.3.1_02/lib/i386:/usr/java/jdk1.3.1_02/jr
e/lib/i386:/usr/java/jdk1.3.1_02/jre/lib/i386/native_threads:/usr/java/
jdk1.3.1_02/jre/bin:/usr/java/jdk1.3.1_02/jre/lib/i386/classic::/usr/ws
rt/lib:/usr/wsrt/lib
13:19:34 SQLSRV2 2: SQL Server 9.1C.00 started, configuration:
"framework.virtualconfig"
13:19:34 SQLSRV2 2: "framework" started on port 1039, pid 28725
(0x00007035).
13:19:34 SQLSRV2 2: DLC from ENVIRONMENT VARIABLE is: /usr/wsrt
13:19:34 SQLSRV2 2: WRKDIR from ENVIRONMENT VARIABLE is: ./
13:19:34 SQLSRV2 2: JDKHOME from ENVIRONMENT VARIABLE is:
/usr/java/jdk1.3.1_02
13:19:34 SQLSRV2 2: JREHOME from ENVIRONMENT VARIABLE is:
/usr/java/jdk1.3.1_02
13:19:34 SQLSRV2 2: CLASSPATH from ENVIRONMENT VARIABLE is:
/usr/java/jdk1.3.1_02/lib/classes.zip:/usr/wsrt/java/progress.zip:/usr/
wsrt/java/sonicMQ/lib/client.jar:/usr/wsrt/java/sonicMQ/lib/jndi.jar:



13:19:35 SRV     2: Login usernum 24, remote SQL client. (8873)
13:19:35 SRV     2: Usr 24 set name to sauge. (7129)
```

Using WinSQL

When I was switching over from an MS Access database to a Progress database, Progress Support actually came in handy by recommending this software. It was on the “do at your own risk” list, but it worked!

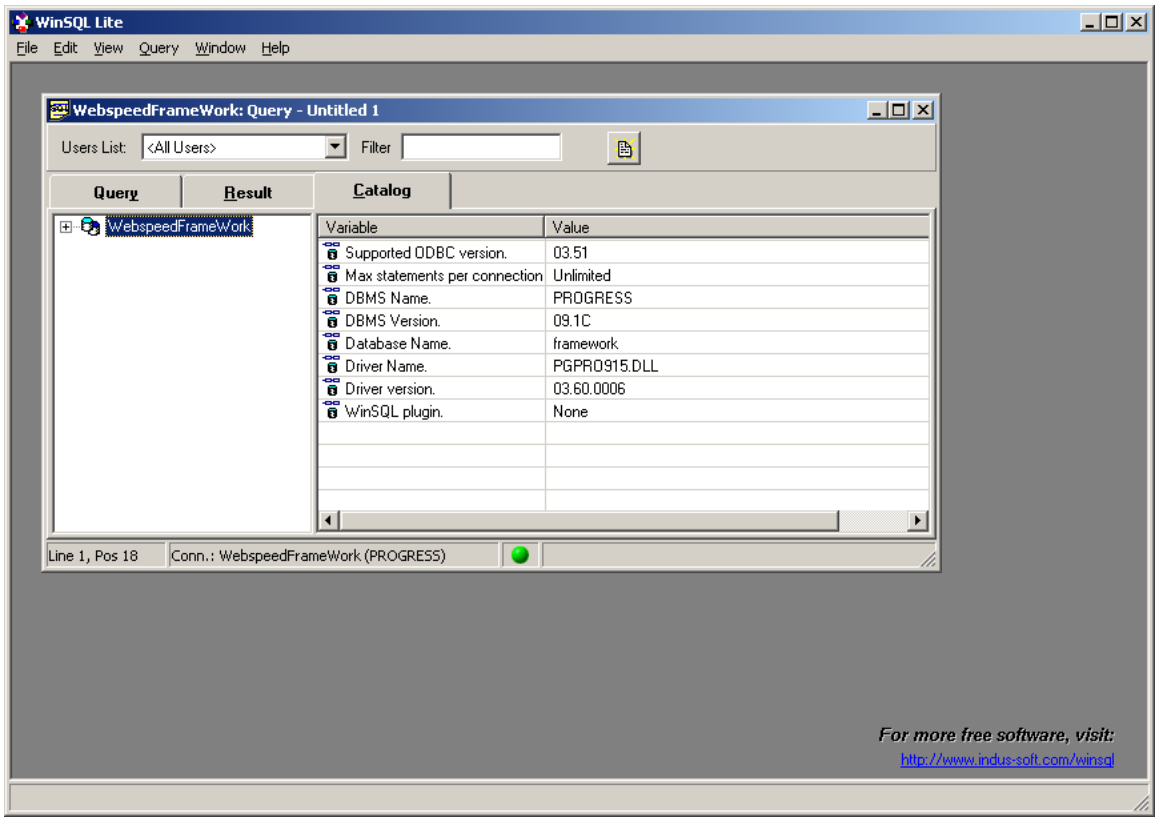
It is a simple but oh so useful piece of software – it lets you wander over the catalog of available tables, issue SQL commands, and to see the results of those commands – as well to browse the data in the database. Here is where you can pick up a freeware copy: http://www.indus-soft.com/SynametricsWebApp/WinSQL.jsp

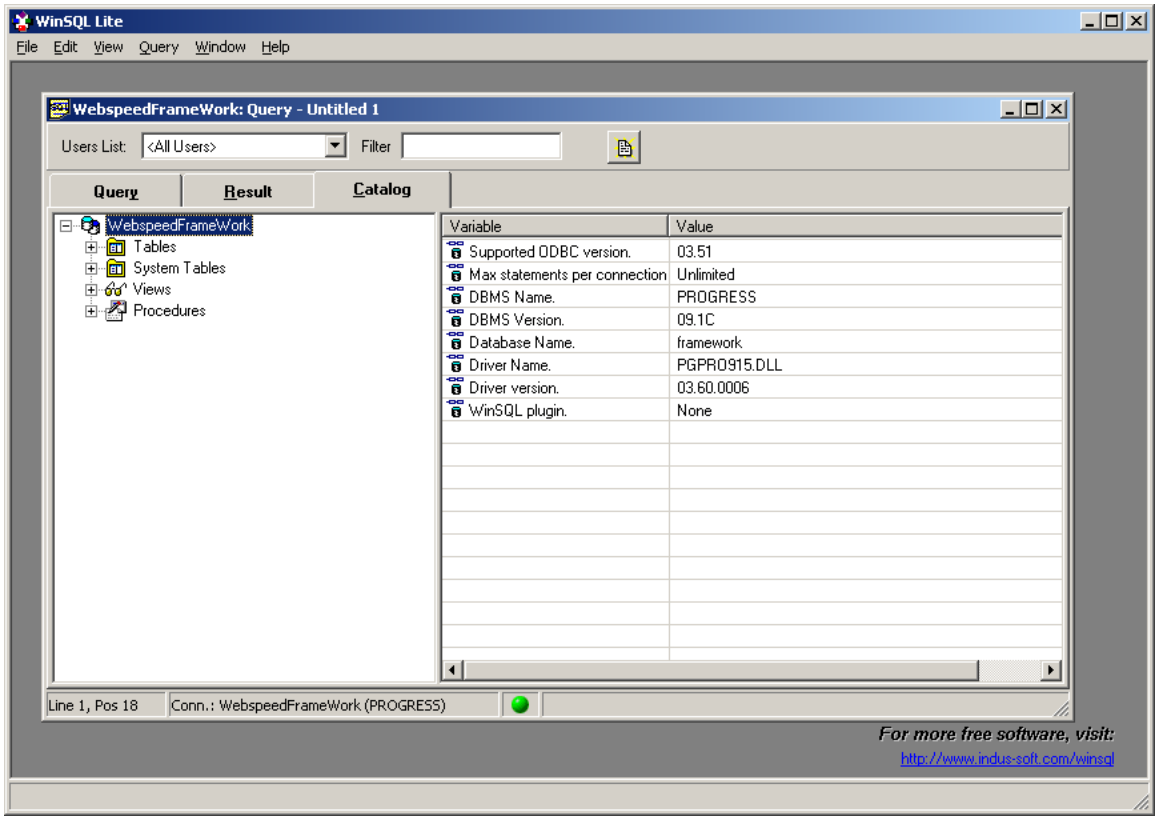
They have a for pay version also.



The first step is to once again identify which data source you want to access with the software.

The following are simple screen prints of the software that I hope are self-explanatory.


WinSQL Lite
File Edit View Query Window Help
WebspeedFrameWork: Query - Untitled 1
Users List: <All Users>
Filter
Query
Result
Catalog
WebspeedFrameWork
Variable
Value
Supported ODBC version.
03.51
Max statements per connection
Unlimited
DBMS Name.
PROGRESS
DBMS Version.
09.1C
Database Name.
framework
Driver Name.
PGPRO915.DLL
Driver version.
03.60.0006
WinSQL plugin.
None
Line 1, Pos 18
Conn.: WebspeedFrameWork (PROGRESS)
For more free software, visit:
http://www.indus-soft.com/winsql


WinSQL Lite
File Edit View Query Window Help
WebspeedFrameWork: Query - Untitled 1
Users List: <All Users>
Filter
Query
Result
Catalog
WebspeedFrameWork
Tables
System Tables
Views
Procedures
Variable
Value
Supported ODBC version.
03.51
Max statements per connection
Unlimited
DBMS Name.
PROGRESS
DBMS Version.
09.1C
Database Name.
framework
Driver Name.
PGPRO915.DLL
Driver version.
03.60.0006
WinSQL plugin.
None
Line 1, Pos 18
Conn.: WebspeedFrameWork (PROGRESS)
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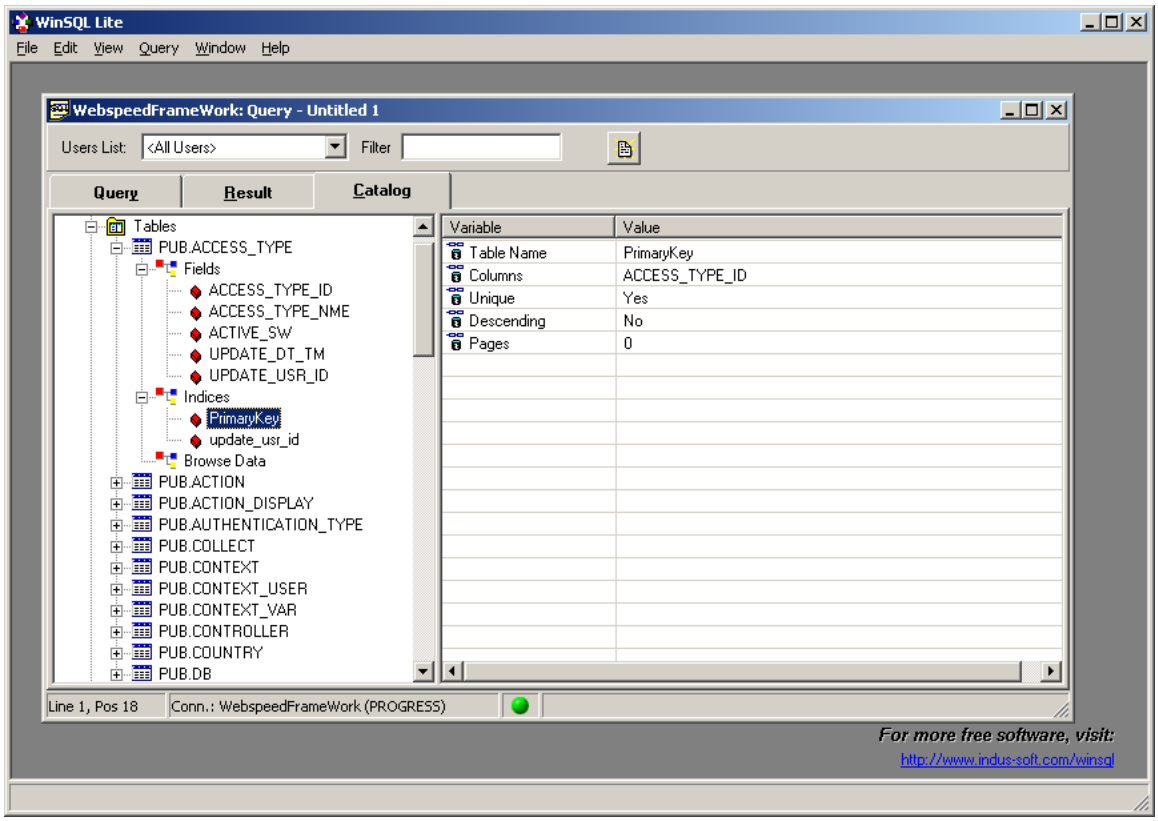
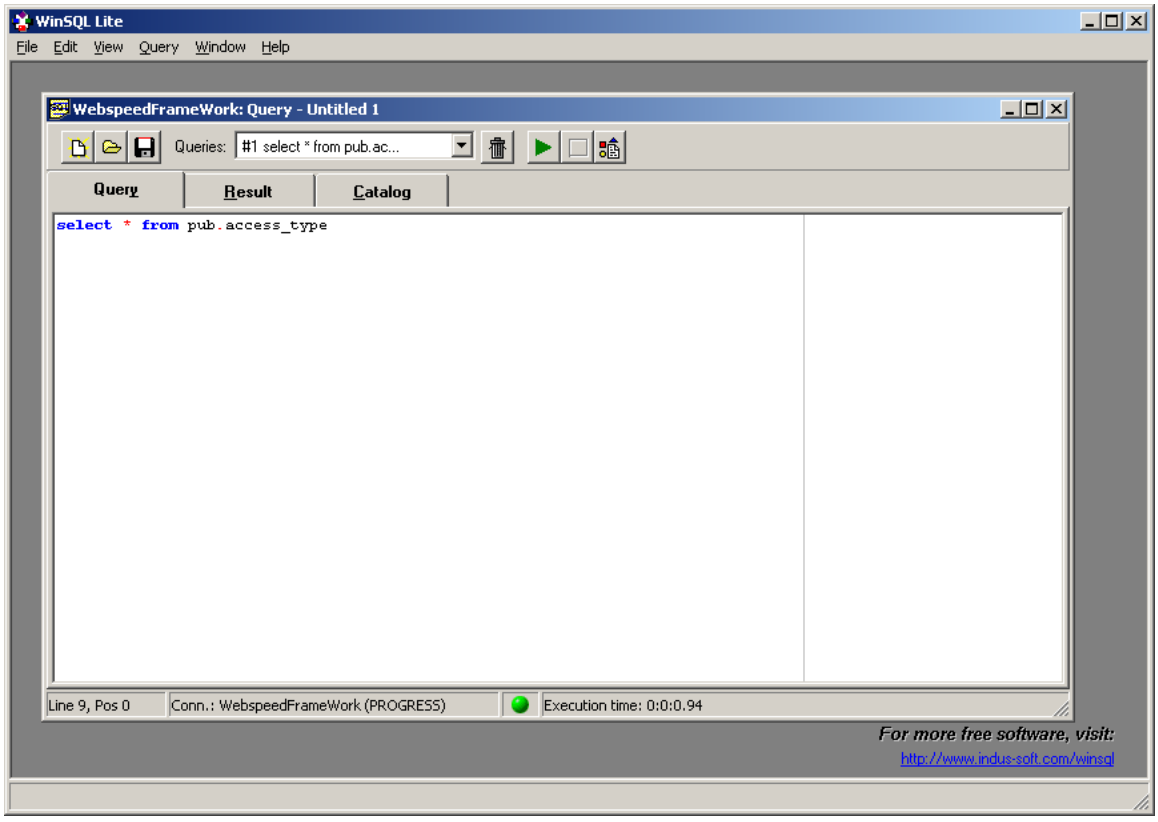
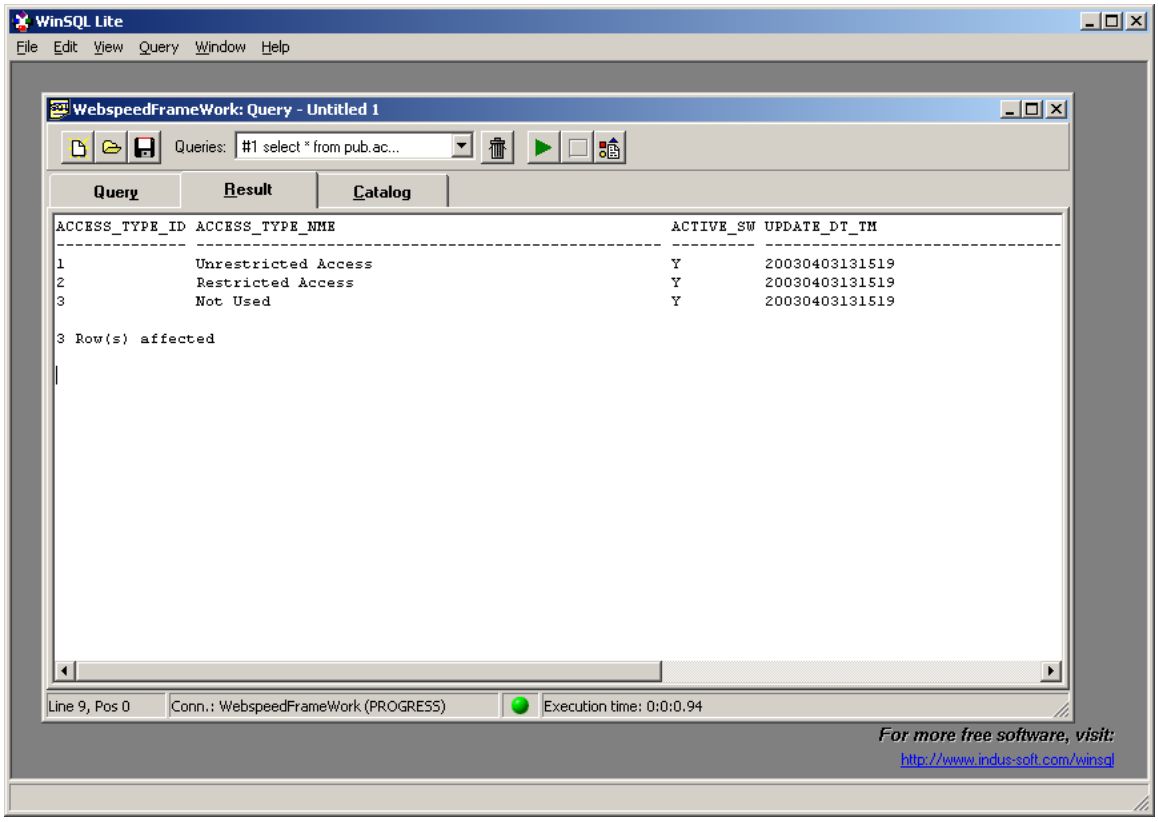

WinSQL Lite
File Edit View Query Window Help
WebspeedFrameWork: Query - Untitled 1
Users List: <All Users> Filter
Query Result Catalog
Tables
PUB.ACCESS_TYPE
Fields
ACCESS_TYPE_ID
ACCESS_TYPE_NME
ACTIVE_SW
UPDATE_DT_TM
UPDATE_USR_ID
Indices
PrimaryKey
update_usr_id
Browse Data
PUB.ACTION
PUB.ACTION_DISPLAY
PUB.AUTHENTICATION_TYPE
PUB.COLLECT
PUB.CONTEXT
PUB.CONTEXT_USER
PUB.CONTEXT_VAR
PUB.CONTROLLER
PUB.COUNTRY
PUB.DB
Variable Value
Table Name PrimaryKey
Columns ACCESS_TYPE_ID
Unique Yes
Descending No
Pages 0
Line 1, Pos 18
Conn.: WebspeedFrameWork (PROGRESS)
For more free software, visit:
http://www.indus-soft.com/winsql


WinSQL Lite
File Edit View Query Window Help
WebspeedFrameWork: Query - Untitled 1
Queries: #1 select * from pub.ac...
Query Result Catalog
select * from pub.access_type
Line 9, Pos 0
Conn.: WebspeedFrameWork (PROGRESS)
Execution time: 0:0:0.94
For more free software, visit:
http://www.indus-soft.com/winsql

Especially useful are the SQL statements. If you need to let loose a really bizarre SQL statement with lots of joins, you can get an idea how the database server is going to react. One can think of it as "the double bars" for SQL clients.



Coding Article: Passing Parameters To A Progress 4GL Program From The Operating System

By Scott Auge

A lot of times a programmer wants to be able to call a new Progress session with some parameters from the invocation. Doing so aids in allowing scripts or system administrators to more easily administer Progress applications via means they are familiar with.

Amduus Information Works, Inc. also provides documentation services! Scott Auge notes, "One of the things I have noticed throughout my contracting career is that companies with developed software always seem to be missing or weak on user documentation, administration documentation, and programmer documentation." Amduus can help you with this!

The only means the Progress client has to achieve getting information from the shell is the –param argument, or via environmental variables. The Param argument sends everything in one string that would need to be parsed if more than one argument is expected. If there are new values to add or values to remove, one needs to mess around with parsing. Add to that, there are limits to the size of information that is allowed in the –param argument.

This approach uses environmental variables. One wants to set variables right? Then one should use variables to set the variables. It is simply a transformation from shell variables into 4GL variables we are trying to achieve.

One approach to doing so is the script below. This script allows invoker to call it with some arguments set off by argument option flags:

```
BatDenkh.ksh -r "Report Name" -e "EmailAddress" -o "Arg1|Arg2"
```

This invocation makes a progress program more like the usual UNIX oriented programs one would see in such an environment.

The script below should be pretty obvious about how to use flags to identify the type of value that follows it, as well how to put that value into an environmental variable accessible to the 4GL.

```
#!/bin/ksh
# Batch program to run a report
# Program will run the report named, sending the arguments provided,
# to the email address provided.

# Call by:
# BatDenkh.ksh -r "Report Name" -e "EmailAddress" -o "Arg1|Arg2"

# Used to set DLC, PROPATH, etc.
. setenv.ksh

# Start setting command line args into variables
EMAIL=
export EMAIL
RPTNAME=
export RPTNAME
```

```
RPTARG=
export RPTARG

while getopts dr:e:o: C
do      case "$C" in
        r)      RPTNAME=$OPTARG;;
        e)      EMAIL=$OPTARG;;
        o)      RPTARG=$OPTARG;;
        d)      DEBUG=yes;;
        [?])    print >&2 "Usage: $0 -e Email -r ReportName -o
Options....";
                exit 1;;
        esac
done

if [ "$DEBUG" != "" ]
then
echo $EMAIL
echo $RPTARG
echo $RPTNAME
fi

$DLC/bin/_progres -p BatDenkh.p -pf /appl/parm/denkh.pf
```

Since we have translated the command line parameters into environmental variables, we can reach those parameters via the simple OS-GETENV() function available in the 4GL.

```
/* Code to pull the command line parameters into Progress 4GL Vars */

DEF VAR cEmail          AS CHARACTER NO-UNDO.
DEF VAR cRptArg         AS CHARACTER NO-UNDO.
DEF VAR cRptName        AS CHARACTER NO-UNDO.


ASSIGN
cEmail = OS-GETENV("EMAIL")
cRptArg = OS-GETENV("RPTARG")
cRptName = OS-GETENV("RPTNAME").
```

About the author: Scott Auge is the founder of Amduus Information Works, Inc. He has been programming in the Progress environment since 1994. His works have included E-Business initiatives and focuses on web applications on UNIX platforms.
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Publishing Information:

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Amduus provides support for the following applications: Blue Diamond, Denkh, Denkh HTML Reporter, Red Arrow Portal (CMS), Survey Express and other software.

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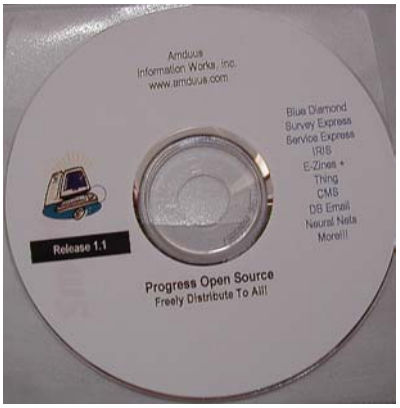

This is an offer for the CD-ROM at lower than list savings!
This is a great way to support the E-Zine too!

Mail this form to:
Amduus Information Works, Inc.
1818 Briarwood
Flint, MI 48507

Please send _____ copies of the Open Source CD-ROM at $25.00 per disk to:

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Please make your checks/money orders out to: Amduus Information Works, Inc. Cash works too!
This offer only valid in the United States of America.

The CD-ROM includes (all source code included):

- Blue Diamond/IRIS – Webspeed alternatives
- Survey Express – easily create text templates of surveys and then have the program generate the web pages automatically
- Service Express – Web based Help Desk.
- The Progress E-Zines, books on learning to program in Webspeed (PDF/Word/HTML)
- Denkh HTML Reporter – web based report writer
- CMS – a web content management system
- DB Email – Use pop3 to download emails into a Progress database
- Neural Networks – experiments in spam recognition and text message classification
- Denkh – create PDF file reports for Webspeed/UNIX CHUI!
- More!