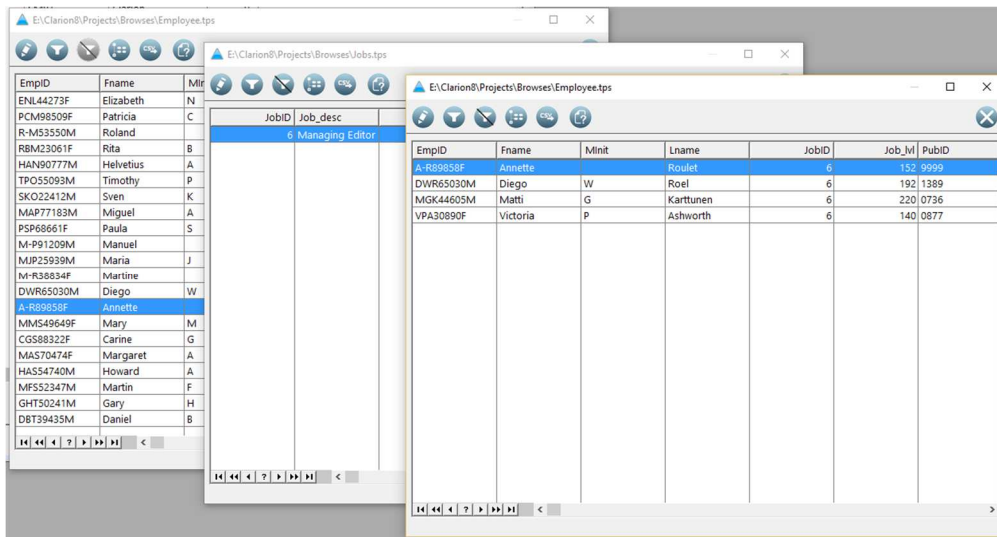


RELATIONAL BROWSE

Including Edit-on-the-spot



OCTOBER 6, 2018

PROPERDATA

www.properdata.co.za

Relational Browse – Beta 6

Relational Browse consists of a class and templates that allows any table defined in the dictionary to be browsed with a minimum or no coding. It can also browse tables related to a table according to the relations as defined in the dictionary. It supports tables with keys for all file drivers.

The class uses the standard ABC Browse class to generate a page loaded browse for all the columns in any table with a locator, column sorting and filtering.

This is not meant as an end-user tool but for development, debugging and support and access to this function should be limited for that purpose. It can be seen as TopScan built into any program.

Since it uses the ABC Browse and RelationManager classes, it can only be added to applications using the ABC template chain. It can however be implemented in an ABC DLL and linked into a legacy (Clarion) template application.

It is available for Clarion version 6.3 and upwards and contains only source, no DLL or EXE's.

Download

Clarion 6 <http://www.properdata.co.za/RelationalBrowse/SetupRelationalBrowseC6.exe>

Clarion 7 + <http://www.properdata.co.za/RelationalBrowse/SetupRelationalBrowse.exe>

Setup

The setups assume the default destination folder for the different versions of Clarion. Select you own folder if necceary. A second prompt will ask for the examples folder for Clarion 7 + :

Clarion 6 C:\Clarion6\3rdParty\

Installing files into:

C:\Clarion6\3rdParty\Template

c:\Clarion6\3rdParty\libsrc

c:\Clarion6\3rdParty\images

c:\Clarion6\3rdParty\examples\ Properdata\RelationalBrowse\

Clarion 7 + C:\ClarionXX\accessory

Installing files into:

C:\ClarionXX\accessory\libsrc\win

C:\ClarionXX\accessory\template\win

C:\ClarionXX\accessory\images

Examples into:

c:\ClarionXX\accessory\Properdata\RelationalBrowse\

Relational Browse – Beta 6

The following files will be installed:

Libsrc	BrowseAnyTable.txa	
	proattr.clw	proattr.inc
	proBrowse.clw	proBrowse.inc
	probrowsequeue.clw	probrowsewindow.clw
	proDct.clw	proDct.inc
	proFont.clw	proFont.inc
	proOneTimePassword.clw	proOneTimePassword.inc
	proQ.clw	proQ.inc
	proRecordEdit.clw	proRecordEdit.inc
	proResize.clw	proResize..inc
Template	pduutil.tpl	
Images	browseboxoff.ico	browsehelp.ico
	browseboxon.ico	browseinsert.ico
	browsecancel.ico	browseopen.ico
	browsecancelfilter.ico	browserelated.ico
	browsechange.ico	browsesort.ico
	browseclose.ico	browsetools.ico
	browsedelete.ico	browseexport.ico
	browseedit.ico	proDct_parent.ico
	browsefilter.ico	proDct_select.ico
	browsefindactive.ico	PDUtilLogo.bmp
	browsefind.ico	

Activate

Register the template **pduutil.tpl** found in the template folder. The new templates will be found under *Properdata Utilities* when selecting an extension.

Add to an ABC application

There are three ways to add it to an ABC application

1. Add it to the Data-DLL APP in a multi-dll program and export the procedure to access it from the EXE or other dll's. This is the preferred method since all the tables are automatically available
2. Add to an EXE or DLL APP but check the setting *Generate all file declarations* under *Global Properties, File Control* or indicate in the procedure extension to generate only for files referenced in the app. *See below if BrowseAnyTable is added to the EXE or a DLL other than the data DLL in a multi-dll project*
3. Create a standalone browser APP, checking the same setting as in 2.

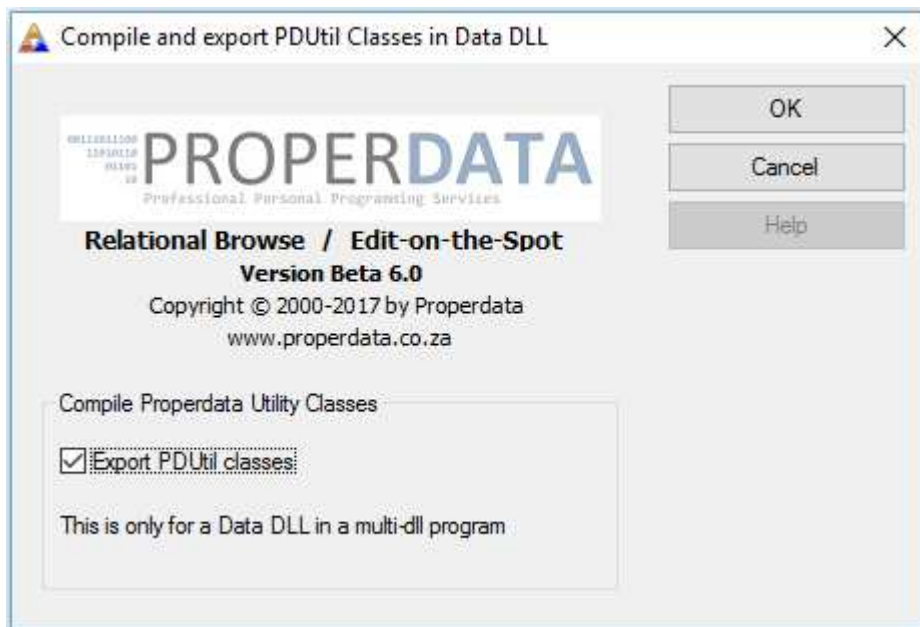
Relational Browse – Beta 6

Incorporating it in the program, with the necessary access control, have the benefit that it is always available from the menu or any other procedure and is compiled automatically for any change in the dictionary.

Multi-dll projects

Previously the classes were automatically compiled and exported for any data DLL and to prevent that, the global extension *Suppress Properdata Utility Classes* had to be included. From Beta 6 onwards, the classes are not ABC compliant and have to be explicitly activated. This can be done in two ways:

1. Add the *Global Browse Any Table* extension to the data DLL
2. Add the *Compile and export PDUtil Classes in Data DLL* extension to the data DLL. This is necessary only if the first option was not selected and the *BrowseAnyTable* or *Edit-On-The-Spot* extension will be activated in the EXE or DLL's **other than** the data DLL



Option 1 is the preferred method, but if you selected option 2, the following applies:

The *Global Browse Any Table* extension generates the Window and Queue declarations (*probrowsewindow.clw* and *probrowsequeue.clw*) from the dictionary and the extension settings. If the extension is not in the data DLL, the data DLL have to be compiled as a last step to ensure that the latest versions of these generated files are compiled for the class.

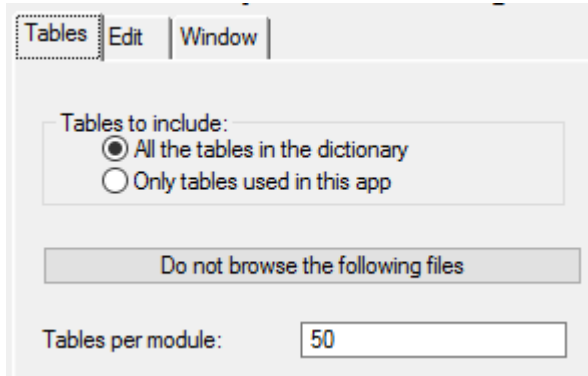
Relational Browse – Beta 6

How to add Browse Any Table to an APP

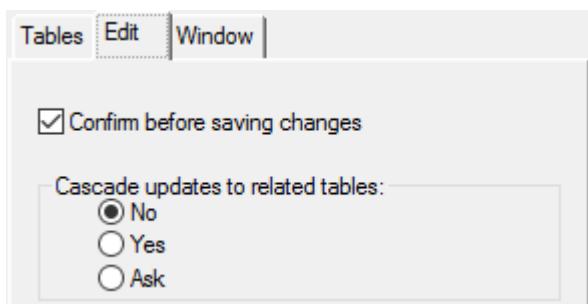
It only need three steps to add to an APP.

1. Add the global extension (*Global Browse Any Table*) – change any settings if necessary
2. Import the BrowseAnyTable TXA file – change any settings if necessary
3. Add to the menu

1. Global Extension



- | | |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Tables to include | Set it to <i>All the tables in the dictionary</i> only if <i>Generate all file declarations</i> is set in Global Properties for the app |
| Do not browse the following tables | Exclude individual tables, for instance Memory files in the case of a standalone browser |
| Tables per module | To accommodate large dictionaries, the generated table definition code can be spread over several modules. Set the number of tables per module here |



- | | |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Confirm before saving changes | If this is 'On': Click on <i>Save</i> and you will be prompted for confirmation in case of any changes
If this is Off: Click on <i>Ok</i> and changes will be saved automatically |
| Cascade updates to related tables | Default action when editing records:
No – Only change the record
Yes – Change record and cascade to related tables
Ask – Confirm changes with <i>Yes</i> or <i>Cascade</i> |

Relational Browse – Beta 6

Tables | Edit | Window

Number of columns:
 All
 Limited

Number of columns: 100

Virtual RestoreHeaderText

Maximum column size: 64

MDI Window
 Flat list box

Window width: 530
Window height: 318

Number of columns Since this class make use of the standard ABC Browse class it needs a Window and Queue. The template constructs a Window and Queue for the class with the greatest number of columns for the tables in the dictionary.

If that maximum number of columns is very high (500 +), the opening and closing of the browse window may be delayed. This is due to the RestoreHeaderText method in the SortHeaderClass (see BRWEXT.CLW)

Limiting the number of columns to display or switching off column sorting (see procedure extension) will speed up the opening / closing of the window or see next setting

Virtual RestoreHeaderText See *Fix for slow RestoreHeaderText* at the end of the document

Maximum column size This sets the maximum number of characters that will be displayed in the browse for any column. Editing the column have no restrictions

MDI Window Set the browser windows to be MDI. This can only be done if the BrowseAnyTable procedure is started from an Application Frame and is also set to MDI. The buttons on the toolbar will display on the toolbar of the frame

Flat list box Add the FLAT attribute to the browse list box

Window Width The default (and minimum) width of the browse windows is set to 430 dialog units and may be increased. To find your ideal window size, resize the window and see the size as displayed by the *Show Info* button discussed later in this document

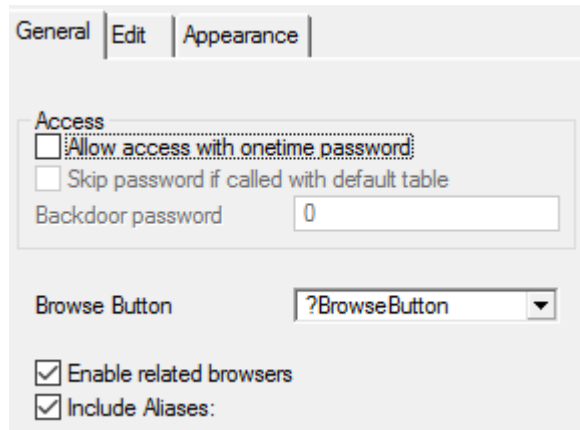
Relational Browse – Beta 6

Window Height

The default (and minimum) height of the browse windows is set to 258 dialog units and may be increased

2. Import TXA – Procedure Extension

Import the **BrowseAnyTable.txa** file from the libsrc folder and review the settings in the procedure extension:



Allow access with onetime password

Access to this function should be controlled to guard against unauthorized changes to the database. This can be done with the user access functions built into this APP or by using the onetime password class. See description later in this document

Skip password if called with default table

If BrowseAnyTable is called with a default table, it will normally be as part of a debugging exercise and not a part of the normal functioning of the program. Check this to skip the onetime password in that case

Backdoor password

Set this to gain access to this function without the need to generate a onetime password

Enable related browsers

Disable this only if you do not need to browse tables related to the table being browsed
If the Tables to include are set to *Only tables used in this app*, the related browsers will only be created for files in that app

Include Aliases

Enable if tables are related to alias files and related browsers are enabled

Relational Browse – Beta 6

General | **Edit** | Appearance

Edit Actions

- Insert
- Change
- Delete

Confirm before saving changes

Cascade updates to related tables:

- No
- Yes
- Ask

Edit Actions

Insert, Change and Delete are all optional

Confirm before saving changes

If this is 'On': Click on *Save* and you will be prompted for confirmation in case of any changes

If this is Off: Click on *Ok* and changes will be saved automatically

Cascade updates to related tables

Action when editing records:

No – Only change the record

Yes – Change record and cascade to related tables

Ask – Confirm changes with *Yes* or *Cascade*

NB. If Edit-In-Place is selected, updates will always be cascaded

General | Edit | **Appearance**

- Open maximized
- Hide after selection
- Save selection
- Enable column sorting
- Grid on
- Warn if more than maximum number of columns

Line height:

Column width:

File loaded maximum:

Open maximized

The browse Window can be resized and maximized but will normally open not maximized

Hide after selection

Hide the table selection window after a table was chosen

Save selection

Remember the last table browsed

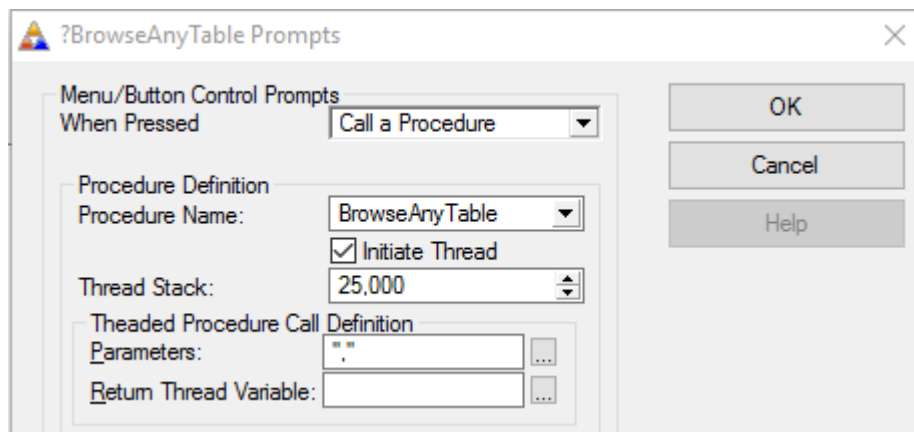
Enable column sorting

See number of columns in the global extension

Relational Browse – Beta 6

Grid on	Draw a grid line in the list box
Warn if more than maximum number of columns	See number of columns in the global extension
Line height	Set the line height in the list box for readability
Column width	Standard width that string fields will initially be displayed. The column width for non-string variables will be set to the maximum width of the column heading or formatted value. Columns can be dragged wider and the widths will be remembered
File loaded maximum	For the total number of records in the table up to this limit, a file-loaded browse will be used. Above the limit a page-loaded browse

3. Add to the menu

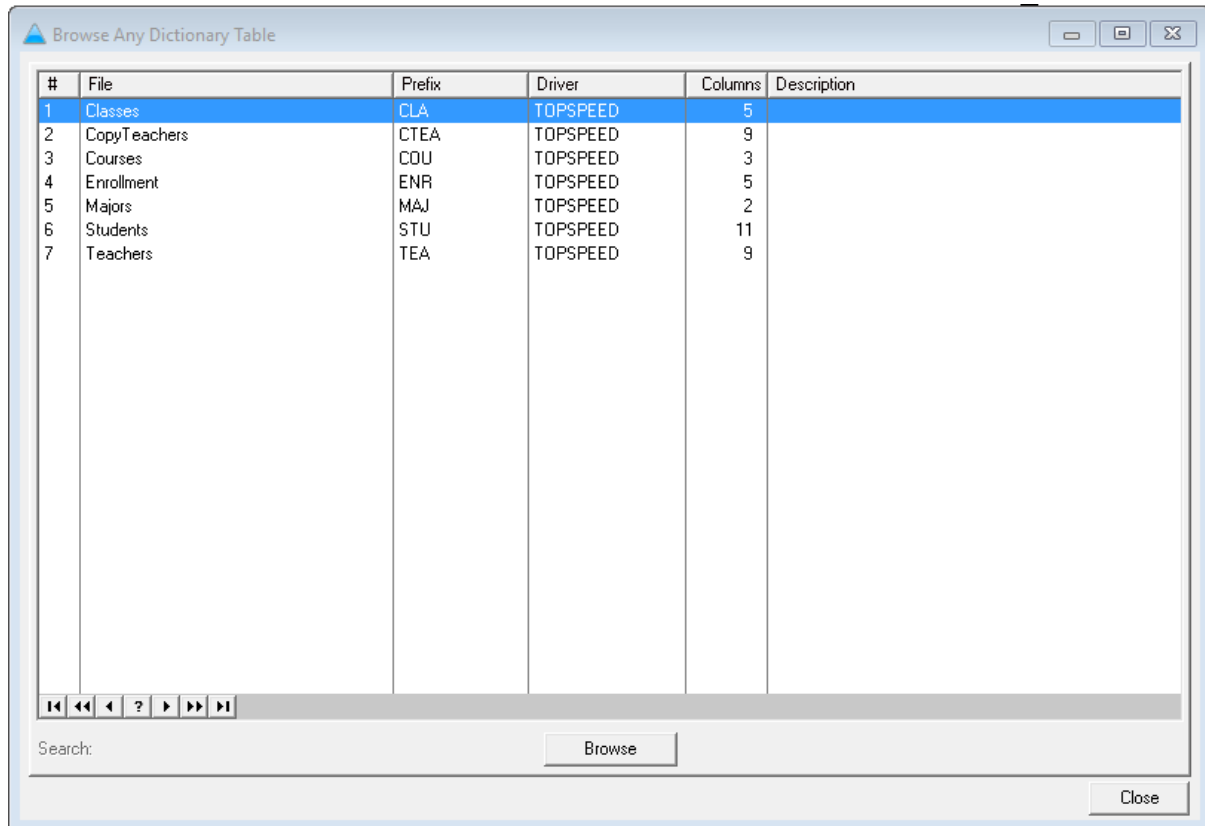


- If the procedure is called from a MDI frame, check *Initiate Thread*.
- If the procedure is not called from a MDI frame, uncheck the *MDIChild* property of the Window in the BrowseAnyTable procedure.
- The parameters should be set to two blank strings. See the optional use of the parameters below.

Relational Browse – Beta 6

Using the BrowseAnyTable procedure

The TXA creates the following interface to select and browse any dictionary table.



- This is a standard Window template and the size and font or any aspect of the appearance can be modified.
- The default name for the procedure is BrowseAnyTable. The name may be modified.
- The procedure takes two parameters. The first which when blank show this interface and when containing a table name, opens the browse window for the table as seen next. The second can be a filter statement if the first is a table name
- To make locating tables in a large dictionary quicker, a locator-like search function is available. Just start typing characters contained in table names and the list cursor will move to that table. Other keys to use:

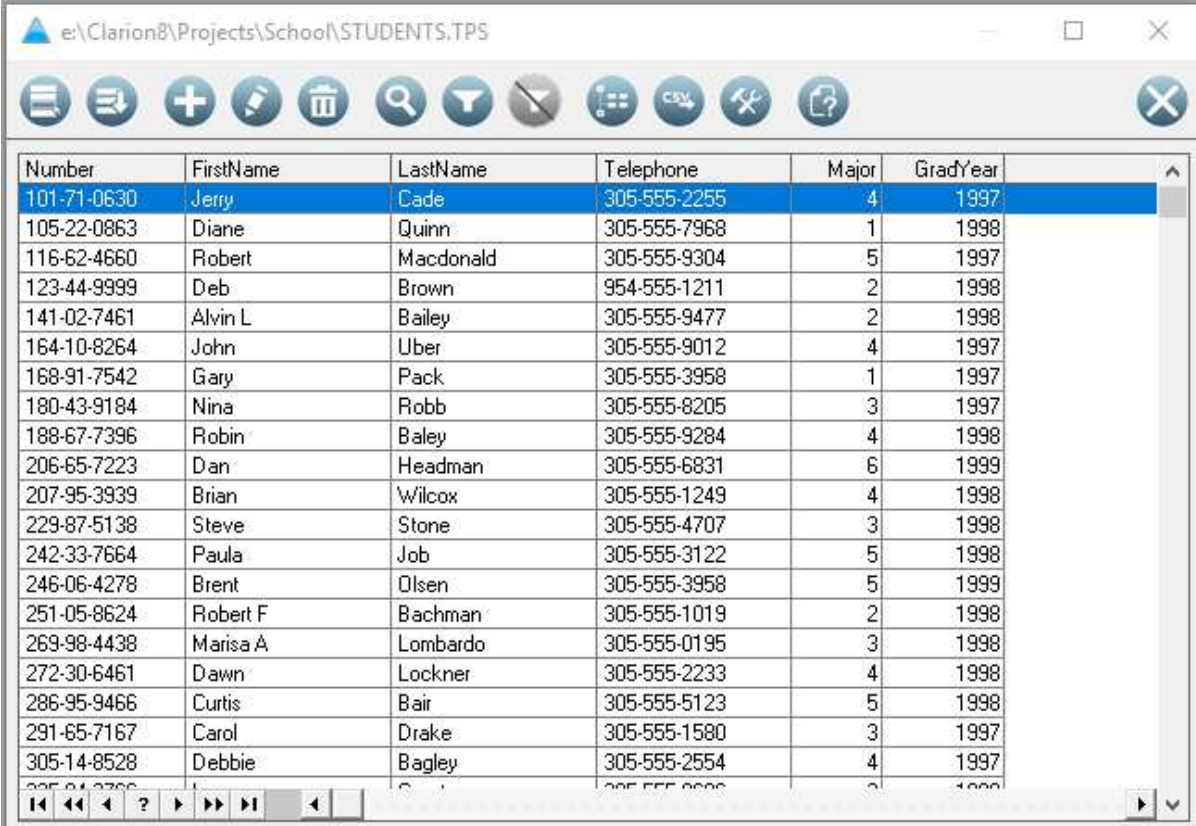
Backspace Remove the last character in the search string

F3 Go to the next table name containing the search string

Ctrl-Home Clear the search string and go to the first table

Relational Browse – Beta 6

Click **Browse** to open a table:



Number	FirstName	LastName	Telephone	Major	GradYear
101-71-0630	Jerry	Cade	305-555-2255	4	1997
105-22-0863	Diane	Quinn	305-555-7968	1	1998
116-62-4660	Robert	Macdonald	305-555-9304	5	1997
123-44-9999	Deb	Brown	954-555-1211	2	1998
141-02-7461	Alvin L	Bailey	305-555-9477	2	1998
164-10-8264	John	Uber	305-555-9012	4	1997
168-91-7542	Gary	Pack	305-555-3958	1	1997
180-43-9184	Nina	Robb	305-555-8205	3	1997
188-67-7396	Robin	Baley	305-555-9284	4	1998
206-65-7223	Dan	Headman	305-555-6831	6	1999
207-95-3939	Brian	Wilcox	305-555-1249	4	1998
229-87-5138	Steve	Stone	305-555-4707	3	1998
242-33-7664	Paula	Job	305-555-3122	5	1998
246-06-4278	Brent	Olsen	305-555-3958	5	1999
251-05-8624	Robert F	Bachman	305-555-1019	2	1998
269-98-4438	Marisa A	Lombardo	305-555-0195	3	1998
272-30-6461	Dawn	Lockner	305-555-2233	4	1998
286-95-9466	Curtis	Bair	305-555-5123	5	1998
291-65-7167	Carol	Drake	305-555-1580	3	1997
305-14-8528	Debbie	Bagley	305-555-2554	4	1997

Driver: TOPSPEED Prefix: STU Size in bytes: 1,081,856 Number of records: 81 Record length: 130 Number of columns:

- Columns will be formatted per the picture in the dictionary and the columns names (excluding the prefix) used as column headers.
- The primary key will be used as the default sort sequence. If no primary key is defined, the first unique key. If no unique key, the first key defined for the table.
- The font type and size will be the same as the window from the calling procedure
- The window may be resized or maximized. It may open maximized, see template setting
- If the window is resized, the size will be remembered for the current session only
- Buttons on the toolbar



Select another table to browse



Sort records per keys












Insert a record



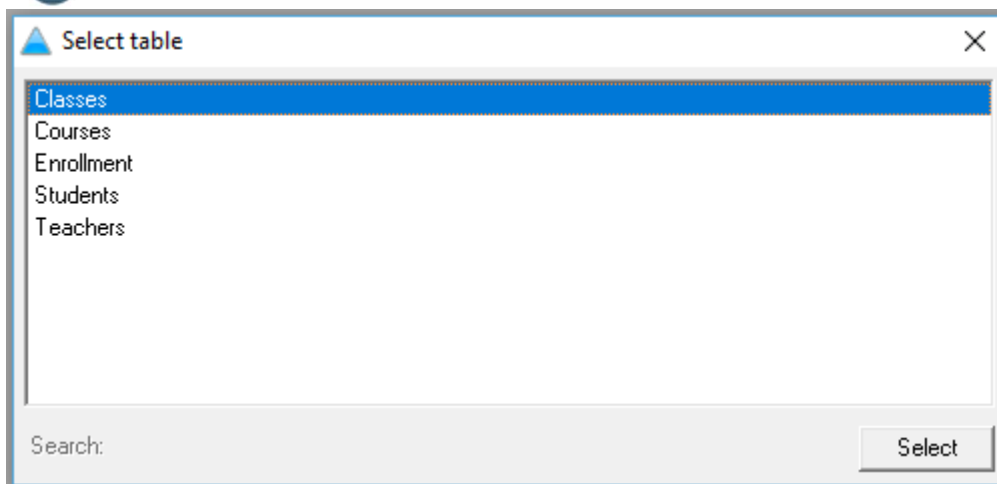
Edit the current record (or use the standard mouse double-click or keyboard Enter-Key). Only columns not hidden will be presented for change

Relational Browse – Beta 6

-  Delete a record
-  Find and Replace
-  Set filter either by writing Clarion statements or using the advanced QBE list filter class
-  Reset filter
-  Browse related tables
-  Export to CSV, XML or JSON
-  Tools
-  Show file info
-  Close the window



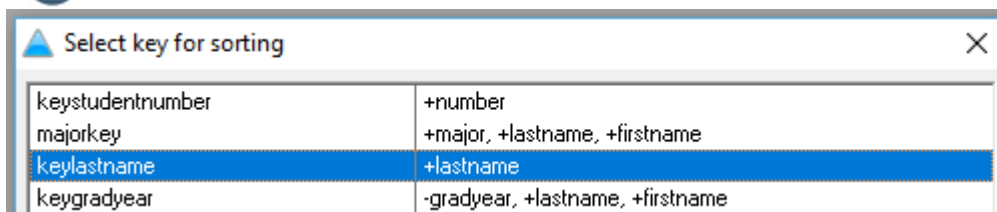
Select another table



- A new window is opened for the other table without closing the current browse
- Use the same locator-like search as implemented at the BrowseAnyTable window



Sort per keys



- Select a sort order from the list of keys defined for this table

Relational Browse – Beta 6



Insert a new record

- The record will be primed per dictionary settings
- Auto numbers will be set per the dictionary settings
- Unlike the Edit functions, all columns will be available even if they are hidden



Edit

Column	Value
Number	101-71-0630
FirstName	Jerry
LastName	Cade
Address	
Address2	PH 1
City	Lighthouse Point
State	FL
Zip	33227
Telephone	305-555-2255
Major	4
GradYear	1997

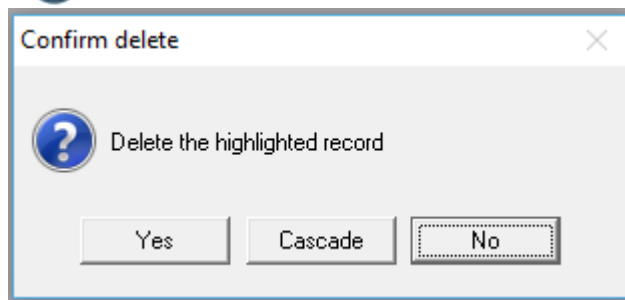
Export Save Cancel

Column 1 / 11 LONG Size: 4 Picture: @P###-##-####P

- The Edit-On-The spot class is included to examine or change records
- Only columns not hidden will be available to edit. See *Hide columns* and *Reset columns* under the Tools options
- ~~Not available for tables without a unique key~~ Can edit tables with non-unique keys from beta 5

Relational Browse – Beta 6

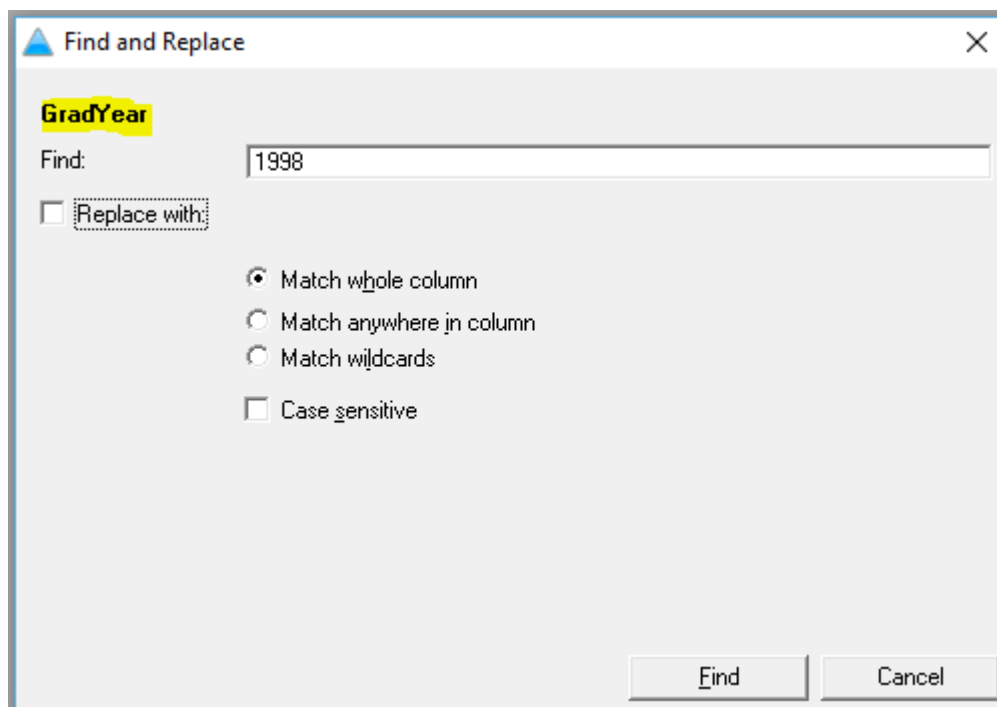
Delete a record




- Delete only the current record or cascade per the dictionary settings

Find and replace

Click on the appropriate column first and then on the Find button.

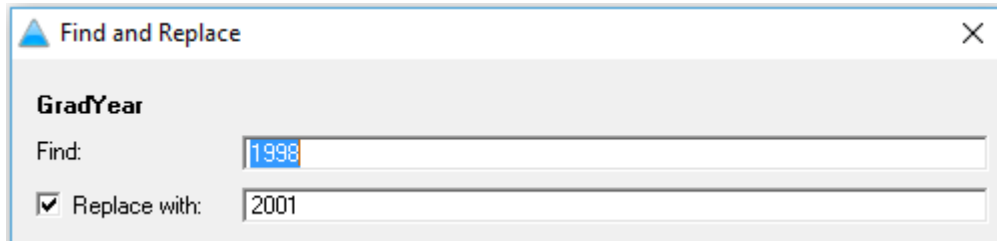


- The search will start from the current highlighted record
- The search icon will change to  while the search is still active
- The values to find will be displayed per the column picture
- Wildcard comparisons are made with the MATCH command and *Match:Wild* mode, with or without *Match:NoCase*
- Press F3 to find the next matching value

Relational Browse – Beta 6

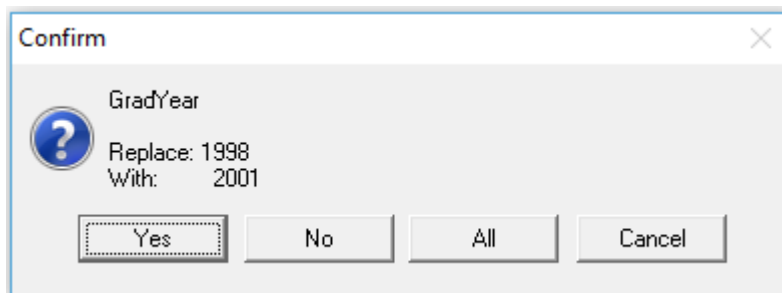
- Click on the find button and Cancel to stop the search

When replacing values:



The dialog box is titled "Find and Replace" and has a close button (X) in the top right corner. The field name "GradYear" is displayed at the top. Below it, there are two input fields: "Find:" with the value "1998" and "Replace with:" with the value "2001". A checkbox labeled "Replace with:" is checked.

The following selections are available:



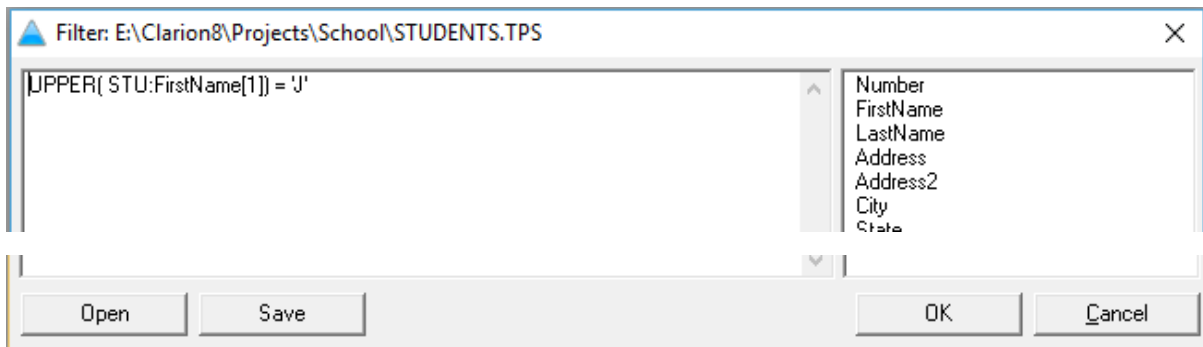
The dialog box is titled "Confirm" and has a close button (X) in the top right corner. It contains a question mark icon and the text "GradYear", "Replace: 1998", and "With: 2001". At the bottom, there are four buttons: "Yes", "No", "All", and "Cancel".

- Yes – replace the current occurrence
- No – do not replace, find the next
- All – replace all occurrences from the current one downwards
- Cancel the search

Filter

There are two modes available for filtering: Write your own Clarion filter statements or Use the Advanced QBE list filter class. See Tools, Global Settings to make the selection.

Write your own Clarion filter statements

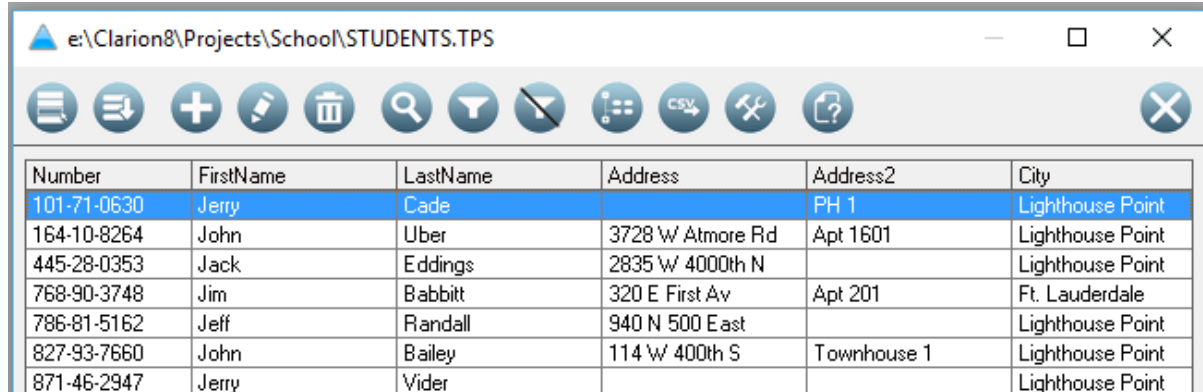


The dialog box is titled "Filter: E:\Clarion8\Projects\School\STUDENTS.TPS" and has a close button (X) in the top right corner. It contains a text area with the filter statement "UPPER(STU:FirstName[1]) = 'J'". To the right of the text area is a list of fields: Number, FirstName, LastName, Address, Address2, City, and State. At the bottom, there are four buttons: "Open", "Save", "OK", and "Cancel".


- Any legal Clarion filter statement can be written

Relational Browse – Beta 6

- A list of columns is displayed on the right and can be included in the filter statement with a double-click
- Filters can be saved for future use

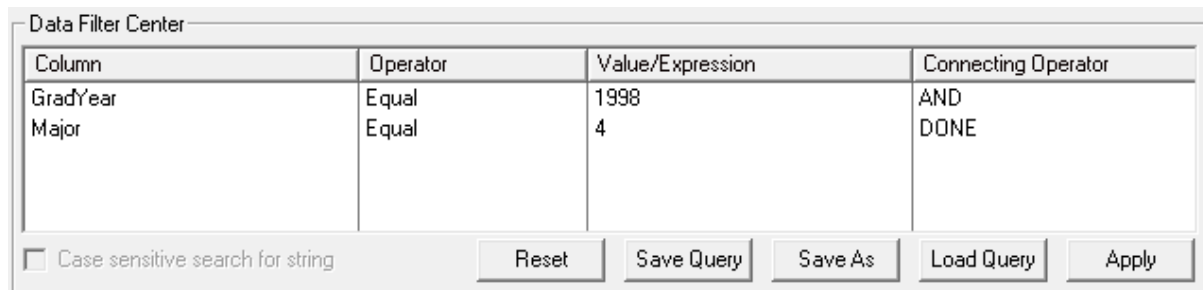


Number	FirstName	LastName	Address	Address2	City
101-71-0630	Jerry	Cade		PH 1	Lighthouse Point
164-10-8264	John	Uber	3728 W Atmore Rd	Apt 1601	Lighthouse Point
445-28-0353	Jack	Eddings	2835 W 4000th N		Lighthouse Point
768-90-3748	Jim	Babbitt	320 E First Av	Apt 201	Ft. Lauderdale
786-81-5162	Jeff	Randall	940 N 500 East		Lighthouse Point
827-93-7660	John	Bailey	114 W 400th S	Townhouse 1	Lighthouse Point
871-46-2947	Jerry	Vider			Lighthouse Point

- An active filter is indicated by the *Reset filter* icon being enabled
- Click  to cancel the filter

Advanced QBE list filter class


Clicking on the filter button will unhide the Data Filter Center at the bottom of the screen.



Column	Operator	Value/Expression	Connecting Operator
GradYear	Equal	1998	AND
Major	Equal	4	DONE

Case sensitive search for string

Reset Save Query Save As Load Query Apply

- Build a filter by dragging columns to the Filter Center and setting the Operator and Value. Click on Apply to activate the filter.
- Click on the filter button again to hide the Data Filter Center, even if a filter is active.
- Click on  to cancel the filter and hide the Filter Center.

Relational Browse – Beta 6



Browse related tables

Number	Description
1	English
2	Computer Science

Number	FirstName	LastName	Address	Address2	City
768-90-3748	Jim	Babbitt	320 E First Av	Apt 201	Ft. Lauderdale
603-71-4468	Randall	Babcock	514 S 570th E	Unit 1066	Lighthouse Point
831-87-7376	Brian	Babin	1150 E Garfield Av		Ft. Lauderdale
251-05-8624	Robert F	Bachman	410 7th Ave	Apt 100	Ft. Lauderdale
141-02-7461	Alvin L	Bailey	774 E Gables		Lighthouse Point
123-44-9999	Deb	Brown	123 Elm Street		Pompano Beach
474-12-9470	David R	Cain	1958 N 350 W	Second Floor	Lighthouse Point

- Click the Related button to see a list of tables related to the current table. When selecting a table, records related to the current record will be displayed.
- In the example above, all the students having Computer Science as a major will be displayed. This drill down to related tables can go down to any level.
- One-To-Many and Many-To-One relations can be selected

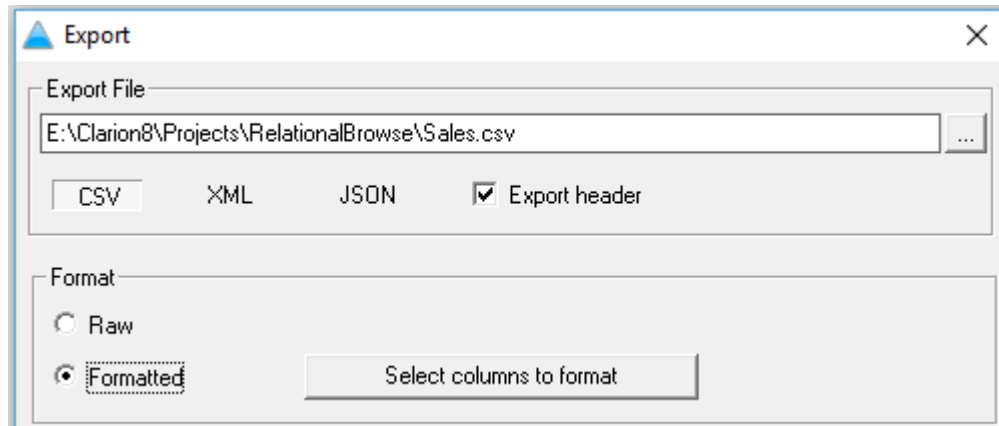
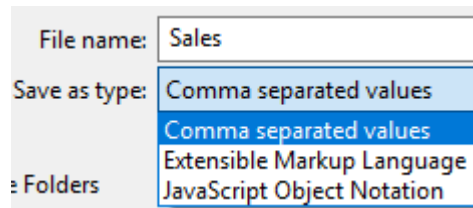


Export to CSV, XML or JSON

- Export the records displayed in the browse to a CSV / XML / JSON file
- Records will be filtered according to the current filter
- Records will be in the current sort order
- Hidden columns will not be exported
- For CSV the column separator (normally a comma) will be according to the Window *List separator* setting. See Global setting below to use another character
- Use this for instance to export records before and after some program change and compare with a tool like Beyond Compare to find the differences

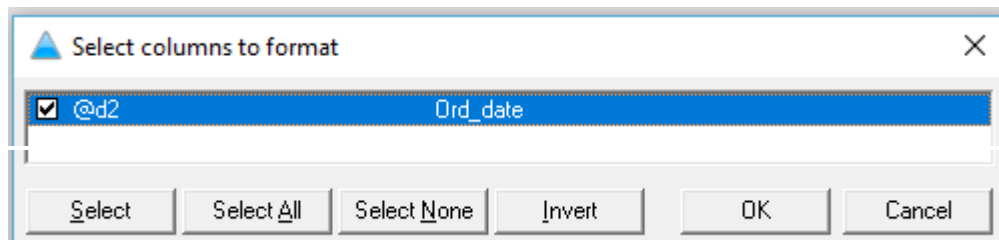
Relational Browse – Beta 6

Select the file format, the default is CSV:



Export header Export the column names in the first line

- Format**
- Raw: Data as is, for instance a date 05/01/2016 as 78901
 - Formatted: Format data according to the picture in the dictionary



Select columns to format. It is not necessary to format with all types of pictures. Only columns with '@d', '@t', '@p' are considered as well as '@n' which contains any characters other than '0'-'9', '-', '_', '.', '*', ' ', 'b' and 'B'

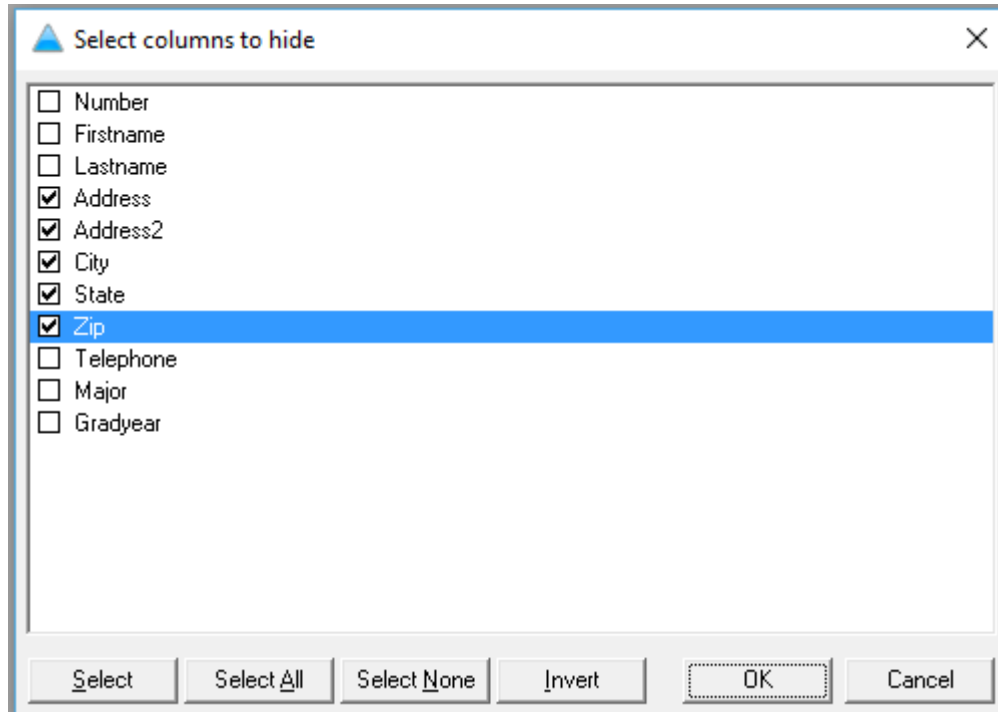
Relational Browse – Beta 6



Tools

- Hide columns

Example of hiding all the address columns



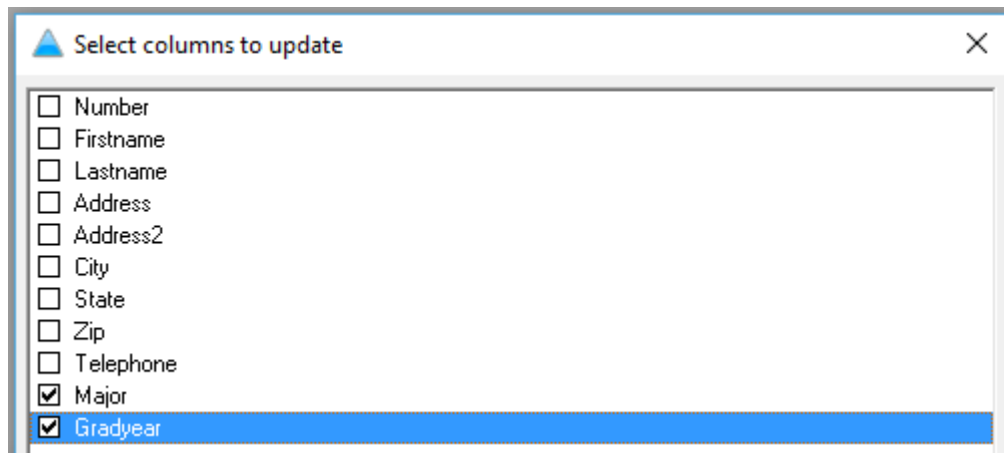
E:\Clarion8\Projects\School\STUDENTS.TPS

Number	FirstName	LastName	Telephone	Major	GradYear
101-71-0630	Jerry	Cade	305-555-2255	4	1997
105-22-0863	Diane	Quinn	305-555-7968	1	1998
116-62-4660	Robert	Macdonald	305-555-9304	5	1997
123-44-9999	Deb	Brown	954-555-1211	2	1998

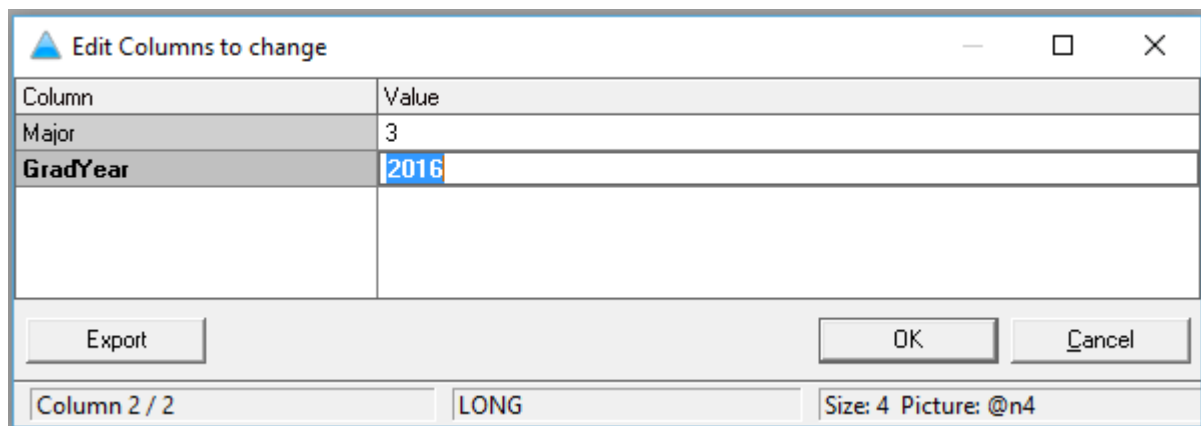
- Reset column width
Unhide all hidden columns and restore the column width for all columns to the default values
- Mass update – Basic
Change any column to fixed values and check values against the column picture

Select columns to change:

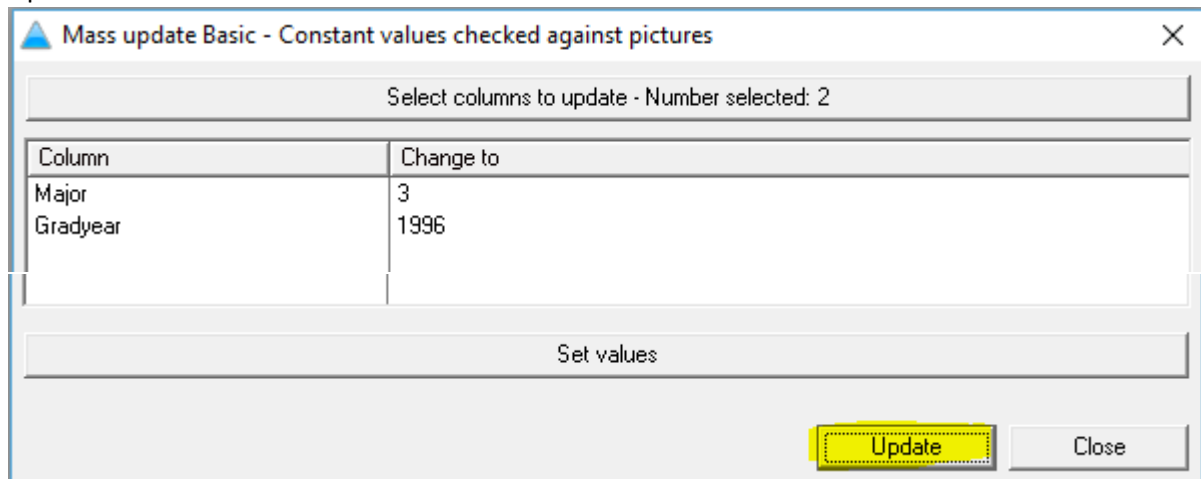
Relational Browse – Beta 6



Set new values:



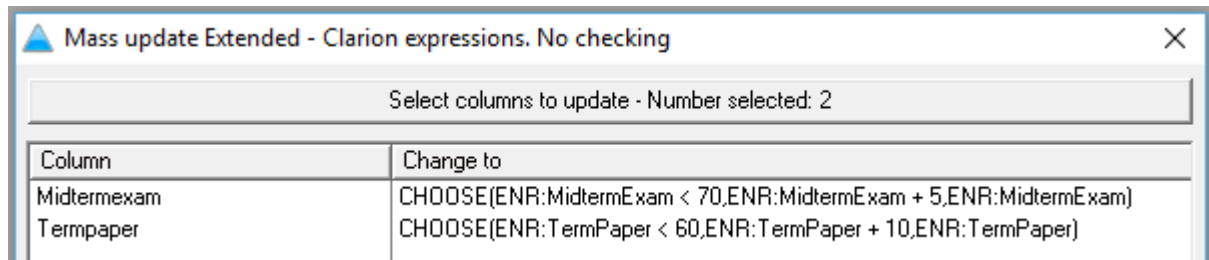
Update:



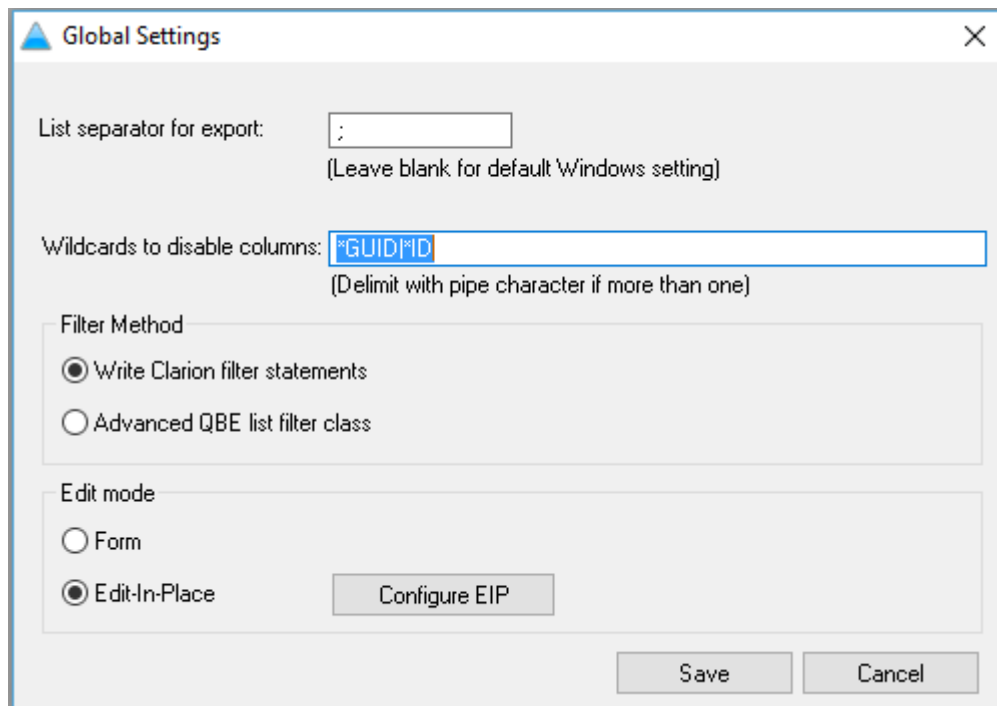
- Changes will be applied to all records in the table or if a filter was set, only to the records per the filter
- Changes will **not** be cascaded to related tables
- Transaction processing with LOGOUT and COMMIT / ROLLBACK is used to speed up the process

Relational Browse – Beta 6

- Mass update – Extended
Use Clarion expressions to calculate or construct the new value for columns, for instance increasing marks:



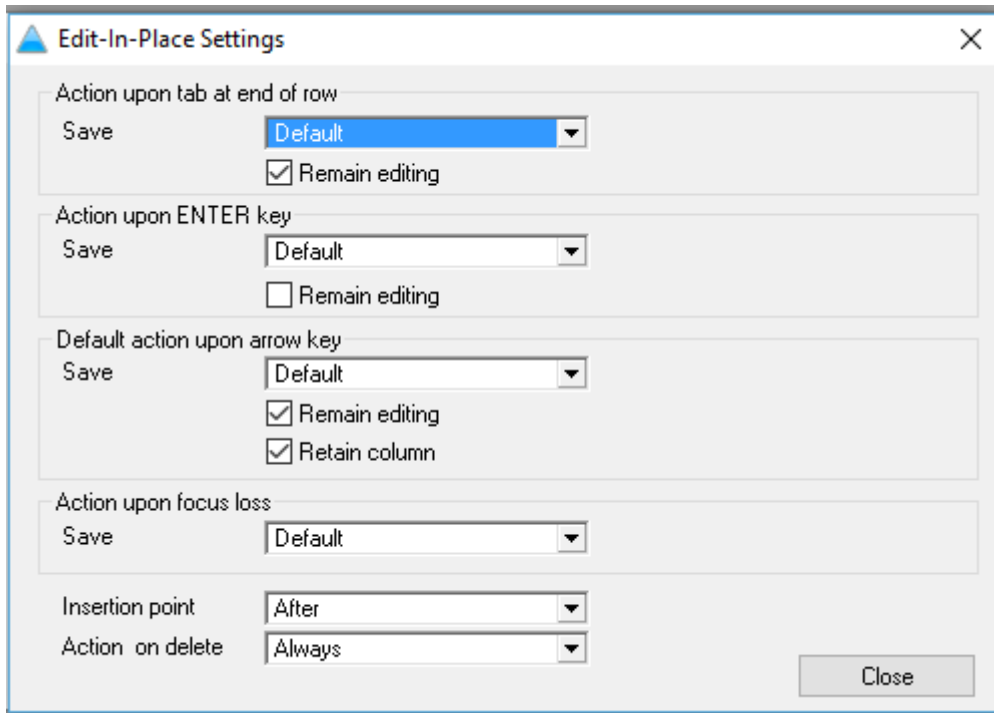
- Using EVALUATE the expressions will be checked for syntax and if variables are bound
 - String constant values must be enclosed in single quotes
 - The result for numeric fields must be numeric
- Build keys
 - It requires exclusive access to the file
 - Do not apply to all drivers
 - Global settings



- List separator for export: Set this only if it has to be different than the Windows setting. See the Info screen for the current value
- Disable columns for editing, for example make all columns ending in GUID or ID read-only

Relational Browse – Beta 6

- Filter Method: Switch between writing Clarion filter statements and using the Advanced QBE filter classes
- Edit mode: Use a Edit-On-The-Spot form to edit records or the ABC Edit-In-Place class
NB. Updates will always be cascaded for the setting.
- Configure EIP: Change the behaviour of EIP



The screenshot shows a dialog box titled "Edit-In-Place Settings" with a close button (X) in the top right corner. The dialog is organized into several sections, each with a "Save" button and a dropdown menu. The first section, "Action upon tab at end of row", has a "Save" button, a dropdown menu set to "Default", and a checked checkbox for "Remain editing". The second section, "Action upon ENTER key", has a "Save" button, a dropdown menu set to "Default", and an unchecked checkbox for "Remain editing". The third section, "Default action upon arrow key", has a "Save" button, a dropdown menu set to "Default", and two checked checkboxes for "Remain editing" and "Retain column". The fourth section, "Action upon focus loss", has a "Save" button and a dropdown menu set to "Default". At the bottom, there are two more settings: "Insertion point" with a dropdown menu set to "After", and "Action on delete" with a dropdown menu set to "Always". A "Close" button is located in the bottom right corner of the dialog.

Relational Browse – Beta 6



Info

Display basic information about the table:

The Info dialog box displays the following information:

Infoname	Infovalue
Filename	E:\Clarion8\Projects\School\STUDENTS.TPS
Driver	TOPSPEED
Prefix	STU
Size in bytes	1,088,256
Number of records	81
Record length	130
Number of columns	11
Hidden columns	5
Filter	(STU.State = 'FL')
Sort order	STU:NUMBER
Window size	430 x 258
Font	MS Sans Serif
Font size	8
Browse type	File loaded
Queue records	81
List separator	,

Column sorting

The table shows the following data:

Number	FirstName	LastName[+]	Telephone	Major	GradYear
768-90-3748	Jim	Babbitt	305-555-3618	2	1999
603-71-4468	Randall	Babcock	305-555-2078	2	1999
831-87-7376	Brian	Babin	305-555-3753	2	1998
251-05-8624	Robert F	Bachman	305-555-1019	2	1998
967-26-3524	John H	Bagby	305-555-9021	5	1998
305-14-8528	Debbie	Bagley	305-555-2554	4	1997
141-02-7461	Alvin L	Bailey	305-555-9477	2	1998
827-93-7660	John	Bailey	305-555-3514	3	1999
286-95-9466	Curtis	Bair	305-555-5123	5	1998
188-67-7396	Robin	Baley	305-555-9284	4	1998

- Full columns sorting available on all columns if enabled. See procedure extension template setting
- Use carefully when browsing tables with many records or for columns without keys

Relational Browse – Beta 6

Dimensioned fields

Fields with up to 4 dimensions are handled, see part of the display for the following table in the abcbrows.app in the examples folder where the field were filled with values reflecting its index:

```

Dimensions      FILE, DRIVER ('TOPSPEED'), NAME ('Dimensions.tps'), PRE (Dim)
IdKey           KEY (Dim:Id), NOCASE, PRIMARY      !
Record         RECORD, PRE ()
Id              LONG                               !
Single         STRING (20)                        !
One            STRING (20), DIM (3)               !
Two            STRING (20), DIM (3, 2)           !
Three          STRING (20), DIM (2, 3, 4)        !
Four           STRING (20), DIM (4, 3, 2, 5)     !
               END
               END
    
```

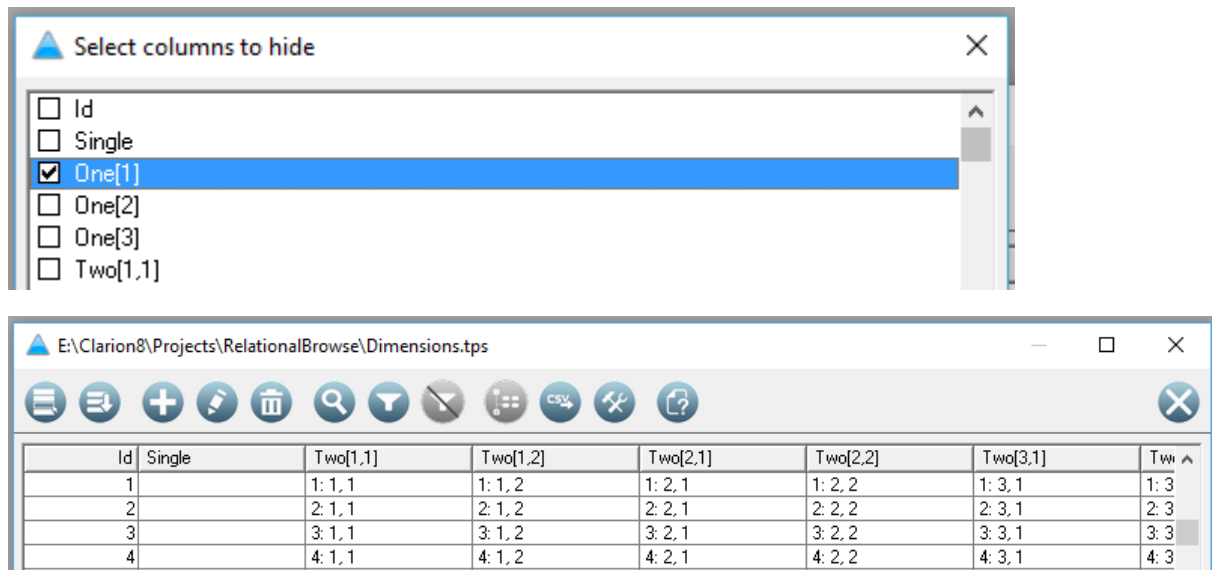
Id	Single	One[1]	One[2]	One[3]	Two[1,1]	Two[1,2]	Two[1,3]
1		1: 1	1: 2	1: 3	1: 1, 1	1: 1, 2	1: 1, 3
2		2: 1	2: 2	2: 3	2: 1, 1	2: 1, 2	2: 1, 3
3		3: 1	3: 2	3: 3	3: 1, 1	3: 1, 2	3: 1, 3
4		4: 1	4: 2	4: 3	4: 1, 1	4: 1, 2	4: 1, 3
5		5: 1	5: 2	5: 3	5: 1, 1	5: 1, 2	5: 1, 3
6		6: 1	6: 2	6: 3	6: 1, 1	6: 1, 2	6: 1, 3
7		7: 1	7: 2	7: 3	7: 1, 1	7: 1, 2	7: 1, 3

and the edit window:

Column	Value
Id	9
Single	
One[1]	9: 1
One[2]	9: 2
One[3]	9: 3
Two[1,1]	9: 1, 1
Two[1,2]	9: 1, 2
Two[2,1]	9: 2, 1
Two[2,2]	9: 2, 2
Two[3,1]	9: 3, 1
Two[3,2]	9: 3, 2
Three[1,1,1]	9: 1, 1, 1
Three[1,1,2]	9: 1, 1, 2
Three[1,1,3]	9: 1, 1, 3
Three[1,1,4]	9: 1, 1, 4
Three[1,2,1]	9: 1, 2, 1
Three[1,2,2]	9: 1, 2, 2
Three[1,2,3]	9: 1, 2, 3
Three[1,2,4]	9: 1, 2, 4
Three[1,3,1]	9: 1, 3, 1

Relational Browse – Beta 6

- Hiding any one of a dimensioned column will hide all



- When exporting dimensioned values, the labels will consist of the column name and index values separated by underscores:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="true"?>
<Dimensions>
  - <Record>
    <Id>1</Id>
    <One_1>1: 1</One_1>
    <One_2>1: 2</One_2>
    <One_3>1: 3</One_3>
    <Two_1_1>1: 1, 1</Two_1_1>
    <Two_1_2>1: 1, 2</Two_1_2>
    <Two_2_1>1: 2, 1</Two_2_1>
    <Two_2_2>1: 2, 2</Two_2_2>
    <Two_3_1>1: 3, 1</Two_3_1>
    <Two_3_2>1: 3, 2</Two_3_2>
    <Three_1_1_1>1: 1, 1, 1</Three_1_1_1>
    <Three_1_1_2>1: 1, 1, 2</Three_1_1_2>
```

- Beware of tables with very large dimensions for instance a DIM(100,25) will create 2,500 columns and will slow down the browse process. Such a table should rather be excluded, see *Do not browse the following files* in the global extension

Relational Browse – Beta 6

Using from an embed to browse any table

The BrowseAnyTable can be called in source from any procedure, for instance after having created an In-Memory table. The syntax to browse the Students file will be:

```
BrowseAnyTable('Students',')
```

Or to display only student who graduated in 1998:

```
BrowseAnyTable('Students', 'STU:GradYear = 1998')
```

Make a standalone browser

1. Create a single EXE App and import the TXA as discussed above
2. Make the Main procedure a Source procedure with only one line of code:

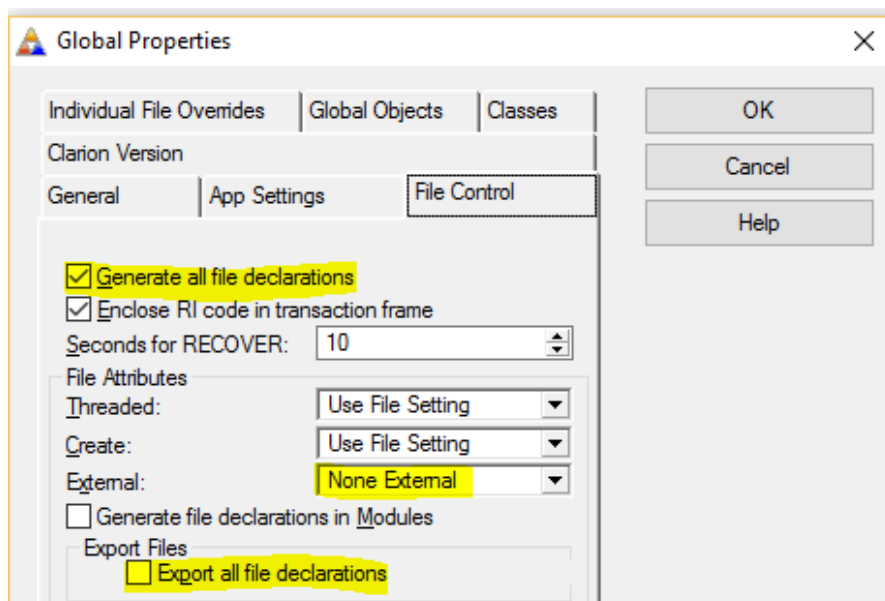
```
BrowseAnyTable("",')
```

3. Check the setting *Generate all file declarations* under *Global Properties, File Control*
4. Uncheck the *MDIChild* property of the Window in the BrowseAnyTable procedure.
5. Create (if not global variables declared in the dictionary) and prime all variable file names or connection strings used by any of the table definitions

Link ABC DLL into legacy APP

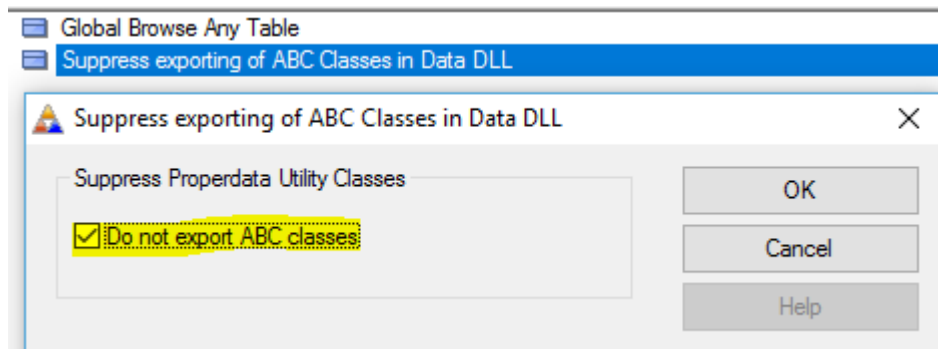
To have the benefit of calling the BrowseAnyTable procedure from a legacy application do the following:

1. Create an ABC Data DLL with the following global setting

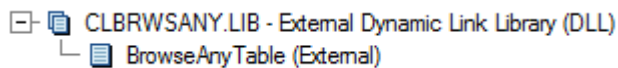


Relational Browse – Beta 6

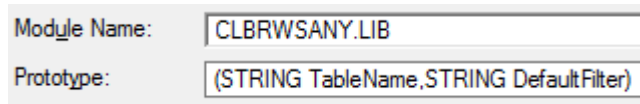
2. Import the BrowseAnyTable TXA and set to **Export the procedure**
3. Since all ABC compliant classes will be compiled into the Data DLL, disable them if templates are provided for that
4. To prevent duplicate symbols when linking the ABC Dll into the legacy app, suppress the exporting of symbols, procedures and classes except for the BrowseAnyTable procedure:



5. Define the procedure as external in the legacy APP



With prototype:



Examples

All the examples are based on *abcbrws.app* and *svexam.dct* and *tps* files found in *C:\Users\Public\Documents\SoftVelocity\ClarionXX\Examples\HowTo-ABC\Browses*

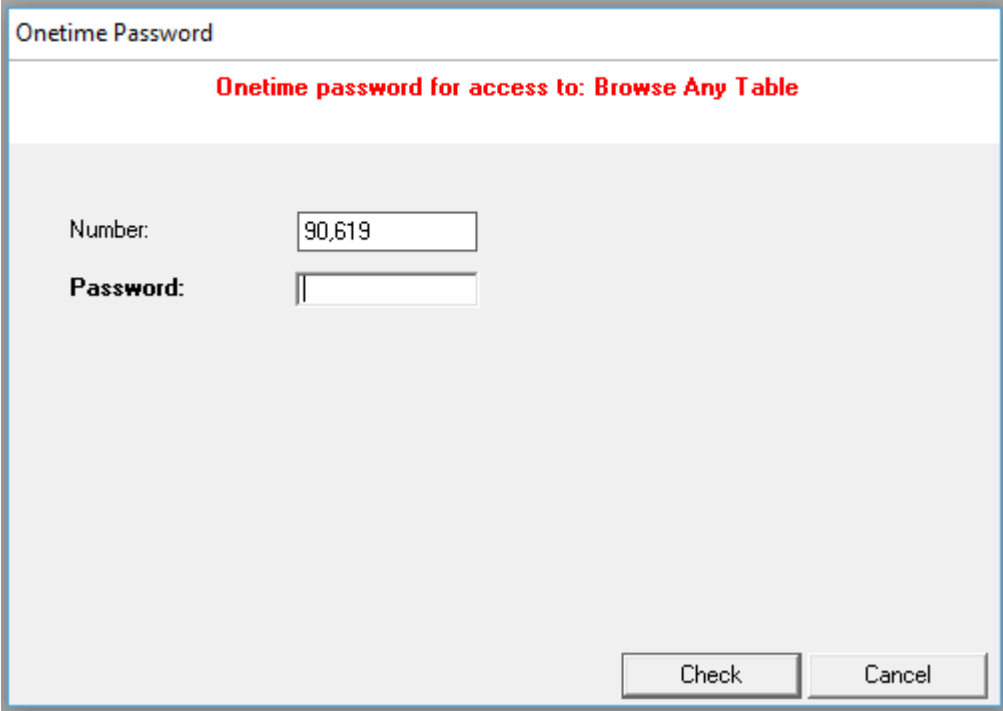
abcbrws	A single EXE with the Relational Browse templates embedded Demonstrate different ways of setting up and calling the BrowseAnyTable procedure Edit-on-the-spot activated on a few browses. Use Ctrl-E as alert key
StandaloneBrowser	A single EXE
StandaloneBrowserMDI	A single EXE with a MDI frame
StandaloneBrowserLegacy	A legacy (Clarion template) app with AbcDllForLegacy linked in Remember to suppress exporting the ABC symbols and classes

Relational Browse – Beta 6

Onetime password class

While supporting users, one sometimes need to access BrowseAnyTable to examine or even fix records in the database. One way to limit access to the BrowseAnyTable procedure or the Edit-on-the-spot classes is to implement the onetime password class.

When the user selects BrowseAnyTable from the menu, the following will show:



Onetime Password

Onetime password for access to: Browse Any Table

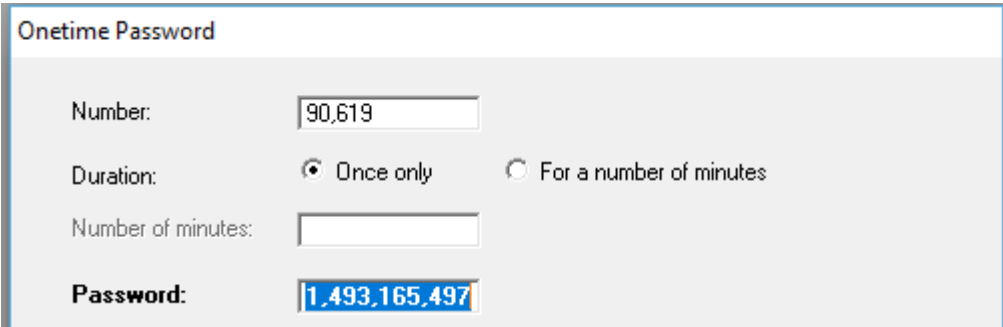
Number: 90,619

Password:

Check Cancel

Number is a random number which the user will supply to you.

You will run the OnetimePassword APP supplied with the examples. Enter the *Number* and supply the **Password** to the client (or use the Backdoor password if you enter it yourself).



Onetime Password

Number: 90,619

Duration: Once only For a number of minutes

Number of minutes:

Password: 1,493,165,497

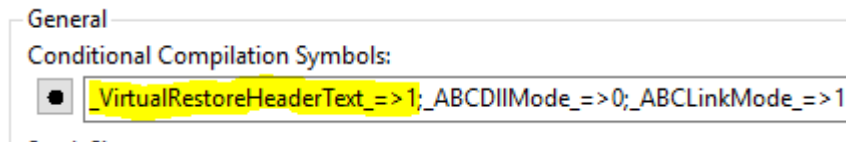
Use the Duration setting if you implement Onetime password with Edit-on-the-Spot in a browse and if you need to examine or edit more than one record

Relational Browse – Beta 6

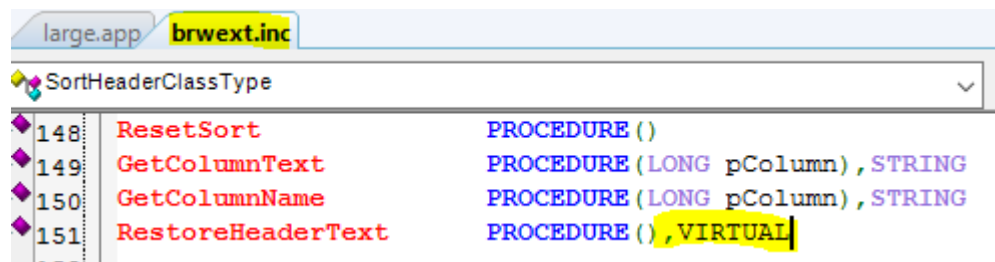
Fix for slow RestoreHeaderText

If there are a table with about 500+ columns, opening and closing the browse window and doing column sorting will be noticeably slow. This is due to the *RestoreHeaderText* method in BRWEXT.CLW. To override the method, tick the **Virtual RestoreHeaderText** in the global extension.

The following project setting will be added:



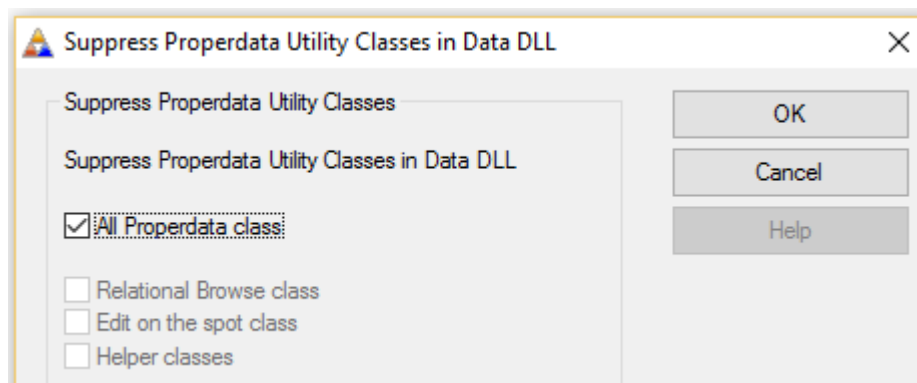
Edit BRWEXT.INC and add the VIRTUAL parameter:



NB. The global setting need to made for every APP where the BrowseAnyTable extension is added once the INC file is changed

Excluding from data dll – Not necessary since Beta 6

All the classes supplied is ABC compliant and will automatically be compiled with any data dll. Use the *SuppressPDUtiClasses* extension template to suppress this:



Contact & Support

E-Mail: helgard@properdata.co.za

Web: www.properdata.co.za