Getting Up To Speed with WX

Contact:

Soft Design Consulting, LLC
561.317.2270 - West Palm Beach, FL
www.wxtraining.net
grathke@sdcdev.net

1/1/2020

GETTING UP TO SPEED WITH
CORE FEARTURES OF
WINDEV (WX PRODUCTS)

LENGTH:	3 days (longer if needed by arrangement)
PURPOSE:	Discovering WinDev or WebDev by using Utilities, Analysis, Importing Existing Tables, Window or Page Editor, Code Editor, Query Editor, Report Editor, WLanguage , Functions, Procedures, and Data Access.
REQUIREMENTS:	Previous experience with a programming language. Have WinDev or WebDev installed.
VERSION:	Current

Training Options:

Check www.wxtraining.net for latest training information including pricing.

A general sample from the Self Study, Streaming Video, Local Class and Onsite training class is next. This sample is meant as an example of what is covered. The course is updated as needed.

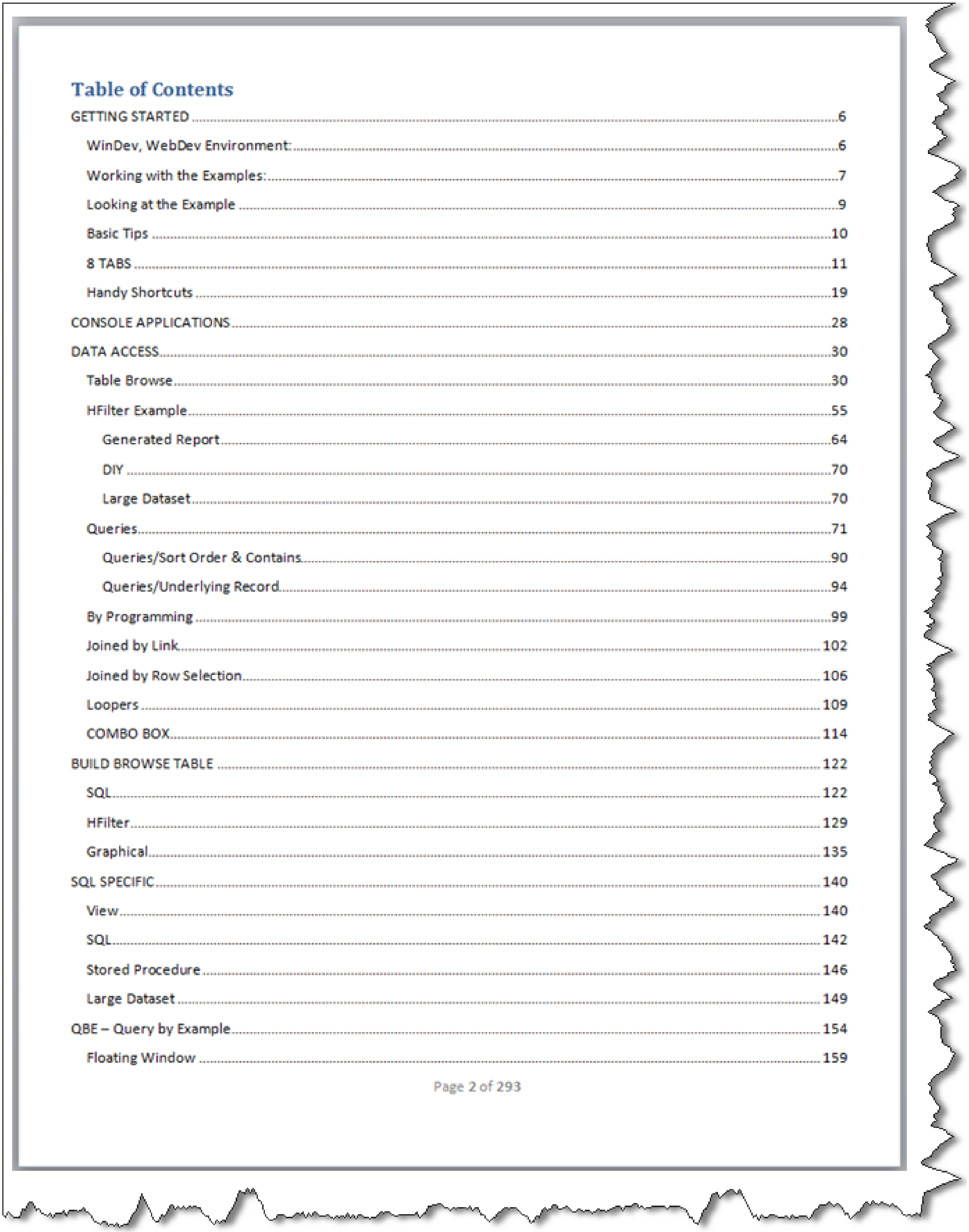
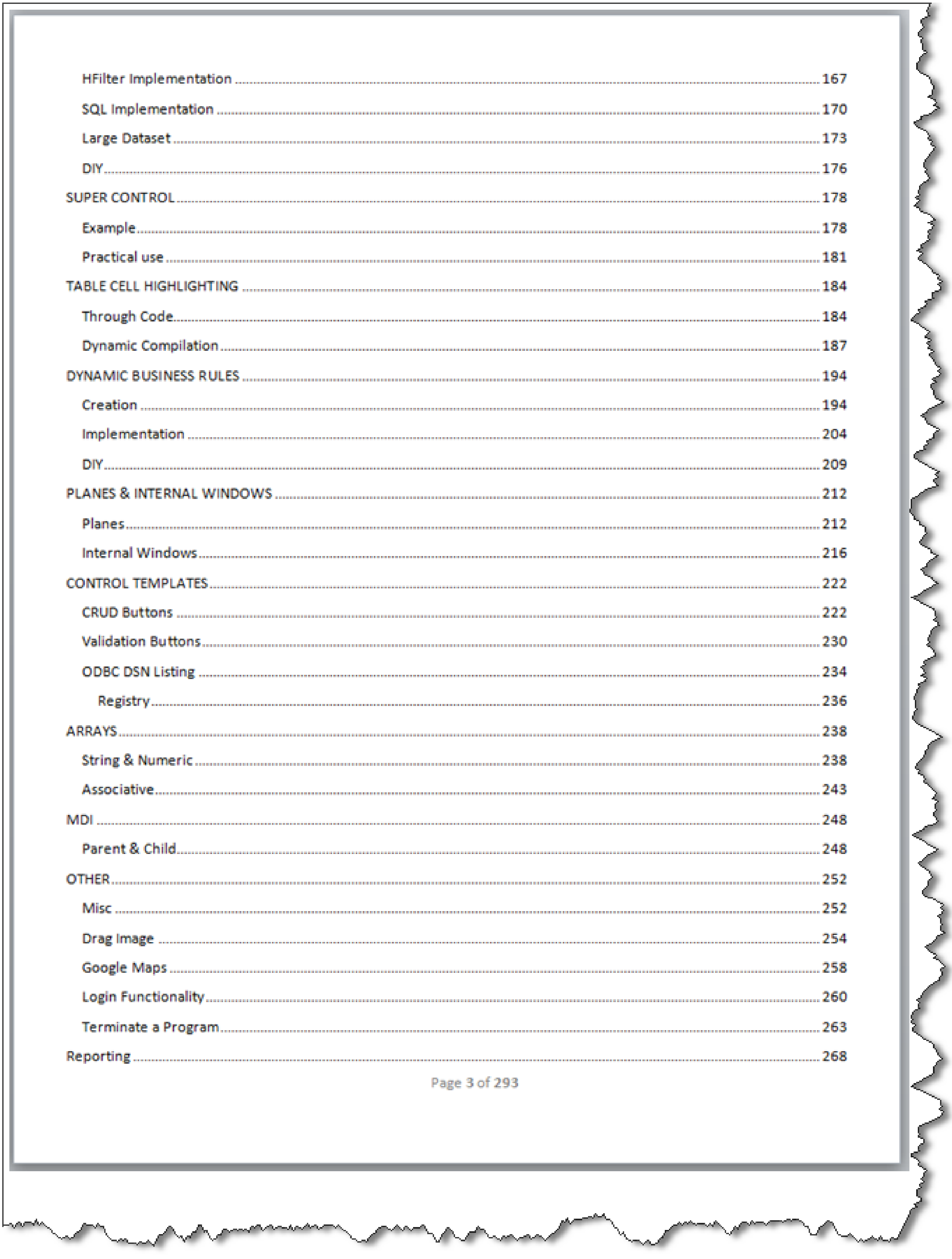
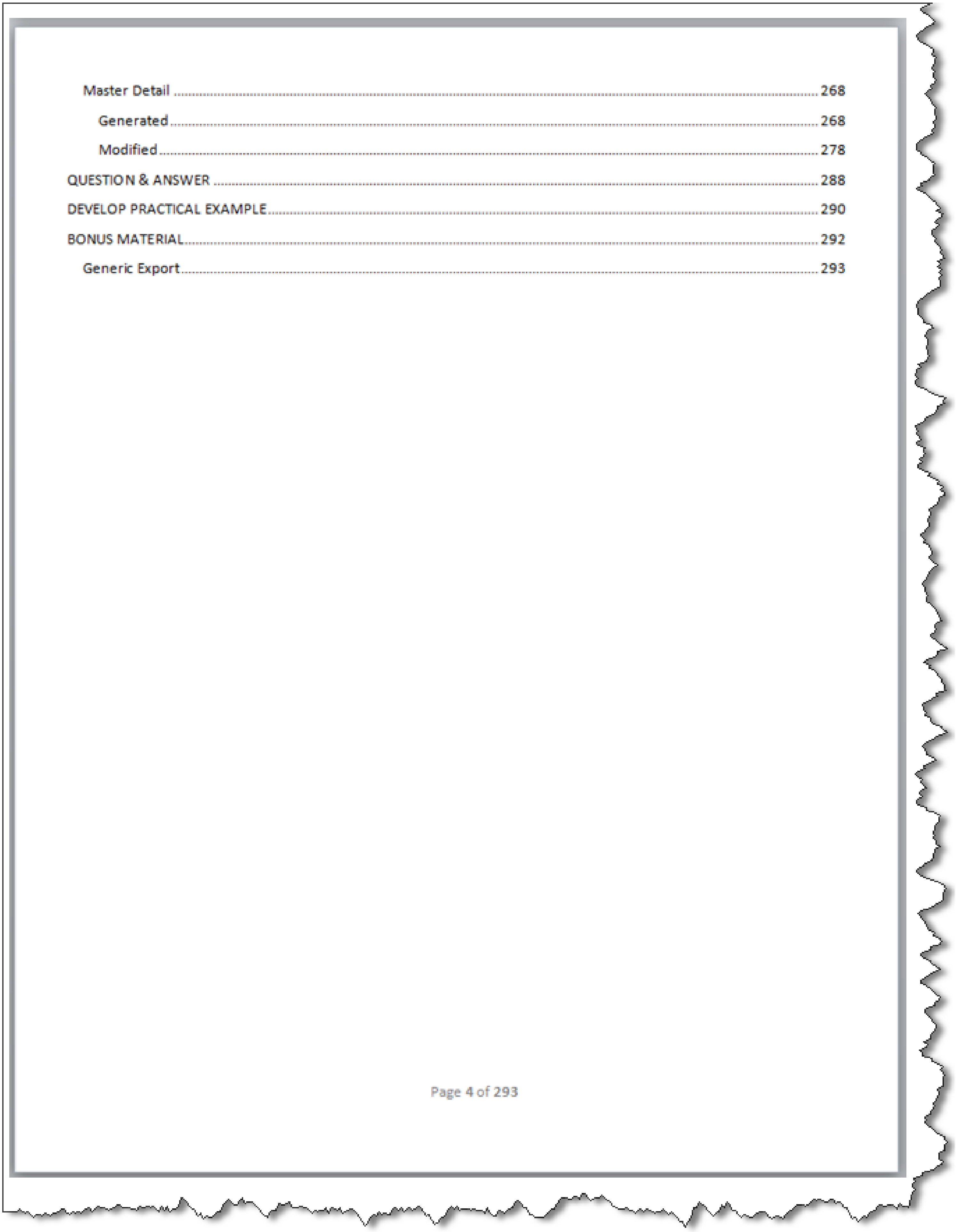


Table of Contents

GETTING STARTED 6
  WinDev, WebDev Environment: 6
  Working with the Examples: 7
  Looking at the Example 9
  Basic Tips 10
  8 TABS 11
  Handy Shortcuts 19
CONSOLE APPLICATIONS 28
DATA ACCESS 30
  Table Browse 30
  HFilter Example 55
    Generated Report 64
    DIY 70
    Large Dataset 70
  Queries 71
    Queries/Sort Order & Contains 90
    Queries/Underlying Record 94
  By Programming 99
  Joined by Link 102
  Joined by Row Selection 106
  Loopers 109
  COMBO BOX 114
BUILD BROWSE TABLE 122
  SQL 122
  HFilter 129
  Graphical 135
SQL SPECIFIC 140
  View 140
  SQL 142
  Stored Procedure 146
  Large Dataset 149
QBE – Query by Example 154
  Floating Window 159



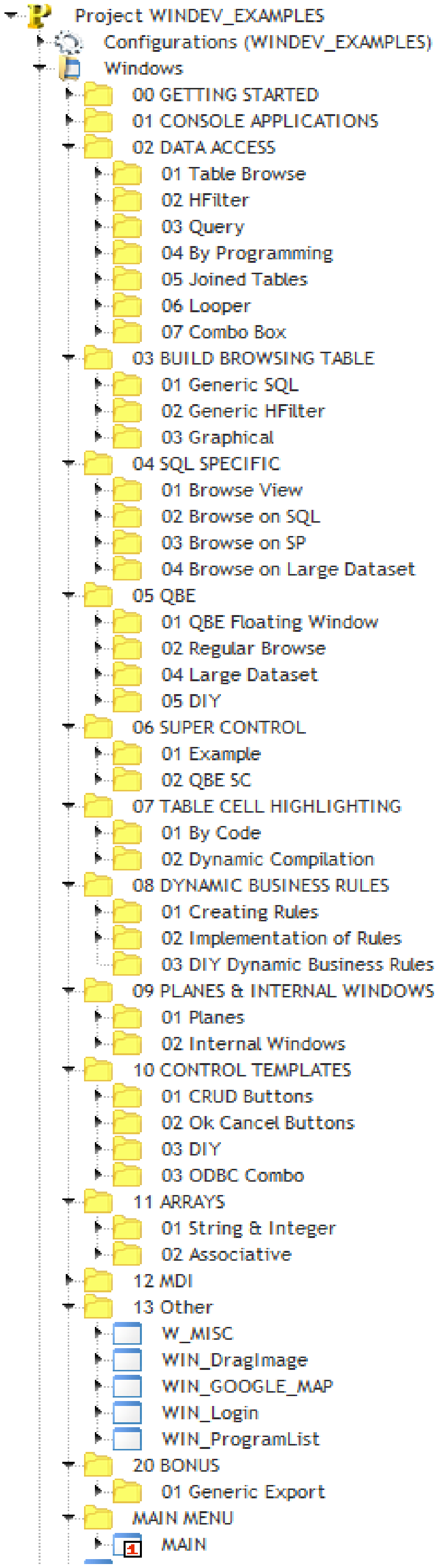
HFilter Implementation 167
SQL Implementation 170
Large Dataset 173
DIY 176
SUPER CONTROL 178
Example 178
Practical use 181
TABLE CELL HIGHLIGHTING 184
Through Code 184
Dynamic Compilation 187
DYNAMIC BUSINESS RULES 194
Creation 194
Implementation 204
DIY 209
PLANES & INTERNAL WINDOWS 212
Planes 212
Internal Windows 216
CONTROL TEMPLATES 222
CRUD Buttons 222
Validation Buttons 230
ODBC DSN Listing 234
Registry 236
ARRAYS 238
String & Numeric 238
Associative 243
MDI 248
Parent & Child 248
OTHER 252
Misc 252
Drag Image 254
Google Maps 258
Login Functionality 260
Terminate a Program 263
Reporting 268



Master Detail 268
    Generated 268
    Modified 278
QUESTION & ANSWER 288
DEVELOP PRACTICAL EXAMPLE 290
BONUS MATERIAL 292
Generic Export 293

Comprehensive Course Examples:

The comprehensive training course covers the following major areas as displayed from the project tree of the included examples.

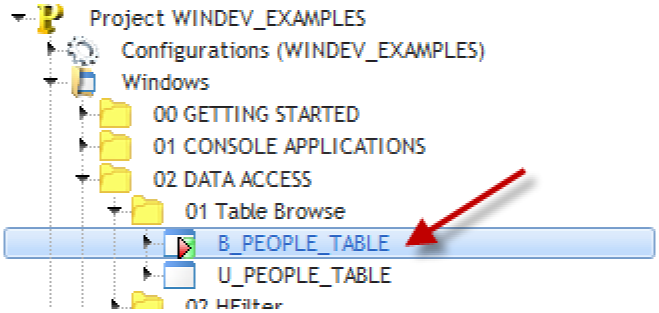


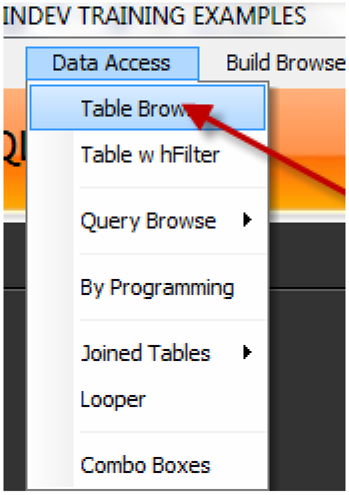
- Project WINDEV_EXAMPLES
  - Configurations (WINDEV_EXAMPLES)
  - Windows
    - 00 GETTING STARTED
    - 01 CONSOLE APPLICATIONS
    - 02 DATA ACCESS
      - 01 Table Browse
      - 02 HFilter
      - 03 Query
      - 04 By Programming
      - 05 Joined Tables
      - 06 Looper
      - 07 Combo Box
    - 03 BUILD BROWSING TABLE
      - 01 Generic SQL
      - 02 Generic HFilter
      - 03 Graphical
    - 04 SQL SPECIFIC
      - 01 Browse View
      - 02 Browse on SQL
      - 03 Browse on SP
      - 04 Browse on Large Dataset
    - 05 QBE
      - 01 QBE Floating Window
      - 02 Regular Browse
      - 04 Large Dataset
      - 05 DIY
    - 06 SUPER CONTROL
      - 01 Example
      - 02 QBE SC
    - 07 TABLE CELL HIGHLIGHTING
      - 01 By Code
      - 02 Dynamic Compilation
    - 08 DYNAMIC BUSINESS RULES
      - 01 Creating Rules
      - 02 Implementation of Rules
      - 03 DIY Dynamic Business Rules
    - 09 PLANES & INTERNAL WINDOWS
      - 01 Planes
      - 02 Internal Windows
    - 10 CONTROL TEMPLATES
      - 01 CRUD Buttons
      - 02 Ok Cancel Buttons
      - 03 DIY
      - 03 ODBC Combo
    - 11 ARRAYS
      - 01 String & Integer
      - 02 Associative
    - 12 MDI
    - 13 Other
      - W_MISC
      - WIN_DragImage
      - WIN_GOOGLE_MAP
      - WIN_Login
      - WIN_ProgramList
    - 20 BONUS
      - 01 Generic Export
    - MAIN MENU
      - MAIN

Only a small portion of the data access is shown here. We cover data access by using hflters, queries, programming, sql server stored procedures, control templates, variables, and an introductory example to using classes

DATA ACCESS

Table Browse


Project WINDEV_EXAMPLES
Configurations (WINDEV_EXAMPLES)
Windows
00 GETTING STARTED
01 CONSOLE APPLICATIONS
02 DATA ACCESS
01 Table Browse
B_PEOPLE_TABLE
U_PEOPLE_TABLE
02 HFilter

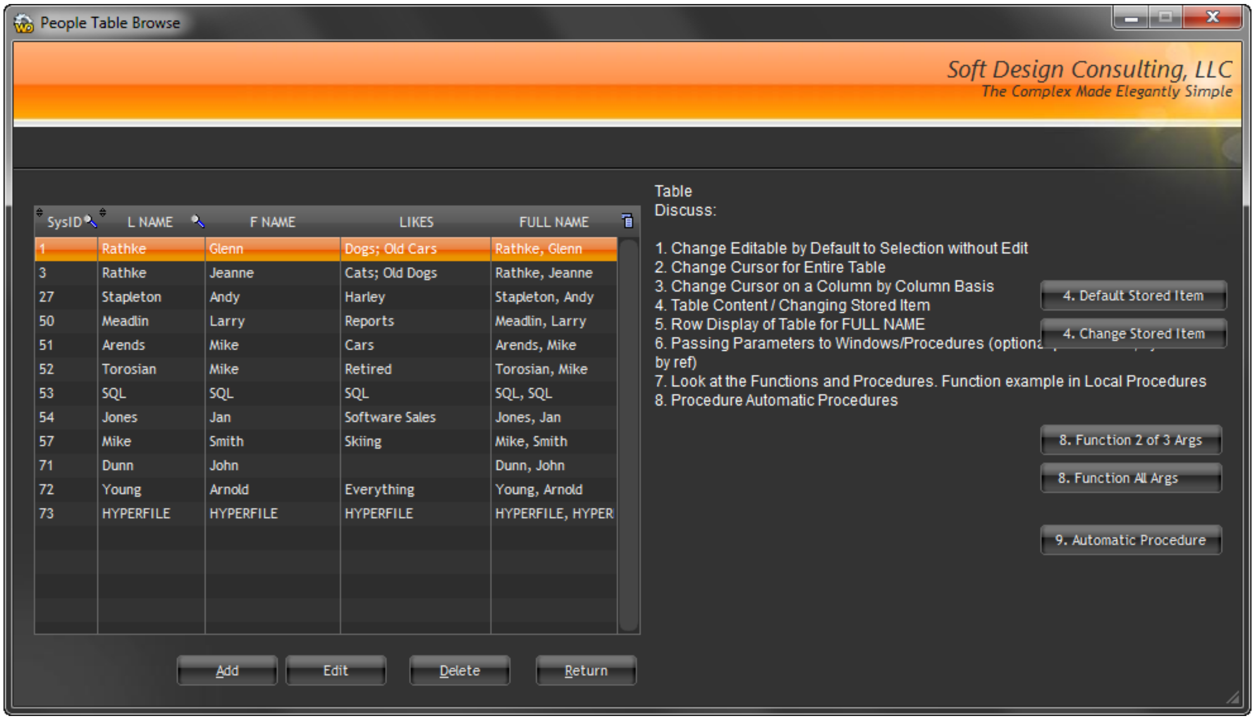

INDEV TRAINING EXAMPLES
Data Access
Build Browse
Table Brow
Table w hFilter
Query Browse
By Programming
Joined Tables
Looper
Combo Boxes

Purpose: Discuss table control design and retrieving a record set, row display, automatic procedures, passing parameters to procedures/functions, groups, and more.

WinDev is such a great tool, both graphically and code wise for returning data that we cover it at great lengths in the course. The first step in retrieving data is to create a simple window with a table control.

From the Project Tree open the B_People_Table

Which brings up the next window:



People Table Browse
Soft Design Consulting, LLC
The Complex Made Elegantly Simple
4. Default Stored Item
4. Change Stored Item
8. Function 2 of 3 Args
8. Function All Args
9. Automatic Procedure
Add
Edit
Delete
Return

SysID	L NAME	F NAME	LIKES	FULL NAME
1	Rathke	Glenn	Dogs; Old Cars	Rathke, Glenn
3	Rathke	Jeanne	Cats; Old Dogs	Rathke, Jeanne
27	Stapleton	Andy	Harley	Stapleton, Andy
50	Meadlin	Larry	Reports	Meadlin, Larry
51	Arends	Mike	Cars	Arends, Mike
52	Torosian	Mike	Retired	Torosian, Mike
53	SQL	SQL	SQL	SQL, SQL
54	Jones	Jan	Software Sales	Jones, Jan
57	Mike	Smith	Skiing	Mike, Smith
71	Dunn	John		Dunn, John
72	Young	Arnold	Everything	Young, Arnold
73	HYPERFILE	HYPERFILE	HYPERFILE	HYPERFILE, HYPER

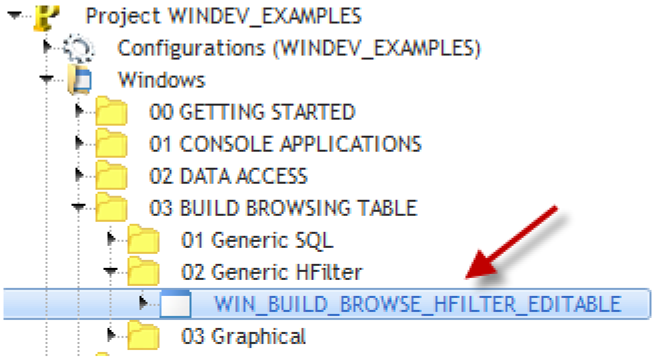
Table
Discuss:

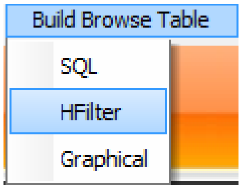
1. Change Editable by Default to Selection without Edit
2. Change Cursor for Entire Table
3. Change Cursor on a Column by Column Basis
4. Table Content / Changing Stored Item
5. Row Display of Table for FULL NAME
6. Passing Parameters to Windows/Procedures (optiona
by ref)
7. Look at the Functions and Procedures. Function example in Local Procedures
8. Procedure Automatic Procedures

Before we get to any code let’s discuss the table control. In design mode, select the table control by double clicking on it. Doing so brings up the familiar Tabbed interface:

Whether we use HFilters, Queries, SQL statements, or Stored Procedures we usually put the filtering code in the table initialization. I've found this to be a convenient place for the code as we usually only have to write code in one place to achieve the filter. The

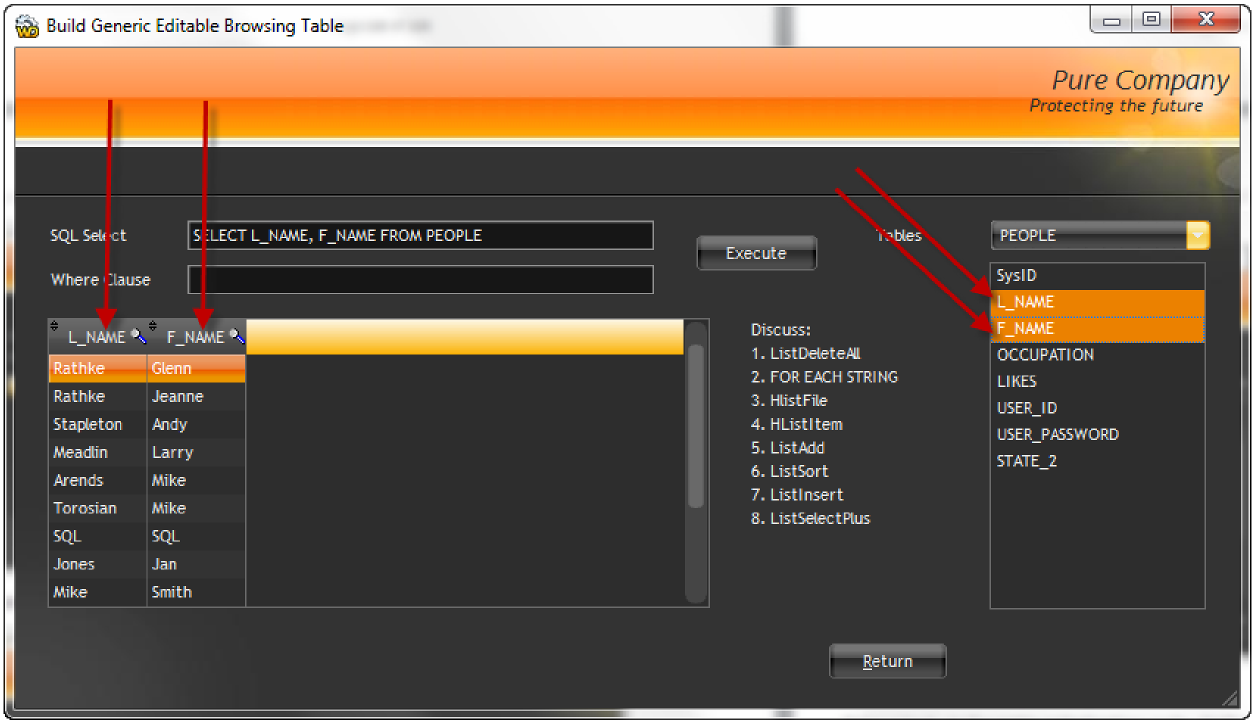
HFilter


Project WINDEV_EXAMPLES
Configurations (WINDEV_EXAMPLES)
Windows
00 GETTING STARTED
01 CONSOLE APPLICATIONS
02 DATA ACCESS
03 BUILD BROWSING TABLE
01 Generic SQL
02 Generic HFilter
WIN_BUILD_BROWSE_HFILTER_EDITABLE
03 Graphical


Build Browse Table
SQL
HFilter
Graphical

Purpose: Extend the functionality of the BuildBrowseTable by using an HFilter and letting the user enter a SQL statement to return the record set.

As you select different columns in the list you will see the table control and SQL Select update.


Build Generic Editable Browsing Table
Pure Company
Protecting the future
Execute
Tables
PEOPLE
Return

SQL Select: SELECT L_NAME, F_NAME FROM PEOPLE

Where Clause:

L_NAME	F_NAME
Rathke	Glenn
Rathke	Jeanne
Stapleton	Andy
Meadlin	Larry
Arends	Mike
Torosian	Mike
SQL	SQL
Jones	Jan
Mike	Smith

Discuss:
1. ListDeleteAll
2. FOR EACH STRING
3. HlistFile
4. HListItem
5. ListAdd
6. ListSort
7. ListInsert
8. ListSelectPlus

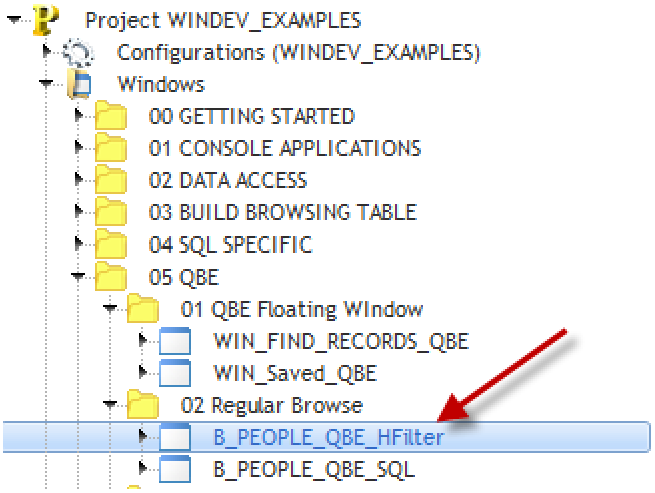
SysID
L_NAME
F_NAME
OCCUPATION
LIKES
USER_ID
USER_PASSWORD
STATE_2

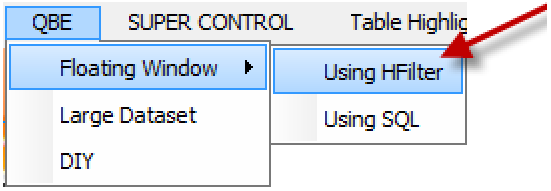
Take a look at the table initialization code. Nothing new there, we pretty much did that in the previous example. What's new though, is the code in the combo initialization.

Bringing up the code displays:

A few new topics are introduced:

QBE – Query by Example

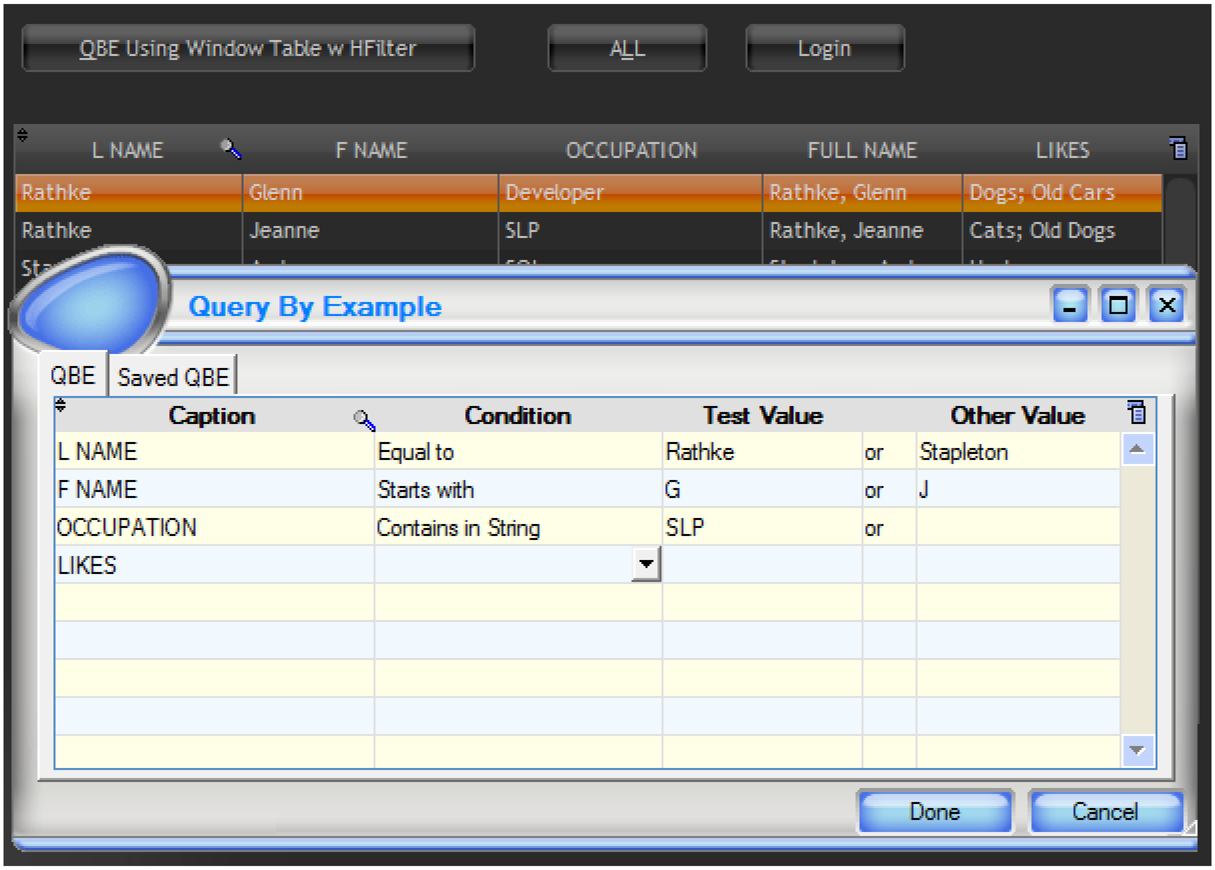

Project WINDEV_EXAMPLES
Configurations (WINDEV_EXAMPLES)
Windows
00 GETTING STARTED
01 CONSOLE APPLICATIONS
02 DATA ACCESS
03 BUILD BROWSING TABLE
04 SQL SPECIFIC
05 QBE
01 QBE Floating WIndow
WIN_FIND_RECORDS_QBE
WIN_Saved_QBE
02 Regular Browse
B_PEOPLE_QBE_HFilter
B_PEOPLE_QBE_SQL


QBE
SUPER CONTROL
Table Highlic
Floating Window
Large Dataset
DIY
Using HFilter
Using SQL

Purpose: Discuss the use of a global QBE as opposed to creating a QBE for each window that can use HFilter or SQL statements and can re-use the stored queries at a later time.

The beauty of this QBE is it can be re-used on any window and it will interrogate the table control and build selection criteria based upon the columns in the control. The queries can also be saved for later use.

And when run would look like:



L NAME	F NAME	OCCUPATION	FULL NAME	LIKES
Rathke	Glenn	Developer	Rathke, Glenn	Dogs; Old Cars
Rathke	Jeanne	SLP	Rathke, Jeanne	Cats; Old Dogs

Caption	Condition	Test Value		Other Value
L NAME	Equal to	Rathke	or	Stapleton
F NAME	Starts with	G	or	J
OCCUPATION	Contains in String	SLP	or	
LIKES				

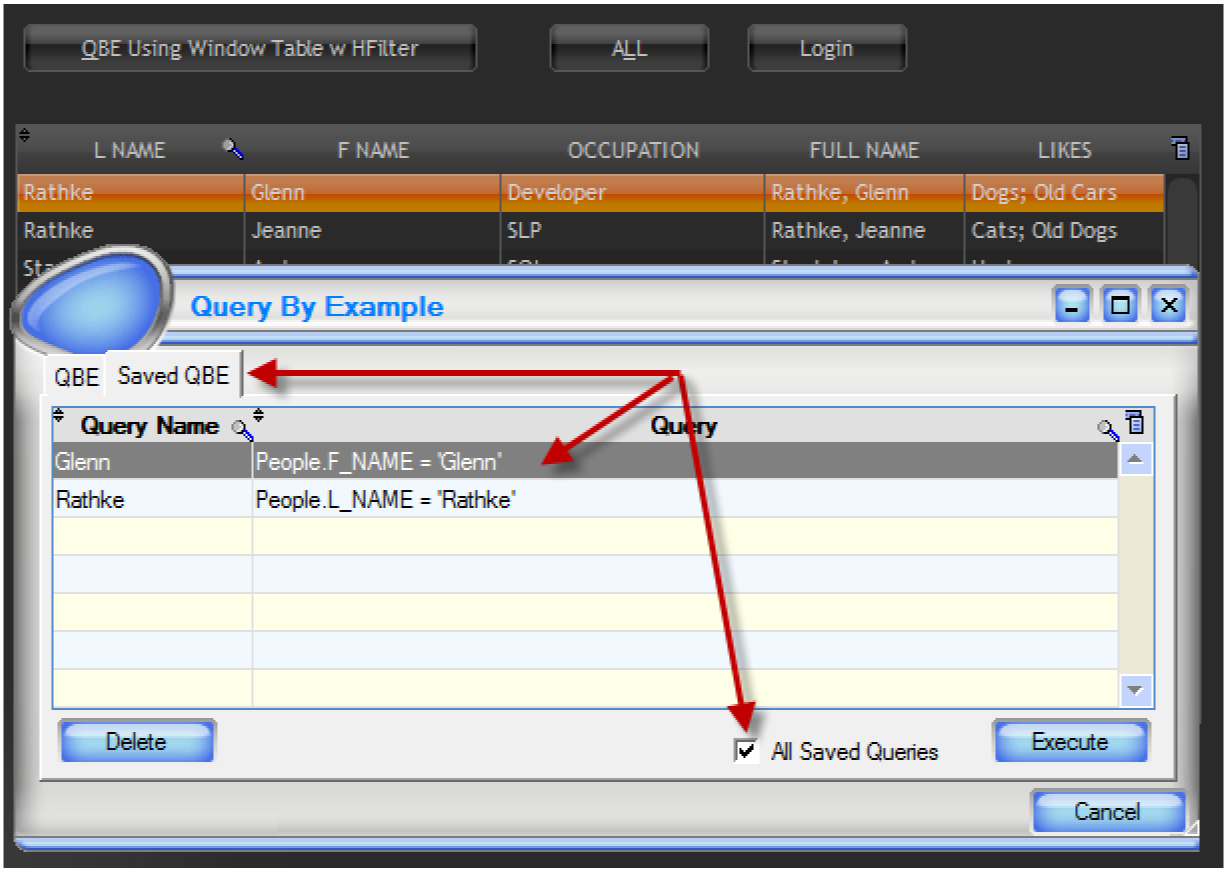
And the returned filter would be created as:

((People.L_NAME = 'Rathke' OR People.L_NAME = 'Stapleton') AND (People.F_NAME LIKE 'G%' OR People.F_NAME LIKE 'J%')) AND (People.OCCUPATION LIKE '%SLP%')

Well, this example does just that.

Features of the QBE:

1. Can automatically interrogate a table control and use the columns that have a link back to the Analysis and present those as query choices to the user.
2. Can automatically interrogate an Analysis table and use all columns and present those as query choices to the user.
3. Can create an HFilter
4. Can create a SQL statement
5. Can save the query to re-use later as shown in the next window.
6. Can honor a user by user display of saved queries.

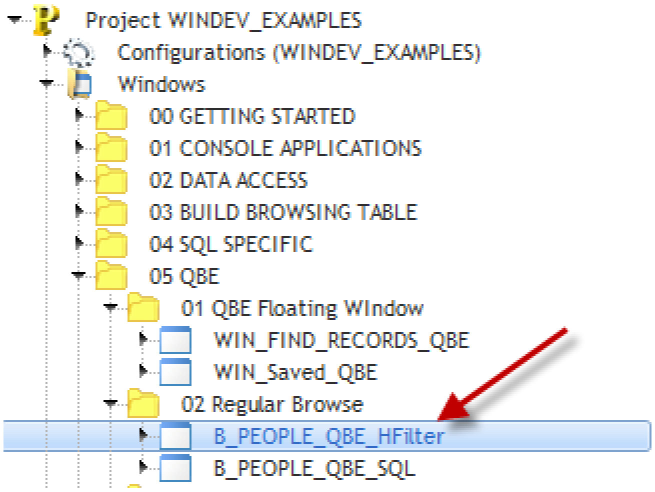

QBE Using Window Table w HFilter
ALL
Login
Query By Example
QBE
Saved QBE
Delete
Execute
Cancel

L NAME	F NAME	OCCUPATION	FULL NAME	LIKES
Rathke	Glenn	Developer	Rathke, Glenn	Dogs; Old Cars
Rathke	Jeanne	SLP	Rathke, Jeanne	Cats; Old Dogs

Query Name	Query
Glenn	People.F_NAME = 'Glenn'
Rathke	People.L_NAME = 'Rathke'

☑ All Saved Queries

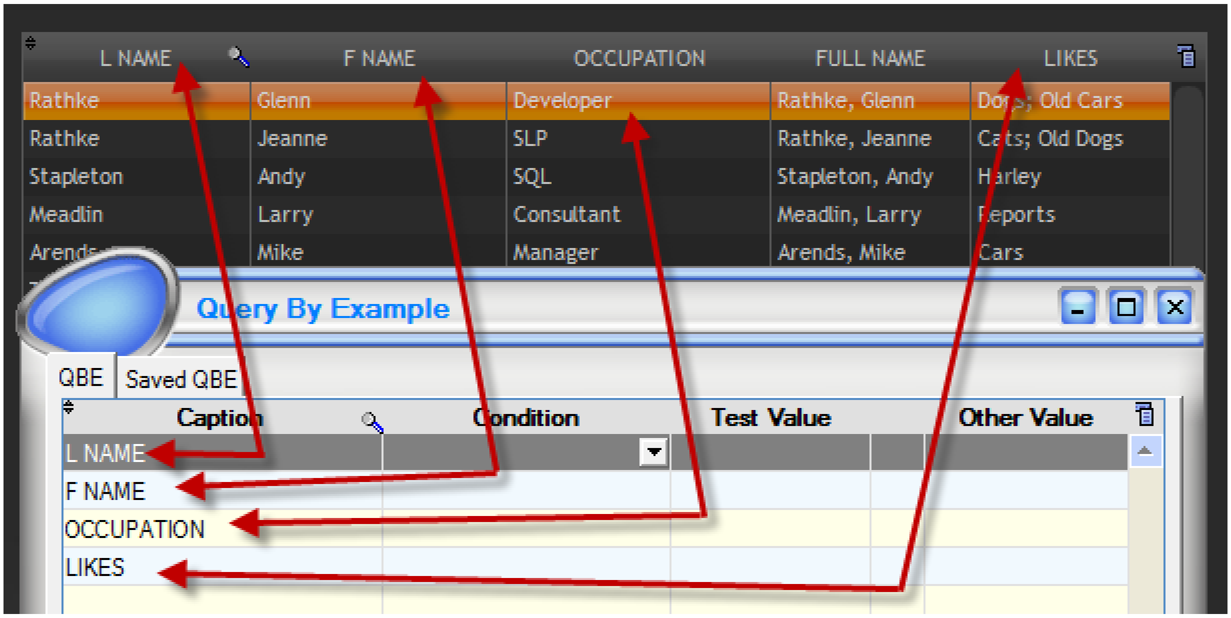
Let's quickly run the example by opening and running the following window:



Project WINDEV_EXAMPLES
  Configurations (WINDEV_EXAMPLES)
  Windows
    00 GETTING STARTED
    01 CONSOLE APPLICATIONS
    02 DATA ACCESS
    03 BUILD BROWSING TABLE
    04 SQL SPECIFIC
    05 QBE
      01 QBE Floating WIndow
        WIN_FIND_RECORDS_QBE
        WIN_Saved_QBE
      02 Regular Browse
        B_PEOPLE_QBE_HFilter
        B_PEOPLE_QBE_SQL

When running you will see:

If the column is visible and has a file link to the Analysis, the 2 values are added to the QBE table that displays the field names. However, only the Caption is displayed as that is what the user sees in the table control column heading on the 'parent' window.



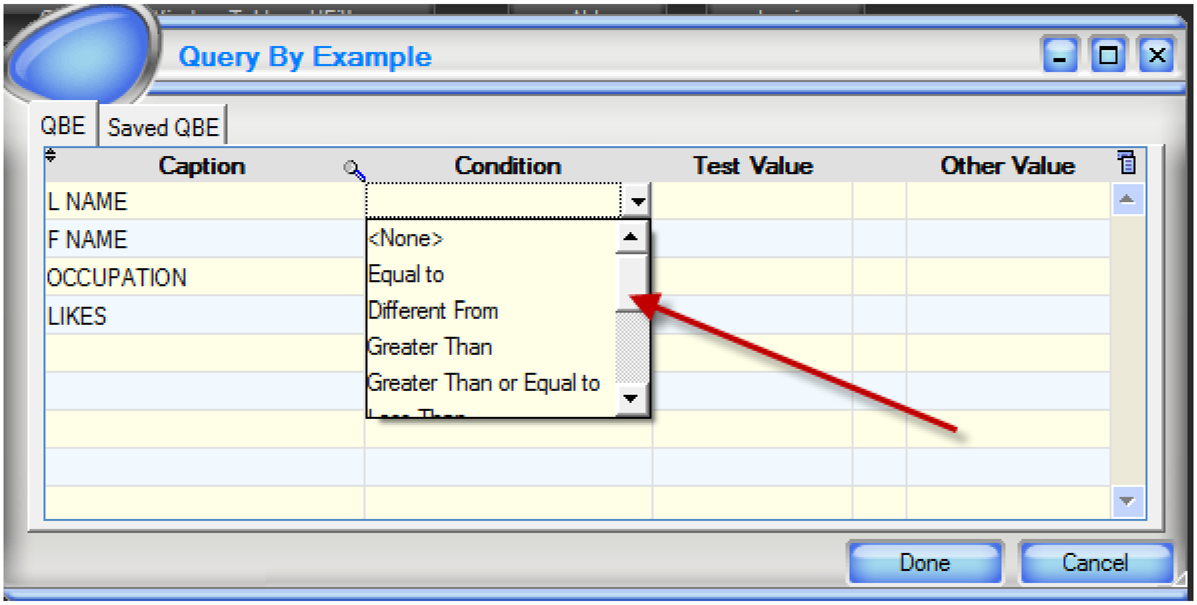
L NAME	F NAME	OCCUPATION	FULL NAME	LIKES
Rathke	Glenn	Developer	Rathke, Glenn	Dogs; Old Cars
Rathke	Jeanne	SLP	Rathke, Jeanne	Cats; Old Dogs
Stapleton	Andy	SQL	Stapleton, Andy	Harley
Meadlin	Larry	Consultant	Meadlin, Larry	Reports
Arends	Mike	Manager	Arends, Mike	Cars

Query By Example
QBE
Saved QBE

Caption	Condition	Test Value	Other Value
L NAME			
F NAME			
OCCUPATION			
LIKES			

FULL NAME does not appear in the QBE because it does not have a link back to the Analysis, but rather it is 'calculated' on the fly of the row display for the 'parent' table.

The contents of the comb box:



Query By Example
QBE
Saved QBE

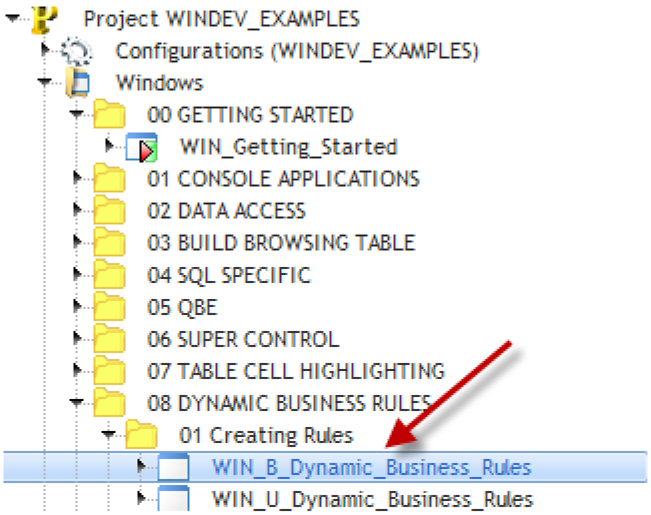
Caption	Condition	Test Value	Other Value
L NAME			
F NAME			
OCCUPATION			
LIKES			

<None>
Equal to
Different From
Greater Than
Greater Than or Equal to
Done
Cancel

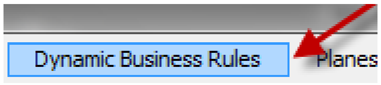
is defined in the table control on the General tab as shown next:

DYNAMIC BUSINESS RULES

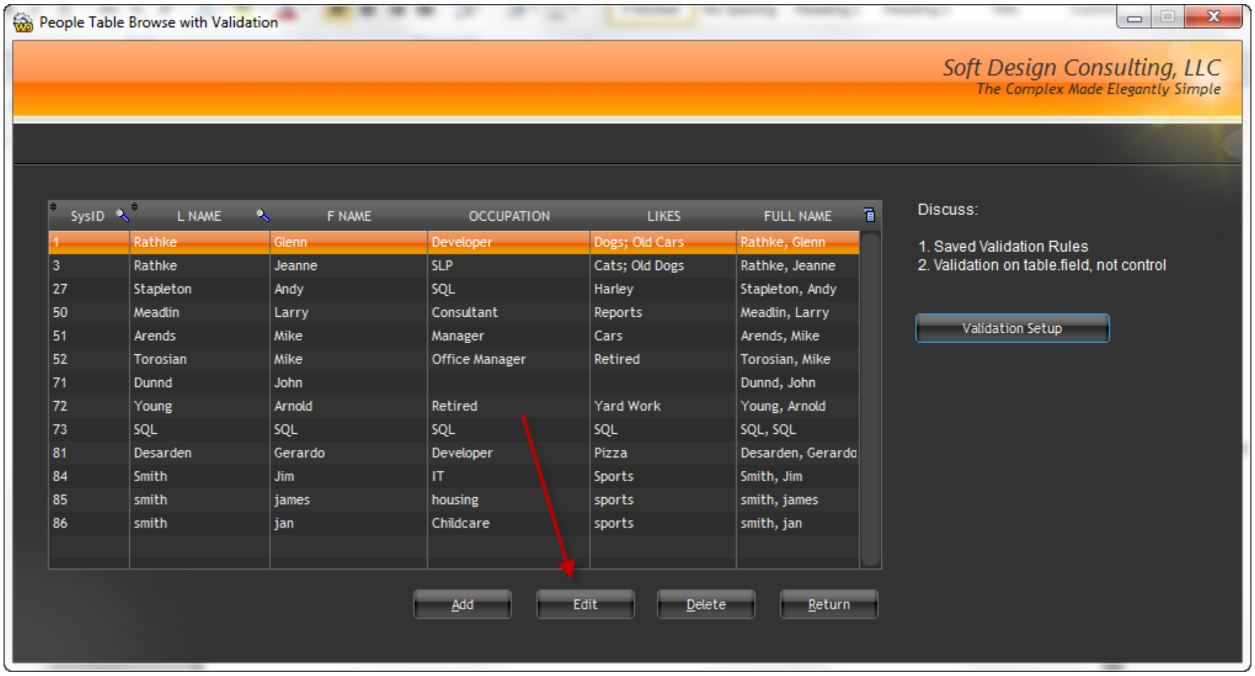
Creation



Project WINDEV_EXAMPLES
  Configurations (WINDEV_EXAMPLES)
  Windows
    00 GETTING STARTED
      WIN_Getting_Started
    01 CONSOLE APPLICATIONS
    02 DATA ACCESS
    03 BUILD BROWSING TABLE
    04 SQL SPECIFIC
    05 QBE
    06 SUPER CONTROL
    07 TABLE CELL HIGHLIGHTING
    08 DYNAMIC BUSINESS RULES
      01 Creating Rules
        WIN_B_Dynamic_Business_Rules
        WIN_U_Dynamic_Business_Rules



Purpose: Graphically create business rules for later dynamic compilation at runtime.


People Table Browse with Validation
Soft Design Consulting, LLC
The Complex Made Elegantly Simple
Validation Setup
Add
Edit
Delete
Return

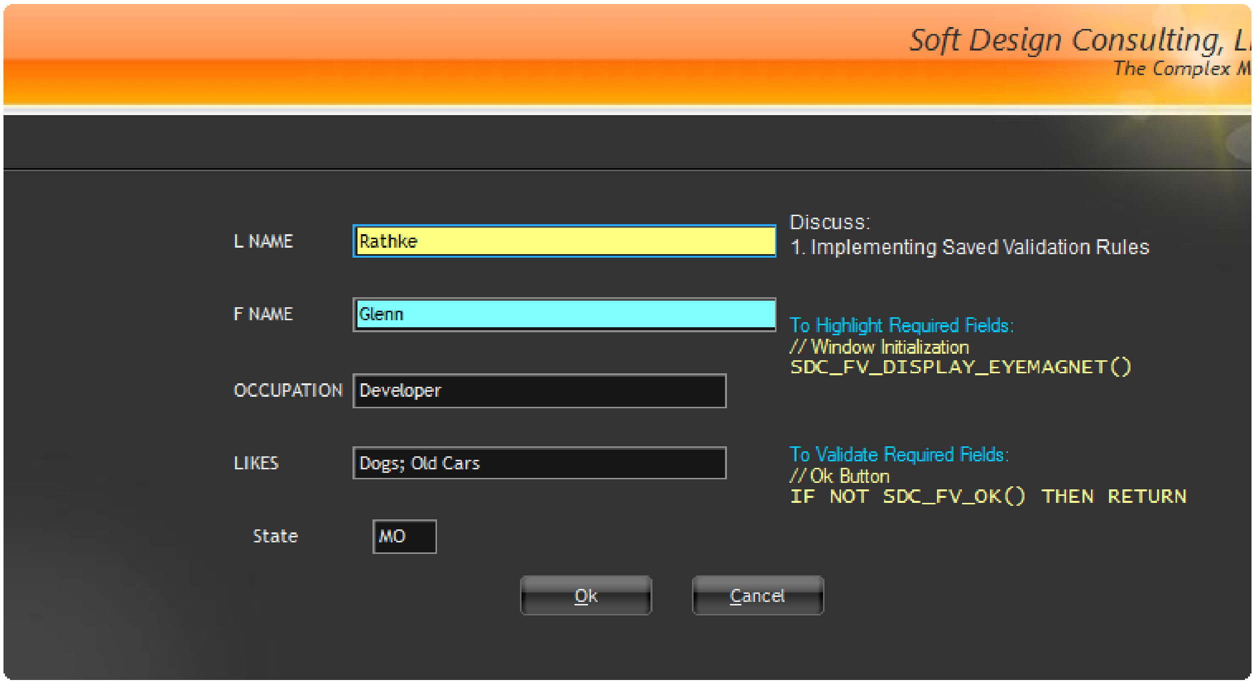
SysID	L NAME	F NAME	OCCUPATION	LIKES	FULL NAME
1	Rathke	Glenn	Developer	Dogs; Old Cars	Rathke, Glenn
3	Rathke	Jeanne	SLP	Cats; Old Dogs	Rathke, Jeanne
27	Stapleton	Andy	SQL	Harley	Stapleton, Andy
50	Meadlin	Larry	Consultant	Reports	Meadlin, Larry
51	Arends	Mike	Manager	Cars	Arends, Mike
52	Torosian	Mike	Office Manager	Retired	Torosian, Mike
71	Dunnd	John			Dunnd, John
72	Young	Arnold	Retired	Yard Work	Young, Arnold
73	SQL	SQL	SQL	SQL	SQL, SQL
81	Desarden	Gerardo	Developer	Pizza	Desarden, Gerardo
84	Smith	Jim	IT	Sports	Smith, Jim
85	smith	james	housing	sports	smith, james
86	smith	jan	Childcare	sports	smith, jan

Discuss:

1. Saved Validation Rules
2. Validation on table.field, not control

Select any record and then select the ‘Edit’ button as displayed below:

Once selected we will see a maintenance form as shown next:


Soft Design Consulting, L
The Complex M
Ok
Cancel

L NAME: Rathke

F NAME: Glenn

OCCUPATION: Developer

LIKES: Dogs; Old Cars

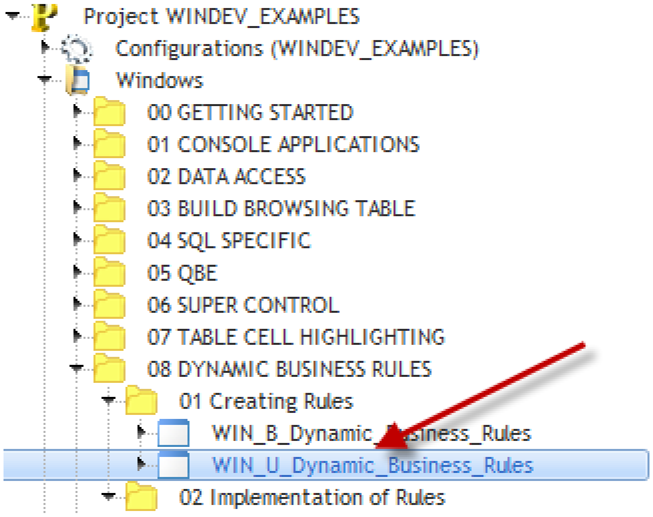
State: MO

Discuss:
1. Implementing Saved Validation Rules

To Highlight Required Fields:
// Window Initialization
SDC_FV_DISPLAY_EYEMAGNET()

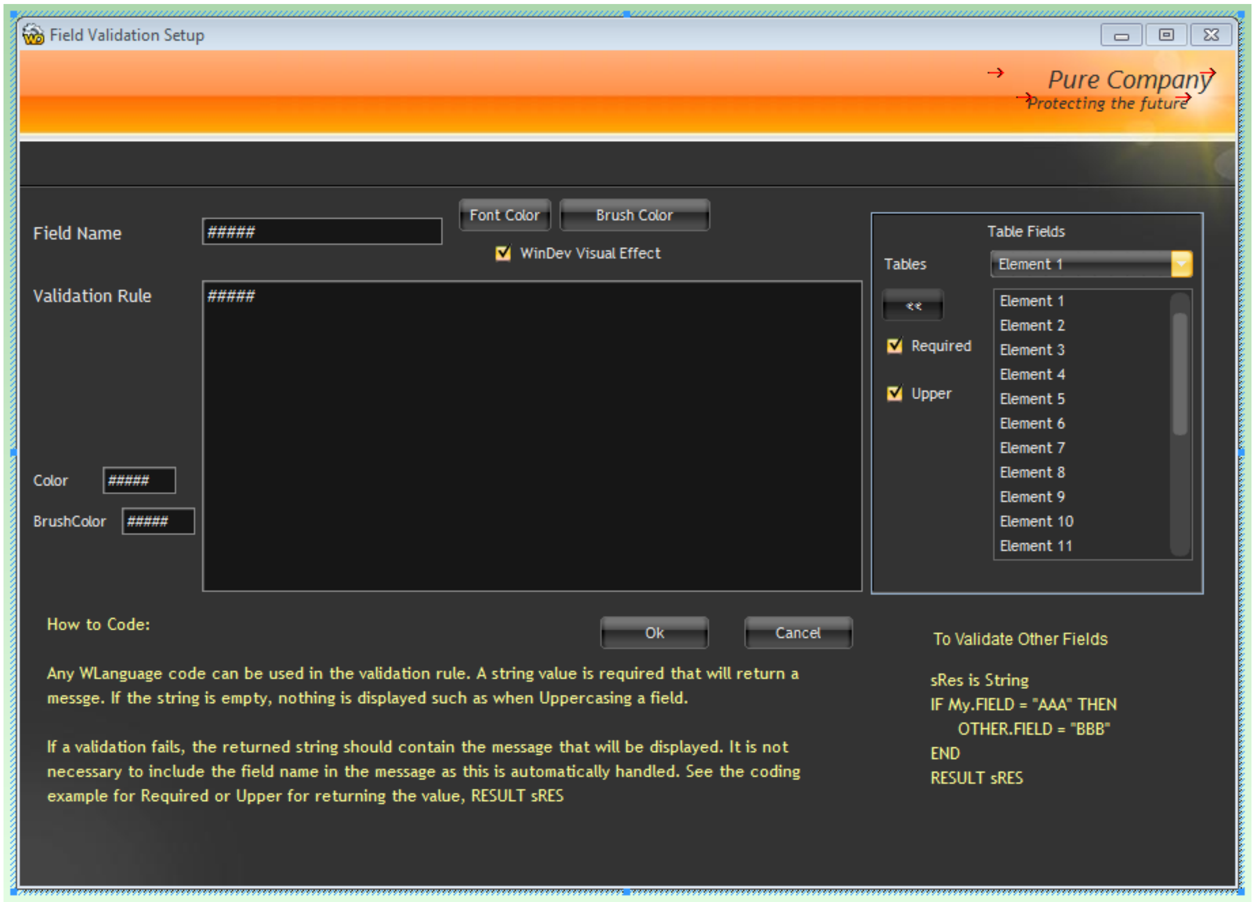
To Validate Required Fields:
// Ok Button
IF NOT SDC_FV_OK() THEN RETURN

Notice that the L NAME and F NAME fields have a different color background. We’ve implemented this visual effect as an ‘Eye Magnet’, as it draws the user’s attention to those controls. Immediately they know something is different about them.



Project WINDEV_EXAMPLES
- Configurations (WINDEV_EXAMPLES)
- Windows
  - 00 GETTING STARTED
  - 01 CONSOLE APPLICATIONS
  - 02 DATA ACCESS
  - 03 BUILD BROWSING TABLE
  - 04 SQL SPECIFIC
  - 05 QBE
  - 06 SUPER CONTROL
  - 07 TABLE CELL HIGHLIGHTING
  - 08 DYNAMIC BUSINESS RULES
    - 01 Creating Rules
      - WIN_B_Dynamic_Business_Rules
      - WIN_U_Dynamic_Business_Rules
    - 02 Implementation of Rules

Once displayed we see:


Field Validation Setup
Pure Company
Protecting the future
Field Name
#####
Font Color
Brush Color
☑ WinDev Visual Effect
Validation Rule
#####
Color
#####
BrushColor
#####
Table Fields
Tables
Element 1
<<
☑ Required
☑ Upper
Element 1
Element 2
Element 3
Element 4
Element 5
Element 6
Element 7
Element 8
Element 9
Element 10
Element 11
Ok
Cancel

How to Code:

Any WLanguage code can be used in the validation rule. A string value is required that will return a messge. If the string is empty, nothing is displayed such as when Uppercasing a field.

If a validation fails, the returned string should contain the message that will be displayed. It is not necessary to include the field name in the message as this is automatically handled. See the coding example for Required or Upper for returning the value, RESULT sRES

To Validate Other Fields

```
sRes is String
IF My.FIELD = "AAA" THEN
    OTHER.FIELD = "BBB"
END
RESULT sRES
```

The display of the tables in the Table combo box, and the listing of fields in the fields list box has already been covered in the QBE where we covered `HListFile` and `HListItem`.

The validation of the 'Ok' button where we handle the `HAdd`, `HModify` and dynamic compilation have previously been covered too. The only new topic here is the color picker used for the Font Color and Brush Color buttons shown next:

The function loops through all the controls on the form, as we had done when displaying the eye magnets but this time is only returning the business rule.

We then dynamically compile the rule and execute the process. If a returned value is present we then display that as a message using Info.

Customer Testimonials

Dave: ... then along comes the training materials from Glenn. As a beginner, I started through the manual and it was pretty slow going. Then I discovered the (optional) "streaming videos" that go with it.

Holy Crap, Marie! I'm now two hours into the training and the knowledge blanks that have been filled in are amazing.

There is so much stuff in this....If you are serious about WinDev and don't rate yourself at "8" or higher, you will get value returned in both money and time. This is especially true if you are coming from Clarion. This is the first time I have understood (even a little) the purpose of indirection. I look forward to expanding on it.

Wolfgang: I am really glad you got around to the Glenn's materials. Now you are cooking... and really fast. My experience with WX went from one to about six/seven within a few hours with his Training Material. The rest came about easily because of the solid foundation work done by the Training Materials.

Kevin: Just spent a wonderful 4 days in West Palm beach with Glenn Rathke learning the in's and out's of WinDev. His knowledge of the product and programming is unsurpassed. Was able to learn more than the basics in 3 1/2 days, ask questions and explore specific issues.

Brian K. Reid: Your videos made all the difference. They are a great resource. I'm a visual creature and combined with your voice.... perfect for this work. I'm working on my 3rd Windev project this month. What an absolute pleasure... My productivity is considerably better and feature rich than I thought possible... I re-watched his (Soft Design Consulting, LLC) videos recently after a 6 month hiatus on Windev, it was just what I needed to wire myself into the WX world. Thanks again Glenn and Arnold for producing those videos.

Alan Cochran / Water Systems Incorporated: I especially like the "coverage of the IDE and explanation of the WLanguage. The class was very informative. A must for beginners of WinDev, WebDev, and WinDev Mobile. But would be helpful for experienced developers as well. I would pay for up to date documents and examples if available"

Don Schoen / American Litho:I especially like the "Flexibility, thoroughness, real world examples were pertinent to our needs and requirements"

John Rae: I especially like the "Practical knowledge of the instructor and informal interchange among the participants, depth of the examples"

Arnold Young: The real bonus of Glenn's training is the really cool and practical code in his many example apps!"

Scott Cruse / Everett Cash: "Glenn was patient and provided great examples. Glenn laid out a perfect mix of instructional time to hands on time."

Mark Robbins / University IT Director: “Glenn is very knowledgeable and experienced with WebDev, and his training is efficient and effective. He crafted the training to meet our needs, made samples to assist us, and provided clear explanations.”

Andy Stapleton / Cowboy Computing Solutions: “After 30 years of programming changing languages can be tough, in my conversion to using Windev and its products Glenn was invaluable as a resource and training mentor to make the transition possible as well as enjoyable.”

Tim Fischbeck: “Glenn is the consummate professional with the heart of a teacher. We have recommended him and his services for countless customers and have received nothing but positive feedback. Glenn is very valuable to our business and the WinDev/WebDev/WinDev Mobile community as a whole.”