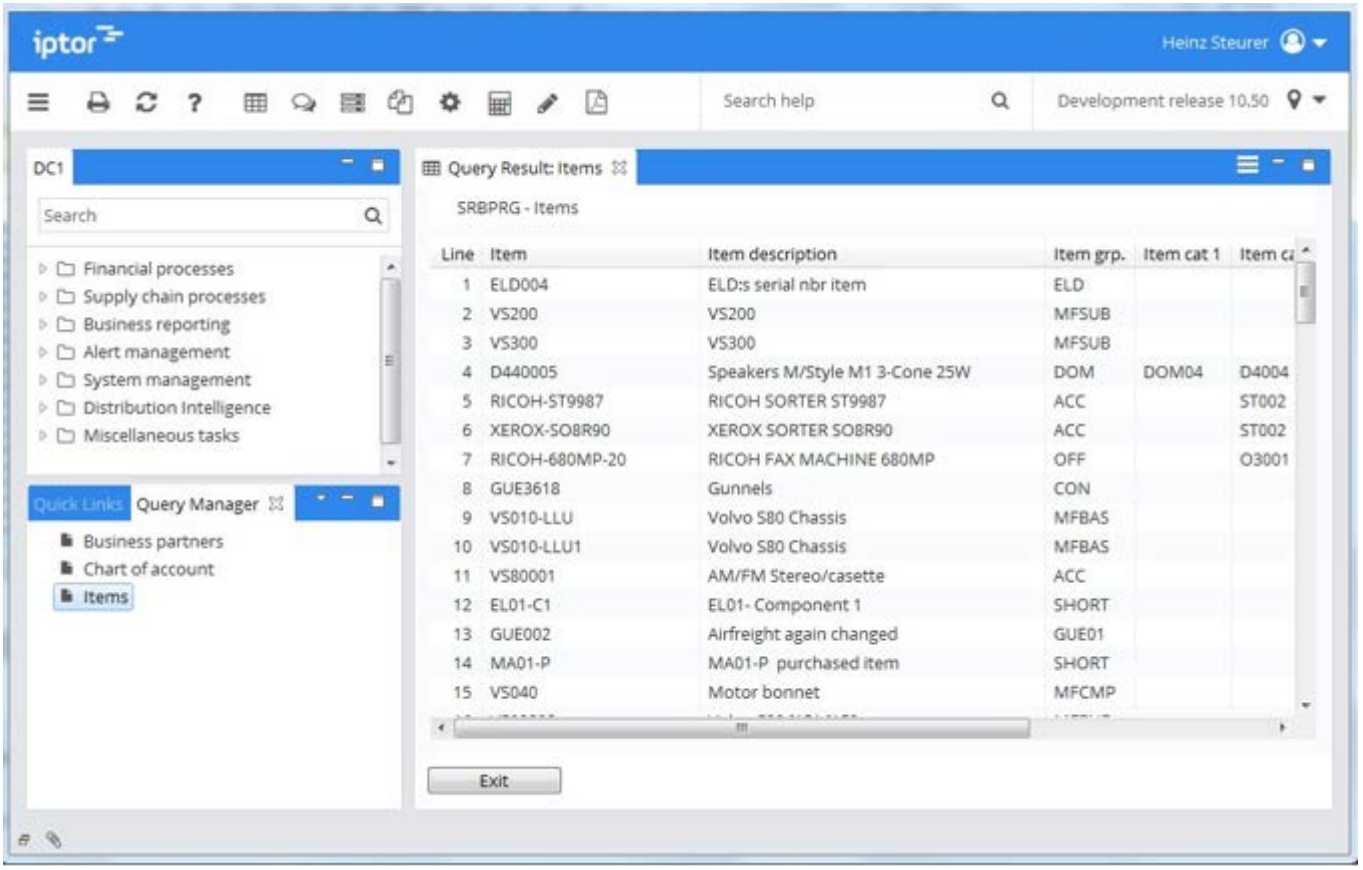
Working with XT Queries

Contents

Introduction

XT Query Manager (QM) is used to create queries against the application server's database and is fully integrated with the XT Client. Query definitions can be managed centrally and shared between users. Depending on authority level users can run, manage and share queries.
By following the example in this document, you will learn to create a query, run it and export the result.

This document is valid for XT UI versions higher than v3.0.0x

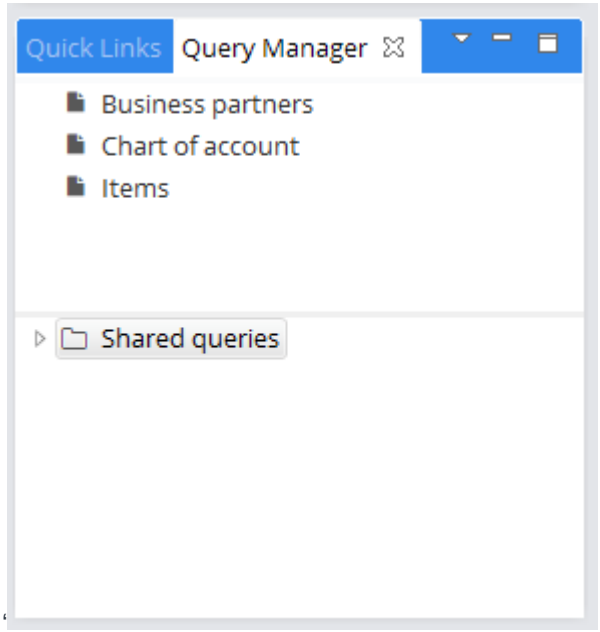


Related documents:

'**How to share XT queries**'
This document describes how to enable the Shared queries function

XT Query Manager View

Start the Query Manager view by clicking on this icon on the XT Client's toolbar. The Query Manager view opens inside the XT Client workbench. All XT Query related functions are started from this view. The list inside the view can contain folders and query definitions. The functions are started from the toolbar or by right clicking on objects in the list.



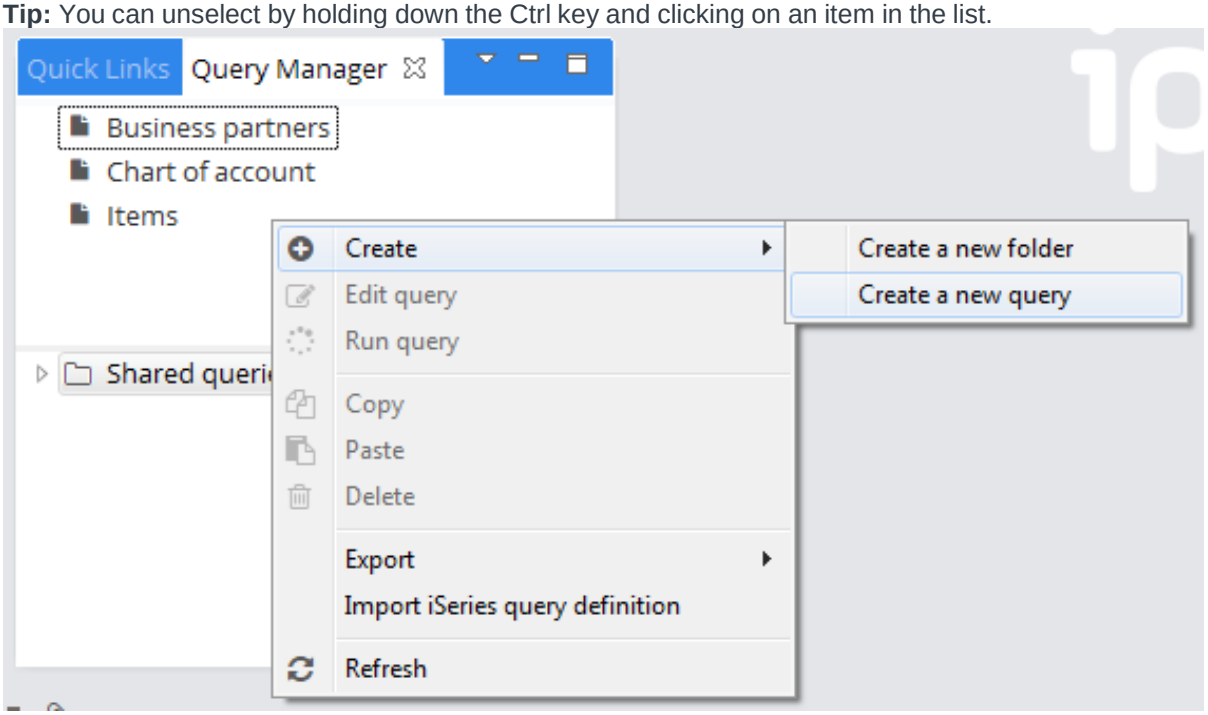
Query Manager functions:

- Managing query definitions
- Running queries
- Exporting query results
- Managing query definition folders
- Importing OS/400 query definitions
- Sharing queries

The QM functions can be started by clicking on the arrow in the view title area or by right-clicking on the query list.

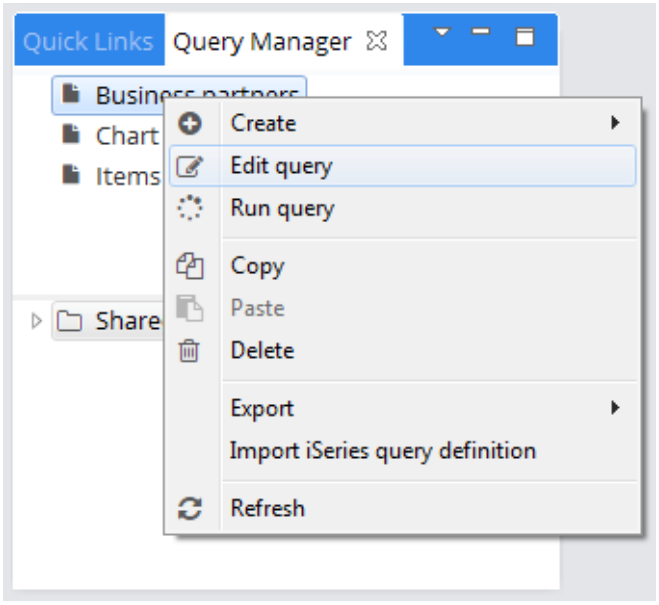
Menu shown when right-clicking without selection:

Tip: You can unselect by holding down the Ctrl key and clicking on an item in the list.

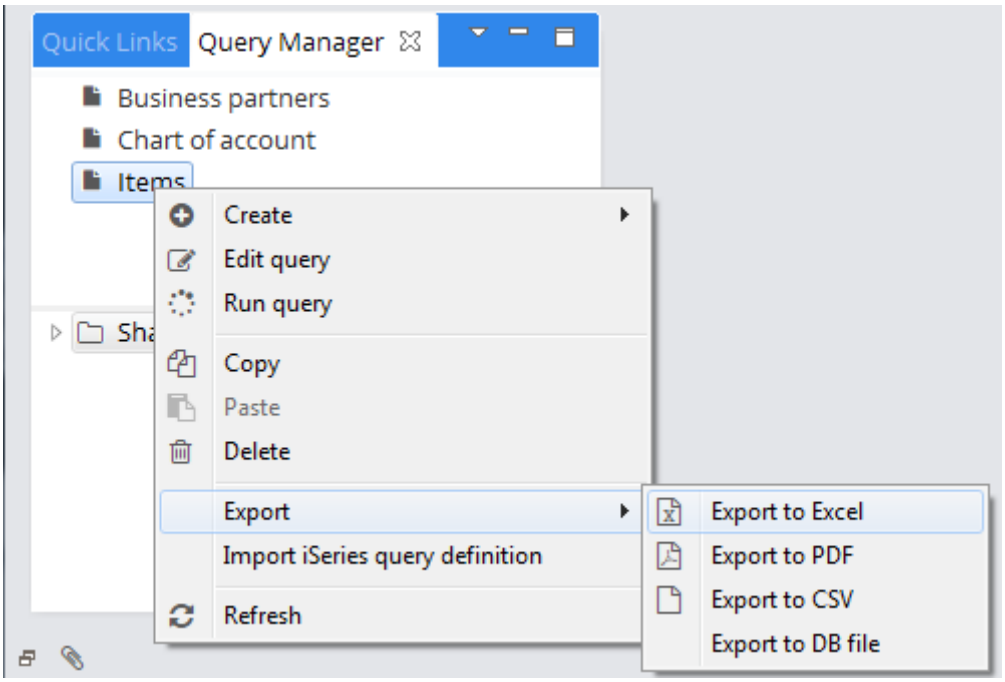


From this menu you can create new folders and queries. There is also the option of importing OS/400 query definitions and saving them as QM query definitions.
See chapter **Importing OS/400 query definitions**

Menu when right-clicking with selection:



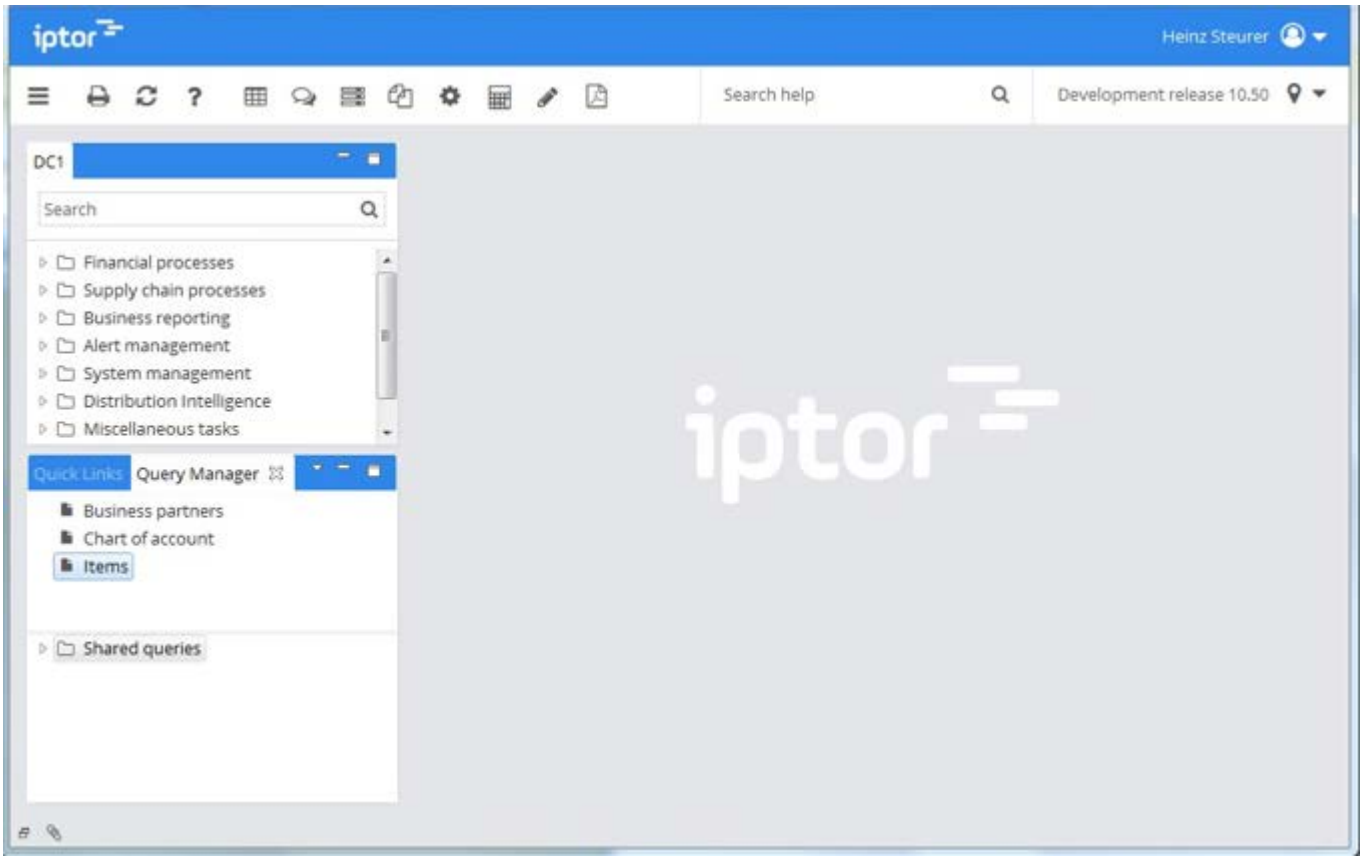
Query export menu:



Tip:
Default iSeries file and library names for option ‘Export to DB file’ can be entered in the query definition’s settings tab-page.

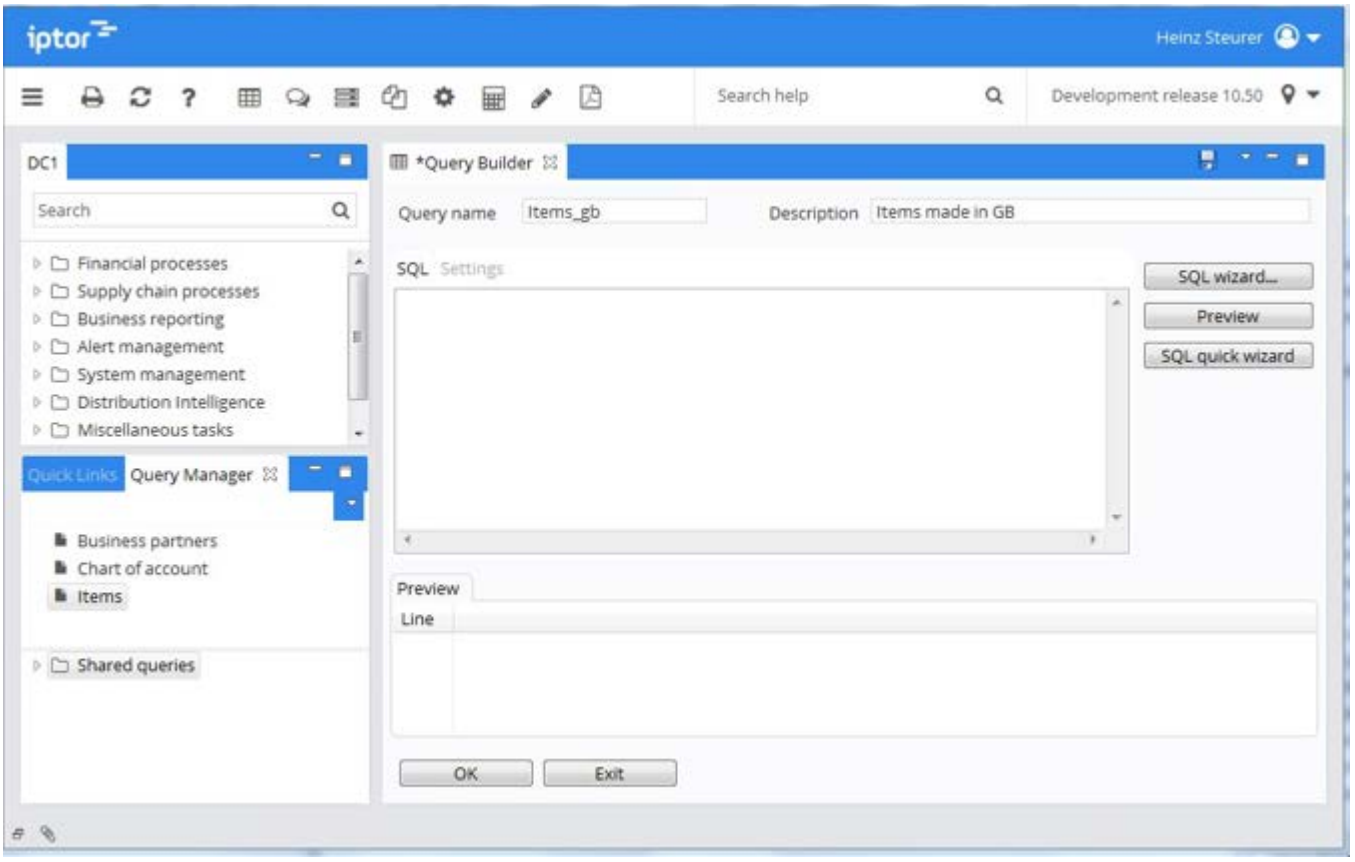
XT Query example

In the following example you will create an item file query.
Click on the '**Run Queries**' icon on the XT client's toolbar. The Query Manager view is opened.



In this example the QM view is split into two parts. The top-part is used to manage and run XT queries, the bottom-part is used to manage and run shared queries. For more information about the 'Shared queries' feature please see chapter **Sharing XT Queries**.

On the Query Manager view's toolbar click the 'Create a new query' icon.

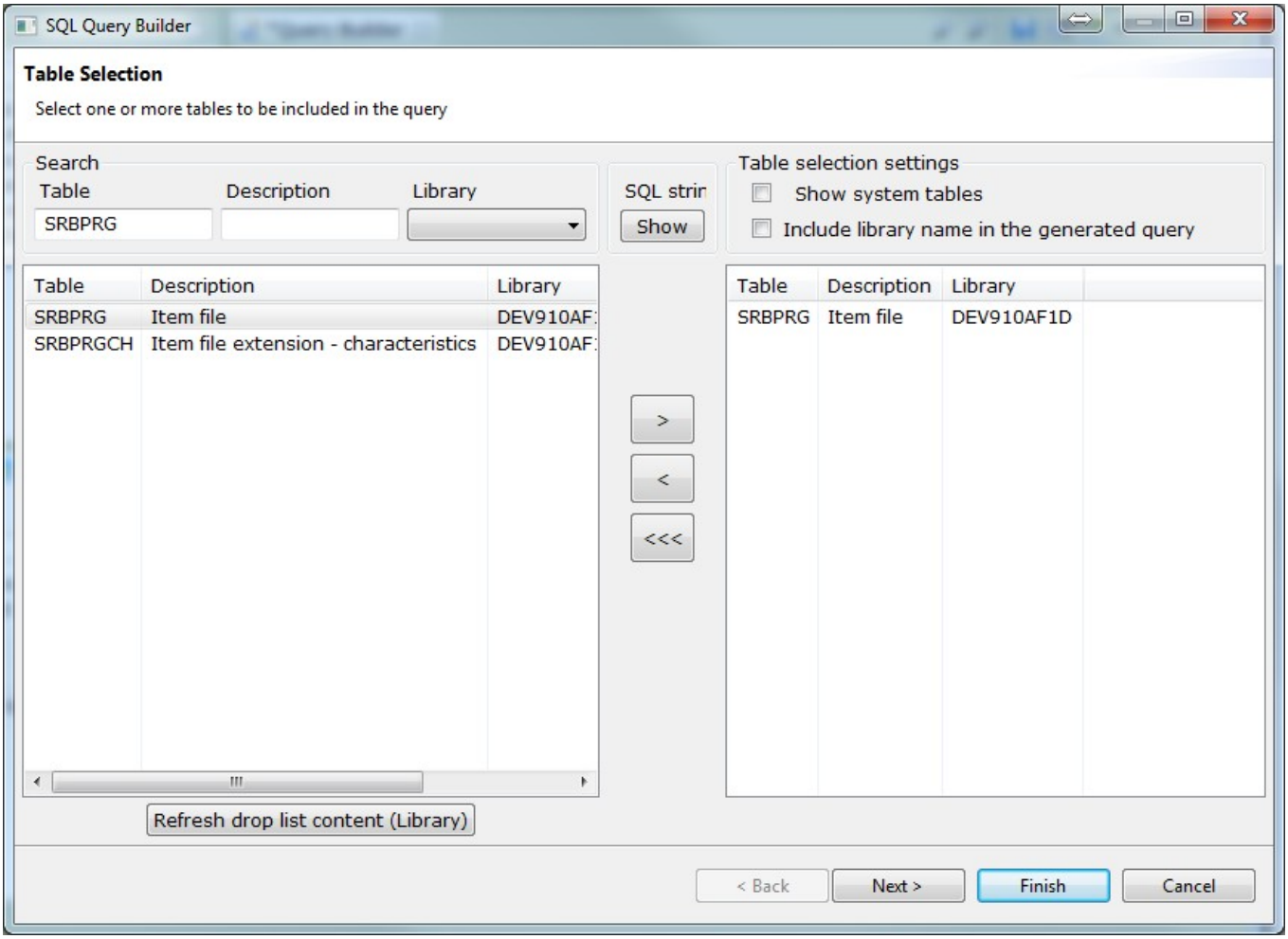


Enter name and description of the query definition. Switch to the 'Settings' tab and select which type of headings to use for your query columns. You can also use iSeries file and library name as default for exporting query results to an iSeries file. The information on this page can be changed at any time. Go back to the 'SQL' tab and click the '**SQL Wizard**' button.

Tip:
Button named '**SQL quick wizard**' can be used when changing selections/sequence in existing query definitions. This wizard is much quicker because file definitions have not to be retrieved from the server.

Selecting files

Using the following wizard steps, you will create a query definition on the Items file.



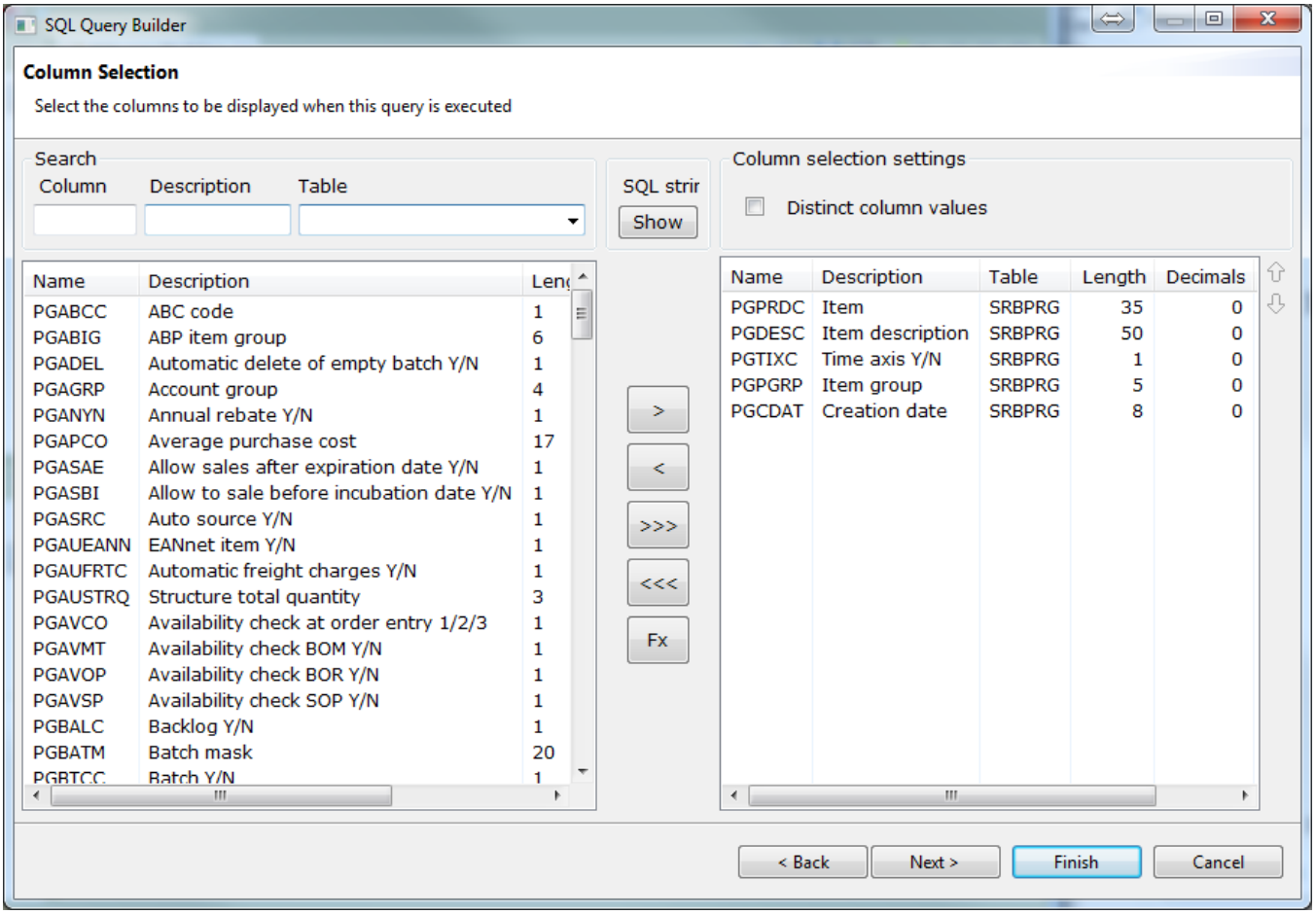
Enter the file name or part of the name in the search field. Include the item file in your query by double-clicking or by clicking on the '>' button.

Tip:
'Refresh drop list content (Library)' button
Due to performance and response time reasons the list of libraries is cached on the dispatcher server. Pressing this button will refresh the list contents from the database server.

'Show SQL string' button
Clicking this button will open a window with the current SQL string.

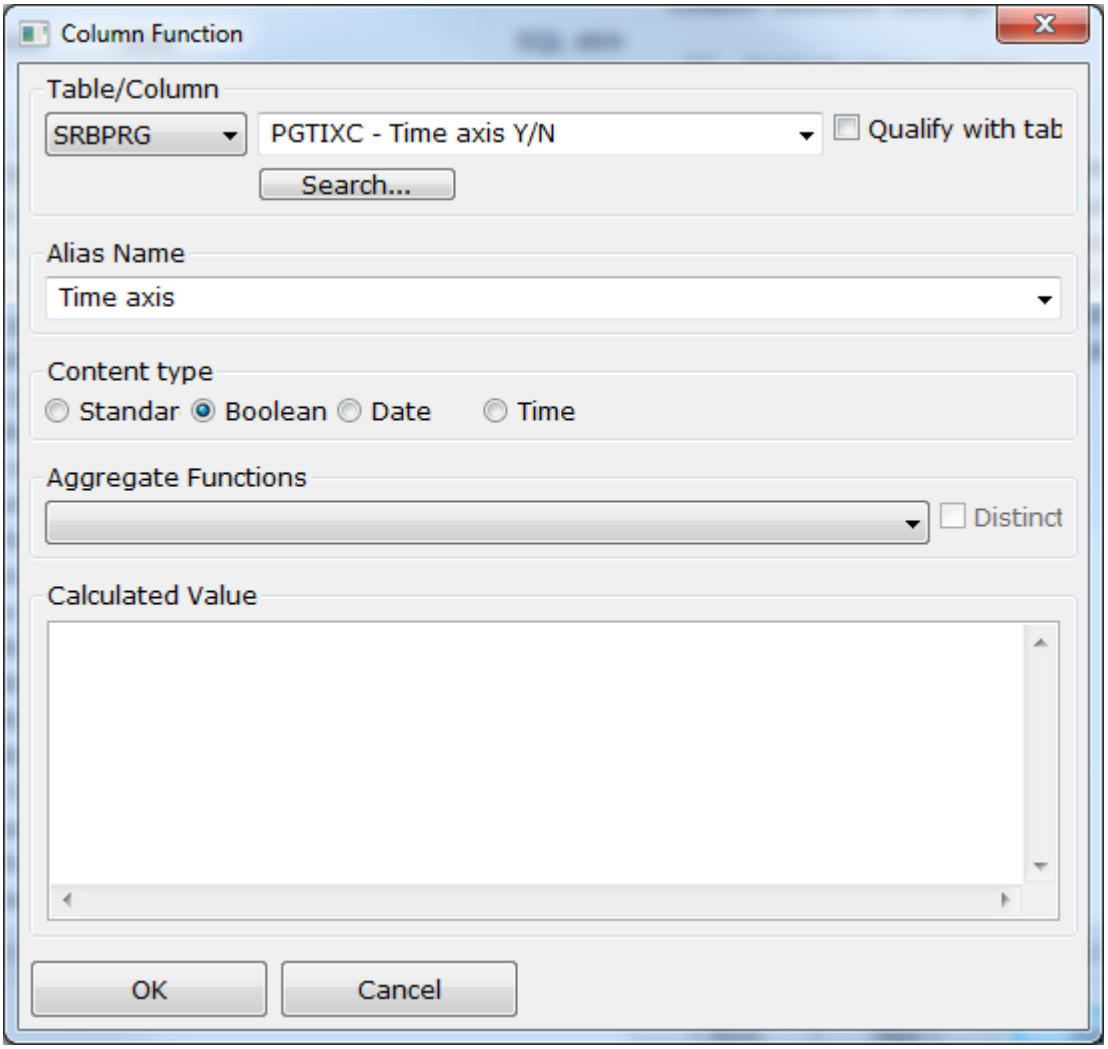
Click on **'Next >**'.
Use the search field to locate columns you want to include in the query. Include with double click or by pressing the '>' button.

Selecting columns

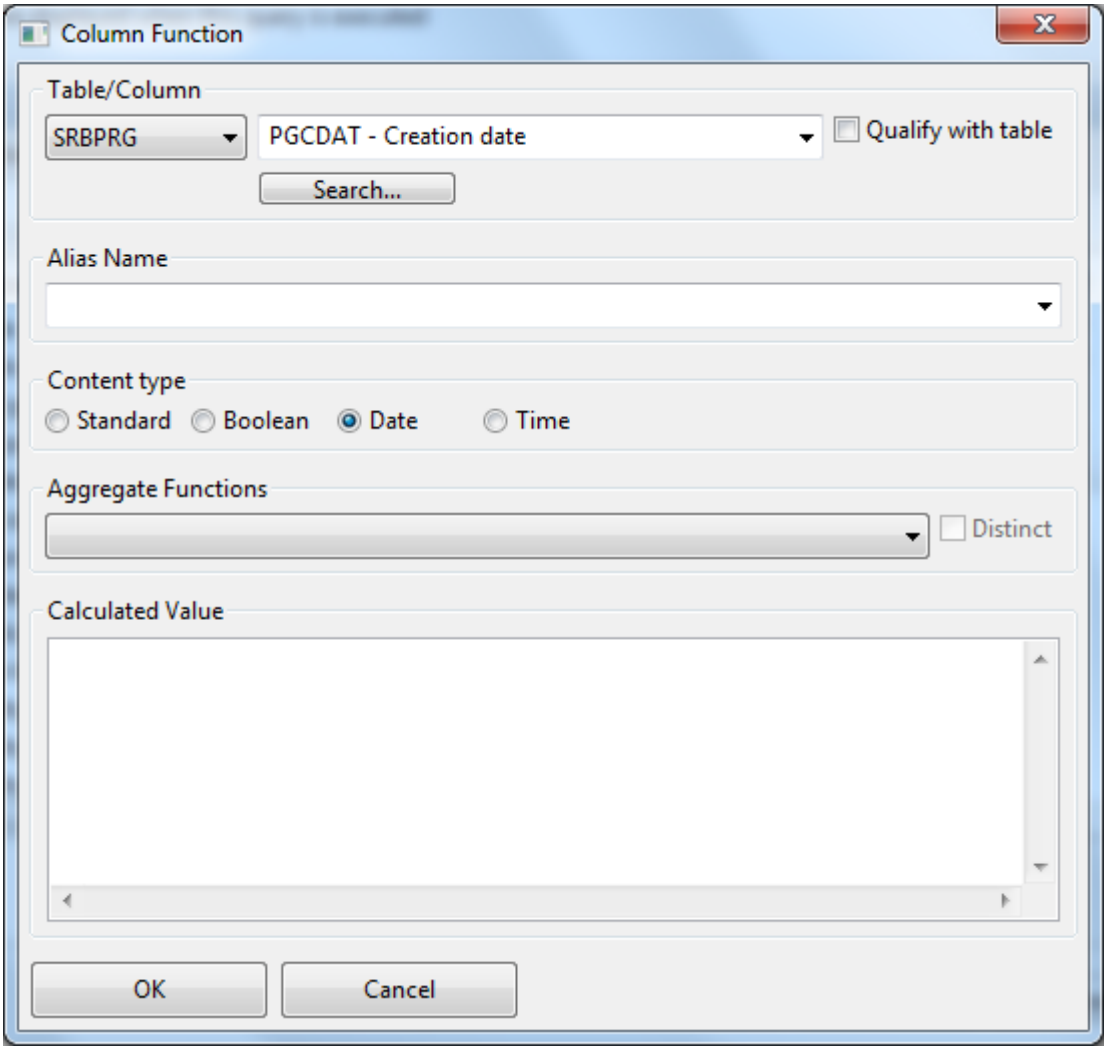


Editing column properties

You can edit the properties for the included columns. In this example columns '**Time axis Y/N**' and '**Creation date**' should be changed.

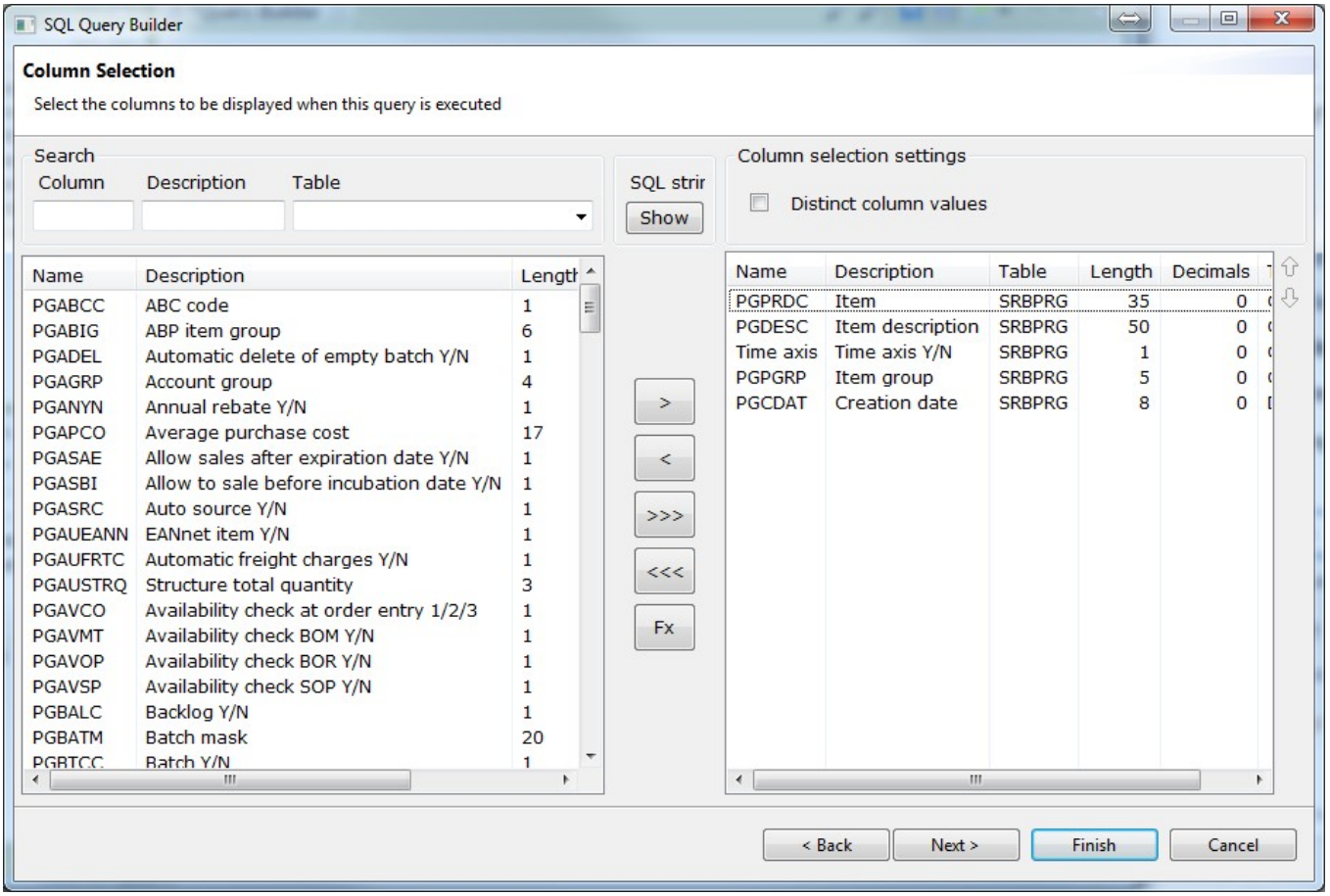


For the **Time axis** column enter alias name 'Time axis' and select Boolean as content type.



For column **Creation date** select Date as content type.

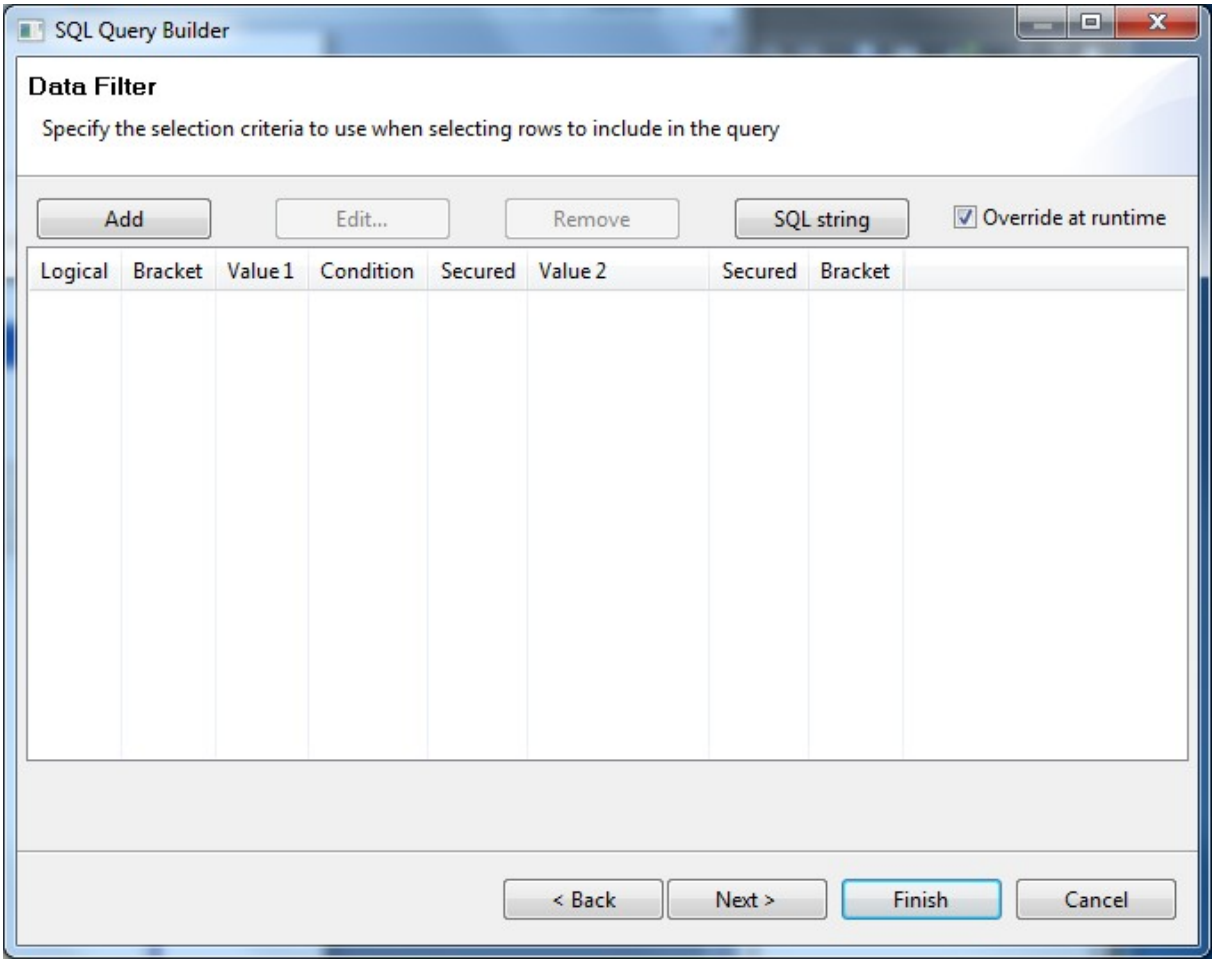
Selection of content type will improve the presentation of the query output. E.g. Yes/No columns will be shown as check-boxes and date columns will be formatted according to your computers regional settings.



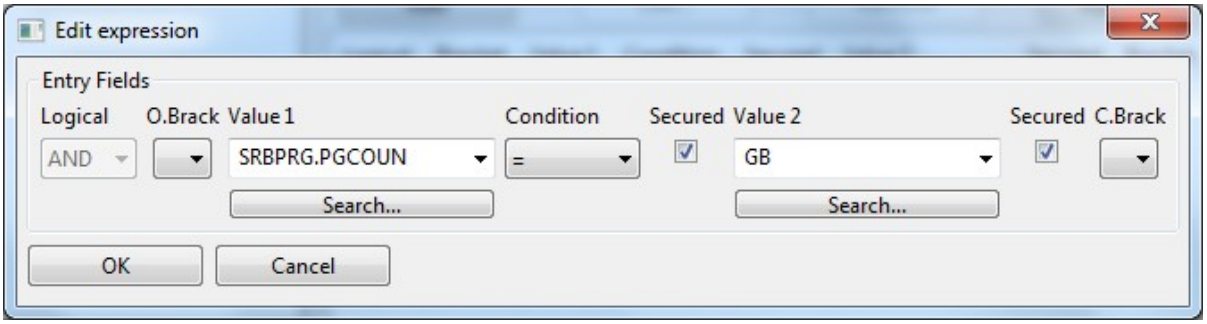
Click on '**Next >**'.

Adding data filters

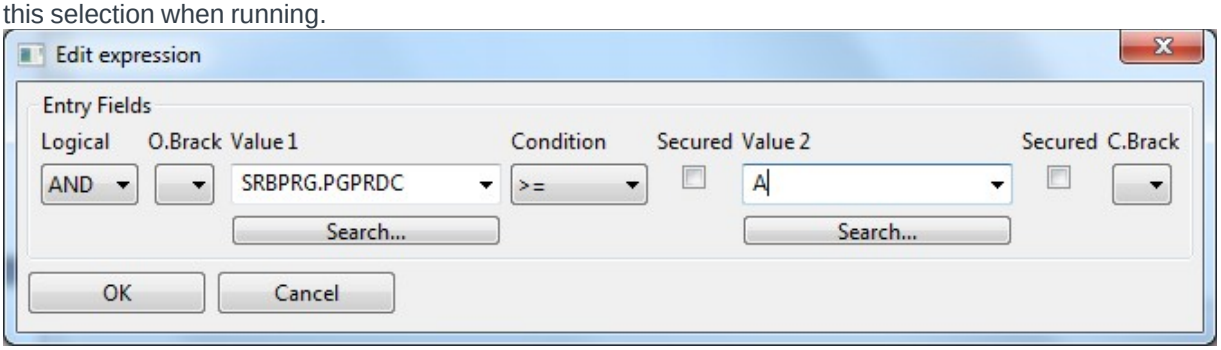
Select check-box named '**Override at runtime**'. This allows changing the filter when running the query even if the user is not authorized to maintain the definition. Click the 'Add' button.



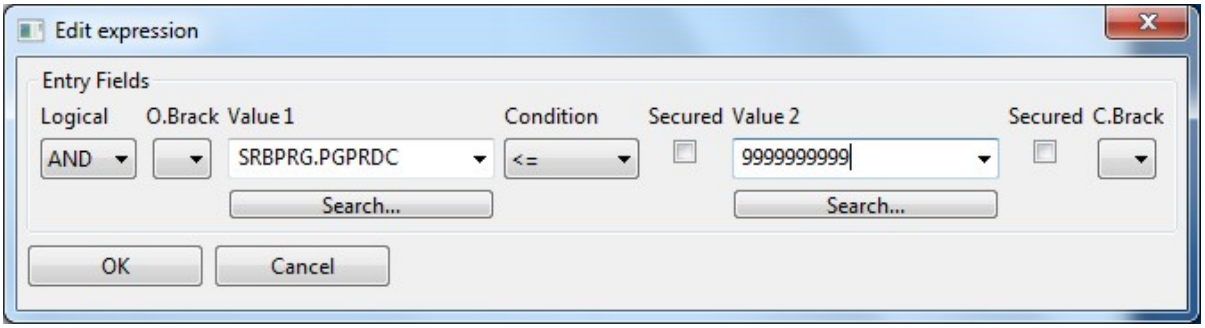
Add fixed selection on country. Checking '**Secured**' for both Condition and Value 2 will protect this selection when running the query.



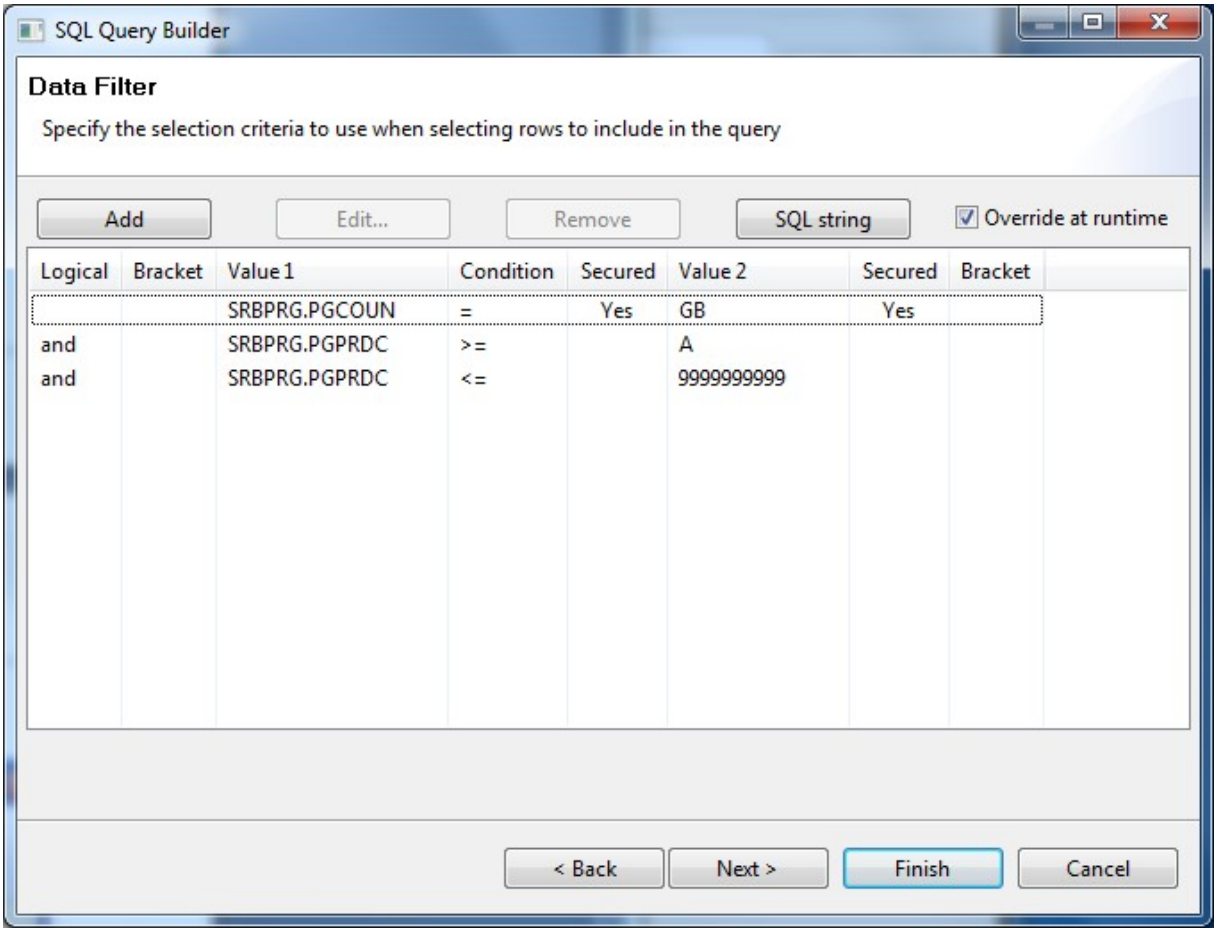
Add editable selection 1 on item code. Since the ‘Secured’ check-box is not ticked the user will be able to override this selection when running.



Add editable selection 2 on item code. Since the ‘Secured’ check-box is not ticked the user will be able to override this selection when running.

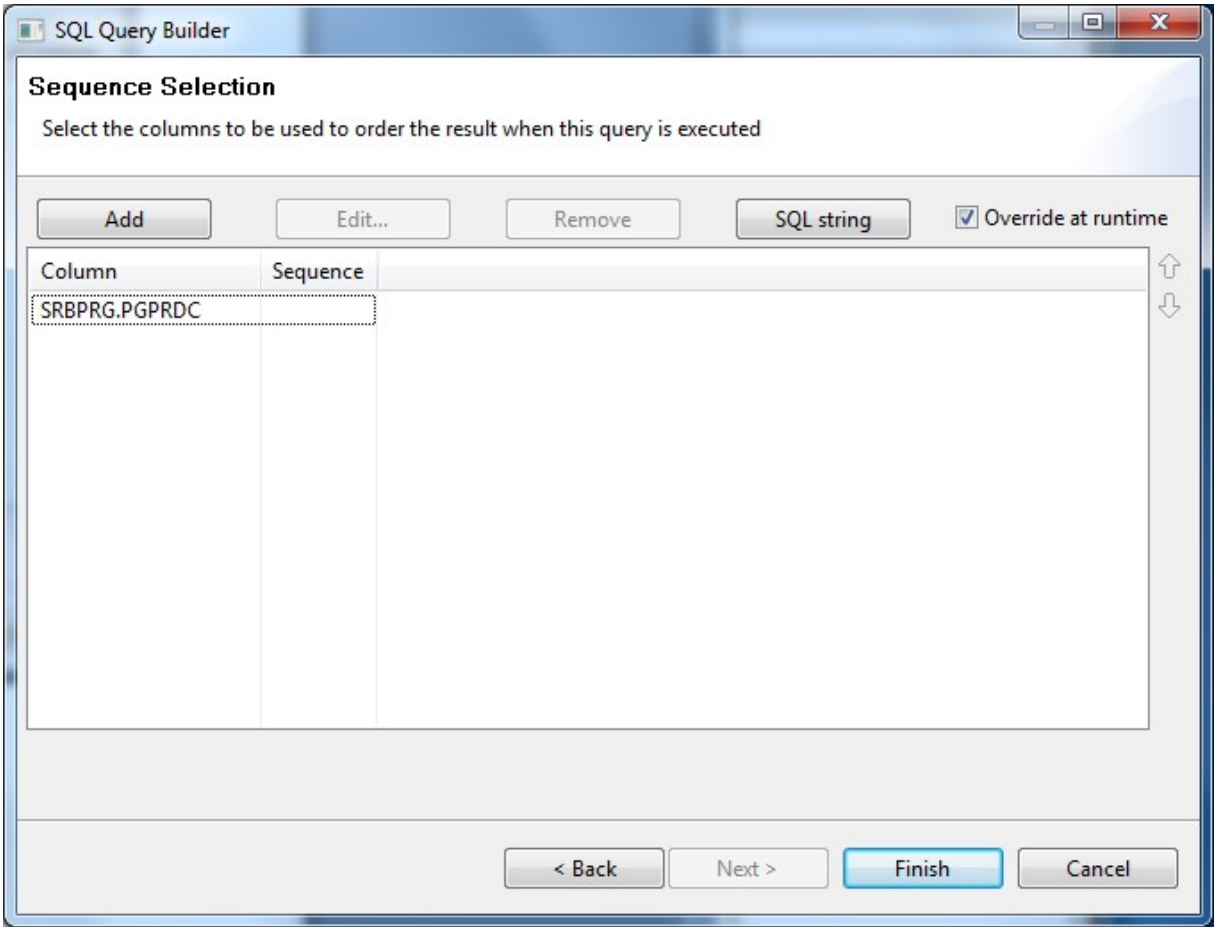


The above filter allows users without query management rights to make item code range selections when running the query. Only items for country ‘GB’ are included in the query.



Click on ‘**Next >**’ until the ‘Sequence selection’ page is shown.

See also sections **How to use variables in query selection** and **Starting XT Queries from panels**

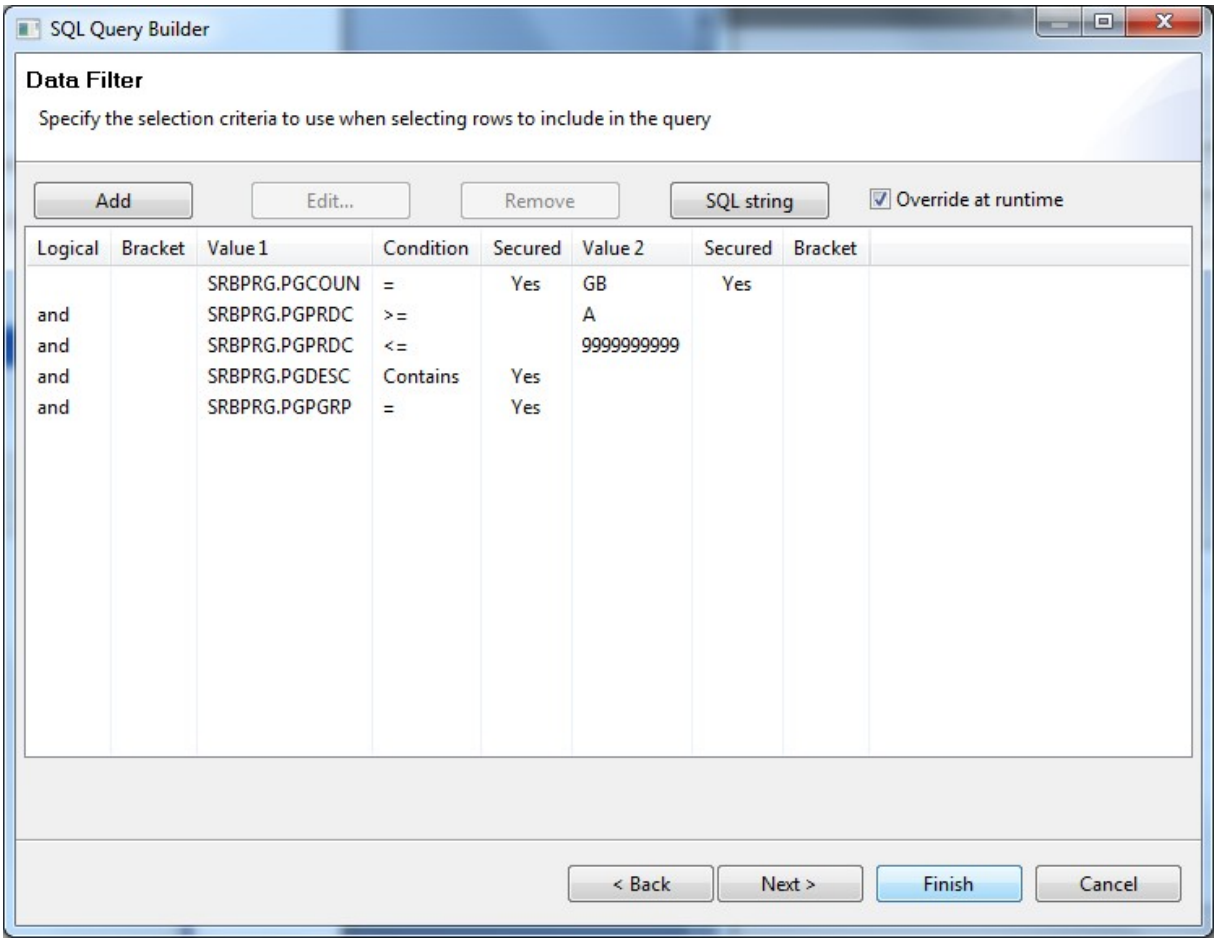


Select the item code as sequence and click **'Finish**'.

Runtime selections

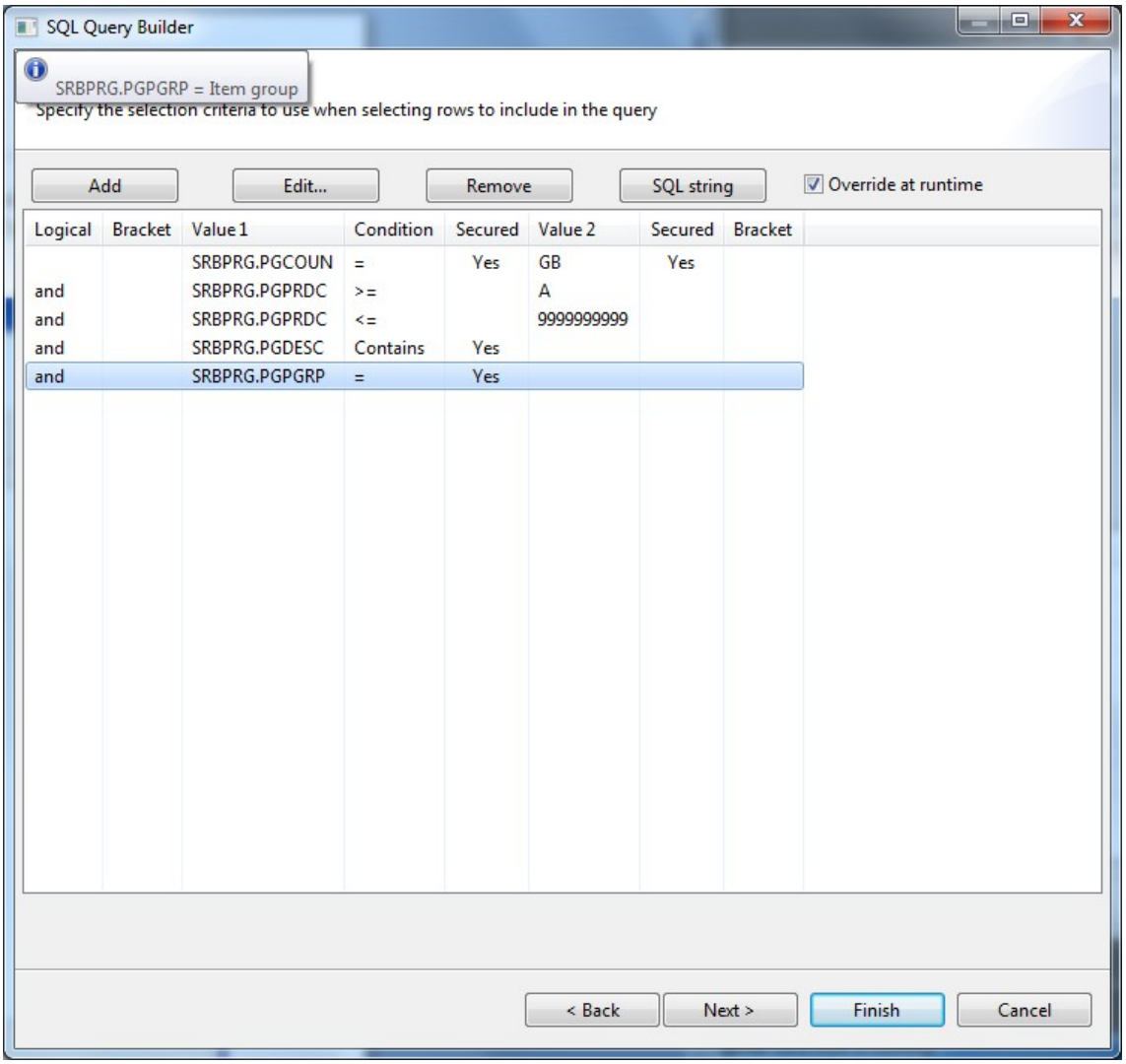
In order to allow runtime selections for a query checkbox '**Override at runtime**' must be checked.

Note: Only unsecured columns can be overridden.
You can include columns in the filter with empty **value2**. This is a way to include columns in the filter to be used during runtime.



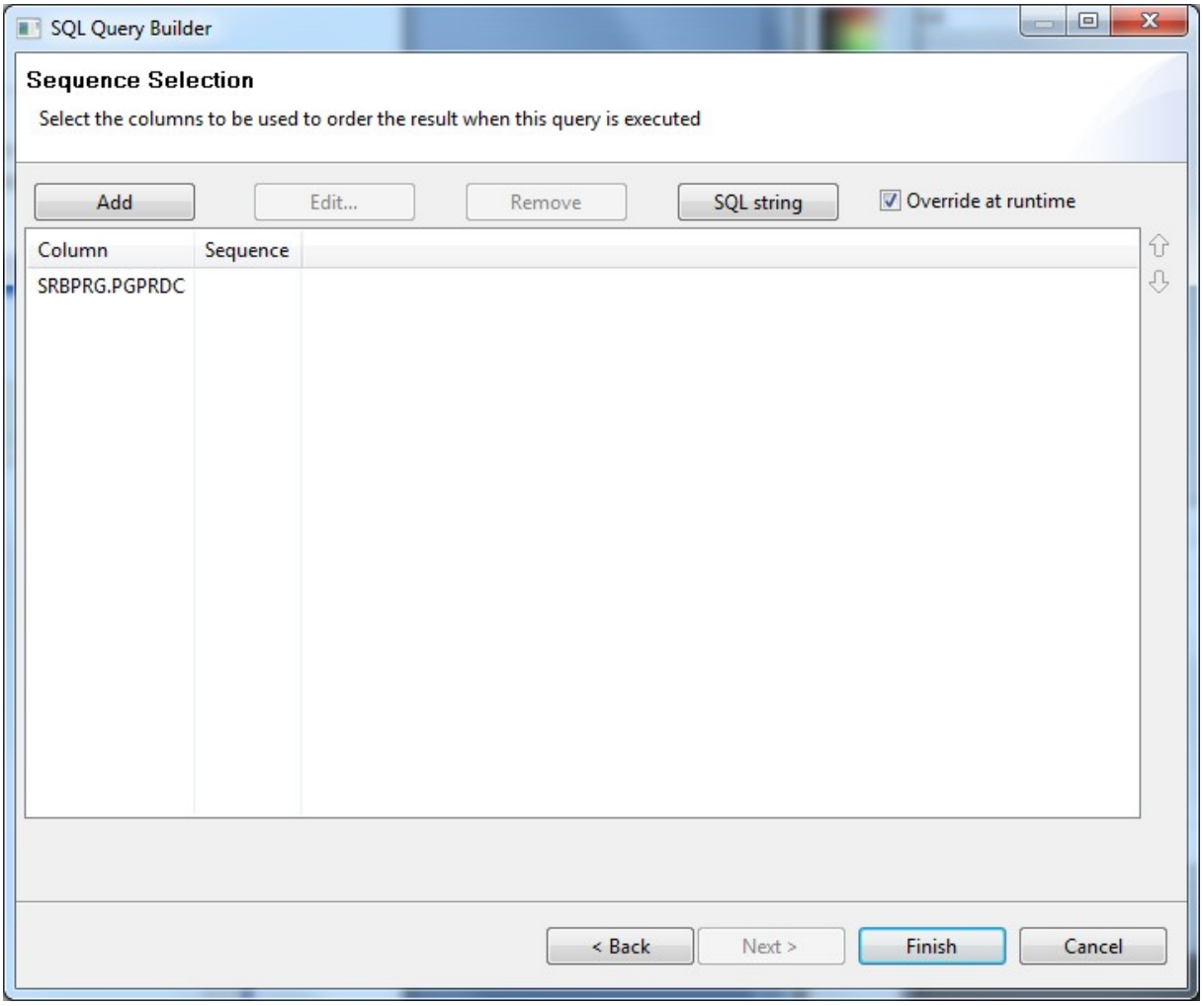
In this example users running the query are allowed to make runtime selections on item code, item group and item description since these are not secured. However, only data belonging to country code 'GB' will be shown because country code is a secured (fixed) selection.

Tip: You can activate a tooltip function to show the description of the columns included in the filter. To activate the function right-click on one of the columns and select option '**Show column description**'.



Sorting records

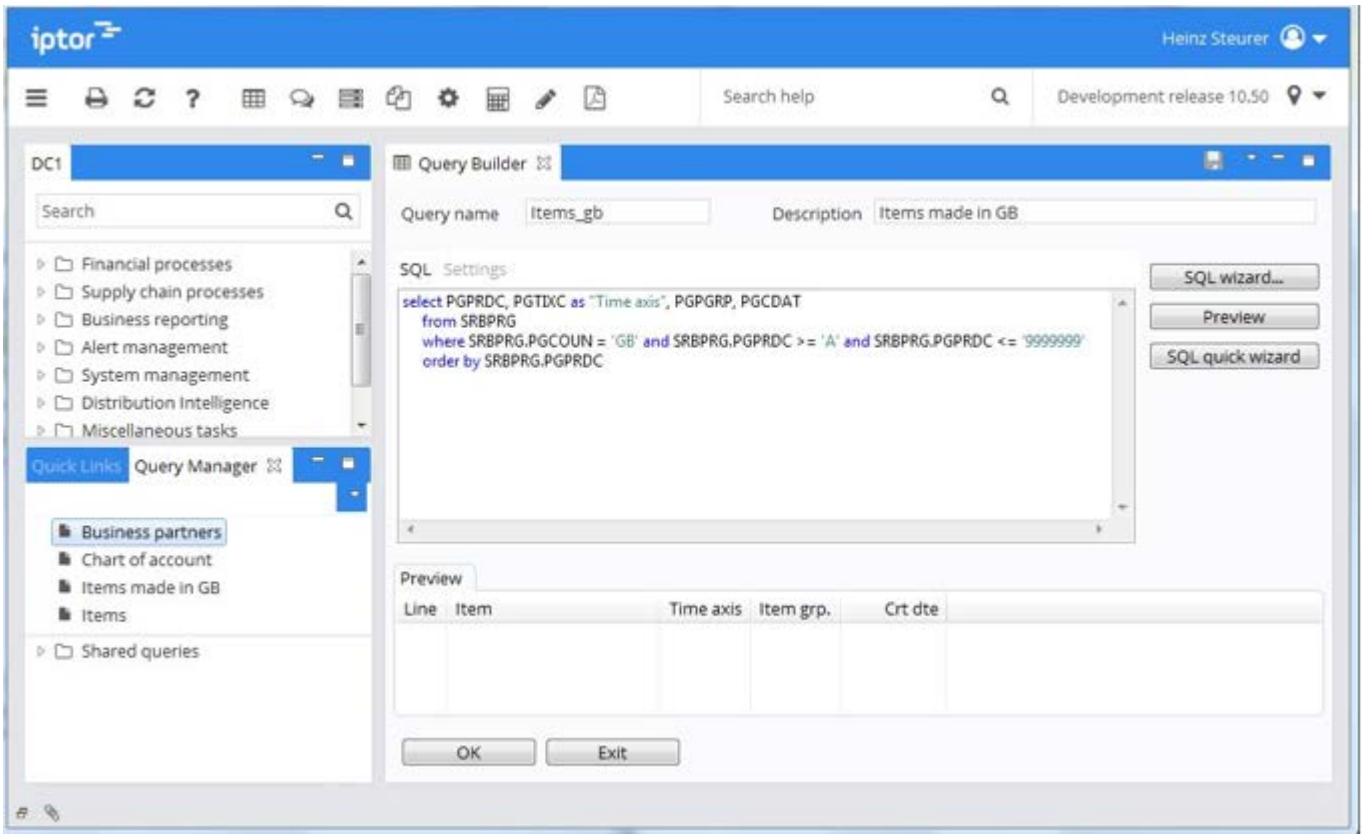
Selection check-box named '**Override at runtime**' will enable the user to change the sorting of the data when running the query. Click the 'Add' button and create default sequence on item code.



Click '**Finish**'.

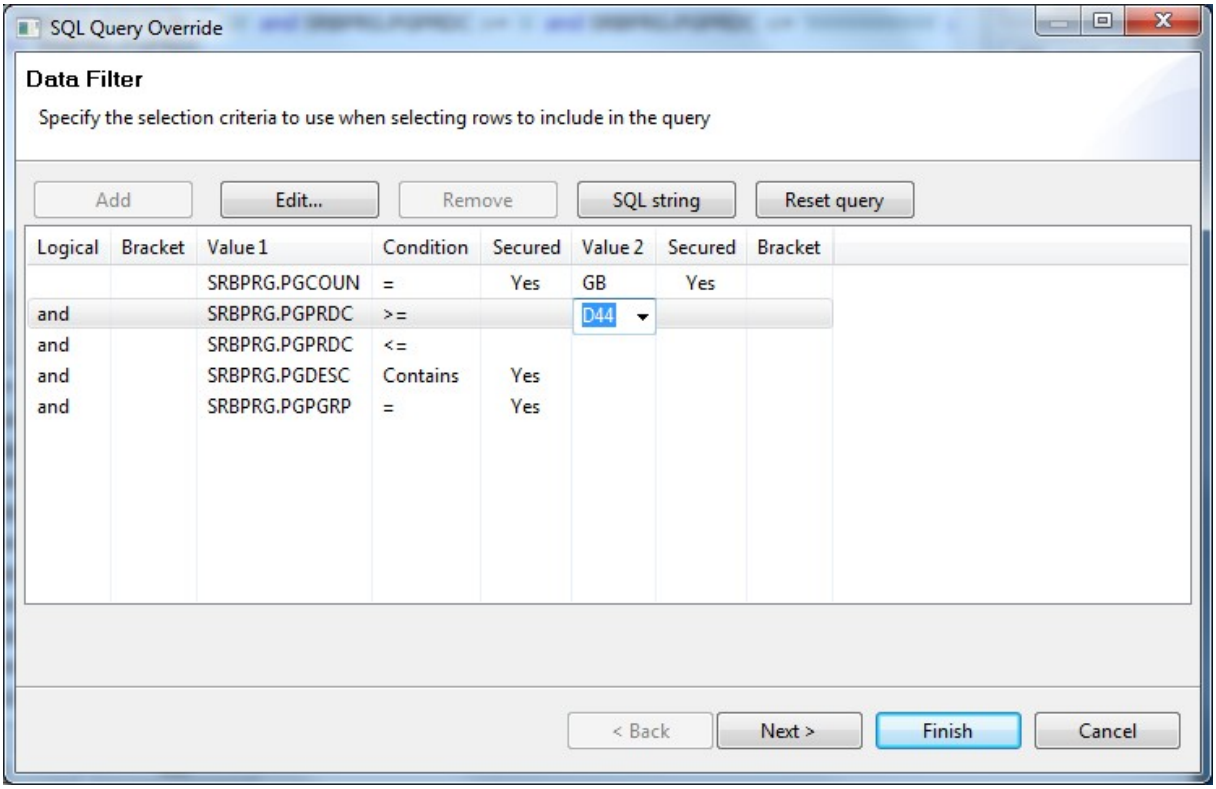
Testing the query

Now the query definition is ready for test. Click the '**Preview**' button.



Now you can override the selections directly in the table or by clicking on the '**Edit'** button. Note, it's not allowed to override the country selection because it is secured.

Tip: You can activate hover-help for column descriptions with right-click and option '**Show column description**'.



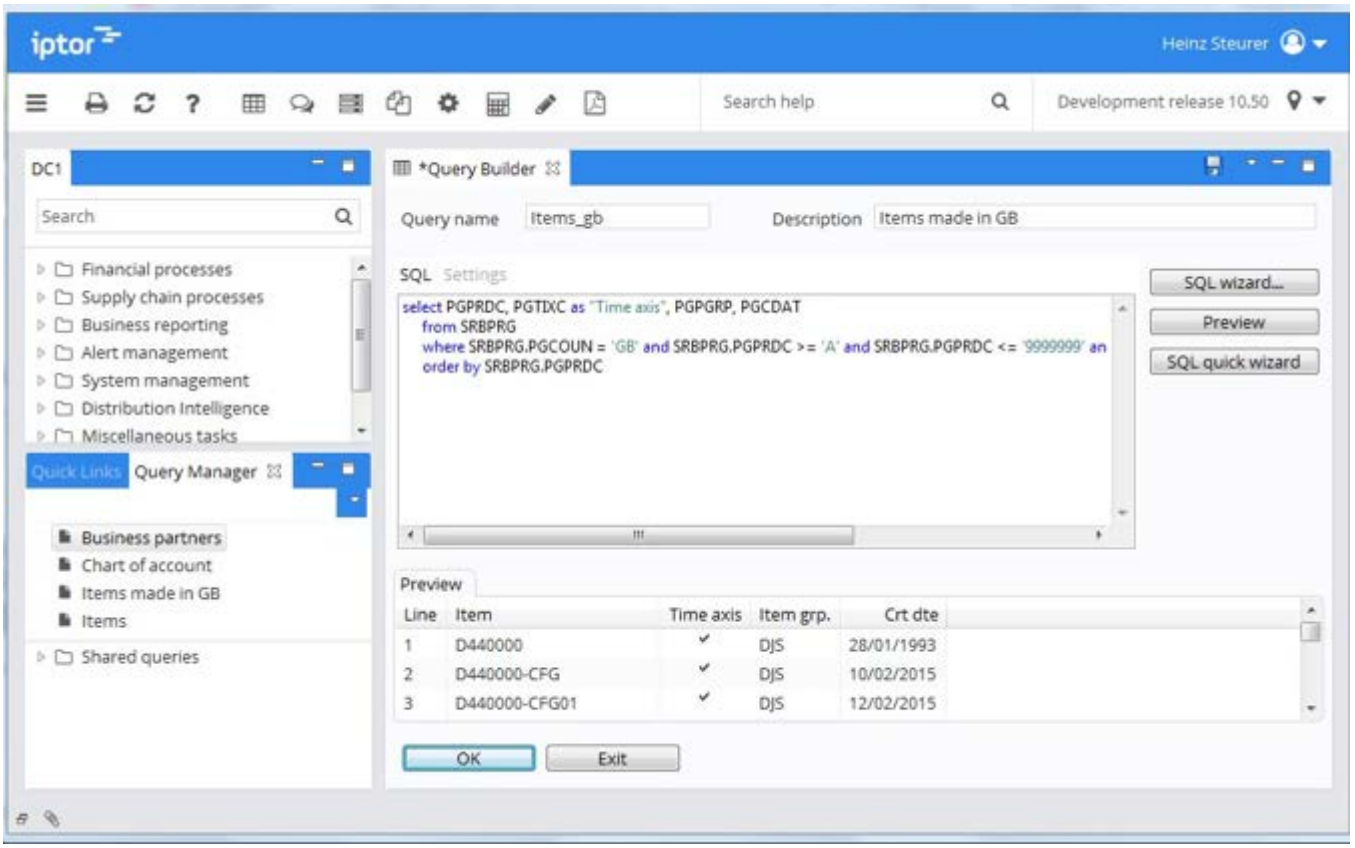
Change selection from value to e.g. D44. Click **'Finish'.**

Tip:

'SQL string' button
Clicking this button shows the SQL string reflecting the actual data filter.

'Reset query' button
You latest data filter override is saved and will be used as default the next run of this query. Clicking this button will reset all overrides of the filter.

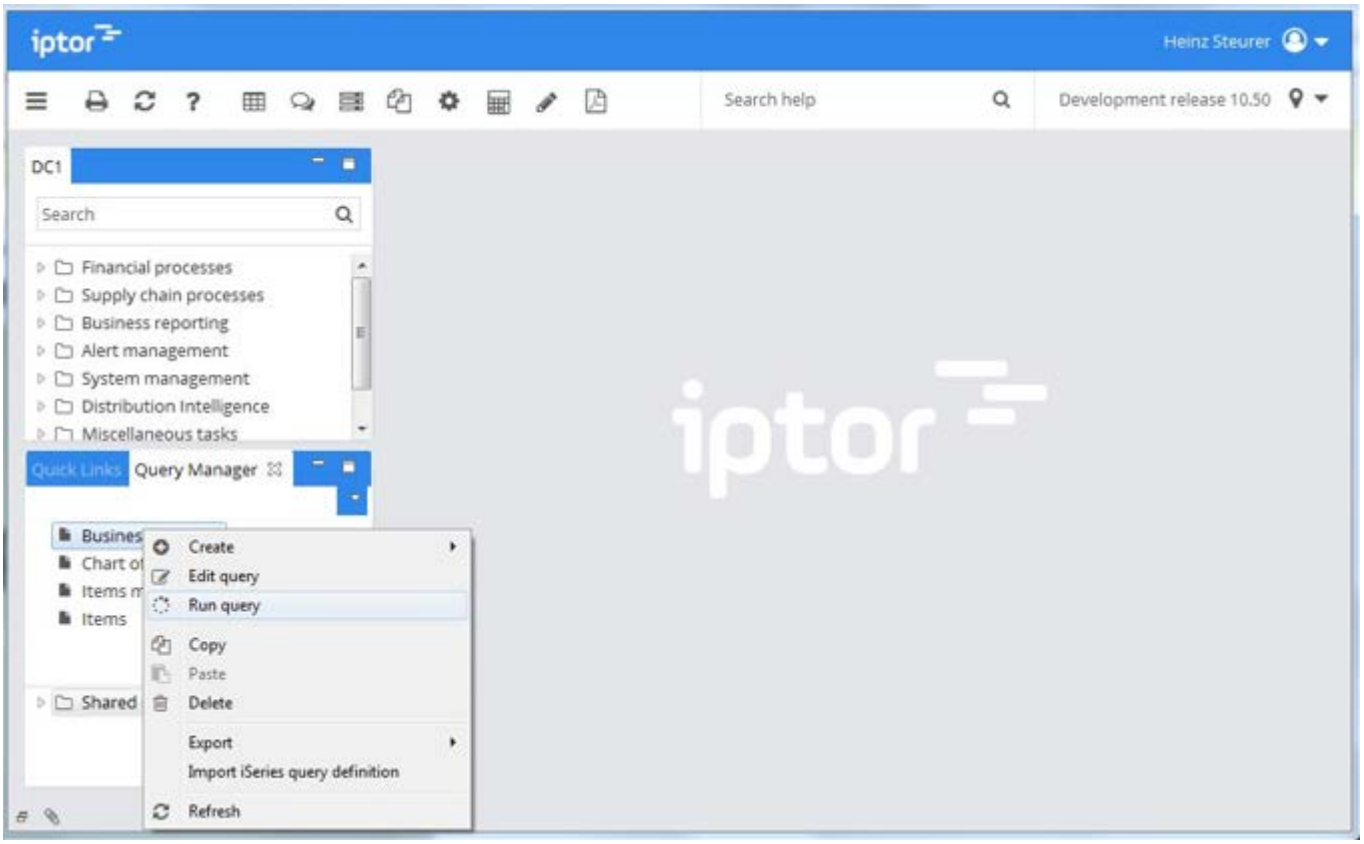
The query result is shown in the preview tab. Items starting from code ‘D44’. Note! Columns ‘Time axis’ and ‘Creation date’ are formatted according to configuration.



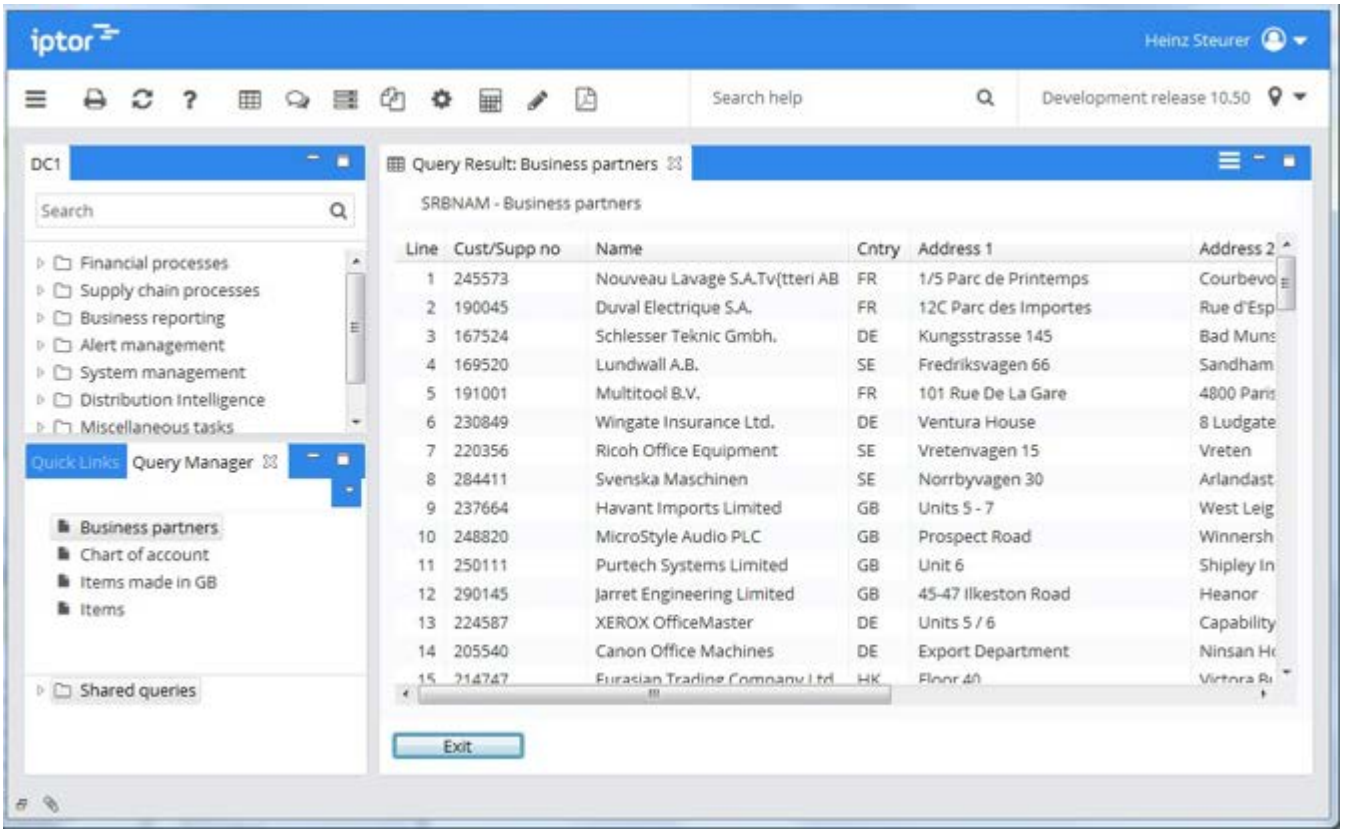
Save the query definition. Your saved query definitions are shown in the top-part of the Query Manager view. See query named ‘**Items made in GB**’.

Running the query

Right click on the query definition and select option ‘**Run query**’.



The result is shown in the main frame of the XT Client.



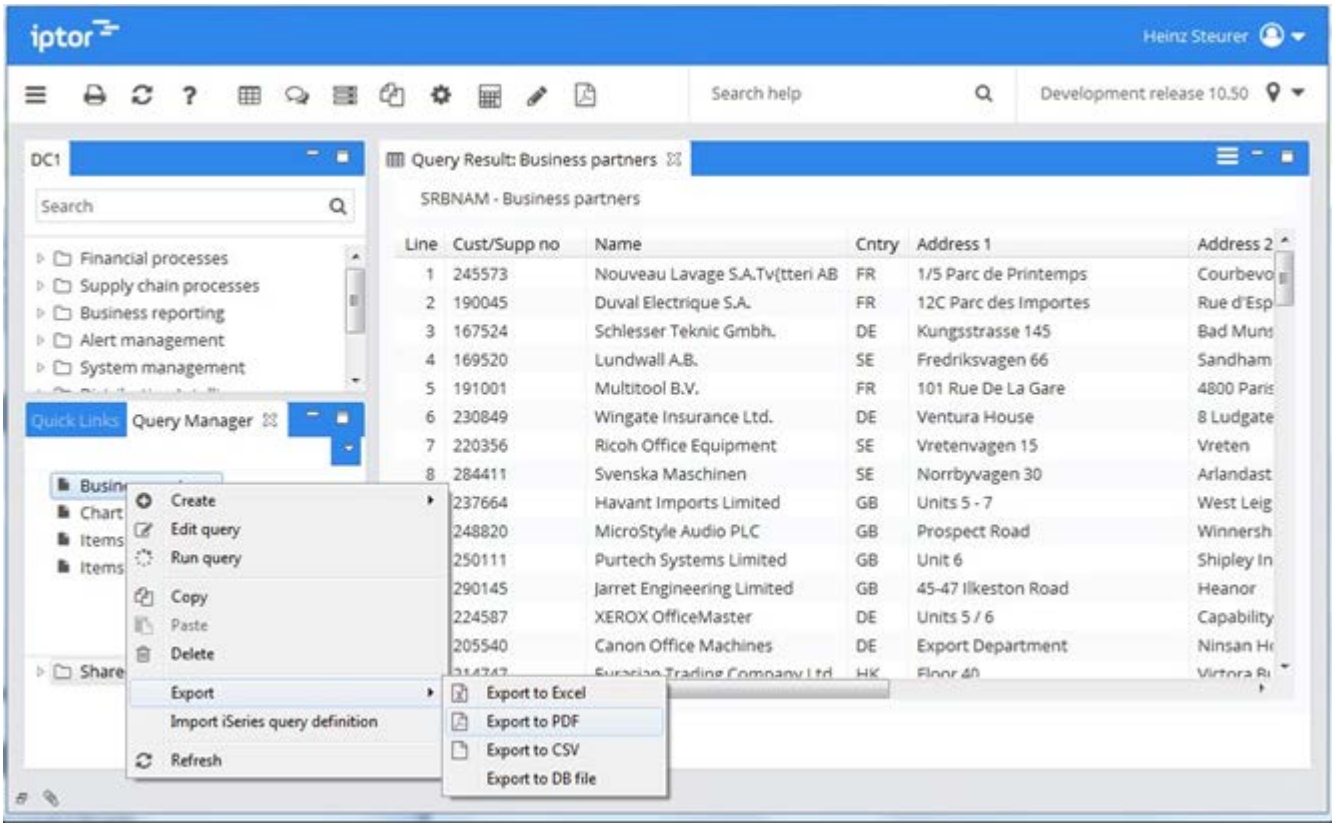
Exporting query result

Right click on the query definition and select option ‘Export’. The following export options are available:

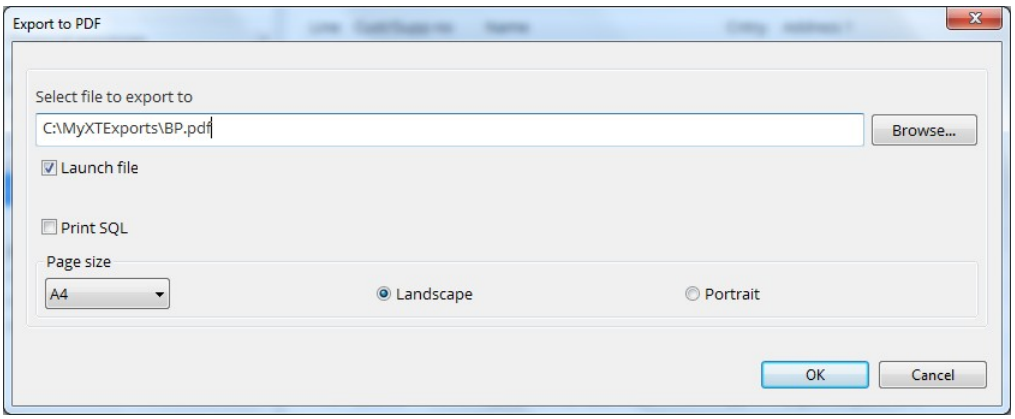
- Excel
- PDF
- CSV (Comma separated values file)
- DB file (Result is saved in a database file on the server)

Tip: Exporting can run interactively (locking the client until finished) or in background.

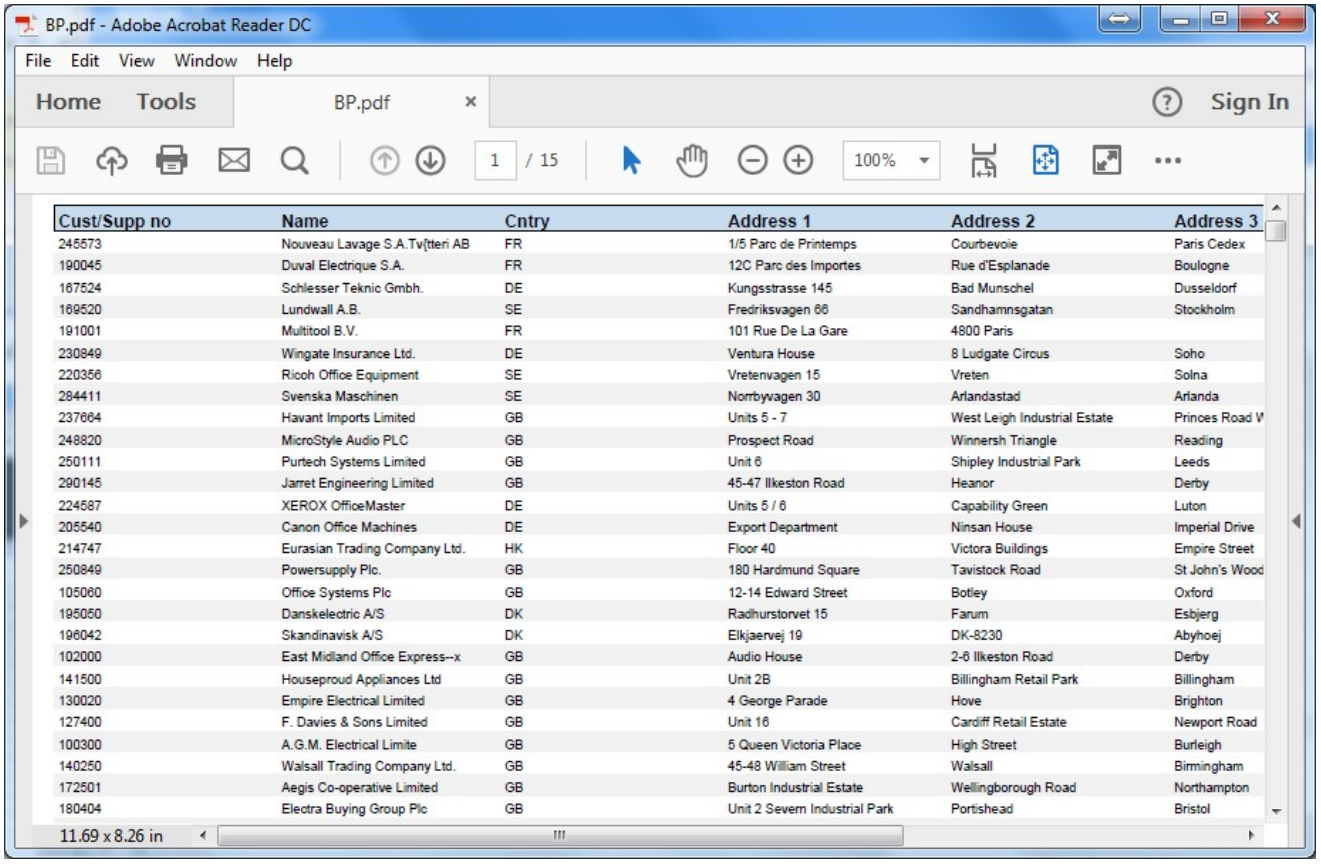
Select Export to PDF.



Fill in the export options and click ‘**OK**’.



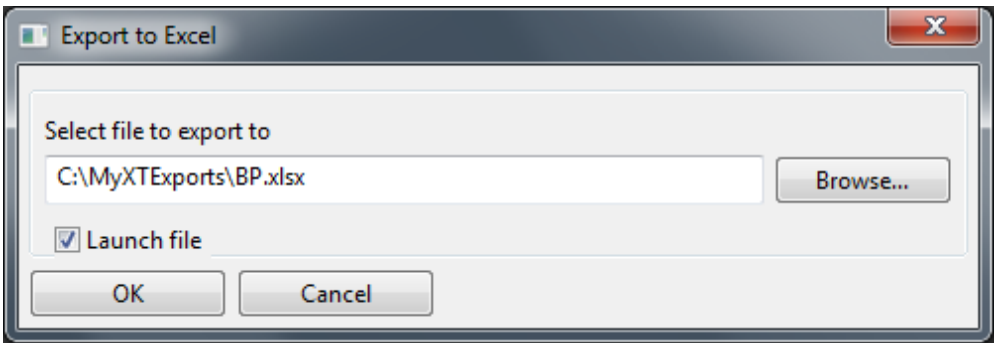
PDF reader opens with the query result.



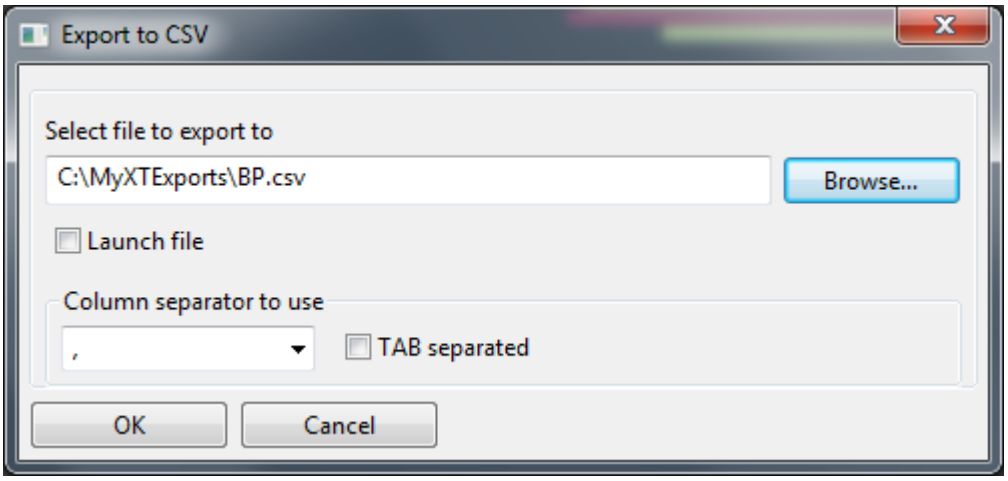
Cust/Supp no	Name	Cntry	Address 1	Address 2	Address 3
245573	Nouveau Lavage S.A.Tv{tteri AB	FR	1/5 Parc de Printemps	Courbevoie	Paris Cedex
190045	Duval Electrique S.A.	FR	12C Parc des Importes	Rue d'Esplanade	Boulogne
167524	Schlesser Teknic Gmbh.	DE	Kungsstrasse 145	Bad Munschel	Dusseldorf
169520	Lundwall A.B.	SE	Fredriksvagen 66	Sandhamnsgatan	Stockholm
191001	Multitool B.V.	FR	101 Rue De La Gare	4800 Paris	
230849	Wingate Insurance Ltd.	DE	Ventura House	8 Ludgate Circus	Soho
220356	Ricoh Office Equipment	SE	Vretenvagen 15	Vreten	Solna
284411	Svenska Maschinen	SE	Norrbywagen 30	Arlandastad	Arlanda
237664	Havant Imports Limited	GB	Units 5 - 7	West Leigh Industrial Estate	Prinoes Road W
248820	MicroStyle Audio PLC	GB	Prospect Road	Winnersh Triangle	Reading
250111	Purtech Systems Limited	GB	Unit 6	Shipley Industrial Park	Leeds
290145	Jarret Engineering Limited	GB	45-47 Ilkeston Road	Heanor	Derby
224587	XEROX OfficeMaster	DE	Units 5 / 6	Capability Green	Luton
205540	Canon Office Machines	DE	Export Department	Ninsan House	Imperial Drive
214747	Eurasian Trading Company Ltd.	HK	Floor 40	Victora Buildings	Empire Street
250849	Powersupply Plc.	GB	180 Hardmund Square	Tavistock Road	St John's Wood
105060	Office Systems Plc	GB	12-14 Edward Street	Botley	Oxford
195050	Danskelectric A/S	DK	Radhurstorvet 15	Farum	Esbjerg
196042	Skandinavisk A/S	DK	Elkjaervej 19	DK-8230	Abyhoej
102000	East Midland Office Express--x	GB	Audio House	2-6 Ilkeston Road	Derby
141500	Houseproud Appliances Ltd	GB	Unit 2B	Billingham Retail Park	Billingham
130020	Empire Electrical Limited	GB	4 George Parade	Hove	Brighton
127400	F. Davies & Sons Limited	GB	Unit 16	Cardiff Retail Estate	Newport Road
100300	A.G.M. Electrical Limite	GB	5 Queen Victoria Place	High Street	Burleigh
140250	Walsall Trading Company Ltd.	GB	45-48 William Street	Walsall	Birmingham
172501	Aegis Co-operative Limited	GB	Burton Industrial Estate	Wellingborough Road	Northampton
180404	Electra Buying Group Plc	GB	Unit 2 Severn Industrial Park	Portishead	Bristol

The other export options work similar to PDF.

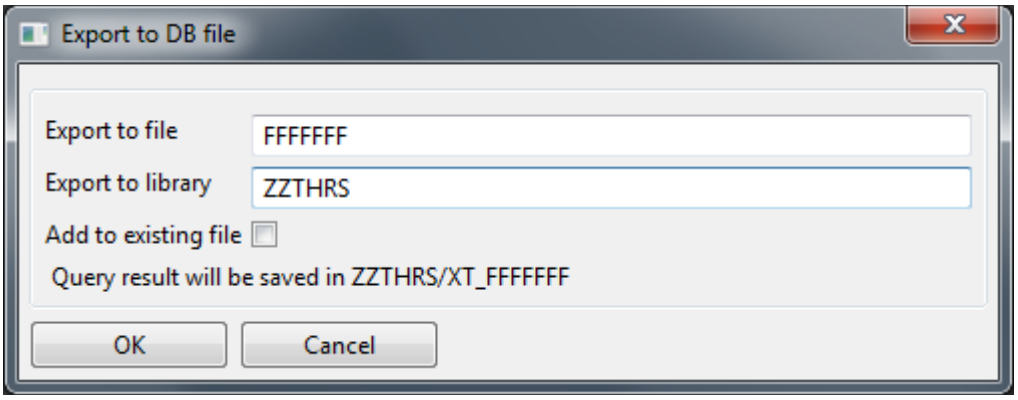
Export options for Excel



Export options for CSV



Export options for DB file

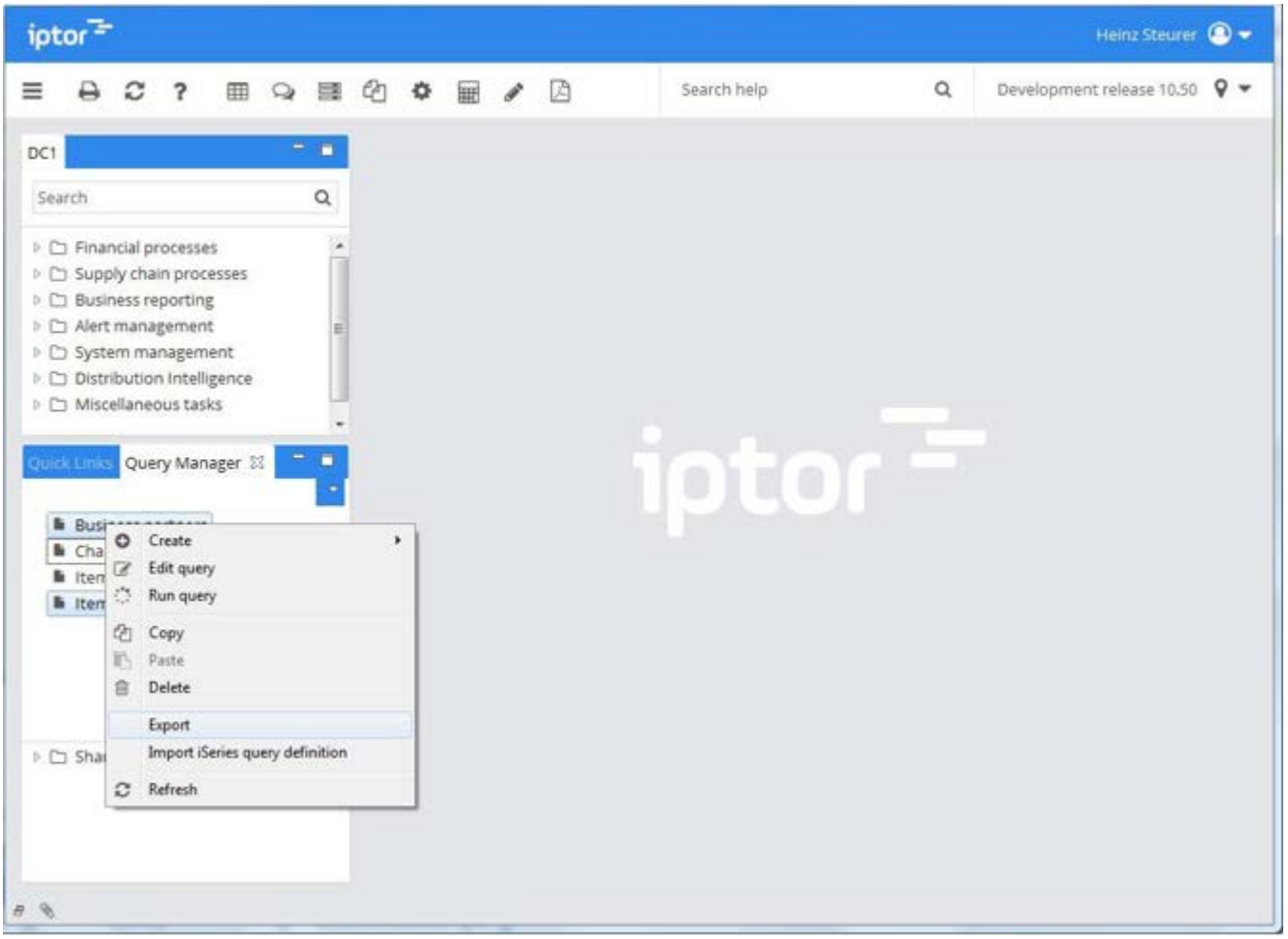


Note!
To avoid overriding existing files the system automatically adds prefix '**XT**_' to the target file name.

Tip:
Default iSeries file and library names for option 'Export to DB file' can be entered in the query definition's settings tab-page.

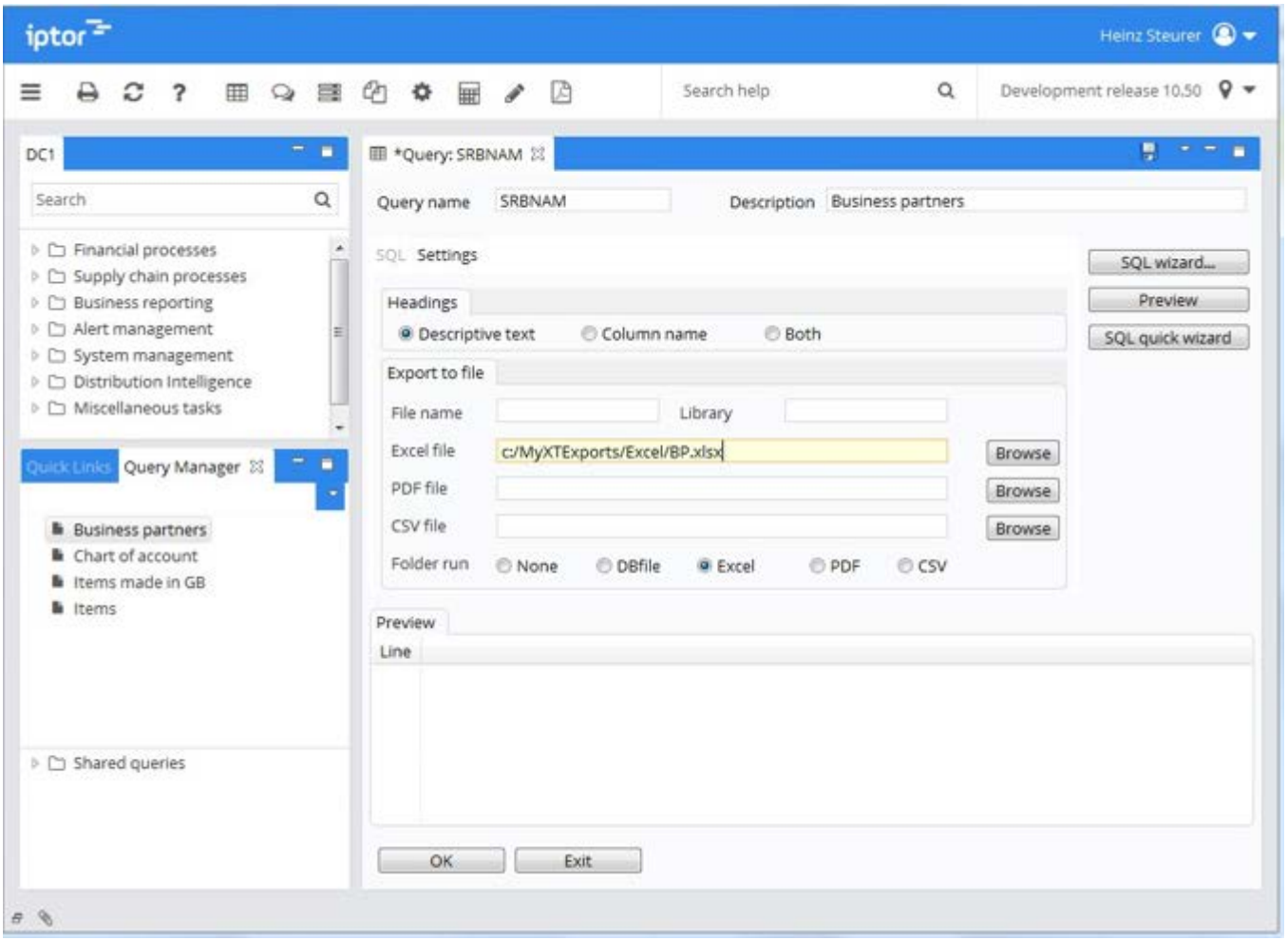
Export result for group of queries

Select several queries or a folder containing one or several query definitions and right-click. Select option '**Export**'.



Defaults for group export

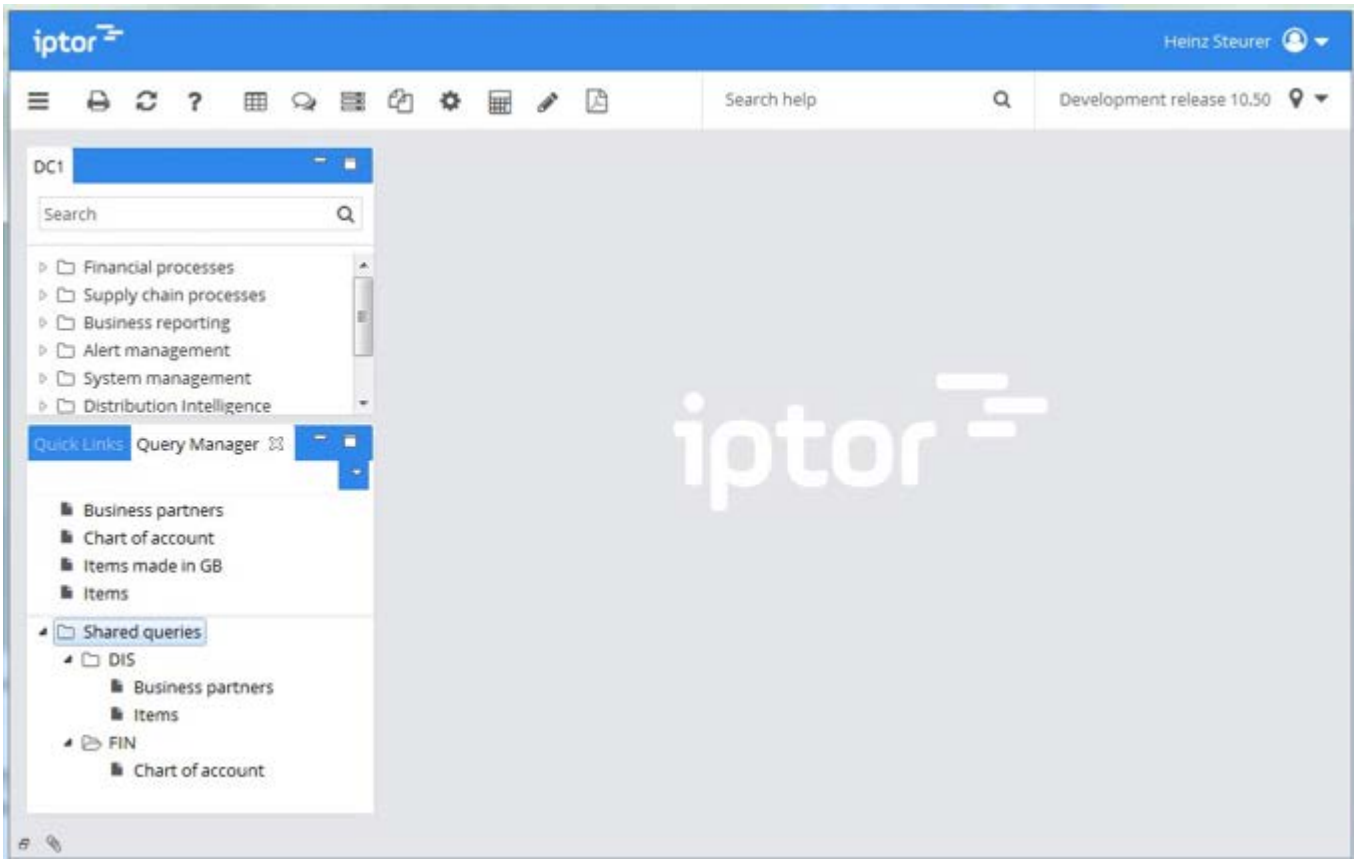
Open the query definitions Settings tab page. You can enter default values to be used if several queries are marked for export. For each query you can choose the type of export and where to store the result.


iptor
Heinz Steurer
Search help
Development release 10.50
DC1
Search
Financial processes
Supply chain processes
Business reporting
Alert management
System management
Distribution Intelligence
Miscellaneous tasks
Quick Links
Query Manager
Business partners
Chart of account
Items made in GB
Items
Shared queries
*Query: SRBNAM
Query name
SRBNAM
Description
Business partners
SQL
Settings
SQL wizard...
Preview
SQL quick wizard
Headings
Descriptive text
Column name
Both
Export to file
File name
Library
Excel file
c:/MyXTExports/Excel/BP.xlsx
Browse
PDF file
Browse
CSV file
Browse
Folder run
None
DBfile
Excel
PDF
CSV
Preview
Line
OK
Exit

Sharing XT Queries

The ‘Shared queries’ feature allows users to share query definitions with other persons in the organization. If ‘Shared queries’ is activated in XT UI the Query Manager view is divided into two frames. The top-frame is used to work with personal queries and the bottom-frame contains shared queries. Authorized users can drag query definitions from the QM frame to the shared queries frame.

See example below. Query ‘Items made in GB’ is dragged to the shared queries frame which will make it available for other users.



For more information about how to activate ‘Shared queries’ in XT UI please see document ‘**How to Share SQL-Queries**’. This document also contains information about authority control for ‘Shared queries’.

How to use variables in query selection

The following variables can be entered in the data filter page of the query definition.

Variable table

|&date|	Current date in format YYYMMDD
|&year|	Current year in format YYYY
|&month|	Current moth in format YYYMM
|&iso_week|	Current ISO week in format YYYYWW
|&us_week|	Current US week in format YYYYWW
|&user|	Logged on user ID
|&company|	Selected company code

Double quote between pipes define alphanumerical variable.
|"&user"| for example is used for alphanumerical variable and **|&date|** for numerical.

+/- function

You can add/subtract from / to date, year, month and week.
Example:
To run a selection on date today – 1 day you can type **|&date-1|** as selection.
To run a selection on date today + 1 day you can type **|&date+1|** selection.

Importing OS/400 query definitions

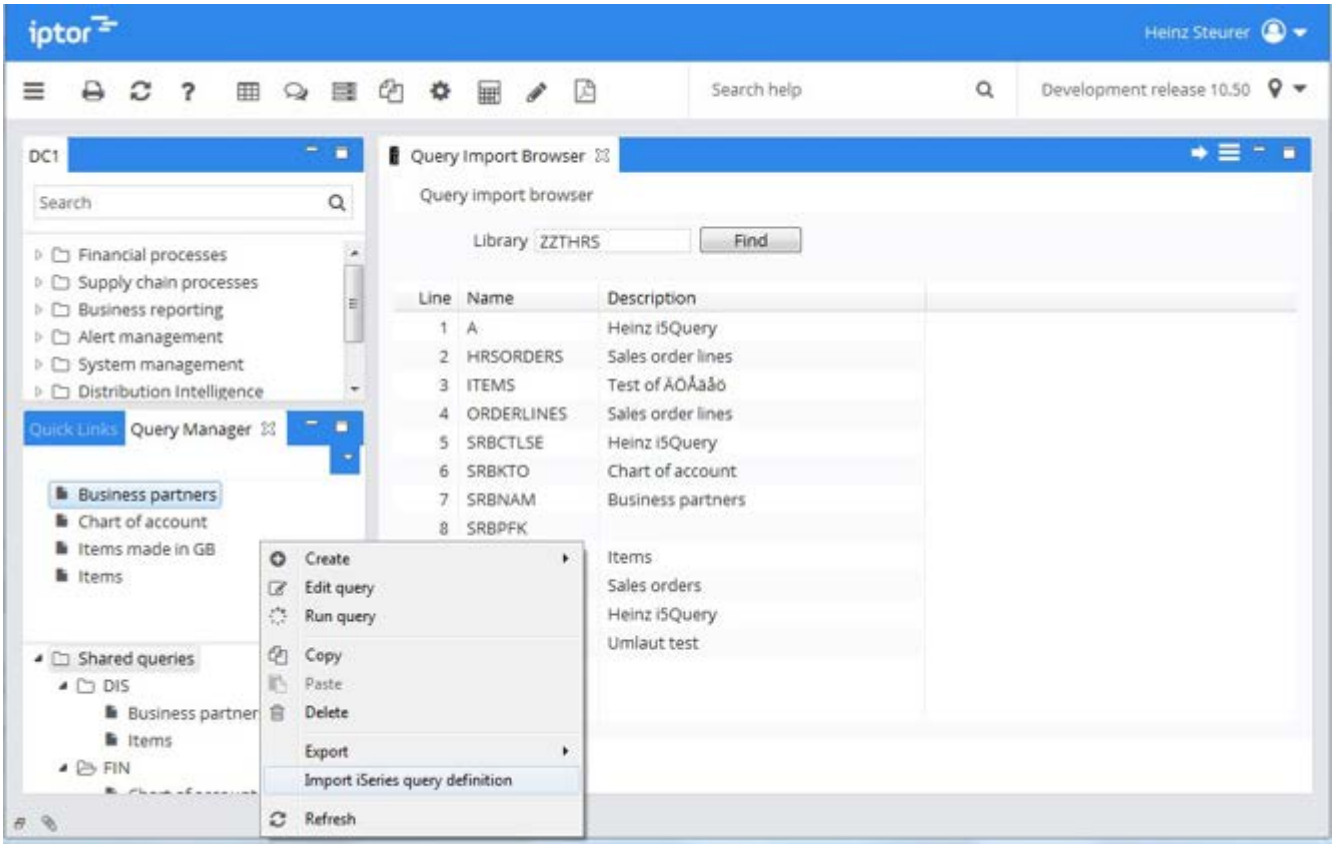
Query definitions on the iSeries are retrieved and converted to XT Query Manager based definitions.

iSeries set-up

To convert Query/400 definitions your iSeries user profile must be set up with **permission** to dump objects of type ***QRYDFN** as spool file. The spool file is used as input for the conversion process in XT UI.

Importing

Start Query Manager and select option '**Import iSeries query definitions**'.



Type the library in the search field and click the ‘Find’ button.
Select one or several query definitions, right-click and select option ‘**Import iSeries query definitions to folder**’.

Wait for the import process to complete.

The converted query definitions are added to the Query Manager view’s query list.

XT Query attachments

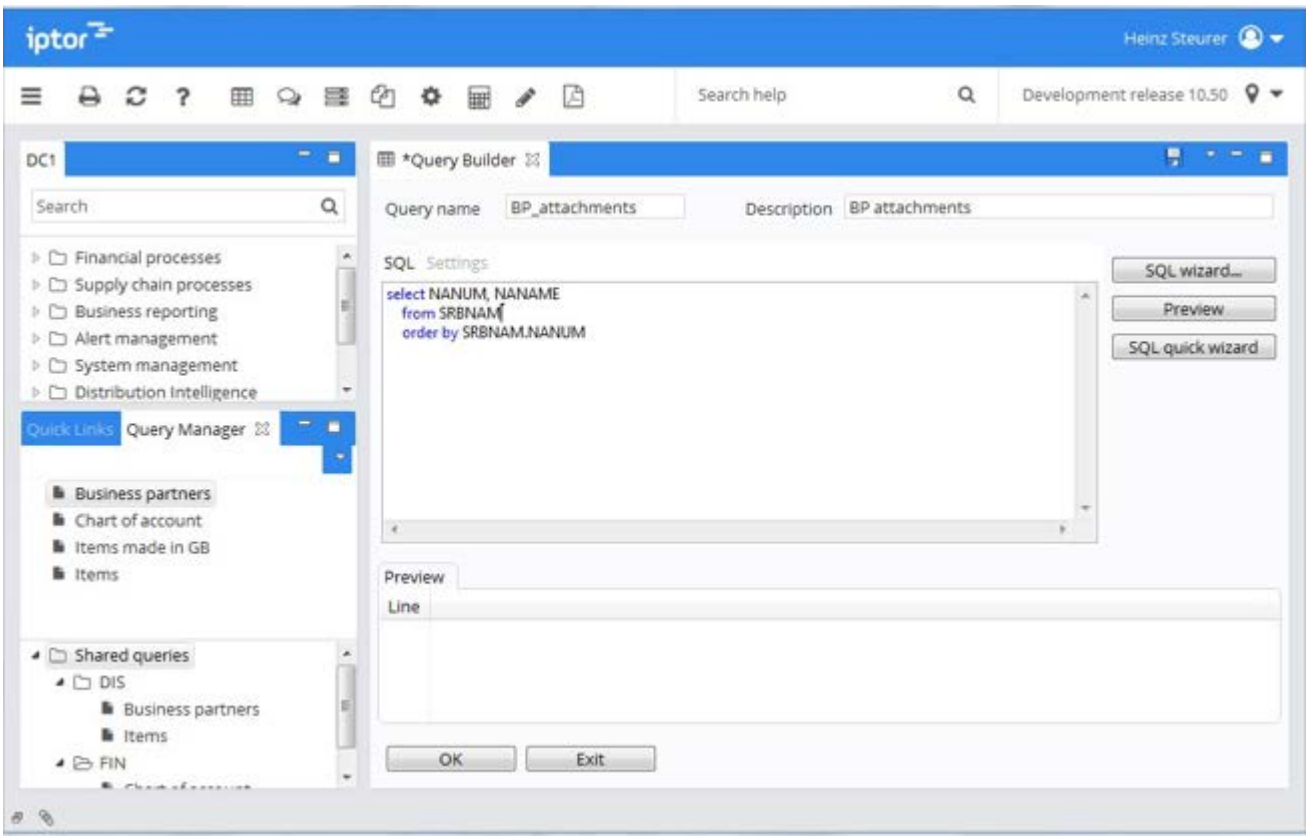
This section describes how to enable the XT Attachments feature for XT Queries. In the following example you will learn how to add XT Attachment support for a business partner file query. '**BP_attachments'** is used as query name in the example.
The XT Query attachment feature is available in v1.6.0.1 or later version.

Set up XT Query with attachments

During set up we'll create a query definition and configure the attachments profile. The link between the query definition and the attachments profile configuration is the query name.

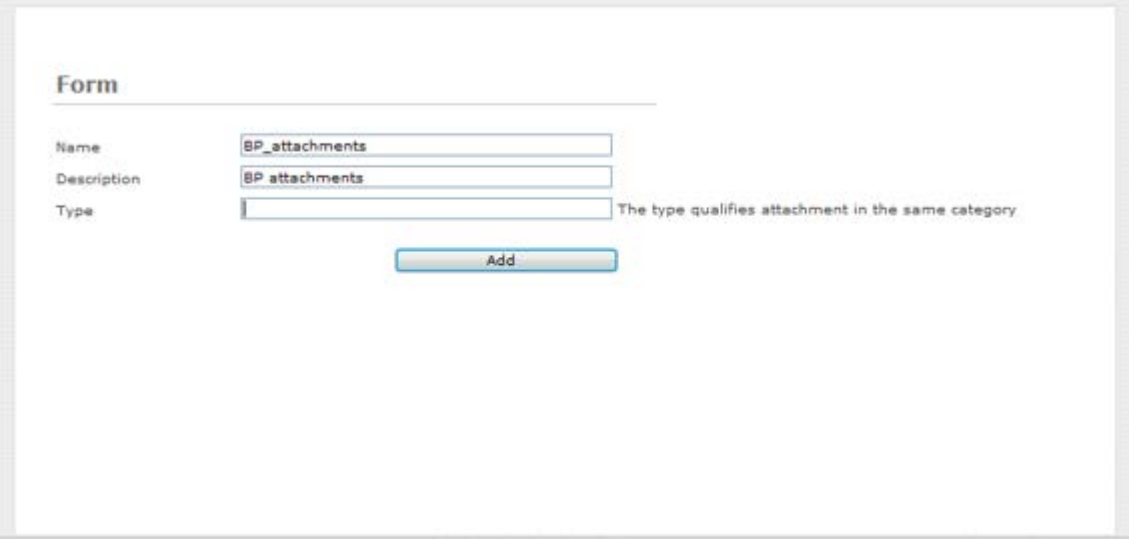
Create the query definition

Create the following query definition on file **SRBNAM** (Business partner name file). Use '**BP_attachments**' as Query name. One of the columns must be '**NANUM**' (the key for the business partner record).



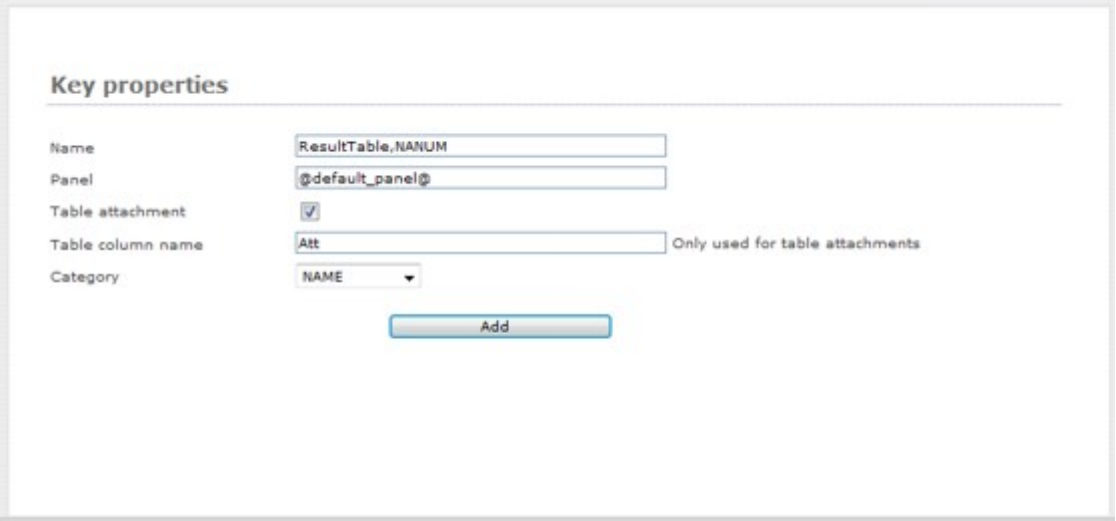
Configure the attachments profile

In order to enable attachments for the query we'll need to add a form with the same name to the Attachments profile in XT Administration.
Start **XT Administration** and select link 'Miscellaneous/**Attachments**'. Click on your attachments profile named '**default**' and then click on link named '**Add form**'.

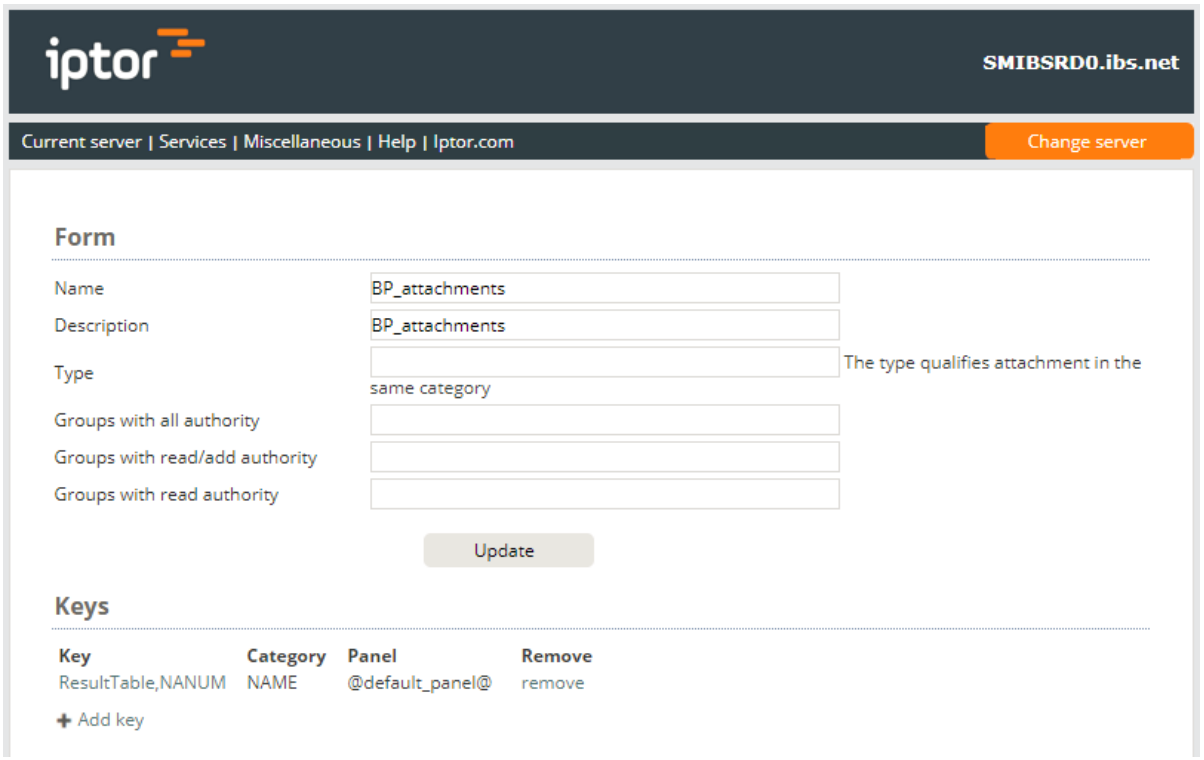


Enter the query name '**BP_attachments**' as name and '**BP attachments**' as description.
Click '**Add**'.

On the following panel click '**Add key**'.



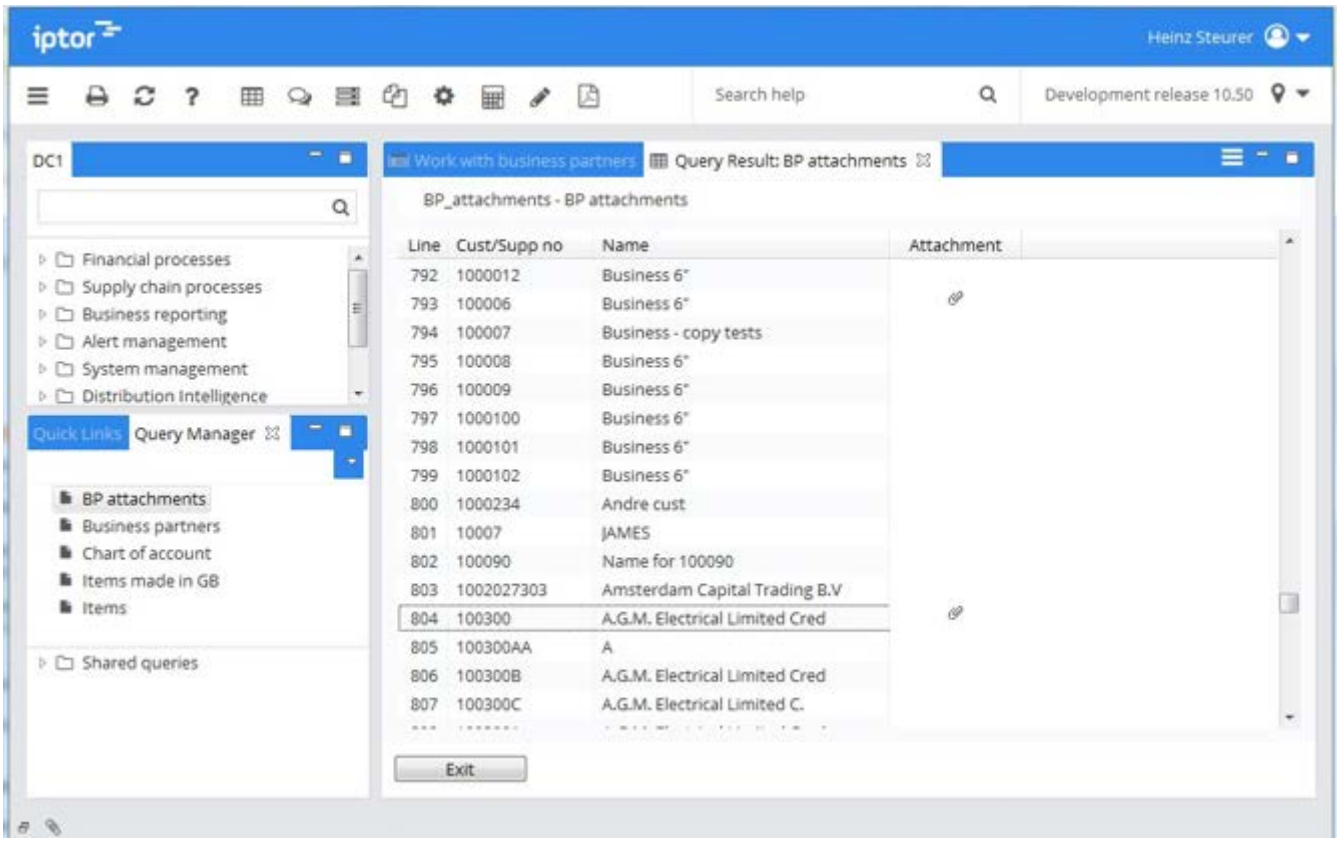
Enter the following information and click '**Add**'.
Name=**ResultTable,NANUM**
Panel=**@default_panel@**
Select check box '**Table attachment**'.
Table column name=**Att**
Category=**NAME**



Configuration is ready.

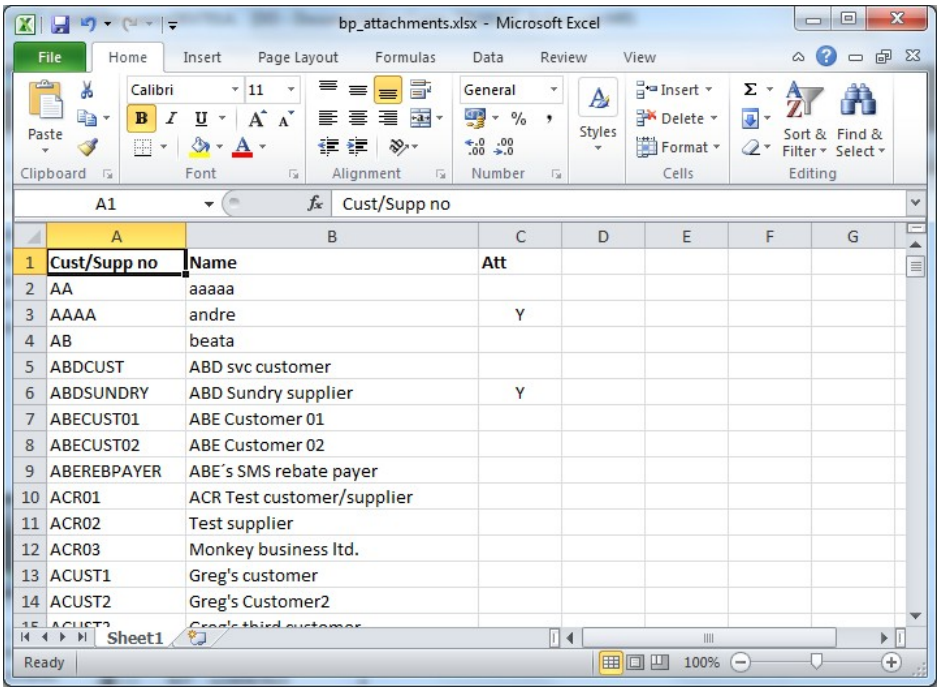
Run XT Query with attachments

Start XT Query Manager and run query definition named ‘BP_attachments’.



Attachments are indicated for business partner ‘100300’.

Tip: You export the query result to Excel. ‘**Y**’ will be shown in column ‘Att’ for business partners with attachments. Now you can use features in Excel to e.g. select all records that have attachments.



Starting XT Query from panels

It is possible to start queries from XT panels. Any field/column on the panel can be passed as selection parameter to the query.

Variable defined in a query string

You can enter variables in the filter part of your query. At runtime the variables will be replaced by values passed by the caller.

Example:

```
select *
        from SROPST
        where PSVOTY = '|"&1"|' and PSVONO = '|&2|'
        order by PSVONO
```

Double quote between pipes define alphanumerical variable.
`'|"&1"|'` for example is used for alphanumerical variable and `'|&2|'` for numerical.

Mapping values to variables

If no replacement values can be mapped into the string, the variables will be replaced by blank and the override wizard will be open to enable query completion. This situation occurs when such query is started:

1. from a menu item or a quick links
2. from the query manager tree
3. from query maintenance page with the browser button

This kind of query will normally be used from a regular application page which allows passing of replacement values for the variables to the query. The link to query may be defined in the layout as

1. a link action in the plink component
2. an item in the context menu in a table

It also may be defined as an application link in XTApplicationLinks.xml file as

1. page link
2. table link

Starting query from a link in layout XML

A new action, '**LinkQueryAction'** has been implemented to handle the connection.
This query link action will use the same attribute '**qryref'** as the menu item definition.
This attribute is used to locate the query (see '**Starting a query from menu**' below).

Another attribute (**variables**) is used to state how to map the query variables to the content of the page or table.
It gives for example the following xml string for a plink definition:

```
<plink height="20" id="TestLink " text="Query Link" width="100" xpos="6" ypos="455">
    <action name="LinkQueryAction" queryref="PST_2,local" variables="1=|F6VOTY|,2=|F6VONO|"/>
</plink>
```

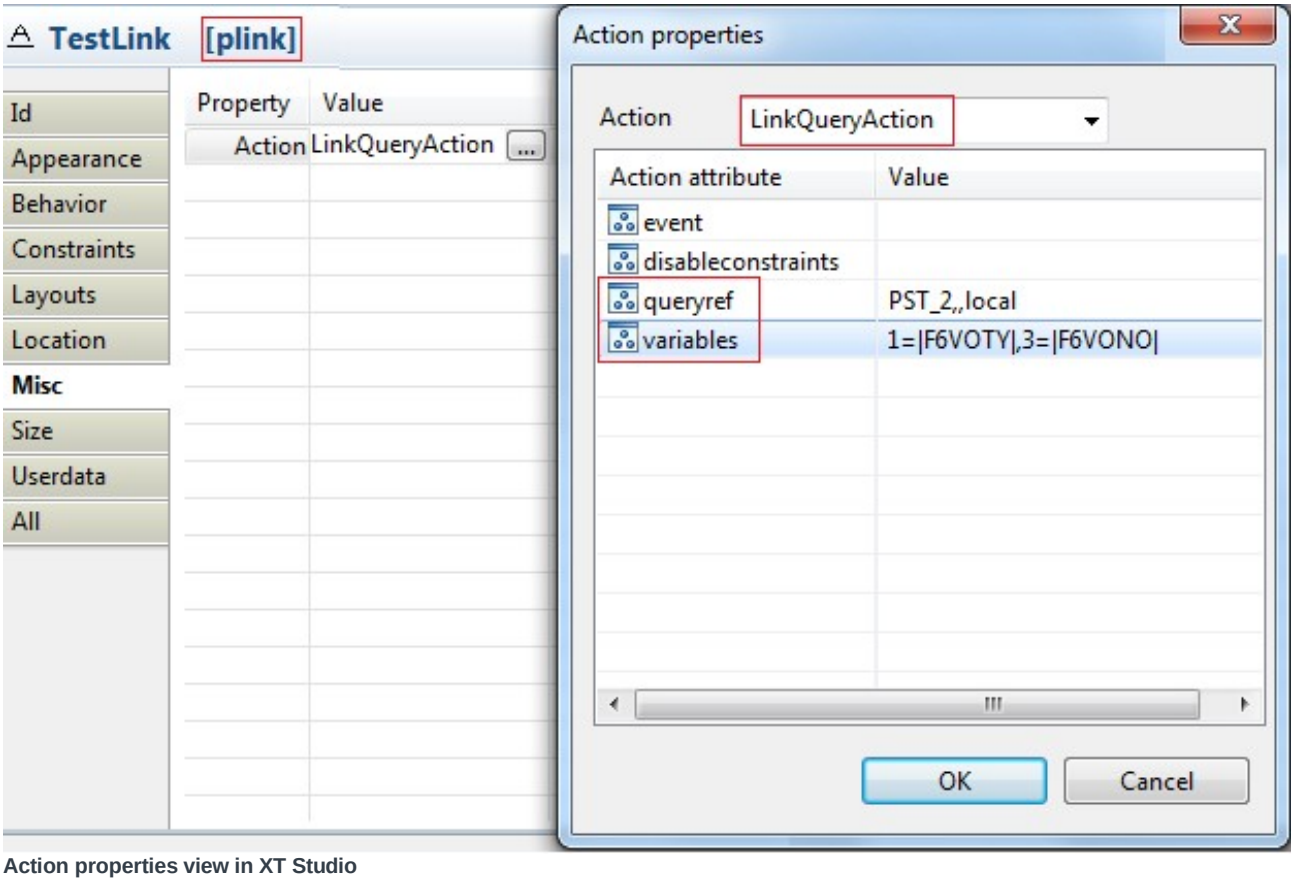
The attribute **variables** value is a comma separated list.
The first part is the query variable number.
The second part is the name of the field to get the value from (surrounded by pipes).

The query filter condition

```
where PSVOTY = '|"&1"|' and PSVONO = '|&2|'
```

will become

```
where PSVOTY = {value fetched from F6VOTY} and PSVONO = {value fetched from F6VOTY}
```



Action properties view in XT Studio

Example of definition for a context menu item:

```
<item text="QueryTest" id="item13">
    <action name="LinkQueryAction" queryref="PST_2,,local" variables="1=|XXVOTY|,2=|XXVONO|"/>
</item>
```

The action is similar to the one used by the plink component.

Application links definitions

The above example is based on layout modifications. By using the ‘Application links feature’ XT panels can be linked to queries without changes to layouts.

The <application> tag will be defined to locate the query.
The application definition corresponds to the qryref parameter in the QueryLinkAction.

```
<application id="QUERY" text="Query" image="url_small.png" exeFile="" fileExtension="">
        <launcher id="PST_Query" text="Query SROPST" queryref="PST_2,,local"/>
</application>
```

Connection to view or table is done as for any other definition

```
<form id="FMR500D" comment="G/L Transactions">
               <panel id="FMR50004" application="QUERY" launcher="PST_Query">
                              <variable id="|1|" replacementValueHolder="F6VOTY"/>
                              <variable id="|3|" replacementValueHolder="F6VONO"/>
               </panel>
</form>
```

The variable component is defined in the same way as for other replacement variable (defined in the application definition).

Starting a query from the menu structure (original implementation)

The current Client implementation allows starting a query execution, from the menu tree (or a quick link).

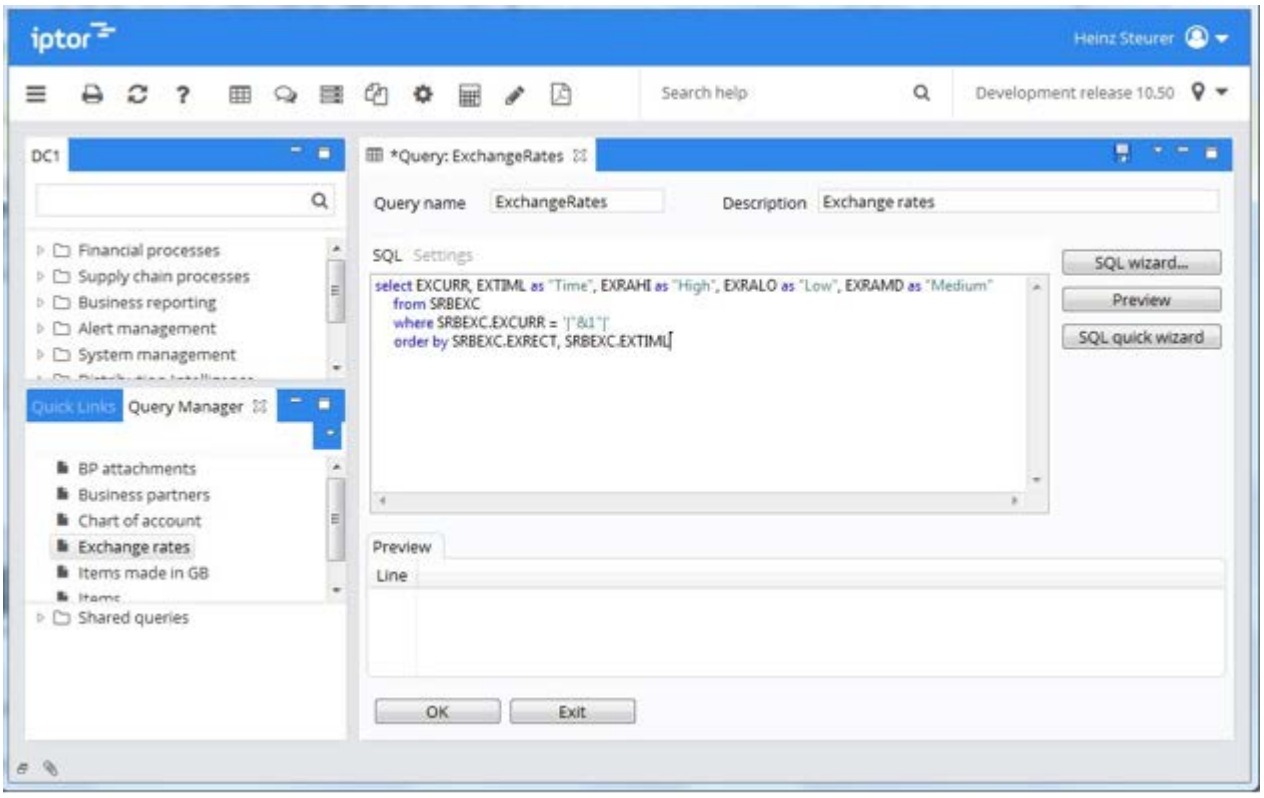
The definition of the corresponding iSeries menu item looks like the following:
`XT Command string... QRYREF="DTA_F121, Test Imported, local"`
The parameter QRYREF defines the query as a comma separated value list.
A maximum of 3 values may be stated.

- The Query definition name
- Possible folder structure (separated by \)
- Constant “local” if the query is not part of the Shared queries definitions

Example – Currency linked to exchange rate query

In the following example we will start an exchange rate query from the 'Work with currencies' function. The query will be started from the table menu and the detail panel.

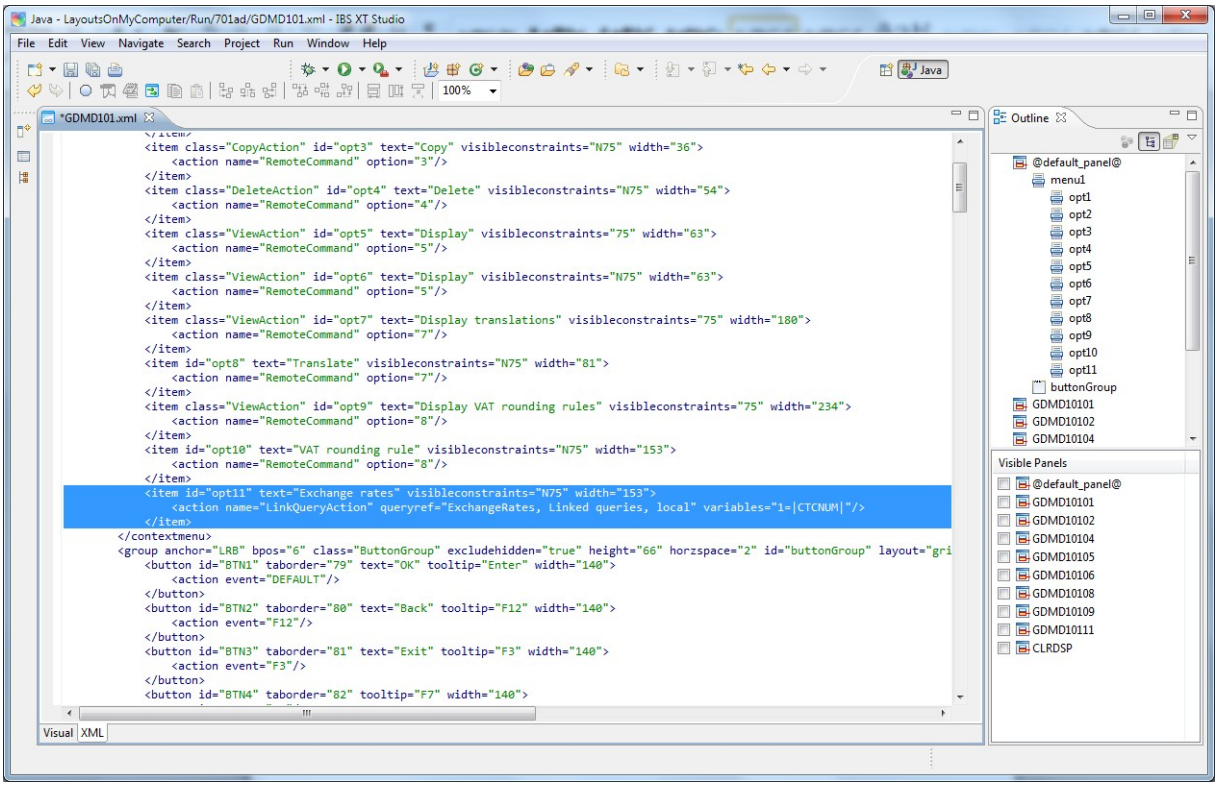
Setting up



This is my XT Query on exchange rate file set up with currency code as variable. It is a **local** query, the internal name is '**ExchangeRates**' and it is stored in folder '**Linked queries'**.

The query:

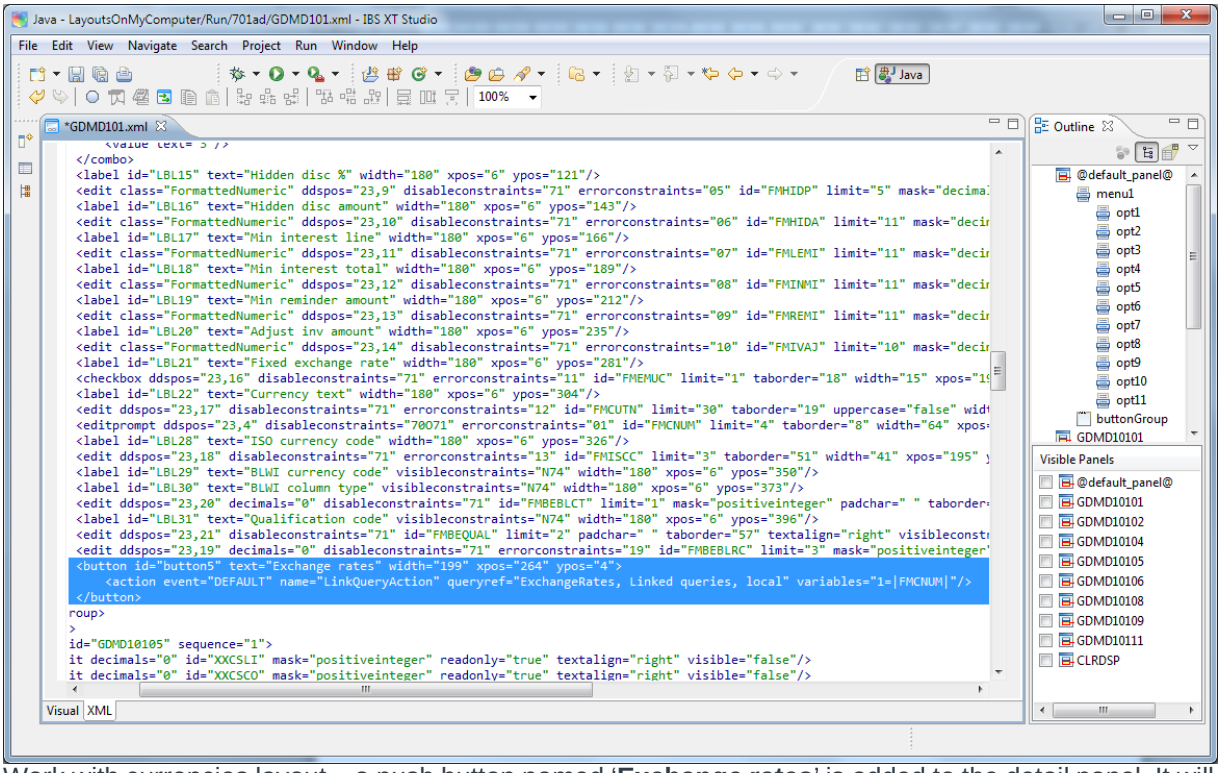
```
select EXCURR, EXTIML as "Time", EXRAHI as "High", EXRALO as "Low", EXRAMD as "Medium"
                from SRBEXC
                where SRBEXC.EXCURR = '|"&1"|'
                order by SRBEXC.EXRECT, SRBEXC.EXTIML
```



Work with currencies layout – a table menu item named '**Exchange rates**' is added. It will start the above query and pass the value in table column '**CTCNUM**' as parameter.

The code:

```
<item id="opt11" text="Exchange rates" visibleconstraints="N75" width="153">
<action name="LinkQueryAction" queryref="ExchangeRates, Linked queries, local" variables="1=|CTCNUM|"/>
</item>
```

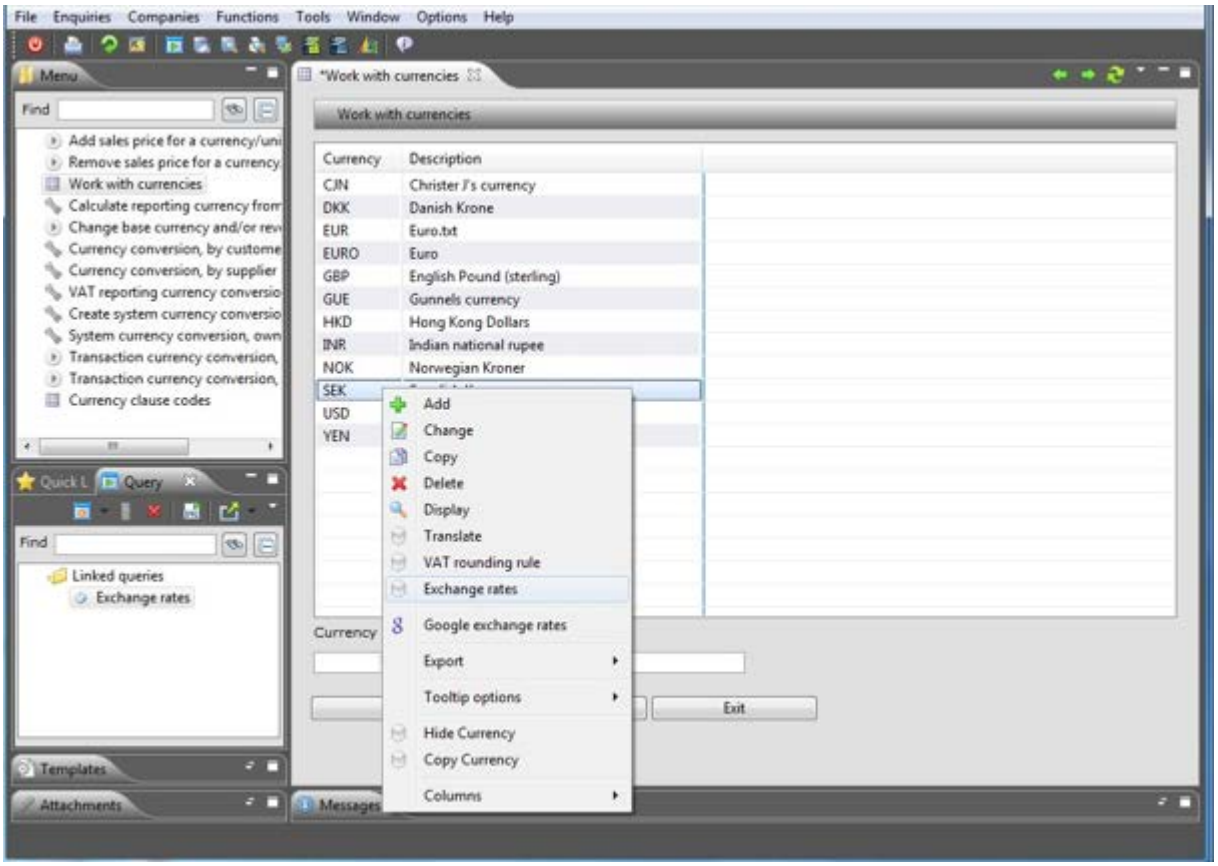


Work with currencies layout – a push button named '**Exchange rates**' is added to the detail panel. It will start the above query and pass the value in table column '**FMCNUM**' as parameter.

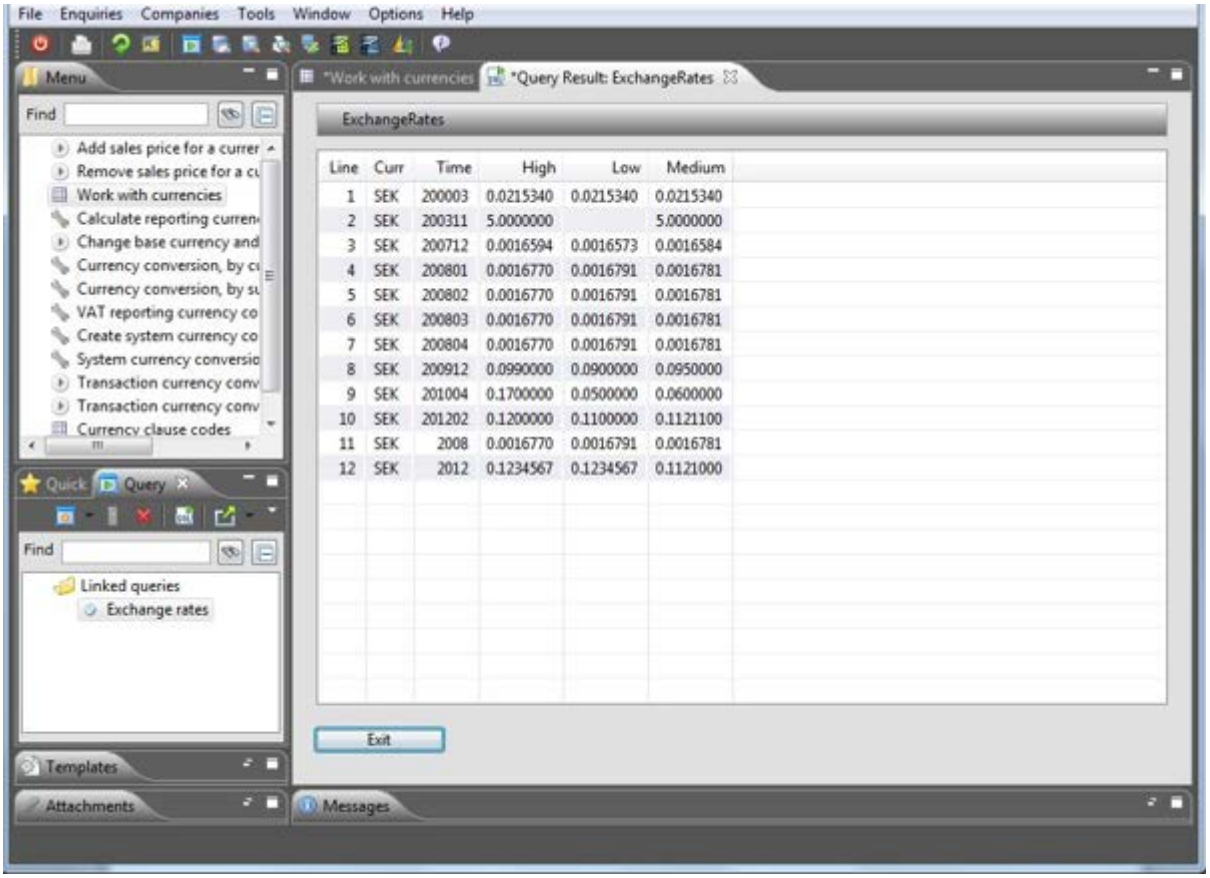
The code:

```
<button id="button5" text="Exchange rates" width="199" xpos="264" ypos="4">
                    <action event="DEFAULT" name="LinkQueryAction" queryref="ExchangeRates, Linked queries, local"
                    variables="1=|FMCNUM|"/>
</button>
```

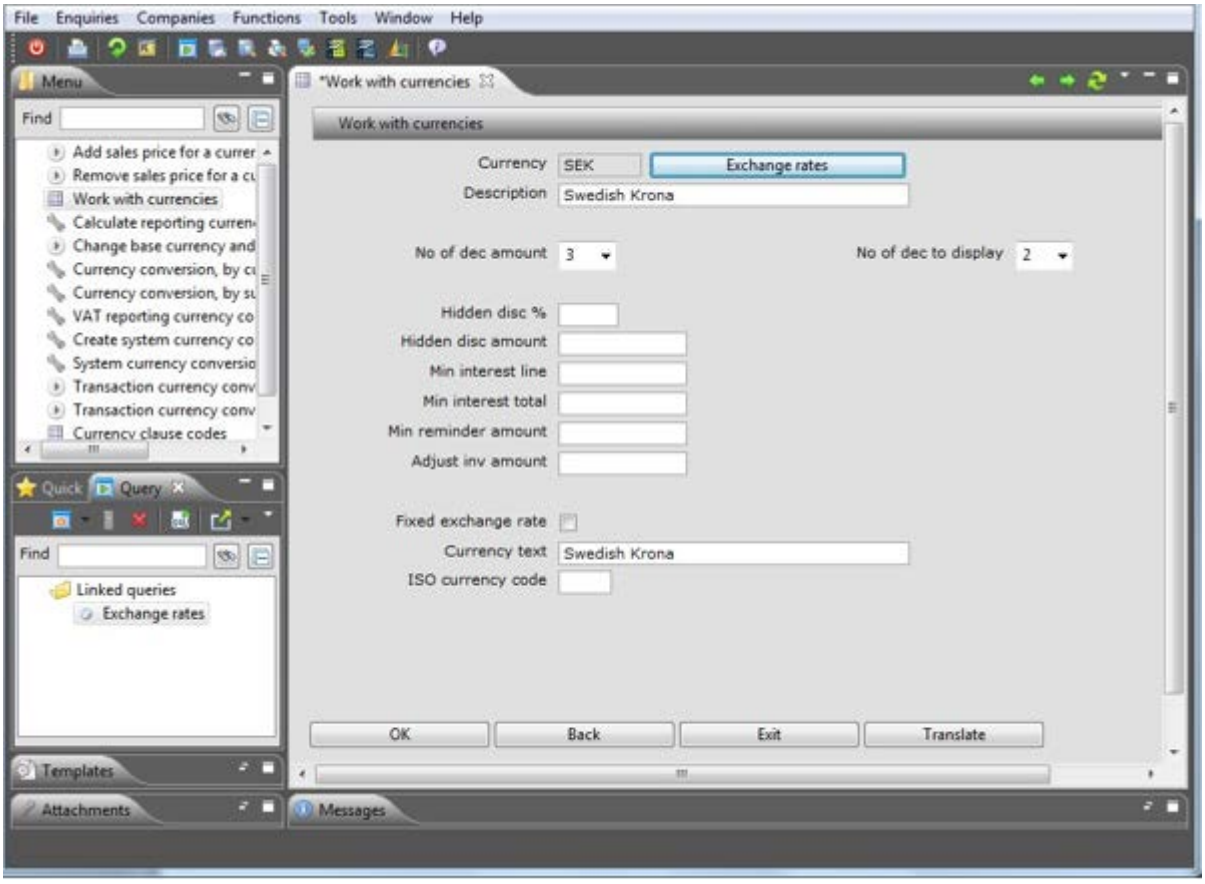
Running



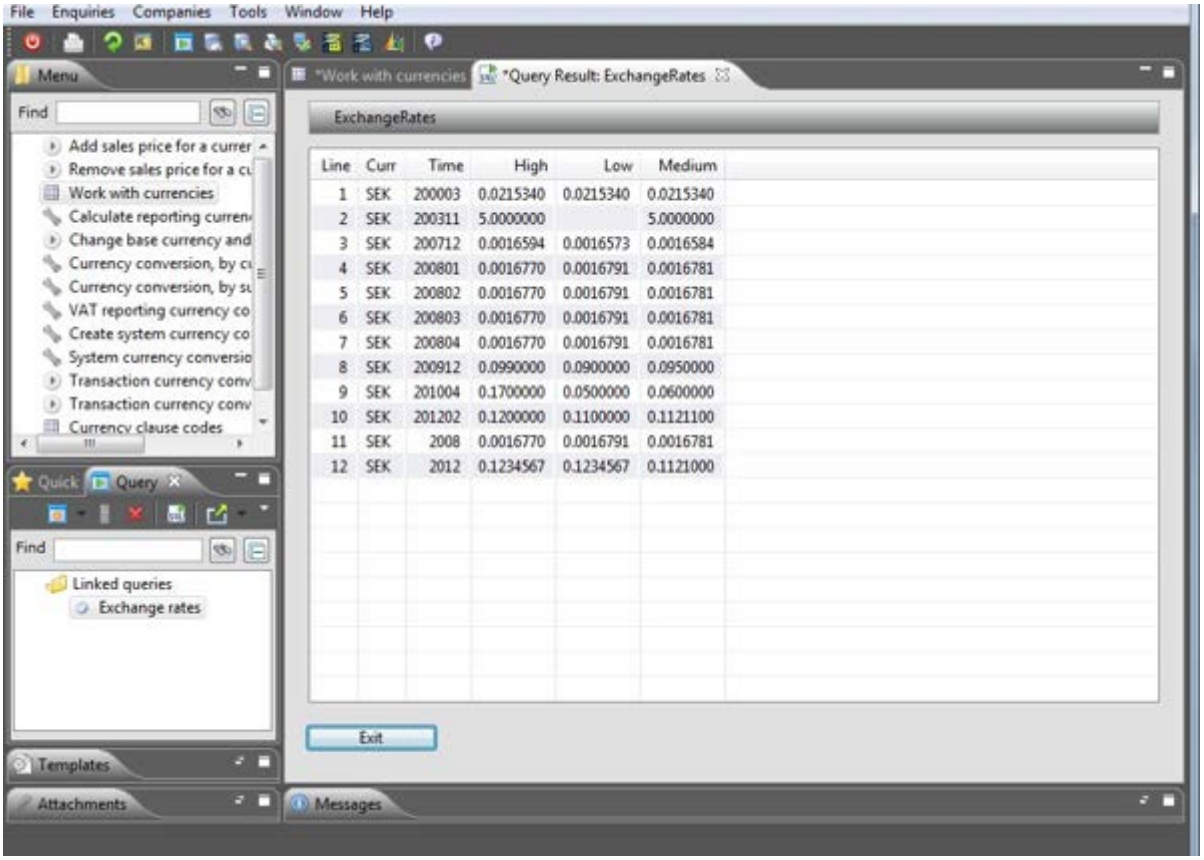
Start 'Work with currencies', right-click on one of the items in the table, select option '**Exchange rates'**.



The query shows the exchange rates for the selected currency.



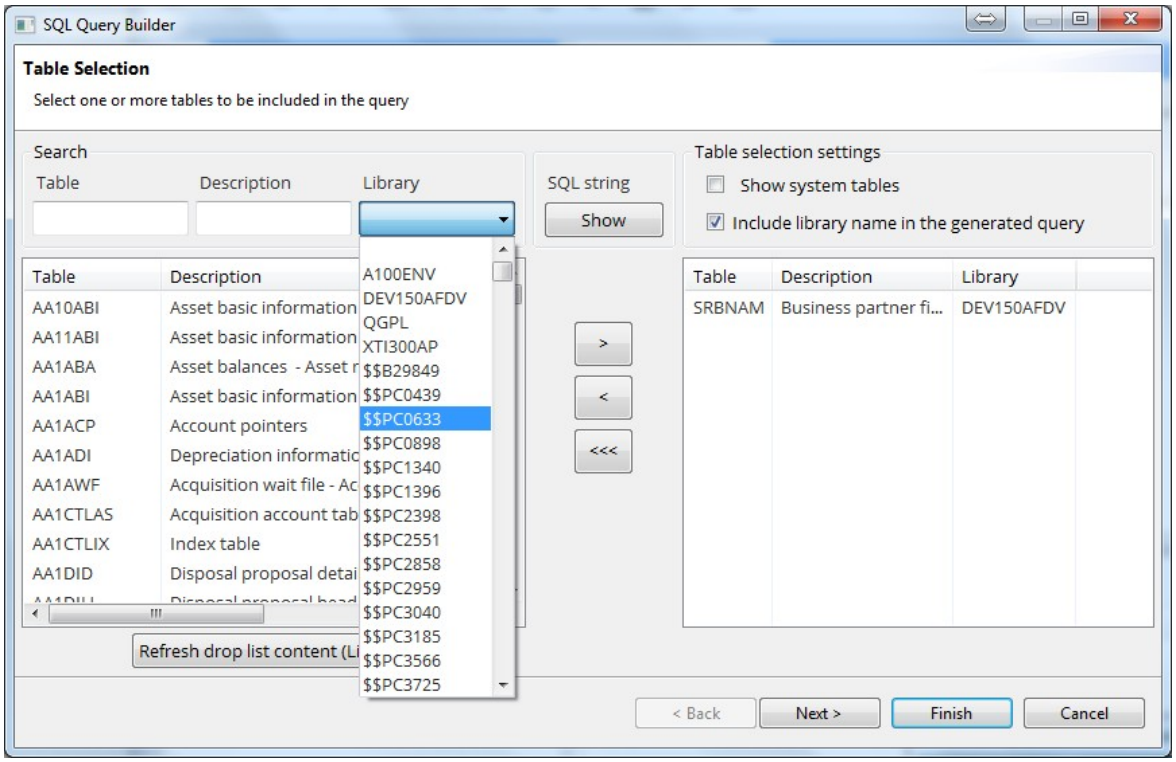
Go to the currency detail panel, click on button named '**Exchange rates'**.



The query shows the exchange rates for the selected currency.

Selectable query libraries

Default, all libraries are selectable in the query wizard. In the following steps you will learn how to reduce the number of libraries in this list.



Dispatcher configuration

Start XT Administration and edit the dispatcher configuration.

Selectable query libraries (comma-separated. Library name, *DBLIB, *CFLIB)	*DBLIB

Enter a comma separated list of library names in the ‘Selectable query libraries’ filed. These libraries will be selectable in the query wizard.
Click the ‘apply’ link, alternatively restart the dispatcher.

Functional impact

Query builder

The number of selectable libraries in the query wizard is reduced. Users are not allowed to use other libraries than defined in the dispatcher configuration in the SQL string.

Viewing and exporting query results

The query will not run if other libraries than defined in the dispatcher configuration exist in the SQL string.

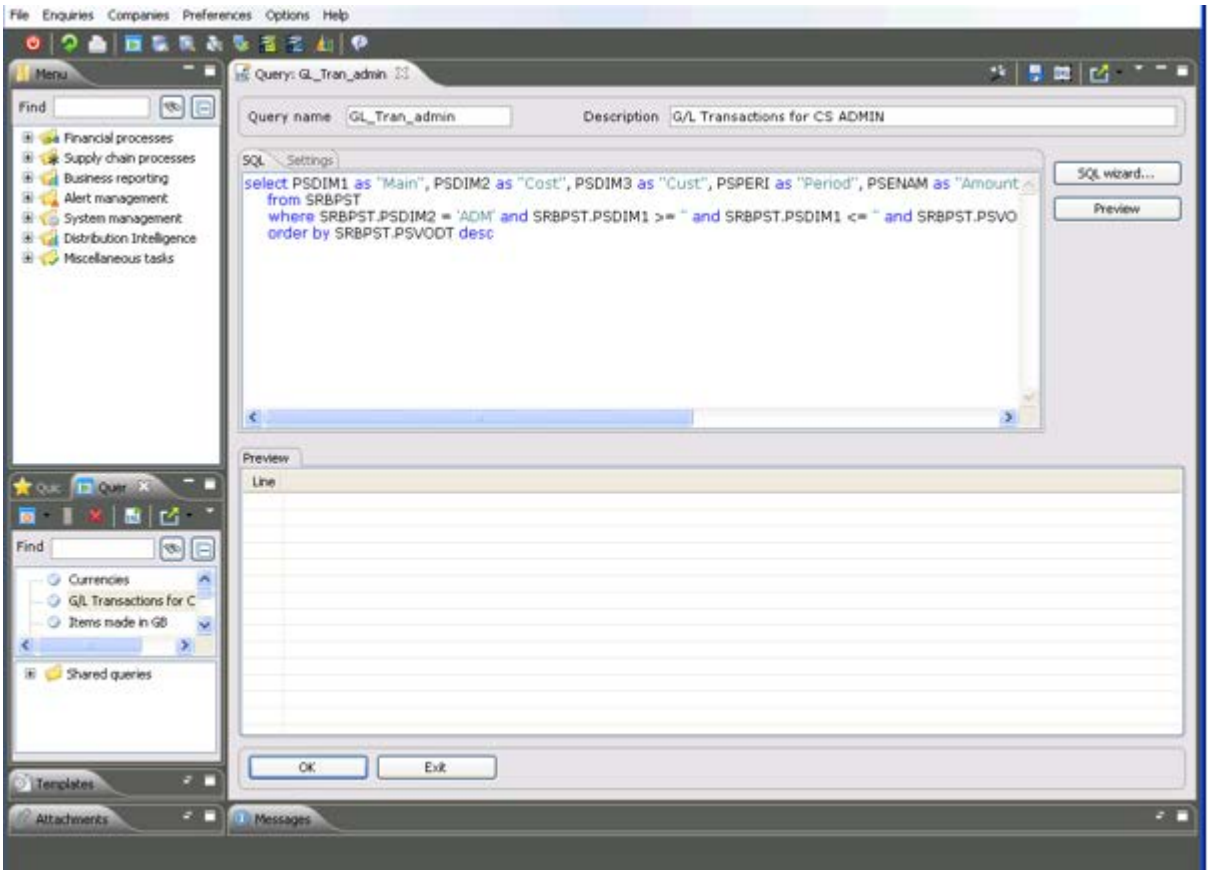
Limitations

No updating of database

The SQL string must not contain any update related keywords.

XT Query Wizard

The XT Query wizard has limited functionality. Instead of using the wizard you can type SQL directly into the SQL tab of the Query edit view. You can run the query even if the SQL string contains keywords that are not supported by the wizard but you cannot use the wizard to edit such query.



Converting OS/400 queries

Converted SQL may not be supported by wizard

Converting OS/400 queries may result in SQL strings that will run but cannot be handled by the wizard.

Example:
Keywords **LIST** and **NLIST** in OS/400 query are converted to **IN** and **NOT IN** which are valid keywords in XT Query but cannot be handled by the wizard yet. Editing such query with the wizard will destroy the SQL string.

OS/400 queries with sub-totals will be converted into several XT Queries.

The following info comes from IBM's documentation:

Link:
http://publib.boulder.ibm.com/infocenter/iseries/v5r4/index.jsp?topic=%2Fcl%2Fdmpobj.htm

Dump Object (DMPOBJ)

The Dump Object (DMPOBJ) command dumps the contents or attributes of the specified operating system object to a spooled printer file named QPSRVDMP. Whether the contents or attributes **can** be dumped depends on the object type. If the user had specified SPOOL(*NO) on either the CHGPRTF command or the OVRPRTF command, then the output is not spooled but printed directly; and, if the printer is not available, then this command overrides the print job and spools the output. When the user specifies SPOOL(*NO) on one of the two commands above, the user must specify QPSRVDMP as the printer file. Any library or object that is stored in a library can be dumped, but only one object can be specified at a time on this command.

Restrictions:

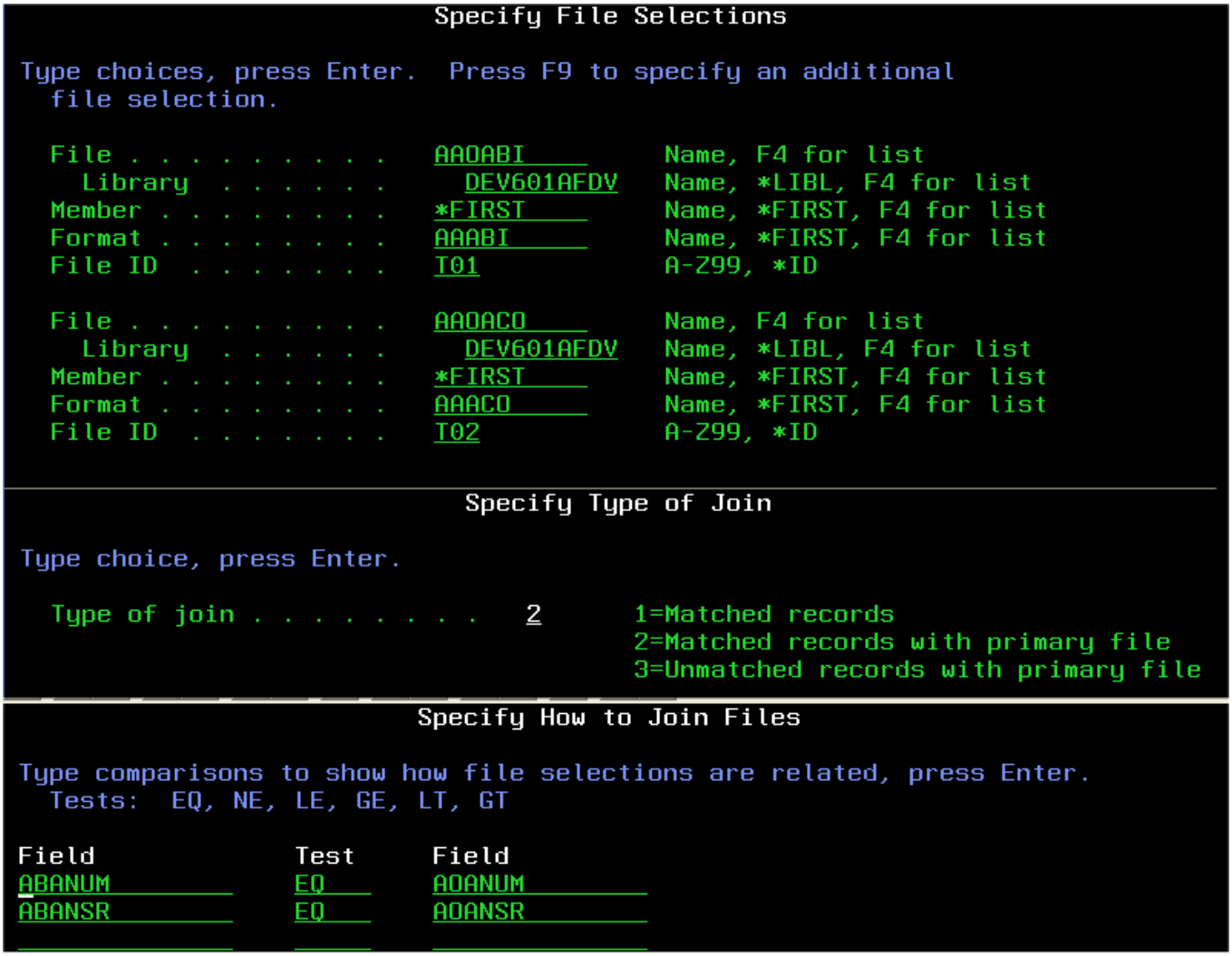
- To use this command, you must be signed on as QPGMR, QSYSOPR, QSRV, or QSRVBAS, or have all object (*ALLOBJ) special authority.

Query selection policy with join files

Query selection on column contained in secondary file (in a join query) are not handled the same way in iSeries and XT.

File and join specification
File AAOABI contains assets. The unique key is composed of ABANUM + ABANSR.
File AAOACO contains asset comments. AOANUM and AOANSR are used to join the files.

The type of join selects entries from AAOABI combined with entries from AAOACO.
If a key found in the main file (AAOABI) is missing in the secondary file, the entry is selected anyway but without information in the fields belonging to the secondary file.



Record selection

```
                                Select Records

Type comparisons, press Enter.  Specify OR to start each new group.
  Tests:  EQ, NE, LE, GE, LT, GT, RANGE, LIST, LIKE, IS, ISNOT...

AND/OR  Field                 Test    Value (Field, Number, 'Characters', or ...)
        ABANUM                LIKE    '00001%'
 AND    AOLINN                LE      1

                                                                          Bottom
```

The record selection is performed on two fields
ABANUM from the main file AAOABI and AOLINN from the secondary file AAOACO.

Executing the query in iSeries gives the following result
Columns in group 1) are issued from the main file AAOABI
Columns in group 2) from the secondary file AAOACO

```
                                             Display Report
                                                                              Re
Position to line  . . . . .                                                Shift
Line   ....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9..
       Asset           Ass    Description    1)               Asset           Ass     Line   Line text
       number          seq                                    number          seq     no        2)
                       no                                                     no
000001 0000101                Volvo 760 cabriolet             0000101                 1             fffff
000002 0000101           1    Volvo 760 cabriolet
000003 0000102                Volvo 760 combi                 0000102                 1      yyyyyyyyyyyyyyyyy
000004 0000103                Volvo 760 van
```

There are 2 entries found in both files (line 1 and 3).
Lines 2 and 4 are only found in the main file (empty columns in group 2)

The record selection form column ABANUM is not a problem. The column is found in the main file.
A default policy is taken by the query to resolve record selection when the data to select upon is located in the secondary file and the corresponding record is missing.

➔ Query default in iSeries allocates a default value to the missing column, and uses it to perform the selection.

```
        Field                 Test    Value (Field,
        ABANUM                LIKE    '00001%'
 AND    AOLINN                EQ      0
```

The selection above gives the lines 2 and 4 in the result picture.

The missing field AOLINN is considered = 0.

The transformed XT query

```
select AAOABI.ABANUM,AAOABI.ABANSR, AAOABI.ABDESC, AAOACO.AOANUM, AAOACO.AOANSR,
AAOACO.AOLINN, AAOACO.AOLINX
        from DEV601AFDV/AAOABI
                left outer join DEV601AFDV/AAOACO
                        on AAOABI.ABANUM = AAOACO.AOANUM and AAOABI.ABANSR =
AAOACO.AOANSR
        where AAOABI.ABANUM LIKE '00001%'
                        AND AAOACO.AOLINN <= 1
        order by AAOABI.ABANUM, AAOABI.ABANSR
```

This query does not produce the same result as the original iSeries query.

Line	Asset number	Ass seq no	Description	Asset number	Ass seq no	Line no	Line text
1	0000101		Volvo 760 cabriolet	0000101		1	fffff
2	0000102		Volvo 760 combi	0000102		1	yyyyyyyyyyyyyyyyyyyyy

The rows without corresponding secondary entry are not selected.

The default behavior is not the same.
Missing information is not defaulted. The selection is not performed and the record not included.

A way to solve this particular situation is to move the secondary file selection into the join definition.

```
        ...
        from DEV601AFDV/AAOABI
                left outer join DEV601AFDV/AAOACO
                        on AAOABI.ABANUM = AAOACO.AOANUM and AAOABI.ABANSR =
AAOACO.AOANSR
                                AND AAOACO.AOLINN <= 1
        where AAOABI.ABANUM LIKE '00001%'
        ...
```

The record selection will never have to handle missing information.
The secondary file record has already been handled by the join definition.

The corresponding record from the main file is selected because of the type of join (left outer join).

Note: this solution will not work for all situations.

Selection:

```
AOLINN              EQ      0
```

Gives 2 rows I iSeries

```
Asset        Ass  Description                    Asset        Ass   Line  Line text
number       seq                                 number       seq   no
             no                                               no
0000101        1  Volvo 760 cabriolet
0000103           Volvo 760 van
```

Applying the same modification in the query

```
select AAOABI.ABANUM,AAOABI.ABANSR, AAOABI.ABDESC, AAOACO.AOANUM, AAOACO.AOANSR,
AAOACO.AOLINN, AAOACO.AOLINX
                from DEV601AFDV/AAOABI
                                left outer join DEV601AFDV/AAOACO
                                                on AAOABI.ABANUM = AAOACO.AOANUM and AAOABI.ABANSR =
AAOACO.AOANSR
                                                AND AAOACO.AOLINN = 0
                where AAOABI.ABANUM LIKE '00001%'
                order by AAOABI.ABANSR
```

The query will return 4 rows

Line	Asset number	Ass seq no	Description	Asset number	Ass seq no	Line no	Line text
1	0000101		Volvo 760 cabriolet				
2	0000101	1	Volvo 760 cabriolet				
3	0000102		Volvo 760 combi				
4	0000103		Volvo 760 van				

The join condition does not find any row in the secondary file.
The type of join includes all main records.