Dynamic Excel documents

# Contents

A course of action of dynamic Excel documents

Dynamic Excel documents are records, extracting information from the "Storehouse Pro" and visualizing them in MS Excel. The creation of a dynamic report consist of three separate modules:

• Class "RTDServer" - This class is added to the "Storehouse Pro" and it provides data exchange functionality of the program with MS Office. RTDServer object receives and executes all the requests from the document and returns the results of their implementation. Assemblies of the class are registered with the installation of "Storehouse Pro" and works even when the program is not active.
 It also retrieves data from program's settings and exchange information with the database which is connected to the program.

• VBA interface – There is a code standing behind every Excel document and it provides interface between RTD server and Excel itself. This code places the queries with the program and correctly displays the results received by it. It also provides protection of the document. This code is included in every single new form for constructing a document and Excel reference.

• Microinvest Edit Console – this is a console that allows creation and modification of Excel documents. It is an"add-in" for Excel platform, providing with opportunities to extract data in a cell or column and to perform a specific command. When you want to edit the document the console is able to "unlock" the document so you can make changes in it. It is recommended all queries (cells, columns, commands) to be add / change only through the console. You don't need the console to work with Excel documents.*
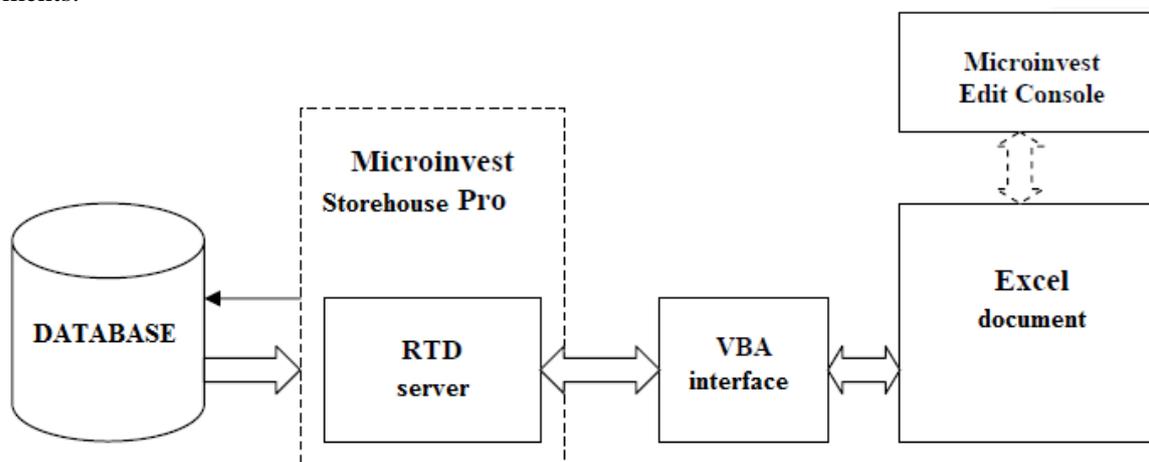
Creating an Excel document requires all the queries (cells, columns, commands) in the cells of the document, applied through the console. Once the queries are entered then the console is not necessary for their proper functioning. The interface sends sequentially all queries to the active RTD server. There they are converted into SQL queries to the active database or commands. The received results are transformed and sent back to the VBA interface of the excel's report, which brings them to the cells in an appropriate document type. Self-refreshing reports could be created to complete all queries in a certain period of time.

Queries

Depending on the data extracted, there are three types of queries:

• Cells - These are the SQL queries which execution returns only one result. It is displayed in the cell specified by the query. If the result contains more than one line, only the first value will be displayed. When you set a request, you can enter the entire application in the field "Query" of the Console or you can use a reference to another cell.

• Commands - There is a finite set of commands which passed to the RTD server perform an action or return a result. If the command is supplied with parameter, it has to be made by reference.

• Columns – these are SQL queries that return more than one result. A Cell where is set the query and also received the reference of the implementation is an information cell. Upon finalization of the Excel document, these cells become hidden. In the column below the information cell is displayed formatted data from the implementation of the query. There are two types of columns - Simple and Leading. The Simple column displays the data below the information cell, overwriting the contents of the cells with the data from the query. The leading column inserts one row for each element to be displayed, pushing the contents of the cells below it down.

Creating a table

You can create a table by placing query- columns one next to each other and at the same time the extracted data must logically connected, with the same length and matching in the rows. In order to obtain matching data, it is advisable the SQL queries to have identical ORDER BY clauses or to use the reference from a column. Creating a table requires the first column to be Leading type, and all the rest Simple type. Thus the leading column will control the length of the table. Cells located in the rows in the document where there are data columns, should not be used.

References to cells

When creating the application part of it can be taken from another cell and you can enter a different value or query, the result will be added in the equation. You can use references when you put the address of the cell in square brackets in the order of the query.
Example:
SELECT Name FROM Users WHERE ID = [B2]

References to columns

The query may be used to reference data from the column. The result of the implementation of such a statement is equivalent to implementation of an SQL query for each one of the values and total output of the results. You can create reference to a column by inserting the address of the information cell of the column- source into the request. It is useful to derive ID values in a column to which can be made several queries and using it as a reference column. The data which is deducted this way will appear in the row with IDs. The values in the tables, created with references to a column, are extracted from the RTD server separately, reducing the performance of the report. Tables that are created with references to columns are suitable for creating reports with small amounts of the results for visualization.

4

Creating a dynamic Excel document

Creating a new document

To create a dynamic new Excel document, you must have an empty form, containing VBA interface and editing console. Open form vX.X.xls. To create a dynamic document you can set query and change the contents of all cells except cell A1, where is loaded the DEBUGON command.

Starting Microinvest Edit Console

Copy the file Microinvest_AddInnConsoleX_X.xla in your computer. Then start the Excel platform and in the menu Tools, select Add-Ins. In the opened window will appear a list of all active application add-in for Excel. You have to click on the button Browse and select the path where the XLA file is. Check on the tab Microinvest Edit Console. The console is now active and you can switch to it with the combination of keys Ctrl + Q.

Create a query – cell

To get information in Excel document, you must specify a query in one of cells of the document. Select a cell and switch to Edit Console. In the category Console, specify the type of query you want to assign and press the button "Execute".
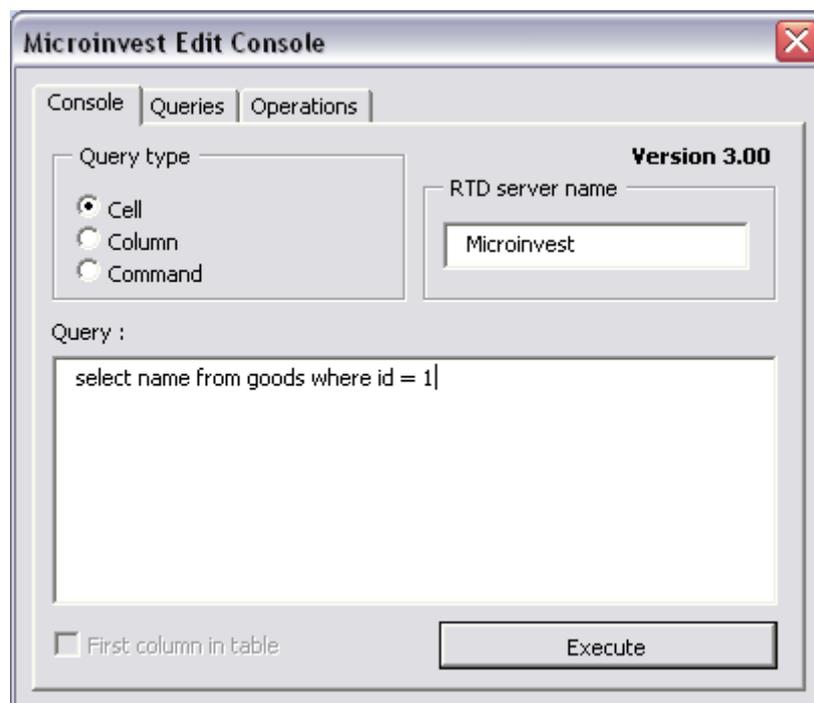
The result of a SQL query is displayed in the cell, and in the address field of Excel the formula shows:
= GetResult ("select name from goods where id = 1")
The fields in which there are requests cells are colored in green.

Creating a query- command

The commands are set in the same way as the queries. The command is specified in the field "Query", and if it has parameters, they must be submitted by reference.
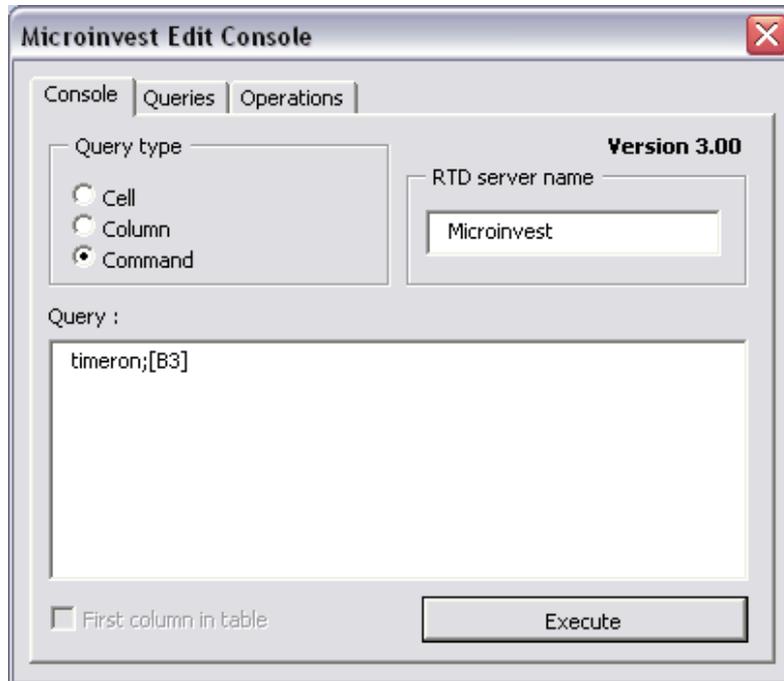
The Command of this example starts the dynamic update of the document as the period is the value of cell B3. The cells in which a request- command is specified are colored in red.

Creating a table

To create a table you must enter query-columns in consecutively positioned cells in one of the rows of the document, the first of which is leading.
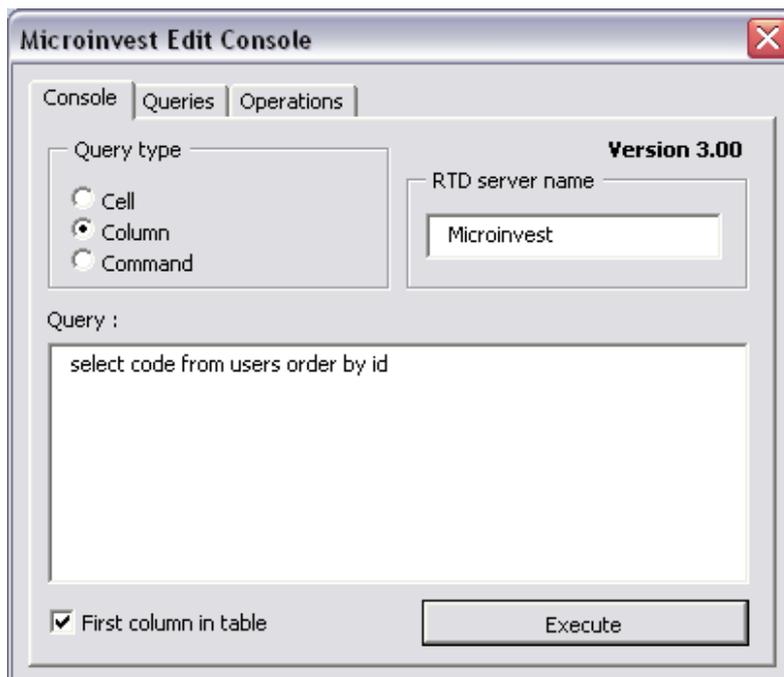
First you have to create a leading column, to enter SQL query and to put a check on "First column in table". In the example as a leading column is displayed all users codes.
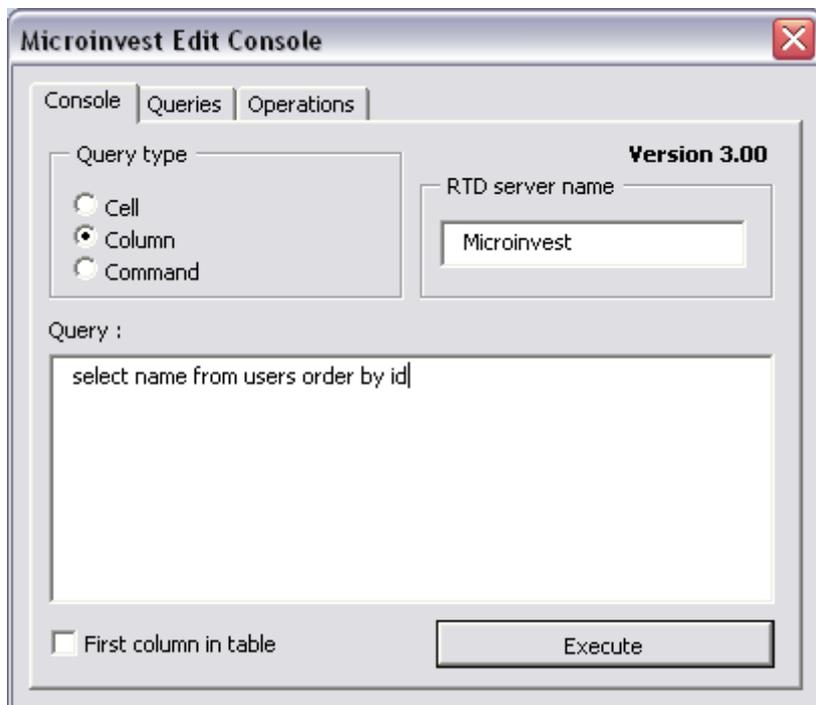
In an adjacent cell you have to set query – column, which will display the names of all users and both queries using the same ORDER BY clause to obtain matching values in the rows. The results from the queries are displayed in colored fields in the document. The information cell of the leading column is colored in blue, data cells of the leading column - violet, and cell information and

cells with normal data of the simple columns respectively in purple and light blue. The data displayed in the table can be formatted by selecting the format of the cell below the information cell, before entering the column.

Removing queries

All queries, entered in the documents are identified with names. The name of each query consist of of three-letter prefix which determine the type and the address of the cell where it is entered.
• Cel - cell;
• Cmd - command;
• Col-column;
In the tab "Queries" in the Edit Console there is list with the completed names of all queries.
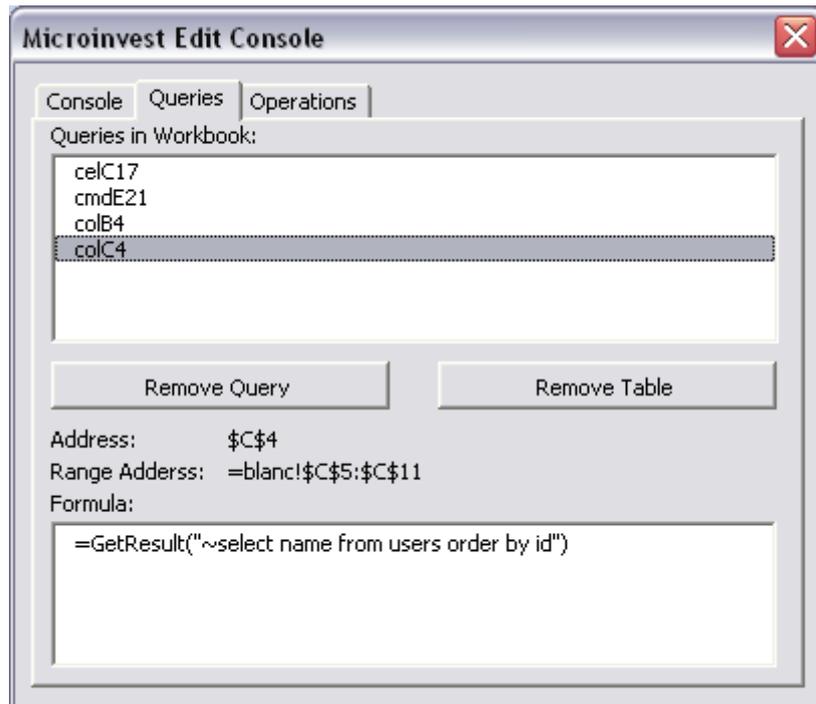
Selecting the name of the query in the field "Address", displays the address of the entered cell. The field "Range Address" – the range of cells that displays the data (when it is a column). The text field "Formula" displays the formula of the query. To delete a request you must select the name of the query and to click on the button " Remove Query". This will remove the query and its results from the document. You can also delete entire tables by selecting the name of the column and clicking on the button "Remove table"

Operating with a document

In the third tab of the edit console there are buttons for locking and unlocking a ocument, locking and unlocking cell and visible and hidden rows and columns
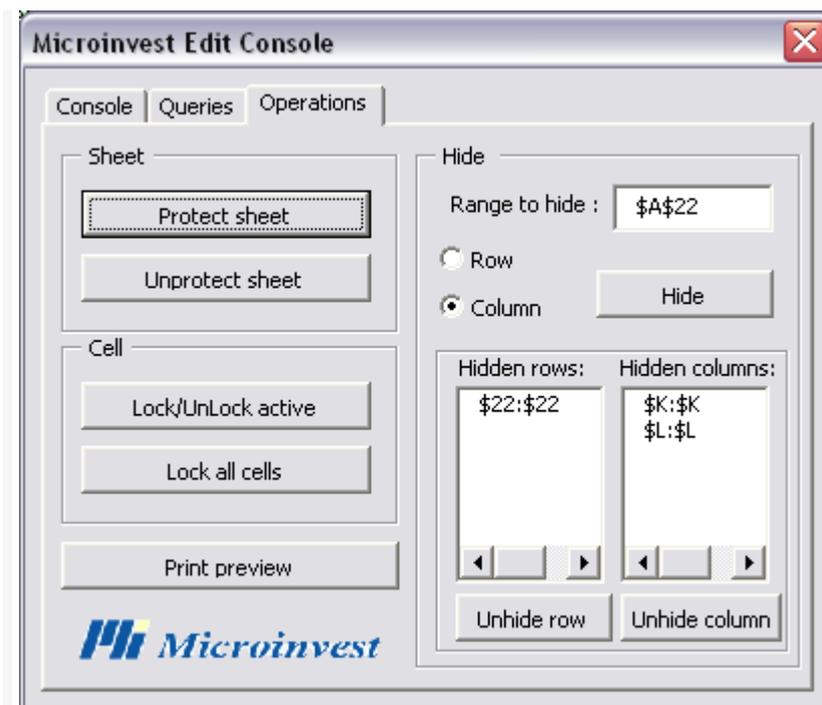
Lock and unlock the document

When you start a blank form, the document is unlocked, you can see table's lines of Excel and the content of all cells can be changed. Upon the finalization of the document, it must be locked with a button "Protect sheet". After this all cells (except the cells previous given as unlocked) are locked, information cells of the columns are hidden and coloring cells removed by request. When unlocking a document which has already been created, all its cells are unlocked, the cells with requests are colored in the relevant color and tabular lines display.

Lock and unlock cells

Some documents need one or more cells to be unlocked so that to be able to enter data in them or to be copied derived from the report. You can do that when mark one or more cells in the document and press the button "Lock/Unlock active" in the category "Cell". The cells are marked for locking again by repeating the operation. Marked as unlocked cells are in yellow color.

Hide and detection of columns and rows

Sometimes when you are creating a report, there should be performing additional requests that should not be seen by the user. These requests are entered in columns or rows and then hide. Hiding a column or row is as follows: Select cell, call the console, and select row or column to be hidden in the tab "Operations" and press the button "Hide". Hidden rows are inserted in the list box "Hidden rows" and hidden columns – in the list box "Hidden columns". When selecting an item from these list boxes and press the button "Unhide row" or "Unhide column", then these columns are detectable.

9

Finalization of a dynamic Excel document

When all the requests are given in the report and it is in suitable form, then have to determine which part of the document should be print. We can do this when mark the part of the report (which must be printed) and select „File->Print Area->Set Print Area" from Excel menu. The titles of the reports that appear in Microinvest Warehouse Pro are Excel headers pages. So they should be change to appropriately variant.

When a document has already been created, you must take several steps before deliver it to the end consumer:

- The report should be create with the latest version of the form and edited "Add-in"
- Check the logic of report
- Check if all fields returns result
- Unlocking the needful fields and at the same time keeping attention not to leave other such
- Design and standardization of report view
- Checking Public functions if they are added to VBA interface and may run as a Macros
- Check with Print Preview
- The report have to be recorded with empty data
- The scroll bar of Excel must be established at the beginning of the report
- The report have to be recorded as "Read only"
- Test

Commands to the RTD server

Test – Test command of RTD server. If there is a link between the Excel document and Warehouse Pro, then will return the result "Microinvest RTD server is running!!!" in the cell.
DebugOn – Turns on debug mode in Excel documents where all errors are displayed. It is good this command to be delete when the document is finalized.
DebugOff – Turns off debug mode in Excel documents.
TimerOn;X – The command turns on a timer in the RTD server, which is refreshing the date during the specified period (X seconds) in the report. To avoid mistakes in translating is good X to be greater than 30 seconds. The parameter must be filed through reference.
Example:
TimerOn;[B17]
TimerOff – Turns off a timer in the RTD server

The commands returns result

NumberToText;X – converts number X to it`s text presentation. The returned text is in the written language in configuration of Warehouse Pro. The parameter must be filed through reference. Example: NumberToText;[D20]
DBInfo- returns the type of the active database, where the RTD server drags information. (This is the active database of Warehouse Pro).
ActiveUserID- ID of the user who is logged in Warehouse Pro. If the program is stopped, the result is zero.
GetLanguage- returns the language written in configuration of Warehouse Pro

10

VAT- returns "True" if the price have included VAT. Otherwise - False

VATPercent –returns the VAT percentage which is stored in configuration of Warehouse Pro

Lot- returns "True" if we work with lots. Otherwise - False

DiscountMethod- returns the method of discount calculation (standard or alternative)

Version- displays the version of Warehouse Pro

RTDVersion- displays the version of RTD server

Notes

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