Application Name:	**IBUtils - Interbase/Firebird Database Utilities**
File name:	IBUtils.exe
Version:	0.9.8.2
Platforms:	Windows 9x/NT/2000/XP
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The application **IBUtils** is designed for simlifying database design for Interbase and Firebird databases by showing the links between the tables in your database visually, like some CASE tools do. Every change to the tables in your database made by other tools can be refreshed by one mouse click. You can create tables and tables relations too. Changes to database are logged into a file.

Screen shots:
Application window
Print preview

This app uses pure access to Interbase/Firebird with the excellent IB Objects, without need to use BDE. Special thanks to Jason Wharton.

This application is TOTALLY FREE.

Note, that it is still beta version and need some testing. Comments are welcome.

1. Registering database
First you need to register your database (menu Database/Register Databases) so you do not have to type DB path and user name next time again and again. Password is not saved and you need to retype it every time (saving pwd is not secure).

2. Creating model
Press Ctrl+M, you will be prompted to choose from one of the registered databases. Then you can add desired tables to the model (from menu or press A). Tables links (according to foreign key constraints defined in your DB) are added automatically.

3. Adjusting model
You can set some view properties as whether to show keys only, required fields as bold, field domains, field types, colors and others. You can save the model layout to your disk by Save command. Model is saved to INI-like files with extensions *.mdl, *.tbl, *.old (this is backup file).

4. Export & Print
You can Export the whole image of the database model to JPG or BMP file. Another option is to Copy and Paste it to another application. The Print Preview window allows you to save every separate page to a Windows Metafile (*.wmf).

5. Other comments
The first intention was to create more complex tool , but as this is not my fulltime job and I do it in my free time, I decided to focus on the model utility. This tool was read only tool in the beginning, but on the basis of the users requests some metadata creating features were added recently. These features are just for convenience, do not expect complex database managing set of features - there are some other IB/FB database tools that do this job in an excellent manner.

I believe it can be appreciated by the IB/FB community.

You are always welcome to send a message to my e-mail akahanek@seznam.cz with any comments or bug reports.

Thank you for playing with IBUtils and sorry for its poor (none :o) documentation and also for my poor English :)

Good luck, Ales Kahanek

Download 1.1 MB (version 0.9.8.2)

If you want to be informed about new versions by e-mail, send me a request.

History:

30-May-2007 version 0.9.8.2

New site
- **IB Utils has been moved to a new site of United Paladins** - No version change :(

19-Apr-2006 version 0.9.8.2

New features
- **Show Unique Keys** - Fields that are part of unique index are now displayed with the grey "key" icon in the first column. Also when using the "Keys only" option, such fields are always visible (you can use this fields to establish a new foreign key). The primary key is still displayed with the yellow "key" icon (note, that primary keys are always unique).
- **General Options -** There is a new dialog (File / General Options menu), just with one option only (more to come ... :).
- **Load Last Opened Models After Start** - When this options is checked, all models opened in the last session are loaded when starting IBUtils next time.

Bug fixes
- Fixed AV when deleting table from the model and the fields listbox was focused.
- After doing some changes in the values of "Databases" dialog (User, Database or Alias, Metadata log) and clicking Replace and Connect button old values appeared in the IBUtils Login Dialog instead the new values. Fixed.
- A new table added to the model is now better resized.

6-Apr-2006 version 0.9.8.1

New features
- **Import Model** - You can import model from *.mdl file to existing model. Right click to the point where you want to import the model, select the *Import Model* menu item and choose the desired *.mdl file. All imported tables stay selected and it is easy to move the imported model to a new location. Tables that already existed in the current model are not imported.
- **New Model From Selected -** Select some tables in the current model a click *New Model From Selected* menu item. A new model is created and only selected tables are copied into it.
- **Adjust Width of Column(s) -** Select one or more tables and right click the table and *Adjust Width of ...* or *Adjust All Widths* menu item to adjust width of column(s) according to the longest text in the column.
- **Adjust Table Size -** Select one or more tables and right click the table and *Adjust Table Size* menu item to adjust width the *Name* column and width of table according to the longest text in the column; height of the table is adujsted so that all field names become visible.

Bug fixes
- The columns width was not preserverd when using other than 100% scale after save-close-open multiple times.
- Minor bug fixes

21-Nov-2005 version 0.9.8.0

New features
- **Firebird 2.0 support** - IBUtils can now work with FB 2.0 Beta 1. I do not use FB 2.0 regularly (still working with FB 1.5), but it seems that everything works fine. In case of troubles with FB 2.0, do not hesitate to contact me.

20-Jul-2005 version 0.9.7.0

New features
- **Show Grid** - if you use Snap To Grid option, then you can find usefull to show the grid (dotted matrix on the model background). This option is set and saved to each model separately.
- **Show System Domains** - there is new option in the Options dialog "Show System Domains", that can show/hide system domains in the table domain column. Generaly one does not care about the system domains like RDB$1287 etc. When this options is unchecked, only user defined options are showed (for example DM_BOOLEAN) and empty string is used for system domains.
- **Combined Types/Domains** - there is new option in the Options dialog "Combined Types/Domains". When this option is checked then the Type is displayed if the domain is "RDB$...", otherwise the Domain is displayed in a single column.
- **Edit descriptions** - you can double click the table title to show "Description dialog" end edit the **table description**. Similarly double click the field to edit **field description**.

10-Jun-2005 version 0.9.6.1

Bug fixes
- The last version was not usable with Firebird 1.0 and Interbase 6.0 due to lack of COALESCE support. Now it is fixed and IBUtils does not use the COALESCE function anymore.

15-May-2005 version 0.9.6.0

New features
- **Create Indices** - there is a new option to display available indices for every table in database. There is also _very_ easy and fast **Create Index** function. Just select required field (or more fields) and press **Shift+Ctrl+I** and **F9** (or use right mouse click on the selected fields). That´s all! You can edit the Create Index template to comply with your index naming conventions. This template can prepare SQL script for you to create **both ascending and descending index in one step** (this is default). Every index can be dropped too.

28-Dec-2004 version 0.9.5.0

New features
- **Command line start** - IBUtils can be now started via command line with specified filename, user and password.
  Example 1: ibutils.exe -filename c:\models\mymodel.mdl
  Example 2: ibutils.exe -filename c:\models\mymodel.mdl -user sysdba -password masterkey
  In the first example user is prompted for username and password. The model is opened directly when the *user* and *password* switches are specified.
- **Password storage** - There is an option to store username and password for each model in the **Model | Options** dialog. When username and password is saved, the login prompt is not displayed and model is opened immediately. The password is jumbled in the *.mdl file. Saving password is not very safe, especialy for the SYSDBA user, but it can be very handy sometimes.

Bug fixes
- The mouse click outside the list of registered databases produced unwanted exception.
- Setting the "Keys only" option for a table with no primary and foreign keys produced unwanted exception.

6-Jun-2004 version 0.9.4.0

New features
- **Reorder table fields** - Table fields can be reordered (**Ctrl+Up** or **Ctrl+Down** or by

popup menu) and then the changes can be compiled (**F9** or click Compile button). These changes are also logged in the metadata log file if such file is specified for the database (in the Registered databases dialog).

- **Change database** - The path to database or database alias of the model can be changed in the Model options dialog. *Note*: When the database path or alias match some of the registered databases, the corresponding Metadata log file and user name is used for this model.

- **Browse and export** -You can browse table data (**F4** or by popup menu) and edit, insert or delete records. Also convenient export to Excel, Word, RTF, HTML, DBF, TXT, CSV, DIFF, Sylk, LaTeX, SQL or Clipboard is available.

- **Better creation of tables** - When new table is added or created in the model, its **height** is automatically adjusted to display all fields, its **width is automatically adjusted** according to width of the longest field name, field type, field domain or computed by source (which columns are displayed depends on the value of "Default columns count" and other Default show options in the "Model options" dialog).

- **Snap to grid** - tables are snapped to grid while resizing or moving within the model. Size of the grid can be set in the "Model options" dialog. Relations nodes can be snapped as well. Snapping of tables and/or relations can be turned on/off.

- **Run Script** dialog - you can quickly run SQL scripts against the database. Run whole script or select portion of script in the memo and run. The script is logged into the metadata log file.

Bug fixes
- The CreateRelationTemplate did not work properly - changes to the template were never used - the default temlate was used instead. Now you can edit the template and IBUtils will use it properly.
- When opening model with 0 tables, the "TProgressbar property out of range" exception was raised. It´s fixed.
- The tables cannot be minimized to zero height. - The "Drop field" or "Drop relation" functions used parenthesis in DDL (for example 'ALTER TABLE "MYTABLE" DROP ...'). Interbase 6.0 does not allow parenthesis in DDL. Now parenthesis are not used anymore.
- Field types NUMERIC, DECIMAL and BIGINT were incorectly reported as INT64. It´s fixed.
- Printing to landscape did not work. It´s fixed. Some users have reported problems with printing to A3 paper size. This should be fixed too, but I do not have A3 printer so I cannot test it.

26-Mar-2004 version 0.9.3.1

The last version was built with Czech resources, so the login dialog caption, some labels captions was in czech language and therefore "unreadable" for the rest of the world :-) etc. Version 0.9.3.1 is built with english resource strings.

24-Mar-2004 version 0.9.3.0

It´s a long time from the last release date :-). There is a new version with some new features to just say to world that this project is still alive.

New features
- Create field menu item (in the table popup menu) - not very comfortable, but can be handy when working with IBUtils - you do not need to switch to another tool
- Drop field menu item
- Create relation by simply dragging one field onto another field - "Create relation" dialog is then invoked to create a short script for you

Bug fixes
- application raised exception when refreshing empty model

11-Aug-2003 version 0.9.2.8

New features
- Scaling (zooming) was redesigned so now **it behaves as a real zoom** (including proper font sizes).
- new hot keys: F2 - zoom in, F3 - zoom out, F4 - zoom to 100%.
- Relation names are shown in hint window while moving mouse over it.

Bug fixes
- A table was not properly scaled when adding new table to model with other scale than 100% until the model scale was changed.
- fixed Note scaling.
- Metadata changes were not written to log file when *.mdl file from previous version of IBUtils was used on some circumstances. The problem did not arise when new model was created.
- After dropping foreign constraint model did not behave correctly and creating other constraint or custom link was very tricky (some AVs).
- some other minor bugs.

The last version was pretty buggy :(, I believe this one is better :) .

5-Aug-2003 version 0.9.2.7

New features
From now IBUtils is no longer a read only tool. On the basis of the users requests I introduced following new features
- **New foreign** key constraint can be created by several mouse clicks - click on the "Create relation" tool button, then click on some field of the first table, then click on some field of the second table and a script is generated for you to create the relation. You can freely modify this script to suit your needs and/or select the update or delete rule for this constraint. There is also possibility to modify the script template which is used as a basis for the resulting script (see the "Create Relation" tabsheet).
- **New table** can be created by right mouse click on the model - menu item "Create Table". A "Create Table" form is shown with a template script. You can supply table name and primary key name a click the "Create Script" button. Then modify the script or directly click the "Run Script" button. The template contains several "macros" which are processed during the script generation. You can modify the template according your needs. The standard

template supplied with this application creates table with primary key and some timestamp and user fields, some insert and update triggers, primary key generator and some privileges. This approach is very usefull when you want to have all tables with some "standard" fields, the triggers and generators etc. named properly by the same naming convention.
- Every change to the database metadata (create/drop relation, create table) can be **logged into a file** so your metadata changes are reproduceable to another database. The desired filename can be entered in the "Register Databases" dialog.

Bug fixes
- Models are now opened and refreshed sligthly faster*.*
- Custom nodes are now refreshed properly.
- Foreign key icons are now painted properly.
- When "Keys only" option was specified, all fields were shown. Now only keys are displayed.

28-May-2003 version 0.9.2.6
New features
- **Notes** - you can add a custom "Note" directly to model to enter some description, see the application window screenshot. Note can be selected, moved, etc., it behaves in the same way as regular database table object. Right click on the model desktop and choose "Add note" menu item.
- **Custom links** - you can now create your own links between tables and even notes mentioned above, see the application window screenshot. Click on the "Add custom link" toolbutton in the main toolbar - the cursor changes to indicate the "Add custom link from" mode, then click on some field of some table, cursor changes to "Add custom link to" mode, then click on some field of another table and the custom link is now created. Custom links are saved in the *.tbl file.
This is very handy when you do not use foreign key constraints in your database and still want to show the link (obviously when the foreign key index has low selectivity)
- Link color can be now specified in the Options dialog box

Bug fixes
- Fixed bug "Token unknown ..." when running against Interbase 6.0.
- Fixed cursor flickering when table link was focused.

Because of the new "Notes" feature the object model has to be splitted to general ancestor and *table* plus *note* descendant. This required lots of code changes and there could be new bugs and the application can be unstable.

14-May-2003 version 0.9.2.5
New features
- Border color can be specified in the Print Preview form.
- Different background color for print output can be specified in the Print Preview form. This option can save a lot of your printer´s ink (use white color :-) .
- Stretch to 1 page option is now available. This makes the model image stretched to one printout page when the model consists of several pages. However, text in the result could be hardly readable when the stretching factor is too high - it is bitmap, not vector :(.

- All Print Preview form properties are now remembered independently for each model.
- Some shortcuts were added to Print Preview form:

- P or Ctrl+P ... Print,
- S or Ctrl+S ... Save to WMF,
- W ... Zoom to width,
- H ... Zoom to height,
- F4 ... Zoom to fit,
- + ... Zoom in,
- - ... Zoom out,
- Esc ... Close Preview.

23-Apr-2003 version 0.9.2.4
Fixed bugs
- When one field of a table was involved in several foreign keys (or duplicated foreign key was accidentaly entered into db), the "Multiple rows in singleton select" error was generated. This is now fixed. However this fix has enforced change of internal relationships naming convention and thus change of the names of relationships saved in the *.tbl file. This change affected only those relationships with nodes - when you open the old model with this new version, none of the nodes will be restored from the *.tbl file because of the old vs. new name conflict. You have to define the nodes again yourself. This is the only drawback of this change and I appologize for the inconvenience.

There are some new interesting feature requests pending, but unfortunately I am very busy now and can promise to add these new features not earlier than within 3-4 weeks.

18-Feb-2003 version 0.9.2.3
New features
- The table description is now retrieved from database. You can see it as application hint of the Tablename label. Just point mouse on the table name and read ...

16-Dec-2002 version 0.9.2.2
New features
- The table listboxes can have a resizeable header now, you can adjust width of each column for each table independetly. The header for each table can be toggled on/off simply by pressing 'H' key.

- Opening existing model is now 30% faster.

- Added new shortcuts to quickly change the appearance of model tables (I, K, L, T, ...), see the table context menu. The 'A' shortcut for "Select All" was changed to "Ctrl+A". The 'A' key is now shorcut for "Add table". The 'T' key, previously shorcut for "Add table" is now shorcut for toggle "Types visible/invisible" in the selected tables.

- Run of some long lasting actions as Open model, Refresh model, Refresh selected tables isnow indicated by progress bar.

- Meaning of the "Show options" in the "Model options" dialog has changed. Previously after the OK button click the corresponding show options (icons, required, ...) of the **selected** tables were changed. Because the same result can be achieved by table context menu, this is not necessary here. The same checkboxes have another meaning now: these are the default show options when adding new table to the model. New table is displayed according to these settings. Existing tables in the model are not affected. These options are saved independently for each model.

Fixed bugs
- When adding new tables on some circumstances some table links were not added to the model until closing and reopening the model. Now this works fine.

►**23-Aug-2002** version 0.9.2.1
New features
- Painting links between tables completely rewritten. The FK links are now selectable objects and even more - you can define custom nodes on every link and the link then consists of several lines instead of one line only. [See the screenshot of the Application window](#) .All is done via drag and drop, very user friendly. The nodes can be selected too and dragged together with the selected tables to another location on the model desktop.

- New shortcuts added. For example Add Table shortcut was Ctrl+T, now you can use only T (the old Ctrl+T works as well), similarly other shortcuts (Export - Ctrl+E -> E and so on). Save your fingers, type less! :o))

Fixed bugs
- Fixed some MDI bugs (some "pointer" variables pointed to wrong connection object to another MDI window in some occasion, now it should be OK).

►**4-Aug-2002** version 0.9.1.3
New features
- More comfortable **Add Table** dialog:
1. Incremental Searching
When table list is focused, you can directly type letters to find desired table.
2. Immediate Filter
You can specify immediate filter in filter combo box, for example 'MYTAB', then press Enter and all tables containing 'MYTAB' are filtered.
3. Permanent Filter
In Model Options dialog you can specify Permanent filter condition, for example (RDB$RELATION_NAME NOT CONTAINING '$') AND (RDB$RELATION_NAME LIKE 'MYTABLE%')
or more complex condition using valid "SQL WHERE" syntax. The table list is filtered according to this condition and can be quickly toggled on/off.

Fixed bugs
- Add Table dialog was showing wrong table list when dialog was invoked from popup menu and when multiple models were opened

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1-Aug-2002 version 0.9.1.2
New features
- Export image of the model to *.jpg file, you can specify custom compression quality (range 1..100, lower number means lower quality and smaller file size)
- Print Preview window can save every separate page to Windows Metafile (*.wmf)

14-Jun-2002 version 0.9.1.1
New features
- COMPUTED BY fields can be now indicated

14-Apr-2002 version 0.9.1
New features
- Model title (can be printed)
- Print the model with print preview
- Copy image of the model to the Clipboard (you can paste it to another image processing app)
- Export image of the model to *.bmp file
- Keys Up, Down, Right, Left can scroll the model in the window

Some little bugs repaired

5-Apr-2002 version 0.9
First release of IBUtils

Employee sample model

COUNTRY

Name	Type
COUNTRY	VARCHAR (15)
CURRENCY	VARCHAR (10)

JOB

JOB_CODE	VARCHAR (5)
JOB_GRADE	SMALLINT
JOB_COUNTRY	VARCHAR (15)
JOB_TITLE	VARCHAR (25)
MIN_SALARY	DOUBLE
MAX_SALARY	DOUBLE

SALARY_HISTORY

Name	Computed by
EMP_NO	
CHANGE_DATE	
UPDATER_ID	
OLD_SALARY	
PERCENT_CHANGE	
NEW_SALARY	(old_salary + old_s

EMPLOYEE

EMP_NO
FIRST_NAME
LAST_NAME
PHONE_EXT
HIRE_DATE
DEPT_NO
JOB_CODE
JOB_GRADE
JOB_COUNTRY
SALARY
FULL_NAME

DEPARTMENT

DEPT_NO
DEPARTMENT
HEAD_DEPT
MNGR_NO
BUDGET
LOCATION

PROJ_DEPT_BUDGET

CUSTOMER

Name
CUST_NO
CUSTOME
CONTACT_
CONTACT_
PHONE_N
ADDRESS_
ADDRESS_
CITY