LibreOffice RefCard

LibreOffice Basic
IDE

Getting To The IDE

Menu Tools > Macros > Organize macros > LibreOffice Basic. Then select the desired module to edit.

Overview

The IDE window is made of 10 tools, most of them are described in this refcard.

1. Title bar
   - Name of the container and of the current library.
2. Menu Bar
   - Standard LibreOffice menus, dedicated to macros management.
3. Standard toolbar
   - The LibreOffice Standard toolbar, showing only tools dedicated to code edition and debugging.
4. Macros toolbar
   - Tools dedicated to code edition and debugging.
5. Object catalog
   - Containers tree-view showing libraries, modules and subprograms.
6. Code editor
   - Main area for code edition, with syntax highlighting, breakpoints management and execution control.
7. Watch pane
   - Variable contents checking (watches).
8. Call stack panel
   - Subprogram calls and their parameters.
9. Tab bar
   - Lists and manages the current library modules.
10. Status bar
    - Run-time status.

The main panels (Catalog, Editor, Watches and Call stack) can be detached. F5 swaps from a tool to the next one.

Toolsbars

If not visible: View > Toolbars.

Standard Toolbar

Two toolbars are of interest:

- Select macro
  - Calls the macro selection dialog.
- Modules
  - Calls the Macros Organizer dialog.

Macros Toolbar

- Library selector
  - Selection of the library to use.
- Compile
  - Run immediately.
- Stop
  - Stop the running program.
- Step into
  - Step into the called subprogram.
- Step Out
  - Step out to the caller.
- Manage Breakpoints
  - (De)activate the breakpoint on current line.
- Enable Watch
  - Adds the selected var to the watches.
- Find Parenthesis
- Import Basic
- Export Basic
- Import Dialog
- Export Dialog

This toolbar takes place of the Macros toolbar when editing dialog boxes.

Dialog Toolbar

- Import Controls
  - Same contents as the Controls toolbar (below).
- Export Dialog
  - Export a dialog box source code.

Controls Toolbar

This toolbar is shown when in dialog box conception mode. It displays each available control to place on a dialog. These buttons deserve an explanation:

- Select Element
- Manage Language
- Preview Dialog

Object Catalog

Displays the 3 containers types and their contents: libraries, modules and macros.

Containers

My Macros & Dialogs

Specific to the user’s account, for all documents. Can only be used by the user.

LibreOffice Macros & Dialogs

(a.k.a global macros)

These macros are stored within the LibreOffice global container. As such, they can be viewed and used everywhere.

The ones on the capture are part of a standard LibreOffice install.

Untitled 1 (in the example)

In the current document.

Libraries

- Loaded (colored) or not (grayed-out).
- Standard Library

Apart from global libraries, each container comes with a standard library.

Libraries are always loaded at opening time (of the application or the document):

- It can’t be deleted.
- It can’t be overwritten through some code import.
- It can’t be encrypted.

Modules

Subprograms (macros)

Code Editor

Used for code writing (with syntax highlighting) and debugging (read on).

Useful Items in the Edition Panel

- Gutter
  - A “margin” in which the breakpoints and the execution flag are displayed.
- Line numbers
  - For easier navigation (toggled using View > Line Numbers).
- Editor
  - Helps writing Basic code. Supports syntax highlighting.

(Un)Indenting lines

Press Tab or Ctrl + Tab to indent/unindent lines of code.

These commands can be used when selecting a list of lines.

Syntax Highlighting

The colors used are specified in LibreOffice options: Tools > Options > LibreOffice > Application Colors. Check the Basic Syntax Highlighting section values.

Displaying/hiding line numbers

Toggle line numbers display with View > Line Numbers.

You may add a button to the Macros toolbar (see Category BASIC).

Breakpoint management and execution control: see Debugging.

Goto Line

Ctrl + L

Watches Panel

Allows checking variable contents at runtime (more in Debugging below). Three columns (adjustable widths):

- Variable name
- Value
- Type

Adding A Watch

1. In the code, select the variable to observe (you may enter its name in the Watch zone).
2. click the Enable Watch button (F7).

Removing A Watch

1. Select the watch to remove.
2. click Remove Watch (F6) or (in the Watches panel).

Call Stack Panel

In step-by-step execution mode, allows to know the successive subprograms calls. Read it bottom-up. All subprograms are listed along with their parameter values.

Subprogram is the one in which the execution is currently. The others are numbered subsequently.
Autoclose parenthesis
Autocorrection
LibreOffice offers a set of IDE options in Tools > Options > LibreOffice > Basic IDE
These options are available after having checked the Enable experimental features in Tools > Options > LibreOffice > Advanced
Enable code completion
The IDE automatically completes the Basic objects methods
Autocorrect
Finds keywords and variable names syntax.
Autoquote
When typing " (double quote), the IDE adds the closing quote.
Autoquote parenthesis
When typing ( (parenthesis), the IDE adds the closing parenthesis.
Autoquote procedures
When typing Sub Xxx or Function Xxx (Sub or Function declaration), the IDE adds an End Sub or End Function.

Right-click on the gutter to manage the modules:
• Add a new code module (default to Module).
• Delete the selected module.
• Rename the selected module.
• Hide the selected module.
• Calls the Macro Organizer.

Status Bar
From left to right:
• The subprogram full name in which the cursor currently sits.
• The current code edition mode (switch to Overwrite using Ctrl). The line (Ln) and column (Col) (character) number where the cursor currently is.

Debugging
Debugging: checking a program execution.
• This operation is realized executing the program part to be checked in step-by-step mode while watching the execution context (variables values).

Deleting A Breakpoint
Double-click in the gutter on any existing breakpoint, right-clicking the execution mark or any existing breakpoint, (inactive).

Managing Breakpoints
Breakpoint: a marker where the execution is paused. This allows to examine the execution context at that moment (values, objects).
Execution is paused before executing the marked line.
The actions below may be accomplished during a debugging session.
Adding A Breakpoint
Double-clicking in the gutter or a code editor on a line to stop at when no breakpoint exists (F9).
Deleting A Breakpoint
Double-click in the gutter on an existing breakpoint (F9).
Disabling/Re-enabling A Breakpoint
Right-click in the gutter on any existing breakpoint, then disable Active. The icon turns from (active) to (inactive).

Breakpoints Manager
Call it by:
• right-clicking the execution mark or any existing breakpoint, option Properties
• clicking the Manage Breakpoints button.

Top to bottom:
(list and edition area)
Line numbers where breakpoints are set. Select or create a new one.
(Un)Check to (de)activate the selected breakpoint.
Activates a breakpoint after a given number of passes.
Click to add a new breakpoint on the specified line.
Deletesthe selected breakpoint.

Options
LibreOffice offers a set of IDE options in Tools > Options > LibreOffice > Basic IDE
• These options are available after having checked the Enable experimental features in Tools > Options > LibreOffice > Advanced
Enable code completion
The IDE automatically completes the Basic objects methods
• Doesn't apply to custom objects.
• The UseExtended types option must be enabled.

Hints
Copying A Library Between Containers
1. Open the source document/container,
2. Open the Macro Organizer ( ), Libraries tab,
3. Select the library Location,
4. Export > Export as Basic library,
5. Open the target document/container,
6. Import.

Copying Modules From A Library To Another
(in the same document or between documents/containers)
1. Open both source and target documents/containers,
2. Open the Macro Organizer ( ), Libraries tab,
3. Select the Location,
4. Select the library,
5. Click Password,
6. Enter the New password and confirm,
7. Validate.

Warning:
The encryption is very strong (AES): password loss is irretrievable!

Always keep a non-encrypted version for yourself.

IDE Keyboard Shortcuts
Macros dialog
Stop execution
Add/remove breakpoint
Activate a watch
Immediate execution
Goto line
Stop
Start execution
Step Over
Step into
Step Out
F9
F8
F5
F7
F6
F4
Ctrl
Alt
Maj

Credits
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We are like dwarves perched on the shoulders of giants, and thus we are able to see more and farther than the latter. And this is not at all because of the acuteness of our sight or the stature of our body, but because we are carried aloft and elevated by the magnitude of the giants (Bernard de Chartres [twelfth]).

History
Version | Date  | Comments
--------|-------|----------
1.04    | 09/10/2018 | Minor updates

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